THE UNIVERSITY *of* EDINBURGH

"I Never Thought It Was My Heart": Illness and Health-Seeking Experiences of Saudi Women with Symptoms Suggestive of Acute Coronary Syndrome

Esra Sinary

In fulfilment of the requirement for the degree of Doctor of Philosophy in Nursing

University of Edinburgh

2024

Declaration

I declare that I am the only author of this thesis, that this work is my own unless where explicitly stated otherwise in the cited texts, and that this work has not been submitted for any previous qualification or degree.

Esra Sinary
29-10-2024

Abstract

Background: Coronary heart disease (CHD) is recognised as the leading cause of mortality and morbidity, affecting a considerable portion of men and women worldwide. CHD manifest clinically as Acute Coronary Syndrome (ACS), a spectrum of conditions that include ST-elevation MI, non-ST-elevation MI, and Angina Pectoris. Not recognising and responding to ACS symptoms promptly can significantly contribute to delays in diagnosis and treatment, which can exacerbate the potential for poor prognosis and the risk of mortality. While efforts in mitigating timely response within the healthcare system have been observed, delays in health-seeking persist, especially in women. This issue is understudied in the context of Saudi Arabia, where CHD is on the rise.

Aim: This PhD research aimed to explore the experiences of Saudi women with symptoms suggestive of ACS and their subsequent health-seeking behaviours in response to the perceived symptoms.

Methods: Qualitative research design with in-depth, semi-structured interviews was carried out to explore women's illness and health-seeking experiences within the context of Saudi Arabia. A total of twenty Saudi women hospitalised at King Abdulaziz University Hospital (KAUH) for an ACS event took part in this study. Data were gathered from September 2021 to March 2022 through individual interviews conducted in-person (n=17), online (n=2), and over the phone (n=1). The interviews took place 1-6 months after the women's hospital discharge, during follow-up visits at the hospital's cardiology outpatient clinic. All interviews were audio-recorded and transcribed verbatim. The textual data were then analysed using reflexive thematic analysis guided by Braun and Clarke (2022).

Findings: Three key themes were constructed from the extensive accounts of the study participants: *1) Recognising the subtle change in health and interpreting symptoms*, *2) Responses to perceived symptoms*, and 3) *Arriving at the final destination*. The analysis indicates that, for the women interviewed, navigating illness in the circumstances of ACS cannot be separated from the contextual world where the acute event takes place. My research provides a nuanced understanding of how Saudi women navigate symptoms, assess biomedical and familial risks, manage their health issues, seek lay consultation, and ultimately attend the hospital in response to an acute cardiac event. The women's experiences were understood by

considering key theoretical elements of Chrisman's (1977) health-seeking process combined with a gender lens.

Conclusion: My study contributes to the knowledge that Saudi women's experiences in navigating their way to the hospital were complex and multifaceted. Alongside the severity of symptoms and worsening health conditions, gender roles and their accompanying social and familial responsibilities, as well as family dynamics, were essential in determining how the women engaged in health-seeking behaviours and decided to attend the hospital. By understanding the broader sociocultural conditions of Saudi women, this study provides valuable insights into women's health-seeking trajectory, which may be different for women in other contexts. This nuanced understanding can inform healthcare providers working in community and hospital settings to be mindful of the importance of delivering socially sensitive, context-based healthcare to address women's specific needs in Saudi Arabia and other similar cultural settings.

Lay Summary

Heart disease is a major health issue with devastating clinical outcomes, and it is the leading cause of death for men and women worldwide. My thesis is based on research specifically focused on women because they tend to have a worse prognosis following a heart attack. This is of particular interest in the context of Saudi Arabia, as research focusing on the female population with heart disease is severely lacking. I carried out the current study to explore the illness and health-seeking experiences of women with heart attack symptoms in Saudi Arabia. For this purpose, I gathered data by interviewing twenty Saudi women from various backgrounds who had been admitted to a university hospital in an urbanised city in Saudi Arabia. During these individual interviews, the women shared their stories of how they reacted to their worsening health while juggling their everyday lives before their hospitalisation. My research shed light on the women's responses to heart attack symptoms, including how they recognised their symptoms, dealt with them, navigated their way to the hospital, and eventually became hospitalised for a heart attack, all within the context of Arabic Saudi culture. Listening to their voices, I found that these women often faced unique challenges in recognising and responding to the symptoms of this life-threatening condition, prompting them to postpone attending the hospital and making them more vulnerable to poorer clinical outcomes for heart disease. The challenges stemmed primarily from the women's limited understanding of heart disease and being burdened with social and familial roles and responsibilities they had as mothers, wives, or carers. These challenges often made it difficult for them to recognise their condition as potentially serious and label their symptoms as heart-related, and even if they were able to assign heart labels to their symptoms, their social responsibilities would often make them deprioritise their health. Overall, my findings highlight the nuanced and complex experiences of Saudi women in perceiving, interpreting, attributing, managing, and searching for ways to address their heart illness within the context of their social world. Through my research, we gain unique insights into the importance of raising women's awareness about heart disease; however, this alone is insufficient, as gender roles and family dynamics shape Saudi women's decisions regarding how and when to address their deteriorating health. This study contributes to a deeper understanding of these crucial issues and, hopefully, sparks further conversations and introspection to promote women's heart health and general wellbeing.

Acknowledgement

First and foremost, I am ever grateful to the Almighty Allah by whose grace good deeds are completed. Praise be to Allah for guiding me throughout this journey.

I would like to acknowledge the contributions of my supervisors, Dr Elaine Haycock-Stuart and Professor Jeni Harden. Their ongoing mentorship, guidance, and constructive criticism have been invaluable in helping me shape this research and write up my thesis. I would also like to thank my critical friend, Dr Sussane Kean, for her feedback and advice during the annual reviews.

Special thanks to the women who took part in my study for sharing their stories and experiences with me. Their insights were invaluable and made this research possible.

On a personal note, I would like to express my heartfelt appreciation to the most special person in my life. To my son, Ameer, I am so grateful for having you and being your mother. You are a source of joy and inspiration in my life.

Thanks to Mum and Dad for their daily phone calls filled with prayers, encouragement, and unconditional love. Thank you for travelling to Scotland every summer to spend time with us. These special times meant a lot to both me and my son.

To my husband and life partner, Firas, thank you for your sacrifices and support in everything I do. Your continuous encouragement made it possible for me to pursue my dreams.

I would also like to acknowledge my brother, Anas, for moving to Edinburgh to support me in every way possible; our memories in Scotland will be unforgettable. Of course, special thanks to my sisters, Ala and Razan, and my beloved brother, Albaraa, for motivating me to keep going.

Lastly, I would like to express my gratitude to my friends. Your friendship and support have been an important source of motivation and strength in ways beyond measure.

Table of Contents

List of Figures

List of Tables

List of Acronyms

ACS	Acute Coronary Syndrome
AMI	Acute Myocardial Infarction
ASSIA	Applied Social Science Index and Abstract
BMI	Body mass index
CABG	Coronary Artery Bypass Surgery
CAQDAS	Computer-assisted qualitative data analysis software
CCU	Cardiac Care Unit
CHD	Coronary Heart Disease
CINAHL	Cumulative Index to Nursing & Allied Health
CK	Creatine Kinase
CSM	Common-Sense Model of Self-Regulation
CVD	Cardiovascular disease
CVT	Cardiovascular Telemetry Unit
DM	Diabetes Mellitus
ECG	Electrocardiogram
EMS	Emergency medical service
HTN	Hypertension
KAUH	King Abdulaziz University Hospital
MI	Myocardial Infarction
MMAT	Mixed Method Appraisal Tool
MoH	Ministry of Health
MS Word	Microsoft Word
NSTEMI	Non-ST-Elevation Myocardial Infarction
OPD	Out Patient Department
OTC	Over-the-counter [of drug and medicine]
PCI	Percutaneous coronary intervention
PIS	Patient information sheet

PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analysis
SOB	Shortness of breath
STEMI	ST-Elevation Myocardial Infarction
UA	Unstable Angina
UK	United Kingdom
US	United States

Chapter 1

Introduction

Chapter 1: Introduction

1.1. Introduction

Acute Coronary Syndrome (ACS) is a growing burden of cardiac illness globally, and most notably, it is the leading cause of mortality and morbidity, affecting millions of adult men and women worldwide. Patients with ACS-related symptoms must receive timely medical intervention, and prompt hospital presentation is crucial to reduce the potential for morbidity and mortality. The poor clinical outcomes associated with ACS are particularly pronounced in women, who often face unique challenges in recognising and responding to the symptoms of this life-threatening condition. This PhD thesis explored the illness and health-seeking experiences of Saudi women with acute cardiac symptoms, specifically ACS. In undertaking this research, I utilised a qualitative approach involving individual interviews. This thesis highlights the nuanced and complex experiences of Saudi women in perceiving, interpreting, attributing, managing, and searching for ways to address their ACS-related symptoms within the context of their daily lives and social world.

This topic is of particular interest because it is under-researched, particularly in the context of Saudi women with established cardiac illness or at risk of developing such a critical health condition. Moreover, the need to conduct more cardiac research in Saudi Arabia has never been greater. This is due to the high burden of cardiac illness in the country and the scarcity of local evidence in this particular area (Al-Kindi et al., 2015; Saquib et al., 2017). While much of the existing cardiovascular research in Saudi Arabia has focused on clinical interventions or cross-sectional studies, with a major emphasis on topics such as cardiac risk factors analysis (Saquib et al., 2017), There remains a significant gap in social research within this area. To the best of my knowledge, no qualitative studies have specifically explored health-seeking behaviours related to ACS events in the specific sociocultural context of Saudi Arabia, especially among Saudi women.

This research is particularly crucial for women, as preliminary readings have consistently shown that females are more likely to delay seeking medical attention compared to their male counterparts (Mooney et al., 2012; Wang and Hsu, 2013; Neubeck and Maiorana, 2015; Lim et al., 2019; Hadid et al., 2020). In addition, the inadequate awareness regarding cardiac illness and its associated risks among women is troubling, as awareness is the initial step in risk

reduction, as well as the timely recognition of and response to symptoms, and subsequent health-seeking behaviours (Devon et al., 2011). Therefore, it is important to understand Saudi women's experiences when encountering cardiac illness within their specific context in order to gain insights into how they perceive and manage symptoms suggestive of ACS, and to uncover the events leading up to their hospitalisation for such a critical health event. The findings obtained are expected to be useful for planning and implementing targeted interventions to improve ACS outcomes among women with a high risk of developing a cardiac event in Saudi Arabia, where ischaemic heart disease is on the rise and is closely linked to poor health outcomes and mortality.

In this introductory chapter, I provide context for my PhD thesis, which is the result of a complex and evolving learning journey rather than a straightforward path. I begin by sharing the motivation for undertaking this study, followed by an outline of the purpose of each chapter to guide the reader through my thesis. Within this introduction, I then present some background information on ACS and how I came to focus on the importance of understanding individuals' health-seeking behaviours in response to this acute health condition. Along with these introductory remarks, I provide some background information about Saudi Arabia, as it forms the context for my research study on Saudi women's health-seeking in response to an ACS event. I hope this introduction will assist the reader in navigating the thesis and demonstrate its relevance and significance within the broader field of cardiovascular health, particularly in women.

1.2. Motivation for Conducting the Present Study

My professional experience as a cardiac nurse has greatly influenced my motivation to pursue a PhD in this area. Following my 4-year nursing education at King Abdulaziz University in Jeddah, Saudi Arabia, and 1-year clinical placement in various inpatient units, I spent more than two years in the Cardiovascular Telemetry unit (CVT) at a hospital and research centre, working closely with patients suffering from various acute and chronic cardiac conditions. During this time, I frequently encountered patients who, despite presenting with moderate to severe cardiac symptoms, often lacked a clear understanding of the importance of seeking early clinical attention. Consequently, this frequently led to poorer prognoses and less favourable medical outcomes. These observations made me conscious of the critical role of timely attention to cardiac symptoms in patients' clinical outcomes. My interaction with patients while

obtaining admission histories and delivering nursing care made me increasingly curious about the events that led to their hospitalisation. I often wondered about the underlying reasons for the choices they made as they navigated their acute illness event until attending the hospital, whether they arrived through the emergency medical service (EMS) or cardiac outpatient clinic.

As a nurse with some clinical knowledge and experience in cardiovascular nursing, as well as being a Saudi woman, I am keenly aware of the impact that sociocultural influences can have on how individuals respond to and act upon health- and illness-related matters. This awareness sparked a particular interest in investigating how Saudi women's perceptions of cardiac symptoms and associated risks influence their responses and actions. I acknowledge that initially on my PhD journey, I was very much focused on symptom recognition from a medicalised view of ACS. However, as I progressed in the first year of my PhD, I became increasingly attuned to how women's ACS responses and their subsequent health-seeking experiences were shaped by factors such as cultural norms, social expectations, and family roles. My research has shown that these elements can play a decisive role in whether and how women seek medical attention and eventually be hospitalised. My multicultural background further facilitated approaching and viewing this topic, assisting me with understanding the social dynamics at play and the importance of addressing these issues in a culturally sensitive manner.

Having introduced my study and its intended contributions, along with my motivation for pursuing this research, I now present descriptive background information that provides insights into the context of this research in the remainder of this chapter. This will help to contextualise the research and set the stage for the rest of the thesis.

1.3. Background information

1.3.1. Acute Coronary Syndrome: An Overview

Cardiovascular disease (CVD) is a major global health concern (Vaduganathan et al., 2022). Coronary heart disease (CHD), a subtype of CVD, is recognised as the leading cause of mortality and morbidity, affecting a considerable portion of the global population (Malakar et al., 2019; Bergmark et al., 2022). It is characterised by an insufficient flow of blood and oxygen

to the myocardial muscle. CHD manifests clinically as acute coronary syndrome (ACS), an umbrella term encompassing a spectrum of pathological conditions, including ST elevated myocardial infarction (STEMI), non-ST elevated myocardial infarction (NSTEMI), and unstable angina (UA) (Bergmark et al., 2022). ACS is of particular interest given the life-threatening nature of these ischaemic conditions, which represent irreversible damage of myocardial tissues due to the obstruction of coronary blood flow caused by plaque build-up (Bergmark et al., 2022).

The clinical evaluation of ACS depends on patient presentation, diagnostic measures, and laboratory findings, which guide the appropriate management strategies aimed at reducing myocardial injury and improving clinical outcomes (Byrne et al., 2024). These diagnostic measures include clinical examination of the signs and symptoms that suggest a heart condition. While symptoms can vary among patients, chest discomfort – which may be described as pain, tightness, heaviness, burning, or pressure – is the leading presenting symptom prompting the consideration of ACS and the initiation of further evaluation and testing (Byrne et al., 2024). Other common symptoms include dyspnea, pain in the left arm, jaw, or neck, and epigastric pain (Byrne et al., 2024).

Following the initial assessment of symptoms, clinical examination of ACS involves other essential diagnostic procedures, including conducting a twelve-lead electrocardiogram (ECG) to identify abnormalities and measuring levels of cardiac biomarkers for elevated cardiac enzymes such as troponin and creatine Kinase-MB (CK-MB) (Humphries et al., 2017; Byrne et al., 2024). In addition, obtaining a comprehensive preliminary history and assessment of cardiovascular risk factors is crucial (Byrne et al., 2024). The key risk factors include type II diabetes mellitus, hypertension, hyperlipidaemia, and high body mass index (BMI) as a result of unhealthy diet and physical inactivity, all of which are well-documented and common risk factors for acute cardiac disease (Adhikary et al., 2022; Vaduganathan et al., 2022).

Reperfusion treatment for ACS is essential for opening occluded or narrowed coronary arteries and restoring blood flow, thereby preventing ischemia. Reperfusion treatment typically involves the systematic administration of anticoagulation therapy, which may be combined with stent insertion, during an invasive procedure called coronary angioplasty (Serruys et al., 2006; Ahmad et al., 2020). The optimal benefit of this revascularisation intervention in restoring coronary perfusion primarily depends on the prompt initiation of treatment, which is

crucial for minimising the adverse consequences of myocardial damage (Bouisset et al., 2021). Individuals experiencing an ischemic event who do not recognise the onset of their symptoms or seek early medical attention are at a higher risk of experiencing adverse outcomes (Tummala and Farshid, 2014). This could be attributed to a lack of adequate knowledge about cardiac illness and the importance of seeking timely medical attention (Albarqouni et al., 2016).

Not recognising and responding to ACS symptoms in a timely manner can significantly contribute to delays in diagnosis and treatment, which can exacerbate the potential for poor prognosis and the risk of mortality (Neubeck and Maiorana, 2015; Scholz et al., 2018). Preliminary reading suggests that while efforts in mitigating timely response within the healthcare system have been observed, delays in activating the healthcare system persist, especially for women (Mooney et al., 2012; Wang and Hsu, 2013; Neubeck and Maiorana, 2015; Lim et al., 2019; Hadid et al., 2020). Therefore, understanding patients' pre-hospital behaviours in response to symptoms suggestive of ACS is crucial. This insight is important for healthcare providers to develop strategies that emphasise the significance of prompt response to this time-sensitive condition among high-risk individuals, as prompt health-seeking actions are necessary to optimise the effectiveness of the therapeutic interventions, improve survival rates, and minimise the consequences of this life-threatening condition (Guerchicoff et al., 2014).

1.3.2. Acute Coronary Syndrome in Women

Historically, the risk of cardiovascular disease in women was underestimated due to the belief that females were physiologically protected against cardiac illness (Healy, 1991; Maas et al., 2011; Woodward, 2019). However, with significant advancements in diagnostic and therapeutic procedures, as well as an increased focus on primary prevention for heart disease, ACS in women has emerged as a significant and increasingly recognised global health issue that contributes substantially to morbidity and mortality within this population (Graham, 2016; Wenger, 2019; Hannan et al., 2020), with mortality rates exceeding those of breast cancers (Travis et al., 2012; Boutas et al., 2023).

Research indicates that women often have worse prognoses after an ACS event compared to men, partially due to presenting with older age and more comorbidities such as diabetes, hypertension, and obesity (Loboz-Grudzien and Jaroch, 2011; McSweeney et al., 2016; Davis

et al., 2017; Ricci et al., 2017). In addition to presenting with comorbid conditions that could mask the potential for a serious health problem such as ACS, women with cardiac symptoms tend to present at the hospital later in the course of their illness than men, further contributing to worse clinical outcomes (Loboz-Grudzien and Jaroch, 2011; Davis et al., 2017).

Compounding these challenges, women are more likely to experience symptoms of ACS that may be considered less typical compared to those experienced by men (Canto et al., 2014). However, this should not imply labelling women's symptoms as atypical. Labelling women's symptoms as typical or atypical could be problematic and should be acknowledged for its potential to reinforce gender biases in diagnosis and treatment (Devon et al., 2011; Khamis et al., 2016; van Oosterhout et al., 2020). Some studies noted that earlier research in the area of cardiovascular disease, which primarily involved male participants, tended to generalise the "male" experience as representative of the "human" experience (Emslie, 2005; Travis et al., 2012; Humphries et al., 2017). This issue persists in contemporary research, where important patient groups, including women, are often under-represented in clinical trials within the area of cardiovascular disease (Mas-Llado et al., 2023). Labelling women's symptoms as atypical not only overlooks the gender-specific presentation of ACS but also affects women's perception towards cardiac illness and associated symptoms, placing them at additional risk for inadequate symptom recognition and consequently delayed initiation of reperfusion therapy or lack of treatment altogether, thereby exacerbating the existing poorer outcomes observed in the female population.

1.3.3. Illness Experiences and Health-Seeking Behaviours for ACS

The intervention of ACS is time-sensitive and thus requires prompt initiation of treatment to mitigate the less favourable clinical outcomes associated with myocardial damage (Boersma, 2006). Internationally, one of the greatest challenges facing healthcare professionals working in the cardiac domain is to improve the ways and strategies to reduce the time from symptom onset to treatment, which should be an important clinical and research priority (Davis and McCoy, 2019). Delays in receiving prompt and effective treatment is often conceptualised as having two main components: pre-hospital delay and hospital delay (Mackay et al., 2014). Pre-hospital delay is interpreted as the time between symptom onset and hospital arrival (Mackay et al., 2014). Despite efforts to mitigate delays and prompt a timely response once affected individuals contact the healthcare system, a considerable amount of delay continues to persist

before patients contact the healthcare system (Mooney et al., 2014; Nilsson et al., 2016). Although clinical studies have established the importance of timely reperfusion for improving survival, many patients (especially women) continue to postpone seeking medical attention for their symptoms (Wang and Hsu, 2013; Neubeck and Maiorana, 2015; Lim et al., 2019; Poorhosseini et al., 2019; Hadid et al., 2020).

In general, many studies, with their emphasis on aspects correlated with delay times, identified the characteristics of those who are more likely to postpone attending the hospital promptly. For example, age has been found to be one factor (Wang and Hsu, 2013; Bandyopadhyay et al., 2020). Some studies reported that the gradual decline in bodily functions due to age-related physiological changes may mask the cardiac symptoms and other health conditions due their overlap with diverse clinical presentations associated with aging (Nguyen et al., 2010; Canto et al., 2012; Granström et al., 2023). Similarly, younger age may contribute to lack of responsiveness of the patients and healthcare providers to symptoms which could complicate the prevention and the provision of cardiac treatment (Bangalore et al., 2012; Lichtman et al., 2015). Consequently, age serves as a socio-demographic factor contributing to delays in seeking healthcare.

Socioeconomic factors have been also reported to play an important role, as individuals from lower economic backgrounds or with limited education often face challenges at affording healthcare costs and accessing medical services (Poorhosseini et al., 2019). Some studies found that women, particularly those with financial constraints and lower health literacy, may experience greater challenges, compared to their more educated and financially stable counterparts, further delaying their attending healthcare facility to address their healthcare complaints (Backholer et al., 2017; Hadid et al., 2020). Psychological factors have also been identified as influencing timely hospital attendance. Studies conducted in different contexts and settings indicate that psychological stress may hinder individuals with cardiac symptoms from seeking timely medical attention due to concerns about bothering their family or causing them hardship and inconvenience (Tummala and Farshid, 2014; Asghari et al., 2022; Nguyen et al., 2010).

It appeared from the preliminary readings that much of the existing research focuses on aspects correlated with delay times and identifying the characteristics of those who are more likely to delay as indicated above. However, these studies do not fully discern how patients with ACS,

especially women, influenced by their sociocultural context, decide to seek prompt treatment or choose to postpone attending the hospital until a later stage of the acute event. Therefore, culture-specific research may provide more nuanced insights into our understanding of this topic, highlighting the need for tailored interventions that address unique cultural and social contexts (May et al., 2016). This PhD study specifically focuses on illness and health-seeking experiences among women after an episode of ACS, within the unique context of Saudi Arabia. The following section offers background information about Saudi Arabia to provide context for my research.

1.4. Saudi Arabian Context: Demographics, Society, Health, and Healthcare Infrastructure

In the following subsections, I present an overview of the research context. I begin with a brief description of Saudi Arabian's demographic profile, followed by some insights into the sociocultural context. This is then followed by a presentation of the cardiovascular disease landscape in the country, with a particular focus on Saudi women's health, especially in relation to cardiovascular health. Without an understanding of these contextual elements, research may lack relevance and fail to capture the complexities of individuals' experiences. This context understanding is crucial for effectively implementing research and making relevant and appropriate recommendations based on the findings (May et al., 2016).

1.4.1. Demographic Profile of Saudi Arabia

Saudi Arabia is located in the Arabian Peninsula, covering an expansive land area of approximately 2.15 million square kilometres. It shares borders with several neighbouring Arabian Gulf nations to the east, including Bahrain, Kuwait, Oman, the Emirates, and Qatar, as well as Yemen to the south, and Jordan and Iraq to the north. The country has also an extensive coastline along the Red Sea to the west and the Arabian Gulf to the east (**Figure 1**). Major cities include Riyadh, the capital; Jeddah and Dammam, major economic hubs alongside Riyadh; and Makkah and Medina, the two holiest cities in Islam.

Figure 1 Map of Saudi Arabia displaying its 13 regions and borders

According to the latest population figures from the Saudi General Authority of Statistics, the country's population is estimated to be over thirty-two million, with Saudi nationals constituting fifty-eight per cent of the total population, almost half of whom are females (GASTAT, 2022). Multinational expatriates comprise the remaining forty-two per cent, reflecting the country's diverse demographic composition. Conducting research in the field of health and social science is crucial to address the needs of the expanding Saudi population, especially women, who constitute nearly half of the Saudi national population.

Arabic is the official language and is widely spoken throughout society. Classic Arabic – the language of the Quran–is used in religious practices, as well as literature and formal communication. In everyday life, however, local dialects are typically used for social interactions. English is also taught and extensively used, particularly in professional settings, especially within science, technology, and business (ur Rahman and Alhaisoni, 2013). In addition, the significant presence of multinational expatriates residing in the country

contributes to the widespread use of the English language. Beyond spoken language, communication also relies on non-verbal cues such as tone of voice and body gestures, which are crucial to consider during interviews to ensure effective communication and avoid misinterpretation of meaning. In this context, it is particularly important to communicate with elders and cross-genders in a culturally appropriate manner.

1.4.2. Social and Cultural Context

Understanding the sociocultural context is crucial when exploring a social phenomenon. Saudi Arabia's population is largely homogenous, with shared linguistic, religious, and cultural values (Long, 2005). Saudis' perceptions and behaviours are significantly influenced by traditions, religious beliefs, gender roles, social relationships, and the broader cultural context in which they exist (Alharbi, 2024). Therefore, a comprehensive understanding of the Saudi sociocultural context is important to explore women's illness and health-seeking experiences in this specific context. The following subsection provides a descriptive background of the study's unique context, focusing on key aspects such as religion, family dynamics and structure, and gender roles, to assist the reader in understanding the research findings while taking into account the perspectives and cultural context of Saudi Arabian society.

1.4.2.1. Religion and Spirituality

Saudi Arabia is a country where Islam is the practiced religion by the vast majority of the native population. It is home to the two most sacred cities in Islam, Makkah and Medina, which hold profound religious significance for Muslims around the world. Islamic principles extend far beyond mere faith to profoundly influence every aspect of Saudi's lives through the implementation of Sharia law, a key source of legislation derived from two primary sources: the *Holy Quran*, words of Allah, and *Sunnah*, the teachings and actions of the Prophet Muhammed [Peace Be Upon Him] (Waheedi, 2021). Islamic principles promote values such as maintaining good health, promoting optimism, nurturing strong family bonds, ensuring domestic harmony, and treating others with respect. Modesty is a fundamental concept in Islam, reflected in dress codes that require both men and women to dress modestly, with women specifically required to wear *hijab* to cover their bodies and hair while in public spaces. Cross-gender interactions are also guided by the principle of modesty, with gender interactions between unrelated men and women generally limited to formal/professional settings, or conducted within the bounds of familial relationships (Long, 2005).

Moreover, Islamic teachings emphasise that good health is a great blessing, but illness is not necessarily viewed as a curse from God (Koenig, 2014). Therefore, Muslims are encouraged to engage in health-seeking behaviours with patience and perseverance, while placing their trust in God for successful outcomes, rather than adopting a fatalistic view of blind acceptance of God's will (Rahman et al., 2008). However, conservative interpretations of religious principles and the inherent values placed on patience may lead Saudi women to initially try complementary or alternative medicine in an attempt to manage their illness, thereby preserving Islamic customs (Aldosari, 2017). Understanding this religious context is pivotal for comprehending how Saudi women's religious beliefs and practices exert an impact on their attitudes, perspectives, and actions regarding managing illness and seeking healthcare.

1.4.2.2. Family Values and Dynamic

It is important to understand the dynamic and structure of the Saudi family in which women take part. The intertwined Islamic principles and Arabic traditions shape Saudi's family values and structure. In Saudi society, the family is perceived as the core social unit, and members are expected to support and protect each other, reflecting the collectivist nature of Saudi families (Al-Hakami and McLaughlin, 2016). Women, in particular, are heavily involved in ensuring the wellbeing and care of family members, which oftentimes makes them prioritise familial relationships and responsibilities rather than solely focusing on individual needs (Almosaed, 2008). Marriage and parenthood are considered fundamental societal obligations, with raising children being of utmost importance (Al-Hakami and McLaughlin, 2016; Almalki, 2020).

Traditionally, elderly family members and in-laws often play a significant role in child care, and their involvement is culturally believed to strengthen the unity of the family and provide grounding for the next generations to follow (Long, 2005; Almalki, 2020). This collective approach to family life is exemplified by the living arrangements of many Saudi families, who often choose to reside in close proximity to their extended families (Alharbi, 2024). Although there is a growing trend towards nuclear families living in smaller housing units due to growing urbanisation in the country (Alqurashi and Kumar, 2019), keeping strong ties with extended family members remains deeply valued for the benefits it provides, especially connectedness and social support (Almalki, 2020).

1.4.2.3. Saudi Women and Established Gender Roles

Gender is an overarching category that organises almost every aspect of social life and practices (Scambler, 2018). In Saudi Arabia, gender plays a crucial role in shaping the social structure (Aldosari, 2017). Traditional norms and interpretations of Islamic principles have a strong influence on shaping the gender dynamic within Saudi families, resulting in a social structure that, similar to many Middle Eastern societies, is largely patriarchal and male-dominated (Aldosari, 2017; Alwedinani, 2017). In this context, fathers and husbands typically hold authoritative positions at the top of the hierarchy. Extending the discussion made in the preceding subsection, the perspectives of collectivism influence Saudi women's social role significantly, where they are culturally expected to prioritise their familial responsibilities, with caring and housework being identified as their main duties, regardless of their involvement in paid work (Pharaon, 2004). These social constructions typically begin in childhood, as part of upbringing, with girls commonly taught morality, careful speech, proper manners, and tidiness, in preparation for their future roles as mother and wife.

Over a decade ago, the Saudi sociologist, Nora Almosaed (2008), argued that the typical patriarchal nature of Saudi families is gradually changing as more women are being educated and are working out of the home. Nevertheless, feminine gender roles and expectations, typically shaped by a conservative interpretation of Islamic teachings and reinforced through societal norms, continue to play a significant role in shaping different aspects of Saudi women's lives (Aldosari, 2017). Despite the economic prosperity visible in many Saudi families, which enables the hiring of housemaids and other domestic workers to assist with daily tasks (Al-Matary and AlJohani, 2021), Saudi women are still expected to manage the household and ensure that all family members are well cared for. Moreover, within the Saudi Arabian collectivist culture, women are encouraged to be patient, and the expression of their needs, including health needs, may be considered as lacking role fulfilment in maintaining the equilibrium of the family as they are expected to take care of their family and not cause hardship (Aldosari, 2017). In addition, until recently, women in Saudi Arabia were restricted from driving and relied entirely on *Mahram* – a male guardian, such as a husband, father, son, grandson, brother, uncle, or nephew, for transportation purposes. Access to resources, including health care, further compounding the women's existing challenges (Alshahrani et al., 2014). Although more Saudi women are becoming more independent in mobility following the historic lifting of the driving ban for women in June 2018 (Saleh and Malibari, 2021), many

continue to rely on others for transportation, especially unemployed and older women (Al-Garawi and Kamargianni, 2022). The expectation to prioritise family care and avoid causing hardship, as well as reliance on others for transportation, offers a critical perspective in understanding and addressing health-seeking practices in Saudi women.

While lifestyles in different communities may share many similarities, Saudis residing in remote and conservative areas typically adhere more strictly to their *Bedouin* and tribal traditions compared to those living in urban areas (Aldosari, 2017). Nevertheless, there is considerable variation among families, with some adopting more liberal standards. This diversity reflects the gradual change in social norms within the country, driven by rapid modernisation and globalisation. Recent developmental changes in Saudi Arabia have been notably influenced by the introduction of the Saudi Vision 2030 in April 2016. This initiative encompasses a broad range of reforms aimed at diversifying the country's economy away from oil, as well as fostering development and growth, with a strong emphasis on empowering Saudi women who have long been marginalised by established conservative social norms and expectations (Alhawsawi and Jawhar, 2023).

1.4.2.4. Education

Formal education in Saudi Arabia began in the 1930s, initially for boys, with girls' education introduced in the 1960s (Ahmed and Yusuf, 2020). Prior to the establishment of formal education, informal schooling for both girls and boys took place at homes or in mosques, focusing primarily on learning religious rituals from the *Quran* and *Sunnah*, which generally requires memorisation and basic literacy rather than extensive reading and writing skills (Quamar, 2020). Even after the establishment of formal education for females, there were few educational facilities available for them, and preservative societal norms often discouraged women from continuing their education beyond the primary level.

Since the 1970s, public education in Saudi Arabia has been accessible at all levels, with the government dedicated to providing equal educational opportunities for both males and females. This commitment is evident in the significant increase in school enrollment rates of both boys and girls, which have reached approximately 98 per cent (Quamar, 2020). Additionally, adult literacy rates have witnessed a slow but steady rise in female educational infrastructure over the years (Quamar, 2013; Ahmed and Yusuf, 2020). Nevertheless, the relatively recent establishment of the formal education system in Saudi Arabia helps explain why a small

proportion of older Saudi citizens, especially women, still have limited literacy in reading and writing.

1.4.3. Cardiac Disease Landscape in Saudi Arabia: An Overview

Similar to global trends, CVD is the leading cause of mortality in Saudi Arabia, accounting for approximately 46 per cent of all deaths (Altowaijri et al., 2020). Currently, the annual mortality rate from CVD in the country is 294 per 100,000 individuals, with an additional 3,702 per 100,000 having cardiac-related morbidities (Adam et al., 2023). The prevalence of CVD is a significant and escalating health issue in Saudi Arabia, where it is expected that approximately 480,000 individuals will be affected by 2035 (Adam et al., 2023). In addition, the financial burden related to cardiac illness, including both direct and indirect costs, is predicted to triple, reaching an estimated $9.8 billion (Gagnon-Arpin et al., 2018). Among the various types of CVD, coronary heart disease is the most prevalent subtype, both globally and locally (Saquib et al., 2017; Alguwaihes et al., 2023).

The rising prevalence of cardiac disease in Saudi Arabia is closely linked to the high prevalence of cardiovascular risk factors among the population (Tash and Al-Bawardy, 2023). These risks have predictably led to a growing incidence of ACS, which is increasingly becoming a significant public health concern due to its well-documented association with poor health outcomes and mortality. The growing prevalence of ACS in the country is driven by a number of widespread risk factors, including high blood pressure, type II diabetes millets, tobacco use, high cholesterol levels, and high BMI due to low physical activity and the consumption of caloric dense diet – factors that are becoming increasingly common in Saudi Arabia due to economic growth and urbanised lifestyle (Alhabib et al., 2020; Tash and Al-Bawardy, 2023). Importantly, these risk factors are aspects of an individual's lifestyle that can be modified and altered.

Knowing the risk factors is a useful approach for identifying individuals at high risk who will most benefit from targeted health interventions. In the context of this study, raising public awareness about these risks could be key to improving health-seeking behaviours in response to ACS. If individuals recognise their own susceptibility to cardiac events, they may be more likely to take prompt actions when experiencing symptoms suggestive of ACS. Such a proactive approach has the potential to lead to earlier recognition of symptoms and seeking timely medical attention, thereby reducing the likelihood of unfavourable clinical outcomes.

1.4.4. Women's Health in Saudi Arabia: A Focus on Cardiac Health

This section explores women's health in Saudi Arabia, with a particular emphasis on factors related to CVD. Women in this specific context may face health challenges due to several factors such as competing caregiving roles, a history of recently lifted mobility restrictions, and other limiting sociocultural norms and expectations (Aldosari, 2017). These challenges place Saudi women at a greater risk of developing cardiac illness (AlQuaiz et al., 2014). One significant contributor to this risk is the insufficient levels of physical activity, a global issue that is more prevalent in women than men, particularly in Saudi Arabia where unique environmental, sociocultural, and behavioural factors come into play (AlQuaiz et al., 2014; Alshaikh et al., 2016; Alasqah et al., 2021).

Barriers to engaging in physical activities in the public sphere, along with the limited or absence of physical education (PE) in public schools for females, continue to challenge women's ability to maintain a lean body mass and adequate levels of physical fitness (Alhabib et al., 2020; Alasqah et al., 2021; Alqahtani et al., 2021). In addition, the insufficient indoor fitness centres (e.g., gyms), which have been increasing in numbers and becoming more available for women since they were licensed in 2017, further exacerbated this issue (Tash and Al-Bawardy, 2023). Collectively, these factors have contributed to creating a sedentary lifestyle from an early age and an increase in obesity rates – a key predisposing factor for well-documented cardiac risks such as diabetes, hypertension, and hyperlipidaemia (Gutierrez et al., 2018). A recent systematic review found that Saudi women were consistently reported to have a greater rate of obesity compared to men (Salem et al., 2022).

The high prevalence of obesity and physical inactivity also contribute to the development of insulin resistance conditions, such as diabetes, which is associated with a 3-fold increase in ACS-related mortality (Sanon et al., 2012). Therefore, diabetes has become an alarming public health concern in Saudi Arabia, affecting up to 25 per cent of the adult population (Al Dawish et al., 2021), and female gender is no exception (Alshaikh et al., 2016). Moreover, although the risk of being hypertensive is relatively lower among Saudi women compared to men, this risk increases with age and preexisting health conditions such as obesity, diabetes, and hyperlipidaemia (El Bcheraoui et al., 2014).

Studies have found that the level of awareness and gender-specific perceptions about ACS and its associated risks influence health-seeking behaviours (Tummala and Farshid, 2014; Bairey

Merz et al., 2017; Smith et al., 2018). For a prompt response in the occurrence of an ACS event, it is necessary that individuals have a clear understanding of their own risk factors. Therefore, understanding Saudi women's perceptions of cardiac illness is important, as the extent of awareness of risk factors directly influences individuals' (in this case Saudi women's) engagement in health-seeking behaviours, ultimately affecting the outcomes of ACS.

1.4.5. Saudi Arabian Healthcare Infrastructure

Understanding the healthcare system is important to any academic endeavour that seeks to uncover health-related issues in a given context. The healthcare system in Saudi Arabia has seen rapid improvements over the years, largely due to the economic development driven by the country's vast oil resources, which allowed for significant investment in healthcare infrastructure and beyond (Al-Hanawi et al., 2019). In addition, the rapidly increasing population has prompted further enhancement in the healthcare sector to meet the growing demand for medical services and facilities (Al-Hanawi et al., 2019). From the founding of the first public health department in 1925 and then the establishment of the Saudi Ministry of Health in 1950, the healthcare infrastructure has significantly improved as the Saudi government is making ongoing efforts to ensure accessibility through expanding services (Sajjad and Qureshi, 2020).

According to the most recent annual statistical book released by the Saudi Ministry of Health (MoH), there are 499 hospitals nationwide with a total capacity of 80,072 beds, providing healthcare services at primary, secondary, and tertiary levels across Saudi Arabia's thirteen administrative regions (MoH, 2023). The MoH plays a central role in managing and delivering 60 per cent of the total health services through its extensive network of 290 hospitals, providing free medical care to all citizens and residents (MoH, 2023). In addition to the MoH hospitals, other governmental agencies (e.g., The Ministry of Defense, Saudi National Guard, Ministry of Education, etc.) provide healthcare services to their own employees and dependents, in addition to a segment of the population, operating 59 hospitals across the country (MoH, 2023). Moreover, the private health sector also contributes to the provision of healthcare at all primary, secondary, and tertiary levels for a fee through 150 hospitals, primarily located in urban areas (MoH, 2023).

Despite the comprehensive provision of healthcare services, challenges remain in addressing specific health issues, particularly given the growing population and rising health conditions

such as obesity, diabetes, and hypertension (Gutierrez et al., 2018; Al-Hanawi et al., 2019), all well-documented risk factors for coronary heart disease (Adhikary et al., 2022). Notably, there are limited efforts to understand illness perception and awareness of cardiac illness and related risk factors, which impact how individuals with ACS symptoms engage in prompt health-seeking behaviours. Improving understanding is crucial for better healthcare service provision and, consequently, enhanced clinical outcomes of ACS.

1.5. Conclusion

In this chapter, I provided a rationale for the research, which explores the illness and health-seeking experiences of women in Saudi Arabia with symptoms suggestive of an acute cardiac event, namely ACS. I highlighted ACS as the leading cause of mortality and morbidity, with particular emphasis on its significant impact on women. I also stressed the importance of understanding illness experiences and health-seeking behaviours in the context of ACS, especially among women, who have been found to delay seeking medical attention for this life-threatening condition. Gaining insights into women's experiences leading up to their hospitalisation for acute cardiac illness is crucial for helping nurses, both in clinical practice and academia, with opportunities to better understand the factors influencing women's health-seeking experiences within their specific context. This knowledge can improve the timely healthcare access of this under-researched population and, consequently, enhance their clinical outcomes.

To provide context for my research study, I provided some insights into Saudi Arabia's sociocultural background. I offered a brief presentation on the cardiovascular health landscape in Saudi Arabia and highlighted women's cardiovascular health, followed by a presentation on the healthcare infrastructure. This background context is important to set the stage for understanding the nuances of my research and its implications. In the next chapter, I will review and synthesise empirical literature and theoretical perspectives that informed my research on women's illness and health-seeking experiences, and identify the gaps within the existing knowledge base. Before doing so, I outline the focus and purpose of each chapter of this thesis to assist the reader in navigating the content effectively.

1.6. Structure of the Thesis

This thesis consists of nine chapters:

Chapter 1: In this first chapter of my thesis, which I have already presented here, I introduce the study and provide a context from which to explore cardiac illness, specifically focusing on ACS in women and the importance of understanding health-seeking experiences in this population. I also set the scene for the specific context of my research by presenting information on Saudi Arabia's demographics, its societal context, and the cardiac disease landscape, along with women's health, particularly their cardiac health, and the country's healthcare infrastructure.

Chapter 2: In this Literature Review chapter, I synthesise and critique existing literature on individuals' illness and health-seeking experiences related to acute cardiac episodes, particularly focusing on how women navigate symptoms suggestive of ACS before hospitalisation. The chapter also highlights research gaps and areas where knowledge is lacking in the current body of literature and the need for future research endeavours. The review of the empirical research then sets the stage for the theoretical perspectives underpinning this study, namely some key concepts of Chrisman's (1977) health-seeking process.

Chapter 3: In this Methodology and Research Design chapter, I present the philosophical stance underpinning my research, which includes subtle realism and social constructionism. I justify the use of a qualitative approach to address my study aim and research questions, detailing the individual interview as the data gathering method and reflexive thematic analysis for data analysis, along with justifications for the methodological choices I made throughout the research process. I also demonstrate reflexivity throughout this chapter and offer a detailed discussion of the ethical issues pertinent to recruiting and interviewing my study sample, along with the measures implemented to ensure trustworthiness and rigour.

Chapter 4: In this bridging chapter to findings, I introduce my study participants and explain the use of the theoretical concepts to make sense of the study findings, laying the groundwork for the subsequent three findings chapters (Chapters 5-7), each of which centres around one of the three main themes I identified from the analysis.

Chapters 5-7: In these three chapters, I present the findings from my research and provide an in-depth analysis of the women's experiences with ACS. I draw attention to the women's experiences with identifying and interpreting ACS-related symptoms (Chapter 5), their responses to the symptoms through the use of self-management resources and social networks before considering biomedicine (Chapter 6), and the key elements that ultimately prompted

them to attend the hospital (Chapter 7)–all of which were deeply influenced by the social world in which the women live.

Chapter 8: In this Discussion chapter, I synthesise key areas from the findings in relation to women's perceptions and knowledge of cardiac illness and the role of gender and family in their health-seeking behaviours. In doing so, I critique Chrisman's (1977) health-seeking process and integrate a gender lens to explore the sociological aspects that influenced women's experiences, with key findings examined against relevant empirical literature.

Chapter 9: In this final chapter, I conclude my thesis with the key contribution of this research on expanding our understanding of health-seeking behaviours in the circumstances of ACS, particularly in Saudi and the wider Arab contexts. I also discuss some of the study's limitations that should be considered when interpreting my findings. I finally suggest directions for cardiac healthcare policy, implications for healthcare professionals in acute and public healthcare settings to consider in their clinical practice, as well as recommendations for future research.

Chapter 2

Literature Review and Theoretical Perspectives

Chapter 2: Literature Review and Theoretical Perspectives

2.1. Introduction

This literature review chapter is structured into two main parts. The first part (**Sections 2.2 – 2.5**) provides a comprehensive analysis of the existing literature on the phenomenon under study. This review then sets the stage for the subsequent theoretical discussion (**Section 2.6**), which focuses on the theoretical perspectives most pertinent to the subject area.

The primary purpose of this literature review is to identify, evaluate, and synthesise the existing body of literature on women's illness and health-seeking experiences related to acute cardiac episodes, particularly focusing on how they navigate symptoms suggestive of ACS before hospitalisation. Furthermore, this review sought to highlight research gaps and areas where knowledge remains limited within the current body of literature on this topic, thereby highlighting the need for future research endeavours.

This literature review was initially undertaken in July 2020 during the first year of my PhD programme and was later revisited and updated in May 2024 to ensure that the thesis reflects the latest insights on this topic of interest.

2.2. Review Methods

2.2.1. Search Strategy

This literature search adopted a systematic approach by using multiple electronic databases to identify empirical studies focusing on the topic of interest, illness and health-seeking experiences for ACS in women. Electronic databases are the most robust, reliable, and comprehensive means of accessing scholarly work (Aveyard, 2019). Six databases were selected for this literature review: Medline, APA PsycINFO, Embase, Cumulative Index to Nursing & Allied Health (CINAHL), Scopus, and Applied Social Science Index and Abstract (ASSIA). This combination of databases was chosen for its extensive indexing of research articles in the field of nursing and health in social sciences. The comprehensive coverage of journals and articles optimises the retrieval of relevant literature (Gusenbauer and Haddaway, 2020). Furthermore, whilst the electronic database search had the potential to retrieve most of

the relevant literature, additional manual screening of citations from all eligible studies was performed to help identify any relevant articles missed from journals indexed in the aforementioned databases.

2.2.2. Search Terms

Following a preliminary review of potentially relevant studies, I developed a comprehensive list of key terms, including synonymous phrases and acronyms, for the electronic database search. These terms were categorised based on the Population, Phenomena of Interest, and Context (PICo) format to facilitate the capture of studies specific to the review aim (Lockwood et al., 2015). Additionally, I consulted with the school's academic support librarian to refine the precision and efficiency of key term searching. This consultation led to modifications and improvements, including the use of a) truncation syntax to search for variations of root terms; b) subject heading mapping (MeSH) to map terms to umbrella categories to ensure comprehensive searching; and c) Boolean logic to combine search terms using connector words 'AND' and 'OR' to create efficient search strings (Ecker and Skelly, 2010).

When the database search was updated in May 2024, three additional terms were added to enhance the search relevance and inclusivity of the studies captured. These additional terms were "*heart attack"*, "*health-seeking"*, and "*healthcare-seeking"*. The term *heart attack* was added specifically after the repeated engagement with the interview data revealed that the study participants predominantly used a non-medical language and referred to their ACS event as a heart attack. Furthermore, reading Chrisman's (1977) theoretical underpinning on the health-seeking process (details in **Section 2.10**) informed my decision to include the terms *health-seeking* and *healthcare-seeking.* A full list of the search terms is provided below (see **Table 1**).

Table 1 Search terms

"cardiovascular disease*" **OR** "coronary disease*" **OR** "coronary heart disease*" **OR** "Acute coronary syndrome*" **OR** "acute myocardial infarction*" **OR** "heart attack"
AND
women **OR** woman **OR** female* **OR** gender
AND
"help seeking" **OR** "treatment seeking" **OR** "care seeking" **OR** "health seeking" **OR** "healthcare seeking"

2.2.3. Eligibility Criteria

Initially, I aimed to identify literature exploring the experiences of Saudi women seeking health for an acute cardiac event. However, preliminary reading revealed that there was limited availability of a coherent and extensive body of literature investigating this phenomenon in either the Saudi or Arab context. Therefore, the scope of this literature search was expanded to include empirical studies involving participants with ACS without a restriction to Saudi or Arab women. Including studies from diverse contexts allows for capturing a broader perspective on how sociocultural context may influence illness experiences and health-seeking behaviours in women, thus providing a more nuanced understanding of how women approach cardiac illness and navigate their path to the hospital.

In addition, women have been notably understudied in cardiovascular research, and even when included in clinical studies, they are often under-represented compared to men with similar ischaemic conditions (Jin et al., 2020). As a result, studies that included samples of both genders, rather than focusing solely on women, were also considered for inclusion in this review. The inclusion of both men and women further addresses the impact of established gender roles on illness and health-seeking experiences.

It is also important to acknowledge that including gender-specific search terms (such as "women" and "female") resulted in prioritising studies explicitly focusing on women with ACS. Consequently, this may have omitted relevant research where women's experiences were analysed within mixed-gender samples but not explicitly mentioned in study titles, abstracts, or keywords.

Following the retrieval of literature from the electronic databases, journal articles were screened and filtered based on a set of eligibility criteria. The inclusion criteria comprised studies involving either women only or both men and women over 18 years of age who were hospitalised for an ACS event, including ST-elevation myocardial infarction, non-ST elevation myocardial infarction, and unstable angina. Full-text articles published in peer-reviewed journals from 2010 to 2024 were included, aligning with the last ten years from the start of the current PhD study, and incorporating an additional four years to account for updates towards the end of the study's timeframe. Additionally, only studies published in the English language were included, as a non-English search could not be conducted and translation into English was impractical. Recognising that some relevant studies within the literature may have been

undertaken in Arab and Saudi contexts, the English translation was deemed unnecessary, as Saudi and Arab research in the field of health is commonly published in English.

The inclusion and exclusion criteria used to guide the study selection for this review are detailed below (see **Table 2**). These criteria reflect the updated search terms, including "*health-seeking"* and "*healthcare-seeking",* and cover publications from the years 2010 to 2024.

Table 2 Inclusion and exclusion criteria for searching studies

Criteria	Inclusion criteria	Exclusion criteria
population	• Female aged >18 or female and male participant >18 • Medically diagnosed with acute coronary syndrome (ST-elevation myocardial infarction, non-ST elevation myocardial infarction, and unstable angina) • May involve their family members and friends who have witnessed the acute cardiac event	• Studies with male participant only • Participants younger than 18 years; children and youth population • Participants with chronic heart conditions
Phenomena of interest	Illness experience, symptoms experience, and help-seeking, treatment-seeking, care-seeking, health-seeking, or healthcare-seeking behaviour in response to an acute cardiac event	• Help-seeking behaviour of chronic heart conditions (e.g. heart failure) • Help-seeking behaviour of any medical conditions other than an acute cardiac event • Anticipated help, treatment, or care seeking behaviour of people without acute cardiac event
Publication type	Full text published in peer-reviewed journals	Unpublished studies, texts, editorials, conference proceeding, commentaries, or opinion articles
Methodology	Empirical qualitative, quantitative, mixed method studies	Theoretical papers, clinical trials, papers testing the effectiveness of specific intervention, papers testing the validity/reliability of measures, or publications not reporting data from empirical studies
Publication year	2010-2024	Studies published before 2010
Publication language	English	Any language other than English

2.2.4. Quality Assessment

The eligible studies were appraised with the assistance of the Mixed Methods Appraisal Tool (MMAT) version 18 (Hong et al., 2018). The MMAT is a comprehensive quality appraisal tool for various types of empirical research studies, including quantitative, qualitative, and mixed-method studies. It is important to note that in this literature review, the MMAT was not utilised as a guiding framework to assess the included studies in a systematic manner, as this review is not structured as a systematic review. According to Hong et al. (2018), generating a quality score for each study is discouraged as it does not provide a meaningful index of study quality. Therefore, the main purpose of using this tool was not to calculate scores but rather to assist in the appraisal process.

The MMAT is structured into sections based on different research methodologies, and relevant aspects of the tool informed and supported the evaluation of the studies to ensure a balanced and thorough quality assessment. When appraising each study in my literature review, I applied the questions relevant to the particular section of the tool corresponding to the methodology of the reviewed research paper. I used the tool to aid in evaluating the appropriateness of the study design and research methods in relation to the overall research aim, the reporting of data collection and analysis methods, the validity and reliability of measurement tools (such as in quantitative studies), the clarity and transparency of reporting findings, and considerations of potential limitations and biases (see **Appendix 1)**.

The MMAT was not used as a scoring system to exclude papers or label them as high/low quality for exclusion. Rather, it helped me critically discuss the studies within the literature review, draw critical comments, and explore how these relate to my findings. I provided quality analysis notes for each study I reviewed in a table that includes study details in **Appendix 2.**

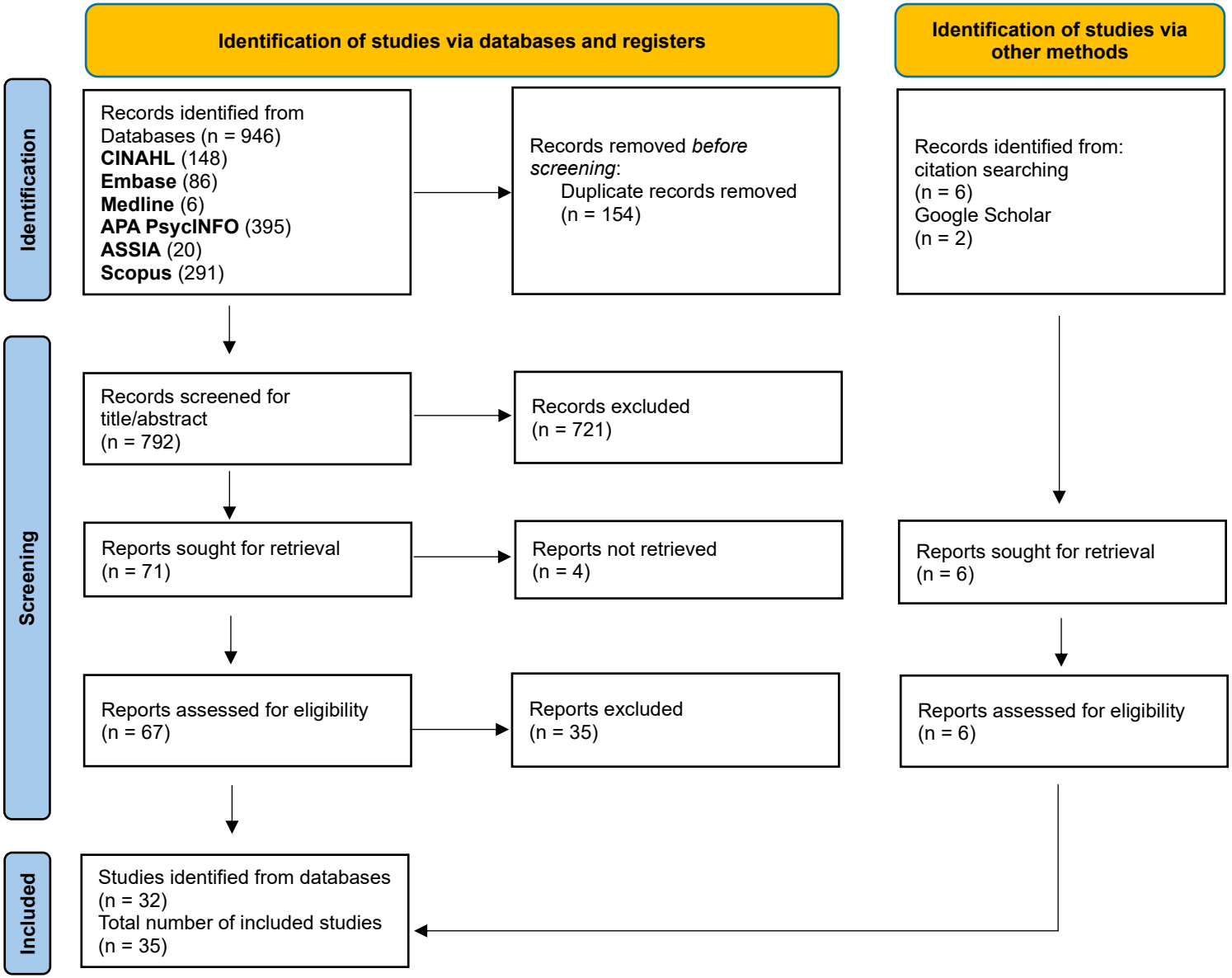
2.3. Findings

2.3.1. Literature Search Results

Studies eligible for this review were identified using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) method of evidence filtering (Page et al., 2021). This comprehensive process involved multiple stages of screening titles, abstracts, and full texts. A total of 946 publications were identified from the database search, including 148 from CINAHL, 86 from Embase, 6 from Medline, 395 from APA PsycINFO, 291 from Scopus,

and 20 from ASSIA. Following the removal of 154 duplicates, 792 records were screened based on title and abstract. Of these, 721 failed to meet the predefined inclusion criteria (See **Table 2)** and were subsequently excluded**.** This left 71 records for retrieval, of which the full texts of 67 records were assessed for potential inclusion in this review. During this phase, 35 studies were excluded, resulting in a final selection of 32 studies. Additional 3 studies were included from the manual search, resulting in a total of 35 studies included in this review. The flow diagram below summarises the screening, identification, and retrieval of eligible studies within the updated search, which resulted in the addition of six papers since the initial search conducted in 2020 (see **Figure 1**).

Figure 2 Studies retrieved from searches of databases and other resources using PRISMA (Page et al., 2021)



2.3.2. Overview of the Included Studies

A total of 35 studies were included in this review, reflecting a range of methodological approaches. **Table 3** illustrates the prevalence of qualitative, quantitative, and mixed-method designs of the included studies. These studies were organised into a structured table that includes details on the author(s) and publication year, country, aim, methods, sample, data collection, and main findings (see **Appendix 1**). I critically discuss the included studies in the remainder of this chapter.

Table 3 Methodology of included studies

Methods	**Qualitative**	**Quantitative**	**Mixed-method**	**Total**
Number of publications	17	12	6	35

2.4. Main Themes

This literature review identified five major themes pertinent to the study's focus: symptom recognition and response; cardiac risk perception and interpretation; the social construction of gender; the involvement of personal social networks; and gender disparities in healthcare responses. In the following pages, I will elaborate on these key themes by synthesising findings from the existing literature, thereby providing a comprehensive context for my research. Through this review, I aim to establish an understanding of the existing knowledge and signal gaps in the current evidence base, particularly concerning how women deal with challenges related to recognising an acute cardiac event and seeking health for ACS-related symptoms.

2.4.1. Symptoms Recognition and Attribution

From the literature reviewed, it is evident that symptom recognition is crucial for navigating illness and engaging in health-seeking behaviours. Inadequate recognition and attribution of symptoms can impede a prompt response to cardiac illness, resulting in prehospital delay and the receipt of fewer time-sensitive thrombolytic treatments or invasive interventions (Hwang and Jeong, 2012; Mussi et al., 2014; Lichtman et al., 2015; Allana et al., 2018; Lichtman et al., 2018; Asghari et al., 2022). In this theme, I present an analysis of studies that examine how symptom recognition and attribution contribute to illness navigation and health-seeking behaviours.

Hwang and Jeong (2012) conducted a mixed-method study to determine cognitive barriers to seeking treatment in a sample of elderly Korean patients with acute MI (*n* = 165, women, 71). They found that the median pre-hospital delay time was twelve hours, with almost 40% of the participants arriving within six hours of symptom onset (Hwang and Jeong, 2012). The experience of intermittent symptoms and mild chest pain as opposed to severe and constant pain contributed to attributing symptoms to less serious conditions. This misattribution led to delays in presentation at the emergency department and arriving beyond the optimum timeframe for an effective medical intervention and recovery outcome (Hwang and Jeong, 2012). Although the study recruited a sample of men and women, it did not report a gender-specific analysis of the factors influencing treatment-seeking in this population.

The above findings align with those of an earlier mixed-method study by Devon et al. (2010) conducted in the US, which sought to report the time from symptom onset to hospital arrival and the factors impacting the decision to seek treatment in patients with ACS. The authors conducted interviews with a sample of 256 patients (including 112 women) admitted to two urban hospitals. Quantitative data revealed that participants who experienced intermittent chest pain attended the hospital later than those with constant pain (Devon et al., 2010), with women delaying more than men but with no significant differences (9.5 vs. 6 hours; P=0.63). Descriptive content analysis of the qualitative data supported these findings and indicated that the severity and unremitting nature of symptoms were among the most frequently reported reasons for seeking medical attention (Devon et al., 2010). However, the scope of this study was limited, as the participants were asked only two open-ended questions on the nature of symptoms, with no probing or further exploration to elicit more in-depth reasons for presenting to the hospital beyond symptom-related reasons.

The findings of the two studies presented above indicate that the intermittent nature of symptoms makes it challenging for individuals to recognise the seriousness of their deteriorating health condition and attribute symptoms to a cardiac origin. According to Davis (2017), this is particularly challenging for women, as women often do not initially recognise their symptoms as cardiac-related or potentially serious because they tend to experience symptoms that are intermittent and varied in intensity. To explore the influence of the severity and nature of ACS symptoms on health-seeking responses in women, Davis (2017) conducted in-person interviews with a sample of women (*n*=18, mean age, 60 years) who sought medical attention for ACS in two hospitals in the US. Content analysis of the in-depth interviews

revealed that the women's symptoms fell primarily into three groups: an immediately recognisable symptoms group, an evolving/abrupt conversion symptoms group, and an evolving symptoms group (Davis, 2017). In the first group, the nature of the abrupt symptoms prompted most women to seek immediate treatment. In the second group, women experienced gradual onset (over hours or days), which then dramatically worsened (Davis, 2017). When these women experienced a sudden deterioration, they interpreted their symptoms as life-threatening and decided to seek treatment (Davis, 2017). For those in the evolving symptoms group, symptoms were often vague, intermittent, and nonspecific, which resulted in difficulty in recognising the seriousness of the situation, leading to pre-hospital delays (Davis, 2017).

In addition, the diversity of symptom presentation challenges the recognition of ACS (Lichtman et al., 2018; Asghari et al., 2022). Classic ischemic symptoms (primarily derived from research on men) typically include central chest pain or discomfort, known as angina, which is described as a sensation of fullness, tightness, crushing, or squeezing sensation of chest pain and may radiate to the jaw, neck, shoulders, arms, back, and epigastric area (DeVon et al., 2020). The pain is often accompanied by symptoms such as shortness of breath (SOB), nausea, or vomiting. However, other symptoms such as lightheadedness, indigestion, or unexplained SOB in the absence of chest pain/discomfort may also manifest (DeVon et al., 2020). As symptoms serve as cues to indicate a problem exists, recognising a potential cardiac problem can be challenging for individuals, especially when the symptoms are accompanied by less classic complaints that are not what one would readily interpret as cardiac in nature.

Comparative studies of men and women hospitalised for ACS have suggested that, in addition to classic symptoms, women experience more atypical symptoms compared to men, which makes it more difficult for women to recognise their symptoms as indicators of a cardiac event (Allana et al., 2018; Lichtman et al., 2018). In the context of Pakistan, Allana et al. (2018) conducted a comparative, cross-sectional study with 249 patients, including 116 women, to explore gender differences in acute symptoms presentation of ACS. One key finding of the study was that chest pain was the most frequently reported symptom for both men and women. However, women presented with a greater range of additional non-chest pain symptoms, labelled as "atypical", including nausea/vomiting, epigastric pain, palpitation, and backache ($p<0.001$) (Allana et al., 2018). A methodological limitation of this study is the reliance on self-reported data during the hospitalisation period (within 72 hours of admission), which may

not be ideal due to the critical nature of this period, potentially affecting the accuracy of the participants' accounts while they are still hospitalised.

In a more generalisable, multi-centre study, Lichtman et al. (2018) undertook a large-scale study involving 2,009 women and 976 men hospitalised for MI at 103 hospitals in the US participating in the VIRGO study (Variation in Recovery: Role of Gender on Outcomes of Young AMI Patients). The study found that chest pain was the most frequently reported symptom for both sexes. However, women presented with a broader range of additional non-chest pain symptoms, which labelled as 'atypical' by the researchers, including indigestion, nausea, and palpitation ($p<0.001$) (Lichtman et al., 2018). Compared to men, women were more likely to attribute their atypical symptoms to non-cardiac causes, such as stress or anxiety, leading to significantly longer delays in attending the hospital ($p<0.004$) (Lichtman et al., 2018). While this study provided more generalisable findings due to the markedly large sample size, the evidence may be subject to response bias, as structured interviews were conducted during the course of hospitalisation, shortly after the MI event.

An earlier qualitative study by Gallagher et al. (2010) investigated symptom experiences and treatment-seeking responses of a convenience sample of women (n=10, age, 44-82 years) attending a cardiac rehabilitation programme following their hospitalisation for first-time ACS in two tertiary hospitals in Sydney, Australia. Inductive analysis of interview data indicated that women's treatment-seeking process is complex, and the diversity of symptom experiences provoked a sense of ambiguity about the situation, especially in women with accompanying chronic health conditions, which complicated their symptom navigation.

This finding has been echoed by a more recent qualitative study by Arslanian-Engoren and Scott (2017), who performed a secondary analysis of narrative data collected as part of a parent study that utilised focus groups to examine the views of fourteen women with MI in the US. The authors sought to identify reasons for pre-hospital delay from the accounts of the interviewed women. Nine of the participants reported delays in seeking prompt medical attention for their acute symptoms (Arslanian-Engoren and Scott, 2017). Content analysis of narratives revealed that the reported delays occurred when participants experienced less classic symptoms such as indigestion, nausea, vomiting, lethargy, and flu-like symptoms (Arslanian-Engoren and Scott, 2017). None of the women who delayed seeking treatment thought of the possibility of experiencing a heart attack, despite having a family history and risk factors for cardiac illness (Arslanian-Engoren and Scott, 2017). Interestingly, four participants who

identified themselves as healthcare providers (3 nurses and 1 respiratory therapist), who arguably would have more knowledge about cardiac conditions through their professional expertise, also delayed seeking treatment for the symptoms mentioned above, indicating that experiencing less typical, nonspecific symptoms can impose a challenge for individuals in labelling symptoms as critical and prompt seeking healthcare.

Recently, Yu et al. (2023) also found that the interpretation of symptoms was challenging for women in China, including those who identified themselves as healthcare providers, because they anticipated classic/typical cardiac symptoms with incapacitating chest pain. The study participants (18 women with MI) attributed their symptoms, such as nausea, vomiting, weakness fatigue, dizziness, and back pain, to signs of potential gastrointestinal or psychometric problems; thus, they believed their symptoms were unlikely to be significant or warrant attention (Yu et al., 2023). This suggests that the threat posed by what is labelled as atypical symptoms may be seriously devalued by women and healthcare providers, particularly when compared to situations in which symptoms are more intense and persistent. This can potentially lead to delays in hospital attendance and subsequent worsening of clinical outcomes.

Some researchers have argued that labelling women's cardiac symptoms as atypical, relative to men's presentation, is problematic (DeVon et al., 2020; van Oosterhout et al., 2020). The stereotypical depiction of ACS symptoms, based on standard profiles of men's symptom presentation (i.e., severe central chest pain), may influence how women perceive and interpret their own symptoms. This influence may lead women to attribute their symptoms to non-cardiac causes, resulting in further delays in deciding to seek health and actively engaging with the healthcare system. Therefore, women's cardiac experiences should be acknowledged for their differences and viewed as unique rather than 'atypical'. A further discussion about this view and its implications for women's health will be elaborated in later sections of this review.

On the whole, findings suggest that the type of symptoms women experience during the course of their acute cardiac event can inform their illness navigation and decisions to attend the hospital. Not recognising symptoms as cardiac in origin, and the consequent difficulty in identifying their cause, often stems from experiencing symptoms that differ from the classic presentation of coronary artery disease. The studies critiqued in this section indicated that experiencing intermittent and less classic/typical symptoms of ACS places individuals, particularly women, at risk for delayed presentation at the hospital and subsequent poor clinical

outcomes. Therefore, it is important for women to recognise the variability of ischaemic symptoms, rather than relying solely on what are commonly considered typical/classic presentations as depicted in social discourses and media portrayals. This awareness is vital in reducing the likelihood that symptom expectations will differ from actual symptom experiences, which was evident to be important for prompt and appropriate symptom response. For healthcare professionals and nurses in clinical settings and academia, this understanding highlights the need for further exploration of health-seeking behaviours in the population of women with heart disease, which can lead to future educational interventions to reduce the negative outcomes of pre-hospital delays.

2.4.2. Cardiac Risk Perception and Interpretation

Individuals may not fully understand the seriousness of their cardiac symptoms due to the varying perceptions of cardiac risk factors. Conditions such as type II diabetes mellitus, hypertension, hyperlipidaemia, obesity, physical inactivity, and tobacco use are key risk factors for the development of ACS (Adhikary et al., 2022). However, knowledge and awareness of these risks for cardiac disease can vary among individuals, significantly influencing their perception of the threat posed by symptoms. These perceptions play a crucial role in shaping their illness experiences and health-seeking behaviours, which may impact time-sensitive management and treatment. In this theme, I analyse a range of studies that explore individuals' perceptions of cardiac risk across different cultures and demographics, highlighting how these perceptions influence their responses to cardiac events and their engagement with the healthcare system.

In a recent multicentre cross-sectional study, Ericsson et al. (2022) recruited a consecutive sample of 521 patients (male, 77%; mean age 65.5) admitted with STEMI to cardiac care units in five hospitals across Sweden. The study found that factors associated with an early response (within 20 minutes) included male sex and bystanders calling an ambulance. A notable observation from the analysis of self-reported questionnaires was that a history of an MI event or the presence of known ischaemic heart disease risk factors, such as hypertension or diabetes, were not associated with a prompt response to symptoms (Ericsson et al., 2022).

Similarly, another cross-sectional study conducted in Saudi Arabia by Albrahim et al. (2016) found that the presence of ischemic risk factors did not correlate with prompt hospital attendance. This study aimed to determine factors associated with late hospital presentation

among a population of seventy-nine patients (83.3% males) with STEMI admitted to a cardiac centre in the capital city, Riyadh (Albrahim et al., 2016). The participants were categorised into two groups according to the time from the onset of chest pain to hospital arrival: the early presentation group (<6 hours) and the late presentation group (>6 hours) (Albrahim et al., 2016), although the authors did not provide a rationale for choosing this specific timeframe. Multivariate logistic regression analysis showed that one-third of participants fell into the late presentation group, with a high prevalence of key cardiac risk factors, such as hypertension (70.8%), diabetes (79,%), and dyslipidaemia (54.2%) (Albrahim et al., 2016).

Supporting these findings, a more recent cross-sectional study by AlAhmadi et al. (2020) in the city of Al Madina Al Munawara, Saudi Arabia, found that their participants with a history of hypercholesterolemia were more likely to present late at the hospital despite the presence of this well-known cardiac risk factor. Similar to the study of Albrahim et al. (2016), AlAhmadi et al. (2020) identified educational level as an important factor in determining the time to hospital presentation, with lower literacy levels more common among the late presentation group. However, it is important to note that the majority of participants in both studies had received only limited formal education. Specifically, 58.2% of participants in Albrahim et al.'s (2016) study and 40% in AlAhmadi et al.'s (2020) study had completed primary school or less. This limited educational attainment likely contributed to difficulties in reading and comprehending written health information, which may have affected their knowledge and awareness of the key cardiac risk factors. Moreover, the predominance of male participants in both studies and the lack of gender-specific analysis restricts the generalisability of findings to the wider population with cardiac illness in Saudi Arabia.

The significance of perceived risk for ACS was further highlighted in a study by Darawad et al. (2016) in another Arabic context; Jordan. This descriptive, cross-sectional study aimed to evaluate delay times in seeking treatment for ACS and the leading factors contributing to this delay in a convenience sample of hospitalised Jordanian men and women (n=160, including 76 women). Using a modified ACS Response Questionnaire (Arabic version), the researchers collected quantitative data on knowledge, attitudes, beliefs, and perceived risks for ACS. The study reported a mean delay time of 7.8 hours, with the majority of participants delaying hospital attendance for longer than six hours (Darawad et al., 2016). Statistical analysis revealed that the participants who understood they were at higher risk for future ACS episodes due to existing risk factors were more likely to exhibit shorter treatment-seeking delays

(Darawad et al., 2016). The findings, however, are subject to some limitations. Despite recruiting an equal number of men and women participants, the study did not report a gender-specific analysis. Moreover, the small sample size and the use of non-probability convenience sampling pose limitations to the generalisability of the findings.

A more recent qualitative study by Stain et al. (2020) further explored the influence of the extent to which individuals believe they have cardiac risk on their illness responses. The study examined the experiences of thirty participants (15 women and 15 men) who accessed a rapid chest pain clinic service (RACPC), aiming to explore their journey from the initial symptom recognition and interpretation to the decision to seek medical attention. Thematic analysis of semi-structured interviews revealed that participants' interpretations of symptoms were shaped by several influences, including their pre-existing health conditions or risk factors. The study highlighted that their participants used their behavioural risk (e.g. smoking) and familial risk as reference points for assuming the likelihood that their symptoms were cardiac in nature.

While the studies above did not specifically discuss women's perceived risks of cardiac illness, numerous international studies indicate that women, in particular, have a lower perceived risk for an acute cardiac event (Herning et al., 2011; Al-Hassan, 2015; Lichtman et al., 2015; Asghari et al., 2022). For example, in a descriptive, cross-sectional study conducted on a sample of hospitalised Omani patients with ACS (n=131, 81 men and 50 women), Al-Hassan (2015) found that compared to men, most women significantly perceived themselves as less susceptible to cardiac illness, despite having a well-known cardiac risk such as hypertension. The author concluded that this perception of low susceptibility influenced the cognitive appraisal process of symptoms among their female participants. However, the smaller sample size of female participants compared to men may reduce the power to detect gender differences, which could limit the generalisability of findings to reflect the wider population of Arab female patients experiencing ACS.

Several international qualitative studies conducted to capture experiences and perspectives that are difficult to measure quantitatively further emphasised a notable disconnection between risk factors and perceived susceptibility to cardiac illness in women (Gallagher et al., 2010; Herning et al., 2011; Lichtman et al., 2015; Yu et al., 2023). For example, the study of Gallagher et al. (2010) presented in the preceding theme also revealed that many women in their sample were surprised upon learning they had experienced a myocardial infarction. This was an unexpected event for them because they did not consider themselves vulnerable to heart disease, despite

many having multiple risk factors such as high cholesterol and tobacco use (Gallagher et al., 2010). Since the risk of developing a cardiac event was perceived to be low, these women were more likely to find a comorbidity reason for their complaints and attempt to self-care.

Similar findings were reported elsewhere. Herning et al. (2011) utilised a phenomenological research design to further explore how women's thoughts, motivations, and actions impact their judgments to seek treatment when experiencing STEMI in a Danish context. They conducted in-person, semi-structured interviews with female patients with STEMI (*n*=14; aged 50 to 84 years) and analysed them by Giorgi's method of analysis. A key finding of the study is that despite having multiple risk factors, the women did not perceive themselves as being at risk for heart disease (Herning et al., 2011). Further, they did not associate certain lifestyle choices, such as smoking and consuming a high-caloric diet, with an increased risk of ACS. Consistent with Gallagher et al. (2010), the participants in Herning et al.'s study attributed their symptoms to less harmful causes, such as flu, indigestion, stress, or anxiety.

In a different context, Lichtman et al. (2015) utilised grounded theory to explore the perceptions and experiences of thirty women (mean age 47 years) in the US through in-depth, semi-structured interviews via telephone. The authors found that young women often do not accurately attribute their symptoms to a cardiac cause due to beliefs of low vulnerability to coronary heart disease. Despite having multiple known risk factors and a strong familial risk for cardiac illness, most of the women in the study did not associate their symptoms with a cardiac cause (Lichtman et al., 2015). The authors argue that this misattribution stems from beliefs, reinforced by social and media discourses, that emphasise that cardiac risk only occurs in older age groups (Lichtman et al., 2015).

Women's perception of low susceptibility to cardiac illness could also be due to a persistent misperception that women are at higher risk of having breast cancer or other gynaecological malignancies, such as cervical cancer, than cardiac illness. This notion has been highlighted by Smith et al. (2018), who conducted a naturalistic case study on a sample of Irish women with ACS (*n*=30; aged 36-81 years) to investigate how women interpret their risk for cardiac illness and how this informs their treatment-seeking decisions. The researchers collected qualitative data using a written diary for one week following hospital discharge and conducted semi-structured interviews six to eight weeks later. While some women in the study were aware of their familial risk for heart disease, were ex-smokers, and had been treated for hypertension for years, they did not fully understand the implications of these biomedical risks for cardiac illness

(Smith et al., 2018). Despite these well-documented risks of coronary heart disease, the women in the study often did not view themselves to be at risk due to influential external sources, including social discourses, that imply women are more prone to cancer and that heart disease affects men more than women (Smith et al., 2018).

The above findings are consistent with those of a recent qualitative study conducted by Yu et al. (2023) in China, which explored the experiences of eighteen older Chinese women (mean age, 70 years) at the onset of MI. Interpretive phenomenological analysis of the in-depth interview data revealed that the overwhelming majority of participants never anticipated having a heart attack. This belief in low vulnerability to cardiac illness stems from the participants' perceptions that women are more vulnerable to cancer, including breast or cervical cancer. Furthermore, the authors concluded that many participants seemingly had the misconception of not being susceptible to cardiac illness due to the inaccurate, yet widely believed, notion that heart disease mainly affects men (Yu et al., 2023). Al-Hassan (2015) similarly identified a persistent gendered perception that cardiac illness is a male-dominant health problem, highlighting an ongoing issue of misperceptions about heart disease in women globally.

Overall, the studies analysed in this section highlighted how individuals' varying perceptions of cardiac illness and its related risks influence their health-seeking responses. Although there remains a lack of evidence regarding the impact of this perception on Saudi women with cardiac risks, international studies consistently found that women often have relatively low perceptions of their susceptibility to developing cardiac illness, influenced by ongoing social discourses and public media portrayals that continue to impose the belief that women are less vulnerable to heart disease. Therefore, just as women, in particular, should be aware and mindful of the variations of ischaemic symptoms, they should also be aware of their perceived vulnerability to cardiac illness. This awareness is important given the high prevalence of cardiac risk factors among women and their lower likelihood of understanding their own risk. Understanding these perceptions and beliefs has the potential to enable policymakers to develop targeted public health strategies and interventions aimed at effectively promoting the recognition of ischaemic symptoms and encouraging proactive health-seeking behaviours among females who are at high risk of developing cardiac illness.

2.4.3. The Social Construction of Gender

This thesis has a clear focus on women's cardiovascular health and their experiences navigating their cardiac symptoms within the context of being women. This necessitates an examination of how the social construction of gender influences these experiences, as it shapes their journey in seeking health for ischaemic symptoms. Gender is a major social status that organises aspects of everyday social life (Scambler, 2018). It is a socially constructed identity that establishes norms and is built into the main organisations of society, including the economy, politics, family, and health (Scambler, 2018). Research has emphasised the importance of gender roles in how individuals with cardiac illness, men and women, experience their illness (Emslie, 2005; Lyons, 2009). Therefore, this section focuses on studies that explore the role of gender and the influence of societal norms related to femininity and masculinity within the context of acute cardiac disease. This helps us understand how these gender ideologies shape illness and health-seeking experiences among affected individuals from diverse contextual backgrounds.

Mussi et al. (2014) conducted an explanatory study of quantitative and qualitative methods with a sample of 97 participants (43 women and 54 men) suffering from acute MI in Brazil to determine their decision-making time to attend the hospital and analyse the influence of pain interpretation and resistance behaviour. The study found that both men and women delayed hospital attendance despite enduring chest pain, a classic symptom of an acute cardiac event, and often chose to self-medicate or wait for the pain to subside (Mussi et al., 2014). The study attributed pain resistance to socially constructed gender norms dictating that men should embody capability, strength, and assertiveness, whereas women adhere to traits such as vulnerability, and thus are expected to tolerate pain in silence or attempt to conceal it to fulfil their caregiving roles (Mussi et al., 2014).

In a similar context, Damasceno et al. (2012) conducted a cross-sectional, exploratory study involving 100 individuals (71 men and 29 women) admitted with MI in two hospitals in Salvador, Brazil, to identify the factors influencing the decision to seek care when experiencing symptoms associated with this acute cardiac event. The authors collected quantitative data using a researcher-developed instrument consisting of two parts: Part 1 focused on sociodemographic data, and Part 2 assessed participants' judgment of symptoms, reasons for not seeking prompt care, and actions taken in response to the cardiovascular event. Statistical analysis revealed that sixty-four per cent of participants, predominantly men (P=0.007),

perceived their symptoms as serious (Damasceno et al., 2012). However, only fifteen per cent reported seeking medical care promptly (Damasceno et al., 2012). Although no statistical association was found between men's and women's actions in relation to symptoms, a notable difference was observed that more men delayed presenting at the hospital because they hoped their symptoms would subside on their own (P = 0.014), whilst more women concealed their symptoms (P = 0.016) and attempted to contain them using self-management measures at home (Damasceno et al., 2012). The study reported that women's tendency to hide and self-manage symptoms was to enable them to continue performing their routine activities and avoid causing worry to their families about their deteriorating health (Damasceno et al., 2012).

In a more recent study, Li and Yu (2018) examined the predictors of pre-hospital delay among Hong Kong Chinese patients (*n*=301; men, 78.7%) with MI. Their quantitative study found that patients' concern about burdening their families was among the most prominent perceived barriers to seeking care. However, there is a need for further investigation into the impact of the embedded social context on health-seeking behaviours, especially among women, given the insufficient reporting of gender-sensitive analysis and the predominance of male participants.

The reluctance to attend the hospital to avoid worrying others or causing disruption is consistent with the societal constructions of femininity and gendered roles, which emphasise traits such as emotional connection and caregiving (Lyons, 2009). These gendered expectations may lead women to prioritise the wellbeing of others over their own health needs; therefore, this affects their willingness to engage in prompt health-seeking activities, as highlighted in several qualitative studies in this review. For example, a grounded theory study by King-Shier et al. (2015) sought to develop an understanding of the influence of gender and ethnicity on navigating ACS symptoms among a purposive sample of fifty-seven participants, including twenty Caucasian (10 men and 10 women), eighteen Chinese (10 men and 8 women), and nineteen South Asian (10 men and 9 women) who were hospitalised for ACS in Canada (King-Shier et al., 2015). Constant comparative analysis of semi-structured interview data revealed that women across all ethnic groups were, to varying extents, indifferent to their own health and often waited or denied their symptoms to maintain their social integrity (King-Shier et al., 2015). The study reported that the women frequently cited their caregiving roles, concerns about being a burden, and negative experiences of losing a family member in the hospital as

factors that contributed to their hesitance to attend the hospital promptly (King-Shier et al., 2015).

Across a wide range of studies conducted with female participants in the Western context, a strong sense of social responsibility consistently emerged as a central life priority and a significant barrier to seeking health (Herning et al., 2011; Davis et al., 2013; Isaksson et al., 2013; Lichtman et al., 2015; Arslanian-Engoren and Scott, 2017; Smith et al., 2018). Similar to women in the contexts presented above, maintaining social responsibilities played a central role in the lives of many Western women involved in these studies. For example, in a grounded theory study, Davis et al. (2013) sought to explore how their female participants interpreted their cardiac symptoms and subsequently decided whether to seek medical attention within the context of their lives. The authors interviewed nine women (aged 49 to 74 years) during hospitalisation or within two weeks of discharge at their homes. In the process of searching for meanings of their symptoms, the study participants fell into two groups: the evolving MI group and the immediately recognisable MI group (Davis et al., 2013). The evolving MI group experienced vague and intermittent symptoms, which they labelled as minor health conditions such as indigestion (Davis et al., 2013). In contrast, the immediately recognisable MI group encountered severe symptoms that allowed them to assign a high level of seriousness to their symptoms and subsequently attribute them to a concern for the health of their heart (Davis et al., 2013).

A key finding of the study was that the search for symptom meaning was embedded in the larger social context as the women attempted to interpret their symptoms and manage their social obligations and responsibilities (Davis et al., 2013). The study highlighted that women's help-seeking behaviours in the two groups differed based on the nature of their symptoms. However, the pre-existing social roles assigned to women in both groups largely influenced their experience (Davis et al., 2013). Women in the evolving MI group often overlooked the symptoms and returned to their social responsibilities because they could not correctly form a pattern of their symptoms. In contrast, women in the immediately recognisable MI group acknowledged the urge to seek help. However, even these women needed to make necessary arrangements through their social network to delegate their responsibilities to trusted others to ensure their roles were covered before they could seek treatment for their own health (Davis et al., 2013).

This finding has been echoed by Isaksson et al. (2013) in their qualitative, descriptive study undertaken in Sweden. The authors conducted individual interviews with twenty women (aged 65 to 80 years) admitted to three hospitals in Northern Sweden three days after their hospital admission for AMI. The participants described their symptoms as strange and abnormal and employed various coping measures such as ignoring symptoms or self-management techniques to remain in control and continue fulfilling their caregiving responsibilities (Isaksson et al., 2013). Moreover, as long as the women perceived their symptoms as non-threatening, they chose to wait until they intensified before deciding to attend the hospital. This hesitation was particularly motivated by a desire to avoid being a burden on others or a fear of activating a false alarm, which many thought would be embarrassing (Isaksson et al., 2013).

It transpired from two studies included in this review that individuals' hesitation to attend the hospital was further exacerbated by concerns about potentially taking resources away from those perceived to be in more significant need, such as patients with coronavirus infection, as well as fears of overcrowded hospitals (Lidin et al., 2021; Granström et al., 2023). Lidin et al. (2021) examined patient delay in seeking medical care for symptoms suggestive of ACS during the first wave of the COVID-19 outbreak in Stockholm, Sweden. Quantitative data were collected from 326 study participants, including 81 women, through a self-administered questionnaire assessing patients' appraisal, emotions, and action tendencies preceding care-seeking for AMI (Lidin et al., 2021). Statistical analysis revealed that 19% reported delaying hospital attendance due to pandemic-related concerns (Lidin et al., 2021). While the study recruited a small proportion of female participants, it highlighted that females, in particular, were more likely to delay seeking care due to these pandemic-related concerns (Lidin et al., 2021). They were reluctant to attend the hospital due to concerns about contributing to an already strained healthcare system and the risk of exposure to the virus in hospital settings, even when experiencing evolving symptoms (Lidin et al., 2021). Granström et al. (2023) reported similar findings in their recent qualitative study exploring the influence of COVID-19 on navigating acute cardiac symptoms of 12 men and 2 women hospitalised for acute MI in Sweden. However, the study did not provide a gender-specific discussion on how this influenced health-seeking.

Beyond the context of the COVID-19 pandemic, sociocultural context also contributes to women's hesitation to seek timely medical attention. In certain societies, women's reluctance to activate a false alarm can be influenced by existing traditional values regarding their social

roles. This corresponds with findings from an explanatory mixed-method study by Alshahrani et al. (2014), which aimed to explore factors contributing late hospital attendance among Saudi patients with STEMI. The study recruited a consecutive sample of 189 patients with ACS, including 36 women, admitted to three hospitals in Riyadh, Saudi Arabia (Alshahrani et al., 2014). Quantitative data on demographics, clinical aspects, and delay times were collected using a pre-tested self-administered questionnaire in both Arabic and English at least 48 hours following admission (Alshahrani et al., 2014). Multiple regression analysis showed that women delay significantly longer than men (5 hours vs. 12.9 hours, $P<0.002$), and gender (being a woman) was the major contributor to transfer delay ($P<0.006$) (Alshahrani et al., 2014). Qualitative interviews were then conducted with eighteen patients, including nine women, to investigate reasons for delay times (Alshahrani et al., 2014). It became evident from their results that gender played a key role in the extended delay among these women. Several themes influenced by cultural constructs were identified, including the need for male permission to leave home, restrictions on women's mobility unless accompanied by a male family member, the prioritisation of family obligations over personal health, and societal expectations that women should not attract attention (Alshahrani et al., 2014).

Alshahrani et al.'s findings demonstrate that even when women recognise that their symptoms warrant medical assessment and intervention, their health-seeking behaviour is ultimately shaped and constrained by specific gender-related social norms. However, the study has certain limitations. The inclusion of both male and female participants may have diluted the focus on women's experiences and encounters, resulting in less in-depth insights into the specific challenges faced by Saudi women. In addition, the interviews were conducted by a male researcher, and cross-gender interviewing can be sensitive and less comfortable in the conservative context of Saudi Arabia, which may have impacted the depth and breadth of the data collected. This limitation is addressed in more detail in the Methodology Chapter (see **Chapter 3, Section 3.8.1**). My study seeks to address these limitations by focusing exclusively on women's experiences and ensuring that interviews are conducted in a culturally sensitive manner, thereby providing a more nuanced and comprehensive understanding of Saudi women's experiences in seeking health for ischemic symptoms.

The studies analysed thus far indicate that socially constructed gender identity and roles may influence individuals' illness trajectories, with traditional perspectives often associating men with self-reliance and women with caregiving roles that prioritise other's needs over their own.

However, Galdas et al. (2010) posited that these gendered distinctions do not always reflect actual experiences with cardiac illness and argued that health-seeking responses can occur irrespective of gender. The researchers conducted individual interviews with twenty patients with ACS, including nine women, admitted to a hospital in Canada. The inductive thematic analysis of interview data revealed that some participants exhibited health-seeking experiences which could be consistent with traditional gendered roles. For example, some men described what could be assumed as masculine behaviours, such as retaining control and managing their worsening health independently, which was evident in actions such as continuing with planned work activities, enduring pain, and avoiding telling others about their need to seek medical attention (Galdas et al., 2010). Conversely, accounts of some women in the study appeared to align with the traditional feminine roles as they deliberately prioritised family's wellbeing over personal health matters and delayed seeking timely treatment for their symptoms to maintain social integrity in their lives until their condition became severe or intolerable (Galdas et al., 2010).

However, Galdas, et al. (2010) also found that many interviewees provided accounts that went beyond the stereotypical masculine-feminine binary. Several men and women in the study demonstrated behaviours that could be perceived as atypical of conventional gender roles and expectations. For example, some women exhibited behaviours more consistent with masculine ideologies, such as not showing weakness, whereas some men reported accounts that were more reflective of feminine ideals, such as showing vulnerability during their ACS (Galdas et al., 2010). These responses were often influenced by contextual factors (e.g. time, location, presence of others, etc.) and the nature and severity of pain (Galdas et al., 2010). This suggests that while gender may contribute to some differences in how individuals respond to ACS, it is not a standalone factor determining individuals' illness trajectories and response patterns. The complex and fluid nature of gender means that it remains an important and useful construct in exploring health-seeking behaviour, yet it does not rigidly dictate that women predominantly respond or behave one way and men another when experiencing symptoms of ACS.

On the whole, it was evident that health-seeking is not entirely related to disease symptomatology; rather, it is related to one's wider sociocultural context in which the ACS event occurred. Gender roles and expectations shape how women navigate their everyday lives, including their decisions and responses to an illness. This highlights the complexity of health-seeking, which is a product of societal and cultural dynamics as they are of individual

symptomatology. However, the existing body of literature has largely overlooked how these dynamics unfold in specific cultural settings, such as Saudi Arabia.

2.4.4. The Involvement of Personal Social Networks

Social networks play an important role in many aspects of individuals' lives, including matters related to health and illness. This section analyses a series of studies (Herning et al., 2011; O'Donnell and Moser, 2012; Yardimci and Mert, 2014; Al-Hassan, 2015; Noureddine et al., 2015; Arslanian-Engoren and Scott, 2017; Coventry et al., 2017) that highlighted the role of social networks, which may include a spouse, family members, friends, or work colleagues, in symptom recognition and subsequent health-seeking responses.

A grounded theory study by Yardimci and Mert (2014), which involved semi-structured interviews with a sample of thirty Turkish patients admitted for AMI, demonstrated the critical influence of social networks in ensuring hospital attendance. The study found that the persistent insistence and demands from others, predominantly relatives and friends who were around the participants at the onset of symptoms, served as an extrinsic influencing factor that accelerated hospital attendance, helping overcome patients' hesitations and decision-making delays (Yardimci and Mert, 2014).

Similarly, in the cross-sectional study analysed earlier on the predictors of pre-hospital delay among a sample of 112 Omani patients with ACS (females, 28.7%), Al-Hassan (2015) found that most of their participants of both genders interacted with a bystander, an adult family member in most cases. These interactions, which involved evaluating and interpreting the symptoms, often resulted in a request to take the participants to the hospital (Al-Hassan, 2015). This finding demonstrates the significance of the wider social network in an individual's health, particularly in influencing access to healthcare.

In a qualitative descriptive study conducted in Lebanon, Noureddine et al. (2015) examined how a sample of Lebanese patients experiencing AMI symptoms decided to attend the hospital and what factors influenced their decisions. The study recruited a convenience sample consisting of fifty patients (82% men) admitted to two hospitals in the city of Beirut. In addition, the study recruited twenty-two individuals (mostly family members) who witnessed the acute cardiac event to capture their views and perspectives. The researchers conducted semi-structured interviews with the participants twice: initially within three days of admission

and again one month after discharge to validate summaries of interviews conducted during the hospitalisation (Noureddine et al., 2015). The patients waited and delayed presenting at the hospital for several reasons. A notable reason was a reluctance to worry or bother others, especially when symptoms occurred at night (Noureddine et al., 2015). However, family members who witnessed the acute event often played a crucial role in overcoming this reluctance. They insisted on transporting the participants to the hospital, even when the participants themselves were reluctant to do so. In some cases, family members challenged the participants' resistance by calling an ambulance or driving them to the emergency department (Noureddine et al., 2015).

Collectively, the findings of Yardimci and Mert (2014), Al-Hassan (2015), and Noureddine et al. (2015) suggest that, in Middle Eastern culture, health-seeking is fundamentally a social process in which interactions among social structures in evaluating and interpreting symptoms can influence an individual's response to their symptoms and subsequent health-seeking behaviours. This influence seems to be rooted in cultural expectations and social norms that emphasise collective decision-making rather than individual autonomy.

In addition, evidence suggests that social networks also play a crucial role in facilitating hospital attendance in the Western context (O'Donnell and Moser, 2012; Coventry et al., 2017). For example, O'Donnell and Moser (2012) conducted in-depth semi-structured interviews with forty-two participants, including twenty-three females, admitted to two hospitals in Dublin, Ireland, to explore their help-seeking experiences for MI symptoms. The analysis of the interview data revealed that, upon realising the failure of their self-care measures, all study participants felt compelled to involve others in their inner social networks in assessing and evaluating their situation (O'Donnell and Moser, 2012). The study noted that this sense of vulnerability was accompanied by fear, as most participants felt a sense need for safety and support from family members or close friends, who in turn provided emotional support and expedited hospital admission (O'Donnell and Moser, 2012).

Elsewhere, Coventry et al.'s (2017) findings complement those of previous research, indicating that contextual factors such as being alone or in unfamiliar surroundings contributed to delays in seeking help for AMI symptoms. They conducted semi-structured interviews as part of a mixed-method study involving 255 patients (180 men and 75 women, mean age of 64 years) admitted to a tertiary hospital in Western Australia. The study noted that most participants (n=111) sought help from laypersons in their immediate social networks, including family

members, work colleagues, and neighbours, as opposed to those who initially chose to attend the emergency department (*n*=54) or their general practitioner (GP) (*n*=46). Laypersons often realised the urgency of the situation and facilitated hospital attendance, whether by providing transportation, calling an ambulance, or advising a visit to the GP. However, patients reported waiting longer when they called someone who was unavailable or waited for them to return home or to awaken so they could seek guidance and support about their condition.

In contrast to the studies above, which did not specifically shed light on women's experience, a number of qualitative studies specifically explored the experiences of female participants hospitalised for ACS and highlighted the proactive role of social networks in facilitating hospital attendance and ensuring medical intervention (Herning et al., 2011; Arslanian-Engoren and Scott, 2017; Pate et al., 2019; Asghari et al., 2022). For example, Herning et al. (2011) conducted a phenomenological research design to explore the experiences and behaviours of women (*n*=14) at the onset of symptoms of STEMI in Denmark. The researchers found that women living alone and with limited family contacts tended to exhibit prolonged hospital delays. Similarly, Arslanian-Engoren and Scott (2017) found that all their study participants, which included fourteen women with MI, four of whom were healthcare professionals, were transported to the emergency department by family or friends. Some of these women also reported being persuaded or even tricked by friends into going to the hospital, highlighting that women may find it difficult to make the final health-seeking decision alone (Arslanian-Engoren and Scott, 2017). In a more recent study conducted in an Eastern context, Asghari et al. (2022) interviewed thirty-nine women admitted for ACS in a hospital in Iran. The authors observed that their participants were brought to the hospital by an ambulance (*n*=18) or a personal vehicle (*n*=21), with arrangements mostly made by family members who either called for an ambulance or personally transported the participant (Asghari et al., 2022).

Although the studies above consistently highlighted the involvement of others in the assessment of symptoms and decisions about responding to them, a small number of studies suggest that individuals living within patients' inner circle may not always recognise the seriousness of the situation and ensure sufficient support and encouragement for prompt health-seeking. For example, Nymark et al. (2014) interviewed fourteen men and women to gain an understanding of their thoughts and feelings before hospitalisation for acute MI. The authors reported that some study participants expressed concerns about not being taken seriously or being perceived as complainers by their spouses. Similarly, Alshahrani et al. (2014) analysed

narratives from their Saudi participants and found that female participants, in particular, often faced dismissal and normalisation of their symptoms by their family members, who provided reassurance instead of acknowledging the need to attend the hospital. For example, one woman in the study recounted how her adult children downplayed her symptoms, attributed them to non-specific causes, and advised her to pray for relief rather than going to the hospital for what they perceived as irrational and insignificant complaints (Alshahrani et al., 2014). Therefore, the inability of individuals within one's social network to recognise the urgency of the situation and not to pay adequate attention to their symptoms may discourage prompt hospital attendance and, in turn, reduce the likelihood of receiving optimal medical interventions.

2.4.5. Gender Disparities in Healthcare Responses

A small number of studies within the literature review highlighted gender disparities in experiences with healthcare, particularly in terms of inconsistent responses to women experiencing ischemic symptoms (Isaksson et al., 2013; Lichtman et al., 2015; Gyberg et al., 2016; Lichtman et al., 2018; Pate et al., 2019). For instance, in the multi-centre study by Lichtman et al. (2018) analysed earlier, approximately 29% of women and 22% of men interviewed had sought medical attention for similar complaints, mainly chest-related symptoms, prior to hospital admission for AMI ($P<0.001$). Regardless of the presence of chest pain, women in the study often presented with additional non-chest pain symptoms (Lichtman et al., 2018). The statistical analysis revealed a significant disparity between both sexes, with over half of the women reporting that their healthcare provider did not consider their complaints to be associated with a cardiac cause, compared to men (53.4% vs. 36.7%, $p<0.001$) (Lichtman et al., 2018). Although data collection was limited to patients with MI and did not involve interviews with attending physicians to understand their perceptions of women's symptoms at the time of presentation, which could be viewed as a limitation, healthcare providers may also face challenges in accurately interpreting women's symptoms as cardiac.

The underestimation and misinterpretations of women's symptoms may reflect gender inequalities in healthcare. As presented earlier in **Section 2.7.1**, women with cardiac disease may present at the hospital with less classic symptoms that may differ from the typical male symptom patterns. This variability in symptom presentation can contribute to complicating clinical assessment and may result in women receiving a non-cardiac diagnosis and subsequent delayed clinical intervention. An implication of this raises the possibility that women may hesitate to seek prompt healthcare for their symptoms, as highlighted in a grounded theory

study by Gyberg et al. (2016). The semi-structured interview data of seventeen women (aged 38-75 years) who were hospitalised for AMI revealed the reluctance of some women to attend the hospital due to not fitting the typical profile of a heart attack patient (Gyberg et al., 2016). This hesitation was particularly exacerbated when their symptoms were dismissed as non-cardiac by healthcare providers during their initial hospital visit at the onset of their cardiac event, further complicating their ability to recognise the seriousness of their condition as symptoms progressed (Gyberg et al., 2016).

This perspective reinforces the misconception that cardiac symptoms must be severe and incapacitating in order to justify the need to attend the hospital. Additionally, it can evoke negative emotions, such as embarrassment, as highlighted by Isaksson et al. (2013) in their study on pre-hospital experiences among a sample of older women hospitalised for MI in Sweden. The researchers found that despite enduring severe pain, most study participants were uncomfortable about seeking medical attention due to concerns about being embarrassed or perceived as overreacting, which was rooted in fear of being misunderstood or judged by healthcare staff. Isaksson et al. (2013) noted that this sense of embarrassment was particularly exacerbated when their previous experiences with attending the hospital for earlier symptoms were met with dismissal by doctors, which left them feeling ignored and therefore hesitant to seek medical attention again (Isaksson et al., 2013). Such dismissive responses from healthcare staff led to a growing concern among these women that they would be seen as hypochondriacs if they presented again with similar complaints (Isaksson et al., 2013).

Nevertheless, evidence has shown that healthcare providers may misattribute women's cardiac symptoms, regardless of whether they present with typical or atypical complaints of ACS. In their grounded theory study, Lichtman et al. (2015) found that their study participants, young women with MI, often encountered interaction with healthcare providers who did not promptly or thoroughly assess and evaluate their symptoms, with such encounters occurring with a presentation of both typical and atypical symptoms. Smith et al. (2018) also reported similar findings in their case study involving older women with MI, highlighting a recurring theme in which healthcare providers did not initiate a prompt or complete assessment for cardiac symptoms or provide a formal diagnosis.

Inconsistent medical responses towards women's ischaemic symptoms were further highlighted in a mixed-method study by Pate et al. (2019). The study sought to examine symptom recognition and treatment-seeking behaviours in a sample of Hispanic and non-

Hispanic women with MI in the US. To achieve this aim, forty-three women (17 Hispanic and 26 non-Hispanic) from seven hospitals in the state of Colorado were recruited. Study participants were stratified into four groups according to their typology of treatment-seeking behaviour: "Fast actors", who attended the hospital within twenty-four hours upon experiencing chest-related symptoms; "Got Luckies", who attended the hospital despite not attributing their symptoms to a cardiac cause; "The Derailed", who recognised their symptoms as serious but faced delays over 24 hours due to misdiagnoses; and "Wonder a Lots", who attributed their symptoms to different causes because of their chronic health conditions (Pate et al., 2019). A key finding was that members of "The Derailed" group (*n*=7, 5 Hispanic and 2 non-Hispanic women) recognised the seriousness of their complaints and attempted to seek medical attention from a primary care provider or an emergency department before their hospitalisation. However, their complaints were derailed, misattributed to non-cardiac origin, and treated for a different illness by the doctors responsible for their care (Pate et al., 2019). The study noted that this initial misdiagnosis influenced how the participants responded to their symptoms as their condition worsened, leading to a reluctance to attend the hospital despite their worsening health condition later in the course of their illness (Pate et al., 2019). Therefore, the interaction with healthcare staff can negatively impact health-seeking decisions and behaviours.

2.5. Summary of Key Findings and Evidence Gaps

Existing literature examining health-seeking experience for ACS highlighted the importance of women with cardiac risk being aware and mindful of the diverse presentations of ischaemic symptoms and their increased vulnerability towards developing an acute cardiac event. However, it is important to understand that symptom awareness alone cannot be sufficient for effectively navigating cardiac illness.

While there is a body of international literature examining individuals' responses to ischaemic symptoms and the outcomes of these responses in terms of seeking health across different backgrounds and contexts, these studies were undertaken primarily in the West, with a majority of participants being male, including those conducted in the Arabic context. Most of the international studies, regardless of location and context, revealed that women often delay attending to their personal health needs. However, there was a notable lack of focus on the context influencing how women across different locations and contexts navigate their health-

seeking responses and decisions. Specifically, the literature reviewed revealed a scarcity of evidence focusing on women's experiences within the broader Arab and Saudi contexts. Even in those studies where women were included, the analysis often lacked an in-depth gender-specific focus and overlooked cultural sensitivities. This is particularly important, as navigating illness in conservative cultures, such as Saudi, cannot be separated from the contextual world where the illness event occurs. Studies conducted in the region of Saudi Arabia have primarily focused on pre-hospital delays and have been undertaken predominantly through quantitative methods. These methods tend to eliminate the subjective views of the researcher and participants involved in favour of achieving objectivity in positivist research (Flick, 2022). However, it is important to gain a deeper understanding of women's health-seeking behaviours rather than merely assuming delays without exploring underlying reasons and contextual elements that influence illness and health-seeking experiences.

There transpired a need to further explore how considerable social, cultural, and contextual differences influence women's perceived symptomatology and their subsequent health-seeking behaviours. Understanding women's roles, for example as mothers and nurturers, and what this means in a given societal context is essential to better understand how their gendered roles could compete with health-seeking behaviours during critical health events, such as ACS. In the context of Saudi Arabia, these dynamics are particularly underexplored within the area of cardiovascular illness.

While focusing on women only may narrow down the scope of the illness and health-seeking experiences of individuals with ACS, it is essential to emphasise that focusing on the female population is paramount due to the unique challenges they face. There is a need for more nuanced qualitative studies that consider the unique sociocultural dimensions and their impact on women's health navigation, which can provide valuable insights for designing and developing context-specific interventions tailored to women's needs in specific sociocultural settings. My study seeks to complement and contribute insights into the sociocultural context influencing illness and health-seeking experiences from the perspectives of Saudi women with ACS. The methodology chapter (**Chapter 3, Section 3.2**) provides further details on the aim of the current study and the methods utilised to address this aim.

Additionally, the lack of, or insufficient, reporting of theoretical bases and perspectives to understand symptom responses and subsequent health-seeking behaviours–as evidenced by the reviewed studies–highlights a gap in the literature that warrants further exploration. Notably,

many of the studies analysed above atheoretical or lacked explicit reporting of the use of relevant theories to guide their analysis. However, a small number of studies reported utilising theoretical frameworks to inform and guide their study design and analysis (Herning et al., 2011; Noureddine et al., 2015; Alshahrani et al., 2014; O'Donnell and Moser, 2012; Yu et al., 2023). These studies primarily adopted Leventhal's Common-Sense Model of Self-Regulation (CSM) (Leventhal et al., 1980) as their theoretical underpinning. The CSM is a psychological model primarily emphasises the ill individuals' own representations of illness, and conceptualises them as problem-solvers motivated to return to a state of normality, thus being regarded as self-regulatory (Leventhal et al., 1980). While valuable, this model focuses primarily on individuals' cognitive processes. As such, it may offer limited insights into the broader sociocultural demotions that shape individuals' health-seeking experiences. The following section extends the theoretical discussion relevant to the study's focus.

2.6. Theoretical Perspectives

As I mentioned above, many studies analysed in the literature review were atheoretical or lacked explicit theoretical foundations, or utilised a psychological model primarily focused on the individuals' own cognitive representations of illness. Consequently, the influence of cultural context and social interactions that I recognise as significant aspects of my research remains relatively limited.

As I progressed through my PhD journey, I explored a variety of theoretical frameworks to enhance my understanding of the topic and assist in my data analysis. According to Crotty (1998), the theoretical perspective is the philosophical position informing the methodology, emphasising that the ways of researching the world are closely related to the ways of viewing it. Therefore, it is essential that a researcher identifies a theoretical perspective that aligns with and informs their research.

I adopted concepts from Chrisman's (1977) health-seeking process to make sense of my data, as I will present in later chapters of this thesis, rather than utilising a psychological lens such as Leventhal's Common-Sense Model of Self-Regulation. While Leventhal's CSM acknowledges the role of social influences in shaping illness perceptions and coping responses, its primary focus remains on individuals cognitive and psychosocial processes. I found that Chrisman's (1977) health-seeking process offers a more holistic, sociological approach that emphasises the broader sociocultural elements that influence health-seeking behaviours. This

approach aligns more closely with my research, allowing for a more contextually grounded analysis of health-seeking behaviour rather than focusing primarily on individual cognitive appraisal.

Prior to articulating Chrisman's (1977) health-seeking process, I present theoretical frameworks of illness behaviour under the following subheadings. These theoretical frameworks capture the wider contexts that shape people's experiences. This review of relevant theories is followed by a critical examination of Chrisman's (1977) concept of illness behaviour, referred to as the health-seeking process, which I introduce as a holistic approach that I used to help inform the analysis of my research findings on illness and health-seeking experiences of women with ACS.

2.6.1. The Concept of Illness Behaviour

Illness behaviour refers to how individuals respond to bodily changes that they perceive as an abnormal state of health (Cockerham, 2021). The notion of illness behaviour was first introduced by Davis Mechanic in the early 1960s to describe the variability in reactions to symptoms and illness, and to identify the sociocultural, environmental, and psychological factors that influence such reactions (Mechanic, 1962). Subsequently, Mechanic (1986) defined illness behaviour as how individuals react in response to bodily changes, monitor internal states, define and interpret symptoms, make attributions, take self-management actions, and utilise different informal and/or professional sources of care. In essence, illness behaviour describes how given symptom(s) may be perceived, assessed, and acted upon by an ill person (Sirri et al., 2013).

A crucial premise of illness behaviour is that illness is the meaning of the experience created by the disease, and therefore, it encompasses much more than physical symptoms or pain (Nettleton, 2021). A patient's subjective experience has a considerable influence on the overall illness experience, including health-seeking activities that occur in the context of illness (Mechanic, 1986; Young, 2004; Conrad and Barker, 2010; Lupton, 2012). Therefore, illness behaviour has a personal and social significance which cannot be solely captured by the pathogenesis of the disease and its biomedical profile, as individual factors, social roles, and cultural definitions are influential elements in shaping the experience of illness and meanings attributed to aetiologies that serve as its bases (Conrad and Barker, 2010; Lupton, 2012; Seidlein and Salloch, 2019; Nettleton, 2021). The character of symptoms (e.g., intensity,

persistence, etc.), which is part of the biomedical approach to disease, may constrain and limit personal/social definitions. However, there is a wide range of variability in social dynamics and processes pertaining to, for example, what is recognised and perceived as an abnormal state of health by different people, how a symptom is defined and attributed, what remedial actions/interventions are considered and utilised by each individual, and who within the social network can be approached for help and support (Conrad and Barker, 2010; Seidlein and Salloch, 2019).

The concept of illness behaviour reflects ill people's responses to symptoms of a disease in the context of their everyday lives and, therefore, is socially constructed. The responses can be manifested in the form of recognising symptoms, adopting self-care strategies, consulting social networks, and seeking informal or formal care from public/private providers (Chrisman, 1977; Ward et al., 1997; Unger-Saldaña and Infante-Castañeda, 2011; Anwar et al., 2012), which is discussed next.

2.6.2. Health-Seeking Behaviour

Health-seeking behaviour can be defined as activities undertaken by individuals who perceive themselves to have a health condition or to be ill in order to address health concerns and seek relief (Ward et al., 1997). Understanding health-seeking behaviour is important for understanding how individuals respond to a health issue, the rationale for their responses, and the actions they take when a health issue arises (Unger-Saldaña and Infante-Castañeda, 2011; Anwar et al., 2012; Suhariadi et al., 2016). Health-seeking behaviour mainly takes place when a person is ill; therefore, it is part of illness behaviour and should be distinguished from the broader concept of health behaviour, defined as activities undertaken by individuals who perceive themselves as healthy and focus on disease prevention or early detection during the asymptomatic phase (Kasl and Cobb, 1966).

Some researchers have used the term health-seeking interchangeably with other phrases, such as health help-seeking, healthcare-seeking, treatment-seeking, or help-seeking, when referring to the process that a person may exhibit in responding to an illness or a health-related concern (Oberoi et al., 2016; Thompson et al., 2016; Idris et al., 2019; Greil et al., 2020; Cebert-Gaitors et al., 2022), which was also evident in the studies critiqued in the literature review. However, health-seeking reflects a broader perspective compared to other concepts, such as help-seeking. Help-seeking has been conceived as a multistage process that begins when individuals perceive

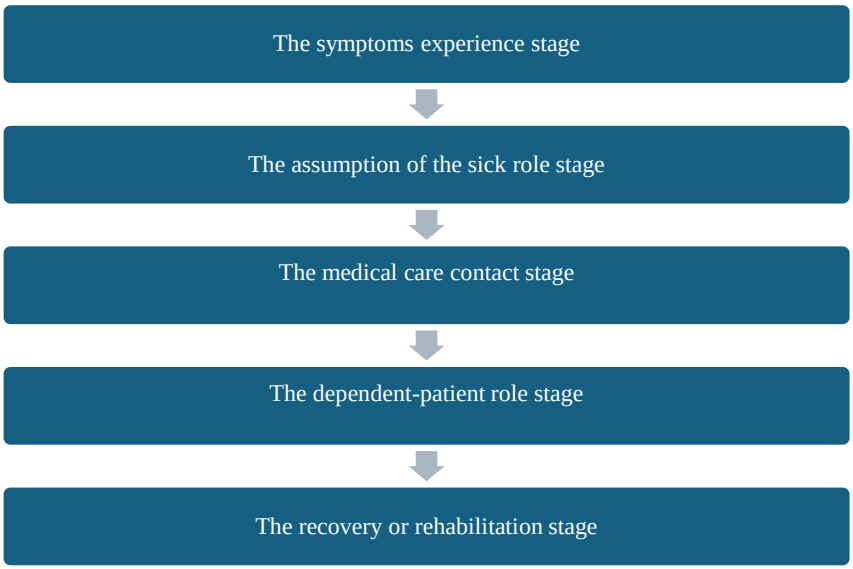
themselves as sick and show a willingness to obtain the required assistance from a healthcare professional to solve a health problem (Scott and Walter, 2010). This is consistent with the definition provided by Cornally and McCarthy (2011) in their concept analysis, who defined help-seeking as 'a problem-focused, planned behaviour, involving interpersonal interaction with a selected healthcare professional' (p. 286).

The above definition highlights that help-seeking is indicative of seeking help from others (a third party who is often a healthcare professional) to address a health problem or concern (Cornally and McCarthy, 2011), whereas health-seeking is a more inclusive concept that also includes seeking health independent of a third party by, for example, adopting self-management measures (e.g., over-the-counter medications, rest, prayers, etc.) in an attempt to solve a health issue. Moreover, interaction with the social network (as a form of informal health-seeking) is important (Hadid et al., 2020; Adam et al., 2022), particularly in collectivist societies such as Saudi Arabia, where group members are tightly integrated and connected, serving to protect the overall interest and wellbeing of each other due to the collectivist nature of the culture (Jiang et al., 2018).

Understanding how individuals respond to symptoms of cardiac illness is crucial to developing health strategies and interventions aimed at effectively promoting the recognition of ischaemic symptoms and encouraging proactive health-seeking behaviours. Researchers and health practitioners have been interested in what influences people to respond differently to illness (Mackian et al., 2004). This led to the development of several models describing how people experience and respond to illness (Suchman 1965; Fabrega 1973; Igun 1979).

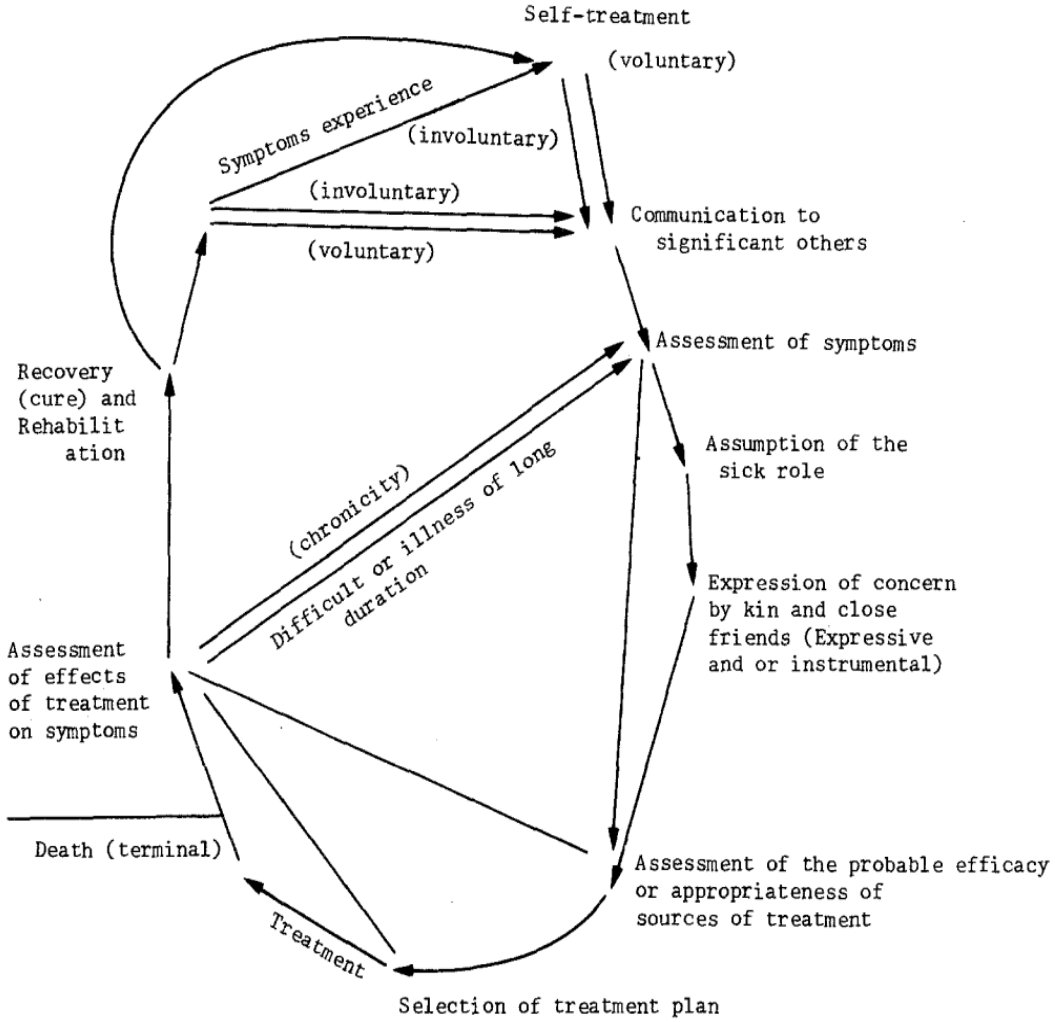
Suchman (1965) was the first to propose five sequences of stages to describe how people experience illness in relation to their sociocultural background. Suchman's illness model commences with the symptoms experience stage (including perceptions and evaluation of symptoms) and concludes with the utilisation of recovery and rehabilitation services (Suchman, 1965) (Figure 2). However, it is noteworthy that in this model, the impact of other competing options for symptom management (e.g., self-care) was not considered as a potential source of care, which people often adopt to manage their illness before seeking formal treatment.

Figure 2: Suchman's stages of illness model



Criticising Suchman's model for the lack of systematic consistency, Fabrega (1973) proposed a nine-stage information-processing model which leads a person to the decision to behave in a certain way during an illness episode. Nevertheless, the model is complex due to the use of mathematical formulas in every stage. The model also assumes that health-seeking is mainly an individual choice, which omits other possible influencing sociocultural factors that often play an important role in health-seeking (Mackian et al., 2004). In addition, it also borrows heavily from economics, and so posits that people use utility consideration through they which take optimal courses of action to eliminate illness (Fabrega, 1973). In the same vein, Igun (1979) introduced an eleven-stage model to describe the pathways of health-seeking, starting from the point of recognising symptoms and ending with recovery and rehabilitation. The model provides a succession of events in health-seeking, moving from one stage to the next (Igun, 1979) (Figure 4). However, the model does not provide context that influences this movement.

Figure 4: Igun's stages of health-seeking (Igun, 1969)



While each model mentioned above became increasingly complex, they tended to focus on the individual and omit the significance of sociocultural key aspects of experience, notably, the sociocultural context. In contrast, Noel Chrisman (1977) further expanded the ideas of health-seeking and developed a more concise and holistic approach, referred to as the health-seeking process, to examine how health-seeking relates to illness behaviour and how sociocultural context and interactions influence health-seeking experiences. (Suchman, 1965)

2.6.3. Chrisman's (1977) Health-Seeking Process

Chrisman (1977: 353) introduced the concept of the health-seeking process to conceptualise *"the steps taken by an individual who perceives a need for help as he or she attempts to solve a health problem".* Chrisman's health-seeking process provides a comprehensive framework that is useful in examining how ill individuals perceive, describe, and respond to acute symptoms until they seek treatment at the hospital. The word process denotes not just an action, but also the impetus for that action. The model provides a comprehensive framework for examining individuals' reactions and responses to changes in their health state (i.e., symptoms). Nevertheless, this does not always imply that individuals exhibit health-seeking behaviours/practices aligned with biomedical medicine, as according to Chrisman (1977), ill individuals often exhaust all possible options to self-manage their health condition before consulting others or seeking healthcare at the hospital.

Chrisman's health-seeking process consists of five conceptual domains or components, including a) symptom definition, b) illness-related shift in role behaviour, c) lay consultation and referral, d) treatment action, and e) adherence (Chrisman, 1977). Each component is influenced by sociocultural context, reflecting that the scope from symptom recognition to adherence to the medical regimen is culturally constructed. It incorporates the significance of sociocultural influences and communication within the social network into individuals' responses to illness. The main components of Chrisman's health-seeking process are provided with brief descriptions of their meanings below (**Table 4**).

Table 4 Chrisman's (1977) components of Health-seeking process

Component	Brief description
Symptoms definition	How individuals perceive and interpret their symptoms.
Illness-related shift in role behaviour	The ways in which the evaluation of symptoms influences one's role and responsibilities, as well as relations with their social network due to illness.
Lay consultation and referral	Exploring the opinion of members of the social network (such as family and friends) about the health condition to reaffirm the definition of symptoms or seek advice about the possible ways of managing them.
Treatment actions	A range of remedial actions (e.g., self-care, attending the hospital, etc.) adopted by individuals to alleviate and manage symptoms.
Adherence *(beyond the study's aim)*	Following the treatment regimen to cure the disease.

In short, Chrisman (1977) suggests that when symptoms start to interfere with everyday life, particularly to the extent that they disturb family responsibilities and social relationships, individuals begin to recognise this change as a deviation from the state of normality. As a result, Chrisman (1977) argues that people often exhaust all possible options to self-manage their health condition before consulting others. In addition, they tend to make illness-related shifts in their social roles and may seek advice from members of their social network who can suggest potential management measures or give cues for when formal treatment actions are required (Chrisman, 1977).

Given that the experience of being ill is dynamic and each person's reaction to symptoms may vary, Chrisman (1977) highlights that the components of the health-seeking process do not necessarily follow a rigid sequential order, and some elements may be skipped. Moreover, some components can be intertwined with others and occur simultaneously. This implies that many elements of the health-seeking process may be observed at any stage of illness response (Chrisman, 1977). The conceptual domains or components of Chrisman's health-seeking model are further explained in the following subheadings.

2.6.4. Empirical Research Studies Utilising Chrisman's (1977) Health-Seeking Process

Chrisman's (1977) health-seeking process has been utilised in studies employing different research designs to explore health-seeking experiences in the context of various health

conditions (Slauson-Blevins et al., 2013; Suhariadi et al., 2016; Greil et al., 2020; Cebert-Gaitors et al., 2022; Cebert-Gaitors et al., 2022). For example, Cebert-Gaitors et al. (2022a) conducted a systematic review of twenty-three research studies, synthesised using Chrisman's health-seeking process, to examine the facilitators and barriers that influenced seeking infertility treatment among women in the US. The review revealed that advanced health literacy, which enabled women to recognise and define their infertility issue, high social support encouraging conception treatment, and the desire to become a parent, were key facilitators for attending an infertility clinic (Cebert-Gaitors et al., 2022). On the other hand, perceived social stigma about infertility and low or no social support served as barriers to engaging in health-seeking behaviours to address conception-related health issues (Cebert-Gaitors et al., 2022). These findings align with the components of Chrisman's health-seeking process.

Furthermore, Cebert-Gaitors et al. (2022b) conducted a mixed-method study to investigate and conceptualise the experiences of African American women seeking conception treatment in a private infertility clinic in Washington, US. The researchers examined how sociological imperatives of daily life influenced health beliefs and associated practices through the five conceptual domains of Chrisman's (1977) health-seeking process: symptoms definition, illness-related shift in role behaviour, lay consultation and referral, treatment action, and adherence. The study revealed that the women delayed seeking conception treatment due to limited knowledge about infertility (and therefore low perceived risk), inadequate understanding of available treatment options, and not disclosing infertility-related concerns with members of their social networks (Cebert-Gaitors et al., 2022). Moreover, those who postponed seeking conception treatment often attempted self-intervention before considering medical interventions, which impeded the early identification of their infertility issues (Cebert-Gaitors et al., 2022). These findings align with Chrisman's (1977) health-seeking process, which suggests that culturally based illness definitions and social networks influence the overall health-seeking experience of individuals.

In the context of a different health condition, Suhariadi et al. (2016) conducted an explanatory qualitative study to investigate the patterns of health-seeking behaviours of pulmonary tuberculosis patients in coping with symptoms and the sociocultural factors that influenced their seeking immediate medical attention. The researchers interviewed five participants (4 female and 1 male) who regularly attended a primary healthcare centre in Surabaya, Indonesia,

for their routine follow-up treatments. They utilised Chrisman's health-seeking process to guide the thematic analysis of their semi-structured interviews. The study revealed that all participants exhibited behaviours similar to those in Chrisman's health-seeking process, including defining symptoms, seeking laypeople's opinions on symptoms, undertaking self-care to mitigate symptoms, considering visiting the hospital upon laypeople's advice, and lastly deciding to attend the hospital (Suhariadi et al., 2016). Although the study employed Chrisman's components to structure their findings, slight variations were noted in the sequence of actions, which aligns with Chrisman's (1977) acknowledgement that health-seeking behaviours cannot be translated into a linear sequence.

Moreover, utilising Chrisman's (1977) health-seeking process as a conceptual approach to inform their investigation, two studies conducted as part of PhD projects in the context of Mexican American men (Sobralske, 2004) and Korean women with cardiac illness (Lee, 2015) found that participants were motivated to seek health when their symptoms started to interfere with activities of daily living and social interactions, reflecting that illness is socioculturally constructed.

Given that the health-seeking process is a flexible model specifically designed to investigate health-seeking experiences from a holistic perspective, while considering the sociocultural context as an important premise, Chrisman's approach serves as a useful framework to guide the analysis of exploring the illness and health-seeking experiences of Saudi women navigating ACS symptoms within their social and cultural context. For my study, four components of Chrisman's health-seeking process are particularly relevant: *symptom definition*, *illness-related shift in role behaviour*, *lay consultation and referral*, and *treatment actions*. The last element, *adherence*, falls beyond the scope of this inquiry. These components inform the discussion of my research findings, which will be demonstrated in more detail in **Chapter 8**.

Nevertheless, while Chrisman's health-seeking process offers an emphasis on the significance of social and cultural context, it is important to note that it is gender-neutral. Indeed, not considering gender nuances, particularly among the population of women, poses limitations in fully capturing how and why women in specific cultural contexts respond to acute symptoms and engage in health-seeking behaviours. Therefore, my analysis and interpretation of the data were also guided by the awareness of a gender lens to further elucidate the nuanced complexity of illness and health-seeking experiences among Saudi women with ACS, thus offering deeper insights into the multifaceted factors that shape the health-seeking trajectories of Saudi women.

2.7. Conclusion

In the initial part of this chapter, I critically analysed literature concerning women's experiences in responding to and seeking health for cardiac symptoms across different backgrounds and contexts. As the studies discussed earlier have shown, women attend to and evaluate disruptive, painful, discernible, and uncontrollable symptoms based on several factors. These include the perceived seriousness of the threat posed by symptoms, the extent to which these symptoms impede personal daily activities, the impact on social networks, and the influence of wider social and cultural contexts. While these factors highlight the importance of sociocultural influences on women's experience with navigating illness, the literature review highlights a gap in addressing how the social, cultural, and contextual norms in specific contexts contribute to shaping individuals' illness responses and reactions. This is particularly significant in conservative and collectivist contexts where social and cultural aspects exert a profound influence on individuals' illness experiences, such as Saudi Arabia.

Shifting the focus to theoretical perspectives, I then noted that many studies analysed in the earlier sections were either atheoretical, lacked explicit reporting of the use of theoretical bases, or utilised theoretical models that emphasise cognitive and psychological processes of health-seeking behaviours. This highlights the need to use a theoretical perspective that addresses the broader sociological context of women with ACS to underpin the interpretation of data and discussion of the key findings, particularly because I was interested in the sociological elements and sought a broader theoretical approach that would allow me to encapsulate the influence of the contextual world on the Saudi women with cardiac symptoms. Although commonly used models (such as Leventhal's CSM) acknowledge the role of social influences in shaping illness perceptions and coping responses, its primary focus remains on individuals cognitive and psychosocial processes. I found that key components of Chrisman's (1977) health-seeking process offered a more holistic, sociological approach that emphasise the broader sociocultural elements that influence health-seeking behaviours. This approach aligns more closely with my research, allowing for a more contextually grounded analysis of health-seeking behaviour rather than focusing primarily on individual cognitive appraisal.

Chapter 3

Methodology and Research Design

Chapter 3: Methodology and Research Design

3.1. Introduction

In this third thesis chapter, I present an overview of the study's research design and methods employed, along with justifications for the methodological choices I made throughout the research process. The chapter begins by introducing the overarching research aim and research questions, which were formulated based on the knowledge gaps identified in the literature review (**Chapter 2**). Next, I elucidate the philosophical assumptions underpinning this research. Following this, I discuss why undertaking qualitative research is suitable for addressing the study's aim and research questions. Subsequently, I provide detailed descriptions and justifications of the research process, covering key aspects such as participant selection, the research setting, gaining access, and the process of sampling and recruitment. I then address the use of in-depth semi-structured interviews as the data collection method and thematic analysis as the data analysis technique for the gathered data. I also discuss the ethical considerations pertinent to the study. Lastly, I conclude the chapter by discussing the measures taken to ensure rigour in the qualitative approach, including trustworthiness and reflexivity.

3.2. Research Aim and Research Questions

Exploring the experiences of women facing a critical health issue, such as acute ischaemic symptoms, is important for gaining insights into their health-seeking behaviours, which in turn can inform the development and provision of health interventions tailored to this population. This study focused on a sample of Saudi women with symptoms indicative of an acute cardiac event to explore their perceptions, experiences, and actions in response to these symptoms prior to their hospital admission for an ACS event. The women's responses to ischaemic symptoms were specifically explored within the distinctive sociocultural environment of Saudi Arabia. Therefore, the overarching aim of the study was *to explore the experiences of Saudi women with symptoms suggestive of Acute Coronary Syndrome and their subsequent health-seeking behaviours in response to these symptoms.*

To address this research aim, the following three research questions guided the investigation:

1. How do Saudi women perceive cardiac disease and its associated risks?

2. What factors influence Saudi women's health-seeking behaviours for symptoms suggestive of ACS?

3. How does the societal context influence Saudi women's illness experiences and subsequent health-seeking behaviours for symptoms suggestive of ACS?

3.3. Philosophical Assumptions Underpinning the Study

In this section, I discuss the philosophical assumptions that form the foundation of my PhD research. Philosophical assumptions are integral to the design and conduct of research, as they guide the selection of methodologies and methods and ensure the application of appropriate quality-assurance techniques, thereby ensuring rigorous findings and conclusions (Ritchie et al., 2014; Creswell and Creswell, 2018). Moreover, awareness and understanding of these assumptions are crucial because the decisions concerning methods of data collection and analysis reflect the researcher's perspectives on how they see reality (ontology) and how knowledge is constructed (epistemology) (Ritchie et al., 2014; Blaikie and Priest, 2017). The philosophical stances informing this research are situated within subtle realism ontology and social constructionist epistemology. I elaborate on each of these stances in the following subsections to provide an understanding of their relevance to this study.

3.3.1. Ontology

Ontology is concerned with the nature of reality and what can be known about it (Blaikie and Priest, 2017). The ontological stance of this study is based on *subtle realism*, which posits that an external reality exists independently of individual beliefs and subjective understanding, but that reality can only be known and accessed through human minds and socially constructed meanings (Ritchie and Lewis, 2014). Therefore, the participants' worldviews and interpretations are essential, as their diverse perspectives provide different insights and understanding. These diverse perspectives, however, do not negate the existence of an external reality but rather reflect its inherent diversity and multifaceted nature. This ontological stance ensures that the research captures and conveys the richness of these diverse experiences, thereby aiming to provide as comprehensive a picture as possible of this multifaceted reality.

In this study, the experiences of Saudi women with ACS and their subsequent health-seeking behaviours are assumed to be influenced by their sociocultural context, including their interactions with individuals within their inner circle (e.g., family members, friends, etc.).

Moreover, gender is a social category shaped and situated by sociocultural context, rather than being isolated individual attributes. Given these considerations, subtle realism ontology is appropriate for this study, as it acknowledges the existence of an external reality while appreciating that it is only accessible through the participants' subjective experiences and social constructs that shape our understanding of it.

3.3.2. Epistemology

Epistemology addresses the nature of knowledge and how we come to understand and acquire it (Blaikie and Priest, 2017). The epistemological stance underpinning this research is *social constructionism*. In social constructionism, knowledge is produced by understanding the social world of those being studied, focusing on their interpretations and meanings, which are socially constructed (Ritchie et al., 2014). This epistemological stance posits that individuals actively construct social phenomena and their associated meanings, rather than being passively received by them (Ritchie et al., 2014; Blaikie and Priest, 2017). It rejects the notion of 'value-neutral' observations and universal laws, focusing instead on the importance of understanding lived experiences from the perspectives of those who experience them (Ritchie et al., 2014). Moreover, both the researcher and the study participants co-construct knowledge; thus, research is produced through social interaction (Holloway and Galvin, 2017). Social constructionism inherently implies the use of a qualitative approach, as qualitative methodologies are particularly well-suited for gathering data that preserve the context and depth of participants' experiences (Flick, 2022).

Central to this research is the premise that the experiences and realities of study participants are shaped and re-shaped by the sociocultural environment and social processes. Saudis may interpret and interact with illness events because of the values and beliefs they adopt from their social structure. This, however, does not imply that they do not have their individual ideas; rather, their ideas are ultimately constructed and shaped by the prevailing social context in which they live. Given the profound influence of social constructs on Saudis, especially women, the aim and questions of this research are epistemologically well-aligned with social constructionism, as it posits that knowledge is constructed through social processes.

3.3.3. The Logic of Enquiry

In qualitative research in social science, researchers must determine where to start and what steps to follow in addressing research questions by determining their '*logics of enquiry*' (Blaikie and Priest, 2019). The logic of enquiry includes four main approaches, inductive, deductive, retrodictive and abductive (Blaikie and Priest, 2019). Acquiring knowledge through inductive reasoning involves collecting data related to social phenomena in order to generate theories and knowledge derived from the data (Blaikie and Priest, 2017; Flick, 2022). Conversely, deductive reasoning involves applying theories, either borrowed or constructed, to test the gathered data (Blaikie and Priest, 2017; Flick, 2022).

While qualitative research is often seen as primarily inducive, the use of more than one logic can also be required. Blaikie and Priest (2019) argue that there is no pure inductive or deductive process in knowledge acquisition in qualitative research, as researchers cannot entirely overlook their prior knowledge and pre-existing perspectives when approaching and examining data. Similarly, when testing theories against data in deductive reasoning, researchers often rely on theories that were themselves inductively developed from prior evidence (Blaikie and Priest, 2019). In line with this perspective, abductive logic is recognised as a valuable approach that involves a balanced engagement of theoretical underpinning and empirical data (Tavory and Timmermans, 2014). Abductive logic differs from retroductive logic, which focuses on identifying underlying explanatory mechanisms or structures and attempts to establish their existence (Tavory and Timmermans, 2014; Blaikie and Priest, 2019). Abductive logic, on the contrary, entails the unexpected discovery that does not necessarily align with theoretical understanding, therefore revealing the gap in the existing theory that cannot explain the data (Tavory and Timmermans, 2014; Blaikie and Priest, 2019).

I employed abductive logic to position my study in the inductive-deductive continuum, aiming to explore the experiences of Saudi women with ACS to gain a deeper understanding of their perspectives on cardiac illness and their health-seeking behaviours in managing their health condition until their recent hospitalisation. This approach shaped how I analysed and interpreted my data. While the primary focus was to ground my interpretations in the accounts of the key social actors, the Saudi women with ACS, my study was inevitably influenced by my pre-existing ideas and knowledge, as well as by research gaps identified from the literature review conducted in the early stage of this project. Additionally, as the analysis progressed, I positioned my data in a broader context by reviewing relevant theoretical perspectives.

Specifically, theoretical insights from Chrisman's (1977) health-seeking process were useful in discussing and making sense of the data through the process of my analysis, allowing a more nuanced interpretation of the participants' experiences. By employing abduction at the data analysis stage, I was able to construct knowledge that was initially derived from the data and then linked back to the wider literature and theoretical understanding, which could not have been achieved through induction or deduction alone. Therefore, abduction was deemed the most effective way for exploring and interpreting the participants' experiences within a rigorous analysis.

3.4. Methodology and Methods

According to Flick (2022), the methodological approach chosen must reflect the specified research questions posed. During the planning and designing phase of this study, a wide range of possible approaches and methods were explored in order to identify a suitable approach that sufficiently addresses the research aim, answers the research questions, and aligns with the philosophical underpinnings, ensuring a robust study design characterised by integrity and rigour. The main focus of this study is to explore the experiences of Saudi women with symptoms suggestive of ACS and their subsequent health-seeking behaviours in response to these symptoms. Therefore, I utilised qualitative research with an abductive approach in this explorative interview research study to develop a better understanding of Saudi women's illness and health-seeking experiences within the distinct context of Saudi Arabia.

The literature reviewed in **Chapter 2** revealed a scarcity of evidence exploring women's experiences within the broader Arab and Saudi contexts. Even in studies where women were involved, the analysis often lacked a gender-specific focus and overlooked cultural sensitivities. Therefore, approaches such as conducting a secondary analysis of existing data would be inadequate to sufficiently address the research questions due to limited evidence specific to the identified research problem. Moreover, studies conducted in the region of Saudi Arabia have primarily focused on pre-hospital delays and have been undertaken predominantly through quantitative methodologies (Albrahim et al., 2016; Alahmadi et al., 2020), whereby the subjective views of the researcher and those of the study participants involved are largely eliminated in an effort to strive for objectivity (Flick, 2022). However, a deeper understanding of health-seeking behaviours, particularly among women, is essential rather than merely assuming delays without exploring underlying reasons and contextual elements that influence illness and health-seeking behaviours.

Qualitative research stands in contrast to quantitative approaches to inquiry by addressing the question of 'how' and 'why', with an emphasis on the sociocultural context that quantitative research considers a confounding variable (Creswell and Creswell, 2018). Moreover, while many of the quantitative studies analysed in the literature review provided important findings, they were unreflective about the nature of gender as a social category. Simply viewing gender as a property of individuals rather than a fundamental principle of social organisation risks oversimplifying the nuanced understanding of the phenomenon under study within its embedded context (Reich, 2021). Thus, conducting an empirical 'qualitative' study with a sample of women in Saudi Arabia provides the optimal means to address this gap, as qualitative approaches to inquiry provide insights into the complex dynamic that affects illness and subsequent health-seeking behaviours beyond the quantifiable metric of delay.

Qualitative research is typically utilised when a research area cannot be adequately explored using quantitative methods and, instead, necessitates methods that capture the nuanced viewpoints, experiences, and perspectives of individuals related to illness (Flick, 2022; Denzin et al., 2023). Despite some limitations to qualitative approaches, such methodologies have become widely adopted by researchers across various health science disciplines (Pope and Mays, 2020). Notably, nurses in clinical practice and academia have been increasingly integrating various qualitative methods into applied health science, a field traditionally dominated by numerically oriented quantitative research methods (Hoff and Witt, 2000). This signifies a growing shift away from paternalistic models of healthcare, towards healthcare that prioritises and addresses patients' diverse needs, both medical and non-medical (Kaba and Sooriakumaran, 2007). Denzin and Lincoln (2023) further assert this shift in inquiry methods, arguing that qualitative research offers a superior model compared to traditional health research (largely evolved through positivist approaches) by providing a deeper and richer understanding rooted in the specific circumstances and contexts of each participant.

However, the use of qualitative research in Saudi Arabia is less common, primarily due to cultural challenges such as privacy concerns and social limitations on cross-gender communication (Nassir and Leong, 2017). As a result, social researchers often use self-administered questionnaires and surveys to collect data without the need for prolonged direct interaction between genders (Nassir and Leong, 2017). In this study, however, being a female researcher conducting qualitative research with female participants alleviates many of these challenges, making the adoption of qualitative research more feasible and enabling deeper

exploration of the women's experiences, allowing them to articulate their thoughts, perspectives, and challenges in their own words. Qualitative research also gives a voice to women (Leavy, 2020), as this specific population is provided with a platform to amplify their voices by sharing their perspectives and experiences.

3.5. Incorporating Reflexivity into the Research Process

While researchers in natural science strive to achieve objectivity and neutrality in the research process and analysing the data, it is important to acknowledge that in social research, the researcher's influence on the social world being studied cannot be ignored (Ritchie et al., 2014). Drawing on the philosophical underpinnings discussed at the beginning of this chapter (**Section 3.3**), this is because qualitative inquiry is at the more subjective end of the subjective-objective continuum, and the researcher is an integral part of the world they are studying (Holloway and Galvin, 2017). Being mindful of the subjective aspect of conducting qualitative research through ongoing self-reflection further enhances the trustworthiness of the research (Holloway and Galvin, 2017).

Reflexivity involves examining how the researcher's position and perspectives influence the way the research is conducted and analysed (Finlay, 2002; Finefter-Rosenbluh, 2017). Therefore, the researcher is required to continuously assess their own position and the values they bring into the research, as the researcher serves as the main research tool (Dean et al., 2018). It is for this reason that reflexivity is an integral part of qualitative research that cannot be omitted (Finlay, 2002). When I began my PhD project, I became conscious of the importance of reflexivity. Throughout the research process, I was aware that my role as the researcher was pivotal in actively constructing the collection and interpretation of data. Given this influential position, I believe it is essential to outline my personal background, as it has undoubtedly influenced the choices I made in every phase of this research, including the research design, data collection, ethical considerations, and analysis, both directly and indirectly.

I am a Saudi woman in my early thirties. I was born in Jeddah, Saudi Arabia, to a Saudi father and a Turkish mother. I believe that growing up with this blend of cultural backgrounds has given me a unique perspective on how diverse social and cultural influences shape individuals' behaviours and actions. My awareness of sociocultural influences deepened further when I first moved to Scotland to pursue my postgraduate degree in 2017. Having lived in Scotland for

many years now, I have come to realise that it has been more than an academic experience for me; it has been a profound life experience that has impacted how I view the world.

While qualitative research does not seek to omit the presence of the researcher, Finlay (2002) highlights that the ongoing process of reflecting on how a researcher's position and assumptions impact their inquiry can be challenging, requiring researchers to engage in self-examination in order to draw on their personal discourses as a catalyst for the interpretation of data and to provide further insights. When reflecting on my role throughout the research process, I asked myself questions such as, '*To what extent do my own values, beliefs, and cultural background influence the interpretation of the study findings?' and* '*How might my interactions with the women in the study affect the way they share their stories?'* As a Muslim Saudi female nurse, I was familiar with the culture and gendered discourses embraced by my participants. To an extent, this familiarity enabled me to construct meanings that would not position me as an outsider but rather as someone who could better understand the experiences of the women in the study. However, I also acknowledge that I have not personally experienced a cardiac event, nor have I witnessed a female in my family going through such an experience, therefore, I am not in a position to completely put myself inside my participants' experiences.

Throughout this chapter, I attempted to maintain a reflexive approach when discussing various aspects of my research to ensure transparency and critical reflection at each stage, including, but not limited to, accessing the research setting, engaging with my participants, data collection, and data analysis.

3.6. Study Setting and Sample

This section concerns the research methods I employed in my study. Under the following subheadings, I provide explanations and rationale about the research setting, study sample, sampling approach, inclusion criteria, the process of accessing the research site and study participants, and the data collection method.

3.6.1. Study Setting

My study was undertaken in the city of Jeddah, a major port city in Makkah Province, Saudi Arabia. With a total resident population of over 3.7 million (GASTAT, 2022), Jeddah is the country's second-largest city after the capital, Riyadh. The city's population comprises Saudi nationals and a significant expatriate population from different socioeconomic backgrounds

(GASTAT, 2022) given its attractive opportunities in terms of employment, education, and healthcare services.

The recruitment of study participants took place at King Abdulaziz University Hospital (KAUH), one of the major tertiary centres in Saudi, with a capacity of 1,067 beds, including over 100 critical care beds and more than 170 general and specialist outpatient clinics that provide free services to both Saudis and expatriates. The rationale for selecting this hospital was guided by its provision of inpatient and outpatient specialist cardiovascular services, as well as its role in offering healthcare services to a diverse population, extending beyond the city of Jeddah to include patients from urban and rural areas across Saudi Arabia. Conducting my research at KAUH provided me with the opportunity to recruit and interview Saudi women from different sociocultural backgrounds across the country. Additionally, the hospital's role as a teaching institution familiar with research activities made it an ideal choice for this study. Moreover, during the study design and data collection planning, precautionary measures related to COVID-19 were still in place, and Saudi Arabia, like much of the world, was recovering from the pandemic. Given these circumstances, choosing KAUH as a research site serving a broader population, beyond the city of Jeddah, was appropriate to mitigate potential safety and logistical challenges, particularly during a time when the pandemic precautions were gradually being eased but still remained in place.

On the whole, within KAUH, there was a significant potential to access female patients from different sociocultural backgrounds who experienced the phenomenon being studied and could articulate their health-seeking experiences for ACS.

3.6.2. Study Sample

The inclusion criteria for the study participants were patients who were: 1) adult Saudi females aged 18 years or older; 2) admitted to the hospital for a diagnosis of ACS confirmed by laboratory tests (e.g., CK and Troponin levels) and a test of the electrical activity of the heart (electrocardiogram; ECG); 3) able to communicate in Arabic; 4) medically stable, conscious, fully oriented, and able to understand the research aim and to provide consent; and 5) able to clearly describe the nature and onset of their cardiac symptoms, as well as their subsequent responses to these symptoms. Further details on sample inclusion and exclusion criteria are elaborated in **Table 5** below.

Table 5 Sample inclusion and exclusion criteria

Inclusion criteria	*Exclusion criteria*
• Adult Saudi females aged 18 years or older	• Children, younger adult, and males of all ages
• Patients admitted to the hospital in the last 1-6 months for ACS, confirmed by changes in cardiac enzymes (e.g., CK) and electrocardiogram measures (ECG), and signs and ACS symptoms (tachycardia, chest pain, etc.)	• Patients with chronic cardiac conditions (e.g., congestive heart failure, cardiomyopathy, etc.) • Developed ACS during their hospital stay • Patients with other major health conditions (e.g., cancer patients)
• Could understand and speak in the Arabic language	• Unable to communicate in Arabic
• Medically stable, conscious, fully oriented, and able to understand the purpose of the research and provide consent	• Hemodynamically unstable or disoriented patients unable to provide consent and participate in the study
• Able to clearly describe and recall their cardiac symptoms and subsequent health-seeking behaviours	• Having cognitive impairment or impaired mental or physical capacity to articulate their experiences

3.7. Practical Considerations

3.7.1. Gaining Access

Gaining access to the research site and participants typically involves several steps and requires approaching multiple levels of gatekeepers (Creswell and Poth, 2018). The first step before commencing data collection in the selected setting was obtaining ethical approval from the Research Ethics Committee at the University of Edinburgh in Scotland. After submitting the required ethical documents for rigorous review, I received an official letter from the university on July 20th, 2021, granting a favourable ethical review for the research study (See **Appendix 3**). Following this, I sought an ethical review from the Research Ethics Committee at King Abdulaziz University Hospital. Negotiating access from KAUH was not a single event. Initially, I emailed the secretary's office of the Biomedical Ethics Committee within KAUH. They requested that I send the research proposal and complete the application letter for an initial ethical review. After completing the application, I then received an email requesting additional supporting documents, including evidence of a favourable ethical review via a letter from the University of Edinburgh, my personal resume, the semi-structured interview guide, and both the Arabic and English versions of the patient information sheet and informed consent

form. Following the committee's review of the provided formal documents, ethical approval from the hospital was granted on August 10th, 2021 (See **Appendix 4**). The full process of gaining access to the research site and the study participants is demonstrated in **Figure 3**.

Overall, the process of gaining access to the research site proceeded relatively smoothly, which may have been influenced by several factors, including KAUH being a teaching hospital familiar with research activities, which may have a streamlined process for ethical review. In addition, although I had never worked at KAUH and do not have an existing professional relationship with the stakeholders, my role as a teaching assistant in the nursing school at King Abdulaziz University may have granted me insider privilege and, therefore, facilitated access and contributed to the prompt response from the ethics committee.

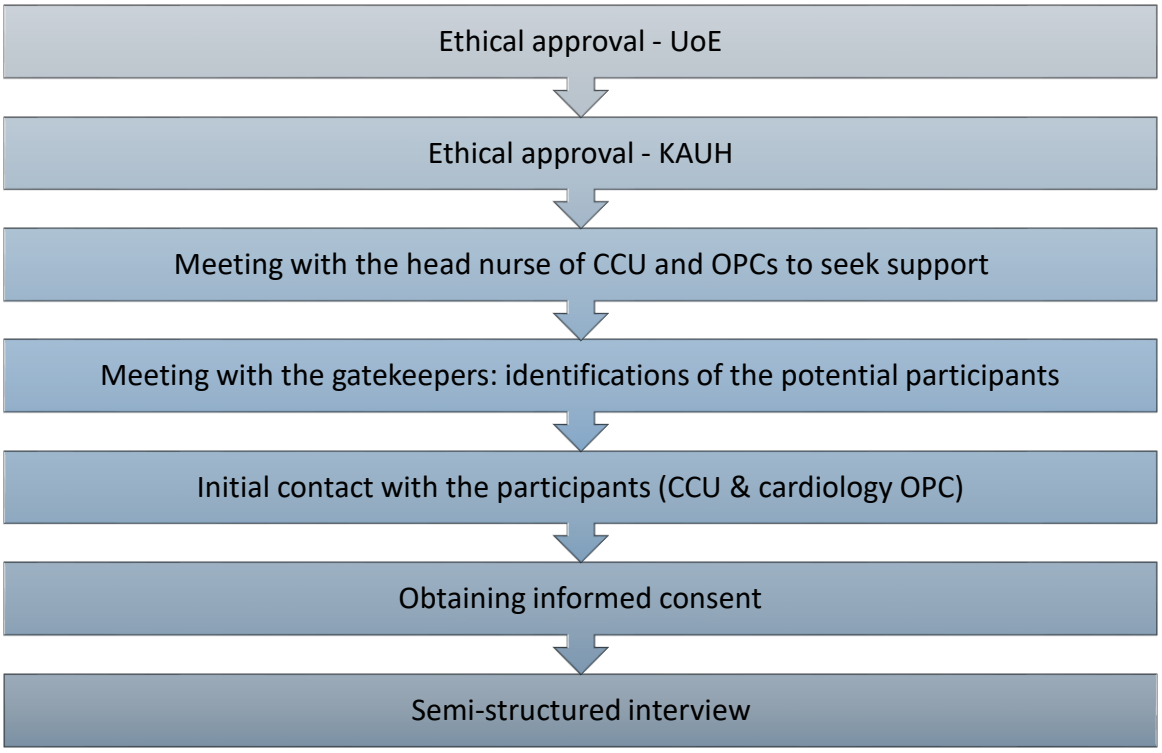


Figure 3 Gaining access to the setting and participants

3.7.2. Recruitment Process

It is vital to note that gaining access to the study site occurred in August 2021, during the ongoing COVID-19 pandemic. Although restrictions on leaving home and conducting in-person meetings had been eased in Saudi Arabia by that time, some pandemic-related precautionary measures were still in place. Nevertheless, I was permitted to access the site in person and conduct individual meetings with the stakeholders in preparation for participant recruitment and data collection, which also took place during the pandemic.

After obtaining ethical approval from the ethics committee within the research site, I personally met with the head nurses of the outpatient departments (OPD) and the Cardiac Care Unit (CCU) at the hospital to introduce my research project and ask for their support. Both head nurses were welcoming and introduced me to the charge nurses within their unit, who in turn introduced me to key personnel, including doctors, nurses, and clerical personnel. The charge nurse of the cardiology outpatient clinic then gave me an orientation to the clinic, such as the clinic rooms and waiting areas. Similarly, the charge nurse of the CCU familiarised me with the ward's environment (e.g., patient rooms). After this familiarisation with both areas, I re-presented the aim of my study, outlined the plan of the data collection method, and explained the participants' inclusion criteria to the charge nurses. They primarily acted as gatekeepers, individuals through whom potential participants are approached (Ritchie et al., 2014), and played a role in identifying potential participants and facilitating the overall recruitment process.

Participant recruitment took place between August 2021 and March 2022. In the CCU, eligible participants were identified while they were still inpatients, with interviews scheduled after their hospital discharge. The recruitment process began with the assistance of the charge nurse, who assisted with reviewing the admission book, which involved a list of admitted patients, their admitting diagnoses, and admission sources (e.g., outpatient clinic or emergency department). The electronic medical records were also reviewed to assess patients' eligibility based on the predefined eligibility criteria (**Table 4, Section 3.6.2**). Once potential participants were identified, nursing staff within the CCU informed these patients about my study. I then approached the interested patients to provide further information, answer any questions, and provide a participant information sheet (PIS) (**Appendix 5**) and informed consent (**Appendix 6**). Each participant was provided sufficient time (at least 24 hours) to consider participating in the study. Those who, after that time, agreed to take part and signed the consent form were

scheduled for an interview following their hospital discharge. Ideally, I suggested conducting the interviews on the day of the cardiology appointment within the outpatient clinic to prevent unnecessary efforts and transportation expenses to attend the hospital. However, if a participant wished to be interviewed on a different date/time, alternative options were discussed to accommodate their convenience.

Participant recruitment also took place in the outpatient clinic, where a cardiology clinic is held twice per week. Cardiac patients attend this clinic to follow up on their health condition with their cardiologist after hospital discharge, making it an ideal opportunity to identify potential study participants for my study. With the assistance of the charge nurse of the clinic, potential participants were identified by reviewing the list of patients attending the clinic. The charge nurse further assisted by reviewing electronic medical records for additional information such as a history of cardiac illness, chronic conditions, medical intervention (e.g., CABG or PCI), hospital admissions, and sociodemographic data to assess eligibility according to the predefined criteria in **Table 4**. The charge nurse then contacted the eligible participants by phone approximately one week prior to their hospital appointment to inform them about my study. If the patient expressed willingness to take part in the interviews, I then approached them on the day of their appointment to provide detailed information about my study, hand out the consent form and PIS, and answer any queries they had. Further details on the ethical considerations concerning obtaining consent are discussed in **Section 3.8, 3.8.1**.

If recruited participants (whether from the clinic or CCU) preferred an online or telephone interview for any reason, such as being unable to travel due to residing in another city or in remote areas, the in-person interview format was changed accordingly to accommodate their convenience. Additionally, in cases where the women suggested exchanging mobile numbers to agree upon the date and time of the interview, particularly if they were not given their follow-up appointment upon hospital discharge, I contacted them after their discharge for that purpose either by calling them or by sending a WhatsApp message. This also allowed more convenient communication to reschedule interviews to alternative dates and times when requested by the participants. All contact numbers were securely saved on an encrypted iPhone device that I own and were permanently deleted after the interviews. The following diagram illustrates the participant recruitment **(Figure 4).**

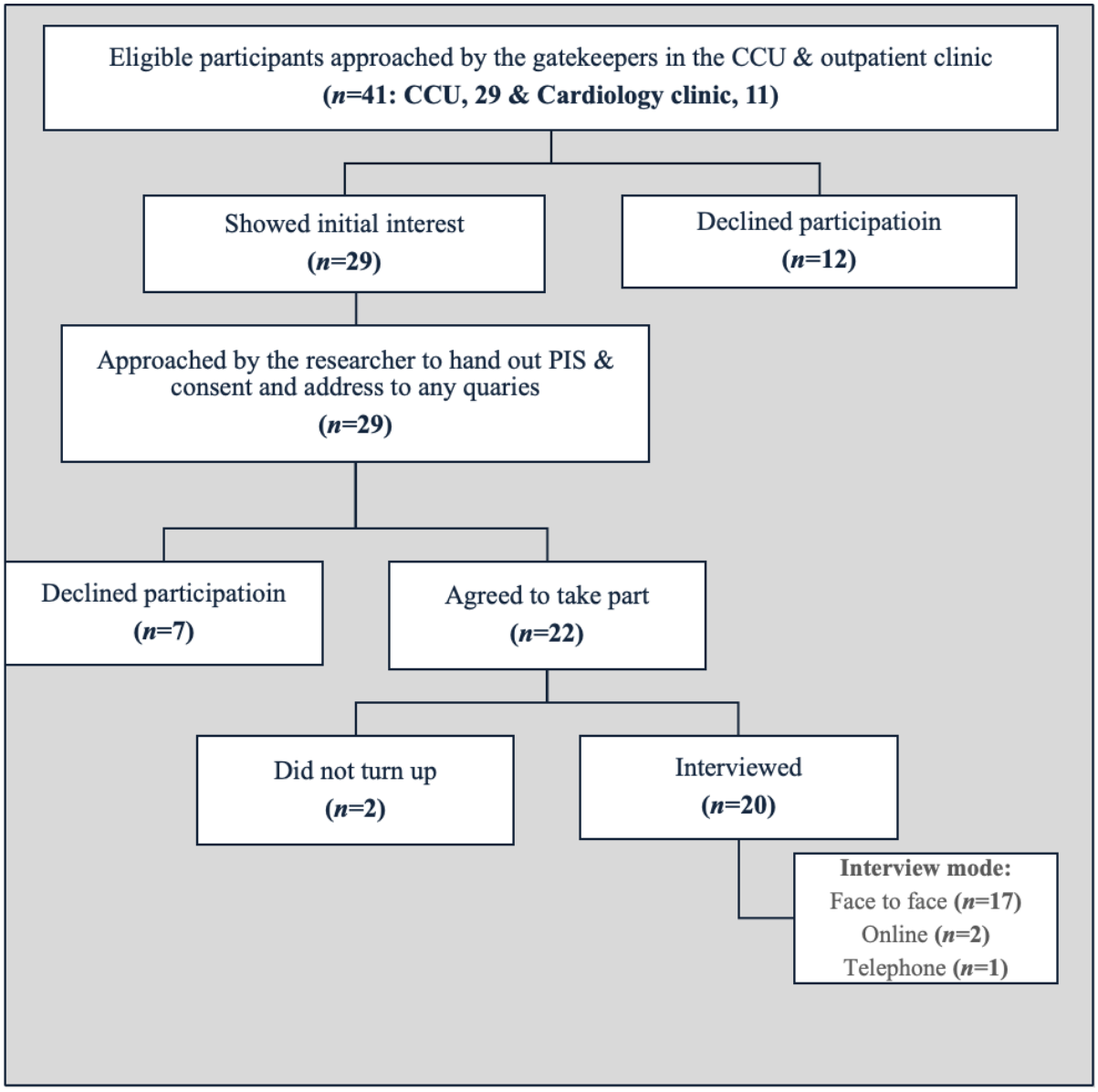


Figure 4 Flow diagram of the participant recruitment

3.7.3. Sampling

Considering the diverse nature of Saudi society, women's views and perspectives can vary widely. Therefore, I intended to recruit a sample with as many variations as possible to include a range of age groups, marital statuses, occupations, and educational backgrounds, all of which can influence their experiences with ACS and subsequent health-seeking behaviours in response to cardiac symptoms. For this reason, I intended to recruit a purposive sample for my study. Purposive sampling is utilised to intentionally recruit a sample that could provide "information-rich" data relevant to the research aim and research questions (Patton, 2015;

Flick, 2022). However, despite my best intentions, my sample inevitably became a convenience sample, primarily due to practical constraints related to the limited timeframe of my data collection. I had established inclusion/exclusion criteria (**Table 5**) with the expectation that a larger number of potential participants would come forward. However, as I commenced the fieldwork, I soon realised that this would also expand the time I required to recruit participants into my study beyond the time available for my data collection. This led me to adopt a convenience sampling approach. According to Patton (2015), convenience sampling refers to choosing respondents who are the most convenient to access under given conditions where resources (such as time and respondents) are limited. In the context of my study, this meant recruiting female patients with confirmed ACS diagnosis who were readily available and willing to participate within the constraints of my data collection period.

3.7.4. Sample Size

The study sample consisted of **twenty** Saudi women admitted to KAUH in the last six months for an ACS event (NSTEMI, STEMI, or Unstable Angina). Typically, qualitative research involves a small number compared to larger numbers of respondents in quantitative research, as the focus is to elucidate the particular experiences of participants involved in research rather than produce a statistically representative sample that allows the generalisation of findings to a wider population (Creswell and Poth, 2018). Silverman (2024) emphasises that conducting qualitative research on a larger scale may result in an analysis that lacks sufficient depth and fails to account for contextual aspects. Hence, my study specifically aimed to collect in-depth information to understand the health-seeking behaviours of Saudi women in response to ACS symptoms, rather than generalise findings to a wider population.

Morse (2015, p.587) described saturation as "the most frequently touted guarantee of qualitative rigour offered by authors". Saturation is considered an important aspect in determining sample size in qualitative research because it reflects the richness of the data within the process of inquiry (Mason, 2010; Dworkin, 2012; Morse, 2015). Rather than viewing saturation as a fixed event or point (Saunders et al., 2018), my study observed the saturation of codes over the concurrent process of data collection and analysis, while acknowledging the potential for different experiences among different study participants, which is consistent with my study's philosophical stance (see **Section 3.3**). Following interviewing twenty Saudi women with different backgrounds and experiences, data saturation was evident by meaningful descriptions and sufficient depth reached, where new data appeared not to significantly

contribute to the overall story of my research. Therefore, a sample size of twenty women with ACS was adequate to address my study's aim and questions.

3.8. Data collection

Of the twenty-two participants who initially agreed to take part in my study, a total of twenty women ultimately participated in the individual interviews to share their illness and health-seeking experiences with ACS. Of these interviews, **seventeen** were conducted face-to-face, **two** via an online meeting platform (Microsoft Teams), and **one** over the telephone. The face-to-face interviews took place in the cardiology outpatient clinic within KAUH. As mentioned previously, for the participants' convenience and to avoid causing unnecessary transportation costs, most in-person interviews were undertaken on the same day as the women's hospital appointment. However, as mentioned earlier, flexibility was offered for alternative dates/times upon the participants' requests, resulting in two interviews being conducted on one week later.

Under the following subheadings, I explain the semi-structured interview as a data-collection method and how it was conducted.

3.8.1. In-depth Semi-structured Interviews

The interview is the most commonly used data collection method in qualitative health research (Holloway and Galvin, 2017). Qualitative interviewing is a social interaction based on a knowledge-producing dialogue for the purpose of articulating actions, experiences, and views (Brinkmann, 2023). In-depth qualitative interviews, as implied by the name, seek to obtain rich data that can provide a comprehensive explanation to uncover and shed light on the phenomenon under study and facilitate the revealing of what has been implicit (Rubin and Rubin, 2012). For my study, in-depth, semi-structured interviews were employed as a data-collection means, as this method provides the opportunity to explore detailed accounts of the participants' experiences, stories, and thoughts using their own words. The use of this method allowed me to probe deeper through further questioning and to examine the women's subjective meanings and experiences within the context of their own world. It also provided opportunities where women talked about topics that I had not considered before commencing the fieldwork.

For my study, I opted for individual interviewing over conducting a group discussion with multiple participants (e.g., focus group) as the latter was not considered a suitable data collection method for my research study. This is particularly because of sociocultural norms in

Saudi Arabia, where personal experiences and social roles are often seen as confidential, and participating in a focus group with several participants, even though conducted in a confidential and supportive environment, may not provide my participant with a sense of comfort to meaningfully and openly share their personal stories. As will transpire later in the findings chapters, the intimacy of in-depth interviews facilitated the discussion of sensitive topics around the life events of women experiencing cardiac symptoms, while also juggling their everyday lives. Many of the women involved in my study shared personal and sensitive accounts of their experiences, which is typically uncommon in the conservative nature of Saudi society, allowing me to obtain unique insights.

A previous study conducted in Saudi Arabia, where the primary researcher who conducted the interviews was male, highlighted that cross-gendered interviews could impact the depth and breadth of data gathered from Saudi women (Alsharani et al., 2014). Despite rapid modernisation in the country, conducting individual interviews involving cross-gender face-to-face interviews remains challenging because of cultural sensitivity, which can limit Saudi females from sharing their stories more meaningfully and openly with a male interviewer. Alsharani et al. (2014) recommended that female researchers conduct individual interviews with Saudi women to mitigate cultural sensitivities surrounding disclosing personal experiences. Rubin and Rubin (2012) also noted potential communication challenges that may arise from cross-gender interviewing.

Potential cultural barriers concerning privacy concerns and perceived inappropriateness of cross-gender interactions were mitigated in my PhD study as I, the interviewer, am an Arabic-speaking female. Nevertheless, as a researcher who is part of the cultural and ethnic group of the women involved in my study and familiar with the dynamics of conversations in Saudi society, I was aware that, even as a female, I was required to approach the interviews with caution when discussing personal topics. To achieve a more sensitive approach when engaging with participants during the interviews, it is important to build a trusting relationship (Rubin and Rubin, 2012). I was vigilant to establish a relationship of trust so that the women involved in my study would feel comfortable sharing their personal stories and experiences. For example, I stressed at the beginning of each interview that anything discussed during the interviews would be carefully handled to ensure the preservation of my participants' anonymity. I also adopted a less formal interaction to enable the women to share their stories more openly. Moreover, I ensured a supportive and non-threatening environment and

emphasised that they could pause the interview or move on to the next question should they feel uncomfortable talking about certain events related to their illness or any other aspect of their experiences. As a result, most of my participants appeared to be relaxed in discussing and articulating their experiences within the unique context of their lives.

Overall, the interviews were conducted after hospital discharge to allow participants sufficient time to recall their experiences following substantial recovery from ACS. For this reason, I conducted the interviews between one and six months post-hospitalisation, when the ACS event was still recent enough for the women to recall their experiences. While no single recall period–the time within which interviewees are required to remember past events to answer interview questions–is universally prescribed as optimal (Stull et al., 2009), recall accuracy generally decreases over time as the gap between the experience and the time of interview widens (Fadnes et al., 2009). Therefore, I initially intended to collect data from one to two months after the participants' hospitalisation following an ACS event. However, upon starting data collection, I realised that this timeframe would require a longer data collection period to recruit and interview enough eligible participants to achieve saturation. As a PhD student with a limited timeframe for my data collection trip from Scotland to Saudi Arabia, I made the pragmatic decision to include participants discharged for an ACS event within the past six months.

The accuracy of recalling past events can vary among participants (Schmier and Halpern, 2004), and researchers should consider the potential impact of a longer recall period in retrospective interviews (Stull et al., 2009). While the extended timeframe did not appear to significantly result in recall issues among the women I interviewed, as they provided valuable insights about their experiences with ACS and related health-seeking behaviours, I acknowledge that the pragmatic decision I made may have posed challenges around recollection of past events for those who were interviewed closer to the six-month mark. Nevertheless, I tried to mitigate this challenge by using probing to further clarify and expand the women's accounts, reflecting their profound connection to the experiences discussed and helping mitigate the potential for recall bias (details on the interview guide and probing in **3.8.2**). It is also worth noting that, for many patients, experiencing ACS is a life-changing event, likely increasing the accuracy and detail of their recollections surrounding such a critical time of their lives. This was evident in the depth of detail provided by most of the women in answering the interview questions.

3.8.2. Interview Guide

To efficiently address the overall research aim, I explored key areas informed by existing literature on cardiac symptoms and health-seeking behaviours demonstrated earlier in Chapter 2. For this purpose, I developed a flexible interview guide, which is also referred to as an interview protocol (Rubin and Rubin, 2012), consisting of a set of questions to cover key topics in a reasonable sequence of order (see A**ppendix 7**). Interview testing and training proved important for the effective application of the interview guide (Flick, 2022). For this reason, I pre-tested the guide with two colleagues with expertise in acute clinical settings and who hold a postgraduate degree in Nursing to ensure it provides opportunities for prospective participants to articulate their experiences and perceptions concerning the events leading to their hospitalisation for ACS, specifically within their sociocultural context.

After initiating fieldwork and conducting initial interviews, the first three interviews prompted some adjustments and revisions to the interview guide, which allowed for further enhancement of the first version. The development of the interview guide was also an iterative process, as questions were added or modified based on concepts and insights derived from the initial interview set. This allowed for refinement of the guide for the subsequent interview, as initial analytical thinking was constantly sought in the ongoing data collection process. For example, some questions were originally too broad and needed to be unpacked and separated into two distinct questions, such as "*How were you feeling at that time? and how did you think about managing other things in your life?"* Therefore, as data collection progressed, insights gained from the preliminary interviews helped guide the subsequent interviews. Additionally, I had virtual meetings with my supervisors on a regular basis to discuss practical considerations, such as those concerning the interview guide, and to seek their support and feedback with the overall data collection process.

I started the interviews with informal conversations and broad ice-breaking questions to create a welcoming atmosphere to establish rapport, set the scene, and facilitate a gradual transition into the main interview questions. As the conversations unfolded and progressed into the main focus of the interview, the questions transitioned from general inquiries to more specific questions. This transition facilitated a deeper exploration of the women's ACS symptoms, situational influences such as social roles and family dynamics, views towards heart disease and associated risk factors, and health-seeking experiences for such a critical health event. At

the end of the interviews, each participant was invited to add any additional thoughts or insights they wished to share before concluding our conversation.

It is important to note that in semi-structured interviews, it is unlikely to ask a fixed and sequential list of questions to interviewees (Rubin and Rubin, 2012). The flexibility in this interviewing approach allows for a deviation from the interview guide as required, depending on the interviewees' answers (Clark et al., 2021). As a result, I adjusted the content and sequence of interview questions based on each of my participants' answers and the dynamic of our dialougs, which aligned with my study's goal of drawing attention to the subjective meanings, experiences, and accounts of the women. This approach also allows to ask relatively focused yet open questions to explore areas previously identified in the literature, while still leaving room for participants to explore dimensions not previously considered (Brinkmann and Kvale, 2018). Furthermore, as asking open-ended questions is essential in semi-structured interviews to stimulate participants' answers, I was keen to formulate questions that encourage detailed responses, such as "Tell me about your experience with this event and how you felt about it?" or "Could you please tell me about when you first noticed that you were becoming ill?", rather than questions that elicit simple yes-and-no answers.

Moreover, I asked follow-up and clarifying questions throughout the interviews, while being mindful not to lose sight of the research focus, to elicit more detailed information about how the women made their health-seeking decisions within their social context. Follow-up questions included asking, "How did that make you feel?" or "Were you alone when your symptoms appeared? Who was with you?". Such questions reveal other aspects of participants' experiences, including their emotions and contextual aspects that shaped their experiences (Rubin and Rubin, 2012). In addition, during natural breaks in women's narratives, I used probing for clarifications, such as "Can you explain more?" and "What did you think then?". These types of questions enable obtaining further detail and clarity in order to achieve breadth and depth of key issues raised by the interviewees (Brinkmann and Kvale, 2018). Along the way, I developed the skill of not imposing ideas or giving examples when asking questions to avoid influencing women's answers or restricting them to particular responses.

3.8.3. Data management: Recording, Transcription, and Translation

All the interviews were audio-recorded, with permission from my study participants, using the Voice Memo app on my passcode-protected iPhone device. Recording information collected in

the interviews helped in capturing and preserving the details of my interactional dialogue with the women, including nonverbal cues such as pauses and hesitation. Unlike note-taking, which can be intrusive and give unintended cues to participants to pose or slow down if the researcher is writing, recording allows for uninterrupted engagement with the interviewees (Holloway and Galvin, 2017).

Following each interview, I transferred the audio recordings to my laptop, secured with a nine-digit passcode, and stored them in encrypted files to preserve maximum security and confidentiality. The audio recordings were then transcribed verbatim to stimulate the writing of field notes in preparation for analysis. Braun and Clarke (2006) emphasise that a researcher develops a better understanding of data by engaging with transcription. Therefore, I undertook the task of transcription independently, converting auditory data into written texts without using transcription tools. Although this task was daunting and time-consuming, it significantly enhanced my engagement with the participants' accounts and narratives. This close and ongoing engagement provided a good start for familiarising myself with the data more closely (see **Section 3.8.2** for details).

Following each transcription, which I conducted concurrently with the ongoing data collection, I translated the textual data into English. The translation was required because the interviews were conducted in Arabic, while the findings were reported in English and to be reviewed by English-speaking supervisors and examiners in the UK. I undertook the translation entirely by myself, which significantly contributed to ensuring consistency and maintaining ongoing engagement with data. This task involved carefully interpreting the meaning of the original Arabic dialogues while preserving the nuances of the participants' responses. Translation is one of the greatest challenges in qualitative cross-language research, so if it is not handled properly, errors could compromise the trustworthiness of the findings (Squires, 2009; Van Nes et al., 2010). Taking advantage of being a multilingual person fluent in both Arabic and English, the potential risk of misinterpreting participants' accounts was mitigated.

However, challenges are likely to be experienced in translating verbatim quotes from Arabic raw data to English (Aloudah, 2022). In my study, there were some words that I translated into the English language in a way that preserves the original meaning. For example, one study participant stated: "*لمن الواحد يعصب يعصب وينكد، يحط حرو كلو في الدخان*", which literally translates to *"When a person gets angry and upset, he puts all his heat into a cigarette".* To convey the intended meaning more clearly and maintain the essence of the original metaphor while making

it understandable in the English language, I translated the quote with the metaphor *"someone put their heat into something"* as, "*When a person gets angry and upset, he puts all his anger into cigarettes".*

To ensure quality translation, I shared some anonymised sections of raw data with a bilingual nurse researcher familiar with different Saudi accents, and who has experience in transcribing and translating cross-language qualitative interviews, which further ensured an accurate representation of meanings. Repeated engagement of data through transcription and translation helps to examine the data more closely, which eventually informs the initial analysis (Brinkmann and Kvale, 2018). After each translation, I listened to the recordings to compare them against the transcripts and to verify transcription and translation accuracy.

Overall, the recorded interviews ranged from 15 to 78 minutes. In total, approximately 16 hours of interview time were recorded, which generated 218 single-spaced pages of textual data. All transcripts were anonymised, with no names or any identifiable information mentioned either in the original Arabic transcripts or the translated documents. Additionally, anonymity was observed with the demographic sheet and the naming of audio recordings. Further details on maintaining anonymity and confidentiality are provided in ethical considerations (**Section 3.9**).

3.8.4. Field Notes

I documented field notes following each interview while the events were still recent, and my thoughts were clear in my mind. It is essential to capture ideas while they are fresh in the researcher's mind, as they can disappear quickly if not documented in a timely manner (Bazeley, 2020). I documented field notes to capture further contextual information, including the participants' behaviours and reactions when recalling their experiences, as well as my own ideas and reflections on each interview. While conducting interviews provided access to the subjective experiences of the women involved in the study, the field notes helped me capture observations that influenced the dynamic of the conversations. These included interruptions by family or healthcare providers, voice tone, body gestures, or nonverbal cues, which would not appear in the transcripts.

Noting nonverbal cues, voice tone, and body gestures in interview margins and field notes were especially important in the context of my study because communication in Saudi Arabia is deeply intertwined with cultural nuances. Saudis typically communicate in colloquial Arabic during their informal interactions, which may vary slightly depending on different regions and

reflect the values and traditions of Saudi culture. Beyond the spoken language, the message people intend to deliver also depends on the communicative cues mentioned above. Therefore, I paid close attention to my participants' facial expressions, tone of voice, and the use of silence and documented them.

I also included reflections on the appearance of the participants, the environment in the interview room, the participants' emotions when recalling certain events, and brief notes about their perceptions of their encounters with the ACS event. In addition, these notes included my personal thoughts about the interviews and highlighted the main ideas discussed, which helped to improve my understanding of what had been said and seen during the interviews. Understanding the context of each interview facilitated a deeper engagement with participants' accounts and enhanced my understanding of the data beyond textual data. An example format of the field notes is provided in **Table 6**. I also supplemented the field notes with analytic memos to document any ideas while listening to audio recordings and transcribing and reading the transcripts. This documentation facilitates an enhanced level of data integrity and informs the analytic process (Maharaj, 2016), which I will discuss data analysis section.

Table 6 Field notes template

Date/time ***Participant code, age, marital status, occupation, & education***	
Appearance	General appearance of the participant, body language, facial expressions
Environment	Characteristic of the surrounding environment (e.g., the interview room), interruption by phone calls or healthcare professionals entering the interview room, etc.
Emotions	Feelings communicated by the participant
Perceptions	Implication of health-seeking for evolving ischaemic symptom on women's social role, everyday life, etc.
Subjective notes	Researcher's subjective interpretation and reflections during the interview (general feelings and thoughts)

3.8.5. Researcher's Reflection on Fieldwork Experience

Collecting data through semi-structured interviews with the study participants presented several challenges and learning opportunities. To facilitate my interaction with my study participants, I engaged in a conversational and relaxed approach to invite intimacy and ensure a welcoming and non-threatening atmosphere. The reason for this was to minimise the potential of having a hierarchical relationship between myself, as the interviewer, and my interviewees.

Reflecting on my fieldwork experience, I always aimed to be transparent about my background and briefly shared some personal details when the participants asked, such as my experiences as a PhD student in the UK and life with a young child away from home. I also was keen to have casual conversations whenever appropriate before, during, and after the course of the interviews, briefly talking about random things such as the weather and how the women's days had been progressing. Such interactions help with building trust with the participants as well as breaking down the power hierarchy, in an effort to help them share their stories more openly and comfortably (Elmir et al., 2011). I also emphasised my interest in understanding their experiences with navigating their cardiac symptoms before their most recent hospital admission for ACS. My attempts to minimise the distance and hierarchical relationship between myself and the interviewees align with my study's epistemological stance (**Section 3.3**).

However, participants involved in research studies may still perceive the researcher as possessing greater power (Anyan, 2015). I observed a potential power imbalance between myself, the interviews, and the women I interviewed, particularly due to my expertise as a nurse and my academic role in the university. Knowing my professional background, some participants considered me as an expert and, therefore, asked clinical questions related to their health conditions. In response, I clarified that our conversations were for the purpose of the research project, so I was not in the position or ability to give health information on their diagnosis or treatment plans, even if I knew the answers to their queries. I recommended that they ask their doctor during their follow-up appointment, or the nurses present in the cardiology clinic, where most of the interviews took place.

Further challenges and learning opportunities emerged in situations where face-to-face interviewing was not possible. As mentioned earlier in this chapter, I conducted seventeen face-to-face, two virtual, and one telephone interviews. The remote interview modes were opted by a small number of participants (n=3) who expressed willingness to take part in the study but could not stay at the hospital after their appointments, nor could they schedule an alternative date to attend the hospital for a face-to-face interview. In addition to these reasons, the participant who chose to be interviewed over the phone was unable to manage the technology for virtual interviewing, making telephone interviewing a more practical method for her participation. Recalling my experience in data collection, each interview mode, particularly telephone and online, brought its unique set of challenges.

I found conducting the telephone interview to be particularly challenging. Although telephone interviews can be useful if the study participants are not geographically close to the research setting (Oltmann, 2016), this mode does have some disadvantages such as potential technical difficulties due to poor signal (Clark et al., 2021). The participant I interviewed over the phone, who lives in a small town in the South of the country, faced some problems with mobile network coverage and had to change her room to search for better signal strength. Additionally, the lack of visual communication posed another challenge, as I was unable to observe the social and non-verbal cues, which could have enhanced my understanding of nuanced responses. Moreover, based on my experience, building rapport in telephone interviewing was more challenging compared to those conducted face-to-face (Rubin and Rubin, 2012). In managing this situation, I restated the purpose of the phone call and made a special effort to establish rapport by initiating informal conversation such as asking about the weather in the participant's town. I also emphasised that I was willing to reschedule if the participants preferred to be interviewed later. However, the participant expressed willingness to be interviewed on this pre-scheduled time, during which I paid close attention to important points on which to probe and unpack further. The duration of this interview was 34 minutes.

The online interviews also provided distinctive learning experiences. To ensure comfort and convenience for the two participants who preferred to be interviewed online, I offered both video and voice-only interviewing formats. This consideration was particularly important given the cultural sensitivity of maintaining strict confidentiality and anonymity, as well as religious practices that encourage women to cover their faces in the presence of non-relative men. Even though I, the interviewer, am a female and there was no religious and cultural obligation for these women to cover their faces during the interviews, one participant still preferred to be interviewed with her camera turned off, which I respected as I was aware of the cultural sensitivity regarding video calls in Saudi Arabian women.

I also observed similar cultural sensitivity concerning recording women's personal accounts during the interviews. As mentioned earlier, all the interviews were audio-recorded, with permission from the participants, using a passcode-protected device. While most of the participants willingly consented to be audio-recorded, I observed that a small number of women were initially reluctant to participate in the study due to their concerns about being recorded. To mitigate this issue, I was transparent about the reasons for recording the interviews and explained in detail how the auditory data would significantly benefit the study and ensure

accurate data collection. I also reassured them about the strict anonymisation procedures in place to protect their anonymity and the secure handling of recording and textual data. After providing this clarification, the women felt more comfortable and expressed willingness to take part in the study, except for one woman who chose not to participate. These interactions offer a more nuanced understanding of the nature of conversation in Saudi society, where religious and cultural values are highly valued and influence every aspect of Saudi's lives.

There were also additional challenges and learning opportunities related to dealing with cultural issues around both disclosing personal accounts and being audio-recorded. It is likely that the women may have felt inclined to provide responses aimed at creating a positive impression about themselves, particularly given that Saudis may perceive discussing personal matters with strangers as inappropriate and intrusive. Being mindful of this, I was keen to establish a relationship of trust, ensuring that the women would feel comfortable sharing their personal stories as they were. I emphasised at the beginning of each interview that the participants' data would be carefully handled to preserve anonymity. I also adopted a less formal interaction approach to encourage the women to share their stories more openly and comfortably. In addition, while the interviews offered valuable insights, they also required careful attention to managing sensitive topics. From the outset, I was aware that the topic might evoke, to some extent, sensitivity, particularly as I intended to discuss personal health experiences within each woman's personal context. This awareness prompted me to ensure that I created a supportive and empathetic environment where the women could feel comfortable discussing their experiences.

Nevertheless, even when I initially anticipated that the topic might evoke some sensitivity among my study participants as they shared personal accounts of their experiences, I was not fully prepared for the extent of emotional responses that emerged during the interviews. Some of the participants became profoundly emotional when discussing strong familial ties, their roles within the family, and how their overwhelming and demanding roles contributed to their deteriorating health. Witnessing emotional responses made me reflect on my assumptions about the sensitivity of the topic. This self-critical stance influenced how I approached the remaining interviews and the analysis of data, as I became increasingly aware of the emotional implications that the topic had for Saudi women.

In addition to the challenges and learning opportunities discussed above, including those related to recording narratives, conducting interviews through different modes, and addressing

sensitive issues, the outbreak of the global COVID-19 pandemic required essential adjustments. These adjustments were crucial to safeguard the study participants and myself, the researcher, during the recruitment process and face-to-face interviews. Although pandemic-related restrictions began to ease in Saudi Arabia as I commenced the fieldwork in August 2021, allowing me to recruit twenty eligible women and interview seventeen participants within the hospital premises, the interactions were still constrained by strict social distancing measures that remained in place to mitigate the risk of virus transmission. The in-person interviews were conducted in a quiet environment within the cardiology outpatient clinic, away from the distractions typically present in a busy and dynamic hospital ward setting. Both the participants and I adhered to social distancing protocols and implemented precautionary measures such as hand hygiene and the use of face masks. While these safety protocols were important to mitigate the transmission of the virus, I found that they introduced a sort of formality that, to some degree, impacted establishing rapport and observing facial expressions. Nevertheless, the participants were still able to share valuable and insightful accounts under such challenging circumstances.

Furthermore, as I undertook the role of data collector and interpreter, it was particularly crucial to engage in reflexivity and ongoing self-reflection. As discussed earlier in **Section 3.5**, reflexivity involves examining my position, perceived notions, and beliefs to understand how these aspects shaped my engagement with data analysis. I strived to maintain reflexivity while immersing myself in the data and engaging with analytical activities such as transcribing, translating, and extensively reading the transcripts. Throughout this process, I attempted to maintain rigour and transparency by documenting field notes and a reflective analytic journal. This enabled me to write about my evolving thoughts as they came to my mind and often prompted me to ask myself questions that could build trust with the women interviewed and what other questions could help me to facilitate deeper analysis. This has stimulated my ideas and increased my awareness of my feelings and thoughts during the simultaneous procedures of data collection and analysis.

3.9. Ethical Considerations

Ethical issues in social research are of paramount importance throughout the entire research process and are contextualised and situated. In qualitative research, the close interaction between the researcher and study participants often raises several ethical concerns that require

meticulous attention in order to produce an ethical, sound, and rigorous piece of research (Hammersley and Traianou, 2016).

I previously articulated in Gaining Access (**Section 3.7**) the process of obtaining ethical approval from the Research Ethics Committee at Edinburgh University (**Appendix 2**) and King Abdulaziz University Hospital (**Appendix 3**). In the following sections, I discuss how I addressed key ethical areas concerning consent and voluntary participation, avoiding harm, and anonymity and confidentiality. These are well-recognised areas essential for safeguarding the rights of participants and ensuring they are treated with respect, fairness, and dignity when conducting this study.

3.9.1. Voluntary Participation and Consent

Patients are in a particularly sensitive position due to their vulnerability to being ill (Holloway and Galvin, 2017). To mitigate this, I decided to conduct the interviews only following my participants hospital discharge, in order to allow them sufficient time to recover and to ensure that their participation was based on their autonomy and free will. Respecting the autonomy (or decision-making capacity) of potential participants is important when inviting them to take part in research (Beauchamp and Childress, 2019). The eligible women for this study were given the opportunity to make an independent and informed choice to participate without coercion. As discussed earlier in **Section 3.7**, once potential participants were identified, the charge nurses of the CCU and cardiology clinic informed them about my study. I then approached the interested patients to clarify all aspects of the research, address any queries they might have, and hand out a participant information sheet (PIS) (**Appendix 4**) and informed consent (**Appendix 5**). I included the English and Arabic versions of these documents in both appendices.

Obtaining informed consent is a legal and ethical requirement when undertaking research involving interviews with people (Rubin and Rubin, 2012). The consent forms distributed to each individual participant were written in simple language to make information understandable and readable. The forms outlined clear statements emphasising that the participants were informed about the nature of the study, that their participation was entirely voluntary, that they could withdraw at any stage should they change their opinion, that participation entails a one-to-one audiotaped interview, that any identifiable information and personal accounts would be anonymised and may be reviewed by the research supervisors and

a translator, that some portions of their anonymised data would be shared in open-access journals and conferences, and that their deidentified raw data would be stored by the researcher for up to seven years for potential use in ethically approved research studies in future.

Upon the women's agreement to participate in my study, I obtained their informed consent, which required them to print their names and to sign and date the form. For those unable to sign the consent form due to writing illiteracy, a witness chosen by the participant signed on their behalf. Additionally, I ensured that verbal consent was also obtained from the participants at the beginning of the interviews. In the two occasions where the women had limited writing literacy, they provided their verbal consent at the beginning of the audio-recorded interview, and their first-degree family member, who accompanied them to the hospital, provided their signature. All consent forms were then digitalised and then transferred to a passcode-protected laptop, only my authorised access, to be stored in a cloud server.

3.9.2. Mitigating Adverse Consequences and Providing Benefits

One important element of ethical research is balancing its risks and benefits (Beauchamp and Childress, 2019). While the possibility of causing any harm to the participants from this research was minimal, it was still essential to assess potential risks for both participants and myself, the researcher, during the in-depth interviews. Considering the circumstances of the coronavirus outbreak, conducting in-person interviews with women necessitated following strict safety measures, such as keeping a safe distance and wearing a face covering to avoid potential physical harm to the women and myself. Details on these safety measures were provided in **Section 3.8.5**.

Additionally, in-depth interviews inherently involve disclosing personal thoughts, attitudes, and behaviours about cardiac illness and how they sought medical attention for their symptoms, which might be perceived as intrusive, particularly within the conservative context of Saudi society. Therefore, ensuring privacy was crucial to encourage my participants to share their experiences openly and meaningfully.

The discussion of personal accounts may lead to the disclosure of sensitive topics and painful experiences that could pose an emotional burden on some of the women involved in my study. This risk was mitigated by handing out of the PIS in advance, outlining the nature of the questions that will be asked, which helped the participants understand what to expect in the interviews. I also made an effort to focus our conversations on relevant topics and limit

irrelevant questions to minimise the potential for emotional distress. The women were also given the choice to decide how much they wished to share and were encouraged to refuse to answer any questions they felt uncomfortable with. Nevertheless, it was inevitable that some sensitive topics related to the participants' social roles and responsibilities, their family relationships, and the impact of these aspects of their illness and health-seeking experiences would arise. I was prepared to pause or cease our conversation and offer guidance on how to seek support available at the hospital should the participants appear uncomfortable during the course of the interview. None of the participants showed emotional distress that required counselling support. Yet, I remained attentive to non-verbal cues and signs of discomfort. When some participants became emotional, I offered to pause and take a break, but they always preferred to continue sharing their stories.

Rubin and Rubin (2012) argued that having the opportunity to discuss experiences in the interviews could be beneficial to study participants. Most of my participants reported positive implications for themselves, noting that they gained improved insights into their personal experiences as they reflected on their experiences in searching for ways to manage their illness until they became hospitalised for ACS. They appreciated the opportunity to talk about their experiences in a non-judgmental and welcoming environment.

3.9.3. Confidentiality and Anonymity

As indicated in the consent statements presented in **Section 3.9.1**, the participants' identities were kept anonymous and confidential. Any potential identifiers were removed to prevent direct identification or the possibility of reidentification by connecting various information. In terms of confidentiality, I only shared anonymised data with my supervisors for their feedback, as well as some quotes from the original data and translated transcripts with a bilingual researcher to check translation accuracy. All interviews and field notes were given a unique identifier (e.g., I_PA01_240821_EN), indicating the file type (e.g., I for interviews, FN for field notes), participant code (PA01, PA02, etc.), and transcript language (e.g., AR for Arabic and EN for English,). No names or identifiable information were mentioned either in the Arabic or English documents. Anonymity was also maintained with the demographic sheet and the naming of audio recording files. File contents were securely stored on my laptop and a cloud server with restricted access to ensure maximum confidentiality.

3.10. Data Analysis

Data analysis is a non-linear and complex phase in any qualitative research study (Thorne, 2000; Holloway and Galvin, 2017). Interview analysis involves moving beyond raw data to establish meaningful links between what has been found in the interviews and the overall research aim that led to undertaking the research study in the first place (Rubin and Rubin, 2012). It is important to highlight that data collection and analysis were undertaken simultaneously. This means that the analytical process did not commence after all data was collected, but it was an ongoing component of the research journey. Reflecting on my first experience with qualitative analysis, I recognise the complexity and lengthy nature of this process. As a novice researcher, I found that this process required considerable effort and careful attention to detail. In this section, I present and justify the method I used to guide the analysis of the interview data and construction of research themes; reflexive thematic analysis by Braun and Clarke (2022).

3.10.1. Reflexive Thematic Analysis

Reflexive thematic analysis is an interpretive approach to qualitative data analysis that enables the identification and generation of themes in a given data set (Braun and Clarke, 2022). Employing this analytic method was appropriate for this study due to its flexibility, which accommodates various qualitative methodologies that generate themes representing patterns of shared meanings within the data that are crucial for illuminating the phenomenon being studied (Braun and Clarke, 2022). Moreover, employing reflexive thematic analysis was appropriate for not being tied to a specific epistemological and theoretical approach (Nowell et al., 2017). However, this flexibility does not imply that adopting a theoretical perspective is optional; rather, it is the researcher's responsibility to identify and articulate a theoretical perspective that informs their research process and ensures the thematic analysis approach aligns with their philosophical stance (Clarke and Braun, 2018; Braun and Clarke, 2022). In addition, reflexive thematic analysis emphasises the significance of the co-construction of knowledge through interactions between the researcher and the study participants to generate socially constructed meanings (Braun and Clarke, 2022), which aligns with my study's epistemological stance (see **Section 3.3.2**).

In the analysis of my data, I adopted both inductive and deductive approaches to guide the coding process and theme development. This abductive approach allowed the construction of

themes to be inductively driven by the data obtained directly from the women interviewed, while also being deductively influenced by my thoughts, philosophical assumptions, relevant literature, and key components of Chrisman's (1977) health-seeking process (More details in **Chapter 4**). This aligns with Braun and Clarke's (2022) assertion that reflexive thematic analysis does not adhere strictly to either inductive or deductive analysis, allowing the research to be situated in the inductive-deductive continuum. Consistent with this view, Blaikie (2017) argues that there is no pure inductive or deductive process in knowledge acquisition in qualitative research, as researchers cannot entirely ignore their prior knowledge and pre-existing perspectives when examining and interpreting data.

Being mindful of my role as a researcher necessitated ongoing reflexivity, which is a key aspect of reflexive thematic analysis. This awareness prompted me to reflect on how my position and perspectives influence the analytical process. As outlined by Braun and Clarke (2022), the researcher's position is not neutral and distanced from the research, and ongoing reflexivity is required to ensure integrity and depth of analysis.

Overall, utilising reflexive thematic analysis was particularly suitable for my study due to its flexible application and alignment with the research purpose and philosophical stance. Adopting this analytic approach allowed for rigorous analysis that primarily remained grounded in the data. Since the undertaken research aimed to explore the illness and health-seeking experiences of Saudi women with ACS, the themes were expected to be latent in sociocultural contexts and structures. This focus was central to the analysis carried out in this research study, as will be demonstrated in the remainder chapters of this thesis.

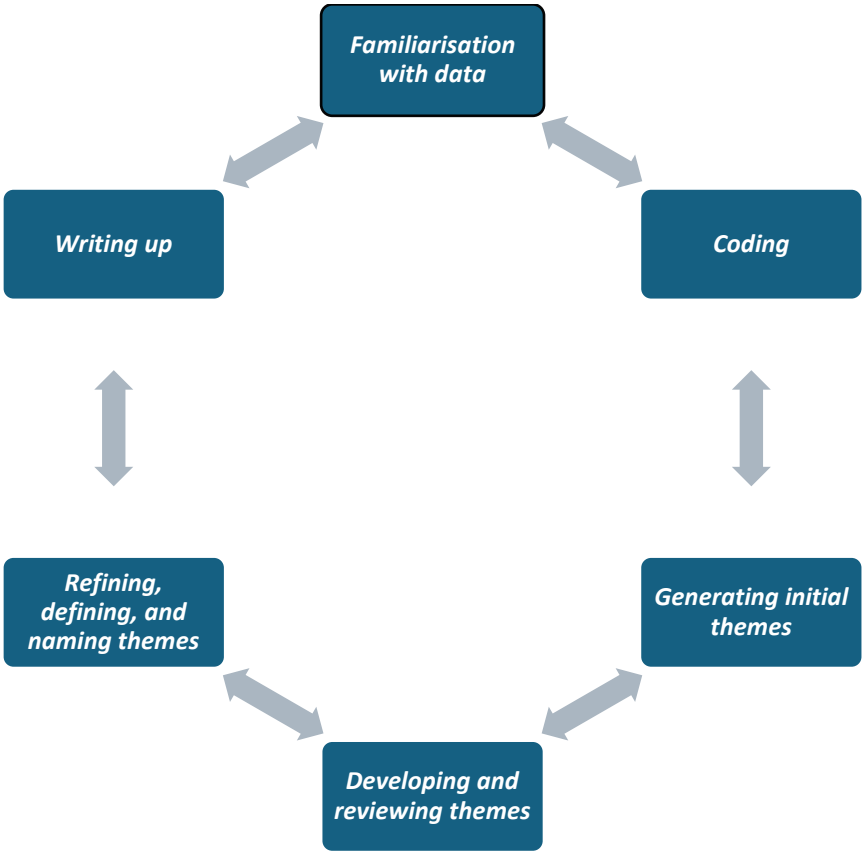


Figure 5 The recursive nature of reflexive thematic analysis

3.10.2. The Six-Phase Analysis

Reflexive thematic analysis consists of six analytical phases, including 1) familiarisation with the data; 2) coding; 3) generating initial themes; 4) developing and reviewing themes; 5) refining, defining, and naming themes; and 6) writing up. Braun and Clarke (2022) emphasise that these phases are intended to be fluid and recursive rather than strictly linear (See **Figure 5**). As a result, I did not expect a straightforward, linear progression from one phase to another. Rather, the analysis was iterative, allowing me to constantly move backwards and forwards throughout the entire analytical process as I became more engaged with the data and my analytical understanding developed. Despite the fluid and iterative nature of reflexive thematic analysis, the structured phases offered a systematic approach to undertaking the analysis. Each phase is mentioned below with a brief description of how it is applied (**Table 7**).

Table 7 Phases of reflexive thematic analysis

Analytic phases	Brief description of the process
Phase 1: Familiarisation with the data	Immersion in the dataset through several analytic activities such as listening to audio-recordings, transcribing, translation, reading transcripts, and making analytic notes.
Phase 2: Coding	Identify potentially interesting data relevant to the research aim and questions and assign code labels to capture single meaning or concept.
Phase 3: Generating initial themes	Collate coded data relevant to candidate themes to identify broader and shared patterned meaning across the dataset.
Phase 4: Developing and reviewing themes	Assess the initial fit of the provisional candidate theme to the coded data and the entire dataset.
Phase 5: Refining, defining, and naming themes	Ongoing analysis to ensure themes are built around a core concept or essence, with clear definitions and names assigned to each theme.
Phase 6: Writing up	Weave together the analytic narrative and vivid data extracts to tell a coherent story about the dataset in relation to the research aim/questions.

The six-phase process begins with ***familiarisation with data*** (Braun and Clarke, 2022). I familiarised myself with the data through deep immersion in the interview content. This was achieved by repeatedly listening to the audio recordings, transcribing them, and translating the Arabic interviews into English. During the familiarisation process, I inserted descriptive comments in the transcripts to capture my participants' nonverbal cues and responses, such as laughter, emphasis tones, and moments of silence, which were valuable for providing a closer representation of the participants' narratives. These comments were differentiated from the participants' own words using square brackets. For example, in the following quote, I noted one participant's hand movements alongside her verbal accounts (**Figure 6**). I also inserted comment boxes in the right margin of the transcript to add further notes to convey the interview context as accurately as possible.

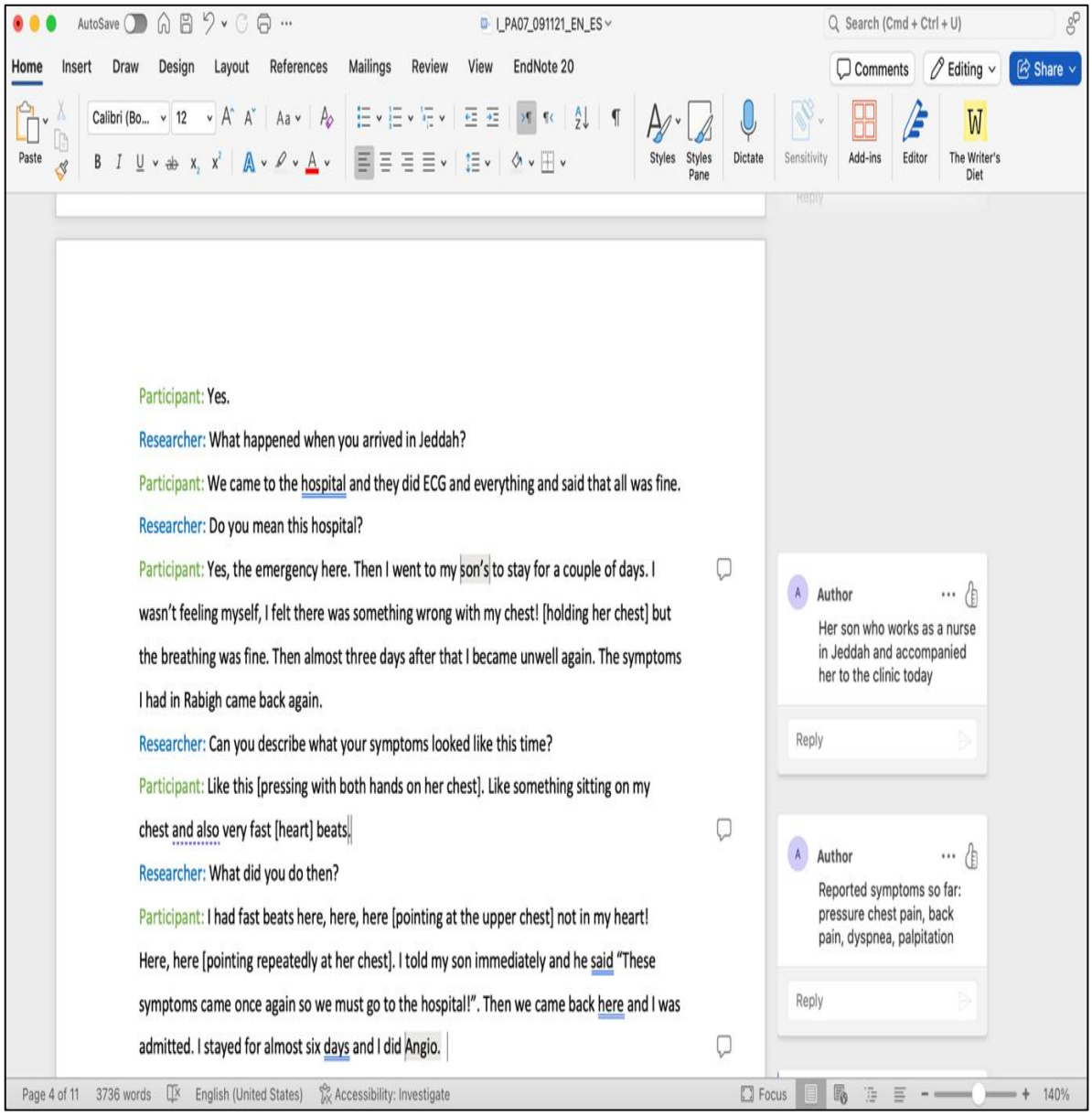


Figure 6 An interview transcript with in-text and Ballon comments in MS Word

To further immerse myself in the dataset and obtain an overview of its content, I read the transcripts several times, noting ideas I found interesting and evoking a stream of thoughts. In addition, I read the field notes for each interview, where I documented additional information to clarify meanings, contextualise data, and highlight points that seemed important or might be useful at a later stage of the analysis. The field notes were cross-referenced in an iterative process when reviewing the transcripts to remind me of the women's narratives and how they articulated their views. For example, I took notes promptly after interviewing one participant

(PA05), which were documented in the field note table presented earlier in **Table 6** (**Section 3.8.4).** As **Table 8** illustrates, the style of the notes was casual rather than systematic, as these were early contextual records of areas that triggered my thoughts during the early analytical process (Braun and Clarke, 2013).

Overall, the deep immersion in the dataset through listening to audio recordings, transcription, translation, and note-taking helped me recall and trace potential patterning of meanings and highlight similarities and differences within the dataset more easily. The process of familiarisation was particularly lengthy and accompanied by uncertainties; however, it was during this time that I began noting initial ideas and highlighting quotes from the raw data of each interview that seemed to be relevant to my study aim. The insights gained through this deep immersion in the dataset offered a thorough understanding of the core content, which formed the foundation for the subsequent phases of reflexive thematic analysis.

Table 8 Field notes (PA05)

28-09-2021 ***PA05, 63 years old, widowed, housewife, & living with one daughter***	
Appearance	A woman with a veil covering most of her face except for her eyes, which she took it off later in the interview. Upper denture was removed.
Environment	The in-person interview started after her 1st cardiology follow-up visit. The cardiology clinic was very busy today, so the interview was held in a room within the neighbouring orthopaedic clinic that was quiet at this time of the week. The interview was interrupted twice for a few seconds by the orthopaedic clinic nurses who likely thought the room was vacant, despite informing the charge nurse! There were no interruptions to the conversation between me and the participant.
Emotions	The participant spoke very fast. Her initial responses were brief and required substantial probing. However, she then became engaged and even got emotional a few times when she started talking about her reluctance to burden or bother her daughters with her personal issues **[Reluctance to be a source of burden on the family].** She was tearing up and I offered tissues and showed empathy in response.
Perceptions	She ignored her ischaemic symptoms, and was brought to the hospital (cardiology clinic) by her daughters, who insisted that she needed to see a doctor **[family involvement in health-seeking].** She admitted not attributing her symptoms to MI, despite witnessing multiple MI events of husband in the past **[comparing personal experience with members within close social networks].** She didn't think she was a candidate or that anybody can be a candidate for MI or any other disease, including her husband who did cardiac Cath X8 times and had CABG before he died. She strongly believes that anything can come from Allah in terms of health/sickness, regardless of having risk factors or not **[coronary candidacy, perceptions of cardiac risk!]**
Researcher's subjective notes	This was a very emotional and challenging interview. It took some time at the beginning to put the participant at ease and encourage her to talk. She seemed a bit careless at the beginning then became very emotional toward the end when discussing some family issues and stress that she believed contributed to her recent health event. She talked about her marital conflicts, concerns about being a burden on her married daughters, and the challenges of taking care of her grandchildren were all too much for her to handle, resulting in her breakdown. I faced challenges in keeping the interview on track and not allowing it to go too much off topic. I made efforts to control the interview to meet the study goals while also leaving room for her to talk freely and express her feelings. I listened carefully, as she was very sensitive and emotional about her family problems. I recognized that she trusted me enough to share her personal stories. I listened empathetically and tried to refine questions as we went along. She expressed that men are often careless compared to women and gave examples from her husband and son. She illustrated that being a mom is so different from being a dad, a role that has significantly shaped her life and health **[women with caring responsibilities are more exposed health issues]**

Having obtained a general sense of the initial dataset, I progressed into the second phase of reflexive thematic analysis, which entailed a more detailed analytic task of ***coding***. It is important to note that this is not a completely separate phase but one that overlaps with the earlier analytic phase of familiarisation, reflecting the recursive and fluid nature of the analysis (Braun and Clarke, 2022). Coding facilitates capturing specific meanings within the dataset that are relevant and have the potential to address the research questions (Saldaña, 2021). This analytic task involves purposefully examining, managing, sorting, and naming segments of raw data with a label based on the researcher's understanding of what information has been gathered (Saldaña, 2021).

I wrote short descriptive phrases to any extract within the transcripts that I perceived as potentially relevant and meaningful in relation to my study aim and questions. While coding an interview transcript, I also reviewed the corresponding margin comments and field notes to provide more context and ensure coding was consistent with what was being revealed in the interviews. I ensured to code the initial interviews inductively by focusing on each individual transcript. This means that coding was mainly data-driven rather than restricted by preconceived categories or theoretical perspectives, allowing for the identification of unique features within the data derived directly from the participants' accounts. As the number of interview data increased, I began to broaden my focus in order to avoid staying too close to each individual transcript. Consequently, I clustered and broadened the codes slightly to capture the shared meaning across interviews, where appropriate.

I initially coded at a semantic or surface level, which involved interpreting the participants' accounts based on what was explicitly stated. As I progressed through the interviews and became more analytically engaged with my data, I began coding at both semantic and latent levels, allowing for descriptive analysis while also engaging with deeper interrogation of data where I sensed more in-depth meanings implied by the participants. For each code (and related codes it encapsulates), I wrote a descriptive note to clarify its meaning and explain how it should be used, which facilitated the consistent application of codes throughout the entire dataset (see **Figure 7**). These codes were not permanent and evolved over the course of time as I moved back and forth between interviews for at least two coding cycles.

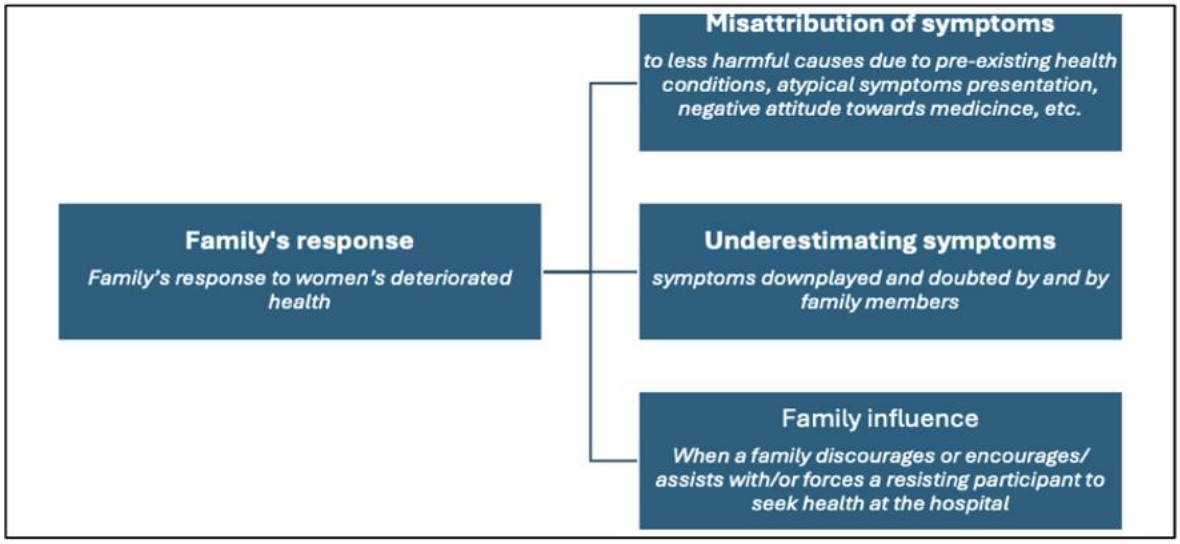


Figure 7 Codes and its encapsulating similar codes

To facilitate the coding task and wider analytic work, I used computer-assisted qualitative data analysis software (CAQDAS). CAQDAS does not analyse data; it is a valuable tool for supporting and managing the process of qualitative data analysis (Friese, 2022). I uploaded the transcripts originally typed in MS Word to NVivo version 14 for Mac to assist with annotating and labelling relevant segments and portions of raw data extracts. Assigning codes with NVivo ensured that similarly labelled data extracts were evaluated together in preparation for further analysis. Initially, I faced some challenges in becoming familiar with the functions of the software. However, as I became more familiar with its coding and annotation features, I found it useful for creating, organising, and sorting codes, and retrieving important information related to a specific topic within the transcripts. Based on my subjective experience, the use of technology facilitated the management of the growing dataset, which enabled relevant patterns to be identified and retrieved systematically and practically. In **Figure 8,** I provide an example of how my thinking was reflected in the sorting process within the NVivo software.

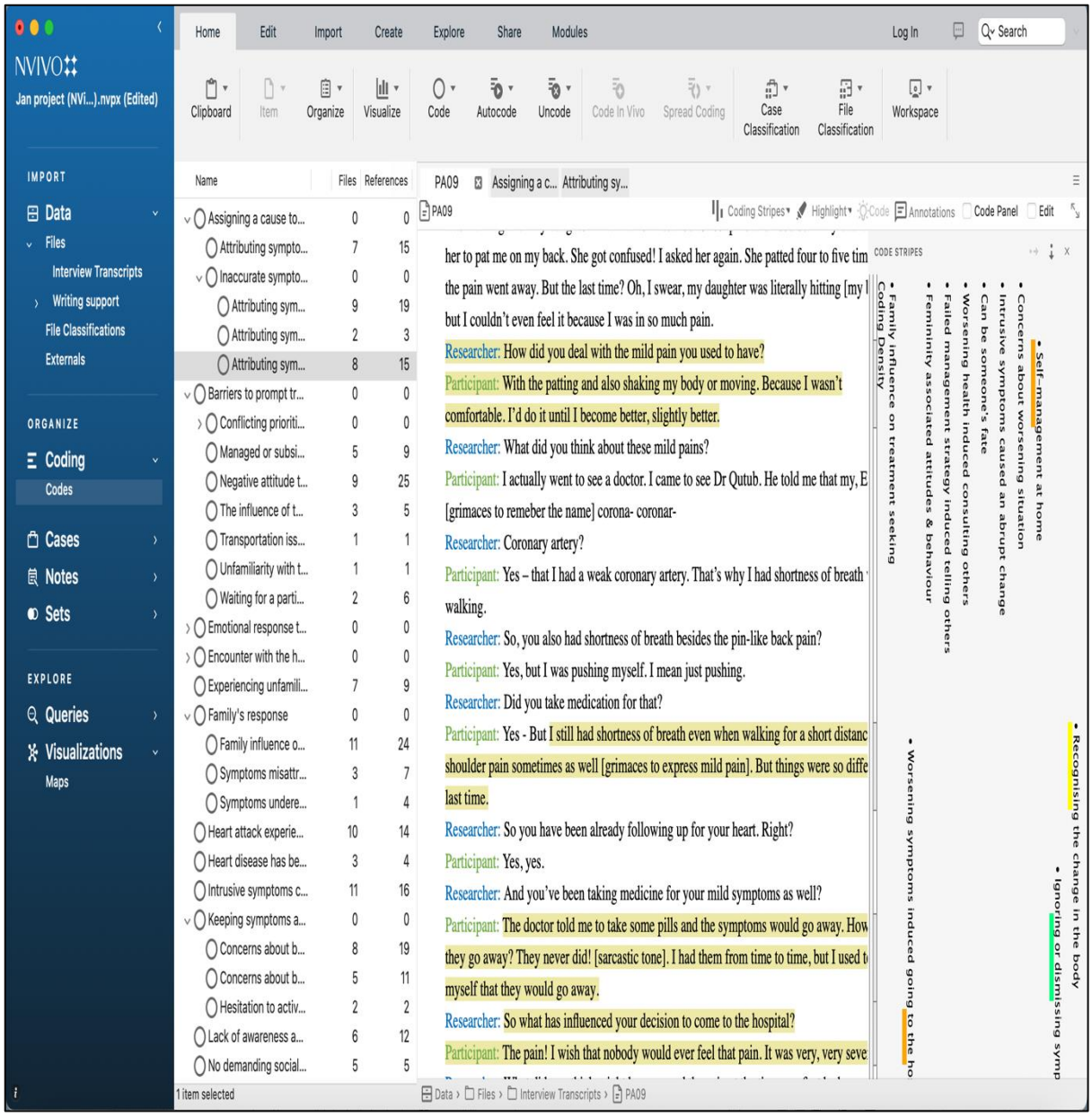


Figure 8 A sample of sorting in NVivo 14 for Mac

As I continued coding new sets of transcripts, I grouped codes that were recurrent across the dataset and signified analytically relevant aspects of the women's subjective accounts in a separate MS Word document. **Table 9** shows an example of some data extracts clustered under the codes, *Failed self-management induced telling others*, *Wait-and-see*, and *Overwhelming responsibilities caused my illness*. Throughout the process of coding and beyond, I regularly met with my supervisors to discuss the clustered raw data under different codes, as well as elements of the data that were particularly notable and could contribute to the construction of themes in the subsequent phases of analysis.

Table 9 A selection of collated data extracts under various code labels

Data extract	Code label
"It didn't work! I still had the pain. So she told me "What do you think about checking your blood pressure? Yeah?" I told her, "Yes, check my blood pressure". She checked and found it over 200. She said, "Mom, why don't we go to the hospital? Your blood pressure is 200. The monitor could be broken!" I said, 'OK'". ***PA01***	**Failed self-management induced telling others**
'When I finally realised that they are not going away, I asked my son to take me to the hospital'. PA08	
"At first, there was a sort of pain. Something like a pinch. That sort of thing. Like something coming out of my chest. I lay down, but it got worse. Then I got up, and it got even worse. Then I sat down, but it was getting worse and worse. My phone was in the living room. I hurried to the living room to call my daughter. Her room is on the other side of the house. I told her to hurry up". ***PA09***	
"I actually told my eldest, I told her that I was very sick today, she said: "Let's go to the hospital.", I said: "No, no, you all will go home tomorrow then I'll go to the hospital."..... She said, "Mom, don't ignore this, let's go to the hospital", I told her: "No, no, I used to have this but a bit milder, tomorrow I'll get your father to book an appointment for me and I'll go". He booked the appointment and we went". ***PA11***	
"I wanted to see if I could wait or not". ***PA06***	**Wait-and-see**
"I was already sick during that time. I mean after I got out of the hospital. I even took two Fevadol at night. I thought I would get better and the symptoms would subside! I waited for them to subside because I wanted to go, I wanted to return home". ***PA10***	
"Yes, yes. That is the reason. The responsibility that I talked about had deteriorated me and brought me to this condition [sharp tone]". ***PA01***	**Overwhelming responsibilities caused my illness**
"I was a shepherd. My kids were young when their father died. They were young and at school and I had to work. I was working very hard with the sheep. I think that too much tiredness has a role in my health condition. Researcher: So you think that doing hard work can cause heart illness? Participant: Yes, I think it had a role in my case. Too much tiredness and heavy workload". ***PA07***	
"I think I wouldn't have gotten sick if I had somebody to help me. If their father was helping and we had a beautiful life together, if we both were hand in hand and had a good life! But he left everything on me [emotional tone]. Everything was on me! So I became the mom and dad. I'm the one who helped the kids with school, took them out, took them to the hospital, talked with the doctors, discussed their problems, sorted out things, I mean I lived my life this way. That became my life. I'm the one who raised them. Thank God that life is beautiful now [smiles]. Let me show you their pictures. All my sons are engineers. One of them is an architect who graduated from Australia. I didn't have the chance to visit him in Australia but I went to America with one of my daughters; she was studying there. I also went to France with my other son who studied there". ***PA08***	

Subsequently, the third phase of data analysis, ***'generating initial themes',*** followed. A theme refers to a specific pattern of shared meanings within the dataset that captures important information about data concerning the research question(s) (Braun and Clarke, 2006). As the phase's name implies, themes are generated rather than discovered or emerged, reflecting Braun and Clarke's emphasis that meaningful patterns are actively constructed and generated by the researcher rather than waiting to be found in the dataset. The aim of this phase is to generate a number of initial themes that facilitate telling a particular, cohesive story about the dataset that addresses the overall focus of the research (Braun and Clarke, 2022).

The transition from coding to generating initial themes was not a smooth process, as I had some uncertainties about how to move from codes to candidate themes and elevate my analysis beyond a surface level to a more interpretive level. In this analytic phase, I examined the collated codes across the dataset to explore whether there were broader ideas around which several codes could be clustered. It was particularly challenging to determine how different codes might connect to form a provisional theme, as some codes were more explicitly relevant, and others required more in-depth consideration and thinking to uncover meaningful patterns.

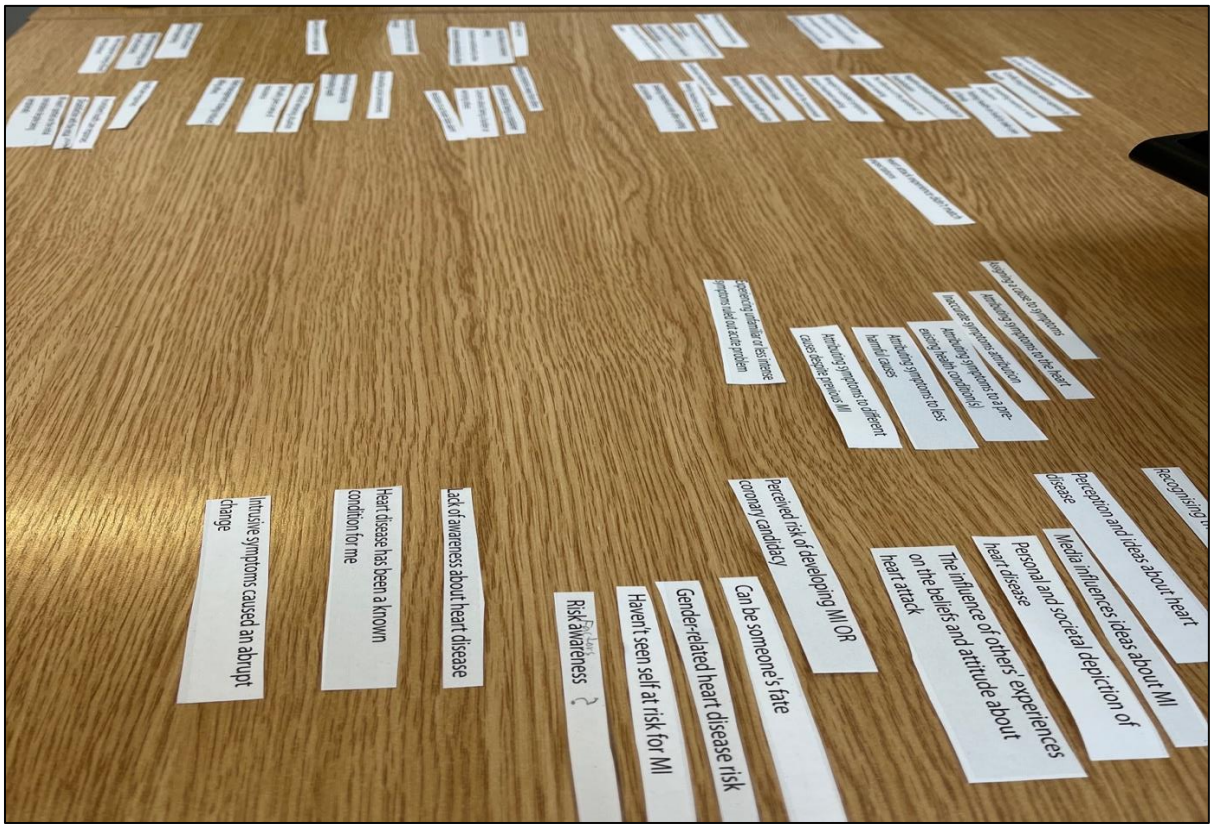


Figure 9 Clustering codes for initial theme development (manual)

The relationship between individual codes identified in the previous analytic phase is best organised through visual representations (Braun and Clarke, 2022). For this purpose, I printed the codes, cut them out into small text boxes, and physically grouped them into clusters based on a central idea or concept (see **Figure 9)**. This physical, hard copy manipulation of codes facilitated the organisation of my ideas and supported my ongoing decision-making regarding how different codes might combine to form a theme and which might not fit at this stage. As my ideas became clearer, I created a visual representation of the clustered codes with representative data extracts around a provisional theme on MS PowerPoint for better clarity. An example of this visual representation focusing on the tentative theme '*Acting and Responding'* is presented in **Figure 10**.

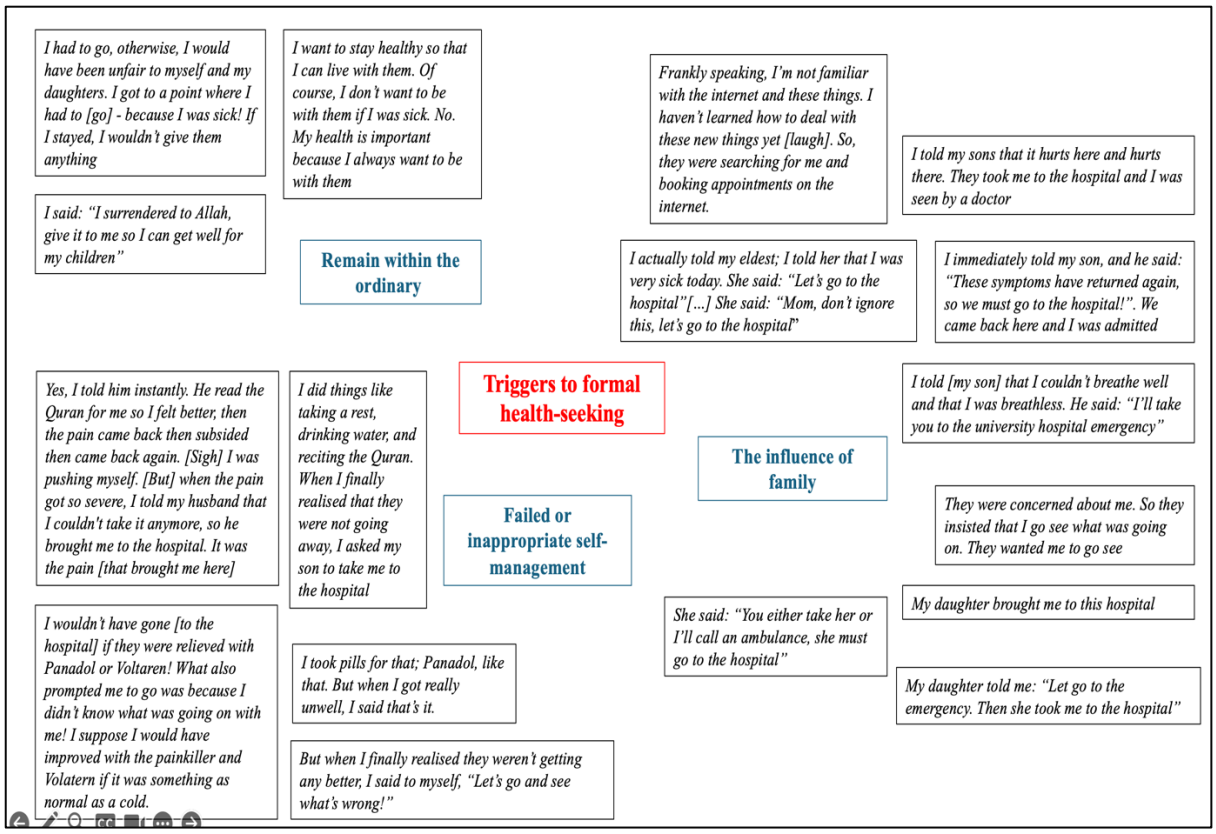


Figure 10 Clustering codes with representative extracts around a provisional theme

As the name of this analytical phase further implies, the themes developed in this phase are provisional, which was evident through the constant revision and re-grouping of codes around a central organising concept or idea. Some initial codes were moved to other groups to form

new clusters, while some became subthemes (e.g., Wait and See) (see **Chapter 6**). Additionally, some codes seemed not to belong anywhere; however, I still did not want to overlook or discard them prematurely. Thus, I created a miscellaneous theme to temporarily hold them in order to enable me to revisit and potentially use them in the subsequent analytical phases where needed.

The process of clustering codes took a considerable amount of thinking time, as I went back and forth analytically to re-read the relevant sections of raw data and move codes in and out of other groups to assess the suitability of merging them with an existing group or whether creating another group would be more appropriate. The process of moving beyond the explicit resulted in clusters or provisional themes around: '*Recognising and Understanding the Change'*, '*Barriers to Moving Forward'*, and '*Acting and Responding'*. These themes were generated based on my perceptions of broad patterns of meaning across the codes. These themes were compared and cross-referenced across the raw data to ensure they were sensitive to the data.

Throughout this process, I remained mindful that the themes developed earlier were tentative and required further refinement. With this awareness, I launched into phase four of reflexive thematic analysis, '***developing and reviewing themes'***. The focus at this stage is on examining and extending the initial themes developed in the previous phase. This involved two levels of reviewing: 1) the coded extracts and 2) the entire dataset (Braun and Clarke, 2022).

Initially, I reviewed the provisional themes against the coded data to ensure coherent patterns were present. I read codes and the coded extracts on NVivo 14 to examine whether they aligned with my central organising concept of each provisional theme. After sensing that my themes were appropriately supported by the data, I expanded my focus to evaluate the identified themes against the entire dataset. This review ensured that constructed themes reflected the nuances of the data as a whole. To facilitate this process, I created a thematic map of the provisional themes to represent the relationships between themes and subthemes (**Figure 11**). This visual representation helped with identifying boundaries around themes and areas that require further refinement (Braun and Clarke, 2021). For example, I noticed that some initial themes need to be tweaked and adjusted. Specifically, the subthemes under, "*Hurdlers to Act",* were not distinct enough from some components of the themes *"Recognising the Subtle Change in Health"* and *"Responding to Symptoms"*. Consequently, I decided to merge these subthemes into the latter two themes and discard "*Hurdlers to Act".* **Figure 12** reflects the expanding boundaries of initial mapping, showing three distinctive themes: "*Recognising the Subtle*

Change in Health", "*Responding to Symptoms"*, and "*Triggers to Formal Health-Seeking"*. The subthemes, "Containing Symptoms to Remain within the Ordinary" and "Resisting Disruption', which were previously under "*Hurdlers to Act",* were incorporated into "*Responding to Symptoms"*. Meanwhile, the subtheme "Managed or Subsided Symptoms" was merged into "The Nature of Experienced Symptoms" under the theme "Recognising the Subtle Change in Health" to show the nuances and multi-faced impact of symptoms on health-seeking behaviours. Additionally, the subtheme "Negative Attitude toward Hospital" was merged to expand the boundaries of "Lay Consultation" under the theme "Responding to Symptoms" and "Family Demands" under "Triggers to Formal Health-Seeking".

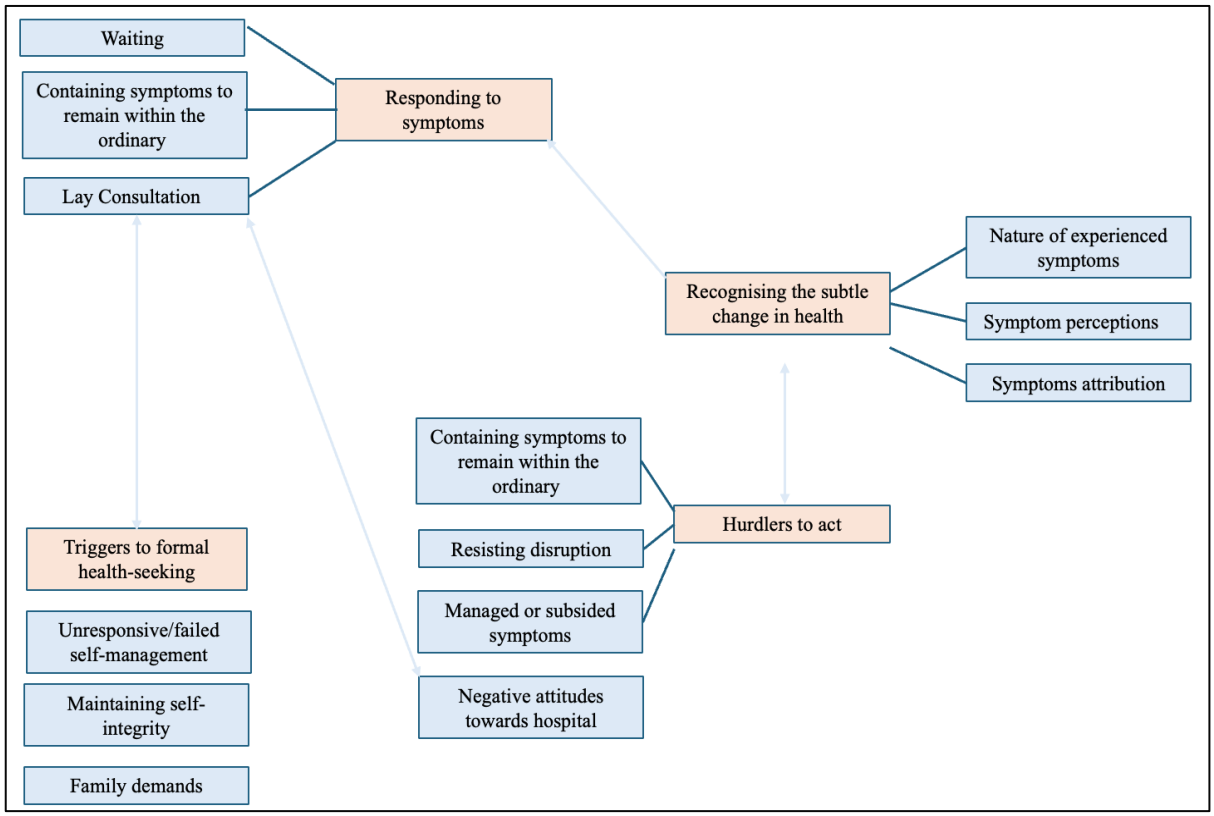


Figure 11 Thematic mapping of the initial themes and subthemes

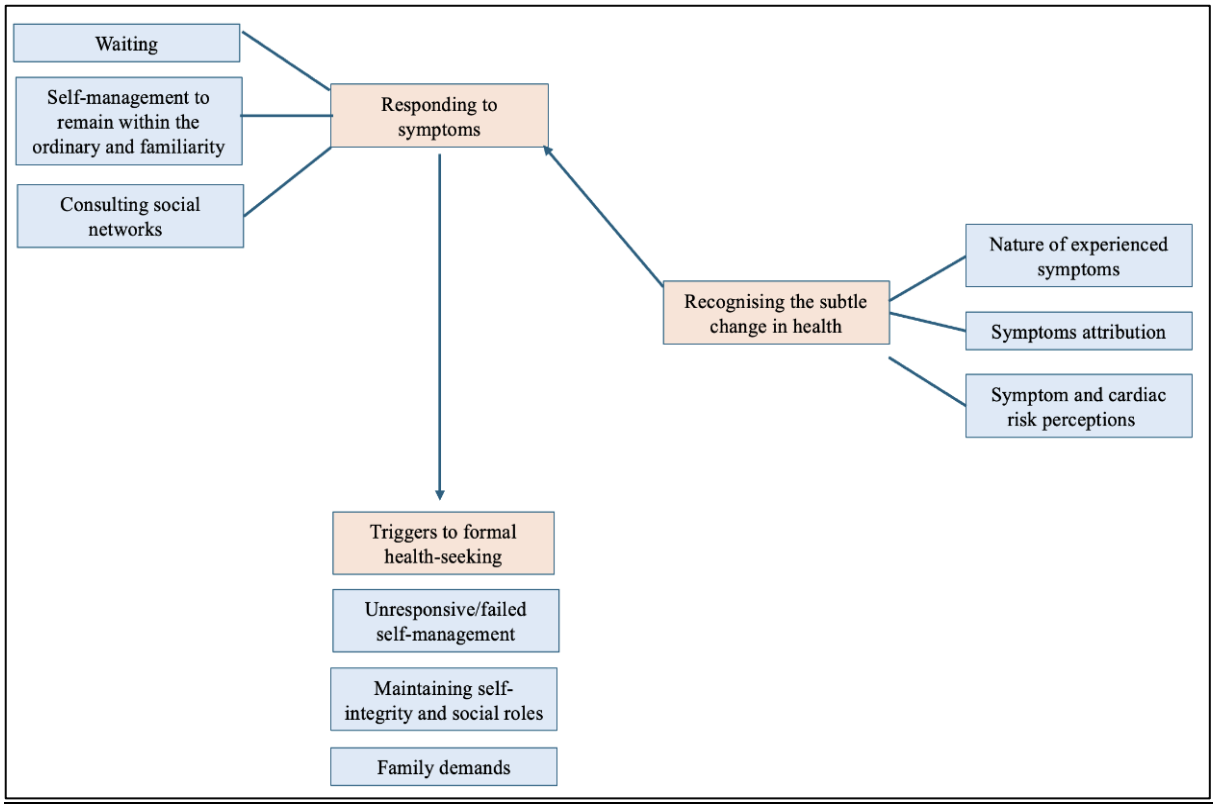


Figure 12 Refined thematic mapping

As I elaborated previously (**Section 3.3.3**), adopting an abductive logic of inquiry facilitated approaching my data in light of relevant theoretical understandings. This abduction drew upon the holistic approach of Chrisman's (1977) health-seeking process, which was particularly useful in offering a deeper theoretical understanding of the women's accounts, thereby enhancing my interpretation of the data. Four of Chrisman's (1977) core concepts of the health-seeking process – symptom recognition, illness-related shift in role behaviour, lay consultation, and treatment action – were evident in the data and proved to be useful in aligning the participants' narratives. I focused specifically on these components, as the last element, 'adherence', falls outside the scope of this inquiry. **Table 11** presents a sample of relevant quotes obtained from the semi-structured interviews. These quotes were categorised according to Chrisman's health-seeking process, to illustrate how participants' experiences align with the model's core components. These quotes then supplemented the study themes and subthemes, helping to present a clear and logical narrative that allows the participants' experiences to unfold in a cohesive story for better readability for the reader.

It is important to remind the reader that Chrisman (1977) emphasised that health-seeking behaviours do not necessarily follow a strictly linear sequential order, beginning with symptom definition and ending with adherence. This became evident as I examined the experiences of my study participants, who did not always exhibit the same steps originally outlined by Chrisman's (1977) health-seeking process. As will transpire in the subsequent finding chapters (**Chapters 5-7**), the paths taken by the women in the study in response to their ACS event were sometimes intertwined and varied from one participant to another. Furthermore, the key concepts derived from Chrisman's model often overlapped, falling into more than one theme/subtheme of the findings.

Table 9 Examples from participants' quotes aligned with Chrisman's health-seeking process

Health-seeking component	**Brief description**	**Examples of relevant quotes**
Symptoms definition	How did participants perceive their symptoms caused by an ACS? How did they recognise them and for what reasons did they attribute them?	*"I began to wonder what was going on when I first had that exhaustion and severe palpitation, but I wasn't…….ehm, I thought it was anaemia!"* **PA03** *"I never thought it was my heart. I mean, I said it could be diabetes, just diabetes!"* **PA10**
Containing symptoms (informal *treatment actions* or inactions)	How did participants articulate and control their symptoms caused by an ACS prior to consulting others or going to the hospital?	*"I tried to self-manage. I was gentle with myself. I told myself that it would be all right and it would go away whenever I had pain or shortness of breath"* **PA08** *"Honestly nothing…. I mean, I just kept on moving around the house, doing this and doing that, that's all!"* **PA18**
Illness-related shift in role behaviour	How severe were the symptoms in disturbing participants' daily activities (social and otherwise, e.g., work)? At what point did the symptoms became intolerable?	*"Ehmmm I'd lie to you if I said I was able to pick up anything off the floor, never. I left everything, everything. Food was from outside!?* **PA15**
Lay consultation and referral	Did the women tell anybody about their symptoms to, for example, reaffirm the definition of symptoms or seek advice about the possible ways of managing them?	*"I had fast heartbeats here, here, here [points to her upper chest] not in my heart! Here, here [points to her chest repeatedly]. I immediately told my son, and he said: "These symptoms have returned again, so we must go to the hospital!"* **PA07** *"I didn't tell anyone that I was sick. I didn't tell [anyone] until I was already done. I only told them the day I was very sick, very sick"* ***PA19***
***Treatment actions* (hospital attendance)**	What are the events that led the participants to go to the hospital for their evolving symptoms? This includes active or passive (e.g., take to hospital by family members)	*"I mean, they were concerned about me. So they insisted that I go see what was going on. They wanted me to go see. I hadn't been to any hospital for maybe more than twenty years! I don't go to hospitals, no matter how many times they insist"* **PA05** *"Yes, I decided [to go]. I thought I might go to see, they might do imaging… anything! I wanted to see what it was that I had. I determined to go, it was my decision, I'm who decided to ask them to take me to the hospital, I was sick*!" **PA18**

The previous analytic process, '***developing and reviewing themes',*** provided a solid understanding of the themes and how they were interconnected. Following this understanding, I engaged in more precise analytic work through ***refining, defining, and naming themes,*** which constitute the fifth phase of reflexive thematic analysis (Braun and Clarke, 2022). During this process, I gave clear and concise names that captured the essence of each theme and identified the subordinate themes within it. I also wrote theme definitions to encapsulate the main message and boundaries of each theme, ensuring that they were distinct from one another with a clear focus (See **Table 10**).

Table 10 Study themes and their definition

Main theme	**Theme definition and boundaries**
Recognising the Subtle Change in Health and Interpreting Symptoms	This theme focuses on how the women navigated their health-seeking journey by identifying and interpreting symptoms as signs of deviation from their usual state of health. The process of recognition of the subtle change in health state is deeply intertwined with participants' understanding of the nature of their symptoms, their attribution of potential causes, and their perceptions of cardiac illness and its related risks, which I broadly characterised as subthemes of this main theme.
Responding to Perceived Symptoms	This theme explores how the women initially responded to the symptoms that they perceived as potential indicator of a health issue. The women's responses generally were shaped by their understanding of symptoms, perceived threat, and the impact of their daily personal and social lives as mothers and carers. This theme specifically undertakes the women's action in response to symptoms, including waiting for the symptoms to subside, adopting self-management, and seeking advice and opinions form individuals within their inner social circle, which I broadly characterised as subthemes of this main theme.
Arriving at the Final Destination	This theme examines the key factors that prompted the women to attend the hospital. The triggers identified include the worsening of health condition, the desire to maintain personal and social integrity, and the family's power. The latter two triggers particularly reflect the significance of the sociocultural influencers that were shaped by strong social and familial ties on health-seeking behaviours.

Undertaking theme refinement during this phase particularly helped with considering the overall story that my research was beginning to tell, allowing it to structure and organise the themes to present my research in the most meaningful way.

After establishing and refining the themes, I embarked on ***writing up*** the study findings to construct a concise narrative that portrays the essence of each theme in relation to the research, for the purpose of disseminating the findings to a wider audience. Thorne (2000) highlights the importance of clearly communicating the logical process by which findings are developed in a transparent and accessible manner to a critical reader, thereby making the claims related to the dataset credible. I supported the presentation of the final analysis with direct quotes from the women interviewed to facilitate the understanding of the interpretations and provide an illustration of the themes and patterns identified in the data. Relevant raw data extracts were embedded within the analytical narrative to illustrate the richness and nuances of the research story. Shorter quotes are featured throughout the findings chapters (**Chapters 5–7**), and an example of more extensive accounts of one of my study participants is provided in **Appendix 8** to give a flavour of the raw data. I included a quote from this transcript: "I never thought it *was my heart*" in my PhD thesis title.

3.11. Trustworthiness

As I intend to put the knowledge gained from this research into practice, it is important that this study is legitimised by researchers, stakeholders, and the public (Nowell et al., 2017). Therefore, it is essential to ensure the findings' integrity, authenticity, and applicability to similar contexts (Tobin and Begley, 2004). Lincoln and Guba (1985) introduced the quality assurance criteria of credibility, transferability, dependability, and confirmability to establish trustworthiness. The term trustworthiness in qualitative research means methodological competence, soundness, and adequacy (Holloway and Galvin, 2017). The four quality measures to establish trustworthiness were developed to parallel the quantitative criteria of validity, reliability, and generalisability, which focus on measurement and adequacy of measures in positivist research (Lincoln and Guba, 1985).

Credibility addresses the fit between participants' views and the researcher's representation of them, ensuring that the findings are understood to be fair representations of the participants' social realities (Tobin and Begley, 2004). Lincoln and Guba (1985) suggested some techniques to achieve credible findings, including prolonged engagement and peer debriefing. In this

study, I sought credibility by pre-testing the interview guide with two colleagues to ensure it provides opportunities for articulating the participants' experiences and perceptions concerning the events leading to their hospitalisation for ACS. During fieldwork, I ensured prolonged engagement by asking the women detailed questions to illuminate various aspects of their experiences in navigating ischaemic symptoms up to their hospital admission. The participants were encouraged to support their accounts with further examples and clarifications, and probing was used to deepen my understanding and ensure that their social realities were accurately represented. Moreover, I discussed the data and the generated themes with my supervisors on a regular basis. The debriefings during these discussions served to examine the preliminary findings against the raw data and ensure that the interpretations reflected the participants' perspectives and views.

Dependability concerns the reliability of data (Tobin and Begley, 2004). If the findings of a study are to be dependable, they need to be accurate, consistent, and visible. I strived to make key aspects of my study visible by meticulously describing and rationalising the study setting and participants, the methods employed for data collection and analysis, as well as the basis on which conclusions were reached. This transparency was particularly facilitated by writing thick descriptions of research activities to ease the reporting of the research process and minimise the risk of overlooking important details. Lincoln and Guba (1985) suggested that dependability could be demonstrated through an audit trial. The detailed and precise reporting provided through thick descriptions is integral to the audit trail, enabling others (e.g., examiners) to follow the decision-making process of the research in order to evaluate the research and its outcomes. Excerpts from raw data and field notes, the description of participants and settings, and methodological decisions and rationales behind them, make the findings auditable (Nowell et al., 2017).

In addition to dependability, providing thick and rich descriptions of the research procedures is crucial in establishing ***transferability*** (Tobin and Begley, 2004). According to Lincoln and Guba (1985), the provision of thick and rich descriptions of the research procedures enables other researchers carrying out the same research in another context to assess and judge the transferability of the findings to their own site and context. Therefore, I was committed to making key aspects of my study visible and understandable, thereby facilitating the potential for transferring findings to similar contexts, especially to other relevant conservative Arabic

contexts, where research concerning women's health-seeking experiences for ischaemic symptoms remains limited as identified in the literature review.

Confirmability concerns establishing that the researcher's findings and interpretations are grounded in the data, requiring a clear demonstration of how conclusions were reached (Tobin and Begley, 2004). According to Lincoln and Guba (1985), confirmability can be achieved when the other trustworthiness criteria – credibility, dependability, and transferability, are met. In addition, the regular feedback and multiple perspectives obtained during the supervision meeting particularly contributed to the confirmability of data. These meetings provided an opportunity to share and discuss data collection, analysis, interpretation, and composition, further reinforcing the grounding of the findings in the data exclusively collected for this study.

3.12. Conclusion

This chapter began by outlining the research aim and questions, then provided a comprehensive overview of the philosophical stance of critical realism and social constructionism underpinning this research. It then rationalised the adaptation of a qualitative research design and the use of semi-structured interviews for data collection, as well as the practical aspects of gaining access, recruitment, and sampling. The chapter also covered the data analysis process using reflexive thematic analysis, addressed ethical considerations pertaining to the contextualised and situated aspects of my study, and explained how quality was maintained throughout the research process. While presenting the methodological choices I made, I engaged in critical self-reflection through reflexivity through different sections of this chapter.

In the following chapter, I will present a brief overview of my study participants and explain how I arrived at the structure of the three study themes. This will help set the stage for the presentation of the themes and subsequent discussion in relation to the existing empirical and theoretical literature throughout the remaining chapters of my thesis.

Chapter 4
Introduction to the Study Findings

Chapter 4: Introduction to the Study Findings

4.1. Introduction

Prior to presenting the main themes constructed from data analysis, this relatively brief chapter provides an overview of the demographic and clinical characteristics of the study participants, Saudi women with ACS. It also explains the use of the theoretical lens in making sense of the study findings. This thesis chapter serves as a bridge to lay the groundwork for the subsequent three findings chapters (**Chapters 5–7**), which present the main themes I constructed from analysing the interview data. The aim is to introduce the study participants to the reader and how I arrived at the themes through an abductive approach of using the theoretical perspectives introduced earlier in **Chapter 2, Section 2.6**.

4.2. Study Sample Characteristics

In this study, I interviewed a heterogeneous sample of twenty Saudi women with variable demographic characteristics, who were hospitalised for an ACS event in the past six months. **Table 10** illustrates the deidentified profile of each study participant in order to maintain confidentiality and anonymity. The table shows that they varied in terms of age, marital status, educational attainment, and occupation. The ages of the women ranged from 42 to 69 years, with an average age of 57.7 years. In respect of relationship status, 12 participants were married, 4 were widowed, 2 were divorced, 1 was separated, and 1 was single; all of them lived in the same household with their family members. Educational attainment varied across the sample: 3 participants held a university degree, 3 completed high school, 4 had less than a high school education, 5 attended adult education schools[1], and 5 had no formal education. Employment status revealed that only 2 participants had a paying job, 1 was retired, and the remaining 16 were housewives.

In terms of the clinical profile, all twenty participants had at least one common cardiac risk factor, including hypertension (*n*=16), diabetes (*n*=13), hyperlipidaemia (*n*=7), and cigarette smoking (*n*=1). The majority of the participants (*n*=15) experienced ACS for the first time,

[1] ***Adult Education Schools*** are institutions under the General Department of Continuing Education within the Ministry of Education in Saudi Arabia. These schools offer free education to adults and elderly individuals who did not have the opportunity to attend school or complete their education, aiming to improve literacy among the elderly population in the country.

while 4 were hospitalised due to a recurrent episode of ACS. The time between the onset of ACS symptoms and hospital arrival, whether through the emergency service or outpatient clinic, varied substantially among the participants, ranging from 1 hour up to 6 months.

Table 11 Characteristics of the study participants

Participant code	Age	Marital status	Educational attainment	Occupation	Cardiac risk factors	History of ACS
PA01	52	Married	Post-graduate	Employed (lecturer)	HTN for 5 years	First
PA02	58	Divorced	University	Retired (teacher)	HTN, DM & Dyslipidaemia	Recurrent event
PA03	55	Married	No formal education	Unemployed	DM, HTN & Dyslipidaemia	First
PA04	69	Widowed	No formal education	Unemployed	DM for 20 years & HTN	Recurrent event
PA05	63	Widowed	Less than high school	Unemployed	Smoking for 40 years	First
PA06	60	Divorced	No formal education	Unemployed	HTN, DM & Dyslipidaemia	Recurrent event
PA07	61	Widowed	Adult education school	Unemployed	DM & HTN	First
PA08	63	Separated	Adult education school	Unemployed	DM for 32 years, HTN & Dyslipidaemia	First
PA09	60	Widowed	Less than high school	Unemployed	DM, HTN, & Family history	First
PA10	60	Married	No formal education	Unemployed	DM for 8 years; on 3 DM pills	First
PA11	56	Married	High school	Unemployed	HTN	First
PA12	54	Married	High school	Unemployed	Family history	First
PA13	42	Single	University	Employed (teacher)	Family history	First
PA14	54	Married	Less than high school	Unemployed	DM & HTN	First
PA15	47	Married	High school	Unemployed	DM & HTN	First
PA16	54	Married	Adult education school	Unemployed	HTN	First
PA17	62	Married	Adult education school	Unemployed	HTN & Dyslipidaemia	First
PA18	60	Married	Adult education school	Unemployed	HTN, DM & Dyslipidaemia	First
PA19	65	Married	Adult education school	Unemployed	HTN, DM & Dyslipidaemia	Recurrent event
PA20	49	Married	Less than high school	Unemployed	HTN & family history	First

4.3. Utilising Theoretical Lens in Analysis

To gain a deeper understanding of my participants' perspectives and experiences, I abductively utilised theoretical concepts to organise and make sense of the data. As elucidated in the Methodology Chapter, I drew on key components derived from Chrisman's (1977) health-seeking process, combined with a gender lens, during my analysis and interpretation of data. Given that Chrisman's (1977) work is specifically designed to investigate health-seeking experiences from a holistic perspective, while taking into account the sociocultural context as an important premise, it aided me in seeing the broader analytical themes within my data and structuring my study findings.

As briefly outlined in the preceding methodology chapter (**Chapter 3, Table 9**), the study findings have been organised around three main themes: 1) Recognising the Subtle Change in Health and Interpreting symptoms, 2) Responding to Perceived Symptoms, and 3) Arriving at the Final Destination. The rationale for this structure was informed by the abductive use of Chrisman's (1977) health-seeking theoretical model, as described in **Chapter 3**. Chrisman (1977) suggests that after identifying symptoms, individuals tend to make illness-related shifts in their social roles and consult with people within their social sphere to assess and identify potential ways to manage their conditions, who can also provide cues as to when medical interventions could be sought. This indicates that individuals with emerging and intrusive symptoms try to exhaust all possible ways to manage them on their own before attending the hospital to seek professional medical treatment.

The structure of the study themes, subthemes, and sub-themes is presented in **Figure 11** to provide a roadmap for the detailed discussions in the chapters that follow. Each main theme involves several subthemes, with some subthemes also including additional sub-themes, which are structured around contextual information that transpired from the Saudi women's accounts in the individual interviews.

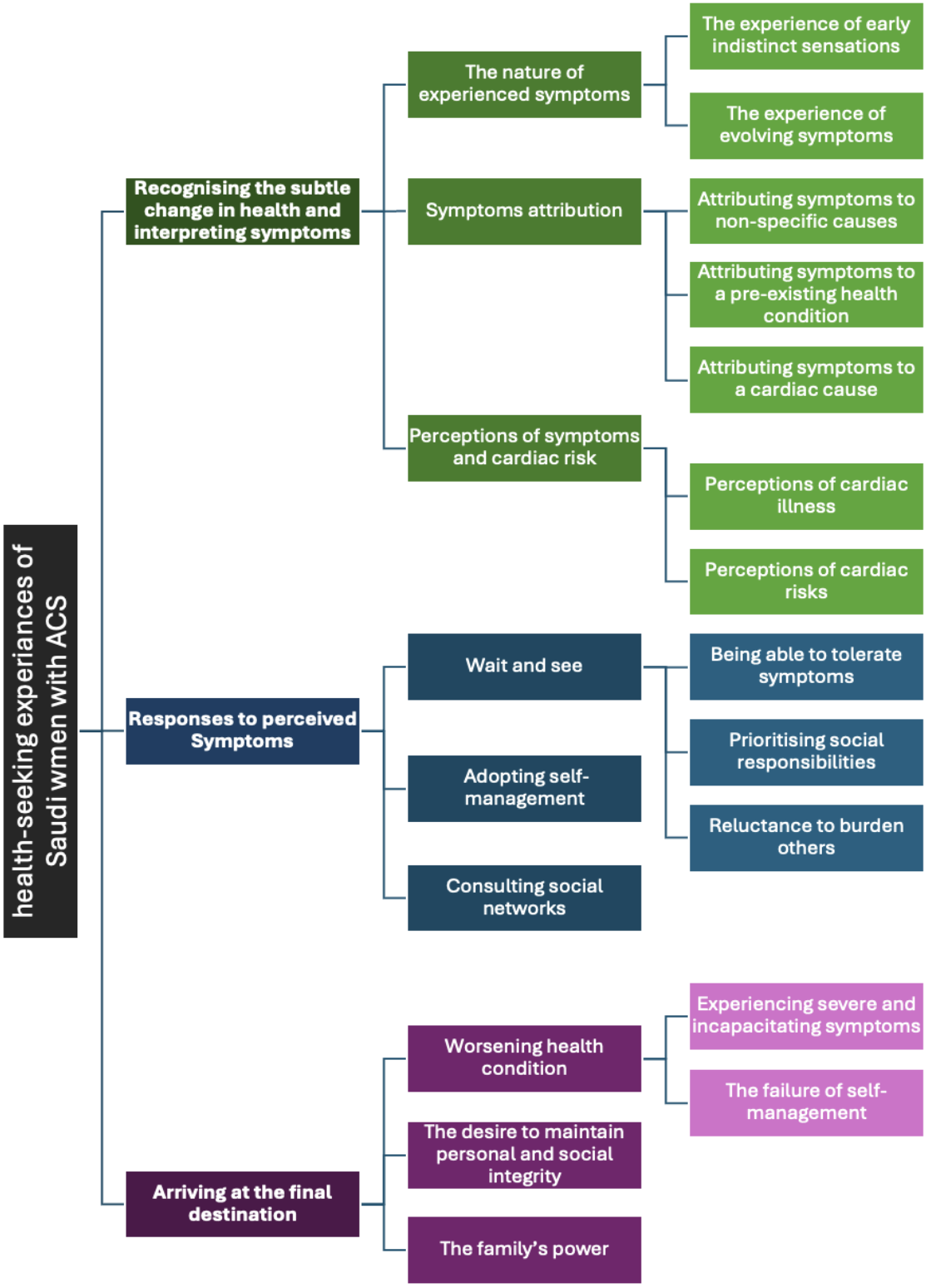


Figure 13 Flow diagram of the study's themes, subthemes, and sub-themes

4.4. A Road Map of The Findings Chapters

To address the study's overall aim and answer the research questions, I directed the examination of the data towards the events that shaped the participants' symptom recognition and interpretation, responses to perceived symptoms, and the ultimate decisions they made to attend the hospital in order to alleviate symptoms, which were all influenced by their broader social context and networks. As I elaborated previously, I initially approached the data inductively to allow meaningful insights to be drawn from the women in the study. As the analysis progressed, I brought my data into a broader context by drawing on relevant theoretical understandings. This abduction drew upon the holistic approach of Chrisman's (1977) health-seeking process, which was particularly useful in offering a deeper theoretical understanding of the women's accounts. However, since the model is gender-neutral, I also adopted a gender lens in analysing my data to complement Chrisman's health-seeking process. This additional perspective addresses the gender-specific dynamics that significantly influence health-seeking behaviours, particularly prominent among my study's population.

Together, this chapter sets the stage for **Chapters 5–7**, which present and synthesise the findings from the semi-structured interviews. The findings demonstrate the experiences of a sample of Saudi women in recognising, interpreting, and perceiving ischaemic symptoms (**Chapter 5**); responding to their acute illness in various ways (**Chapter 6**); and engaging with professional health-seeking (**Chapter 7**), all of which are significantly influenced by their sociocultural context.

Chapter 5

Findings

Theme I - Recognising the Subtle Change in Health and Interpreting Symptoms

Chapter 5: Theme I - Recognising the Subtle Change in Health and Interpreting Symptoms

5.1. Introduction

Symptoms served as the starting and iterative point in navigating health-seeking among study participants. Recognising symptoms played a pivotal role in prompting participants to engage in health-seeking activities. The development of symptoms from mild discomfort to, for example, severe chest pain, was a driving force in identifying potential causes and eventually engaging in health-seeking behaviours. This evolving process encompasses a range of intertwined activities, including recognising the symptom as a deviation from the usual state of health, interpreting its meaning, identifying potential causes, seeking symptom relief through various means, consulting others for advice or support, and ultimately deciding to seek medical attention at the hospital. The implications of these activities will be explored in detail throughout the subsequent findings chapters (**Chapters 6&7**).

In this chapter, I present the participants' descriptions of their symptoms and the challenges they faced due to the complex nature of these symptoms. In addition, I elaborate on the women's understanding and perceptions of symptoms, as well as their knowledge and understanding of cardiac risk factors. Lastly, I discuss how the women attributed their symptoms and the labels they ascribed to them as they navigate their journey of becoming unwell. These areas are explored under Theme I and its corresponding subthemes and sub-themes, as illustrated in **Figure 14** below.

5.2. Subthemes

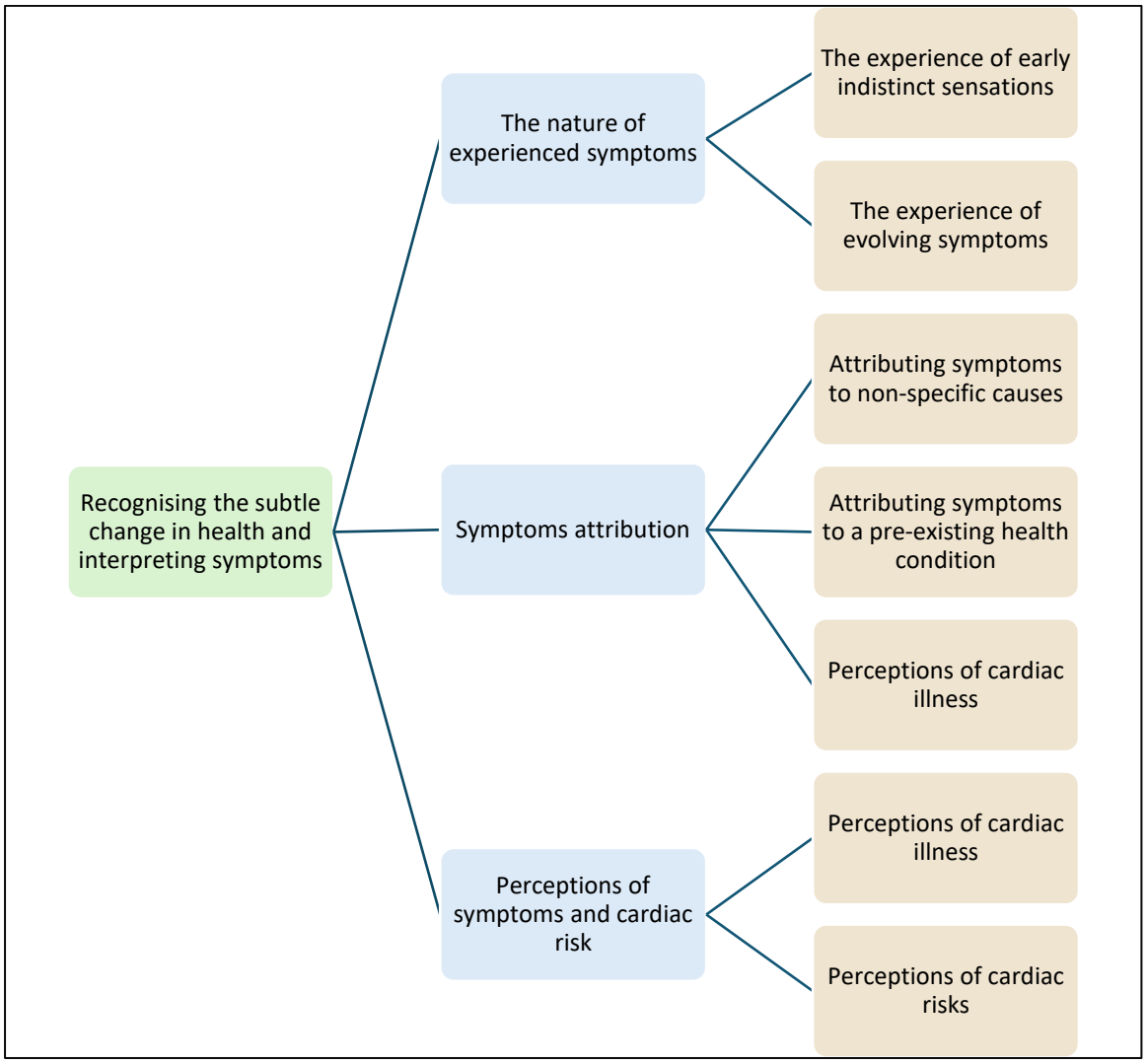


Figure 14 Theme I

5.2.1. The Nature of Experienced Symptoms

It is essential to understand the women's experiences with symptoms. Understanding the symptoms encountered by the study participants is crucial for gaining insights into their responses and health-seeking experiences. The study participants experienced a variety of sensations and symptoms over different time frames and under varying circumstances. The duration of these manifestations varied substantially, ranging from a few hours to longer periods, spanning days, weeks, or even months. For instance, one participant experienced symptoms for a relatively short duration. She recalled encountering palpitation, tachycardia, and a sensation of heavy chest shortly after midnight, which persisted for a few hours before

she was admitted to the hospital for ACS. The participant's account indicates a sense of concern caused by the abrupt nature of these symptoms:

> *"My heart started to ache later that night around 2 o'clock. I couldn't breathe. I was barely breathing. I was pressing on my chest. It was burning, burning, burning, burning.[…]I was restless until the morning"* ***PA04***

Other participants reported experiencing manifestations lasting for days or weeks before their hospitalisation. These manifestations were often difficult to define or attribute to a specific cause, possibly due to a lack of clarity surrounding their nature. For instance, a 58-year-old diabetic woman experienced palpitation, shortness of breath, and fatigue for two weeks. She only consulted her doctor during her scheduled appointment at the diabetes clinic, where the doctor's assessment prompted her referral to the hospital's emergency service for further evaluation.

> *"Actually, it all started two weeks before my [hospital] appointment […] I had an appointment [at the diabetic clinic]. [The doctor] noticed my fast heartbeats. She said: 'No. This is abnormal; you must go down to the emergency'"* ***PA02***

Other participants endured symptoms for even longer periods, spanning several months before they were eventually hospitalised for an acute cardiac event.

> *"I had the symptoms for two to three months, yeah."* ***PA17***

> *"I was very unwell in the last month before I got admitted."* ***PA18***

The quotes presented above indicate the dynamic nature of symptoms and highlight considerable variations in duration. While some of the women experienced relatively brief episodes lasting a few hours, others encountered sensations over extended timeframes. For many women in the study, these manifestations were indistinct and difficult to define or attribute to a specific cause. However, over time, these vague sensations gradually evolved into more defined symptoms that often raised concerns among them. To gain a better understanding of the complexity with which the participants experienced symptoms of ACS, I first disucss the participants' initial vague sensations and then explore their experiences as these sensations progressed into more severe and persistent symptoms.

5.2.1.1. The Experience of Early Indistinct Sensations

Many women in the study initially encountered a range of indistinct, unfamiliar, and intrusive sensations during the weeks or days leading up to their hospitalisation for ACS. These early sensations were not immediately recognised or explicitly defined as symptoms. The women recalled their experiences with these sensations and reflected on how they progressed into more severe symptoms over time. Throughout the interviews, the participants extensively articulated their encounters with different physical sensations. Many of them reported a combination of unusual fatigue, weakness, or malaise, along with nonspecific discomfort in various parts of their bodies. For example, one participant encountered challenges with mobility due to extreme fatigue, while another experienced tiredness, sleepiness, and reluctance to engage in physical activities.

> *"I couldn't walk. I'd get tired if I walked short distances, I'd get tired if I only walked a few steps."* ***PA03***

> *"I was lethargic, sleepy, didn't want to move, I'd get tired if I moved around to do anything, I had muscle aches, I was tired."* ***PA12***

Moreover, another participant expressed a sense of detachment from her usual self in a distressed tone, highlighting the distressing nature of the initial manifestations that eventually led to her hospitalisation for ACS:

> *"I felt like I wasn't myself! [overwhelmed tone]. I had chills as if someone had thrown ice cubes at me. I was shivering."* ***PA14***

Some of the participants described their encounters with more distinct symptoms, but they did not understand what they were or what they meant. For example, some women experienced a combination of different sensations, including numbness in different parts of their bodies such as the back, shoulders, and the upper or lower extremities. Although these manifestations may seem more distinct compared to the sensations presented above, many participants expressed uncertainty regarding their underlying cause:

> *"Everything happened suddenly. Numbness in my entire body, in my hands. I swear I had no idea how and what was happening"* ***PA18***

In addition, many women in the study reported ambiguous chest discomfort, which was often described in a vague sense. They reported the experience of ambiguous sensations of burning,

pins and needles, tightness, or heaviness in the chest area during the early stage of their ACS event.

> *"At first, there was a sort of pain, something like a pinch, that sort of thing, like something was coming out of my chest"* ***PA09***

> *"I was pressing on my chest. It was burning, burning, burning, burning"* ***PA06***

> *"I had a tight chest on some days without knowing why I……. ehm, yeah!"* ***PA17***

At this point, the women did not immediately engage in addressing these manifestations, possibly due to their ambiguous nature, which made it difficult for them to interpret their significance. The presence of these sensations, however, caused discomfort and began to have an adverse impact on the women's overall health and wellbeing. These initial sensations often evolved into more distinct symptoms over time, causing growing concerns among the participants. The nature of these evolving symptoms is elaborated and presented next.

5.2.1.2. The Experience of Evolving Symptoms

As time progressed, many women began to experience abrupt and intense symptoms. Among these, a notable symptom was difficulty breathing, which was exacerbated for some of the women even with minimal physical exertion. For example, one woman encountered breathlessness when carrying out light physical activities, including walking short distances or climbing a few flights of stairs. She described how her shortness of breath became noticeable, drawing attention from individuals within her social networks such as family and friends.

> *"Everybody around me noticed that I was unwell, I mean, it was obvious! […]. I was barely breathing!".* ***PA013***

Additionally, a number of participants reported experiencing rapid heartbeats or palpitations, which were exacerbated by even minimal physical activity or exertion.

> *"I had this palpitation, palpitation, palpitation [repetition] only when I climbed the stairs, climbed the stairs [repetition], or walked a lot."* ***PA05***

Many of the participants described a gradual but undeniable escalation of their manifestations as their illness progressed. Expressions such as *"I wasn't feeling myself. I mean, there was something wrong, something wrong going on!" (**PA04**)* echoed the experiences of many who began to struggle with their symptoms yet found it difficult to pinpoint their origin. As the initially vague and ambiguous sensations intensified, they became increasingly conscious of

their symptoms and realised that something was abnormal with their health. For example, the sudden onset of chest pain, which some participants experienced even while at rest, led them to become concerned about their overall health and wellbeing. The escalating nature of symptoms, which persisted regardless of posture and intensified over time, reinforced the women's perception of being unwell. In the following quote, one participant provided explicit descriptions of the progressive nature of her newly evolved symptoms, highlighting a turning point in her realisation of the abnormality of this change. She stated:

> *"At first, there was a sort of pain, something like a pinch, that sort of thing, like something was coming out of my chest. I lay down, but it got worse. Then I stood up, and it got even worse. Then I sat down, but it was getting worse and worse."* ***PA09***

This recognition of the overwhelming symptoms made the participants articulate the previously indistinct sensations with greater clarity and precision. This was particularly evident when they provided detailed descriptions of their symptoms' characteristics and patterns. For example, many women tended to give more specific descriptions of the characteristics of their pain and described their manifestations as symptoms rather than vague or indistinct sensations, as was initially expressed. This was apparent when the women used a range of adjectives such as pressure, tightness, stabbing, and squeezing to give illustrative accounts of their evolving symptoms:

> *"My chest was torn apart, something was hitting my shoulders."* ***PA09***

> *"[There was] pain and tightness in my chest. Sometimes tingling in my arms, also in my back, yea, I had a sort of tingling and a squeezing pain here in my chest and, ehmmmm, under my shoulders."* ***PA17***

Similarly, another participant provided illustrative accounts to depict how the pain, for example, cut right through her chest, in an attempt to describe its severity.

> *"Chest pains. Yes, in my heart, and from here [points at her chest] to my back. And, of course, I couldn't lift my head up, I was like going to pass out. And my heart was beating, beating, beating fast, I had severe palpitation."* ***PA20***

The participants' recognition of the severity of their symptoms was further evident through explicit descriptions of the location, pattern, and distribution of their evolving symptoms. For example, one participant recounted how she recognised that her evolving chest pain began to

intensify and radiate elsewhere outside the thoracic region. She further provided detailed descriptions of the location, progression, and distribution of the pain experienced.

> *"The pain was like an inverted U shape [draws an imaginary U in the air]. It started from my fingertips like that [points at her left fingers] and went up like that [touches her shoulders] then went down like that [points at her right fingers]. Like attacks. I felt it was moving. Then the jaw pain started toward the end of the night. I had very severe jaw pain. […] The pain here [touches her shoulders and jaw] made me do like that [clinches her jaw]. I couldn't… it was very intense […] Moving like electricity. As I told you, like U [shape]. I constantly had to do like this [presses on her upper arms]. I felt like I wanted to shake this part!"* ***PA01***

Similarly, another participant used expressive body language as she provided detailed descriptions of her newly evolved pain, illustrating its progressive pattern that affected various parts of her body:

> *"Then the pain started in my left hand, it was a sort of numbness here [points to her left hand], then it moved and moved until reached my shoulder around 2 o'clock in the morning [points to her left shoulder]"* ***PA15***

In addition, the subtle changes associated with the symptoms presented above led several women in the study to experience psychological distress, such as anxiety and restlessness. This was evident when some of the interviewed participants spoke in a distressed tone or showed overwhelmed facial expressions while recounting the events that led to their hospitalisation during the interviews.

> *"I felt I had something like heaviness, and I wasn't comfortable. I felt there was something wrong!"* ***PA04***

The distressing nature of symptoms was further evident when some of the participants reported their encounters with sleep deprivation and restlessness as a result of, for example, the ambiguity and/or severity of their symptoms.

> *"I was anxious. I mean, I wouldn't say I slept for two full hours, two hours? No!"* ***PA15***

For a small number of participants, the distressing symptoms induced a profound sense of imminent death. One participant used expressions such as "I was about to die*"* to describe the severity of her symptoms. This was exemplified in the following account:

> *"I felt like I was going to die. I started to say my final words. My youngest children have recently started university. I told him to look after them [talks in a shaky voice and with tearing eyes]"* ***PA14***

The quotes presented thus far indicate that, for many of the participants, the initial symptoms were not immediately severe or prominent. However, as these symptoms continued to evolve, they provoked feelings of uncertainty, fear, and concern among the majority of them. These feelings were particularly apparent when some participants shared their internal dialogues during the interviews as they recounted how their symptoms progressed. For example, one participant provided an illustrative account of these internal negotiations, where emotional distress was highly evident:

> *"Actually, I asked myself what was going on? What was that? I was nervous, like going crazy! I recited prayers to calm down. I felt like a Jinn7 came to me! A jinn! I felt I was going mental. Like I wanted to pull my hair [overwhelmed tone]."* ***PA06***

Likewise, another participant shared with me feelings of growing concern and worry since the onset of her symptoms. She used expressions such as being in a "different world" and "living with people but not living" to illustrate her internal struggle and profound sense of detachment.

> *"You know, I felt like I was in a different world since that night… like I was living with people but not living! Like in movies… ehm.. like when someone walks among people but can't feel the people around him. […]. I intended to go to bed. I wasn't all right, I just couldn't fall asleep, like there was something [wrong] but I couldn't figure out what it was….. Anxiety?"* ***PA15***

The quote above illustrates how the participant herself attempted to make sense of her condition and identify what was happening, which resonates with other women in the study who sought to attribute meanings and rationales to their evolving symptoms. In the following section, I present a subtheme in which I analyse how the participants searched for meanings and rational attributions for their evolving complaints.

5.2.2. Symptoms Attribution

The attribution of symptoms to a specific cause, whether heart-related or not, played a pivotal role in influencing the study participants' decision to attend the hospital. Symptom attribution was a process in which the study participants evaluated and interpreted their symptoms, assigned a potential cause, and provided a possible explanation. Symptom attribution varied according to the nature and severity of symptoms and the level of involvement of others within

the women's social network. Attributing symptoms to a particular cause was often followed by actions that were assessed and appraised for their effectiveness (more details in **Chapter 5**). In the following sections, I analyse how the participants attributed their varied experiences of ACS symptoms to different aetiologies, including non-specific causes, a comorbid condition or another concurrent health event, and lastly heart-related causes.

5.2.2.1. Attributing Symptoms to Non-Specific Causes

Initially, many of the women attributed their intermittent, vague, and gradual symptoms to non-specific aetiologies, which often resulted in a delay in attending the hospital. These non-specific attributions included what were often considered familiar, temporary, transient, and minor conditions, such as exhaustion and fatigue, leading them to believe that the symptoms would naturally resolve over time. For example, one woman attributed her intermittent chest pain, which persisted for more than three months, to potential fatigue from physical exertion and household chores:

> *"I thought it could be tiredness, maybe because I did this, maybe because I worked, maybe because I lifted heavy things, maybe and maybe!"* ***PA19***

Another participant attributed her symptoms of extreme tiredness and chills to what she perceived as a common cold. This attribution seemed to provide her with a sense of reassurance, as she perceived her symptoms as not indicative of a possible serious condition. By attributing her symptoms to a common, non-threatening cause, she seemed to employ a coping means to minimise concerns about her health and maintain everyday life.

> *"I thought it would be cold! I reassured myself and I took a pain killer"* ***PA14***

Some participants recounted feelings as if their illness had occurred suddenly and unexpectedly, which significantly contributed to the difficulty in determining its causes and perceiving symptoms as potentially serious. They attributed their symptoms to seemingly insignificant causes, such as weather conditions or environmental factors. For instance, a 63-year-old woman experienced abrupt shortness of breath during a family trip to a mountain town. She ascribed her symptoms to the low oxygen levels and dry air typical of high-altitude mountainous areas. This attribution led her to perceive her symptoms as a normal reaction to dry weather. Despite experiencing a symptom that could potentially signal a health issue, her attribution of shortness of breath to external factors allowed her to maintain a sense of normalcy and dismiss any concerns about her health.

> *"Everything was normal, just normal, nothing was wrong! We went to Taif2 and I had shortness of breath because of the dryness. […] I had a sort of shortness of breath. I thought it might be dryness or any other normal thing"* ***PA05***

Furthermore, other participants attributed their symptoms to specific socially constructed circumstances that coincided with their ACS event. They attributed their symptoms to situational factors, such as emotional distress or concerns caused by stressful social/familial events. For example, one participant attributed her symptoms to insomnia and anxiety related to a family member's recent hospitalisation for an acute illness.

> *"I also didn't get a good sleep the previous night because I was worried about [my mother]. I woke up many times to check my phone. I had given my number to the doctor. She had an epidural injection, and you know the side effects; they could be a bit scary, so I was worried! I woke up many times to check my phone. So I was sick when I got up on Friday but didn't suspect anything was wrong. I thought it was because I didn't have a good sleep"* ***PA01***

Similarly, another participant experienced palpitation, shortness of breath, and chest pain for four days before her hospitalisation for ACS. She initially attributed her symptoms to emotional distress resulting from a recent conflict with her husband, overlooking the potential seriousness of her manifestations.

> *"I mean, I was unwell but couldn't tell what the problem was! I thought it could be anxiety. Maybe because, eummm, I was psychologically distressed! I thought it was just that!"* ***PA15***

The interview data presented thus far indicate that the participants initially attributed their symptoms to several non-specific causes, which seemed to provide them with a sense of reassurance that their symptoms did not indicate a serious underlying health issue. These attributions were influenced by personal or contextual circumstances unique to each woman in the study. It is also important to note that the majority of participants reported that this was their first cardiac event, making it difficult to recognise the potential seriousness of their manifestations due to a lack of familiarity.

The participants' attribution of their symptoms was also influenced by other factors, including the presence of underlying health conditions. The impact of the participants' chronic health conditions on their symptom interpretation is explored in the next subsection to better

[2] The city of Taif, located in the southwest part of Saudi. It is a very popular holiday destination, especially during the summer months due to the cool breeze and high mountains.

understand how pre-existing health conditions played a role in the overall illness experience and symptom attribution.

5.2.2.2. Attributing Symptoms to a Pre-Existing Health Condition

Pre-existing chronic health condition, which are more prevalent with older age due to the cumulative impact of physiological changes, further contributed to the attribution of symptoms to different aetiologies. Specifically, the participants with chronic health conditions (such as diabetes, hypertension, chronic obstructive pulmonary disease, anaemia, etc.) initially explored the possibility that their symptoms might be associated with their pre-existing health issues. Therefore, they tended to be less likely to attribute their symptoms to an acute health event, including cardiac illness. The existence of comorbid conditions made it easier for most of the participants to perceive their manifestations as exacerbated symptoms of these pre-existing conditions, complicating their ability to make a distinction between cardiac symptoms and those related to their ongoing comorbidity. For example, a participant with diabetes attributed her symptoms of palpitation and shortness of breath to a recent change in her diabetes prescription made by the GP, which she perceived as a logical explanation for her abrupt symptoms:

> *"I never thought it was my heart. I mean, I said it could be diabetes, just diabetes! […] I thought it was the diabetes pills. I mean, I didn't know it was the heart. I told my son: 'Those pills that the doctor prescribed for me are giving me chest pain'"* ***PA10***

Another participant attributed her fatigue and shortness of breath to various minor health conditions irrelevant to heart disease. Among these possible causes, she thought they might be exacerbated signs of anaemia, a long-term health condition she has had for many years.

> *"Honestly, I didn't think there was a problem. I thought it was fatigue, exhaustion, or the thyroid. I've always had anaemia, I mean, chronic [anaemia]. So I thought the problem was simple".* ***PA02***

Similarly, another participant associated her symptoms of chest pain, palpitation, dizziness, and nausea solely with her pre-existing chronic condition, hypertension. She repeatedly stated that her concerns about having high blood pressure precluded her from considering the possibility of heart disease:

> *"I assumed this was because of my blood pressure. I had no idea there was something wrong with my heart! I assumed it was just the blood pressure that was*

causing all this, and all I needed was a good doctor who could lower my blood pressure. This is what was in my mind and what I expected. I never thought there was a problem in my heart. I never thought it was my heart at all, no, no, I never suspected that!" ***PA20***

While some participants associated their symptoms with their chronic illnesses, others linked them to a recent acute health event that coincided with their complaints. For instance, a 54-year-old woman attributed her symptoms of lethargy and palpitations to Coronavirus because she had recently recovered from its symptoms before her recent hospitalisation for ACS.

"Eummm..... I didn't think of anything in particular, not at all! I mean, I heard many people say that this is how you feel after Covid - I thought it could be just that! […] I never thought of anything else except Covid, never!" ***PA12***

Several women in the study had chronic conditions they deemed bothersome but not serious. The presence of a comorbid condition or another concurrent health event, such as Coronavirus, often prompted participants to attribute their symptoms to exacerbated manifestations of these conditions, rather than considering the possibility of a cardiac event. Furthermore, the data suggest that some of those women who had a previous history of a cardiac illness or encountered unbearable manifestations often attributed their symptoms to a cardiac-related cause. In the following subtheme, I present the attribution of symptoms specifically to a cardiac cause.

5.2.2.3. Attributing Symptoms to a Cardiac Cause

When some of the participants realised that their physical sensations were highly unusual or that their inability to perform daily tasks was more than a momentary aberration, they immediately associated their symptoms with a potentially serious problem, specifically a heart attack. The accounts of these women suggest that factors such as a prior experience with heart disease or encountering severe and incapacitating symptoms played a role in influencing thm to attribute their symptoms to the heart.

To illustrate the impact of prior cardiac experience, few participants with a history of heart disease immediately associated their symptoms with a potential cardiac cause. They drew upon their personal experiences as a reference, leading them to prioritise the possibility of a heart condition when encountering their symptoms. For example, a participant who had a myocardial infarction two years ago immediately attributed her symptoms to a cardiac cause. In her account, she explicitly highlighted the influence of her previous experience on this attribution:

> *"I knew it was my heart, my chest, because this was like the first time... my coronary arteries!"* ***PA04***

Similarly, another participant with a history of arrhythmia immediately attributed her symptoms of squeezing chest pain, tingling sensation in the chest, shortness of breath, and tachycardia to a heart condition. More specifically, she suspected that her symptoms were caused by either a recent change in her antiarrhythmic prescriptions or a potential issue with the Implantable Cardioverter Defibrillator (ICD) that had been implanted seven years ago.

> *"I knew it was my heart. I said this is my heart right away. But I thought maybe my medication needed to be changed or something! I've been on the same medication for seven years. So I assumed it was either my medication or the device!".* ***PA07***

Nonetheless, while prior experience with a cardiac event was helpful in recognising symptoms as potentially indicative of a heart illness for some participants, it was not always sufficient to serve as a cue for others, especially if the symptoms differed from the previous cardiac event. A small number of participants (n=2), despite having previously experienced a heart attack, assigned different causes to their symptoms. This was due to the presence of a co-occurring event (such as Coronavirus-related lockdown stress), a pre-existing health condition, or a combination of these events. For example, when recounting the events leading to her recent hospitalisation for a recurrent ACS, a 58-year-old retired schoolteacher explained how her anxiety caused by the lockdown had affected her blood sugar levels and triggered palpitations. She emphasised that stress from Covid-related events, which coincided with her illness, influenced her symptom attribution, thus she did not consider the possibility of another heart attack.

> *"I guess because of Corona and, you know, the scary and terrifying situation we were living in. My sugar literally started to rise, [it was] messed up. It used to be quite stable. It began rising when I first attended my [endocrinology] appointment. […] You know, as a result of the homestay and lack of activity; no going out, no activities at all, and the psychological [stress]! So the sugar was high. All of these were reasons! I never thought it would be the same as the first experience"* ***PA02, history of MI 3 years ago***

Furthermore, the same participant provided an additional account to highlight the distinctions between her two cardiac events. She stated that there were differences in the acuity and presentation of symptoms in her latest experience, leading her to exclude the possibility of another heart attack.

> *"My symptoms were more intense in the first [experience], almost [with] any movement, even a few steps. I immediately would have fast [heart]beats and pain. But the second time was less [intense], but I still had them"* ***PA02***

Similarly, another participant with a history of heart disease excluded the possibility of a heart attack, considering her specific circumstances and pre-existing chronic health condition. Despite having experienced multiple acute cardiac episodes in the preceding five years, she attributed her symptoms to various causes such as hypertension, exhaustion, and coronavirus.

> *"That was the first time I had these intense symptoms. [….] I said it could be my blood pressure, or I could be very exhausted from the effort I make, or it could be Corona!"* ***PA06***

The data analysed above indicate that symptom attribution was a highly individualised and complex process for the participants. The significance attached to symptoms was shaped by one's previous experience with heart disease. This prior frame of reference influenced how participants attributed their symptoms, shaping their interpretation and understanding of these symptoms as potentially cardiac.

Another influential factor in attributing symptoms to a cardiac cause was the experience of severe symptoms. The impact of having severe, incapacitating symptoms on attributing them to a cardiac condition became evident in some accounts. As previously highlighted in **Section 5.2.1**, some women became increasingly aware of their symptoms as they evolved and worsened. This worsening health condition prompted one participant with a previous cardiac condition to recognise the abnormality of her health situation and the possibility of having another cardiac event. She recounted how the worsening of her mild, intermittent shortness of breath, which she had experienced for a long time before her recent acute cardiac event, prompted her to recognise the abnormality of her health situation and the possibility of having another cardiac event.

> *"I mean, it was different from before. I mean, they used to be milder, they would come and go, but last time before I was admitted…[sighs and shakes head to describe the severity of the pain]."* ***PA18***

Some narratives suggest that it was only when the symptoms persisted, worsened, or interfered with everyday life that the women suspected a heart attack. For example, a 42-year-old schoolteacher with chronic bronchitis talked about how she began to consider the possibility of having heart disease. She realised this when what she initially thought was COPD-related

shortness of breath became persistent and unresponsive to treatment, and the pins and needles in her chest intensified:

> *"The pins I had made me suspect there was something wrong with my heart! Well, I was sure it was my heart. I realised it was my heart! […]. I had normal coughs before! [wondering tone] I used to take puffs, I mean just like anybody else with respiratory sensitivity. I mean, I didn't believe it was my lungs anymore"* ***PA13***

In summary, most study participants were less likely to attribute their condition to a cardiac illness, especially when their manifestations were ambiguous, evolved slowly, or appeared to be otherwise explainable. Instead, they often attributed their symptoms to non-specific causes unique to each individual, feeling reasonably certain that their interpretations at the time were logical and reasonable. Other participants attributed their symptoms primarily to pre-existing chronic conditions rather than a heart-related cause despite having at least one well-documented cardiac risk factor. In contrast, a small number of participants who had previously encountered heart disease attributed their symptoms to cardiac conditions. However, despite their history of cardiac illness, some of these participants labelled their symptoms as non-cardiac due to differences in symptom presentation. These variations in symptom attribution indicate the complexity of how individuals perceive and interpret their symptoms. In the next section, I explore the participants' perceptions of cardiac illness and its associated risks to gain deeper insights into how these perceptions shaped symptom attribution and subsequent health-seeking behaviours.

5.2.3. Perceptions of Cardiac Illness and Its Risks

As I explored with the participants their symptoms and how they attributed them, it became evident that many of the women's understanding of their symptoms was influenced by what they imagined a heart attack would be like. I found that health-seeking behaviours were closely linked to individuals' personal beliefs. Analysing the participants' beliefs and perspectives about what they would expect a heart attack to be like revealed some stereotypical ideas about how a heart attack would manifest. Several women characterised a heart attack as a disabling and catastrophic condition, with few visualising that it could manifest very differently in different individuals. As part of this expectation, it became evident that the women's understanding of cardiac illness and its associated risk factors is socially constructed. Therefore, to gain a comprehensive understanding of the participants' health-seeking behaviour, I explored not only how they perceived their symptoms but also their cardiac risks,

if any. In addition, I investigated whether they had perceived their symptoms and existing chronic conditions as potentially related to their heart. This analysis helped to uncover the women's perceptions, societal constructs, and their subsequent health-seeking behaviour in the context of their cardiovascular health.

4.3.1. Perceptions of Cardiac Illness

As highlighted earlier, most participants initially attributed their symptoms to non-cardiac causes. This initial attribution illuminated an incongruity between their personal experience and their expectation of how a cardiac illness would manifest. Many participants made comparisons between their own symptoms and those of other individuals within their social network who had experienced major health events, including a heart attack. However, they often found disparities between their own experience and those shared by others. This resulted in disassociation in experiences and reinforced the perception of their personal symptoms as non-cardiac in nature.

For example, a 52-year-old participant who attributed her symptoms to non-cardiac causes had experienced chest pain radiating to both arms. Her husband's previous experience of a heart attack influenced her perception of what she considered cardiac illness would manifest. The influence of this social comparison was evident in her narratives, as she stated:

> *"My husband previously had a heart attack and underwent [Angio] procedure. […] He never mentioned arm [pain] or anything like that to me. I guess it was more intense or tough! He told me they ripped his clothes and took him into the operation room"* ***PA01***

The participant's account illustrates how her husband's experience influenced her perception of what constitutes typical symptoms of a heart attack. Making a comparison with her husband's experience led her to underestimate the significance of her own symptoms. Likewise, a 49-year-old participant experienced a range of symptoms, including chest pain, tingling, palpitation, dizziness, and nausea, for one week before her hospitalisation for ACS. She recounted how she constantly compared her symptoms to those of some of her relatives with a history of cardiac illness, noting that their symptoms differed from hers. It appeared that the participant's ideas were shaped by the experiences of others, leading her to perceive her symptoms as not indicative of a cardiac illness.

> *"I was making comparisons. I was thinking about my father when I had the tingling and palpitation; however, my father had none of these symptoms! My husband was holding his arm, he had a sort of paralysis, and he couldn't walk or move or breathe! So when I was comparing, I used to say, 'No!' because I only had palpitation and tingling, which I assumed were normal! I assumed that if I had a heart attack, […] I'd have fainted, my arms would have…[sighs]. So, I was constantly comparing in my head [laughs]"* ***PA20***

Furthermore, some participants had preconceived notions about cardiac illness, expecting its symptoms to be dramatic, causing loss of consciousness, or even instant death. The incongruity between the participants' personal experiences and their expectations often resulted in perceiving their symptoms as benign, consequently undermining their significance. For example, one participant expressed in a surprised tone that she was conscious and able to move independently before her hospitalisation, which seemed to contradict her preconceived notion about the incapacitating nature of cardiac symptoms.

> *"I thought if someone has a heart attack, he would collapse, faint, not move! Eventually, I was able to get dressed and leave with my children. My son even asked if he could carry me, and I said: "No, I can go down". Then I went down. But they gave me a wheelchair when I came to the hospital, but I still was able to move! So I had this picture that a heart attack meant someone who couldn't move; a heart attack meant falling over right away!"* ***PA01***

Similarly, a 56-year-old participant experienced intermittent chest pain for three months and attributed it to exhaustion and fluctuating blood pressure before her symptoms intensified on the day before she was admitted. This attribution appeared to stem from her perception that heart disease is typically associated with immediately disabling symptoms. She expressed: "*I had an idea that if you get heart disease, it means that's it!"* to signify her perception that heart illness would only cause instant disability, which mismatched her personal experience. In reflecting on her socially constructed ideas about heart disease, she emphasised the widespread notion that heart disease is a fatal and incurable health event.

> *"When you hear that someone has heart disease, you get shocked, that's the truth! I mean, it's something scary, because the person relies on his heart, just like I told you!"* ***PA11***

The participant's subsequent accounts provided insights into what may have influenced her perspectives on heart disease. It was clear that her views were socially constructed and shaped by the knowledge and experiences she gained from her social networks.

> *"[It's from] the society. From what we see around us! For example, my sister-in-law had a rough experience. She had Angio for the first time, then for the second time, I don't know what happened exactly on the third time, but they opened her chest, and she had surgery. I swear she suffered in the intensive care; I mean it was a very bad experience, we've all witnessed this, we've seen how she suffered!"* ***PA11***

Therefore, social comparisons, influenced by personal accounts within one's social networks, may lead to misjudgements of symptom significance. Additionally, the participants' perceptions of heart disease appeared to be reinforced by other external sources, such as the mainstream media. The dramatic portrayal of a heart attack in the media has created an incongruity or mismatch between the participants' actual experiences and their expectations of how a heart attack would manifest. The incongruity between the experienced symptoms and the depicted picture (i.e., someone clutching his chest and falling over) led some of the women to underestimate the significance of their complaints. This was exemplified in the following interview data:

> *"I mean, I see them on TV shows doing like that [places a fist against her chest] and then falling over. No, I didn't do that! My whole body was in pain, I felt the pain with every breath I was taking. I didn't fall over, I was shouting!"* ***PA14***

> *"I've seen on TV shows that heart disease is fatal. I mean, I watch the Egyptian series – the old series, of course. […] So when the actor has heart disease, he seems like he's going to die. I asked myself, "Oh God, is it possible that I have something like that?"* ***PA16***

Therefore, preconceived notions shaped by media portrayals and societal constructs contributed to an expectation of dramatic symptoms, which influenced the participants' perception of the seriousness of their manifestations. The external influence of social networks and media resulted in a mismatch between participants' symptoms and social depictions of cardiac illness.

4.3.2. Perceptions of Cardiac Risks

Despite that all participants had at least one cardiac risk factor, many seemed to have a perception of low vulnerability to heart disease. This perception of invulnerability notably impacted their recognition of symptoms and subsequently shaped their responses to them. Almost half of the women in the study (n=9) explicitly stated that they did not consider the possibility of having a heart condition or perceive a heart attack threat. The following quote

exemplifies one participant's perception of invulnerability to heart disease, despite having two risk factors, diabetes and hyperlipidaemia, for fifteen years.

> *"I mean, I heard about this stuff, I heard about it, but I never considered that one day..... ehm, well, yes, it's true that ehm... I mean, anyone can get anything, but I never imagined having it or thinking about how it comes!"* ***PA17***

The perception of low vulnerability to cardiac disease was particularly evident among the participants who maintained a healthy lifestyle. In the following quote, adhering to a healthy lifestyle, such as consuming a low-fat diet, seemed to provide some women with a sense of security or immunity against cardiac illness, therefore, they did not consider the implication of their other personal risk factors.

> *"I also maintain a healthy diet. I mean, I stopped using all oils; I don't eat any oils, I only buy organic coconut oil spray to cook with. I eat vegetables. I'm someone who loves to take care of herself. I'm afraid of messing up and [eating] oily or fried food and things like that"* ***PA20, 49, uncontrolled blood pressure for one year***

The data presented thus far indicate that many women in the study did not perceive their risk of developing a heart attack, nor did they associate their personal risk factor or its potential consequences with cardiac illness. They had varying levels of awareness, beliefs, and misconceptions regarding certain cardiac risks because, for example, these risk factors were common in their social networks (e.g., family or friends) and were perceived as harmless conditions. For example, a 55-year-old participant justified why she had not considered a cardiac problem when she experienced intrusive symptoms, including shortness of breath. She seemed to normalise the potential consequences of her cardiac risk factors, hypertension and diabetes, due to the high prevalence of these chronic conditions within her social context. Consequently, she did not perceive them as indicative of a potentially significant health event.

> *"I never thought about it. […], we, the elderly [of the family], […], never had anything, ehm, except diabetes and hypertension, which we all have. They all have diabetes and hypertension"* ***PA03, history of diabetes, hypertension, and hyperlipidaemia***

Another participant, who has been smoking for twenty years, explicitly expressed that she did not consider smoking cigarettes to be a significant cardiac risk factor. She normalised the potential harm of smoking, which seemed to be influenced by societal misconceptions about its impact on health. In her narratives, she made a comparison using the experiences of others

within her wider social environment to imply that she did not believe smoking might have contributed to the development of her worsening health.

> *"I've heard people say: "We've been smoking cigarettes, smoking shisha[3] for sixty years, eighty years and nothing has happened to us". So I didn't even think about it [laughs]."* ***PA05, a smoker for 20 years***

Moreover, some women had a perception that certain risk factors were distinct from heart disease, which reinforced normalising their significance and perceiving them as non-cardiac. In the following quote, a 54-year-old participant with a history of hypertension expressed surprise when she knew that hypertension is one of the well-documented cardiac risk factors. She firmly expressed her views that hypertension and heart disease are distinct conditions. She emphasised a perception of low susceptibility to heart disease despite having a major cardiac risk factor.

> *"No. no, hypertension is not related to the heart. Heart disease is something and hypertension is something else"* ***PA16***

Another participant reflected on the general perception among women that they are relatively invulnerable to cardiac illness, attributing this perception to the commonly held notion that women are at a higher risk of breast cancer. This suggests that social discourses on women's risk for cancer influence their perception of cardiac illness, leading to an assumption that women are less susceptible to ACS:

> *"But women are not very concerned about [heart disease], because women think that they are prone to cancer, cancer [repetition]. Breast [cancer]. It is the most thing that women in our society are concerned about!"* ***PA11***

This was supported by the account of another participant who indicated that women seem to possess more knowledge about breast cancer compared to cardiovascular diseases. This discrepancy highlights a significant gap in cardiovascular awareness and education among women. She highlighted that while extensive efforts are made to raise awareness about breast cancer, similar attention to cardiovascular health is lacking.

> *"Honestly, they should raise more awareness about heart diseases like the way they do with diabetes and breast cancer. We know the International Breast Awareness Month. They explain how to [self] examine, how to [self] examine [the breast] in universities and schools!"* ***PA01***

[3] Waterpipe tobacco smoke

A small number of the women seemed to be aware that certain risk factors are associated with heart disease. However, their understanding of them and/or their potential implications remained unclear. For example, a 52-year-old lecturer was aware that some unhealthy lifestyle habits (such as consuming a fatty diet and smoking) can affect the heart; however, she appeared to be unaware of the potential implications of other common risk factors, such as unstable blood pressure and stress, which she already had.

> *"I thought some things can make you more liable to a heart attack, like eating greasy food, smoking, like that. I didn't have any of that! I don't like eating greasy and fatty foods and these sorts of things. I don't smoke. I thought I didn't have these factors that would..... But I had very high stress and I never thought... I mean, [I knew] stress could raise blood pressure, but I never thought it could cause a heart attack"* ***PA01, unstable blood pressure***

Similarly, a 58-year-old retired schoolteacher was aware that heart disease runs in her family and is an inherited health condition. Nevertheless, she did not consider the potential impact of her familial risk because she simply did not believe there was a connection between uncontrolled diabetes (her other risk factor) and the cardiac event she experienced.

> *"We have it in the family - heart disease. My father and mother had died, May Allah be merciful to them, [of] diabetes, hypertension, and cholesterol. They also had [heart] attacks, and my sister too, May Allah be merciful to her. So this is probably a genetic problem that we have; heart disease! My father, May Allah be merciful to him, was a smoker. So I was primarily connecting heart disease to smoking. I never thought that diabetes and high [blood] sugar could lead to heart problems. I thought they affect other [body] systems, but I never thought they could [cause] heart attacks"* ***PA02, diabetes and hyperlipidaemia***

Likewise, when discussing the perceptions of who might experience an acute cardiac event, a 47-year-old participant, who is overweight and recently diagnosed with diabetes and hypertension, appeared to be unaware of the implications of her personal risk factors. When asked about her opinions on individuals at risk for heart disease, she mentioned those with other risk factors, such as smoking, high blood sugar, and cholesterol.

> *"Ehmmmm one of my brothers is a smoker; a heavy smoker! Ehm those who have high blood sugar. Ahhh those who…. ehm, you could say who have high cholesterol levels and stuff like that. What I am saying is these could be factors! I mean, I've never had any of these, not at all, I mean, that's why I never thought I'd get it. Well, I know Allah planned this for me, but I never imagined I'd get it one day, not even anything else related to the heart, I never thought about it at all!"* ***PA15, 47, recently diagnosed with DM & HTN***

On the other hand, while some participants were aware of certain cardiac risks (though their deleterious implications were not always clear), the majority often identified psychological stress as the primary risk factor for developing an acute cardiac event. Throughout the interviews, many participants recounted life events that they thought had caused them considerable stress and tension. They either explicitly or implicitly linked their stress to their caring roles and the multiple competing responsibilities that entail, which they perceived to influence their overall health, particularly their heart. Many of the participants, regardless of their level of educational background, employment, or marital status, recounted stories that seemed to be consistent with female gender role ideology in preservative cultures, such as in Saudi society. In this sense, they frequently perceived stress associated with their roles as mothers, or for a very small number, with their work responsibilities in addition to their caring role, as an aetiology for their encounter with a heart attack. For example, a 52-year-old full-time university lecturer and a mother of five discussed the impact of her social role on her health. She explicitly linked the competing demands of her familial and professional responsibilities to her recent hospitalisation for ACS. She also added:

> *"My personal opinion is that women are emotional, and may be under too much stress. We often say, 'My heart aches for you'. I believe that emotional persons are more prone to heart illness than logical persons"* ***PA01***

According to the preceding data, stress related to women's caring responsibilities was used to illustrate how women's broader social context influenced their health and wellbeing, specifically their hearts. This was echoed by the narrative of a 60-year-old woman with a history of multiple acute cardiac events. She extensively discussed the impact of caring for her bedridden mother and three young grandchildren who needed ongoing home-schooling assistance during the Coronavirus pandemic.

> *"And you ask me why I got sick? I mean from all the problems. I mean I'm responsible for my mother. And as I already told you. […]. My heart was going back and forth until it said ENOUGH [laughs]. […] As they say, I got patient and patient until I ran out of patience [loud laugh]. […] Yes, yes, that is the reason. The responsibility I talked about deteriorated me and brought me to this condition! [emphasis tone]"* ***PA06***

Furthermore, participants' accounts about susceptibility to cardiac illness were frequently reflected by gender-based views, particularly when discussing stress as a risk factor for heart disease. When discussing who might be more (or less) prone to a heart attack, many participants

invariably referred to men and/or socially constructed masculinity-related behaviours that, in their perspective, expose men to fewer stressors compared to women, thus placing women at a higher risk for developing acute cardiac events. For example, a 65-year-old mother of six identified the familiar/social responsibilities, such as household chores and caring roles, as the primary causes of women's health issues. She further expressed that while men have more opportunities to go outside and distance themselves from the overwhelming domestic responsibilities, women in her social context often do not have the same luxury. Similar to many women in the study, the participant perceives the accumulation of pressure and stress in women's lives as a major contributing factor to the development of a heart attack.

> *"The woman is at risk for heart disease. Uhmmm from the chores and everything else in her life, everything else in her life. The man goes outside, but the woman? no, no! This causes pressure and, eventually, heart problems, so she develops a heart attack. The woman is at risk for all these things; the first cause is pressure, pressure!"* ***PA18***

These accounts were echoed by a 65-year-old mother of six and a housewife, who emphasised that men are generally careless and inattentive, whereas women are more meticulous and pay attention to details. In her narratives, she humorously mentioned how women tend to involve themselves in various tasks, such as household management, which contributes to increasing their stress levels.

> *"Women are at risk for heart disease. My sisters and I all have heart [disease]. The exhaustion, tiredness, nervousness, and children and….. all this have an impact on a woman. Yes, the stress, stress, stress, yea! [...]. Honestly, men are careless, they don't pay attention, they don't pay attention to details. But women? We pay attention to everything, to the housemaid and to and to... [laughs]. We give ourselves a headache, yea!"* ***PA19***

5.3. Conclusion

In this chapter, I provided a comprehensive exploration of the participants' recognition of subtle changes in their health, as well as their interpretation and navigation of symptoms. At first, I highlighted the complexity of symptom recognition among the study population. Recognising a deviation in health prompted the women to search for explanations and assign meanings to their complaints, which often evolved from mild and indistinct sensations into overwhelming and severe cardiac symptoms over time.

In addition, I presented the women's attribution of symptoms and the labels they ascribed to them, which was a complex and multifaceted process. While most of the participants initially attributed their symptoms to non-specific and minor health complaints unique to their individual circumstances, some attributed their symptoms to their pre-existing chronic conditions or an ongoing health event. Conversely, some of those who had a previous encounter with cardiac events tended to attribute their symptoms to a cardiac cause, with an exception in cases where symptoms differed from previous cardiac episodes. Furthermore, many women in the study drew on the experiences of individuals within their social networks who had encountered heart disease when formulating their own expectations of how a cardiac event would manifest. This often led many participants to interpret their symptoms as non-cardiac and attribute them to non-specific, less significant causes.

Lastly, to gain a better understanding of women's symptom interpretation, I explored their perceptions and understanding of cardiac illness and associated cardiac risks. Despite having one or multiple risk factors, most of the women did not perceive themselves as susceptible to cardiac disease, as the deleterious implications of their existing risk factors were not always clear to them. Nonetheless, the majority often identified stress related to their gendered roles as mothers and caregivers as a major risk factor for developing an acute cardiac event, perceiving it as a gender-specific risk factor. This understanding sheds light on the nuances of cardiac symptom recognition, attribution, and perception among this particular population. Therefore, it is imperative to emphasise the sociocultural context and gendered experiences that shape Saudi women's perceptions of cardiac health, which I will elaborate upon and discuss in relation to the wider empirical and theoretical literature in **Chapter 8**.

Chapter 6

Findings

Theme II - Responding to Perceived Symptoms

Chapter 6: Theme II - Responding to Perceived Symptoms

6.1. Introduction

Whether the study participants perceived their symptoms as heart-related or not, their perceptions influenced the way they responded to them. Indeed, the women's responses were often based on their personal assessment of the severity of symptoms or the threat posed by them, as well as the extent to which these symptoms disturbed their daily activities and social lives. When the women perceived mild and non-specific symptoms as non-threatening, many often responded by waiting for them to subside naturally. However, as the symptoms became more persistent, most of the women sought to understand the potential attributes of the symptoms and explored different approaches to manage them. These response patterns were part of the women's health-seeking behaviours before attending the hospital and seeking professional healthcare. Participants' different responses seemed to persist as long as the symptoms remained manageable, and they felt able to suppress their impact on their daily lives. Nevertheless, when the symptoms became incapacitating and beyond the women's control, many of them decided to consult others within their social network, such as family and friends, before seeking advice from healthcare professionals. The social consultations were to seek further assessment of symptoms and support about how to alleviate pain and extreme discomfort.

In this chapter, I analyse the women's responses to their symptoms within the context of their daily lives. As shown above, these responses include **a) waiting for their symptoms to subside**, **b) adopting self-management measures**, and **c) consulting social networks**. I analyse these responses in a coherent order to ensure a logical thread running throughout my analysis. However, it is essential to acknowledge that not all women exhibited each response, and the sequences of responses varied among each woman in the study. The experience of illness is unique and dynamic, as each individual may perceive, attribute, and respond to illness differently. Therefore, the participants' responses to ACS symptoms did not follow a rigid sequential order. The women in the study engaged in a series of iterative actions from the onset of symptoms to seeking professional treatment at the hospital.

6.2. Subthemes

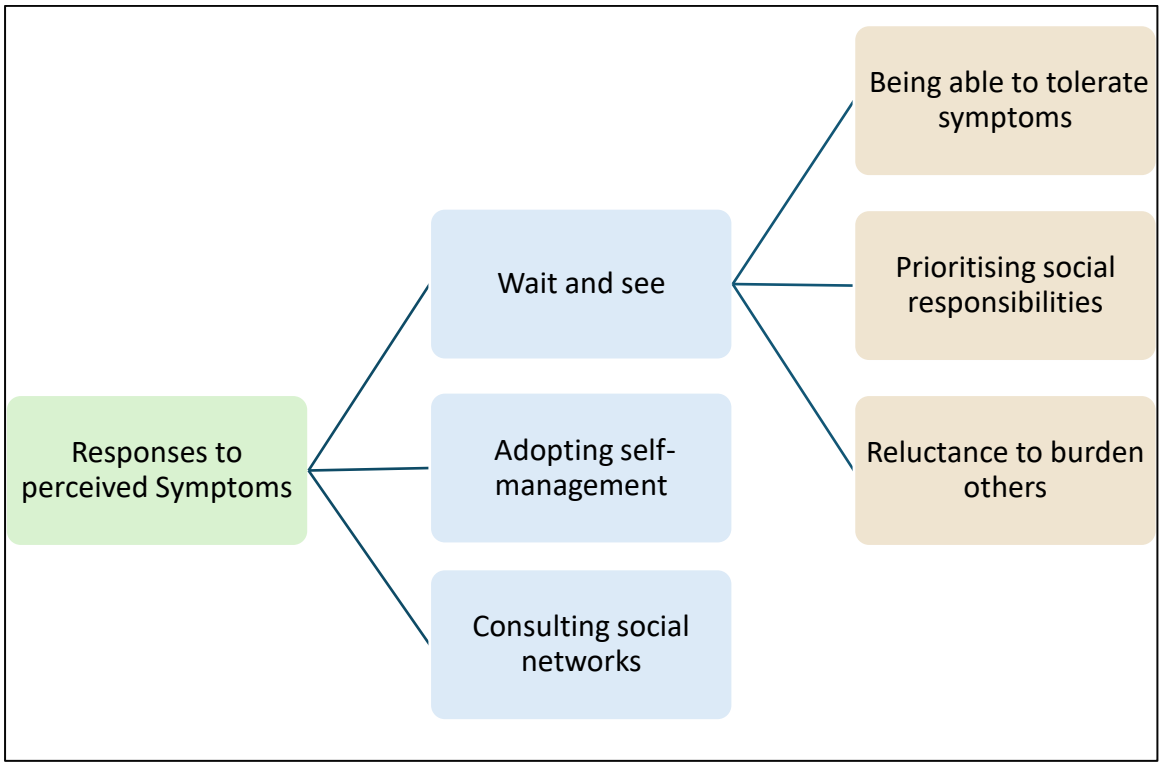


Figure 15 Theme II

6.2.1. Wait and See

Despite experiencing escalating symptoms, many participants initially chose to observe the situation and wait for their symptoms to subside, hoping that they would spontaneously disappear without intervention. Most women initially adopted a wait-and-see approach for different reasons, such as their perceived ability to tolerate the symptoms, especially during the early course of their illness or after trying some actions to relieve the pain. Some women waited for their symptoms to subside because they had social and familial commitments for which they were responsible, while others waited due to their reluctance to be a burden and to trouble others with their health issues. These three main reasons for waiting are elaborated on in the following sections.

6.2.1.1. Being Able to Tolerate Symptoms

Despite experiencing extreme discomfort, many participants initially chose to observe the situation and wait for the symptoms to subside instead of taking decisive actions, such as going

to the hospital. This approach was particularly motivated by several aspects, including women's perceived ability to tolerate the symptoms they experienced during the early stages of their illness, particularly when symptoms were often manageable, and their intensity was perceived as relatively mild. In addition, the perception of symptoms as non-threatening and the initial belief that they were temporary in nature led many participants to tolerate the symptoms and adopt a "wait-and-see" approach.

It was evident that some of the women considered the severity of symptoms, particularly the level of pain when deciding whether to observe the situation or to adopt a more active approach, such as attending the hospital. For example, one participant was uncertain about the seriousness of her condition after experiencing mild and relatively manageable symptoms of chest pain, upper back pain, and generalised fatigue, so she chose to wait for three months in the hope that they would subside. However, the intensification of her symptoms in the month preceding her hospitalisation made the situation unbearable and beyond her control.

> *"I personally wanted to go and not to go at the same time [laughs], I was in between! I mean, because [the symptoms] were mild at first, but during the month before I did the Angio, they became very..... [sigh]!"* ***PA18***

As a result of this escalation, the participant took decisive action to seek medical attention at the hospital. The specific triggers that prompted hospital attendance will be further elaborated upon later in **Chapter 7, Arriving at the Final Destination**.

Similarly, another participant, who had experienced two cardiac events, demonstrated how the severity of symptoms influenced her decision to wait and be more tolerant. She recounted experiencing varying levels of symptom intensity during both encounters with ACS. During her initial episode, she endured severe chest pain and tachycardia, which prompted her to seek medical attention. On the other hand, she experienced a milder level of discomfort in the latest ACS event. This difference in symptom intensity led her to exclude the likelihood of having a recurrent heart attack. Consequently, she chose to wait for the symptoms to subside, as she anticipated that they would resolve on their own – although they ultimately intensified a couple of weeks later. Hence, the severity of symptoms influenced the women's decision of whether to wait or promptly seek healthcare.

> *"My symptoms were more intense in the first [experience], almost [with] any movement, even a few steps. I immediately would have fast [heart]beats and pain. But the second time was less [intense], but I still had them!"****PA02***

Moreover, the perception of symptoms as non-threatening led many women to wait and conceal the symptoms from others within their social networks. As demonstrated in **Chapter 5**, many participants initially attributed their symptoms to non-specific aetiologies or pre-existing chronic health conditions, which they deemed bothersome, but did not perceived as significant. As a result, when the symptoms intensified, most participants took additional time to convince themselves that their symptoms were not critical enough to warrant immediate attention. Consequently, they decided to wait in the hope that the symptoms would resolve on their own. For instance, a 49-year-old participant attributed a range of symptoms, including chest pain, palpitation, dizziness, nausea, and exhaustion to either fluctuating blood pressure or potential coronavirus symptoms. These attributions seemed to provide her with a sense of reassurance, causing her to downplay the significance of her symptoms.

> *"I kept telling myself that things would be much worse if there was something pretty much serious."* ***PA20***

As a result, the participant waited for a week before her condition reached a threshold she could no longer tolerate. This was echoed by the experience of a 47-year-old participant who demonstrated how the initial perception of symptoms as non-threatening could lead to delayed health-seeking. In recounting her experience, the participant expressed that she perceived her condition as a minor issue that would potentially improve with rest. She also speculated that even if her family members had suggested attending the hospital at the onset of her symptoms, she would have refused the idea due to what she had perceived to be a non-threatening condition. As a result, she waited for four days before her extreme discomfort evolved into unbearable symptoms, including burning chest pain radiating to the left arm.

> *"I wouldn't agree even if [my son] told me this! […]. At the time, I thought it was normal, normal, and all I needed was to take it easy, like that, I mean something like that!"* ***PA15***

In the same vein, attributing symptoms to a non-threatening condition led some women to perceive their symptoms as non-permanent and to expect them to spontaneously improve. In the following accounts, two participants articulate their initial beliefs that their symptoms were temporary and likely to resolve naturally. The perception of temporality prompted them to adopt a wait-and-see approach rather than engage in immediate and active actions to attend the hospital.

"I had them from time to time, but I used to tell myself that they would go away" ***PA09, attended the hospital after months of intermittent symptoms***

"I was hoping that I would get better today or get better the next day" ***PA19, attended the hospital after nearly three months of intermittent symptoms***

As previously demonstrated, individuals' health-seeking decisions are closely linked to their personal health beliefs. For Saudis, in particular, Islamic beliefs are tightly integrated with their values and practices in all aspects of life, including how they approach health and illness. A small number of accounts highlighted the role of religion in shaping a more tolerant approach to hardship, particularly in enduring physical discomfort. Within this context, two of the interviewed women explicitly shared their experiences through a religious lens, specifically within the context of Islam. The participants' narratives strongly suggested that their self-interpretation of symptoms as a non-threatening condition was reinforced by Islamic teachings that emphasise maintaining an optimistic mindset. To illustrate, one study participant reflected on her experience with intermittent chest pain over six months. She expressed how she remained positive and tried to pass the time by engaging in distracting activities while waiting for the pain to subside. She further talked about her decision to wait by quoting a small part of the prophet Mohammed's *hadith*[4], (prophetic narration): "Allah said: I am just as my believer thinks I am". This narration indicates that Almighty Allah can do for his believers what they think he can do for them. For Muslims, thinking positively of Allah translates into anticipating His mercy and relief from hardship. Islamic beliefs, therefore, emphasise that maintaining a positive mindset leads to positive outcomes. In line with this mindset, the subsequent quote exemplifies how this optimistic and patient attitude influenced the participant's approach to enduring symptoms.

"I told myself, 'No, I'm fine. […] There's nothing wrong'. So I used to walk, just to walk around, or water my plants on the roof, just to entertain myself until the pain subsided, because Allah said: 'I am to my believer as he thinks of Me'. So, I was optimistic for the blessing, optimistic for the best" ***PA17***

This account illustrates the significance of maintaining patience and optimism during times of hardship, particularly when dealing with illness, which influenced the decision to wait. However, it is essential to clarify that this perspective should not be understood as fatalism, which emphasises that life situations are predestined without the opportunity for control by individuals. This belief is commonly associated with negative attitudes regarding preventive

[4] ***Hadith*** represents narrations reported by the prophet Mohammed.

health practices and disease outcomes (Espinosa de los Monteros and Gallo, 2011). Such belief is contrary to Islam, which encourages individuals to actively seek health and take proactive measures to address their wellbeing.

Another participant with a history of cardiomegaly and anaemia discussed the role of maintaining an optimistic mindset in being tolerant of symptoms. The 54-year-old participant experienced intermittent chest pain, palpitation, dyspnoea, and lethargy for one year before her symptoms worsened in the last five days leading up to her hospitalisation for ACS. In her narrative, the participant explicitly describes the influence of drawing strength from religious beliefs on being tolerant. She highlighted the importance of maintaining patience during times of hardship, and supplemented her sentiment with an Islamic phrase, *Alhamdulillah*. This Arabic phrase translates to "praise and thanks to God". Muslims commonly use this phrase to express gratitude and thankfulness to the Almighty Allah, and also to express their patience for challenging circumstances, such as coping with an illness. Consequently, the participant maintained an optimistic and patient attitude over the course of her mild symptoms, which led her to wait and be tolerant because of their mild and intermittent nature.

> *"I endured the pain and I showed patience until I had the acute attack and I had to come to the hospital. I mean if the issue doesn't require urgent attention…. Then OK, I'd just be patient… Alhamdulillah"* ***PA12***

Overall, many women in the study initially chose to wait and see if their symptoms would resolve on their own without intervention. The analysis demonstrates that this was due to participants' perceived ability to tolerate the symptoms they were experiencing. In addition, the perception of symptoms as non-threatening and the initial belief that they were temporary and would spontaneously resolve led many participants to tolerate the symptoms and adopt a "wait-and-see" approach. It was also evident that the Islamic teachings that promote maintaining patience and an optimistic mindset influenced a small number of participants to wait for their symptoms.

6.2.1.2. Prioritising Social Responsibilities

The social priorities for which the study participants were responsible had a significant impact on their symptom responses and subsequent health-seeking behaviours. In many instances, most women decided to wait for their symptoms to maintain their personal and social roles and to avoid the perceived consequences of failing to fulfil these roles. In the Saudi context, the

family is a collective unit, and all family members are responsible for the welfare and wellbeing of one another. This was evident in the living arrangements of many participants, exemplified by several women in the study residing in proximity to their extended families. For example, one study participant (PA16) lives with her spouse, nine adult children, and six granddaughters in the same family building. Another participant (PA06) lives with her elderly mother and two adult sons. She described herself as the primary carer, mainly responsible for providing care and support to all her family members. Another participant (PA01) lives with her husband and three adult children near her parents. Despite working full-time as a university lecturer, she was responsible for her parents' welfare. She introduced herself as the following:

> *"I'm 52 years old. I'm the eldest sister. Perhaps this had the greatest role in the situation because all the responsibility is on me. My mother and father are sick, so I'm the one with the greatest caring responsibilities"* ***PA01***

Later in the interview, the participant elaborated on her extensive role in ensuring the wellbeing and success of other extended family members in many aspects of their lives, including arranging social events and overseeing their educational needs.

> *"I eventually found myself devoted to fulfilling all requests. If somebody [in the family] wants to get married, I would go and look for a house, furniture, a salon, a dress, etc. If it was school, I would take care. If it didn't work, I would search for a private teacher and so on. I mean all the responsibility was on me and I was handling it without complaining or saying no!"* ***PA01***

Strong cultural emphasis is placed on Saudi women to oversee domestic chores and prioritise family responsibilities, particularly after marriage. Although these traditional social and cultural values have started to change in recent years, they continue to persist, particularly among the older generations. It appears that the emphasis on women to meet multiple familial responsibilities often takes precedence over attending to their emerging symptoms. The women in the study often prioritised their daily activities or those of their family members over seeking healthcare for symptoms suggestive of a serious health event. The impact of familial obligations was clearly illustrated by the narrative of a 63-year-old single mother who placed her family's needs over her deteriorating health. Despite enduring escalating pain for four months, she chose to dismiss her symptoms rather than engage in health-seeking because she felt she could not leave her competing familial commitments.

> *"I was pushing myself. I still went out even though I was in pain. I have no problems with that because I prioritise [my children] over myself. I mean, I*

pretended that I was fine, even when I thought I was going to die, I pretended to be fine so that I could take care of them" ***PA08***

The preceding quote demonstrates the profound influence of the participants' roles as mothers or caregivers on their decision to seek immediate healthcare or to wait a little longer. This aspect of prioritising others was further elaborated upon extensively by a mother of seven who discussed how she suppressed her extreme discomfort and concealed her symptoms from her family members. In fact, despite her daughter's suggestion to go to the hospital, the participant insisted that she would go later because her three daughters and grandchildren were staying at her home during the weekend. In essence, her accounts highlight how her role as a mother was not merely a part of her identity, but integral to her health-seeking behaviour. She consistently placed her family first despite her own health issues.

"I actually told my eldest [daughter]; I told her that I was very sick today. She said: 'Let's go to the hospital'. I said: 'No, no, you all will go home tomorrow, and then I'll go to the hospital.'" ***PA11***

Furthermore, the participant emphasised the priority of her family in other aspects of life. She talked extensively about her dedication to meeting her daughters' needs, especially during stressful and crucial times such as exams. This commitment led her to put her own health and wellbeing on hold and wait for the symptoms to subside.

"The priority was for them, even if I wasn't feeling well [deep breath] I mean mothers are like that. They always prioritise their home, their children. Even if I wasn't feeling good, I swear there were times that I pushed myself and tried my best to pretend that I was fine, only not to bother them, not to make them feel sad […] I think I came late. Eummm I delay everything in life, because of my daughters, their exams! I'd just wait, I'd say, let them finish first, let them do this, let them do that. I mean, I delay things because they are my priority, I prioritise them over anything else" ***PA11***

Another significant aspect highlighted in the preceding quotes revolves around pretending or the act of concealing the feeling of escalating discomfort. The participants expressed that even though they were not feeling well, they pushed themselves to pretend that they were fine in order not to sadden their loved ones. This was demonstrated by another mother who concealed her extreme discomfort from her daughters in order not to ruin their weekend evening. She pretended to be fine despite enduring escalating symptoms. Thus, she waited for her chest pain, palpitation, and shortness of breath for four days until the situation became unbearable.

> *"I guess [my daughters] must have sensed there was something wrong. They asked: "Is there something wrong, Mom?", but I didn't reply. Ehmmm when I was walking with them, and at one point, I felt like I was about to fall over and faint, I mean, I felt this way, OK? Anyway, I pretended I was fine so I wouldn't ruin my daughters' evening"* ***PA15***

The interview data revealed the profound influence of the participants' multiple social roles on their decision to seek prompt medical attention or to wait for their symptoms to subside. This was in line with the narrative of a 49-year-old mother of five who talked about the sense of responsibility that women often carry as part of their social/familial roles. The participant extensively discussed the pivotal role that a woman plays in sustaining the family. She further expressed that she was the person "in charge" of the house, bearing an enormous amount of responsibility on her shoulders. Consequently, she was deeply concerned about the prospect of leaving behind two young daughters and an ill husband, perceiving that attending to her health issues would make things unmanageable and chaotic at home.

> *"You know, the woman is responsible for her home; she's responsible for everything. You get a sense that the house keeps going because of her; she's pushing the house forward. So I was thinking about the house, thinking about my youngest daughter, and my husband, who's sick and needs care; he used to rely on me to give him his diabetes injections. [Sigh] So I feel like I'm responsible for the whole world. The world would fall apart if I was hospitalised or got sick or didn't put myself together, because I'm in charge"* ***PA20***

When the above participant decided to wait for her symptoms while also considering the possibility of attending the hospital, she found it difficult to fit the image of herself being hospitalised and separated from her loved ones. In her subsequent accounts, she stated that her attachment to her family and strong sense of responsibility to them made her reluctant to attend the hospital at the symptom onset. She also expressed that her intention to go to the hospital was further hindered by her concerns about what it would be like to be hospitalised and away from the family. She had fears of potential isolation, particularly during the COVID-19 pandemic. Therefore, as long as her symptoms remained manageable, she chose to wait and hope that the symptoms would disappear.

> *"People hate going to the hospital because it makes them feel isolated, especially since no one can visit you because of Covid; no one in your family can see you. I can't stop thinking that I might go there and then be unable to leave! You should think a thousand times before going to the hospital! […] because I won't be able to see my children if something bad happens to me inside that prevents me from*

seeing them. This has always scared me. I was scared that if I went there or was admitted or something, I'd be cut off from the outside world and my children" ***PA20***

This analysis illuminates that Saudi women's caring roles have a significant impact on many aspects of their lives, including their health-seeking behaviours. They tend to prioritise their social responsibilities over their health and wellbeing. The strong sense of commitment they have toward their family often led them to delay addressing their emerging symptoms and postpone seeking healthcare for their deteriorating health condition.

6.2.1.3. Reluctance to Burden Others

In discussing the reasons for deciding to wait, some of the participants expressed their reluctance to trouble or burden others, a perception that threatened their sense of self as individuals responsible for maintaining the harmony and integrity of the family unit. They deliberately chose to "wait and see" before deciding to approach anyone to talk about their worsening health, hoping to avoid causing any potential inconvenience or emotional worry to their family members. In the majority of instances, these family members were their husbands and, more specifically, their adult children. Some participants seemed to prioritise the wellbeing and comfort of their families, sometimes even at the expense of their own immediate needs. This concern for their families appeared as a recurring theme across the dataset. For example, one participant initially chose not to tell her adult children, particularly those who live out of town, including her daughter who had recently undergone major surgery. She made this decision to avoid any potential disruption and inconvenience that might arise from their travel to Jeddah.

"I didn't tell those in Riyadh. Why? Because I didn't want my children to come, especially my son who lives there. His wife is in the South. He took her to her family because she was pregnant. […]. What would he do if he knew? He'd come right away! My other daughter recently had tumour surgery. I thought she'd come if she knew, so I decided not to tell them. In the end, they all found out and were upset because I didn't let them know. May God bless them" ***PA17***

The data indicates that some women were concerned about disclosing their condition to their families, as they wanted to avoid causing a potential inconvenience. They appeared to be particularly mindful of competing priorities in their families' lives, so they wanted to protect them from what they perceived to be a burden. For example, a 54-year-old woman intended to conceal her chest pain and dyspnea from her family. The participant, who was already receiving

support from her adult children for another health issue (i.e., prolapsed disc), expressed that she would seek assistance only if the pain became unbearable to avoid causing what she perceived to be an additional burden.

> *"They have enough responsibilities […]. So I told them that I was fine and I had nothing to worry about. I wouldn't tell them that I'm unwell unless I have pain, I mean, a pain that I wouldn't bear – only then would I tell them that I'm not feeling well […]. Whenever I had anything, ehm, like, like severe pain in my chest or elsewhere, they would ask me when they see my face look different: 'What's wrong, Mom?', and I say, "I've got nothing. It's a bit of a cold, that's why my face looks red". […] I don't want to make them tired!"* ***PA16***

Similarly, another participant was reluctant to cause any inconvenience to her family, which influenced her decision to wait and see if her symptoms would improve. She repeatedly mentioned how she refrained from sharing her chest pain with her children and husband, as she believed that waiting for a little longer would possibly resolve the situation without going to the hospital and involving others.

> *"I didn't want to worry them or be a burden on them and make them come and go. I said, maybe today, tomorrow, today, tomorrow…… [shakes head], [but] the pain was the same, it didn't change. […] I remained silent. I thought it was better not to talk, to stay at home and not say anything either to my husband or my daughters or my sons"* ***PA18***

As the participant's symptoms started to escalate, her husband recognised her deteriorating health and insisted on taking her to the hospital. Despite her husband's growing concern and repeated insistence, the participant kept resisting as she did not want to burden anyone with her health issues.

> *"Eumm when [my husband] noticed that I was getting unwell, he [insisted on me] to go, to go, to go [to the hospital]. But I used to say no, so I and they wouldn't get tired, I didn't want them to be concerned about me"* ***PA18***

The preceding quote highlights that some women were also hesitant to share their symptoms with their families to avoid not only the inconvenience but also the potential emotional impact it might have on them. For some participants, this was a perception of their roles as mothers. They did not want to cause what they perceived to be unnecessary concern or worry to others.

> *"You know, the mother doesn't like to make her children concerned"* ***PA16***

This was echoed by another woman who initially avoided sharing her escalating symptoms because she did not want to cause emotional worry or concern to her family, particularly due to what she described as her parenting style. In her account, she emphasised the importance of maintaining a stable and reassuring environment around her children at home.

> *"Well honestly, I don't like worrying my family or telling them that I'm sick or feeling unwell or eummmm…. I tried to be strong around them… Uh look, my husband and I are like each other… eumm… in many ways. We try not to make our children at home feel that something is wrong, or that we are sick. Even if there was, for example, a disagreement between us, it wouldn't be in front of them… we wouldn't let them see it, we always make them feel that everything is okay"* ***PA12***

As a result, some women decided to conceal their symptoms and endure the pain for a little longer. For example, one participant did not want to concern her husband about her worsening health. She was mindful of his existing health condition and anxiety, and thus, sought to prevent any additional stress that might exacerbate his condition. Her concern for her husband's physical and emotional wellbeing influenced her decision to wait until her symptoms escalated further.

> *"My husband began to yell, [asking] why I hadn't said anything and why I hadn't talked, and why and why [dramatic tone]. I mean, my husband is very nervous and he's sick; he also has heart disease, and he gets agitated quickly; he becomes agitated if someone says I'm sick or…. [he would yell], "Why you didn't do this", "why you didn't say and why and why and why"* ***PA19***

While the majority of participants cited social or familial reasons for not sharing their symptoms and choosing to wait, one of the two participants who were in full-time employment referred specifically to obligations to work colleagues. The participant had a strong sense of responsibility for continuing work-related duties despite her illness, and thus avoided burdening others at work with her tasks. Working as a primary school teacher, she chose to wait a little longer so she could manage her own work at school. She described the exam period as "a state of emergency", so she did not want to burden her colleagues with marking her students' exams. Consequently, she delayed attending to her symptoms and seeking medical attention despite her family's repeated advice.

> *"I pushed myself. It was the exams period and I had to supervise my work, so I kept pushing myself. My family advised me to go to the hospital many times, but I told them that I'd wait for the exams to finish, I just told them that I have to finish my work first, just to finish my work"* ***PA13***

The narratives presented above illustrate the participants' reluctance to bother or burden their families within their domestic sphere or beyond. The women's strong desire not to cause additional stress and worry to other individuals influenced how they responded to their symptoms, often leading them to "wait and see" and conceal their symptoms for as long as they were tolerable. However, as the symptoms persisted and intensified, many participants considered exploring more active response patterns to alleviate the pain and extreme discomfort caused by their illness. In the following section, I discuss the self-management measures as part of the health-seeking behaviours adopted by many of the participants prior to their hospitalisation for ACS.

6.2.2. Adopting Self-management

As previously elaborated on in **Chapter 5**, many participants attributed their symptoms to relatively minor health conditions. This was due to a variety of reasons, including the women's perceptions of being at low risk for heart disease or a mismatch between their actual experiences and their expectations of how a heart attack would manifest. The women's misunderstanding of heart disease or their level of risk often led many of them to downplay their symptoms, therefore, they spent considerable time trying to stabilise and control their health concerns on their own.

As the evolving symptoms began to impede the women's daily lives, they implemented different self-management measures for what they often perceived to be a relatively insignificant health issue. In other words, when women were unable to continue their daily activities but still perceived their symptoms as non-threatening, they often chose to self-manage, such as taking over-the-counter (OTC) medicines or non-prescription painkillers. For example, one participant talked about her initial response to the onset of symptoms. She tried to self-manage by resting and taking an OTC painkiller to alleviate her symptoms because she perceived the situation to be a minor issue, possibly exhaustion.

> *"I didn't go to the hospital when I first started feeling unwell! I mean, I thought it was a simple matter, maybe exhaustion, exertion! And I hoped that if I'd get better if I got rest and take Panadol, that I'd get better"* ***PA11***

Other self-management measures were notably influenced by the women's sociocultural background, such as traditional herbal medicine. Some of the women used these remedies because of their familiarity with them and their availability in their household. They also

believed in their efficacy because they had frequently seen their positive outcomes in various situations.

> *"I'm one of those people who likes doing homemade remedies, I mean, our traditional remedies. I make them and drink them to feel better."* ***PA08***

The participants frequently explored a wide range of easily accessible remedies or pain-relieving practices that they found to be useful in alleviating their symptoms. For example, one participant combined a non-prescription painkiller with a topical muscle relaxant and a warm drink, while another tried taking rest and carrying out spiritual practices, such as reading Quranic verses.

> *"I used to take Panadol. I applied ointments to calm down and relax my muscles, I also took pills to relax my muscles. I had warm drinks. And then [my symptoms] seemed to subside"* ***PA03***

> *"I didn't do anything but walk, that's it, walk and rest, read the Quran too!"* ***PA05***

The evidence presented above suggests that a variety of readily available self-management measures, such as OTC medicine, were initially used due to the perceived insignificance of the symptoms. However, as the situation worsened, many women, particularly those with a history of acute cardiac events, considered managing their symptoms by using prescription medicines. For example, one woman with a history of angina took sublingual Nitroglycerine, which was an effective treatment for her previous chest pain episodes. Nevertheless, despite her previous experience with a heart attack, she presented at the hospital three months after the onset of symptoms. This highlights that women's often prolonged efforts at self-management were reinforced by their previous personal experiences with cardiac symptoms.

> *"I mean I was taking Plavix[5], I was taking Aspirin[6], I was taking, eummm,… I mean, I was fine. Then after a while, I had shortness of breath. I became unwell and I started to take under-the-tongue pills"* ***PA19***

It is also noteworthy that most women attempted to maintain a sense of control by using self-management measures to help to continue with their lives while reducing the likelihood of worrying others or creating a fuss, particularly when symptoms arose during what they perceived to be an inconvenient time. For example, one participant tried to self-manage her

[5] An anti-coagulant medication
[6] An anti-inflammatory medication

escalating chest pain independently by using painkillers during the night because she did not want to disturb her husband after a long and exhausting round trip by car.

> *"I didn't tell anyone at night. I thought it would be cold! I reassured myself and took painkillers. I mean, I only told them in the morning. My husband was tired, we went [to Al-Madinah[7]] and returned on the same day. I didn't wake him up. I suffered alone"* ***PA14***

This indicates that other individuals (i.e., family, friends, etc.) were not initially consulted about self-management attempts, especially when the symptoms were still tolerable. For example, the same participant with a previous history of heart attack discussed above took some actions to minimise the likely burden to her family by adopting different measures, such as taking sublingual Nitroglycerin and rest to alleviate her intermittent chest pain.

> *"Eumm I was taking the under-the-tongue tablet, I was taking that, that's it. And I was taking a rest. All of the pain seemed to go away whenever I took a rest"* ***PA19***

Later in the interview, the participant expressed that she intended to refrain from involving her family in managing her symptoms to avoid causing any unnecessary fuss. As a result, she spent almost three months trying to self-manage her symptoms, hoping they would pass without drawing her family's excessive attention to her deteriorating health.

> *"I swear I was silent for a long time, I was silent for a long time. I didn't show it to anyone until much later. When I became too ill. […] And one would come and say, "You didn't tell me!", and the other one would come and say, 'You didn't inform me!". [Sigh] Everyone, everyone... so I prefer to keep silent - huh [smiles]"* ***PA19***

In the same vein, self-management attempts were influenced and reinforced by lay individuals who suggested potential causes for the symptoms based on their own experiences and recommended remedies to try. For example, one woman's self-management attempts were influenced by her family members who presented at the time of her symptom onset. Her family attributed her symptoms to exhaustion and advised her to rest. They further tried to provide different pain-relieving measures, such as back massage, painkillers, and a range of traditional herbal remedies to relieve her discomfort.

> *"[My family] said: "Don't work. This is exhaustion from housework" because I do housework. So I lay on my bed, and they brought food to me, they massaged my*

7 Medina is a city in western Saudi Arabia. The distance between Jeddah to Madinah is 408 Km (253 miles).

back, they gave me [painkillers], and went to get herbs from the spice shop [and said] that works for this and that! We deal with these things in my family, the herbs. You can find every herb in us [laughs]. So they say this is good for this and this is good for that, and I drink [laughs]" ***PA16***

The preceding quote highlighted the impact of others, particularly family members, on the adoption of different treatment measures at home. In the following sections, I will elaborate on consulting family members and the outcomes of these consultations, particularly in making decisions to obtain treatment.

Together, most participants engaged in self-management attempts to control and suppress their evolving symptoms. They self-managed by using a wide range of readily available measures and remedies, such as over-the-counter painkillers, traditional herbal remedies, distracting activities, and other measures. However, the ineffectiveness of self-management led the women to perceive their physical symptoms as potentially threatening; some did so early in the course of the symptoms, while others did this much later. As a result, the women acknowledged that their physical manifestations or inability to perform routine tasks were more than a momentary aberration caused by a minor or insignificant health issue, and thus they decided to seek further advice and support from others.

6.2.3. Consulting Social Networks

Symptoms were more likely to be disclosed to and discussed with the family if they were noticeable or impacted social activities. They were often raised to justify or explain altered everyday behaviours or activities. As the women's health condition continued to deteriorate, many of them decided to seek advice, support, and affirmation from trusted individuals within their social networks. They often turned to laypeople, predominately family members, later in the symptom course, particularly when the symptoms were exacerbated, or the self-administered treatment measures appeared insufficient or failed to provide symptom relief.

Many women in the study emphasised that their worsening symptoms had a profound impact on their decision to consult their family members. The escalating severity of their symptoms emphasised the urgency of interacting with others and seeking support in understanding and addressing their worsening condition. For example, a 58-year-old retired teacher, who initially adopted a "wait and see" approach following her symptom onset, explained why she decided to inform her son one week after her fatigue and shortness of breath worsened.

> *"[I told him] because I felt I was getting worse and worse since [my symptoms] started the first week"* ***PA02***

Similarly, a 54-year-old woman, who initially concealed her symptoms from her family, informed her husband after four days of enduring vague and distressing sensations of palpitation, restlessness, and chest pain. Her accounts indicate that she only told him once her symptoms became particularly distressing.

> *"[I told him] because of the way I was breathing…the way my heart was beating. There was a problem! There was something but I couldn't figure out what was going on with me!"* ***PA15***

Many participants appear to have preferred consulting their social networks before seeking advice from a healthcare professional, possibly because they were more approachable at the time when the symptoms were aggravated. This was often the case because they lived in close proximity, as mentioned earlier. For example, a 61-year-old widowed woman, who lives in a flat within a family building where each family member has their own separate flat, had planned to call her grandson if her symptoms worsened at any point during the night.

> *"I was scared when I realised I was getting unwell. Then I left the flat key outside under my doormat and I left the door unlocked. I figured if I got very sick, I would call them and they would come and open the door."* ***PA07***

Consulting family members before a healthcare professional can also be attributed, in part, to sociocultural influences. Women often consulted those who shared similar health beliefs, could offer reassurance and emotional support, and had the potential to influence their health-related decisions for symptoms that typically occur outside of the domain of the formal healthcare system. For example, a 69-year-old widow with a history of a heart attack immediately informed her son when she experienced abrupt symptoms of palpitation, tachycardia, heavy chest pain, and restlessness. Despite her initial hesitation to seek healthcare at the hospital, she was willing to comply with his suggestion to attend the hospital, which indicates the impact of social influences on women's health-related behaviours and decisions. She expressed:

> *"I just told my son. For me, it's better that someone initiates a request for assistance"* ***PA04***

However, most of the narratives provided thus far revealed the women's hesitancy to disclose their deteriorating condition until it became an absolute necessity. For example, one participant expressed her initial reluctance to concern her loved ones about her symptoms. She concealed

her symptoms of tingling chest pain, palpitation, and exhaustion until these symptoms became unbearable, at which point she decided to inform her daughter to seek symptom relief.

> *"And when I finally became very ill, I just told [my daughter] […] I didn't show it to anyone until much later. When I became too ill, I made it clear to her. Then she told her father and siblings, and everyone else. […] I didn't tell [anyone] until I was already done. I only told them the day I was very sick, very sick."* ***PA19***

Similarly, another participant talked about her experience with mild and intermittent chest pain that was initially manageable. However, three months later, the pain became more persistent and overwhelming, which made her feel ill and unable to cope. The escalating intensity of symptoms prompted the participant to inform her eldest daughter who was visiting for the weekend. In the following account, the participant demonstrated why she needed to express her concerns to someone:

> *"Because I felt I was getting very sick on that day. […] The pain didn't go away like the previous times. I used to feel pin-like pains that would come and go, but this time I REALLY felt I couldn't.. I was very sick, I couldn't handle it, the pain did not want to go away like before. I was in pain, like if something was going wrong here [touches her chest]"* ***PA11***

As well as offering advice and providing support, lay consultation can provide an avenue for social comparison and information exchange. Some women used their interactions with their families as a sounding board for them to evaluate their thoughts about their own symptoms, especially when they were uncertain about their meaning. In other words, they consulted their families to confirm or validate their initial interpretation of symptoms by comparing and contrasting their own symptoms with those of their friends or family members.

A few participants mentioned knowing someone within their family or acquaintances who had experienced a cardiac condition. They looked at these individuals within their social circle as frames of reference in an attempt to understand their own health condition. In some instances, the encounters shared by others caused some women to become alarmed, as these narratives directly or indirectly influenced the women's responses to their symptoms. For example, when a 60-year-old woman with a history of ACS suspected she was having another heart attack, she phoned a family member, who also has a history of cardiac illness and had undergone open-heart surgery, to discuss her deteriorating health. It seems that the participant did not want to jump to conclusions; rather, she wanted to validate her initial thoughts about the symptoms. Her sister recognised her symptoms as cardiac, which confirmed her initial thoughts.

"I also called my elder sister before I was hospitalised. I called my sister by phone. She lives far from me. I called her and said I have this and I have this. She said she also had this and had this, just like me! She's sick. She has heart disease, [she had] open heart surgery. So when the symptoms intensified, I thought I might be like my sister! She said my symptoms were similar to hers." ***PA18***

However, symptoms were not always perceived as critical when family members were consulted. A small number of participants expressed that their family members did not initially interpret their manifestation as indicative of a potentially serious condition that may warrant immediate attention. For example, one woman experienced progressive chest pain that struck abruptly during the night. She endured the pain overnight until the next morning, then she decided to inform her husband about what she described as unbearable. However, when she mentioned that the pain was on the right side of her chest, it seemed to reassure her husband, who perceived her symptoms as 'atypical' for a cardiac event and attributed the pain to a nonspecific cause.

"I woke up my husband in the morning and told him that I was sick. He asked: "What's wrong?". I said: "I don't know, I have pain in my right side". He was relieved! […] I felt like I was getting stabbings here [points to the centre of her chest]. He asked me whether it was my right side. I said: "Yes". When I told him it was my right side, he seemed to be relieved, he was relieved [sighs in relief]. I guess this means that it's away from the heart! He said: "It's probably nothing, just keep yourself warm" ***PA14***

Likewise, a 49-year-old woman recounted her family's initial response to her symptoms. The participant, who had a history of hypertension, experienced uncontrolled blood pressure for one week before visiting a primary healthcare centre for a general examination, during which her initial assessment and vital signs appeared normal. Subsequently, she was scheduled for another appointment to review her blood tests and undergo further assessments. However, in the week leading up to her next appointment, her condition worsened, and she began to experience intermittent chest pain and palpitation, in addition to her fluctuating blood pressure. When she told her adult children about her manifestations, they suggested taking her to the hospital. However, her intermittent symptoms seemed to subside at times, leading her daughters to conclude that her condition was more psychological in nature.

"[They assumed] I had a psychological problem because I was terrified whenever my blood pressure went up. Whenever I told them I wasn't feeling well and my blood pressure was high, they got me in the car to drive me to the hospital, and then all [my symptoms] would go away. So, the girls eventually thought [I had a

psychological problem]. Uhm, you know, [my daughter] is a doctor and all my daughters are educated, so they assumed that I had a psychological problem and that my blood pressure was high because I was frightened, and it dropped whenever I breathed fresh air outside… like if I had a psychological problem!" ***PA20***

However, layperson consultation generally prompted an active response to symptoms. The data indicate that most participants at some point received advice from laypeople in their social network on what actions to take in response to their symptoms, rather than receiving thoughts or interpretations on the likely causes of these symptoms. Even when others did not offer their thoughts on the possible causes of the symptoms experienced by the study participants, they often offered advice on what to do to address them. For example, when one participant disclosed the escalating severity of her chest pain to one of her daughters, she was encouraged not to overlook it and to promptly seek medical attention.

"She said: 'Mom, don't ignore this, let's go to the hospital'" ***PA11***

Together, members of one's social network were often in a unique position to influence the perception of symptoms, common-sense attributions, as well as whether to seek healthcare at the hospital and how soon this should be sought. Nevertheless, despite some resistance from study participants, almost all family members played a positive role in health-seeking at the hospital. The influence of family members on health-seeking at the hospital will be demonstrated in further detail in **Chapter 7**.

6.3. Conclusion

In this chapter, I presented an analysis of the three main responses the study participants had to their escalating symptoms, including: a) waiting for their symptoms to subside, b) adopting self-management measures, and c) consulting lay/social networks. In most instances, the women initially chose to closely monitor their condition and wait for the symptoms to subside, hoping that they would spontaneously disappear without intervention. They adopted a wait-and-see approach for a number of reasons, including their perceived ability to tolerate the symptoms, their commitment to their competing social/familial obligations for which they were responsible, and, in some cases, their reluctance to cause inconvenience or emotional concern to their families.

As the participants' symptoms began to impede their daily lives, they implemented different self-management measures for what they considered to be a relatively insignificant health issue. They often exhausted all possible options to self-manage their health condition (such as OTC painkillers, traditional herbal remedies, distracting activities, etc.) to control and suppress their evolving symptoms before consulting others. These were easily accessible and readily available in their household. However, the ineffectiveness of self-management led the women to perceive their physical symptoms as potentially threatening. Consequently, they acknowledged that their physical manifestations and inability to perform daily tasks were more than a momentary aberration caused by an insignificant health issue. Therefore, they decided to interact with individuals within their social networks, particularly family members, to assist with finding the cause and the resolution of symptoms. In almost all cases, the families encouraged and even insisted on attending the hospital, which I will demonstrate in more detail in **Chapter 7.**

Chapter 7

Findings

Theme III - Arriving at the Final Destination

Chapter 7: Theme III – Arriving at the Final Destination

7.1. Introduction

In the previous two chapters, I presented how the women in the study recognised and interpreted their symptoms, followed by an exploration of the different ways they responded to these symptoms as integral components of their health-seeking behaviourS. In this last chapter of my findings, I present the influences that prompted the women to seek professional treatment and attend the hospital.

All the women in the study eventually attended the hospital, prompted by various triggers that compelled them to take more decisive action and seek formal assistance for their deteriorating health. In general, the worsening health, as evidenced by the participants' realisation of the severity of symptoms and the increasing difficulty in maintaining daily activities, triggered many of them to go to a doctor's clinic or emergency department for an exam or to schedule an appointment for a later date. However, beyond this biomedical trigger, the inter-relationships of the women within their social networks had a significant role. In traditional Saudi families, strong kinship bonds influence various aspects of life, including health-related decisions and behaviours. Consequently, the family members had a substantial influence in triggering hospital attendance. Most women in the study reported that their families insisted on them visiting the emergency service or an outpatient clinic for a medical examination, and in most instances, they physically facilitated hospital attendance. Furthermore, some of the participants highlighted that seeking health was essential for them to restore their caring roles and continue to fulfil their responsibilities within their families. Therefore, the desire to maintain personal and social integrity was a prominent trigger for the women to attend the hospital.

In this chapter, I present the triggers for the participants' formal health-seeking in three main subthemes: **a) worsening health condition**; **b) the desire to maintain personal and social integrity**; and **c) the family's involvement**.

7.2. Subthemes

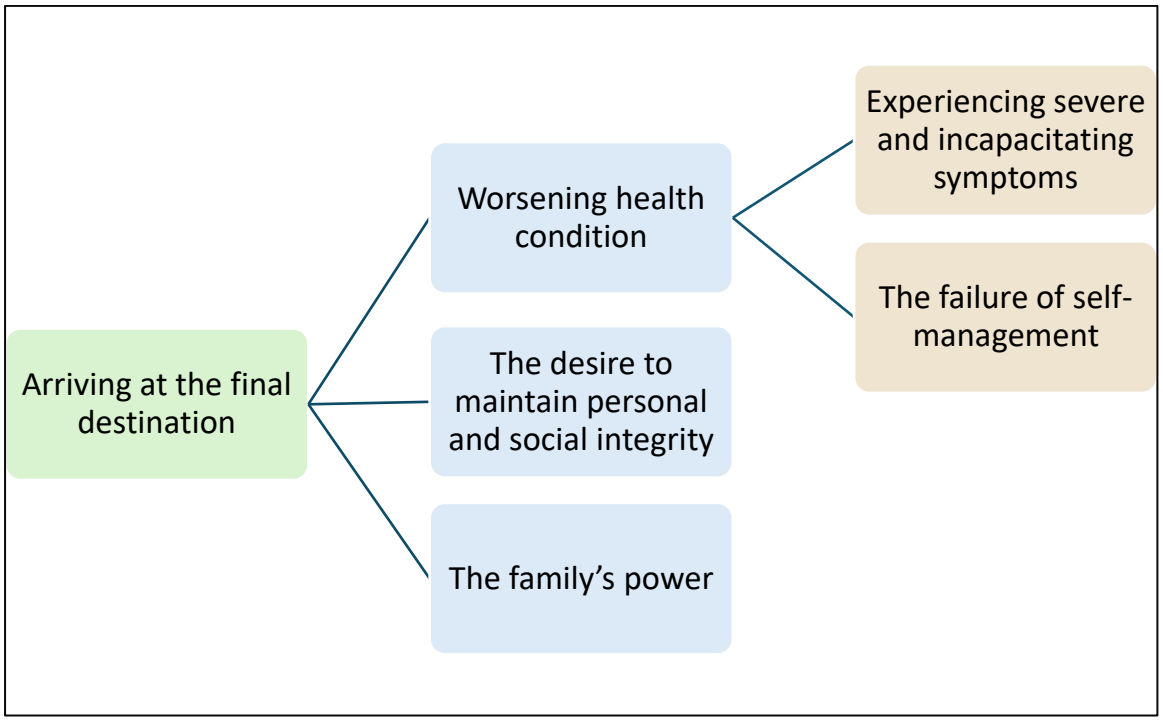


Figure 16 Theme III

7.2.1. Worsening Health Condition

The majority of participants reported that the worsening of their health was a primary trigger for their hospital attendance. It appears that mild health conditions that initially do not cause a drastic impairment in individuals' daily lives are less likely to prompt hospital attendance. For instance, a 58-year-old woman attended the hospital after two weeks of experiencing intermittent fatigue, shortness of breath, and palpitation. She delayed seeking medical attention because her symptoms were initially mild and less disturbing. She speculated that she might have sought medical attention earlier if her symptoms were more severe and incapacitating. Therefore, it appears that the worsening health condition is one of the main triggers for hospital attendance.

> *"Maybe I'd have come to the hospital [earlier] if [my symptoms] got worse!"*
> ***PA02***

Within this subtheme, *worsening health condition*, I highlight two main dimensions in the analysis, each offering insights into the events that prompted the participants to seek healthcare

at the hospital. These dimensions include the experience of incapacitating symptoms and the failure of self-management measures. The narratives in this section indicate that the women took ownership of their decision to attend the hospital, as evidenced by the use of the personal pronoun 'I'. In a later subtheme, I explore the influence of others on expediting hospital attendance, contrasting with the self-driven decisions presented here (Details in **Section 6.2.3**).

7.2.1.1. Experiencing Severe and Incapacitating Symptoms

As previously shown in **Chapter 6**, most of the participants initially chose to wait and see if their symptoms would eventually subside. They employed various self-management measures to relieve the discomfort that they often attributed to exacerbated symptoms of either a pre-existing chronic condition or a relatively minor health concern. Consequently, there was a notable delay in attending the hospital. For example, after waiting for over three months and experiencing a deterioration in her condition rather than improvement, a 60-year-old woman decided it was time to go to the hospital.

> *"I couldn't raise my feet, my hands were numb. I mean, it was different from before. I mean, [the symptoms] used to be milder, they would come and go, but last time before I was admitted..... [sighs and shakes head]"* ***PA18***

Therefore, most of the women in the study continued to adopt a wait-and-see approach, either with or without self-treatment, until their physical discomfort reached a level that they perceived necessitated further action. According to some interview data, the participants' decision to engage with the healthcare system was the result of their ongoing assessment and reevaluation of the severity of their symptoms, particularly in terms of the severity of chest pain, the novelty of symptoms, and the level of disruption to everyday life. For example, one participant ignored her physical discomfort until it escalated into consistent and prominent restlessness, severe chest pains, and dyspnoea. As a result of the severity of her symptoms, as well as the emergence of new symptoms, she could no longer overlook her condition and, therefore, attended the hospital. Thus, it was not until an abrupt change in symptom experience that she recognised the urgency of her situation.

> *"I ignored [my symptoms] and carried on. But when they got worse, I went to the hospital"* ***PA16***

The pain intensity was an important aspect of worsening health that triggered health-seeking. The majority of participants emphasised that severe chest pain, in particular, was the primary

reason they sought medical attention. They explicitly recounted instances where the intensity of their chest pain led them to take further actions. For example, after months of experiencing intermittent and mild shortness of breath, a 60-year-old woman expressed that her recent experience of consistent and severe chest pain left no room for hesitation about whether to wait any longer or attend the hospital.

> *"I mean, this word, WAIT [emphasis tone] was in the past. There was no more waiting when the pain got worse"* ***PA09***

Some of the participants provided comprehensive descriptions of their pain experiences, elaborating on aspects such as severity, location, consistency, radiation, and duration. The following quote illustrates how one participant expressed the deterioration of her health through her nuanced description of chest pain. She explicitly stated that the unbearable nature of the pain served as a decisive moment that prompted her to seek medical attention.

> *"The severity of the pain made me say, 'That's it. I can't bear this anymore!' There was a pressure feeling in my chest, pain, fast heartbeats, I mean all together. I couldn't move my arms"* ***PA17***

Likewise, another participant emphasised that her decision to seek medical attention was solely influenced by the severity and consistency of her chest pain, rather than external factors such as her family's insistence on hospital attendance. The 53-year-old woman with a history of hypertension experienced abrupt chest pain for the first time. She then visited a nearby pharmacy to have her blood pressure checked. The pharmacist gave her sublingual nitroglycerin to alleviate the pain and then advised her to go to the hospital. Nevertheless, she preferred to return home as her condition seemed to improve. However, the pain escalated over the next few hours, prompting her to go to the emergency department.

> *"I felt that I needed to go to the hospital to see what was causing me severe pain. The pain here [touches her shoulders and jaw] made me do like that [clinches her jaw]. I couldn't, it was very intense. […]. It was very severe. [It] wasn't [my children], it wasn't what the [pharmacist] had said in the pharmacy - it was the severe pain. It was severe and also strange to me because I had never felt like this in my life!"* ***PA01***

Therefore, experiencing severe and constant pain triggered many women to assign a high level of seriousness to their health condition and to subsequently attend the hospital. In addition, some women emphasised the impact of experiencing a novel and unprecedented pain on

prompting their realisation of the seriousness of the situation and, ultimately informing their decision to go to the hospital, regardless of whether they suspected a cardiac illness or not.

7.2.1.2. The Failure of Self-management

For many women in the study, alongside the worsening of their conditions, the failure of self-treatment measures served as a trigger for hospital attendance. As previously demonstrated in **Chapter 6**, once the women attributed their symptoms to a particular cause, often non-cardiac aetiology, they tried various self-management measures, which further delayed their hospital attendance as they waited to see whether these measures were effective at relieving symptoms. These participants often continued to self-manage until their symptoms were not relieved by the measures they had implemented. Consequently, they often sought family and/or professional assistance to consult about other possible ways to manage their condition. For instance, one participant experienced abrupt chest pain, shoulder aches, shortness of breath, and chills overnight, which she initially attributed to a common cold. Consequently, she tried to alleviate her symptoms with OTC medications such as paracetamol and Voltaren (see **Section 6.2.2**). However, as her self-treatment attempts failed to control the situation, she decided to attend the hospital's emergency service.

> *"I wouldn't have gone [to the hospital] if they were relieved with Panadol or Voltaren! […]. I suppose I would have improved with the painkiller and Voltaren if it was something as normal as a cold. Whatever I had made me want to go to the hospital, despite the fact that I don't like hospitals!"* ***PA14***

The preceding account indicates that some participants considered taking further action only after their self-management measures proved ineffective at managing symptoms. This was echoed by the narrative of a 63-year-old participant who went to the hospital after nearly four months of self-managing intermittent chest pain and dyspnea, which she attributed to either a potential respiratory problem or a side effect of the COVID-19 vaccine. The participant expressed that when all her efforts to manage the symptoms failed to improve her condition, she decided to go to the hospital. She explicitly stated that her inability to manage symptoms was the main reason she sought medical attention.

> *"I only came to the hospital in the end. […] I said, 'There's nothing else I can do but go [to the hospital] and see what's wrong!' Then I found it was my heart. It took me four months to do the Angio!"* ***PA08***

Therefore, the women perceived the ineffectiveness of self-treatment as a confirmation that they were dealing with a significant health problem. This was evident in the experience of another participant who encountered progressive and unrelieved symptoms despite using various self-treatment measures, such as OTC painkillers and natural oil massage.

> *"When I finally realised I wasn't getting any better, I said to myself, 'Let's go and see what's wrong!'* ***PA07***

The data in this section indicated that many of the study participants initially attempted to self-manage their symptoms as they continued to collect clues about their potential causes. However, their failed attempts at controlling or alleviating their evolving symptoms often led them to abandon any further self-management efforts and attend the hospital. It is important to note that symptoms alone did not independently trigger taking more formal and assertive action to address the deteriorating health condition. Other important factors such as the desire to maintain personal and social integrity and the involvement of others within the women's wider social networks also played significant roles in prompting hospital attendance, as I elaborate in the subsequent two sections.

7.2.2. The Desire to Maintain Personal and Social Integrity

Most of the women in the study portrayed themselves as self-reliant, socially active, and physically engaged. Prior to their hospitalisation for ACS, they played a central role in their families as primary caregivers. However, as their symptoms escalated and became more intrusive, they encountered difficulties in maintaining an ordinariness in their lives. With this disruption, they found themselves unable to perform their social roles and engage in their routine daily activities. The worsening of the women's health had a significant impact on their personal and social integrity.

The analysis reveals that the women's desire to maintain their personal and social integrity served as a trigger in prompting them to attend the hospital. This was evident in how the participants evaluated their condition within the context of their everyday lives. They often deemed their health condition as necessitating hospital attendance when their symptoms began to cause significant disruption to their daily lives. Specifically, this occurred when their health condition impacted their ability to perform personal and social roles they perceived as integral to their identities as mothers or caregivers. To illustrate, a 54-year-old woman initially

described her life before the onset of symptoms that eventually resulted in her hospitalisation for ACS.

> *"[My life was] very normal, very very normal. I had a pretty normal life. [I used to] go to the gym, to go for a walk, for an hour or two. I mean my life was in its best shape"* ***PA12***

The participant above then began to experience intermittent shortness of breath for almost a year. Nevertheless, she only decided to attend the hospital when she experienced incapacitating extreme fatigue, chest pain, and palpitations that significantly interfered with her daily life and mobility. Despite her efforts to continue with her daily activities through her worsening condition, she observed a steep decline in her ability to engage in routine physical activities, such as housework or even stair-climbing, in the last five days prior to her hospitalisation. This diminishing capacity to carry out daily activities prompted her to ask her husband to drive her to the hospital.

> *"I couldn't do anything. I couldn't do my housework. I used the lift to go up because our bedrooms are upstairs, I had to take the lift to go up, I was able to go down though but I couldn't take the stairs to go up, so I had to use the lift. […]. [Sighs] I was pushing myself. […] I told my husband that I couldn't take it anymore, so he brought me to the hospital"* ***PA12***

Hence, the decision to seek medical attention was driven, in part, by the disruptive nature of the illness, which directly interfered with the women's roles and their abilities to maintain a sense of self-sufficiency and autonomy. They felt that their deteriorating health altered the gendered expectations related to their ability to care for others, a role they perceived as central to their identity as a woman. This was echoed by another participant who, similar to the participant above, illustrated how her worsening health increasingly interfered with her domestic chores, such as cleaning and cooking. She illustrated the profound impact of her symptoms on her sense of self-sufficiency, consequently leaving her feeling vulnerable due to the limitations imposed by her deteriorating health.

> *"Ehmmm I'd lie to you if I said I was able to pick up anything off the floor, never. I left everything, everything. Food was from outside! I mean, [we eat takeaways] only on weekends, you know? But on weekdays, no! I'm the kind of person who cooks at home"* ***PA15***

It became evident that the participant's deteriorated health condition did, to a great extent, interfere with her role and daily tasks that were socially considered to be their sole

responsibility. In light of these challenges, going to the hospital became an imperative action for her.

> *"Anyways, I went to a small clinic near home and saw a general practitioner in the emergency, he then referred me to an internal medicine doctor"* ***PA15***

The participants' health-seeking decisions appeared to be rooted in their desire to continue fulfilling social responsibilities and obligations. In a society where women are expected to manage the domestic sphere and maintain harmony within the family, these situations caused a feeling of psychological discomfort and stress for many women in the study. They emphasised that their wellbeing is pivotal to their ability to care for their families and loved ones. For example, one woman expressed that her decision to attend the hospital was influenced, in part, by her dedication to be present in the lives of her five daughters. She emphasised that being healthy was essential for fulfilling her role in providing care, support, and companionship.

> *"I had to go, otherwise, I would have been unfair to myself and my daughters. I got to a point where I had to [go] - because I was sick! If I stayed, I wouldn't give them anything - I was sick!"* ***PA11***

Similarly, another participant justified her desire to attend the hospital by her profound sense of personal responsibility towards her family's welfare. She articulated that staying healthy was essential to her ability to actively participate and engage in the lives of her loved ones.

> *"Eumm, well of course I want to stay healthy so that I can live with them. Of course, I didn't want to be with them if I was sick. No, my health is important because I always want to be with them"* ***PA14***

Moreover, having the support of others eased the caring responsibilities that had previously hindered most of the participants from prioritising their own health, which seemed to serve as a trigger to go to the hospital. This was notably exemplified by one participant who is the main carer of her bedridden mother with dementia. The participant repeatedly talked about her sense of responsibility towards her mother and the deep concerns that arose when she considered leaving home and going to the hospital. It was only when she received help from a family member and was able to delegate her caring responsibilities that she decided to prioritise hospital attendance to address her worsening condition.

> *"I only decided to go to the hospital after making sure that my mother had something to eat. […]. I was concerned about my mother. I was relieved the*

moment my cousin told me they were on their way to pick up my mother and that I didn't have to worry about her. I swear to God that I was relieved, I mean, my heart was relieved. You won't believe the feeling of comfort I had" ***PA06***

In this section, it was evident that the desire to maintain personal and social integrity was an important motivator for some participants to seek medical attention, particularly as some viewed their health as intrinsic to their social roles as mothers/caregivers and essential to maintaining the wellbeing of their families. The following elaborates on the role of family members in facilitating hospital attendance.

7.2.3. The Family's Power

Many of the participants emphasised the pivotal role of their family members in accelerating the decision to seek healthcare at the hospital. As previously elaborated in Chapter 5, many of the women interviewed tended to consult a family member before seeing a healthcare professional. They consulted family members to seek advice about their evolving symptoms, validate their initial interpretation, or request assistance in managing their worsening health. Through interactions with their personal social networks, individuals often receive information and advice that can gauge the appropriateness of their initial response to symptoms, confirm or refute their self-judgments about symptoms, guide their healthcare behaviours, or provide expressive or emotional support, which can alleviate anxiety or uncertainty about ways of navigating illness. Therefore, the outcomes of these informal consultations often served as a trigger for many of the interviewees to attend the hospital. This may reflect the collectivist nature of Saudi families, where social or familial support plays a crucial role in individuals' lives, as major decisions are often made in consultation with family members.

The interaction with family members often facilitated hospital attendance, as many family members encouraged and advised seeing a healthcare professional. For example, one participant called her sister, who had undergone cardiac surgery in the past, to speak about her deteriorating health. During their conversation, the participant's sister recognised similarities in their common experience and interpreted the participant's condition as potentially cardiac, which accelerated the participant's decision to seek medical attention.

"So when the symptoms intensified, I thought I might be like my sister! She said my symptoms were similar to hers. So, I told them to take me [to the hospital]. I mean I wanted to go but I was hesitant!" ***PA18***

It appears that some participants had hesitations and reluctance regarding hospital attendance. Their accounts highlighted the role of their family members in mitigating this hesitation. The majority of participants who were initially hesitant about attending the hospital stated that their families made tireless efforts to reduce their hesitations. To illustrate, one participant was reluctant to attend the hospital due to her previous experience with long waiting times.

> *"I don't like hospitals. They told me to wait and they gave me a queue number. But whenever there was a long wait or I heard patients say they had been waiting since 5 o'clock in the morning, I called my husband and left."* ***PA17***

As a result of the participant's initial reluctance, her family tried different ways to influence her decision, including making urgent contact with other family members who live out of town for additional support. She expressed that they attempted to persuade her to seek medical attention through their emotional connection.

> *"[My children] called their siblings in Riyadh [and] they called their siblings in the South. They all called me. [They said]: 'You don't love us. You'd go to the hospital if you love us. Don't ignore yourself!' [demanding tone]. Yea. My children who live with me called those who live out of town hoping that I'd agree to go!"* ***PA17***

While many family members played a pivotal role in accelerating the decision to seek medical attention, others took more direct actions and made the decisions on behalf of the participants. In one case, one woman discussed her symptoms with her adult children. Her daughter, who works at a hospital, not only encouraged her to seek medical attention but also took the initiative to arrange an appointment for her in the hospital's staff clinic.

> *"My son told [my daughter] what if I had something in my heart or I had a heart attack! They wanted me to go [to the hospital] to make sure I was fine. […]. My daughter asked me to come to the staff clinic to do some blood and imaging tests"* ***PA03***

Likewise, many other family members played a proactive role in facilitating hospital attendance of the women in the study. For example, a 63-year-old woman experienced tiredness and shortness of breath one month before her acute cardiac event. Her daughter, who had noticed her mother's deteriorating health, insisted that she go to the hospital. The daughter further booked a medical appointment on the participant's behalf, which eventually resulted in her hospitalisation for ACS.

> *"My daughter suggested taking me to the hospital. She said that I shouldn't ignore myself and that I needed to go to a doctor or a specialist or anything. Then she made an appointment with [the doctor], and I came to see him. […]. She insisted that I go to the hospital!"* ***PA05***

Most families were assertive and determined, taking decisive actions to ensure that the participants sought medical attention. Ultimately, the majority of the women who were initially reluctant to attend the hospital were willing to comply with their family's persistent demands and let someone else temporarily take control of their health decisions. For example, a 69-year-old woman experienced a range of escalating symptoms, including palpitation, tachycardia, a sense of heaviness in her chest, and restlessness. Upon experiencing these symptoms, she contacted her son, who lives in the same residential building. Her son, who works as a psychotherapist, assessed her briefly as he suspected a potential cardiac problem, and then suggested taking her to the hospital. However, the participant resisted as she attributed her rapid heartbeat to tiredness. Her son then immediately consulted his wife, a physician, who firmly insisted on taking the participant to the emergency department without further delay. In the following account, the participant viewed the decision to attend the hospital as being made for her. She recalled:

> *"I asked [my son] to check my blood pressure. I wasn't feeling myself. He checked my blood pressure and looked at his watch. He said: 'Yes, your heartbeats are abnormal. Let's go to the hospital'. I said: 'No, I'm not going. I'm just tired. I'm fine'. Then he went upstairs to his wife. His wife is a doctor at […] hospital. She said: "You either take her or I'll call an ambulance, she must go to the hospital"* ***PA04***

Therefore, as transpired from the preceding accounts, the family often played a proactive role in facilitating hospital attendance, either by advising the women to see a healthcare professional or making arrangements to take them to the hospital. However, there was one participant whose family initially did not prompt her to seek medical attention but rather contributed to her hesitation to attend the hospital. They reaffirmed her earlier interpretation of symptoms as 'normal' and recommended taking a remedy and even just waiting for what they viewed as not a serious complaint. The participant explicitly stated that she was reluctant to attend the hospital due to their familial preconceived notions about healthcare professionals.

> *"Honestly, we, Bedouins, have beliefs that whatever doctors say is wrong and we are right, you see? This is like that for Bedouins. Of course, cultured people, like you who understand medicine and these things, think unlike us, Bedouins"* ***PA16***

Therefore, their scepticism towards doctors was the main reason that impeded the participant from attending the hospital in a timely manner. The participant's subsequent account revealed that these perceptions were rooted in cultural norms within her family. Her family had a similar mindset, which led them to initially discourage her from going to the hospital when she first experienced mild symptoms. This collective mindset within the family further hindered the participant's health-seeking behaviour. In the following quote, she emphasised the pivotal role of awareness in influencing health-seeking behaviour.

> *"Honestly, emmmm as I told you, we, ehm, unfortunately, all of us, I mean me […] and the entire family have misconceptions that whatever doctors say is wrong. […]. If I[only] had someone who was educated and cultured [shakes head]. But, unfortunately, all of us, ehm, you can say, [come] from the same environment. We're all Bedouin, and we've all had misconceptions that hospitals and doctors are very [shakes head in silence]"* ***PA16***

Nonetheless, most family members accelerated the participants' health-seeking decisions and facilitated their hospital attendance. They provided advice to consult a healthcare professional and even persuaded those reluctant to attend the hospital. Additionally, family members provided support to enable the participants to temporarily leave their social responsibilities and address their health issues. Others went a step further by taking direct and assertive actions, such as booking a medical appointment or personally driving the participants to the emergency service. Some participants sought transportation assistance from their family members to attend the hospital. This reflects the collectivist nature of Saudi families, where social or familial support plays a crucial role in individuals' lives, as major decisions are often made in consultation with family members. Therefore, the sociocultural context within which the women lived influenced their illness experience and subsequent responses and actions towards cardiac symptoms.

7.3. Conclusion

In this concluding chapter of my study findings, I have presented the three main triggers that prompted the participants to attend the hospital: a) worsening health condition, b) the desire to maintain personal and social integrity, and c) the family's involvement. Initially, the analysis revealed that the deterioration in women's health prompted many of them to go to the hospital. For most women, this was due to their experience of incapacitating symptoms and the failure of self-management measures they adopted to alleviate symptoms, which contributed to their realisation of their worsening health and eventually signalled the urgency to go to the hospital.

Moreover, the women's commitment to maintaining social and personal integrity served as a significant trigger to attend the hospital. This trigger was particularly evident as these participants evaluated their health within the framework of their day-to-day lives; therefore, the urgency to seek healthcare particularly arose when illness compromised their social roles and responsibilities as mothers or caregivers.

Lastly, the interaction with family members often facilitated hospital attendance. The participants consistently stated that their family members, particularly those who witnessed their cardiac event and noticed a steady decline in health, often advised taking actions such as going to the emergency department or outpatient clinic for a thorough medical examination. They provided valuable assistance by offering advice to consult a healthcare professional, persuading those who were reluctant to attend the hospital to do so, and providing essential support to enable some participants to prioritise their health issues over competing social responsibilities. Due to their concern for the participants' health, some family members even took direct and assertive actions, such as booking a medical appointment or personally driving the participants to a hospital or general practice clinic.

Chapter 8

Discussion

Chapter 8: Discussion

8.1. Introduction

This study employed qualitative semi-structured interviews to explore the experiences of Saudi women with ACS and their subsequent health-seeking experiences in response to its related symptoms. I interviewed twenty Saudi women who had been hospitalised for an ACS event and analysed the interview data thematically. Subsequently, the following three key themes were constructed: 1) Recognising the subtle change in health and interpreting symptoms, 2) Responding to perceived symptoms, and 3) Arriving at the final destination.

My research study contributes to the existing body of knowledge that cardiac symptom salience alone does not influence illness navigation for women or determine how promptly they decide to attend the hospital. Through in-depth analysis of the detailed accounts of the study participants, we gain a deeper understanding of how the sociocultural context shapes Saudi women's experiences with ACS. This understanding is largely due to the pivotal role that gender roles and familial dynamics play in influencing Saudi women's responses, including those related to health and illness. Therefore, navigating illness in the circumstances of ACS cannot be separated from the contextual world in which the acute illness event takes place. Identifying these sociocultural conditions helps illuminate women's health-seeking trajectory, which may differ for women in different contexts. This study highlights that sociocultural filters can profoundly influence individuals' responses to illness. It specifically offers a nuanced understanding of how Saudi women navigate symptoms, interpret biomedical and familial risks, manage health issues, seek lay consultations, and ultimately visit the hospital in response to acute cardiac events.

This chapter focuses on making sense of the study findings and illustrating how my work contributes to knowledge, centring around two distinct yet related core themes that cut across the findings I presented in the preceding findings chapters: **a)** ***"I never thought it was my heart":*** **perception, knowledge, and understanding of ACS and its risks**, and **b) the intersection of gender role and family values in shaping women's health-seeking experiences**. These overarching themes are discussed in more depth here, reflecting their significance, as highlighted in the previous chapters, where it became evident that they were deeply intertwined with the participants' illness and health-seeking experiences. As I

articulated earlier in the literature review (**Chapter 2, Section 2.6)** and in introducing my findings (**Chapter 4),** I drew upon key components of Chrisman's (1977) health-seeking process – a holistic approach that broadens our understanding of health-seeking by accounting for sociocultural context – with which I combined with it a gender lens to inform my thinking. The discussion here highlights my study's contribution to the existing literature and addresses the research gaps concerning women's illness and health-seeking experiences in the context of navigating ACS-related symptoms.

In **Section 8.2**, I unpack the women's perceptions, knowledge, and understanding of ACS and its associated risk factors. My analysis highlighted preconceived notions and socially constructed knowledge obtained from Saudi women's social networks about how cardiac illness would typically manifest. This revealed some culturally based stereotypical ideas that shaped their understanding of perceived symptoms and subsequent health-seeking behaviours. Equally important is the perception and understanding of other people in the women's social networks, which, in many instances, further shaped the participants' understanding of and responses to their ACS episodes.

In **Section 8.3**, I explore the impact of traditional gender roles on Saudi women's illness and health-seeking experience in more depth. The analysis shows that competing familial responsibilities and life priorities often led to postponing prompt health-seeking at the hospital. Yet at the same time, the women's desire to maintain social integrity and family involvement can also serve as triggers for hospital attendance. This demonstrates the multifaceted impact of women's wider social context on navigating their illness. Further insights from relevant literature adopting a gender lens provide additional context on how gendered expectations and roles may facilitate or impede women's health-seeking.

As this discussion unfolds in light of existing empirical literature and theoretical perspectives, it illuminates the multifaceted journey of navigating ACS symptoms, while acknowledging the profound influence of the women's unique sociocultural context. This facilitates grasping the nuances of Saudi women's experiences in seeking healthcare for their worsening health through various ways, leading up to their eventual hospitalisation for ACS. My work develops an understanding of these nuances and highlights the facilitators and barriers to timely health-seeking in this under-researched population. Overall, this chapter discusses the findings in relation to the existing literature to emphasise my study's role in addressing the identified research gaps. In doing so, it provides a comprehensive exploration of the research findings

and sets the stage for understanding the study's contributions and implications, which will be the focus of **Chapter 9**.

8.2. *"I Never Thought It Was My Heart":* Perception, Knowledge, and Understanding of ACS and its Risks

Exploring perceptions, knowledge, and understanding regarding cardiac illness highlights *symptom definition* as a key component of the health-seeking process. This component refers to an individual's perceptions of a health condition that influence whether they seek treatment (Chrisman, 1977). The health-seeking process implies that before addressing a health issue, individuals need to become aware of their symptoms, and they will hold certain beliefs about them (Chrisman, 1977). In this section, I elucidate how the Saudi women in my study did not perceive their symptoms as potentially cardiac, partly due to their knowledge and awareness of ACS. However, beyond just knowledge, there is another issue: a lack of perceived personal risk and vulnerability to cardiac illness, which can be understood through the concept of *coronary candidacy.* Below, I examine these areas within the broader social and gender-specific influences to elucidate how the Saudi women in my study recognised and interpreted their symptoms, understood cardiac illness and associated risks, and how these elements collectively influenced their health-seeking behaviour to ACS.

A key finding of my study is that most of the Saudi women did not perceive their symptoms as indicative of cardiac illness. They often faced considerable difficulties and uncertainty in labelling the symptoms as cardiac, a challenge also reported in research involving women in international contexts, especially when symptoms were ambiguous, intermittent, evolved slowly, or appeared to be otherwise explainable (Davis et al., 2013; Coventry et al., 2017; Asghari et al., 2022). In addition, many of the women I interviewed did not associate their familial or clinical risk factors with an increased risk of experiencing a heart attack. This was despite presenting with one or multiple health conditions such as type II diabetes mellitus, hypertension, hyperlipidaemia, and high BMI as a result of unhealthy diet consumption and physical inactivity, all of which are well-documented as common risk factors for acute cardiac disease (Adhikary et al., 2022; Vaduganathan et al., 2022). This finding is consistent with previous international research indicating that women tend to downplay their cardiac risk(s) and, therefore, do not perceive themselves as personally vulnerable to cardiac illness (Herning et al., 2011; Al-Hassan, 2015; Lichtman et al., 2015; Asghari et al., 2022). Moreover, Smith et

al. (2018) found that while awareness of familial risk for coronary heart disease was apparent among their study participants (Irish women), the understanding of the implications of this risk was not clear, leading some women to believe they were not at risk for cardiac illness.

The women's perception of invulnerability to cardiac illness can be attributed, in part, to their knowledge, understanding, and awareness of ACS and its risks. Throughout the analysis, it became evident that the women's definition of symptoms, which determined their subsequent health-seeking behaviour, was shaped by their embodied experiences of symptoms and interpretations of ACS risk. Their knowledge about "heart attack" was primarily informed by personal experiences, social discourses, and media reports, aligning with findings from previous research conducted in different contexts (Lichtman et al., 2015; Stain et al., 2020; Yu et al., 2023).

It is crucial to emphasise that symptoms are not just biological facts; they are constructions based on sociocultural explanations and experiences that help individuals make sense of their illness (Beedholm et al., 2019). Therefore, symptom definition begins with a perception of a deviation from the cultural standard of normality established by daily life. This suggests that the interpretation of symptoms is culturally determined (Suhariadi et al., 2016). Thus, I argue that the cultural context significantly shaped the understanding and symptoms interpretation of the Saudi women I interviewed. As demonstrated by my research participants, individuals may hold personal preconceived notions about the symptoms of ACS, expecting sudden, strong, and crushing pain originating from the heart, which aligns with stereotypical symptoms conveyed in the media or by others in their social networks who had previously experienced an acute cardiac event. When individuals' own experiences deviate from these preconceived notions and expectations, it can complicate symptom attribution and subsequent responses (O'Donnell and Moser, 2012; Isaksson et al., 2013; Abed et al., 2015). This complexity emphasises the need for a nuanced understanding of how individuals – Saudi women in the context of this study – understand and perceive cardiac illness.

Prior studies have also identified the significance of knowledge regarding ACS and its impact on delayed health-seeking in Saudi Arabia. One of a small number of studies conducted in Saudi Arabia, utilising a mixed-method research design, found that awareness of cardiac illness is crucial for prompt health-seeking and highlighted that a lack of knowledge about ACS symptoms remains a major concern (Alshahrani et al., 2014). The study revealed that their Saudi female interviewees, in particular, had lower awareness and insufficient knowledge

about cardiac illness and its symptoms compared to their male counterparts, which caused them to delay attending the hospital (Alshahrani et al., 2014). More recently, a cross-sectional study conducted in Saudi Arabia on 200 patients with MI, predominantly male, identified a significant association between inadequate knowledge of cardiac illness and pre-hospital delay (Alahmadi et al., 2020).

Similarly, evidence from different geographical locations has also emphasised the pivotal role of knowledge about cardiac illness in prompting timely hospital attendance for both men and women, and highlighted that a lack of knowledge regarding this critical health event poses a challenge to a prompt response to ACS symptoms (Allana et al., 2018; Guan et al., 2019; Hadid et al., 2020). Guan et al. (2019) found that over half of their participants recruited from 53 hospitals across 21 provinces in China significantly delayed going to the hospital and attributed this delay to their limited knowledge about myocardial infarction symptoms and risks.

While the significance of knowledge in recognising and promoting timely responses is evident, the education levels of the women I interviewed are particularly noteworthy. As I presented earlier in **Chapter 4** (**Section 4.2**), many of the women I interviewed had lower levels of education or no formal education, which likely had implications for their knowledge and understanding of cardiac illness in general. This lack of education may have created challenges in reading health literacy materials on cardiac illness, such as heart attacks, potentially hindering their ability to recognise and respond to cardiac symptoms effectively. Research has also demonstrated that education level may impact knowledge about ACS. Darawad et al. (2016) found that less educated participants, particularly women, often have a greater lack of awareness about ACS symptoms compared to their higher-educated counterparts. This lack of knowledge often resulted in late symptom response and subsequent delays in seeking medical attention, which several international studies have reported (Albrahim et al., 2016; Darawad et al., 2016; Kim et al., 2017; Li and Yu, 2018; Ericsson et al., 2022).

I had fairly open questions in the interview to enable them point out what it is important to them and contextualise what happened and so on. I considered their experience from a socioeconomic point of view but there was not anything really coming out of the data that is strongly pulling me in those directions. And that is maybe because of a sort of similar demographic as I did not recruit women from a very contrasting socioeconomic positions as a primary sampling criterion so I had limited data.

While acknowledging the significance of knowledge about heart disease in cardiac symptom recognition and prompt response, a key finding of my study is that not all my participants simply lacked knowledge about heart disease or had low educational attainment. Thus, exploring their experiences solely in terms of knowledge deficit overlooks the nuanced nature of their health-seeking experiences. Throughout this discussion, I consider how broader factors shaped the women's interpretation of their symptoms, particularly considering certain gender-specific issues. The importance of considering factors beyond knowledge was also evidenced by Arslanian-Engoren and Scott (2017), whose research revealed that some of their female participants, who were healthcare providers, failed to identify their own symptoms as cardiac despite their professional and experiential knowledge. More recently, an integrative literature review of eighteen studies on the impact of perceived personal risk on recognising and responding to ACS indicated that knowledge of cardiac symptoms was not sufficient to enable quick health-seeking decisions and ultimately reduce pre-hospital delay (Blakeman and Prasun, 2022). The researchers identified additional factors, such as the varying symptom presentation, symptom progression (whether fast or slow), and coping behaviours (e.g., avoidance), all affecting individuals' responses to their symptoms. Therefore, while increasing knowledge is important in prompting women to recognise ACS-related symptoms and seek health promptly, it is not sufficient by itself (Albarqouni et al., 2016; Wang et al., 2023). This suggests that when considering symptom definition, there is a broader issue beyond mere knowledge in enabling women to make quick decisions when experiencing ACS symptoms.

As I presented in **Chapter 5**, most of my study participants consistently interpreted their cardiac symptoms as signs of other conditions, regardless of their educational background or prior knowledge about ACS. Their alternative explanations were typically directed towards less severe conditions than an acute cardiac event, often including non-specific minor health complaints, co-occurring health events (e.g., COVID-19), or pre-existing comorbid conditions. These attributions added complexity to the women's overall understanding of their ongoing illness, leading them to rationalise their symptoms as stemming from different aetiologies and attempt to ease/control them by adopting self-management remedies at home, which aligns with findings from recent studies (Asghari et al.; 2022, Yu et al., 2023). This complexity became even more evident when many of the women I interviewed expressed surprise and even shock upon receiving an ACS diagnosis upon arrival at the hospital (see **Section 5.2**). Previous research has highlighted the impact of comorbidity and co-occurring illnesses on symptom response and subsequent health-seeking activities (Hwang and Jeong, 2012; Albrahim et al.,

2016; Gyberg et al., 2016; Davis, 2017; Pate et al., 2019; Stain et al., 2020). The findings of these studies suggest that acute symptoms experienced during a cardiac event may be less of a departure for individuals with a pre-existing chronic condition, as cardiac symptoms are perceived to be associated with an existing chronic illness rather than representing a dramatic break from 'normal'.

Attributing symptoms to non-cardiac causes was particularly prevalent among my study participants who reported a lack of perceived personal risk or a sense of vulnerability towards cardiac illness. Therefore, another factor shaping the women's interpretation and attribution of symptoms was their perception of their own risk of cardiac illness. A key finding of my study is that even among the women who seemed aware of certain cardiac risks, this awareness did not necessarily translate into an understanding of personal risk. Although they had multiple risk factors for ACS, including a family history, the women often did not include their biomedical and familial risks in their analysis of the symptoms they encountered; thus, for them, their symptoms did not raise alarm. The analysis revealed a dominant belief that the women themselves were not at risk due to a misunderstanding of their personal risk to some extent. This finding is consistent with previous research involving a mixed population of men and women, which demonstrated that a lack of insight into one's own risk of cardiac illness is a major barrier to the recognition of a potential ACS event (Koning et al., 2016; Lichtman et al., 2018; Smith et al., 2018; Blakeman and Prasun, 2022).

The disbelief about the possibility of developing a cardiac illness can be understood through the concept of *"coronary candidacy".* Coronary candidacy was first introduced by Davison et al. (1991) to illuminate the application of health beliefs concerning who is most, or least, likely to experience cardiac illness. They suggested that the development of ideas about who is likely to develop cardiac illness and how that translates to perceptions of personal risk is a collective activity in which the mass media, along with the illness experiences of family, friends, and neighbours, are all parts of the explanatory devices individuals draw on in understanding their candidacy (Davison et al., 1991). It is noteworthy that not all women in my study considered themselves to be "coronary candidates", despite each participant having at least one well-documented cardiac risk, such as hypertension and hyperlipidaemia.

The extent to which individuals believe they are coronary candidates has an important role in symptom attribution, risk perception, and subsequent health-seeking activities (Emslie, 2005; Stain et al., 2020; Yu et al., 2023). Social construction of gender appears to be implicated in

attitudes towards health and illness (Damasceno et al., 2012; Mussi et al., 2014). Prior research on lay beliefs about cardiac illness has identified that perceptions of coronary candidacy can be gendered, meaning that cardiac illness is perceived as a male disease (Emslie et al., 2001). Subsequent Western research suggests that women's perception of low vulnerability as "coronary candidates" stems from stereotypical notions of who is susceptible to developing ACS (Madsen and Birkelund, 2016), which may be rooted in traditional gender role ideology (Emslie et al., 2001). The socially constructed understanding of ACS as a gendered illness shapes women's beliefs and perceptions with regard to their *"candidacy"*, as indicated in a study conducted in an Arabic, Omani context (Al-Hassan, 2015).

Nevertheless, this gendered perception of coronary candidacy was not a common theme across my dataset. Most of the women in my study exhibited ambivalence regarding whether men or women are more susceptible to cardiac illness. Unlike some studies I presented in the Literature Review Chapter (Al-Hassan, 2015; Smith et al., 2018; Yu et al., 2023), there was no explicit narrative suggesting that cardiac illness solely affects men. However, two of my participants did express the belief that women are invulnerable to cardiac illness, partially influenced by a prevalent perception that women are specifically at a higher risk of breast cancer, which negated their risk of other illnesses, including cardiovascular disease. Despite cardiovascular disease accounting for higher mortality rates in women than all types of cancer (Boutas et al., 2023), research shows that women often believe they are at greater risk of cancer, particularly breast cancer, than heart disease (Berg Gundersen et al., 2017; Smith et al., 2018). Notably, studies indicate that this misconception extends to healthcare providers, as physicians may also prioritise breast health ahead of cardiac illness in this population (Bairey Merz et al., 2017). Such misconceptions may contribute to health-seeking behaviours among women, resulting in adverse implications and delays in diagnosis and treatment.

Although the women I interviewed did not directly associate coronary candidacy as being gendered in terms of perceived risk, their interpretation of symptoms can still be understood as being gendered. They often attributed their symptoms to situations that "stressed them out" and caused them considerable tension, primarily arising from their competing social responsibilities and commitments. As a result, even when they were aware that they had at least one well-documented cardiac risk factor, they tended to view the aetiology of their ACS as external to these pre-existing risks. They assumed their social roles and certain events in their lives (such as marital conflict, the illness of a family member, overwhelming commitments,

etc.) contributed to their deteriorating health condition. This was evident when they described their illness in the context of the stress of being a woman. They reported feeling constrained by the cultural expectation to prioritise their familial responsibilities, such as caring for their children and attending to household chores, all of which they perceived as more urgent than attending to their deteriorating health. I will discuss this further later in this chapter (see **Section 8.3, 8.3.1**).

Overall, this section has discussed my participants' knowledge and understanding of cardiac illness, their interpretation of symptoms and cardiac risk, and the societal constructs that shaped their knowledge, perceptions, and interpretations before hospital admission. My analysis has shown that the women were significantly influenced by their Saudi sociocultural context and backgrounds, which has a profound impact on their personal recognition and interpretation of cardiac symptoms and subsequent health-seeking behaviours in response to those symptoms. This aligns with Chrisman's (1977) concept of symptom definition, illuminating that symptoms are not merely biological facts but socially constructed interpretations, providing valuable insights into how sociocultural elements influence illness experiences and health-seeking behaviours among the study participants. Although the women in my study exhibited various perspectives on who is more vulnerable to cardiac illness, gender was more explicit in other ways, particularly regarding the impact of their social roles, familial responsibilities, and competing priorities unique to being a woman in the Saudi context. This nuanced exploration will be further elucidated in the subsequent section on gender, family, and formal health-seeking.

8.3. The Intersection of Gender Roles and Familial Values in Shaping Women's Health-Seeking Experiences

In examining my participants' responses to their perceived symptoms, my study explores pivotal sociocultural aspects, including the influence of traditional gender roles, life priorities, and caregiving responsibilities as they navigated through ACS. I cannot claim that the twenty women I interviewed formed a homogeneous group or that their experiences with health-seeking for ACS were identical. However, I do claim that, despite their varied experiences, each of the women demonstrated, to varying extents, how their health-seeking was influenced by these sociocultural aspects, which were reflected through their attitudes, thoughts, and experiences.

The life obligations prescribed by their understanding of womanhood played a significant role in shaping their experiences of navigating an acute illness event. My study contributes to knowledge by demonstrating how internalised norms and values, as well as expectations from others, shaped the women's experiences in seeking health and becoming hospitalised for ACS. In this section, I elucidate a distinctive perspective on gender-related issues in illness and health-seeking experiences within Saudi culture. I draw extensively on a gender lens to complement Chrisman's health-seeking process, as the latter overlooks the gender-specific dynamics that significantly influence health-seeking behaviours, particularly prominent among this specific female population. Through this abductive approach, my research contributes to knowledge by elucidating the nuanced complexity of illness and health-seeking experiences among Saudi women with ACS.

Gender is an overarching category that organises almost every aspect of social life (Scambler, 2018). It delineates patterns of expectations for individuals, orders the social processes of daily life, and implies cultural norms (Scambler, 2018). The gender of an individual plays a significant role in shaping their overall experiences of health and illness (Lyons, 2009), with particular implications for their cardiac health (Emslie, 2005; Galick et al., 2015; Sutantri et al., 2020; Suman et al., 2023). When discussing the impact of women's gender roles in their illness experience and health-seeking for ACS, it is crucial to acknowledge that their influence is multifaceted. While these elements may sometimes impede prompt medical intervention, they can also serve as catalysts for seeking healthcare. Thus, they can act as both facilitators and hindrances at different stages of the illness experience, emphasising the nuanced and complex nature of my participants' experiences. Although the impact of women's social context is not strictly binary, I present the following discussion in two subsections for enhanced readability: a) The role of social context in hindering the decisions regarding hospital attendance, and b) The role of family support and changing gender roles in facilitating hospital attendance.

8.3.1. The Role of Social Context in Hindering Decisions Regarding Hospital Attendance

All the women in my study eventually attended the hospital; however, the path to the hospital was often not a smooth journey following symptom onset. Many participants initially adopted various methods to cope with the suffering brought on by their symptoms. These methods included, but were not limited to, waiting for their symptoms to naturally subside and

attempting to control or alleviate them with resources readily available within their household (**Chapter 6**). These informal treatment actions (or inaction, such as waiting) represent the women's attempts to stretch resources to address concerns they perceived as not serious enough to warrant hospital attendance, which can be understood as an integral component of their health-seeking behaviour. According to Chrisman's (1977) health-seeking process, individuals often employ a variety of treatment actions to manage their health condition on their own before consulting a healthcare professional – some of which do not involve medicine at all. This is conceptualised by Chrisman's (1977) component of *treatment action*, which broadly refers to the treatment individuals undertake and the origin of these directives, including self-initiated actions or those suggested by lay consultants in their social networks. However, it is crucial to understand the social dimensions that influenced my participants' choices to delay seeking formal treatment action and attending the hospital, which led them to wait for the symptoms to subside, whether due to their high perceived pain endurance, a strong prioritisation of social responsibilities, or a reluctance to burden others (**Section 6.2.1**). Such considerations further prompted them to engage in self-management efforts to address escalating symptoms, thereby postponing hospital attendance and delaying necessary medical intervention from taking place.

As contextualised earlier in this thesis, the social construction of womanhood in Saudi Arabia has been strongly influenced by cultural traditions and religious values. My research revealed that the women in my study internalised these social constructions of womanhood. Consequently, despite their worsening health condition, they strove to maintain their roles as carers, prioritise the needs of their family over themselves, and manage the harmony and equilibrium within their household to fulfil what they perceived to be expected of them. These gendered sociocultural elements were significant in shaping the women's decisions and behaviours when navigating symptoms suggestive of ACS. Notably, these contextual elements are specific to Saudi Arabia and may differ from those that influence how women in different contexts navigate their health issues.

My analysis of my data revealed that most of the women initially underestimated their symptoms and postponed seeking medical attention. In addition to the women's limited knowledge and misperceptions about cardiac illness discussed earlier in this chapter, their busy schedules due to competing social roles influenced their symptom response and often led to a delay in hospital attendance. The participants carefully weighed up their competing family responsibilities and often prioritised them over their personal health needs, as they felt these

responsibilities could not be delegated to anyone else. This is consistent with the findings of a recent literature review of international research studies, which shed light on how a profound sense of responsibility toward others is particularly evident among women, and has a significant impact on shaping the experience of navigating acute myocardial infarction (Su et al., 2023).

In the same vein, Emslie (2005) argued that understanding the social roles of individuals experiencing coronary heart disease is imperative for explaining the differences between men and women. Lyons (2009) emphasised this point, arguing that the traditional gender role ideology of femininity places an emphasis on women's role as primary caregivers and nurturers of the family, and as a result, they are often reluctant to cause disturbance to their loved ones. Consequently, women may find it difficult to relinquish their roles, even when experiencing an acute health event such as ACS (McCormick and Bunting, 2002).

However, some studies argue that there exists a variation in how individual women or men engage in gender-stereotypical health-related behaviours, and thus that the link between one's gender identity and health-seeking can be complex and fluid (MacLean et al., 2017; Oksuzyan et al., 2019). This is in line with a prior qualitative study conducted in Canada that found that men's and women's experiences of seeking healthcare for cardiac symptoms were not easily aligned with distinct binary gender patterns, as behaviours considered to be masculine or feminine practices could be exhibited by both male and female individuals with cardiac symptoms (Galdas et al., 2010).

While I recognise it is important to explore rather than assume the significance of gender in shaping responses to acute cardiac illness, the narratives of my participants were strongly influenced by culturally embedded gendered norms and expectations. Most of the women I interviewed recounted their persistent efforts to maintain their social roles as mothers, wives, daughters, or all these roles together. The notion of responsibility was consistently evident across my dataset, as the women frequently emphasised their stoic response to the intrusive symptoms and their attempt to employ various coping mechanisms, such as self-medication, to remain in control and uphold the cultural expectations placed on them to maintain their social responsibilities.

While there is some indication that the psychological stress associated with the women's reluctance to inconvenience others or failing to maintain social responsibilities contributed to

the women's decisions to postpone hospital attendance, my data do not provide sufficient depth to draw conclusions on the impact of psychological factors on health-seeking highlighted in the broader empirical and theoretical literature (Leventhal et al., 1980; Nguyen et al., 2010; Tummala and Farshid, 2014; Asghari et al., 2022). As I indicated previously, I did not approach this issue from a psychological perspective; rather, I examined the women's experiences through a sociological lens, with Chrisman's (1977) health-seeking process helping me better understand how cultural expectations, social roles, and responsibilities influence symptoms response and subsequent health-seeking behaviours. Approaching my data through a social lens contributed to my understanding of how the women's concern and worry–stemming from causing disruption in the family dynamic and harmony–were deeply embedded within their social roles as Saudi women rather than individual psychological factors.

Despite the suffering caused by symptoms, such as chest pain, the various ways of controlling and managing symptoms expressed by my participants can be explained by stereotypical ideas stemming from the gender ideology present in the social environment. In analysing my data, I observed a prevalent gendered notion of my participants' ability to endure pain, as they often described themselves as having high pain endurance, explicitly linking this to their gendered roles. The salient point here is that gender roles, such as motherhood, were strongly tied to the participants' capacity to endure pain for a long period of time, allowing them to remain in a state where they could continue their daily activities. As I presented throughout my findings' chapters, my participants identified themselves as the main caregiver in their families, and their worsening health conditions consistently challenged their ability to maintain their socially established roles. This was especially true for the women responsible for elderly parents, dependent children, or an ill family member. The women's accounts highlighted a sense of having to manage their pain in order to fulfil these responsibilities and sustain harmony and equilibrium within their domestic sphere.

This must be contextualised within the broader context of Arab and Saudi values, in which strong family bonding is evident, and family members are culturally expected to adhere to traditional norms where familial values hold great importance. The concept of the family strongly emphasises collective goals rather than individual needs. In other words, family and broader societal goals take precedence over individual goals (Al-Hakami and McLaughlin, 2016). Consequently, Saudis often make decisions based on the wellbeing of the entire family rather than just an individual (Almosaed, 2008). Within this collectivistic culture, maintaining

family harmony is a strong gendered value commonly ascribed to women. These cultural expectations place a considerable emphasis on women to prioritise their role responsibilities, with all aspects of caring and housework being identified as their main role, regardless of whether they are engaged in paid work or not. These social constructions typically begin in childhood, as girls are prepared for their future roles as mothers and wives. Consequently, it is not surprising that many Saudi women place domestic chores, childcare, and husband care over their personal needs, and perceive these responsibilities as more urgent than an emerging personal health issue. While such social and cultural ideologies have begun to change in recent years (Elyas et al., 2021), traditional values and practices restricting women persist, particularly among the older generations and rural communities.

As was evident in my data, such social construction reinforces the idea in the Saudi participants involved in my study that symptoms should be tolerated and endured (See **Chapter 6**). This response can be understood as an attempt to preserve everyday life and maintain personal and social integrity. My participants' commitment to maintaining personal and social integrity through their social roles prompted them to protect those they held dear, such as husbands, children, and parents, from excessive concern about their escalating symptoms. They often perceived that disclosing their worsening health condition would cause undue trouble or a great sense of anxiety for their family members. Consequently, they initially preferred to cope with and self-manage symptoms, whenever possible, until their situation escalated and became unbearable. This finding concurs with other studies conducted in different cultural contexts and locations, which revealed that women often deliberately hide their illnesses, particularly when they assume they would become a burden or cause worry for their families (Damasceno et al., 2012; Isaksson et al., 2013; King-Shier et al., 2015; Li and Yu, 2018).

In addition, the women in my study, who until recently relied entirely on others for transportation, were reluctant to cause what they perceived to be a burden or physical inconvenience for their families, who had other commitments and tight schedules. This could be a distinctive aspect solely unique to the Saudi Arabian context, influenced, in part, by the driving restriction that used to be imposed on women. As contextualised earlier in this thesis (**Chapter 1**, **Section 1.5.2.3**), women in the Saudi Arabian were banned from driving and even required a male guardian (*Mahram)* to arrange their transportation and accompany them outside the home, including to the hospital. In 2018, this ban – which was a societal constraint rather than a reflection of Islamic teachings (Varshney, 2019) – was lifted by a royal decree to

empower women, improve their mobility, and increase their engagement and contribution to the labour force (Saleh and Malibari, 2021). Although more Saudi women, especially from the younger generation, are becoming increasingly independent in mobility, many continue to rely on family members for transportation (Al-Garawi and Kamargianni, 2022). This reliance may have contributed to my participants' hesitancy to burden their family members such as asking them to drive them to the hospital. This finding concurs with those reported earlier by Alshahrani et al. (2014), who found that, despite perceiving they needed treatment, their female participants delayed attending the hospital due to mobility restrictions imposed on women in Saudi Arabia that required them to wait for a Mahram for transportation.

A reluctance to cause hardship or inconvenience to others is an important finding of my study, which can be understood as a reflection of deeply ingrained cultural and social expectations surrounding gender roles rather than being an individual psychological response. In conservative cultures, the sense of burdening others may contradict the ideal image of what is perceived to be a "good woman" and undermine the traditional feminine role of caring for and prioritising the needs of others (Sutantri et al., 2020; Yu et al., 2023). Some of my study participants emphasised that the expression of a woman's needs may be seen as a deviation from her role in maintaining the integrity and harmony of the domestic sphere, a role she assumes as her primary responsibility. In the context of Saudi Arabia, Alshahrani et al. (2014) highlighted that such consideration arises because Saudi women are traditionally expected to care for their families rather than cause hardships, and avoid attracting personal attention, including in the context of illness, so as to be viewed as good wives. Therefore, being a woman in such a culture may have a significant impact on illness and health-seeking experiences for Saudi women, for it is the culture that defines their identity and instils values and beliefs about responding to an illness, which was consistently demonstrated by the women I interviewed.

My study findings, which emphasise the significance of familial and societal values, along with the social roles and responsibilities of women, align with studies conducted elsewhere in different cultural contexts involving Arab and Asian women. For example, Al-Hassan (2015) found that a sample of Omani women experienced longer pre-hospital delays than their male counterparts. The author attributed this delay to the Omani women's competing familial responsibilities, which often took precedence over attending to their personal needs despite the urgency of the situation. More recently, two studies conducted in Jordan found that life priorities (particularly nurturing and caring for the family) were at the top of the list for

Jordanian female patients with cardiac illness, which contributed to their prehospital delay for ACS symptoms (Hadid et al., 2020; Al Barmawi et al., 2022). This emphasis on familial priorities stems from the social roles and expectations embedded within the family and broader society. Similarly, other studies found that women from Chinese and South Asian backgrounds tend to be more concerned with family obligations and responsibilities than their own health, which made them hesitant to seek medical attention in order to avoid interrupting their domestic and family responsibilities (King-Shier et al., 2015; Yu et al., 2023).

While traditional norms may distinguish women in conservative cultures, such as Saudi Arabia, from those in Western societies, some Western studies have indicated that the professional and social responsibilities of women may take precedence over seeking medical care, especially amongst those with caring responsibilities. Two studies conducted in Sweden found that female participants' prehospital experience of ACS was broadly influenced by their social context (Isaksson et al., 2013; Gyberg et al., 2016). Consistent with my study findings, it was reported that these women viewed their health as a lower priority compared with their obligations to family or friends, and they placed more importance on the health and wellbeing of others than on symptoms potentially associated with ACS.

In the same vein, other Western research conducted by Davis et al. (2013), Lichtman et al. (2015), and Arslanian-Engoren and Scott (2017) collectively highlighted that most of their participants (women with ACS) felt they lacked the time to address their intrusive symptoms due to a strong sense of responsibility towards social and professional obligations. These studies found that even when women recognised their symptoms as potentially cardiac, they often continued to engage in social commitments they believed essential to complete before going to the hospital. Personal and professional obligations emerged as the most common reasons identified by their participants for delaying seeking prompt evaluation and treatment of their symptoms. Thus, for a broader perspective, it could be argued that women's social responsibilities, regardless of their sociocultural context, are closely tied to their understanding of self-identity and personal integrity. The essence of being a woman aligns with the conclusion drawn previously over two decades by researchers such as Emslie et al (2001) and Lyons (2009), who highlighted that women's beliefs, values, worldviews, and life experiences influence their perception of health, illness, and health-seeking decisions and practices. While these dynamics may be less evident in the West compared to conservative societies, the

sociocultural values and expectations placed on Saudi women have not changed significantly over the years, as evidenced by the accounts of my study participants.

It is also important to note that, while the patterns of prioritising social and familial responsibilities may appear to share similarities across different cultural contexts, my research highlights that they manifest in specific ways within the Saudi Arabian context. The deeply ingrained societal norms view the family as a collective unit, with all members sharing responsibility for each other's welfare and wellbeing (Al-Hakami and McLaughlin, 2016; Almalki, 2020). This is exemplified in, for example, the living arrangements of many of my study participants, who reside in close proximity to their extended families. Furthermore, as discussed earlier, strong cultural expectations are placed on Saudi women, in particular, to oversee domestic chores and prioritise family responsibilities, particularly after marriage. As a result, some of my participants felt that expressing their needs could be perceived by others as lacking their role fulfilment in maintaining family/household integrity, as Arab women are traditionally expected to care for their families and avoid causing hardships. Although these traditional social and cultural values have begun to change in Saudi Arabia, they continue to persist, particularly among older generations and rural communities.

Consequently, it is unsurprising that the Saudi women in my study prioritised their familial obligations over attending to their health needs. The strong sociocultural emphasis on Saudi women influenced how my participants articulated their identities and social roles, as well as the expectations they, as individuals, and the wider society had about different aspects of their lives, including how their roles were integrated into their illness and health-seeking experiences. These sociocultural values were indisputable among the women I interviewed and were often seen as a normal and natural part of life. This sense of responsibility was equally evident among the small number of my participants who also held jobs. Despite improved access to education and increased workforce participation, many Saudi women still have to carry dual roles within and outside the household (Al-Asfour et al., 2017). Thus, in addition to their occupational roles, these women played a central role in family life, where they were expected to meet their caregiving responsibilities and ensure that all family members were well cared for.

In light of the existing theoretical and empirical research, I have illustrated that Saudi women's responses to their symptoms were mainly shaped by their thoughts about their social roles and responsibilities. My analysis has shown that the participants were often mindful of others' lives

and thus avoided causing what they perceived as trouble or worry to their loved ones. As a result, many postponed attending the hospital and adopted self-treatment measures to cope with their worsening health condition before ultimately deciding to seek medical attention. The majority of the women I interviewed discussed how being incapacitated by their illness hindered their ability to fulfil their social identity and associated roles. As family members became aware of the situation and noticed this illness-related shift in the women's roles, the decision to attend the hospital was made collectively in many cases. In the subsequent section, I discuss the role of family and the women's shifting (or compromised) social roles in prompting health-seeking at the hospital.

8.3.2. The Role of Family Support and Changing Gender Roles in Facilitating Hospital Attendance

My research consistently pointed to the central role of family in symptom navigation and health-seeking behaviours for the women I interviewed. This influence can be attributed to the Saudi culture rooted in Islamic teachings and reinforced by a societal emphasis on the importance of family in every aspect of life. As discussed in the preceding subsection, there is a strong cultural emphasis on women prioritising family responsibilities, especially after marriage. In some cases, however, it became evident that these familial roles and life priorities do not always impede their decision to seek hospital care; in fact, they may encourage it. Therefore, the collectivist nature of Saudi Arabian society also enabled the women in this study, at some point, to actively engage in health-seeking behaviours.

Engaging with Chrisman's theoretical work and wider literature informed my thinking in making sense of this. In accordance with Chrisman's health-seeking process, the component of *illness-related shifts in role* serves as a means for acknowledging the necessity of addressing the symptoms linked to the ACS event and conceptualising the involvement of other persons in this decision. The concept of illness-related shifts refers to the impact of illness on the role a person has in their social settings (Chrisman, 1977). Thus, if a woman perceives that she cannot fulfil her social role, this could influence her motivation to address her health issue by deciding to attend the hospital. In this sense, addressing illness with biomedical medicine can be understood as part of an effort to restore physical health, as well as to resume social roles and activities in the family and society.

In the context of my study, experiencing illness-related shifts in women's social roles resulting from ACS-associated symptoms often made the women feel obligated to seek formal treatment by attending the hospital in order to recover and resume fulfilling their caring responsibilities. This was particularly evident when the women were unable to perform their regular daily activities and meet the cultural expectation of being a woman due to the events associated with ACS. These events posed considerable challenges to the women's ability to carry out their competing social roles, such as nurturing the family and performing/supervising domestic chores. As such, some of the participants deemed their health condition as necessitating hospital attendance when their symptoms significantly interfered with their ability to perform the roles they perceived integral to their identities as women (**Chapter 7, Section 7.2**). This is consistent with previous studies conducted on a mixed population of men and women with acute myocardial infarction, which found that the concern and fear of potential consequences of illness, particularly leaving family vulnerable, served as a compelling factor for seeking medical intervention (Yardimci and Mert, 2014; Noureddine et al., 2015). This observation emphasises that social roles and family dynamics do not consistently hinder the decision to attend the hospital; rather, they may sometimes encourage it, depending on various factors and specific circumstances, such as the women's shifting social roles.

A key finding of my research is that for the Saudi women I interviewed, navigating an acute health event, from symptom appraisal to the decision to seek medical attention, occurred at both individual and family levels. My analysis revealed that trusted and influential persons within the participants' social networks, specifically family members, had a pivotal role in their health-seeking decisions and their hospital attendance. As presented earlier in **Chapter 6**, consulting social networks was a common response to symptoms, especially when the women's health condition continued to deteriorate and made them feel incapacitated, which made seeking advice and support from social networks one of such solutions before considering hospital attendance.

This interaction with social networks could be conceptualised through the third component of the health-seeking model, described as *lay consultation and referral* (Chrisman, 1977). Chrisman (1977) suggests that when individuals face health issues, they initially avoid professional medical contact, where possible, and instead prefer to rely on informal practices as potential solutions to address their health problems. The concept of lay consultation entails seeking advice and support from individuals in one's social networks who often share similar

health beliefs and have the potential to influence treatment decisions (Chrisman, 1977). Individuals are likely to disclose their treatment preferences to those they consider valuable and trusted resources, who can provide cues about treatment preferences or the necessity of medical interventions (Chrisman, 1977; Slauson-Blevins et al., 2013). However, I noted earlier that Chrisman's model is gender-neutral and lacks gender-specific perspectives that could influence women's interaction patterns within their social networks. By not considering gender nuances, particularly among this specific population of women, the model does not enable us to fully capture how and why women in specific sociocultural contexts engage in lay consultation and referral processes.

Many of the women sought advice, support, and affirmation from family members, especially when self-administered treatment actions appeared insufficient to provide relief, or symptoms made it increasingly difficult for them to fulfil their competing social obligations. It is also important to highlight that some women interacted with others about emerging health concerns not only to seek advice on addressing symptoms, but also to share experiences with those whom they trusted and felt comfortable with, which provided them with comfort. Even when some of the women did not actively seek help or advice from individuals within their inner social circle, the illness-related shifts in their state of normality or gender roles often drew the attention of their families, who eventually became involved in the events of the illness episodes that led to hospital attendance. Engaging with formal *treatment actions* was prompted when some participants, as well as individuals within their social networks, observed that illness caused a noticeable modification in the participant's normal role behaviour.

When the women engaged in conversations with their families, seeking advice or affirmation about their symptoms, or when the family members themselves observed the women's worsening health due to illness-related shifts in their roles, they often then encouraged consulting a healthcare professional. In the majority of cases, family involvement extended beyond mere suggestion or advice. Some family members, regardless of their knowledge or previous experience with cardiac illness, often offered tangible support to enable the women to temporarily leave their social responsibilities to address their worsening health. This support became a significant factor in enabling the women to attend the hospital. This finding concurs with existing literature that highlights conflicting social demands and a lack of support as barriers to actively engaging in formal health-seeking (Davis et al., 2013; Hadid et al., 2020; Al Barmawi et al., 2022).

In addition, other family members took more assertive and directive actions, such as arranging medical appointments or providing transportation to the emergency service for the participants. Despite initial resistance from some of the women, they eventually agreed to attend the hospital upon the insistence of their families. This is consistent with a prior study conducted on a mixed population of Arab Lebanese patients with ACS, which found that some of their participants, despite initially normalising their symptoms and not yet perceiving them as ischemic, eventually become willing to go to the hospital upon consistent insistence from their family (Noureddine et al., 2015). Another study conducted with Hispanic women hospitalised for acute myocardial infarction indicated that those who sought medical attention within twenty-four hours of symptom onset, despite not recognising their symptoms as important, did so due to the influence of family and friends (Pate et al., 2019). This indicates that individuals in one's social networks may assert the right to have their opinion considered, or even exert pressure to ensure that treatment is sought.

It is also noteworthy that while some studies have indicated that women often consult other lay persons within their social networks such as friends, work colleagues, or neighbours (Davis et al., 2013; Coventry et al., 2017; Pate et al., 2019; Stain et al., 2020), the participants in my study exclusively communicated with their family members about their escalating symptoms. This reflects the collectivist nature of Saudi families. As contextualised earlier in this thesis, the family in the Saudi culture is viewed as a collective unit, with each member bearing responsibility for the wellbeing and welfare of the whole family (Al-Hakami and McLaughlin, 2016). This perspective is further observed in the living arrangement of extended families, where multiple generations commonly live in close proximity, exemplifying the interconnectedness and mutual support within families in Saudi society. Echoing findings from other studies conducted in the Arab world (Al-Hassan, 2015; Noureddine et al., 2015), my study emphasises that familial support plays a crucial role in individuals' lives. Major decisions, including those concerning health and wellbeing, are commonly made in consultation with family members.

In this subsection, I discussed how my research contributes to understanding the crucial role of family ties and kinship in facilitating women's hospital attendance. Family involvement extended across different avenues, including recognising evolving symptoms, providing decision-making support, offering emotional reassurance, and arranging hospital transportation. Therefore, navigating an ACS event is not limited to the individual's actions

alone but rather involves the collective support of the wider family. While individuals experiencing ischaemic symptoms may initially have their own beliefs about their symptoms' nature and the perceived appropriate responses to address them, these beliefs can be influenced or overridden by the perspectives of family members. This has important implications for addressing the acute health needs of Saudi women with cardiac risk factors, as well as other women from cultures in which families play a large role in health-seeking decisions. These implications will be addressed in more depth in **Chapter 9**.

8.4. Conclusion: Key Insights and Contribution to Knowledge

My study makes a valuable contribution to our understanding and offers in-depth insights into how the traditional and conservative sociocultural environment of Saudi Arabia shapes women's approaches to navigating their illness prior to seeking medical attention and guides their decisions to ultimately visit the hospital to address their health issues arising from ACS episodes. While factors such as advanced age and financial constrains were highlighted by some studies as barriers to timely hospital attendance, these were not prominent themes in my findings. As I highlighted earlier in **Chapter 3**, my interview questions were open-ended to allow the women I interviewed to highlight aspects of their experiences that were most significant to them. Although I considered my participants' age and socioeconomic background, there was limited evidence from my data to suggest that economic constraints or older age were key influences on the Saudi women I interviewed. This may be attributed to the relatively similar socioeconomic backgrounds, as I did not specifically recruit women from very contrasting financial backgrounds or age groups as sampling criteria. As a result, my study does not strongly reflect the impact of economic constraints or age–not because they are irrelevant, but because they were not captured as significant concerns of my study sample.

As I discussed in this chapter, my work highlights two key aspects shaping the pre-hospital illness experiences and health-seeking behaviours among a population of Saudi women hospitalised for ACS. Using Chrisman's (1977) health-seeking process and a gender lens abductively during my data analysis, I have examined these two distinct yet related aspects: a) women's perception, knowledge, and understanding of ACS and its risks and b) the intersection of gender role and family values in shaping women's health-seeking experiences. Although Chrisman's (1977) health-seeking process highlights the importance of accounting for sociocultural aspects in influencing individuals' health-seeking behaviours, it does not

thoroughly examine the intricacies of different cultural environments and gender-specific perspectives concerning Saudi women with cardiac illness, as revealed through my research.

In summary, my research not only sheds light on women's individual experiences, but also emphasises the broader deep-rooted sociocultural traditions and norms of Saudi Arabia in shaping women's diverse responses to this acute health event. Underpinning my contribution to knowledge is evidence highlighting the importance of sociocultural beliefs and conduct for the Saudi women, as well as their social networks, in influencing their recognition, interpretation, and ultimately varying responses to acute cardiac symptoms. Sociocultural aspects, such as cultural norms and gendered roles, are shown to influence how women perceive and respond to illness, and influence how women interpret their own symptoms and attribute them to different aetiologies, oftentimes ascribing more insignificant causes than ACS. As a result, even when having some knowledge of ACS, women may still not recognise their own vulnerability to cardiac illness, reflecting broader misconceptions about coronary candidacy and gendered perceptions of cardiac risks. Exploring Saudi women's experiences in this context provides insights into challenges and opportunities for improving the cardiac health of this specific population. This nuanced understanding can inform nurses to tailor gender-sensitive interventions and policies to address women's specific needs in similar circumstances. These recommendations will be further elaborated upon in **Chapter 9**.

Chapter 9
Conclusion

Chapter 9: Conclusion

9.1. Introduction

In this final chapter, I bring my thesis to a close by summarising the study's key contributions to the existing body of knowledge on women's health-seeking behaviours in the context of ACS. I also acknowledge the study's limitations that should be considered when interpreting the findings. Furthermore, I reflect on the implications of my findings and suggest potential areas for future research.

9.2. Key Contributions

To the best of my knowledge, my study is the first gender-sensitive study to provide insights into the health-seeking behaviours of Saudi women with ACS by focusing exclusively on this population. Utilising qualitative research, and through the holistic theoretical perspectives of Chrisman's (1977) health-seeking process, combined with a gender lens, I critically examined twenty women's experiences with navigating their ACS event while accounting for the contextual features sociocultural elements unique to Saudi society. The women's narratives provided thick descriptions of the events that led to their hospitalisation, allowing me to address the research aim and research questions.

My study provides a significant contribution to knowledge by offering a nuanced understanding of how the specific context of Saudi women shapes their experiences with ACS, thereby filling the gap in the literature regarding the unique circumstances that influence this population's responses to ACS. Through an in-depth analysis of the extensive and detailed accounts of the Saudi women involved in my study, we gain a deeper understanding of how the Saudi context shapes women's recognition, interpretation, attributions, and responses to ACS-related symptoms, all within the broader context of Saudi Arabian society. Importantly, my study highlights that cardiac symptom salience alone does not determine illness navigation and the prompt decision to attend the hospital. Instead, it reveals that collectivist sociocultural aspects, such as gender roles and familial responsibilities, play a crucial role in influencing women's responses to illness. As my study represents the first research to elicit women's health-seeking behaviours in relation to such a critical health condition, the findings should be considered by current cardiac healthcare practice in Saudi Arabia, which tends to rely primarily

on medical treatment without fully considering the broader sociocultural context affecting women health and wellbeing.

In conclusion, my study may stimulate efforts to improve women's cardiac health and overall wellbeing on a larger scale in Saudi Arabia and similar cultural contexts. I anticipate that the findings of this research will expand the understanding of health-seeking behaviours for ACS-related symptoms and contribute to the development of targeted interventions for women's cardiovascular health needs, especially in conservative and collectivist contexts where sociocultural aspects exert a profound influence on individuals' responses and actions.

Having concluded the key contributions of my research, it is crucial to acknowledge its limitations, which I will articulate next.

9.3. Study Limitations

Although my study has brought valuable insights into the subject matter and has attempted to address the research aim through appropriate methods, it is important to recognise that it is not without limitations. I have considered some of its methodological and practical limitations encountered throughout the research process and how I sought to address them in **Chapter 3**. In this section, I highlight the study's ongoing limitations, which should be considered when interpreting the findings.

9.3.1. Transferability

I conducted my research with a sample of Saudi women hospitalised at KAUH in Jeddah City, Saudi Arabia. While this specific group within this particular setting and location provided rich, context-specific insights, caution must be exercised in assuming the transferability of findings to other contexts. I cannot claim that my findings could apply to all contexts within Saudi Arabia or the wider Arab world and the Middle East region, even though they may share some social characteristics and values.

There are some missing voices that my research did not capture, which further limits the transferability of the findings to ACS patients. For example, I only recruited participants who were hospitalised in the CCU and then followed up in the cardiology outpatient clinic of the study hospital. This means that I was unable to recruit participants with uncomplicated cardiac events, who were likely managed in the emergency department, discharged home after

receiving thrombolytic treatment, and scheduled for routine follow-up at the cardiology clinic. As a result, my study may not fully capture the experiences of a broader range of female patients who sought treatment for ACS. However, approaching and recruiting eligible participants from the emergency department would not be a practical choice, as patients would still be in unstable conditions, which may interfere with the medical interventions they require. Additionally, the dynamic and busy nature of the emergency department would make it challenging for the charge nurses to support the recruitment process, as the primary focus would be on providing urgent medical interventions. Furthermore, patients typically stay for a short time in the emergency department and may not be in a position to engage or focus on participating in a research study.

Furthermore, my study was conducted at a well-equipped tertiary healthcare centre with advanced cardiovascular services, which are more accessible in urbanised areas in Saudi Arabia, such as Jeddah City. While a very small number of my participants resided outside the city, my study primarily focused on women living in Jeddah, where access to advanced healthcare services is more prevalent. Therefore, my study does not fully explore the experiences of women living in rural or less urbanised areas, where access to specialised cardiovascular facilities is limited. Women in these remote areas may face different challenges when seeking health for an illness and may delay attending the hospital due to certain barriers. This could have yielded different insights had their experiences and views been explored in depth.

Additionally, although I had intended to use purposive sampling, the use of convenience sampling due to limited resources of time may have inevitably influenced the diversity of my sample. This constraint may have limited the recruitment of women from a wider range of backgrounds, thereby limiting a deeper investigation into how specific factors (e.g., age, socioeconomic status, etc.) shaped the results. Despite my efforts to recruit a heterogeneous sample encompassing women with a range of demographic characteristics, most of my participants were housewives and had limited education. While my study did include a small number of women with professional employment, particularly in the education sector, the views and experiences of Saudi women with full-time jobs or professional roles were not explored in depth. Notably, although these working women were a small subset of the sample, my findings demonstrated that family roles and responsibilities also shaped their health-seeking behaviour in ways that may be comparable to housewives. However, these perspectives

were not fully explored, and could have provided further layers of understanding about how women from different occupational and socioeconomic backgrounds engage with health-seeking behaviours.

9.3.2. Impact of the COVID-19 Pandemic

I conducted my research study in the context of COVID-19. I recognise the significant impact the pandemic had in shaping my research, as well as the limitations it posed in several areas. For instance, I did not consider approaching different hospitals to mitigate safety challenges. Additionally, the interactions with the study participants were unavoidably influenced by strict pandemic-related precautions in place. I believe that wearing face coverings and maintaining 2-meter social distancing affected the dynamic of the face-to-face interviews to some extent. Although precautionary measures were gradually being lifted at the time of data collection, my participants' responses were likely impacted by the stressful and uncertain time in everyone's life. Most importantly, the experiences of ACS could not be separated from the broader context of living through the pandemic, and it was impossible to isolate the pandemic's impact on women's experiences. Therefore, it is difficult to ascertain the extent to which the pandemic influenced the women's encounters with their ACS event, and, consequently, the research findings.

Considering the study's strengths and key contributions, along with the limitations discussed above, I will outline several implications below.

9.4. Implications and Recommendations

In this section, I propose future directions for policy, practice, and research informed by the findings arising from this study. I highlight key areas where improvements can be made and further exploration is necessary.

9.4.1. Implications and Recommendations for Policy

It is important that research findings are translated into practical actions; otherwise, the evidence-policy gap will persist, thereby confining the investment in knowledge production to academia and failing to drive meaningful revisions and updates in policy (Oliver et al., 2022). To address the escalating cardiovascular epidemic and enhance clinical outcomes of ACS, the Saudi Heart Association published the *2020 National Clinical Practice Guidelines for the*

Diagnosis and Management of Acute Coronary Syndrome. The guidelines aim to help frontline practitioners manage ACS patients, covering the pre-hospital phase, in-hospital management, and discharge planning (SHA, 2020). Additionally, the guidelines seek to establish a standardised national ACS management framework (SHA, 2020). However, a notable limitation of the guidelines is the narrow focus of the pre-hospital phase, which is predominantly concerned with patients who contacted Emergency Medical Services (EMS). This overlooks the critical period when an individual starts experiencing cardiac symptoms, during which individuals navigate their worsening health within the context of their everyday lives. This indicates a gap in the guidelines, as they do not provide recommendations for addressing the needs of individuals who suffer a potential ACS but do not contact the healthcare system in a timely manner or choose to attend the hospital via personal transportation rather than an ambulance. Inclusive guidelines on how to address high-risk individuals using primary healthcare, which is crucial for early diagnosis and management of cardiac risk factors, can facilitate earlier interventions by promoting the early activation of the healthcare system and the use of emergency services. This can help individuals benefit from the established ACS management guidelines effectively, thereby reducing the poorer outcomes associated with pre-hospital delay.

Additionally, the findings of my study demonstrate that women's social roles, which are deeply intertwined with their sense of identity and the influential dynamics of familial relationships, play an essential role in influencing how women engage in health-seeking behaviours. Nevertheless, no culturally specific guidelines have been developed for individuals with established ACS or those at risk for ACS. Instead, current practices are governed by and rely on the latest international guidelines from the US and Europe, which do not address the unique circumstances of Saudi patients, given the distinct sociocultural features that influence their overall health and wellness. For this purpose, establishing national registries that will promote the development of Saudi-specific guidelines is recommended to shed light on cardiac health for individuals at risk, including women. This will help to mitigate the burden of ACS caused by rising cardiac risks and delayed hospital presentation. Ensuring that health guidelines and initiatives are designed and implemented with sensitivity to gender and context is important for effectively addressing challenges (Kouvari et al., 2020). The findings of my study provide empirical evidence to inform future health policies that aim to design guidelines that are both gender and culturally-sensitive to the needs of Saudi women at risk for cardiac illness.

Moreover, the findings of my study reveal that a lack of cardiac risk awareness negatively impacted the women's understanding of cardiac illness, which eventually led to their late presentation at the hospital and delayed timely management to take place. To modernise healthcare services in Saudi Arabia, as part of the National Transformation Programme under Vision 2030, e-health initiatives are increasingly being implemented in healthcare services (Alasiri and Mohammed, 2022). For example, the Saudi MoH has developed several mobile applications to enhance the services provided, and two notable examples of these are *Tawakkalna*[8] and *Sehhaty*[9] apps, which were initially developed to tackle the spread of COVID-19 virus (Alkhalifah et al., 2022). Following the pandemic, these apps are being utilised for broader healthcare services, and could be employed in promoting awareness and cardiac health literacy, specifically focusing on women's cardiovascular health and wellbeing.

However, it is important to note that raising awareness alone is insufficient if the barriers that impede women's health are not fully addressed. Public education would fall short unless policymakers implement targeted improvements to overcome certain barriers that challenge women's cardiac health. For example, limited opportunities for physical activities in indoor and outdoor spaces and the absence of physical education (PE) in girls' schools (Alhabib et al., 2020; Alasqah et al., 2021; Alqahtani et al., 2021) present significant barriers for women to maintain optimum physical activity. This can lead to obesity and other insulin-resistant health conditions, which are established risk factors for cardiac illness (Gutierrez et al., 2018). Therefore, collaborative health promotion initiatives involving all different stakeholders are essential to ensure fitness opportunities are widely available and accessible for females from a young age to promote their cardiac health outcomes. As I presented in the introduction chapter of my thesis, the MoH, which operates more than half of the country's healthcare services, alongside other governmental hospitals such as those under the management of the Ministry of Defense, Saudi National Guard, and Ministry of Education, as well as the private sector, provide healthcare services across in Saudi Arabia at all levels (**Chapter 1**, **Section 1.5.5**). Under the lead of MoH, these sectors could join efforts to liaise with organisations such as the Saudi Heart Association, the Sports and Medicine Association, the Saudi Society of Endocrinology and Metabolism, and the Saudi Society for Food and Nutrition to take concrete

[8] ***Tawakkalna*** was initially developed to issue movement permits during curfew amid the pandemic, and it is now used to book COVID-19 vaccination appointments, COVID-19 tests, e-health passports to provide personal information and confirm vaccination, etc.

[9] ***Sehhaty*** is an app for e-health services, such as accessing personal health information, tracking prescriptions, booking virtual/in-person medical counselling, finding the nearest pharmacy, promoting health awareness, retrieving and sharing sick leave, etc.

actions that can eliminate barriers to women's cardiac health promotion and illness prevention, rather than merely implementing health education programmes.

In the next section, I suggest specific opportunities for healthcare providers in primary and acute healthcare settings, as well as educators in academia, to raise Saudi women's awareness of cardiac illness.

9.4.2. Implications and Recommendations for Practice

The findings of my study highlight important implications for practice that nurses and other healthcare professionals should consider when caring for women at risk for cardiac illness. Notably, a significant issue revealed by my research is the insufficient awareness of cardiac illness and its associated risks, which complicates women's navigation of ACS. This lack of awareness is particularly concerning as it directly impacts how women interpret cardiac risk and attribute symptoms, ultimately influencing their health-seeking trajectories. Furthermore, my research demonstrated that the presence of co-existing health conditions does not necessarily translate into higher awareness or accurate interpretation of cardiac symptoms, highlighting the need for a special emphasis on women at risk for ACS.

Specifically, women with established cardiac risks, such as those with hypertension, hyperlipaemia, and insulin-resistant conditions (e.g., diabetes and obesity) should be prioritised. Nurses and other healthcare professionals in clinical settings should proactively identify these women and provide targeted educational sessions about recognising potential ACS events, understanding the urgency of the situation, prioritising their health, and minimising self-management measures that are likely to cause delays in attending the hospital. Educational sessions should emphasise that ACS may not always signalled by unrelenting chest pain or present dramatically, and that evolving, subtle presentation can also be a likely scenario for this condition. It is also crucial to highlight that symptoms can vary across individuals and even within the same person from one cardiac event to another. This is particularly important as my study involved women with both first and recurrent episodes of ACS, and even those with recurrent events faced challenges in attributing their symptoms to a potential cardiac origin, underlining the need for not omitting counselling women with a history of ACS on how to identify and manage recurring coronary events.

Educational outreach should extend beyond the patients themselves by involving families and caregivers, who often accompany patients to appointments or stay with them during hospitalisation, as my research demonstrated the influence of family on health-seeking decisions. This can be done through discussions with patients and accompanying family members in waiting rooms, supported by educational materials (e.g., flyers) that provide clear and concise information. These materials should be made available in waiting areas and hospital rooms to ensure the message reaches a wider audience.

Nurses in academia can also play a pivotal role in raising awareness by integrating health education into their teaching activities. For example, lecturers may go beyond traditional teaching by incorporating cardiac health literacy as a key component of the cardiovascular module within the nursing curriculum. This would enable students to actively participate in community-based initiatives within local areas, such as university campuses, neighbourhoods, and shopping malls, to disseminate knowledge to the wider public. By doing so, future nurses would be empowered to contribute meaningfully to cardiac health promotion and, ultimately, help reduce the burden of cardiac illness in women.

9.4.3. Implications and Recommendations for Future Research

Here, I suggest a few opportunities and directions for future research, with the hope that researchers interested in this area consider these suggestions to bridge the persistent knowledge gaps, especially in Saudi Arabia, where research on health-seeking behaviour in the area of ACS and broader cardiac illness remains significantly lacking.

Future research endeavours could address some of the study's limitations I highlighted earlier. Notably, my research predominantly captured the experiences of a specific group of Saudi women in a particular context. Therefore, future research could focus on amplifying the voices of women whose experiences were not fully explored. For example, research specifically targeting women with dual responsibilities could offer insights into how work duties and familial/domestic responsibilities intersect to influence responses to ACS-related symptoms. By examining the experiences of women who juggle workplace pressures and the social expectations prescribed to them in the context of Saudi society, future research could illuminate the nuanced ways in which time pressure, financial considerations, economic barriers, and caregiving responsibilities shape their health-seeking behaviours and the decisions to attend the hospital. Additionally, future research could examine the health-seeking behaviours of

women living in rural or less urbanised areas of Saudi Arabia. My study primarily focused on women in an urbanised context with better access to advanced healthcare services, and the experiences of those in remote areas were largely underexplored. Research examining the health-seeking behaviours of women residing in these areas could provide valuable insights into how challenges with accessing specialised or advanced healthcare may hinder timely health-seeking in women, which could consequently influence the initiation of prompt medical intervention for critical health conditions such as ACS.

Conducting research in remote contexts could further help investigate the tribal factors that shape health-seeking decisions. For instance, one of my participants, originally from the Southern region of Saudi Arabia, shared how strong tribal values and traditional norms collectively shaped her and her family's negative views about healthcare, which led to scepticism towards healthcare professionals and medicine, impeding the participant from attending the hospital promptly. Her account revealed that these perceptions were deeply rooted in cultural and tribal norms within her family, even though she resides in Jeddah, a more modernised urban area. Despite the rapid modernisation of Saudi Arabia, tribal and Bedouin traditions continue to persist in many families, which can significantly influence individuals' lives (Pilotti et al., 2021). Future research in remote/tribal contexts could provide further insights into how these deep-rooted cultural beliefs and norms shape women's decisions regarding health and illness, especially when faced with critical health events such as ACS.

Future research could build on my findings by conducting a comparative study involving both Saudi and non-Saudi women residing in Saudi Arabia. This would offer a broader perspective on how the sociocultural context of Saudi Arabia influences the health-seeking behaviours of high-risk women, especially considering the growing population of multinational expatriates, who account for over 42% of the total population. Exploring the experiences of foreign women would help identify potential differences in how they perceive and navigate illness as well as healthcare. This broader understanding would contribute to more inclusive and culturally sensitive healthcare interventions that address the needs of women in Saudi Arabia.

Another area that warrants further investigation is women's experiences during their encounters with healthcare professionals upon their hospital arrival. Few studies in the literature review highlighted gender disparities concerning healthcare responses to women experiencing cardiac symptoms (**Chapter 2**, **Section 2.4.5**). This issue was not raised by my participants and was not explored in my research. Additionally, only a small number of my

participants experienced a recurrent ACS event, and their interactions with healthcare providers during their previous cardiac experiences were not discussed in the interviews. Future research could examine these encounters and interactions in greater depth to explore how healthcare providers' responses (e.g., physicians and nurses in the emergency department) can impact women's understanding of the significance of their symptoms and how this may influence women's hospital attendance should they experience similar or worse symptoms again. Exploring women's experiences with these encounters could also provide valuable insights into whether women's cardiac risk burden is underestimated by healthcare professionals, which could reflect gender biases in the diagnosis and treatment of cardiac illness in this population.

Moreover, I suggested earlier that we could leverage telehealth in Saudi Arabia, for example, through the use of the *Tawakkalna* and *Sehhaty* apps, to channel awareness efforts about cardiac health to women nationwide, as these digital platforms have a wide reach and can effectively disseminate health information regarding cardiac health. Should this initiative be implemented, a cross-sectional, community-based research study could evaluate the effectiveness of collaborative efforts among various entities in launching a nationwide campaign to enhance women's awareness of cardiac illness. Such a study would be valuable in examining how exposure to media campaigns impacts women's understanding of cardiac risks and their urgency in seeking prompt medical attention.

9.5. Concluding Statement

There is limited research that explores women's health-seeking experiences in relation to the contextual and sociocultural characteristics of the world in which they live. For this purpose, I conducted qualitative research with individual interviews to elucidate a sample of Saudi women's experiences in depth and amplify their voices. My study has attempted to gain an in-depth understanding of Saudi women's experiences in recognising, interpreting, attributing, managing, and ultimately attending the hospital in response to their worsening health arising from ACS-related symptoms. To the best of my knowledge, this is the first study in Saudi Arabia and the Arab world to shed light on this topic by solely focusing on female ACS patients.

My study contributes to the knowledge that the pre-hospital experiences of Saudi women in navigating their way to the hospital were complex and multifaceted. Alongside the severity of symptoms and worsening health conditions, gender roles and their accompanying social and familial responsibilities, as well as family dynamics, were essential in determining how the

women engaged in health-seeking behaviours and decided to attend the hospital. My study also draws attention to the importance of addressing notions and ideas about cardiac illness, given the impact they exert on the Saudi women's responses to ACS.

My study recommends that raising women's cardiac awareness is important in making them understand the urgency of cardiac illness and the importance of seeking prompt medical attention for such a health condition; however, focusing on cardiac awareness would be insufficient unless Saudi women's contextual issues are considered. This is crucial as my thesis highlights the profound importance of women's sociocultural backgrounds, shaped by the collectivist Arab traditions and norms, in influencing the ways they perceive their gender roles and family responsibilities within the context of suffering from a cardiac illness.

In conclusion, my study has the potential to stimulate efforts to enhance women's cardiac health and overall wellbeing in Saudi Arabia and similar cultural settings. I really hope that the findings will deepen our understanding as nurses of the importance of moving beyond a purely medicalised mindset and considering the contextual elements specific to patients. This would tackle the devastating burden of cardiac illness in women, especially in conservative and collectivist contexts, where my research demonstrated that sociocultural aspects profoundly influence women's understanding of the urgency of a health situation and their life priorities.

9.6. Reflexive conclusion

As I bring my thesis to a close, I find myself reflecting on the insights I have gained from my PhD, or rather, my learning journey. The findings of this study have addressed many of the questions I initially had and have helped me to move beyond a medicalised understanding of cardiac illness toward a more holistic, more contextualised understanding. The journey I have undertaken over more than four years of research, reading, and writing has been immense. Along the way, I have realised that my PhD has not only expanded my knowledge but also broadened the way I view the interplay between health, culture, and personal experiences. My intellectual development was not just shaped by the data and findings; it required critical thinking and examination of ideas through analytical engagement with empirical literature and theoretical perspectives. Indeed, the more I have learned, the more I have become aware of how extensive the field of knowledge is. As I write these concluding sentences, I remember a verse from the holy Quran: "*And say, My Lord, increase me in knowledge"* (Quran 20:114).

These words inspire me to remain open and receptive to ongoing learning and growth, both as a researcher and as a person.

Reference

ABED, M. A., ALI, R. M., ABU RAS, M. M., HAMDALLAH, F. O., KHALIL, A. A. & MOSER, D. K. (2015) 'Symptoms of acute myocardial infarction: A correlational study of the discrepancy between patients' expectations and experiences', *International journal of nursing studies,* 52(10)**,** pp.1591-1599.

ADAM, R., THORNTON, A. J., WHITAKER, K. L., MURCHIE, P., HANNAFORD, P. C., HALL, S., SMITH, S. & ELLIOTT, A. M. (2022) 'How does social context influence appraisal and help-seeking for potential cancer symptoms in adults aged 50 and over? A qualitative interview study', *European journal of cancer care,* 31(6), pp.1-8.

ADAM, T., SHARIF, A. I. A., ALAMRI, T. S. M., AL-NASHRI, R. A. O., ALLUWIMI, A. I. M., SAMKRI, A. Y., ALHARTHI, M. A., MOAFA, A. Y., ALSAADI, N. A., ALRAIMI, A. M. S. & ALQUZI, R. H. M. (2023), 'The State of Cardiac Rehabilitation in Saudi Arabia: Barriers, Facilitators, and Policy Implications', *Curēus,* 15(11)**,** pp.1-11.

ADHIKARY, D., BARMAN, S., RANJAN, R. & STONE, H. (2022) 'A systematic review of major cardiovascular risk factors: a growing global health concern', *Cureus,* 14(10), pp.1-9.

AHMAD, Y., HOWARD, J. P., ARNOLD, A., PRASAD, M., SELIGMAN, H., COOK, C. M., WARISAWA, T., SHUN-SHUN, M., ALI, Z. & PARIKH, M. A. (2020) 'Complete revascularization by percutaneous coronary intervention for patients with ST-segment–elevation myocardial infarction and multivessel coronary artery disease: an updated meta-analysis of randomized trials', *Journal of the American Heart Association,* 9(12)**,** pp.1-15.

AHMED, W. & YUSUF, M. (2020) 'Women empowerment in Saudi Arabia: An analysis from education policy perspective', T*he Middle East International Journal for Social Sciences (MEIJSS),* 2(3), pp.93-98.

AL BARMAWI, M., AL HADID, L. A. & AL KHARABSHAH, M. (2022) 'Reasons for delay in seeking healthcare among women with acute coronary syndrome from rural and urban areas in Jordan', *Health care for women international,* 43**,** pp.293-308.

AL DAWISH, M. A., ROBERT, A. A., SAMARA, A. & KHALAF, A. (2021) Diabetes Mellitus in Saudi Arabia: Challenges and Possible Solutions. Cham: Springer International Publishing.

AL-ASFOUR, A., TLAISS, H. A., KHAN, S. A. & RAJASEKAR, J. (2017) 'Saudi women's work challenges and barriers to career advancement', *Career development international,* 22(2)**,** pp.184-199.

AL-GARAWI, N. & KAMARGIANNI, M. (2022) 'Exploring the factors affecting women's intention to drive in Saudi Arabia', *Travel behaviour and society,* 26**,** pp.121-133.

AL-HAKAMI, H. & MCLAUGHLIN, K. (2016) 'Debatable Marriages: Marriage and Child Marriage in Saudi Arabia', *Marriage & family review,* 52(7)**,** pp.654-664.

AL-HANAWI, M. K., KHAN, S. A. & AL-BORIE, H. M. (2019) 'Healthcare human resource development in Saudi Arabia: Emerging challenges and opportunities - A critical review', *Public Health Reviews,* 40(1), pp.1-16.

AL-HASSAN, M. A. (2015) 'Cognitive representations of symptoms of acute coronary syndrome and coping responses to the symptoms as correlates to pre-hospital delay in Omani women and men patients', *Journal of Research in Nursing,* 20(2), pp.82-93.

AL-KINDI, S., AL-JUHAISHI, T., HADDAD, F., TAHERI, S. & ABI KHALIL, C. (2015) 'Cardiovascular disease research activity in the Middle East: a bibliometric analysis', *Therapeutic advances in cardiovascular disease,* 9(3)**,** pp.70-76.

AL-MATARY, A. & ALJOHANI, E. (2021) 'Effect of housemaids on adolescents in Saudi Arabia', *Hamdan Medical Journal,* 14(2)**,** pp.82-86.

ALAHMADI, A. F., ALSAEDI, M. F., ALAHMADI, A. E., ALHARBI, M. G., ALHARBI, I. H. & RADMAN AL-DUBAI, S. A. (2020) 'Pre-hospital delay among patients with acute myocardial infarction in Saudi Arabia: A cross-sectional study', *Saudi medical journal,* 41(8)**,** pp.819-827.

ALASIRI, A. A. & MOHAMMED, V. (2022) 'Healthcare transformation in Saudi Arabia: an overview since the launch of vision 2030', *Health services insights,* 15**,** pp.1-7.

ALASQAH, I., MAHMUD, I., EAST, L. & USHER, K. (2021) 'Patterns of physical activity and dietary habits among adolescents in Saudi Arabia: A systematic review', *International journal of health sciences,* 15**,** pp.39-48.

ALBARQOUNI, L., SMENES, K., MEINERTZ, T., SCHUNKERT, H., FANG, X., RONEL, J. & LADWIG, K. H. (2016) 'Patients' knowledge about symptoms and adequate behaviour during acute myocardial infarction and its impact on delay time: Findings from the multicentre MEDEA Study', *Patient education and counseling,* 99(11)**,** pp.1845-1851.

ALBRAHIM, M., AHMED, A. M., ALWAKEEL, A., HIJJI, F. & AL-MALLAH, M. H. (2016) 'Predictors of delayed pre-hospital presentation among patients with ST-segment elevation myocardial infarction', *Qatar medical journal,* 2016(1)**,** pp.1-5.

ALDOSARI, H. (2017) *The effect of gender norms on women's health in Saudi Arabia*, Arab Gulf States Institute in Washington Washington, DC.

ALGUWAIHES, A. M., ALHOZALI, A., YAHIA, M. M., ABDEL-NABI, T., HATAHET, M. H., ALBALKHI, N. I. & AL SIFRI, S. (2023) 'The prevalence of cardiovascular disease in adults with type 2 diabetes mellitus in Saudi Arabia-CAPTURE study', *Saudi Medical Journal,* 44(1)**,** pp.57-66.

ALHABIB, K. F., BATAIS, M. A., ALMIGBAL, T. H., ALSHAMIRI, M. Q., ALTARADI, H., RANGARAJAN, S. & YUSUF, S. (2020) 'Demographic, behavioral, and cardiovascular disease risk factors in the Saudi population: results from the Prospective Urban Rural Epidemiology study (PURE-Saudi)', *BMC public health,* 20(1)**,** pp.1-14.

ALHARBI, R. (2024) 'Narratives of Change in Rural Saudi Arabia: A Cultural-Historical Study', in *Saudi Youth: Policies and Practices.* Springer: Springer Nature Singapore, pp.35-48.

ALHAWSAWI, S. & JAWHAR, S. S. (2023) 'Education, employment, and empowerment among Saudi women', *Gender and education,* 35(4)**,** pp.401-419.

ALKHALIFAH, J. M., SEDDIQ, W., ALSHEHRI, B. F., ALHALULI, A. H., ALESSA, M. M. & ALSULAIS, N. M. (2022) 'The role of the COVID-19 pandemic in expediting digital health-care transformation: Saudi Arabia's experience', *Informatics in medicine unlocked,* 33**,** pp.1-7.

ALLANA, S., MOSER, D. D. K., ALI, D. T. S. & KHAN, D. A. H. (2018) 'Sex differences in symptoms experienced, knowledge about symptoms, symptom attribution, and perceived urgency for treatment seeking among acute coronary syndrome patients in Karachi Pakistan' *Heart and Lung,* 47(6)**,** pp.584-590.

ALMALKI, S. (2020) *Parenting Practices in Saudi Arabia: Gender-Role Modeling*. Cham: Springer International Publishing.

ALMOSAED, N. (2008) 'Money and power in Saudi family', *JKAU: Arts & Humanities,* 16(2)**,** pp.61-87.

ALOUDAH, N. M. (2022) 'Qualitative research in the Arabic language. When should translations to English occur? A literature review', *Exploratory Research in Clinical and Social Pharmacy,* 6, pp.1-12.

ALQAHTANI, B. A., ALENAZI, A. M., ALHOWIMEL, A. S. & ELNAGGAR, R. K. (2021) 'The descriptive pattern of physical activity in Saudi Arabia: analysis of national survey data', *International health,* 13(3)**,** pp.232-239.

ALQUAIZ, A. M., SIDDIQUI, A. R., QURESHI, R. H., FOUDA, M. A., ALMUNEEF, M. A., HABIB, F. A. & TURKISTANI, I. M. (2014) 'Women Health in Saudi Arabia: A review of non-communicable diseases and their risk factors', *Pakistan journal of medical sciences,* 30(2)**,** pp.422-431.

ALQURASHI, A. F. & KUMAR, L. (2019) 'An assessment of the impact of urbanization and land use changes in the fast-growing cities of Saudi Arabia', *Geocarto International,* 34(1)**,** pp.78-97.

ALSHAHRANI, H., MCCONKEY, R., WILSON, J., YOUSSEF, M. & FITZSIMONS, D. (2014) 'Female gender doubles pre-hospital delay times for patients experiencing ST segment elevation myocardial infarction in Saudi Arabia', *European Journal of Cardiovascular Nursing,* 13(5)**,** pp.399-407.

ALSHAIKH, M. K., FILIPPIDIS, F. T., BALDOVE, J. P., MAJEED, A. & RAWAF, S. (2016) 'Women in Saudi Arabia and the Prevalence of Cardiovascular Risk Factors: A Systematic Review', *Journal of Enviromental Public Health,* 2016**,** pp.197-211.

ALTOWAIJRI, A., ALSHEHRI, N., BALKHI, B. & ALGHAMDI, A. (2020) 'PCV50 Economic Burden of Major Cardiovascular Diseases and Ischemic Stroke in Saudi Arabia: A Cost of Illness Study', *Value in health,* 23**,** pp.S495-S496.

ALWEDINANI, J. (2017) 'Bargaining with patriarchy: Women's subject choices and patriarchal marriage norms', *International Journal of Gender and Women's Studies,* 5(2)**,** pp.11-21.

ANWAR, M., GREEN, J. & NORRIS, P. (2012) 'Health-seeking behaviour in Pakistan: A narrative review of the existing literature', *Public health (London),* 126**,** 507-517.

ANYAN, F. (2015) 'The Influence of Power Shifts in Data Collection and Analysis Stages : A Focus on Qualitative Research Interview', *Qualitative report*, 18(26), pp.1-9.

ARSLANIAN-ENGOREN, C. & SCOTT, L. D. (2017) 'Delays in Treatment-Seeking Decisions Among Women With Myocardial Infarction', *Dimensions of Critical Care Nursing,* 36(5)**,** pp.298-303.

ASGHARI, E., GHOLIZADEH, L., KAZAMI, L., TABAN SADEGHI, M., SEPARHAM, A. & KHEZERLOY-AGHDAM, N. (2022) 'Symptom recognition and treatment-seeking behaviors in women experiencing acute coronary syndrome for the first time: a qualitative study', *BMC Cardiovascular Disorders,* 22(1), pp.1-9.

AVEYARD, H. (2019) *Doing a literature review in health and social care : a practical guide / Helen Aveyard,* London, Open University Press, McGraw-Hill Education.

BAIREY MERZ, C. N., ANDERSEN, H., SPRAGUE, E., BURNS, A., KEIDA, M., WALSH, M. N., GREENBERGER, P., CAMPBELL, S., POLLIN, I., MCCULLOUGH, C., BROWN, N., JENKINS, M., REDBERG, R., JOHNSON, P. & ROBINSON, B. (2017) 'Knowledge, Attitudes, and Beliefs Regarding Cardiovascular Disease in Women' *Journal of the American College of Cardiology,* 70(2)**,** pp.123-132.

BAZELEY, P. (2020) *Qualitative data analysis: practical strategies,* London: SAGE Publications.

BEAUCHAMP, T. L. & CHILDRESS, J. F. (2019) *Principles of biomedical ethics. 8th edn.* New York: Oxford University Press.

BEEDHOLM, K., ANDERSEN, L. S. & LORENTZEN, V. (2019) 'From Bodily Sensations to Symptoms: Health Care-Seeking Practices Among People Affected by Acute Coronary Syndrome', *Qualitative health research,* 29(11)**,** pp.1651-1660.

BERG GUNDERSEN, A. E., SØRLIE, T. & BERGVIK, S. (2017) 'Women with coronary heart disease - making sense of their symptoms and their experiences from interacting with their general practitioners', *Health psychology & behavioral medicine,* 5(1)**,** pp.29-40.

BERGMARK, B. A., MATHENGE, N., MERLINI, P. A., LAWRENCE-WRIGHT, M. B. & GIUGLIANO, R. P. (2022) 'Acute coronary syndromes', *The Lancet,* 399**,** pp.1347-1358.

BLAIKIE, N. W. H. & PRIEST, J. (2017) *Social research: paradigms in action.* Cambridge, UK: Polity Press.

BLAIKIE, N. W. H. & PRIEST, J. (2019) *Designing Social Research The Logic of Anticipation.* Newark: Polity Press.

BLAKEMAN, J. R. & PRASUN, M. A. (2022) 'Perceived personal risk and vulnerability in recognizing and responding to symptoms of acute coronary syndrome: an integrative review', *European Society of Cardiovasc Nursing,* 21(5)**,** pp.405-413.

BOERSMA, E. (2006) 'Does time matter? A pooled analysis of randomized clinical trials comparing primary percutaneous coronary intervention and in-hospital fibrinolysis in acute myocardial infarction patients', *European heart journal,* 27(7), pp.779-788.

BOUISSET, F., GERBAUD, E., BATAILLE, V., COSTE, P., PUYMIRAT, E., BELLE, L., DELMAS, C., CAYLA, G., MOTREFF, P., LEMESLE, G., AISSAOUI, N., BLANCHARD, D., SCHIELE, F., SIMON, T., DANCHIN, N. & FERRIÈRES, J. (2021) 'Percutaneous Myocardial Revascularization in Late-Presenting Patients With STEMI', *Journal of the American College of Cardiology,* 78(13)**,** pp.1291-1305.

BOUTAS, I., KONTOGEORGI, A., KALANTARIDOU, S. N., DIMITRAKAKIS, C., PATSIOS, P., KALANTZI, M. & XANTHOS, T. (2023) 'Reverse Onco-Cardiology: What Is the Evidence for Breast Cancer? A Systematic Review of the Literature', *International journal of molecular sciences,* 24(22)**,** pp.1-13.

BRAUN, V. & CLARKE, V. (2006) 'Using thematic analysis in psychology', *Qualitative research in psychology,* 3(2), pp.77-101.

BRAUN, V. & CLARKE, V. (2013) *Successful qualitative research: a practical guide for beginners.* London: SAGE.

BRAUN, V. & CLARKE, V. (2022) *Thematic analysis : a practical guide.* London: SAGE Publications Ltd.

BRINKMANN, S. (2023) *Qualitative Interviewing: Conversational Knowledge Through Research Interviews.* New York: Oxford University Press.

BRINKMANN, S. & KVALE, S. (2018) *Doing interviews.* London: SAGE Publications Ltd.

BYRNE, R. A., ROSSELLO, X., COUGHLAN, J., BARBATO, E., BERRY, C., CHIEFFO, A., CLAEYS, M. J., DAN, G.-A., DWECK, M. R. & GALBRAITH, M. (2024). '2023 ESC guidelines for the management of acute coronary syndromes: developed by the task force on the management of acute coronary syndromes of the European Society of Cardiology (ESC)', *European Heart Journal: Acute Cardiovascular Care,* 13(1)**,** pp.55-161.

CANTO, J. G., CANTO, E. A. & GOLDBERG, R. J. (2014) 'Time to Standardize and Broaden the Criteria of Acute Coronary Syndrome Symptom Presentations in Women', *Canadian Journal of Cardiology',* 30(7)**,** pp.721-728.

CEBERT-GAITORS, M., ABDELNALBI, S., MANTELL, E., WOODWARD, A., GONZALEZ-GUARDA, R. & STEVENSON, E. L. (2022a) 'Multidimensional barriers and facilitators to treatment seeking for infertility among women in the United States: a systematic review', *F&S Reviews,* 3(1)**,** pp.76-89.

CEBERT-GAITORS, M., SHANNON-BAKER, P. A., SILVA, S. G., HART, R. E., JAHANDIDEH, S., GONZALEZ-GUARDA, R. & STEVENSON, E. L. (2022b) 'Psychobiological, clinical, and

sociocultural factors that influence Black women seeking treatment for infertility: a mixed-methods study', *F&S Reports,* 3(2)**,** pp. 29-39.

CHRISMAN, N. J. (1977) 'The health seeking process: An approach to the natural history of illness', *Culture, medicine and psychiatry,* 1(4)**,** pp.351-377.

CLARK, T., FOSTER, L., SLOAN, L. & BRYMAN, A. (2021) *Bryman's social research methods,* Oxford, Oxford University Press.

CLARKE, V. & BRAUN, V. (2018) 'Using thematic analysis in counselling and psychotherapy research: A critical reflection' *Counselling and psychotherapy research,* 18(20**,** pp.107-110.

COCKERHAM, W. C. (2021) *The Wiley Blackwell Companion to Medical Sociology.* Newark: Wiley.

CONRAD, P. & BARKER, K. K. (2010) 'The Social Construction of Illness: Key Insights and Policy Implications. *Journal of health and social behavior',* 51**,** S67-S79.

CORNALLY, N. & MCCARTHY, G. (2011) 'Help-seeking behaviour: A concept analysis", *International journal of nursing practice,* 17(3)**,** pp.280-288.

COVENTRY, L. L., SCHALKWYK, J. W., THOMPSON, P. L., HAWKINS, S. A. & HEGNEY, D. G. (2017) 'Myocardial infarction, patient decision delay and help-seeking behaviour: a thematic analysis', *Journal of Clinical Nursing,* 26(13)**,** pp.1993-2005.

CRESWELL, J. W. & CRESWELL, J. D. (2018) *Research design: qualitative, quantitative & mixed methods approaches.* Los Angeles: SAGE.

CRESWELL, J. W. & POTH, C. N. (2018) *Qualitative inquiry & research design: choosing among five approaches.* Los Angeles: SAGE.

DAMASCENO, C. A., QUEIROZ, T. L. D., SANTOS, C. A. D. S. T. & MUSSI, F. C. (2012) 'Factors associated with the decision to seek health care in myocardial infarction: gender differences', *Revista da Escola de Enfermagem da USP,* 46(6)**,** pp.1362-1370.

DARAWAD, M. W., ALFASFOS, N., SALEH, Z., SALEH, A. M. & HAMDAN-MANSOUR, A. (2016) 'Predictors of delay in seeking treatment by Jordanian patients with acute coronary syndrome. *International emergency nursing',* 26**,** pp. 20-25.

DAVIS, E., GOROG, D. A., RIHAL, C., PRASAD, A. & SRINIVASAN, M. (2017) '"Mind the gap" acute coronary syndrome in women: A contemporary review of current clinical evidence', *International Journal of Cardiology,* 227**,** pp.840-849.

DAVIS, L. L. (2017) 'A Qualitative Study of Symptom Experiences of Women With Acute Coronary Syndrome', *The Journal of cardiovascular nursing,* 32(5)**,** pp.488-495.

DAVIS, L. L. & MCCOY, T. P. (2019) 'An Educational and Skill-Building Intervention to Improve Symptom Recognition and Interpretation in Women With Acute Coronary Syndrome: A Pilot Study', *Dimensions of critical care nursing : DCCN,* 38(1)**,** pp.29-37.

DAVIS, L. L., MISHEL, M., MOSER, D. K., ESPOSITO, N., LYNN, M. R. & SCHWARTZ, T. A. (2013) 'Thoughts and behaviors of women with symptoms of acute coronary syndrome, *Heart and Lung: Journal of Acute and Critical Care,* 42(6)**,** pp.428-435.

DAVISON, C., SMITH, G. D. & FRANKEL, S. (1991) 'Lay epidemiology and the prevention paradox: the implications of coronary candidacy for health education,' *Sociology of health & illness,* 13(1)**,** pp.1-19.

DEAN, J., FURNESS, P., VERRIER, D., LENNON, H., BENNETT, C. & SPENCER, S. (2018) 'Desert island data: an investigation into researcher positionality', *Qualitative research : QR,* 18(3)**,** pp.273-289.

DENZIN, N. K., LINCOLN, Y. S., GIARDINA, M. D. & CANNELLA, G. S. (2023) *The SAGE handbook of qualitative research.* Los Angeles: SAGE.

DEVON, A. H., HOGAN, L. N., OCHS, L. A. & SHAPIRO, L. M. (2010) 'Time to Treatment for Acute Coronary Syndromes: The Cost of Indecision', *The Journal of Cardiovascular Nursing,* 25(2)**,** pp.106-114.

DEVON, H. A., MIRZAEI, S. & ZEGRE-HEMSEY, J. (2020) 'Typical and Atypical Symptoms of Acute Coronary Syndrome: Time to Retire the Terms?', *Journal of the American Heart Association,* 9(7)**,** pp.1-4.

DEVON, H. A., SABAN, K. L. & GARRETT, D. K. (2011) 'Recognizing and Responding to Symptoms of Acute Coronary Syndromes and Stroke in Women', *Journal of Obstetric, Gynecologic, and Neonatal Nursing,* 40(3)**,** pp.372-382.

DWORKIN, S. L. (2012 'Sample Size Policy for Qualitative Studies Using In-Depth Interviews', *Archives of sexual behavior,* 41(6)**,** pp.1319-1320.

ECKER, E. D. & SKELLY, A. C. 2010. Conducting a winning literature search. *Evidence-based spine-care journal,* 1(1)**,** pp.9-14.

EL BCHERAOUI, C., MEMISH, Z. A., TUFFAHA, M., DAOUD, F., ROBINSON, M., JABER, S., MIKHITARIAN, S., AL SAEEDI, M., ALMAZROA, M. A., MOKDAD, A. H. & AL RABEEAH, A. A. (2014) 'Hypertension and its associated risk factors in the kingdom of saudi arabia, 2013: a national survey', *International Journal of Hypertension,* 2014**,** pp. 66-73.

ELMIR, R., SCHMIED, V., JACKSON, D. & WILKES, L. (2011) 'Interviewing people about potentially sensitive topics', *Nurse researcher,* 19(1)**,** pp. 12-16.

ELYAS, T., AL-ZHRANI, K. A., MUJADDADI, A. & ALMOHAMMADI, A. (2021) 'The representation(s) of Saudi women pre-driving era in local newspapers and magazines: a critical discourse analysis', *British journal of Middle Eastern studies,* 48(5)**,** pp.1033-1052.

EMSLIE, C. (2005) 'Women, men and coronary heart disease: a review of the qualitative literature', *Journal of advanced nursing,* 51(4)**,** pp.382-395.

EMSLIE, C., HUNT, K. & WATT, G. (2001) 'Invisible women? The importance of gender in lay beliefs about heart problems', *Sociology of health & illness,* 23(2)**,** pp.203-233.

ERICSSON, M., THYLEN, I., STRÖMBERG, A., ANGERUD, K. H., MOSER, D. K. & SEDERHOLM LAWESSON, S. (2022) 'Factors associated with patient decision time in ST-segment elevation myocardial infarction, in early and late responders-an observational cross-sectional survey study', *European Journal of Cardiovascular Nursing,* 21(7)**,** pp.694-701.

ESPINOSA DE LOS MONTEROS, K. & GALLO, L. C. (2011) 'The Relevance of Fatalism in the Study of Latinas' Cancer Screening Behavior: A Systematic Review of the Literature', *International journal of behavioral medicine,* 18(4)**,** pp.310-318.

FADNES, L. T., TAUBE, A. & TYLLESKÄR, T. (2009) 'How to identify information bias due to self-reporting in epidemiological research', *The Internet Journal of Epidemiology,* 7(2)**,** pp.28-38.

FINEFTER-ROSENBLUH, I. (2017) 'Incorporating Perspective Taking in Reflexivity: A Method to Enhance Insider Qualitative Research Processes', *International journal of qualitative methods,* 16(1)**,** pp.1-11.

FINLAY, L. (2002) 'Negotiating the swamp: the opportunity and challenge of reflexivity in research practice', *Qualitative research : QR,* 2(2)**,** pp.209-230.

FLICK, U. (2022) *An introduction to qualitative research / Uwe Flick,* Thousand Oaks, SAGE Publications Ltd.

FRIESE, S. (2022) Role and Impact of CAQDAS Software for Designs in Qualitative Research. In *The SAGE handbook of qualitative research design*, pp.307-326, London: SAGE Publications Ltd.

GAGNON-ARPIN, I., HABIB, M., ALAYOUBI, F., SUTHERLAND, G., DOBRESCU, A., VILLA, G. & ALHABIB, K. (2018) 'Modelling the burden of cardiovascular disease in Saudi Arabia and the impact of reducing modifiable risk factors', *Journal of the Saudi Heart Association,* 30(4)**,** pp.365-365.

GALDAS, P. M., JOHNSON, J. L., PERCY, M. E. & RATNER, P. A. (2010) 'Help seeking for cardiac symptoms: Beyond the masculine-feminine binary', *Social Science and Medicine,* 71(1)**,** pp.18-24.

GALICK, A., D'ARRIGO-PATRICK, E. & KNUDSON-MARTIN, C. (2015) 'Can Anyone Hear Me? Does Anyone See Me? A Qualitative Meta-Analysis of Women's Experiences of Heart Disease', *Qualitative health research,* 25(8)**,** pp.1123-1138.

GALLAGHER, R., MARSHALL, A. P. & FISHER, M. J. (2010) 'Symptoms and treatment-seeking responses in women experiencing acute coronary syndrome for the first time' *Heart and Lung: Journal of Acute and Critical Care,* 39(6)**,** pp.477-484.

GASTAT. (2022) *Population Summary Report* [Online]. Available at: https://portal.saudicensus.sa/static-assets/media/content/20230531_GASTAT_Population_Report.pdf?crafterSite=gastat-portal (Accessed: 05 August 2024).

GRAHAM, G. (2016) 'Acute Coronary Syndromes in Women: Recent Treatment Trends and Outcomes', *Clinical Medicine Insights. Cardiology,* 10**,** pp. 1-10.

GRANSTRÖM, J., LANTZ, P., LIDIN, M., WAHLSTRÖM, M. & NYMARK, C. (2023) 'Perceptions of delay when afflicted by an acute myocardial infarction during the first wave of the COVID-19 pandemic', *European Journal of Cardiovascular Nursing,* 22(1)**,** pp.89-97.

GREIL, A. L., JOHNSON, K. M., LOWRY, M. H., MCQUILLAN, J. & SLAUSON-BLEVINS, K. S. (2020) 'Degrees of Medicalization: The Case of Infertility Health-Seeking', *Sociological quarterly,* 61(2)**,** pp.347-365.

GUAN, W., VENKATESH, A. K., BAI, X., XUAN, S., LI, J., LI, X., ZHANG, H., ZHENG, X., MASOUDI, F. A., SPERTUS, J. A., KRUMHOLZ, H. M. & JIANG, L. (2019) 'Time to hospital arrival among patients with acute myocardial infarction in China: A report from China PEACE prospective study', *European Heart Journal - Quality of Care and Clinical Outcomes,* 5(1)**,** pp.63-71.

GUERCHICOFF, A., BRENER, S. J., MAEHARA, A., WITZENBICHLER, B., FAHY, M., XU, K., GERSH, B. J., MEHRAN, R., GIBSON, C. M. & STONE, G. W. (2014) 'Impact of Delay to Reperfusion on Reperfusion Success, Infarct Size, and Clinical Outcomes in Patients With ST-Segment Elevation Myocardial Infarction', *JACC: Cardiovascular Interventions,* 7 (7)**,** pp.733-740.

GUSENBAUER, M. & HADDAWAY, N. R. (2020) 'Which academic search systems are suitable for systematic reviews or meta-analyses? Evaluating retrieval qualities of Google Scholar, PubMed, and 26 other resources', *Research synthesis methods,* 11 (2)**,** pp.181-217.

GUTIERREZ, J., ALLOUBANI, A., MARI, M. & ALZAATREH, M. (2018) 'Cardiovascular disease risk factors: Hypertension, diabetes mellitus and obesity among tabuk citizens in Saudi Arabia', *The open cardiovascular medicine journal,* 12 (1)**,** pp.41-49.

GYBERG, A., BJÖRCK, L., NIELSEN, S., MÄÄTTÄ, S. & FALK, K. (2016) 'Women's help-seeking behaviour during a first acute myocardial infarction, *Scandinavian Journal of Caring Sciences,* 30 (4)**,** pp.670-677.

HADID, L. A. A., AL BARMAWI, M., AL HMAIMAT, N. A. A. & SHOQIRAT, N. (2020) 'Factors Associated with Prehospital Delay among Men and Women Newly Experiencing Acute Coronary Syndrome: A Qualitative Inquiry', *Cardiology research and practice,* 2020**,** pp.1-9.

HAMMERSLEY, M. & TRAIANOU, A. (2016) *Ethics in qualitative research : controversies and contexts / Martyn Hammersley and Anna Traianou,* London, SAGE.

HANNAN, E. L., WU, Y., TAMIS-HOLLAND, J., JACOBS, A. K., BERGER, P. B., LING, F. S. K., WALFORD, G., VENDITTI, F. J. & KING, S. B., 3RD (2020) 'Sex differences in the treatment and outcomes of patients hospitalized with ST-elevation myocardial infarction', *Catheter Cardiovasc Interv,* 95 (2)**,** pp.196-204.

HEALY, B. (1991) 'The yentl syndrome', *The New England journal of medicine*, 325 (4), pp. 274-276.

HERNING, M., HANSEN, P. R., BYGBJERG, B. & LINDHARDT,T. (2011) 'Women's experiences and behaviour at onset of symptoms of ST segment elevation acute myocardial infarction', *European Journal of Cardiovascular Nursing,* 10 (4)**,** pp. 241-247.

HOFF, T. J. & WITT, L. C. (2000) 'Exploring the Use of Qualitative Methods in Published Health Services and Management Research' *Medical Care Research and Review,* 57 (2)**,** pp.139-160.

HOLLOWAY, I. & GALVIN, K. (2017) *Qualitative research in nursing and healthcare,* Chichester. Chichester, West Sussex, UK: Wiley Blackwell.

HONG, Q. N., FÀBREGUES, S., BARTLETT, G., BOARDMAN, F., CARGO, M., DAGENAIS, P., GAGNON, M.-P., GRIFFITHS, F., NICOLAU, B. & O'CATHAIN, A. (2018) 'The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers', *Education for information,* 34 (4)**,** pp.285-291.

HUMPHRIES, K. H., IZADNEGAHDAR, M., SEDLAK, T., SAW, J., JOHNSTON, N., SCHENCK-GUSTAFSSON, K., SHAH, R. U., REGITZ-ZAGROSEK, V., GREWAL, J., VACCARINO, V., WEI, J. & BAIREY MERZ, C. N. (2017) 'Sex differences in cardiovascular disease - Impact on care and outcomes', *Frontiers in Neuroendocrinology,* 46**,** pp.46-70.

HWANG, S. Y. & JEONG, M. H. (2012) 'Cognitive factors that influence delayed decision to seek treatment among older patients with acute myocardial infarction in Korea, *European Journal of Cardiovascular Nursing,* 11 (2)**,** pp.154-159.

IDRIS, D. R., FORREST, S. & BROWN, S. (2019) 'Health help-seeking by men in Brunei Darussalam: masculinities and 'doing' male identities across the life course', *Sociology of health & illness,* 41 (6), pp.1071-1087.

ISAKSSON, R.-M., BRULIN, C., ELIASSON, M., NÄSLUND, U. & ZINGMARK, K. (2013) 'Older Women's Prehospital Experiences of Their First Myocardial Infarction', *Journal of Cardiovascular Nursing,* 28(4), pp.360-369.

JIANG, G., GARRIS, C. P. & ALDAMER, S. (2018) 'Individualism Behind Collectivism: A Reflection from Saudi Volunteers', *Voluntas,* 29 (1), pp.144-159.

JIN, S. P. X., CHANDRAMOULI, L. C., ALLOCCO, L. B., GONG, L. E., LAM, L. C. & YAN, L. L. (2020) 'Women's Participation in Cardiovascular Clinical Trials From 2010 to 2017', *Circulation,* 141 (7), pp.540-548.

KABA, R. & SOORIAKUMARAN, P. (2007) 'The evolution of the doctor-patient relationship', *International journal of surgery,* 5 (1), pp.57-65.

KASL, S. V. & COBB, S. (1966) ,Health behavior, illness behavior, and sick role behavior. I. Health and illness behavior', *Arch Environ Health,* 12 (2), pp.246-266.

KHAMIS, R. Y., AMMARI, T. & MIKHAIL, G. W. (2016) 'Gender differences in coronary heart disease', *Heart,* 102 (14), pp.1142-1149.

KIM, H.-S., LEE, K.-S., EUN, S. J., CHOI, S.-W., KIM, D. H., PARK, T.-H., YUN, K. H., YANG, D. H., HWANG, S. J., PARK, K.-S. & KIM, R. B. (2017) 'Gender differences in factors related to prehospital delay in patients with ST-segment elevation myocardial infarction', *Yonsei medical journal,* 58 (4), pp.710-719.

KING-SHIER, K. M., SINGH, S., LEBLANC, P., MATHER, C. M., HUMPHREY, R., QUAN, H. & KHAN, N. A. (2015) ,The influence of ethnicity and gender on navigating an acute coronary syndrome event', *European Journal of Cardiovascular Nursing,* 14 (4)**,** pp.240-247.

KOENIG, H. G. (2014) *Health and well-being in Islamic societies background, research, and applications.* Switzerland: Springer.

KONING, C., YOUNG, L. & BRUCE, A. (2016) 'Mind the Gap: Women and Acute Myocardial Infarctions-An Integrated Review of Literature', *Canadian journal of cardiovascular nursing,* 26 (3)**,** pp.8-14.

KOUVARI, M., SOULIOTIS, K., YANNAKOULIA, M. & PANAGIOTAKOS, D. B. (2020) 'Cardiovascular diseases in women: Policies and practices around the globe to achieve gender equity in cardiac health', *Risk management and healthcare policy,* 13**,** pp.2079-2094.

LEAVY, P. (2020) *The Oxford Handbook of Qualitative Research.* Oxford: Oxford University Press, Incorporated.

LEE, I. (2015) *Health-seeking behavior of Korean women with myocardical infarction.* ProQuest Dissertations & Theses.

LEVENTHAL, H., MEYER, D. & NERENZ, D. (1980) 'The Common-Sense Representation of Illness Danger', in Rachman S. (ed.) *Contributions to Medical Psychology*. New York: Pegamon Press.

LI, P. W. C. & YU, D. S. F. (2018) 'Predictors of pre-hospital delay in Hong Kong Chinese patients with acute myocardial infarction', *European Journal of Cardiovascular Nursing,* 17 (1)**,** pp.75-84.

LICHTMAN, H. J., LEIFHEIT-LIMSON, C. E., WATANABE, B. E., ALLEN, S. N., GARAVALIA, A. B., GARAVALIA, M. L., SPERTUS, A. J., KRUMHOLZ, A. H. & CURRY, A. L. (2015) 'Symptom Recognition and Healthcare Experiences of Young Women With Acute Myocardial Infarction', *Circulation: Cardiovascular Quality and Outcomes,* 8 (2)**,** pp.S31-S38.

LICHTMAN, J. H., LEIFHEIT, E. C., SAFDAR, B., BAO, H., KRUMHOLZ, H. M., LORENZE, N. P., DANESHVAR, M., SPERTUS, J. A. & D'ONOFRIO, G. (2018) 'Sex differences in the presentation and perception of symptoms among young patients with myocardial infarction' *Circulation,* 137 (8)**,** pp.781-790.

LIDIN, M., LYNGÅ, P., KINCH-WESTERDAHL, A. & NYMARK, C. (2021) 'Patient delay prior to care-seeking in acute myocardial infarction during the outbreak of the coronavirus SARS-CoV2 pandemic', *European Journal of Cardiovascular Nursing,* 20(8)**,** pp.752-759.

LIM, S. C., RAHMAN, A. & YAACOB, N. M. (2019) 'Pre-hospital factors influencing time of arrival at emergency departments for patients with acute ST-elevation myocardial infarction', *Malaysian Journal of Medical Sciences,* 26 (1)**,** pp.87-98.

LINCOLN, Y. S. & GUBA, E. G. 1985. *Naturalistic inquiry.* Newbury Park, California: Sage.

LOBOZ-GRUDZIEN, K. & JAROCH, J. (2011) 'Women with acute coronary syndromes have a worse prognosis - why? the need to reduce 'treatment-seeking delay'', *Cardiology Journal,* 18(3)**,** pp.219-221.

LOCKWOOD, C., MUNN, Z. & PORRITT, K. (2015) 'Qualitative research synthesis: Methodological guidance for systematic reviewers utilizing meta-aggregation', *International journal of evidence-based healthcare,* 13(3)**,** pp.179-187.

LONG, D. E. (2005) *Culture and customs of Saudi Arabia*. Westport: Greenwod Press.

LUPTON, D. (2012) *Medicine as Culture: Illness, Disease and the Body*. 3rd edn. London: SAGE Publications Ltd.

LYONS, A. C. (2009) 'Masculinities, Femininities, Behaviour and Health: Gender Identities, Health, Behaviour', *Social and personality psychology compass,* 3(4)**,** pp.394-412.

MAAS, A. H. E. M., VAN DER SCHOUW, Y. T., REGITZ-ZAGROSEK, V., SWAHN, E., APPELMAN, Y. E., PASTERKAMP, G., TEN CATE, H., NILSSON, P. M., HUISMAN, M. V., STAM, H. C. G., EIZEMA, K. & STRAMBA-BADIALE, M. (2011) 'Red alert for womens heart: The urgent need for more research and knowledge on cardiovascular disease in women', *European heart journal,* 32(11)**,** pp1362-1368.

MACKAY, M. H., RATNER, P. A., NGUYEN, M., PERCY, M., GALDAS, P. & GRUNAU, G. (2014) 'Inconsistent measurement of acute coronary syndrome patients' pre-hospital delay in research: A review of the literature', *European Journal of Cardiovascular Nursing,* 13(6)**,** pp.483-493.

MACKIAN, S., BEDRI, N. & LOVEL, H. (2004) 'Up the garden path and over the edge: where might health-seeking behaviour take us?', *Health policy and planning,* 19(3)**,** pp.137-146.

MACLEAN, A., HUNT, K., SMITH, S. & WYKE, S. (2017) 'Does gender matter? An analysis of men's and women's accounts of responding to symptoms of lung cancer', *Social science & medicine,* 191**,** pp.134-142.

MADSEN, R. & BIRKELUND, R. (2016) 'Women's experiences during myocardial infarction: systematic review and meta-ethnography', *Journal of clinical nursing,* 25(5)**,** pp.599-609.

MAHARAJ, N. (2016) 'Using field notes to facilitate critical reflection', *Reflective Practice,* 17(2)**,** pp.114-124.

MALAKAR, A. K., CHOUDHURY, D., HALDER, B., PAUL, P., UDDIN, A. & CHAKRABORTY, S. (2019)', Areview on coronary artery disease, its risk factors, and therapeutics', *Journal of Cellular Physiology,* 234(10)**,** pp.16812-16823.

MAS-LLADO, C., GONZALEZ-DEL-HOYO, M., SIQUIER-PADILLA, J., BLAYA-PEÑA, L., COUGHLAN, J. J., GARCÍA DE LA VILLA, B., PERAL, V. & ROSSELLO, X. (2023) 'Representativeness in randomised clinical trials supporting acute coronary syndrome guidelines', *European Heart Journal - Quality of Care and Clinical Outcomes,* 9(8)**,** pp.796-805.

MASON, M. (2010) 'Sample size and saturation in PhD studies using qualitative interviews', *Forum, qualitative social research,* 11(3)**,** pp.1-19.

MAY, C. R., JOHNSON, M. & FINCH, T. (2016) 'Implementation, context and complexity', *Implementation science,* 11(1)**,** pp.1-12.

MCCORMICK, K. M. & BUNTING, S. M. (2002) 'Application of feminist theory in nursing research: the case of women and cardiovascular disease', *Health Care for Women International,* 23(8)**,** pp.820-34.

MCSWEENEY, J. C., ROSENFELD, A. G., ABEL, W. M., BRAUN, L. T., BURKE, L. E., DAUGHERTY, S. L., FLETCHER, G. F., GULATI, M., MEHTA, L. S., PETTEY, C., RECKELHOFF, J. F. (2016)

'Preventing and Experiencing Ischemic Heart Disease as a Woman: State of the Science: A Scientific Statement From the American Heart Association', *Circulation,* 133(13)**,** pp.1302-1331.

MECHANIC, D. (1962) 'The concept of illness behavior', *Journal of Chronic Diseases,* 15(2)**,** pp.189-194.

MECHANIC, D. (1986) Illness Behaviour: An Overview. *In:* MCHUGH, S. & VALLIS, T. M. (eds.) *Illness Behavior: A Multidisciplinary Model.* Boston, MA: Springer US.

MOH. 2023. *Ministry of Health - Statistical Yearbook 2023* [Online]. Available at: https://www.moh.gov.sa/en/Ministry/Statistics/Book/Pages/default.aspx (Accessed: 13 August 2024).

MOONEY, M., MCKEE, G., FEALY, G., O' BRIEN, F., O'DONNELL, S. & MOSER, D. (2014) 'A Randomized Controlled Trial to Reduce Prehospital Delay Time in Patients With Acute Coronary Syndrome (ACS)', *Journal of Emergency Medicine,* 46(4)**,** pp.495-506.

MOONEY, M., MCKEE, G., FEALY, G., O'BRIEN, F., O'DONNELL, S. & MOSER, D. (2012) 'A review of interventions aimed at reducing pre-hospital delay time in acute coronary syndrome: what has worked and why?', *European journal of cardiovascular nursing,* 11(4)**,** pp.445-53.

MORSE, J. M. (2015) 'Data Were Saturated', *Qualitative health research,* 25(5), pp.587-588.

MUSSI, F. C., MENDES, A. S., DE QUEIROZ, T. L., COSTA, A. L. S., PEREIRA, A. & CARAMELLI, B. (2014) 'Pre-hospital delay in acute myocardial infarction: Judgement of symptoms and resistance to pain', *Revista da Associacao Medica Brasileira,* 60(1)**,** pp.63-69.

NASSIR, S. & LEONG, T. W. (2017) 'Traversing boundaries: Understanding the experiences of ageing Saudis' In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, pp. 6386-6397.

NETTLETON, S. (2021) *The sociology of health and illness.* Cambridge, UK: Polity.

NEUBECK, L. & MAIORANA, A. (2015) 'Time to Get Help? Acute Myocardial Infarction and Delay in Calling an Ambulance' *Heart Lung and Circulation,* 24(1)**,** pp.1-3.

NILSSON, G., MOOE, T., SÖDERSTRÖM, L. & SAMUELSSON, E. (2016) 'Pre-hospital delay in patients with first time myocardial infarction: an observational study in a northern Swedish population', *BMC cardiovascular disorders,* 16 (1)**,** pp.1-10.

NOUREDDINE, S., DUMIT, N. Y. & SAAB, M. (2015) 'Deciding to Seek Emergency Care for Acute Myocardial Infarction', *Clinical Nursing Research,* 24(5)**,** pp.487-503.

NOWELL, L. S., NORRIS, J. M., WHITE, D. E. & MOULES, N. J. (2017) 'Thematic Analysis: Striving to Meet the Trustworthiness Criteria', *International journal of qualitative methods,* 16(1)**,** pp.1-13.

O'DONNELL, S. & MOSER, D. K. (2012) 'Slow-onset myocardial infarction and its influence on help-seeking behaviors', *The Journal of cardiovascular nursings,* 27(4)**,** pp.334-44.

OBEROI, S., CHAUDHARY, N., PATNAIK, S. & SINGH, A. (2016) 'Understanding health seeking behavior', *Journal of family medicine and primary care,* 5(2)**,** pp.463-464.

OKSUZYAN, A., DAŃKO, M. J., CAPUTO, J., JASILIONIS, D. & SHKOLNIKOV, V. M. (2019) 'Is the story about sensitive women and stoical men true? Gender differences in health after adjustment for reporting behavior', *Social science & medicine,* 228**,** pp.41-50.

OLIVER, K., HOPKINS, A., BOAZ, A., GUILLOT-WRIGHT, S. & CAIRNEY, P. (2022) 'What works to promote research-policy engagement?', *Evidence & Policy,* 18(4)**,** pp.1-23.

OLTMANN, S. M. (2016) 'Qualitative interviews: A methodological discussion of the interviewer and respondent contexts', *Forum, qualitative social research,* 17(2).

PAGE, M. J., MOHER, D., BOSSUYT, P. M., BOUTRON, I., HOFFMANN, T. C., MULROW, C. D., SHAMSEER, L., TETZLAFF, J. M., AKL, E. A. & BRENNAN, S. E. (2021) 'PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews', *BMJ,* 372, pp. 1-36.

PATE, A., LEEMAN-CASTILLO, B. A. & KRANTZ, M. J. (2019) 'Treatment-Seeking Delay Among Hispanic and Non-Hispanic Women with Acute Myocardial Infarction', *Health equity,* 3(1)**,** pp.287-296.

PATTON, M. Q. (2015) *Qualitative research & evaluation methods : integrating theory and practice.* Thousand Oaks, California: SAGE Publications, Inc.

PHARAON, N. A. (2004) 'Saudi women and the Muslim state in the twenty-first century', *Sex roles,* 51(5)**,** pp.349-366.

PILOTTI, M. A. E., ABDULHADI, E. J. Y., ALGOUHI, T. A. & SALAMEH, M. H. (2021) 'The New and the Old: Responses to Change in the Kingdom of Saudi Arabia', *Journal of international women's studies,* 22(1)**,** pp.341-358.

POORHOSSEINI, H., SAADAT, M., SALARIFAR, M., MORTAZAVI, S. H. & GERAIELY, B. (2019) 'Pre-Hospital Delay and Its Contributing Factors in Patients with ST-Elevation Myocardial Infarction; a Cross sectional Study', *Archives of academic emergency medicine,* 7(1)**,** pp.1-8.

POPE, C. & MAYS, N. (2020) *Qualitative research in health care.* 4th edn. Hoboken: Wiley-Blackwell.

QUAMAR, M. M. (2013) 'Education as a Ladder for Saudi Women: An Overview', *Journal of Arabian studies,* 3(2)**,** pp.265-277.

QUAMAR, M. M. (2020) *Education system in Saudi Arabia: Of change and reforms*. Singapore: Palgrave Macmillan.

RAHMAN, M. T., NAZER, R., BROWN, L., SHOGAR, I. & BOUZENITA, A. I. (2008) 'Therapeutic interventions: an Islamic perspective', *IMA Journal,* 40(2)**,** pp.60-68.

REICH, J. A. (2021) 'Power, Positionality, and the Ethic of Care in Qualitative Research', *Qualitative sociology,* 44(4)**,** pp.575-581.

RICCI, B., CENKO, E., VASILJEVIC, Z., STANKOVIC, G., KEDEV, S., KALPAK, O., VAVLUKIS, M., ZDRAVKOVIC, M., HINIC, S., MILICIC, D., MANFRINI, O., BADIMON, L. & BUGIARDINI, R. (2017) 'Acute Coronary Syndrome: The Risk to Young Women', *Journal of the American Heart Association,* 6(12), pp1-11.

RITCHIE, J., LEWIS, J., MCNAUGHTON NICHOLLS, C. & ORMSTON, R. (2014) *Qualitative research practice: a guide for social science students and researchers.* Los Angeles: SAGE.

RUBIN, H. J. & RUBIN, I. (2012) *Qualitative interviewing : the art of hearing data.* Los Angeles, California; SAGE.

SAJJAD, R. & QURESHI, M. O. (2020) 'An assessment of the healthcare services in the Kingdom of Saudi Arabia: An analysis of the old, current, and future systems', *International journal of healthcare management,* 13(S1)**,** pp.109-117.

SALDAÑA, J. (2021) *The coding manual for qualitative researchers.* 4th edn. Los Angeles, SAGE.

SALEH, W. & MALIBARI, A. (2021) 'Saudi women and vision 2030: Bridging the gap?', *Behavioral sciences,* 11(10)**,** pp.1-14.

SALEM, V., ALHUSSEINI, N., ABDUL RAZACK, H. I., NAOUM, A., SIMS, O. T. & ALQAHTANI, S. A. (2022) 'Prevalence, risk factors, and interventions for obesity in Saudi Arabia: A systematic review', *Obesity reviews,* 23(7)**,** pp.1-12.

SANON, S. M. D., PATEL, R. M. D., ESHELBRENNER, C. M. D., SANON, V. P. M. D., ALHADDAD, M. M. D., OLIVEROS, R. M. D., PHAM, S. V. M. D. & CHILTON, R. D. O. (2012) 'Acute Coronary Syndrome in Patients with Diabetes Mellitus: Perspectives of an Interventional Cardiologist', *The American journal of cardiology,* 110(9)**,** pp.13-23.

SAQUIB, N., ZAGHLOUL, M. S., MAZROU, A. & SAQUIB, J. (2017) 'Cardiovascular disease research in Saudi Arabia: a bibliometric analysis', *Scientometrics,* 112(1)**,** pp.111-140.

SAUNDERS, B., SIM, J., KINGSTONE, T., BAKER, S., WATERFIELD, J., BARTLAM, B., BURROUGHS, H. & JINKS, C. (2018) 'Saturation in qualitative research: exploring its conceptualization and operationalization', *Quality & quantity,* 52(4)**,** pp.1893-1907.

SCAMBLER, G. (2018) *Sociology as applied to health and medicine.* 7th edn. London: Palgrave.

SCHMIER, J. K. & HALPERN, M. T. (2004) 'Patient recall and recall bias of health state and health status', *Expert review of pharmacoeconomics & outcomes research,* 4(2)**,** pp.159-163.

SCHOLZ, K. H., MAIER, S. K. G., MAIER, L. S., LENGENFELDER, B., JACOBSHAGEN, C., JUNG, J., FLEISCHMANN, C., WERNER, G. S., OLBRICH, H. G., OTT, R., MUDRA, H., SEIDL, K., SCHULZE, P. C., WEISS, C., HAIMERL, J., FRIEDE, T. & MEYER, T. (2018) 'Impact of treatment delay on mortality in ST-segment elevation myocardial infarction (STEMI) patients presenting with and without haemodynamic instability: results from the German prospective, multicentre FITT-STEMI trial', *European heart journal,* 39(13)**,** pp.1065-1074.

SCOTT, S. & WALTER, F. (2010) 'Studying Help-Seeking for Symptoms: The Challenges of Methods and Models: Studying Help-Seeking for Symptoms', *Social and personality psychology compass,* 4(8)**,** pp.531-547.

SEIDLEIN, A.-H. & SALLOCH, S. (2019) 'Illness and disease: An empirical-ethical viewpoint' *BMC medical ethics,* 20(1)**,** pp.1-10.

SERRUYS, P. W., KUTRYK, M. J. & ONG, A. T. (2006) 'Coronary-artery stents', *New England Journal of Medicine,* 354(5)**,** pp.483-495.

SHA (2020) '*2020 Clinical Practice Guidelines for the Diagnosis and Management of Acute Coronary Syndrome* [Online]. Saudi Heart Association. Available at: https://saudi-heart.com/wp-content/uploads/2020/12/Clinical-practice-guidelines.pdf (Accessed: 07 September 2024).

SIRRI, L., FAVA, G. A. & SONINO, N. (2013) 'The Unifying Concept of Illness Behavior', *Psychotherapy and psychosomatics,* 82(2)**,** pp.74-81.

SLAUSON-BLEVINS, K. S., MCQUILLAN, J. & GREIL, A. L. (2013) 'Online and in-person health-seeking for infertility', *Social science & medicine,* 99**,** pp.110-115.

SMITH, R., FRAZER, K., HYDE, A., O'CONNOR, L. & DAVIDSON, P. (2018) '"Heart disease never entered my head": Women's understanding of coronary heart disease risk factors', *Journal of clinical nursing,* 27(21)**,** pp.3953-3967.

SOBRALSKE, M. C. (2004) *Health care seeking beliefs and behaviors of Mexican American men living in south central Washington.* ProQuest Dissertations & Theses.

SQUIRES, A. (2009) 'Methodological challenges in cross-language qualitative research: A research review', *International journal of nursing studies,* 46(2)**,** pp.277-287.

STAIN, N., CHESHIRE, A., ROSS, C. & RIDGE, D. (2020) 'An Exploration of the help-seeking experiences of patients in an allied professions-led rapid access chest pain pathway: A qualitative study', *BMJ Open,* 10(11), pp.1-10.

STULL, D. E., LEIDY, N. K., PARASURAMAN, B. & CHASSANY, O. (2009) 'Optimal recall periods for patient-reported outcomes: challenges and potential solutions', *Current medical research and opinion,* 25(2)**,** pp.929-942.

SU, J., XIONG, J. M., KE, Q. Q., YU, H. Y., ZHAO, Z. R. & YANG, Q. H. (2023) 'Experiences and perceptions of acute myocardial infarction patients with a prolonged decision-making phase of treatment seeking: A meta-synthesis', *Journal of clinical nursing,* 32(21)**,** pp.7891-7908.

SUCHMAN, E. A. (1965) 'Stages of Illness and Medical Care', *Journal of health and human behavior,* 6(3)**,** pp.114-128.

SUHARIADI, F., ZEIN, R. A., ALFIAN, I. N. & HADI, C. (2016) 'The tale of seeking treatment: a qualitative study of pulmonary tuberculosis patients', *Psychology, Community & Health,* 5(3), pp.229-243.

SUMAN, S., PRAVALIKA, J., MANJULA, P. & FAROOQ, U. (2023) 'Gender and CVD- Does It Really Matters?', *Current problems in cardiology,* 48(5)**,** pp.1-20.

SUTANTRI, S., CUTHILL, F. & HOLLOWAY, A. (2020) '"I just can't sit around and do nothing!": A qualitative study of Indonesian women's experiences diagnosed with heart disease', *Nursing & health sciences,* 22(4)**,** pp.1047-1055.

TASH, A. A. & AL-BAWARDY, R. F. (2023) 'Cardiovascular Disease in Saudi Arabia: Facts and the Way Forward', *Journal Of The Saudi Heart Association,* 35(2)**,** pp.148-162.

TAVORY, I. & TIMMERMANS, S. (2014) *Abductive analysis : theorizing qualitative research.* Chicago: The University of Chicago Press.

THOMPSON, A. E., ANISIMOWICZ, Y., MIEDEMA, B., HOGG, W., WODCHIS, W. P. & AUBREY-BASSLER, K. (2016) 'The influence of gender and other patient characteristics on health care-seeking behaviour: A QUALICOPC study', *BMC family practice,* 17(38)**,** pp.1-7.

THORNE, S. (2000) 'Data analysis in qualitative research', *Evidence-based nursing,* 3(3)**,** pp.68-70.

TOBIN, G. A. & BEGLEY, C. M. (2004) 'Methodological rigour within a qualitative framework', *Journal of Advanced Nursing,* 48(4)**,** pp.388-396.

TRAVIS, C. B., HOWERTON, D. M. & SZYMANSKI, D. M. (2012) 'Risk, Uncertainty, and Gender Stereotypes in Healthcare Decisions', *Women & therapy,* 35(3)**,** pp.207-220.

TUMMALA, S. R. B. & FARSHID, A. M. (2014) 'Patients' Understanding of their Heart Attack and the Impact of Exposure to a Media Campaign on Pre-Hospital Time', *Heart, Lung and Circulation,* 24(1)**,** pp.4-10.

UNGER-SALDAÑA, K. & INFANTE-CASTAÑEDA, C. B. (2011) 'Breast cancer delay: A grounded model of help-seeking behaviour', *Social science & medicine,* 72(7)**,** pp.1096-1104.

UR RAHMAN, M. M. & ALHAISONI, E. (2013) 'Teaching English in Saudi Arabia: prospects and challenges', *Academic Research International,* 4(1)**,** pp.112-118.

VADUGANATHAN, M., MENSAH, G. A., TURCO, J. V., FUSTER, V. & ROTH, G. A. (2022) 'The Global Burden of Cardiovascular Diseases and Risk: A Compass for Future Health', *Journal of the American College of Cardiology,* 80(25)**,** pp.2361-2371.

VAN NES, F., ABMA, T., JONSSON, H. & DEEG, D. (2010) 'Language differences in qualitative research: is meaning lost in translation?', *European journal of ageing,* 7(4)**,** pp.313-316.

VAN OOSTERHOUT, R. E. M., DE BOER, A. R., MAAS, A. H. E. M., RUTTEN, F. H., BOTS, M. L. & PETERS, S. A. E. (2020) 'Sex differences in symptom presentation in acute coronary syndromes: A systematic review and meta-analysis', *Journal of the American Heart Association,* 9(9)**,** pp.1-12.

VARSHNEY, D. (2019) 'The Strides of the Saudi female workforce: Overcoming constraints and contradictions in transition', *Journal of international women's studies,* 20(2)**,** pp.359-372.

WAHEEDI, S. (2021) 'Islamic Sharia in the Legal Orders of Saudi Arabia and Kuwait', in *Constitutional Review in the Middle East and North Africa*. Nomos.

WANG, S., SONG, J., LEE, C., JIANG, J., WANG, M., LIU, D., WANG, Z., YUAN, Y., LI, W., ZHOU, R., ZHENG, H., WEI, J., HU, Y., WU, T., TIAN, Z. & CHEN, H. (2023) 'Gender disparities in the mediating role of symptom knowledge level in reducing acute coronary syndrome (ACS) decision delay: Findings from a community-based study in China', *BMC emergency medicine,* 23(1)**,** pp.1-9.

WANG, X. & HSU, L. L. (2013) 'Treatment-seeking delays in patients with acute myocardial infarction and use of the emergency medical service', *Journal of International Medical Research,* 41(1)**,** pp.231-238.

WARD, H., MERTENS, T. E. & THOMAS, C. (1997) 'Health Seeking Behaviour and the Control of Sexually Transmitted Disease', *Health policy and planning,* 12(1)**,** pp.19-28.

WENGER, N. K. (2019) 'The Feminine Face of Ischemic Heart Disease: Challenges and Opportunities', *Journal of the American College of Cardiology*, 73(6), pp.694-697.

YARDIMCI, T. & MERT, H. (2014) 'Turkish patients' decision-making process in seeking treatment for myocardial infarction', *Japan Journal of Nursing Science,* 11(2)**,** pp.102-111.

YOUNG, J. T. (2004) 'Illness behaviour: a selective review and synthesis', *Sociology of Health and Illness,* 26(1)**,** pp.1-31.

YU, H., LIU, H., AN, Z., ZHOU, J., MENG, X., LUO, X. & ZHOU, X. (2023) '"We are in the forgotten corner!" a qualitative study of experiences and challenges among Chinese older women at the onset of acute myocardial infarction', *Frontiers in Public Health,* 11,pp.1-9.

Appendices

Appendix 1: Mixed Method Appraisal Tool (MMAT)

Part I: Mixed Methods Appraisal Tool (MMAT), version 2018

Category of study designs	Methodological quality criteria	Responses			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	S1. Are there clear research questions?				
	S2. Do the collected data allow to address the research questions?				
	Further appraisal may not be feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.				
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?				
	1.2. Are the qualitative data collection methods adequate to address the research question?				
	1.3. Are the findings adequately derived from the data?				
	1.4. Is the interpretation of results sufficiently substantiated by data?				
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?				
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?				
	2.2. Are the groups comparable at baseline?				
	2.3. Are there complete outcome data?				
	2.4. Are outcome assessors blinded to the intervention provided?				
	2.5 Did the participants adhere to the assigned intervention?				
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?				
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?				
	3.3. Are there complete outcome data?				
	3.4. Are the confounders accounted for in the design and analysis?				
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?				
	4.2. Is the sample representative of the target population?				
	4.3. Are the measurements appropriate?				
	4.4. Is the risk of nonresponse bias low?				
	4.5. Is the statistical analysis appropriate to answer the research question?				
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?				
	5.2. Are the different components of the study effectively integrated to answer the research question?				
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?				
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?				
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?				

Appendix 2: Overview of Studies Included in the Literature Review with Quality Analysis Notes

Author(s)	Country	Aim	Methodology	Sample	Data collection	Main findings	Quality analysis (MMAT & researcher's critique)
Devon et al. (2010)	US	To identify factors associated with a decision to seek care in the ED for ACS symptoms	Mixed method	256 patients with ACS (112 women and 144 men) admitted to 2 hospitals	• Interviews with open-ended Qs. • Time from symptom onset to arrival in the ED was computed from patient report or medical records	• Most women (61.6%) and men (53.5%) presented to the ED >6 hours after symptom onset - women delayed longer (no significant difference between women and men (9.5 vs 6 hours; P = 0.63) • Intermittent pain and older age were barriers to seek prompt treatment	• Mixed method but introduced as cross-sectional! The reason for conducting mixed method was not explicitly stated. However, results of Quan and Qual components were presented and interpreted in detail to address the research aim. • Non-probability, convenience sampling • Interviews were conducted by 3 researchers (consistency!) • For Quan. part, variables were clearly defined and measured • For Qual. part There was only 2 open-ended Qs without explicit mentioning of probing or follow-up Qs
Galdas et al. (2010)	Canada	To explore if gender informs the experiences and help-seeking behavior of men and women with ACS	Qualitative descriptive	20 people (11 men and 9 women) with an admitting diagnosis of chest pain	In-depth, semi-structured interviews	Some narratives were aligned with the stereotypical gender roles but not all reflective of stereotypical gender ideology, suggesting that men's & women's narratives are not simply reflect distinct binary gender	• Purposive sampling to recruit participants who could give rich data to address the research aim • Setting (emergency? CCU?) wasn't mentioned! Insufficient details about data collection procedure (e.g., the duration of interviews)

						patters (it's a complex process looking into contextual factors)	• Interviews conducted at home after discharge - no details provided about how long after hospital discharge (varying risk of recall bias that should be considered and addressed)
Gallagher et al. (2010)	Australia	To describe women's symptom experiences and treatment-seeking responses to first-time acute coronary syndrome	Qualitative – life history approach	10 women (age 44 to 82) who had experienced their 1st ACS	Semi-structured interviews 3-9 months after discharge at participants' home	• Multifaceted, complex decision-making processes from symptom onset to treatment-seeking response (early warning or prodromal symptoms, diversity of symptom experience, beliefs in low vulnerability to CHD, health professionals' responses) • When women had mild or atypical symptoms or symptoms that could be attributed to an existing illness, they followed a process of testing alternative hypotheses for their symptoms, usually by self-treatment and waiting it out	• Used narrative approach as a way of gaining a subjective perspective on understanding the gendered experiences of a heterogenous sample of women • Interviews were undertaken 3-9 months after ACS – no details of how the potential risk for recall bias was mitigated for this relatively long recall period • Interviews were conducted by 3 researchers (may have imposed a risk of inadequate consistency of data collection!)
Herning et al. (2011)	Denmark	To explore how women's thoughts, motivations and	Phenomenology	14 women with STEMI	Semi-structured interviews were conducted on days 1–6 after onset of	• women did not see themselves as being at risk of AMI	• The chosen methodology is appropriate for the research aim,

		actions influenced their delay in seeking treatment when experiencing symptoms during the acute phase of STEMI			symptoms at the hospital	• symptoms attributed to something harmless that made sense • fear of initiating false alarm • being with others reduced delay time • avoiding causing trouble to others • women attempted to relieve discomfort by applying remedies • when having an emergency plan, women tend to seek help quicker	and data sources align with data collection/analysis/interpretation • Consecutive sampling (no justification was provided • Participants were interviewed too soon (1-6 days post admission). Still a critical phase of their illness to take part in in-depth interviews – they may have given inaccurate or inconsistent answers due to being hospitalised in an acute setting
Damasceno et al. (2012)	Brazil	To analyse cognitive and emotional variables between genders in terms of the decision time to seek care for AMI	Cross-sectional, explanatory study	100 AMI patients (71 men) from 2 hospitals in Salvador, Brazil	Investigator-designed instrument composed of multiple choice and semi-structured questions	• Men and women had prolonged decision times in seeking care for MI • More women attempted to hide their symptoms to avoid bothering family or causing them inconvenience (social gender construction of femineity)	• Details of setting and sample (inclusion/exclusion, sample size calculation, and sample representativeness were given clearly) • Participants were interviewed to mitigate recall bias • Quan variables were clearly defined, measured, and interpreted • Investigator-designed tool (the validity/reliability assessment was not mentioned)

O'Donnell and Moser (2012)	Ireland	To perform an in-depth analysis of patients' MI symptom experiences and explore their subsequent help-seeking behaviours	Qualitative descriptive design	42 patients (19 women) with MI who had been admitted to 2 hospitals in Dublin	Semi-structured in-depth interviews	Two distinct MI categories were identified: slow-onset MI (S-MI) and fast-onset MI (F-MI). The mismatch of expected and experienced symptoms for participants with S-MI led to misattributing symptoms to noncardiac causes. Participants with F-MI promptly attributed their symptoms to a cardiac origin, which triggered help-seeking behaviors	• The sample was purposefully recruited to gain in-depth insights but there was no gender-specific insights among the inclusion criteria • The data collection procedure explained in detail (e.g., open-ended interviews with follow-up questions for enhanced credibility) • The study participants were interviews 2-4 days following their admission (they could not be stable yet to take part in in-depth interviews – they may have given inaccurate or inconsistent answers due to being hospitalised for MI • The chosen methodology is appropriate for the research aim, and data sources align with data collection/analysis/interpretation. However, the analysis and interpretation of results lack gender-specific insights despite nearly half of participants were women!
Hwang and Jeong (2012)	Korea	To determine factors predicting a prehospital delay time of >6h and to identify the	Mixed method	165 MI patients (94 male and 71 female)	• Semi-structured interviews with patients and their family (where applicable), at the hospital	• The median delay time was 12 hours • Symptoms were pierced to be a natural consequence of the aging process or	• The results of Quan and Qual components of the mixed-method design were presented and interpreted in detail • Inclusion criteria were stated

		cognitive barriers in the delayed decision of AMI patients aged≥65years			• Semi-structured questionnaire & e-records were used to collect demographic and clinical information	exacerbated symptoms of their comorbid conditions • Patients with pre-infarction angina (intermittent chest pain or discomfort) and those with low education had greater risk of having delayed presentation • Cognitive factors in decision delay were closely related to the patient's social context and lack of knowledge about the AMI symptoms • Most patients never thought they would develop a heart attack even when having risk factors (candidacy) • Participants, particularly females endured the pain w/o telling anyone to avoid being a burden	• All the interviewed conducted by 1 researcher (consistency of data) • Significance of result could be liable for type 1 error as there was no reporting of the sampling procedure! • Although men and women were recruited into the study, there was no gender-specific analysis • Quan and Qual components were integrated to address the research aim
Isaksson et al. (2013)	Sweden	To explore older women's prehospital experiences of their first MI	Qualitative descriptive design	20 women with AMI	Interviews were conducted 3 days after admission	• The prehospital phase in older women is complex, influenced by preconceptions and expectations about MI symptoms. • Women placed higher priority to family/social responsibilities than to	• The chosen methodology is appropriate for the research aim, and data sources align with data collection/analysis/interpretation • Insufficient reporting on methods (e.g., clear inclusion/exclusion criteria but sampling strategy wasn't

						acting on acute symptoms • Women struggled against the symptoms by downplaying and neglecting their seriousness and to remain in control and resist disruption to their daily lives • Even though the women recognised their symptoms as abnormal, they did seek help until a coping mechanism failed to control symptoms	reported and no explicit detail on how the participants were approached and recruited and how access was negotiated with the stakeholders) • Delay time (decision delay) wasn't verified and cross-checked from the records • The study participants were interviews 3 days after hospitalisation (possibly still not physically and emotionally recovered to take part in in-depth interviews
Davis et al. (2013)	US	To explore how women recognised and interpreted their symptoms and subsequently decided whether to seek treatment within the context of their lives	Grounded theory	9 women (aged 49-74) with ACS	Semi-structured interviews during hospitalisation or 2 weeks following discharge at participants' home	• women tried to interpret what was happening to them and to manage their relationships and social obligations. • women with evolving symptoms experienced uncertainty about their symptoms and couldn't label symptoms, and someone else made the decision to attend the hospital for them. (i.e., trusted others witnessed their steady decline in bodily function). • Participants who experienced symptoms	• The chosen methodology is appropriate for the research aim focusing on the process of making meaning of cardiac ACS symptoms • Data collection and analysis procedure were provided in detail (e.g., theoretical sampling, data saturation) • 1 participant had follow-up interview to reach complete degree of closure • The interviews were conducted by 1 interviewer (consistency)

						consistent with ACS were able to form a symptom pattern quickly and labeled their condition early on. They knew they needed to seek care, yet they needed to make arrangements through their social network to leave their obligations	• Details on how the study rigour was established was provided (e.g., audit trial, member checking, probing and follow-up questions)
Alshahrani et al. (2014)	Saudi Arabia	To explore the factors contributing to pre-hospital delay among female ST-elevation myocardial infarction	Mixed method	189 patients (36 women) with STEMI	Participants were interviewed in three hospitals in Riyadh using the Response to Symptoms Questionnaire. 18 patients (9 women) then participated in semi-structured interviews	• The median pre-hospital delay for males was 5 h and 12.9 h for females ($p<0.002$). • Qualitative analysis produced 5 gender-related themes: (a) women require a male relative's permission to seek medical help; (b) women cannot travel to hospital unless accompanied by a male relative; (c) women prioritise family social responsibilities; (d) women lack knowledge of MI symptoms and treatment; and (e) perception that women should not attract attention	• The rationale for using mixed method was explained – Qual findings built upon Quan findings on hospital delay times and possible reasons for delay times • Consecutive sampling, no data provided on sample calculation, inclusion/exclusion criteria were clearly stated • For the Quan component, the self-administered questionnaire was validated (Response to System Questionnaire) and pilot-tested with 22 patients • The output of the integration of Qual and Quan findings were interpreted with no report of conflicts • The chosen methodology is appropriate for the research aim, and data sources align with data collection/analysis/interpretation, with the analysis and

							interpretation of results involve some gender-specific insights
Mussi et al. (2014)	Brazil	To determine the times of decision and arrival at the hospital and to analyse the influence of the interpretation of pain and pain resistance behaviors during these times	Mixed method	97 participants with MI (43 women)	• An investigator-developed close-ended questions on sociodemographic information, previous MI, and place of occurrence of the event • Semi-structured interviews	• Most participants misattributed symptoms • Social construction of gender and social ideologies implicate attitudes towards responding to pain and seeking medical care • Participants resisted chest pain by attempting to self-management, bearing pain until is no longer possible, hoping that pain would subside, hiding pain from others, and miniating their everyday life as usual	• Study design introduced as cross-sectional with Qual and Quan method of analysis! The rational for conducting mixed method was not explicitly stated. • Results of Quan [sociodemographic, previous AMI, and place of AMI] and Qual components were presented and interpreted in detail to address the research aim. • Variables of Quan components clearly defined • No info provided on sampling strategy and sample calculation to determine the representativeness of study population • The interpretation of Quan and Qual data involve some gender-specific insights
Nymark et al. (2014)	Sweden	To gain a deeper understanding of patients' thoughts, feelings and actions that pre-ceded the decision to seek	Qualitative descriptive study design	14 (10 men) mean age 62	Semi-structured interviews	• Participants were afraid of having a serious illness, losing their healthy identity, activating false alarm and embarrassing themselves, depending on others, or causing	• Study design is appropriate for the research aim • Inclusion/exclusion criteria were reported, no clear reporting of sampling strategy and data saturation • Interviewed conducted by 1 interviewer for consistency.

		medical care for AMI				convenance and trouble to others so they perceived as complainers • Patients' emotional reactions are important and influence the patients' pre-hospital behaviours	Probing and follow-up questions were used for further clarification and enhanced credibility • Interviews conducted 3-5 days after hospital admission (possibly still not physically and emotionally recovered to take part in in-depth interviews) • There's coherence between data collection and analysis method (content analysis), and analysis has some indications of gender-sensitive perspectives
Yardimci and Mert (2014)	Turkey	To explore how Turkish patients experiencing MI for the 1st time decide to seek medical treatment for their symptoms	Grounded theory	30 participants (24 men)	In-depth interviews 4 days after hospitalisation	Median decision-making time was 90 min. Deciding to seek medical help was found to be a process which emerges with the severity of symptoms, an inability to manage symptoms, fear, and extrinsic factors	• The chosen methodology is appropriate for the research aim • Data collection and analysis procedures were provided (e.g., theoretical sampling, data saturation, inclusion/exclusion criteria, open, axial, selective coding) • Interviews conducted at least 4 days after hospital admission (possibly still not physically and emotionally recovered to take part in in-depth interviews) • Rigour (member-checking, audit trial, and prolonged engagement)

							• Discussion section was very descriptive
Al-Hassan (2015)	Oman	To describe gender-related cognitive representations of symptoms of ACS and coping responses to the symptoms as correlates to pre-hospital delay	Cross-sectional quantitative study	131 Omani patients with ACS (81 men and 50 women)	Structured interview	• women perceived themselves as less susceptible to acute coronary syndrome than men. • the emotional impact of symptoms has a greater influence on the cognitive appraisal process in women, whereas the pathological aspect of symptoms takes precedence in men.	• Sample size calculation was provided, little info about inclusion/exclusion criteria • Convenience sample from a single hospital (limited generalisability • Predominant male sample – generalizability to a population of females with ACS is weakened (no gender-sensitive analysis was provided) • Variables are defined and measured, and measurement are justified according to the RQs (validated questionnaire) • Ethics: verbal consent only with the presence of a family member
King-Shier et al. (2015)	Canada	To understand ethnic- and gender-based factors associated with identifying ACS symptoms and the process of seeking healthcare among a sample of European, Chinese, and South Asian	Grounded theory	57 patients (20 European, 18 Chinese, and 19 South Asian) with ACS	Semi-structured interviews via telephone or in the participants' home 1 month after discharge	• Persistence and intense symptoms, and prior knowledge from family & triggered care-seeking behaviour • Waiting/Denying some (subtle ethnic differences) ○ Believing in destiny, being afraid, self-treatment • Justifying for delaying care-seeking	• The chosen methodology is appropriate for the research aim focusing on describing the process of human behaviour • Data collection and analysis procedures were provided (e.g., clear inclusion/exclusion criteria, purposive and theoretical sampling, open & selective coding, and memoing) • No info about data saturation • Participants contacted to arrange interviews after 1 month from

		ACS patients in Canada				○ Family responsibilities (all ethnic groups) ○ Not wanting to be a burden ○ Having previous negative experience • Familiarity with system was often associated with seeking healthcare	ACS event seems to be long time; potential recall bias • No details or ref. provided about hospitals context • Sufficient quotes were provided to support the study themes and findings • Rigour (audit trial) • There's coherence between data collection and analysis method (constant comparative analysis), and analysis has limited indications of gender-sensitive perspectives
Lichtman et al. (2015)	US	To identify factors that may contribute to delays in recognising symptoms of heart disease and attending the hospital	Grounded theory	30 women (aged 33-55 years)	In-depth interviews via telephone within 2 weeks of hospital discharge	• There was a lack of awareness of cardiac illness even among women familial risk or multiple known risk factors • Misattribution of symptoms to non-cardiac causes was reinforced by experience did not match expectation as well as external sources, including health professionals and media • Women weighed competing and	• The chosen methodology is appropriate to draw inductive explanations from the data • In-depth interviews with open ended questions were analysed using constant comparative analysis • Details of purposive, theoretical sampling was given as well theoretical saturation • Rigour: open ended probing, one interviewer conducted the interviews (consistency), & interviews were coded independently by two researchers and discussed in group sessions

						conflicting priorities as they recognised symptoms and decided to seek health (Family/work responsibilities, anxiety about initiating false alarm, self-care & delegating the decision to others)	• Sufficient quotes were provided to support the study themes and findings • Participants were interviewed after their AMI hospitalizations (held within two weeks of hosoitalisation; possible recall bias due to interviewing pts soon after an acute event)
Noureddine et al. (2015)	Lebanon	To understand how patients experiencing MI decide to come to the hospital and factors that influence the decision	Qualitative descriptive design	50 patients (male, 82%) with MI admitted in two hospitals + 22 witnesses of the MI event	Semi-structured interviews for patients and witnesses one month after discharge, patients were interviewed at home to validate the interviews conducted in the hospital	• Participants compared their symptoms with previous once they have had, to those experienced by others, and to what they expect an AMI would feel like (slef-diagnosis) • Women didn't want to bother others • Overall Patients in this study appraised their symptoms, waited, consulted with others, and monitored their symptoms, tried self-administered relief measures till they eventually decided to come to the hospital	• Convenance sampling, details of inclusion/exclusion criteria were given (Majority of participants were male – Knowing perspective of female patients are also essential to understand this phenomenon from a holistic view) • The findings derived from the thematically analysed in-depth interviews addressed study aim • Rigour – member checking (participants were interviewed again 1 month after hospital discharge to validate findings) & clinical data and hospital arrival time were obtained from medical record to validate the self-reported delay times from interviews

						• The patient's family played an important supportive role	• Sufficient quotes were provided to support the study themes and findings
Albrahim et al. (2016)	Saudi Arabia	To determine the social factors associated with delayed presentation of STEMI patients.	Comparative, cross-sectional	79 patients (69 men) who presented with STEMI	• Questionnaire on demographic data, history of cardiac illness, and cardiac risks • E-records	• 30% patients presented >6 hours • Most patients had high prevalence of cardiovascular risk, including familial risk • Late hospital presentation was significantly higher among those with chronic diseases, living remotely, and having low level of education	• No details were provided on sampling strategy nor sample size calculation (small sample size) (type 1 error) • Variables were defined and measured • In reporting delay time in the paper, authors have chosen the 6 hours cut-off without justification (no ref. was provided for this specific time)
Darawad et al. (2016)	Jordan	To evaluate the delay time of Jordanian ACS patients seeking medical care, and the predictors of delay	Cross-sectional study	160 ACS patients (84 male)	Data were collected using questionnaire on 1) demographics and time from symptoms onset to hospital arrival, 2) modified ACS Response Questionnaire to measure knowledge, attitude and beliefs about ACS	• The mean delay time for seeking care among ACS patients was 7.8 hours (71.2%) • Patients with previous history, higher ACS knowledge, more positive attitudes, more positive beliefs, better health perception, and higher perceived risk for future ACS event were found to report shorter	• Non-probability convenience sampling • No sample size calculation or power description was reported (type 1 error!) • Ethics procedures and considerations were reported • Variables were defined and measured • Delay time (onset from onset to hospital arrival) was self-reported and wasn't cross-checked from hospital record of

						delay time in ACS events. • Patients who were males, older age, insured, university-educated, retired, had an income >700 USD, and diagnosed with STEMI reported significantly less delay time than their counterparts	family members (potential recall bias?) • Demographics (including delay time) was reported in the paper to be obtained from the patient but then reported to be retrieved from pts' chart? (no clear reporting of the source of data collection of this particular data!)
Gyberg et al. (2016)	Sweden	To identify how women's experiences impact their decision to seek medical care at their 1st encounter with MI	Grounded theory	17 women (aged 38–75 year) with AMI	Interviews conducted within 6 weeks of admission at home or in the hospital	• Persisting and severe symptoms were the main force of deciding to attend the hospital • Women prioritise daily activities over their health as long as they did not acknowledge their symptoms as abnormal • Experience of ACS did not match expectation • The hesitation to seek medical care was strengthened by having had their symptoms labelled as vague or less serious in previous contacts with the healthcare providers	• The chosen methodology is appropriate to draw inductive explanations from the data on the decision-making process • In-depth interviews with open ended questions were analysed using constant comparative analysis • Ethics procedures and considerations were reported • Info on theoretical sampling and theoretical saturation was given • Participants were interviewed 3 weeks within hospital admission, some at home and some within the hospital premises (potential variations in results!) • Rigour: open ended probing, one interviewer conducted the interviews (consistency), &

							interviews were coded independently by two researchers and discussed in group sessions • Sufficient quotes were provided to support the findings
Arslanian-Engoren and Scott (2017)	US	To describe reasons for decision treatment delays among women who experience an initial MI	Secondary analysis of focused group narrative	14 women with MI	A secondary analysis of data collected via focused group	• Lack of association of symptoms with MI: some women who experienced MI continued to delay despite symptoms of nausea, indigestion, and fatigue as well as a family history of heart disease • Personal and professional obligations were cited by participants that contributed to delays in presentation • all used private transportation (family members or friends drove them). Two drove themselves to ED	• Qual approach is appropriate for the research aim on describing reasons for decision treatment delays among women with MI • Using existing data! Justified by the importance of secondary analysis in nursing research • Findings adequately derived from data as evidenced by the quotes supporting the study themes • Rigour – member checking (the participants were given the opportunity to confirm findings; verifiability and internal reliability)
Coventry et al. (2017)	Australia	To explore patient decision delay, the symptom	Qualitative descriptive design as part	255 patients with MI (180 men)	Semi-structured interviews	• Some decided to wait for the symptoms to subside or wait for a	• This is part of larger study ***De Von H, Ryan C, Rankin S & Cooper B (2010)*** Classifying subgroups of patients with

		experience, and factors influenced attending the hospital	of as mixed method study			family member to wake up or return home • Some attributed the symptoms to harmless causes and thought they would go away with rest • Being alone or in unfamiliar surroundings often delayed the decision to seek help (the presence of a layperson influenced hospital attendance)	symptoms of acute coronary syndromes: a cluster analysis. • Sample size and sampling procedure was not mentioned in the report (only inclusion/exclusion criteria); single centre justified to be receiving pts from metropolitan and rural regions • The interviews were conducted by 1 reviewer (the second author) • findings are subject to recall bias, especially in recalling time of symptom onset (large missing data) as there was a time lapse between admission and interviews. 37 interviews conducted after discharge (No clear reporting about when the in-person/telephone interviews took place after hospital discharge). • For those who were interviewed at the hospital, there is a potential for recall bias due to the nature of the acute event • No gender specific analysis was provided • Findings adequately derived from data as evidenced by the

							quotes supporting the study themes
Davis (2017)	US	To identify factors influencing women's recognitions and interpretation of symptoms suggestive of ACS	Qualitative study	18 women diagnosed with ACS admitted to 2 hospitals in the southeastern US	• in-depth semi-structured interviews • Response to symptoms questionnaire	Type of symptoms women experience during their ACS event influences symptom recognition and interpretation, which informs their decision to seek care	• The study is reported to be a qualitative study; however, the researchers collected further quantitative data to supplement the qualitative findings from the semi-structured interviews (which makes it mixed method design rather than qualitative) • Collected interview data were triangulated by Response to Symptoms Questionnaire (no details of the questionnaire findings and no reference were provided for other articles) • Rigour: memo; audit trial • Purposive sampling of 18 women • Interview data were analysed by using content analysis and quotes were provided under each theme to assess with drawing conclusion
Allana et al. (2018)	Pakistan	To explore gender differences in ACS symptoms, knowledge about the symptoms, their attribution, and perception of urgency, among	Comparative, cross-sectional	249 ACS patients participated in the study (133 men and 116 women) from 2 hospitals	Response to Symptoms Questionnaire Demographic/clinical data were obtained by investigator-designed forms	• Notable gender differences in symptoms presentation and perception; more women presented with atypical symptoms which they thought they didn't require urgent treatment.	• Study conducted in 2 hospitals; an ethical approval sought from one of the hospitals. Researcher claims that the other tertiary hospital has had no institutional board • Details of sample size calculation provided. The researchers reported recruiting a purposive sampling based on

		Pakistani patients				• Women have more chronic conditions which could have impacted their symptoms perception • Similarities between genders in poor knowledge of ACS symptoms; both misattribute symptoms to non-cardiac causes	predefined inclusion criteria (Quan study!) • Variables defined and interpreted in the findings • Rigour: content validity of questionnaire by cardiologists and cardiology nurses for relevance and clarity/ modified after review/ pilot tested • Potential recall bias; data collected 72 hrs following hospital admission • Gender-sensitive analysis, with significant differences in the demographics between genders which may have affected the result • Knowledge and perception of urgency could be varied between participants as the sample involved pts with first/recurrent ACS
Li and Yu (2018)	Hong Kong	To determine the predictors of pre-hospital delay in Hong Kong Chinese patients with MI	Quantitative exploratory study	301 patients (64 women) who were admitted with AMI to three hospitals in Hong Kong	Face-to-face interviews within three days of admission using questionnaires on Symptom presentation, Perceived Barriers to Healthcare Seeking Decisions, Perceived symptom congruence, and Perceived susceptibility to AMI	• The median pre-hospital delay times were 3 hours • Patients of older age, female gender, lower education level, being single, widowed or divorced, and being unemployed were associated with more delay • Chest pain, higher pain score, and greater	• Consecutive sample from three regional hospitals. Details of sample size (power of 80% at 5%level of significance) and Inclusion/exclusion criteria provided • Variables defined and analysed • Validated measurements (symptom presentation, perceived barriers to health-care seeking, perceived symptom congruence, & perceived susceptibility to AMI)

					e-records to collect clinical data	number of typical symptoms sudden onset of symptoms was the most significant predictor of less delay • Higher symptom congruence, attributing symptoms to the heart, and higher perceived susceptibility to AMI were associated with less delay • Greater perceived barriers to care seeking would lead patients to avoid seeking care promptly due to reason such as anxiety over wasting time, overcrowding & long waiting times, being a burden to the families	• Not representative to women with AMI as no. of female participants much < their males • Retrospective self-report by patients for their symptoms and care-seeking experience may have introduced recall bias (interviews within 3 days of admission)
Lichtman et al. (2018)	US	To collect detailed information on prodromal and acute symptoms, perception of symptoms, and self-reported care-seeking behavior for prior and acute symptoms for women and men	Quantitative design (VIRGO Study)	2985 individuals (2009 women and 976 men) aged 18-55 years hospitalised for AMI in 103 hospitals	Structured interviews on symptom presentation, perceptions of symptoms, and care-seeking responses	• The most common symptom exported among men and women was chest pain (no significant differences between both sexes) • women presented with additional number of additional non– chest pain symptoms • women were more likely to have more risk	• Convenience sample; Although sample was recruited from VIRGO study, no details were mentioned about sample size calculation (liable for type 1 error). Inclusion/exclusion criteria reported • Variables defined and analysed • The study ought to collect information on prodromal and acute cardiac symptoms,

		18 to 55 years of age.				factors such as DM, obesity, etc. • women were significantly more likely to have perceived their symptoms as due to stress or anxiety (P<0.001) • more men decided to seek medical care because of concerns about a heart problem than women whereas more women sought care because of concerns about existing health problem (e.g. DM) • women had longer delay time from symptoms onset to hospital presentation • women are less likely to be told the symptoms may be related to heart disease (P<0.001)	perception of symptom, & care-seeking behaviour – help-seeking behaviour was obtained by structured interviews which answered by prespecified response categories (qualitative interviews would generate more in-depth insight about this particular type of inquiry) • There is gender-sensitive statistical analysis
Smith et al. (2018)	Ireland	To explore how women interpreted their risk for coronary heart disease and how this influenced their treatment-	Naturalistic case study design	30 women with ACS in Ireland	• A written diary for 7 days after discharge • Semi-structured, interviews completed in the period 6–8 weeks after discharge in	• Women who appeared to understand their risk delayed seeking help because their symptoms did not raise alarm • Socially produced understanding of CHD as a gendered illness	• The chosen methodology (case study) is appropriate to understand situation in context • No reporting of sampling strategy. Sample size was determined and justified by data and theoretical saturation • Rigour: 3 interview data sets were independently coded by

		seeking decisions			the women's home • Researcher reflective journal	collectively shaped the women's beliefs • Salience of prodromal symptoms was not understood and the complexity and challenges in deciphering symptoms contributed to a delay in seeking help	two researchers (dependability) & audit trial • Findings adequately derived from data as evidenced by the quotes supporting the study's four themes
Pate et al. (2019)	US	To explore the impact of ethnicity on symptom description, recognition, and treatment-seeking behaviour in Hispanic and non-Hispanic women before hospitalisation for MI	Mixed method	43 women (17 Hispanic) from 7 hospitals in Colorado	• Initial (in-hospital, face-to-face) and follow-up (after discharge) interviews • E- records	• Most women delayed seeking care because their symptoms were intermittent and not severe and, therefore, did not meet their expectations • Participants often assessed their symptoms as noncardiac, reinforced by hoping symptoms would subside and a desire not to bother others ''wait and see'') • Concerns about being a patient included embarrassment, fear of not being taking seriously, being afraid of the doctor. • Low awareness of cardiac illness and resulting misinterpretation of	• The rationale for using mixed method was briefly mentioned – Qual findings to complement Quan findings on the impact of ethnicity on symptoms description, recognitions, and treatment-seeking in a sample of Hispanic/non-Hispanic women with MI • Delay time dichotomised into (<24 h) and (>24 h) without providing any justification or reference for this time • Convenience sampling? (although authors reported using purposeful sampling in the recruitment section, they acknowledged using convenience sampling twice in the paper!) • Potential recall bias as delay time was self-reported from the interviews and it wasn't

						symptoms were identified as major issues	particularly mentioned if it was cross-checked from medical records alongside other data (demographics, family history, ambulance and ED reports, cardiac biomarkers, medical Hx summary, and discharge information)
AlAhmadi et al. (2020)	Saudi Arabia	To determine the pre-hospital delay time among patients with MI and the factors associated with pre-hospital delay	Cross-sectional study	200 patients with MI (167 men)	Structured interviews using the modified response to symptoms questionnaire	• The median pre-hospital delay time was 3.7 hours (3.5 hours for males and 5.5 hours for females). (not statistically significant) • Those with inadequate knowledge of cardiac illness and a risk factor of hypercholesteremia were more likely to delay attending hospital	• Eligibility criteria provided • Non-probability convenience sampling from 1 centre • Evidence of sample size calculation was given • Ethics procedures and considerations were reported • Variables were defined and measured • Data collected via modified response to symptom questionnaire (Validated)
Stain et al. (2020)	UK	To examine help-seeking experiences of accessing a rapid chest pain clinic service, from when they recognise and interpret symptoms to their decision to	Qualitative descriptive design	30 participants (15 men and 15 women) in London	Semi-structured interviews	• Symptoms were not initially attributed to a medical condition and were downplayed • Participants attempted to self-manage their symptoms. It was only when these attempts were not sufficient, and their symptoms	• The chosen methodology is appropriate to examine experiences • Maximum variation sampling (age, ethnicity, & occupation), full inclusion/exclusion criteria • Sample size determined by data saturation

		attend the hospital				persisted or worsened, that further steps were likely to be taken • Coronary candidacy played an important role in symptom attribution • Chronic conditions added further complexity to symptom attribution	• The interviews were conducted by 1 reviewer and discussed with 2 authors (rigour) but not clear when after the ACS episode (recalling time between ACS and the interview was not reported) • Findings adequately derived from data as evidenced by the quotes supporting the study themes
Lidin et al. (2021)	Sweden	To determine patient delay in seeking medical care for AMI during March–June 2020	Cross-sectional study	326 patients with AMI (245 men)	self-administered psychometric evaluated questionnaire	Women, immigrants, patients with DM, smokers hesitated to seek medical care due to fear from pandemic, hospitals were already overcrowded with patients with COVID-19, being afraid of getting infected with COVID-19	• Eligibility criteria provided • Non-probability convenience sampling; no power calculation provided (difficult to say that participants are representative of target population) • Ethics were briefly mentioned • Variables were defined and measured • Data collected via PA-AMI questionnaire (Validated) in addition to Covid-19 questions • Multivariate logistic regression analysis appropriate to analyse questionnaire data
Asghari et al. (2022)	Iran	To explore women's experience of ACS, their response to the symptoms, and	Qualitative descriptive study	39 women with ACS	Semi-structured interviews	• Women often deny or underestimate their cardiac risk, even when well-known risk factors (hypertension, hyperglycemia, etc.)	• The chosen methodology (qualitative descriptive study) is appropriate to explore experiences • Inclusion/exclusion criteria were provided

		treatment-seeking decisions				• Women tend to seek prompt medical treatment for severe symptoms regardless of their cause, while those with milder symptoms delay until symptoms become unbearable • When experiencing early ACS symptoms, women typically focus on easing/alleviating symptoms rather than attributing them to a specific cause, often trying to self-manage at home	• Convenience sampling of 39 pts, interviews were ceased after data saturation • Qualitative content analysis is appropriate to analyse open-ended semi-structured interviews • Findings adequately derived from data as evidenced by the quotes supporting the study themes
Ericsson et al. (2022)	Sweden	To identify factors associated with patient decision time for seeking care in STEMI, especially how symptoms were experienced and influenced patient response	Observational cross-sectional study	521 patients (400 men) from five hospitals	A self-reported questionnaire on background characteristics, symptom experience, course of events, and mode of transport to hospital	• Perceiving symptoms as cardiac, male sex, and the presence of others during the onset of MI were factors associated with contacting the health system in <20 minutes • Chest pain alone was not independently associated with prompt hospital attendance	• Eligibility criteria provided • Convenience sampling from 5 hospitals in Sweden; no power calculation provided (difficult to say that participants are representative of target population) • Ethics were briefly mentioned • Variables were defined and measured • Data collected via a questionnaire developed by the 2nd author (Validated) and pre-tested in a pilot study

Granström et al. (2023)	Sweden	To describe the perceptions of delay in care-seeking, when afflicted by an MI during COVID-19	Qualitative descriptive study	14 patients (12 men)	Telephone interviews	• The fear of being exposed to Coronavirus led to hesitancy to seek health, even when feeling unusual • Attributing symptoms to Coronavirus resulted in downplaying symptom and a sense of not critically ill, which delayed hospital attendance	• The chosen methodology (qualitative descriptive study) is appropriate to describe the perceptions • Inclusion criteria were provided • Purposive sampling of 14 participants, interviews were ceased after data saturation • Interview guide was pre-tested (n=4) and included in the content analysis (rigour) • Findings adequately derived from data as evidenced by the quotes supporting the study themes
Yu et al. (2023)	China	To explore the experiences of older women with MI, focusing on their perception, challenges, and coping strategies at the onset of the MI episode	Qualitative research design Using Leventhal's CSM	18 women (aged 65–84 years) from two hospitals in Wuhan, China	Semi-structured, in-depth, and audio-recorded interviews	• Women held stereotypical views that heart attack patients (CVD is a male disease – candidacy) • Women were more concerned with family responsibilities and obligations than their own health thus postponed seeking health • Most women attributed their symptoms to non-specific reasons such as household-related tiredness, which caused	• Qualitative design is appropriate to explore the experiences and perceptions • Inclusion criteria were provided • Purposive sampling of 18 participants, interviews were ceased after data saturation (after the 16th semi-structured interview as reported) • Ethics were briefly mentioned • Analysis method (IPA) is appropriate to a analyse the semi-structured interviews • Findings adequately derived from data as evidenced by the

						further delay in deciding to attend the hospital	quotes supporting the study themes.

Appendix 3: Ethical Approval – University of Edinburgh

SCHOOL *of* HEALTH IN SOCIAL SCIENCE

The University of Edinburgh
Medical School
Doorway 6, Teviot Place
Edinburgh EH8 9AG

Email ethics.hiss@ed.ac.uk

20 July 2021

Dear Esra Sinary,

Reference: NUST002
Project Title: Illness and treatment-seeking experiences of Saudi Women with Acute Coronary Syndrome

Thank you for submitting the above research project for review by the School of Health in Social Science Research Ethics Committee (REC). I can confirm that the submission has been independently reviewed and has received a favourable opinion on 23rd June 2021.

The standard conditions of this are:

I. Conduct the project strictly in accordance with the proposal that you have submitted and that has been granted ethics favourable opinion, including any amendments made to the proposal required by the REC.
II. Advise the REC (by email to ethics.hiss@ed.ac.uk) of any complaints or other issues in relation to the project, which may warrant review of the favourable opinion granted to the project.
III. Make submission for approval of amendments to the project before implementing such changes.
IV. Advise in writing if the project has been discontinued.

The School's Research Ethics Policy and further information and resources are available on the School's website.

Best of luck with your project.

Yours sincerely,

Sanni Ahonen
Administrative Secretary
School of Health in Social Science

Appendix 4: Ethical Approval – King Abdulaziz University Hospital

KING ABDULAZIZ UNIVERSITY
Faculty of Medicine

وزارة التعليم العالي
جامعة الملك عبد العزيز
كلية الطب

Ref.FM : ..... الرقم : .....
Date : / / التاريخ : / / ١٤هـ
Encl : ..... المرفقات : .....

ISO 9001 BUREAU VERITAS Certification

UNIT OF BIOMEDICAL ETHICS
Research Committee

Ethical Approval

TO: Principal Investigator. Esra Sinary **Prof. From: Professor. Hasan Alzahrani**
PhD student at the University of Edinburgh, United Kingdom.
Lecturer at the Faculty of Nursing, King Abdul Aziz University, Jeddah, Saudi Arabia
Local - Supervisor: Dr. Fatma Alshareef.
Primary- Supervisor: Dr. Elaine Haycock-Stuart (Senior lecturer) **Secondary- Supervisor : Dr. Jeni Harden** (Senior lecturer)

Date : Tuesday, August 10, 2021 **CC:Vice-Dean, University /Hospital Director & Academic Affairs & File & Mentoring Committee**

RE: **" Illness and treatment-seeking experiences of Saudi Women with Acute Coronary Syndrome "**
Non Intervention – Qualitative Research. (Reference No 213/21)

The above titled research/study proposal has been examined with the following enclosures:

- Application for Research Unit of Biomedical Ethics. KAU FoM ,KAUH Form.
- Data Collection Sheet

The REC recommended granting permission of approval to conduct the project along the following terms:

1. The PI and Supervisors are responsible to get Academic Affairs, hospital and departmental approvals , according to bylaws they must get the administrative approval from organization collaborators outside KAUH.
2. The approval of conduct of this study will be automatically suspended after 06 months in case if no submission of " Continuing Review Progress Report KAU FoM Forms " to review by REC, Monitoring Committee.
3. The Investigators will conduct the study under the direct supervision of . Esra Sinary.
4. Any amendments to the approved protocol or any element of the submitted documents should NOT be undertaken without prior re-submission to, and approval of the REC for prior approval.
5. The PI is expected to submit a final report at the end of the study.
6. The PI must provide to REC a conclusion abstract and the manuscript before publication.
7. To follow all regulations issued by the National Committee of Bio & Med ethics - King Abdul Aziz City for Science and Technology.

Kindly note that the committee does not disclose names of any of its members, however we confirm compliance with the above mentioned Saudi National Committee sections and we confirm that the PI is not part of the ethics committee.
The committee is fully compliant with the regulations as they relate to Ethics Committees and the conditions and principles of good clinical practice.
The Organization & operating procedure of the KAU. Faculty of Medicine - Research Ethics Committee (REC) are based on the Good Clinical Practice (GCP) Guidelines.
Please note that this approval is valid for one year commencing from the date of this letter.

Professor Hasan Alzahrani

Chairman of the Research Ethics Committee

c/o

(HA-02-J-008) No of Registration At National Committee of Bio.& Med. Ethics.
HANAN . ALSOMALI (Reference No 213/21)

ص.ب ٨٠٢٠٥ جدة ٢١٥٨٩ برقياً : «جامعة عبدالعزيز» تلكس ٦٠١١٤١ كايوني إس جيه فاكس : ٦٤٠٠٨٥٥ ☎ : ٦٩٥٢٤٤٦/٦٩٥٢٠٦٣
P.o. Box 80205 Jeddah 21589 Cable : "Jameatabdulaziz" Telex : 601141 Kauni SJ Fax. : 6400855 ☎ : 6952446/6952063

Appendix 5: Patient Information Sheet

PIS (English)

THE UNIVERSITY of EDINBURGH
School of Health in Social Science

Participant Information Sheet

Illness and treatment-seeking experiences of Saudi Women with Acute Coronary Syndrome

You are invited to take part in a research study concerned about the illness and treatment-seeking experience of Saudi women with coronary heart disease. My name is Esra, a PhD student at the University of Edinburgh and the lead researcher for this project. Before you decide whether to take part, it is important you understand why this research is being undertaken and what will involve. Please take your time to read the following information carefully.

What is the purpose of the research study?

The purpose of this study is to understand the illness and treatment-seeking experiences of Saudi women with Acute Coronary Syndrome (ACS). We hope the findings can help healthcare professionals gain more insight into the experience of women seeking treatment for acute cardiac illness and support them in this life event.

Why have I been asked to take part?

You are invited to this study because you are a Saudi woman > 18 years old who has been diagnosed with Acute Coronary Syndrome and has been admitted to the Coronary Care Unit at KAUH within the last six months.

Do I have to take part?

No –it is entirely up to you. If you are interested in taking part, you still have the right to withdraw at any time and without giving a reason. Deciding not to participate or withdrawing from the study will not affect the healthcare service you receive now or in the future. Kindly note that your data may be used in the production of formal research output (e.g., theses, journal articles, conferences, etc.) prior to your withdrawal and so you are advised to contact the researcher at the earliest opportunity should you wish to withdraw from the study.

If you wish to take part, please keep this information sheet. You will be asked to sign an Informed Consent Form to show that you understand your rights about the research and that you are willing to take part.

What will happen if I decide to take part?

You will be invited to take part in an interview with the lead researcher. This will take place in a private room in the cardiology clinic. During the interview, you will be asked about your experience with the cardiac event before your recent hospitalisation. The interview should take around 40 minutes to complete and with your consent, your responses will be audio-recorded for data collection and analysis purposes.

What are the potential benefits of taking part?

There are no direct benefits to you, but by sharing your experiences during the interview, you will be helping to better understand the illness and treatment-seeking experiences of women with acute cardiac illness.

Are there any risks or disadvantages with taking part?

There are no significant risks from you taking part. If at any time, however, during the interview you become emotionally unwell for any reason, you can ask to pause or stop the interview, and the researcher will ensure that you have proper access to support within the hospital.

Risks of participation (COVID-19)

We have taken specific steps to lower the risk of exposure to COVID-19 during the study by adhering to the most up to date Saudi Government guidelines. These measures include maintaining 2 meters of social distancing, using face coverings, and washing hands thoroughly and regularly. The researcher will have tested negative for COVID-19 in the 7 days before the interview to minimise the risk of getting infected.

What if I am unwell prior to the research interaction?

If you feel unwell, experience COVID-19-related symptoms, or have been in contact with a COVID-19 positive individual in the past 14 days, then please contact me by email: s1723513@ed.ac.uk or by phone at +966 501060188 and I will postpone or cancel the interview.

What if I become unwell after the research interaction?

If you experience COVID-19-related symptoms, and/or have a positive COVID-19 test following the research interaction, please follow the Saudi Government guidance.

Will my taking part be kept confidential?

All the information we collect from you during the course of the research will be kept confidential and there are strict laws that safeguard your privacy at every stage.

How will we use information about you?

Your information and narratives provided by you in the interviews will be used for this research project. Your data will be referred to by a unique participant number rather than by name or any other direct identifier. With your consent, the interview will be audio-recorded and stored securely for transcription and analysis purposes. Your data will only be viewed by the lead researcher and shared with the research team. Transcripts from our interview may be looked at by an approved translator, Dr Maram Baanokhor, to ensure an accurate translation.

All electronic data will be stored on a password-protected computer file and all paper records will be stored in a locked filing cabinet. Your consent information will be kept separate from your responses to minimise risk.

After the completion of the study, we will keep some of the data so we can check the results. We will write our reports in a way that no one can work out that you took part in the study. We will keep the anonymised data from this study for a minimum of 7 years and, with your consent, this may be used in future ethically approved research. We will also share the anonymised information provided by you with a databank to benefit the research community.

What are your choices about how your information is used?

As explained earlier, you can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have. We also need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

Where can you find out more about how your information is used?

You can find out more about how we use your information

- by visiting the web page https://www.ed.ac.uk/records-management/privacy-notice-research
- by directly asking the lead researcher
- by sending an email to s1723513@ed.ac.uk

What will happen to the results of this study?

The results will be documented and published in the researcher's doctoral thesis and may be reported in peer-reviewed journals and conference papers. You will not be identified in any of these published results. In addition, anonymous data will be archived and shared without any identification information in an open-access platform maintained by Edinburgh University for as long as practicable for possible re-use in other research activities in future. If you wish to receive a summary of the results after the completion of the study, please inform the lead researcher and you will be sent a summary of findings after the completion of the study.

Who is organising or funding the research?

This study has been organised by Esra Sinary as part of her doctoral research in Nursing Studies and sponsored by the University of Edinburgh based in the United Kingdom. The researcher has not received any funding for undertaking this research project.

Who has reviewed the study?

The study has been reviewed by two research ethics committees: The Ethical Committee of the School of Health in Social Science at the University of Edinburgh, UK; and the Biomedical Ethics Research Committee at King Abdulaziz University Hospital, Saudi Arabia, to ensure that both British and Saudi ethics and legal regulations are met and respected.

Who can I contact?

If you have any further question about any aspect of this study, please contact the lead researcher	If you wish to make a complaint about the study, please contact:	If you wish to talk about the research with an independent academic researcher, please contact:
Esra Sinary PhD researcher Nursing Studies The University of Edinburgh Email: s1723513@ed.ac.uk Tel: +966 (0) 50 106 0188	Matthias Schwannauer Head of School School of Health in Social Science The University of Edinburgh Email: headofschool.health@ed.ac.uk Tel: +44 (0) 131 651 3954	Dr Fatma Alshareef Assistance Professor School of Nursing King Abdelaziz University Email: Falsharif@kau.ed.sa Tel: +966 (0) 56 645 22

Thank you for taking the time to read this information sheet

PIS (Arabic)

THE UNIVERSITY of EDINBURGH
School of Health in Social Science

ورقة معلومات البحث

"تجربة المرض والبحث عن المساعدة والعلاج لدى السيدات السعوديات اللاتي تم تنويمهن إثر الإصابة بمتلازمة الشريان التاجي الحادة "

انتِ مدعوة للمشاركة في الدراسة البحثية بعنوان:
"تجربة المرض والبحث عن المساعدة والعلاج لدى السيدات السعوديات اللاتي تم تنويمهن إثر الإصابة بمتلازمة الشريان التاجي الحادة" والذي تُجرى في مستشفى جامعة الملك عبدالعزيز، جدة. اسمي اسراء سناري، باحثة دكتوراه في مجال العناية القلبية بجامعة إدنبره، المملكة المتحدة. قبل اتخاذك لقرار المشاركة ينبغي عليك ان تدركي الغرض من اجراء هذا البحث. يرجى التكرم بقراءة المعلومات ادناه بعناية فائقة. بإمكانك حتما التحدث مباشرة الى الباحثة أو الاتصال بها فيما بعد في حين وجود أسئلة أخرى

سيتم إعطائك نسخة من هذا النموذج عند الموافقة على المشاركة في البحث

ما هو الغرض من اجراء هذه الدراسة؟

تعني هذه الدراسة بفهم تجربة المرض وأساليب البحث عن المساعدة والعلاج الطبي لدى السيدات السعوديات اللاتي تم تنويمهن إثر الإصابة بمتلازمة الشريان التاجي الحادة (بما في ذلك انسداد الشرايين التاجية والذبحات الصدرية الناجمة عنها). نأمل باستخدام نتائج البحث لتعزيز فهم مقدمي الرعاية الصحية حول هذا الموضوع وتوعية السيدات حول أمراض القلب والشرايين التاجية بالإضافة عن أهمية طلب المساعدة فورا عند الشعور بأعراض وان لمن تكون مألوفة لما ينتج عن ذلك سرعة في التدخل الطبي وتقليل أي نتائج قد تكون سلبية على صحة المرأة.

لماذا تمت دعوتي للمشاركة؟

دعوتنا موجة لجميع السيدات السعوديات اللاتي يبلغن ١٨-٧٥ عاما من العمر واللاتي تم تنويمهن في مستشفى جامعة الملك عبد العزيز بسبب تشخيص متلازمة الشريان التاجي الحادة (بما في ذلك انسداد الشرايين التاجية والذبحات الصدرية الناجمة عنها).

هل يتوجب على المشاركة؟

لا، المشاركة غير الزامية والأمر متروك لكِ. إذا رغبتي في المشاركة فستقدم لكِ هذه الورقة وسيطلب منك التوقيع على نموذج الموافقة المرفق. وحتى في حال ابداء الرغبة في المشاركة ومن ثم تراجعت عِن ذلك، يمكنك الانسحاب في أي مرحلة من مراحل البحث وبدون ذكر أسباب. علماً بأن قرارك هذا لن يؤدي الى خسارة أو فوات منفعة.

ماذا سيحدث في حال المشاركة؟

في حال الموافقة على المشاركة، سوف تُجرى معكِ مقابلة مسجلة صوتياً مع الباحثة بعد الخروج من المستشفى. ستتزامن المقابلة مع موعد حضور المراجعة الدورية لدى عيادات القلب والأوعية الدموية في عيادات المستشفى الخارجية وستكون في مدة أقصاها ٤٠ دقيقة في غرفة خاصة داخل العيادة. ستستخدم التسجيلات الصوتية من أجل أغراض تحليل البيانات فيما بعد.

هل ستحظى مشاركتي بالسرية؟

يتم التعامل مع جميع المعلومات وحفظها بسرية تامة وفق نظام حماية البيانات التابع لجامعة ادنبره بالمملكة المتحدة، وستكون متاحة فقط للباحثة ومشرفين سير العمل. أي بيانات أو مُعرّفات خاصة بالمشاركين سيتم استبدالها برموز وجميع التسجيلات الصوتية سيتم تشفيرها الكترونياً.

ما الفوائد المتوقعة من المشاركة؟

لا يوجد هناك فوائد مباشرة لكِ، ولكن المشاركة سوف تؤدي الى فوائد غير مباشرة، أحدها تعزيز توعية السيدات السعوديات بأمراض القلب وأهمية سرعة طلب المساعدة والقدوم الى المستشفى عند الشعور بأعراض سواء مألوفة أم لا، بالإضافة الى الإسهام بفهم أعمق لهذا الموضوع من قبل مقدمي الرعاية الصحية لهذا الموضوع.

ما الاضرار او المخاطر المتوقعة من المشاركة؟

ليس هناك اضرار او مخاطر متوقعة من المشاركة في هذا البحث. في حال الإحساس بتعب او توعك صحي أثناء المقابلة، يمكنك الطلب بتوقف المقابلة او تأجيلها الى وقت لاحق.

بخصوص الأضرار المحتملة المتعلقة بجائحة كورونا (كوفيد ١٩)

ستجرى المقابلة وفق الاحترازات الصحية المُوصى بها من منظمة الصحة العالمية ووزارة الصحة السعودية، وتتضمن لبس الكمامة وغسل اليدين ومراعاة ترك مسافة آمنة اثناء المقابلة. كما أن الباحثة التي ستقوم بإجراء المقابلة معكِ قد أتمت جرعات لقاح فايروس كورونا (كوفيد ١٩).

ماهي المعلومات التي سوف تستخدم وكيف؟

المعلومات التي سوف تمنحينا إياه اثناء المقابلة سوف تستخدم كمصدر رئيسي للبيانات في هذا البحث. لا نحتاج منكِ معلومات شخصية بتاتا، كل ما نحتاجه هوا إجابة على أسئلة متعلقة بأمراض القلب والشرايين التاجية من منظورك الشخصي والاجتماعي لها. جميع البيانات أثناء المقابلة ستكون غير مُعرّفة ومحفوظة عند الباحثة بالإضافة الى قواعد بيانات جامعة ادنبرة للمحافظة على السرية القصوى، قد تكون أيضاً متاحة لمشرفين الباحثة من أجل المناقشة والتأكد من سير البحث. كما قد ترسل البيانات (مع عدم إفشاء هويتك) الى مترجم بعد ترجمتها الى الإنجليزية من قبل الباحثة للتأكد من صحة وسلامة الترجمة.

ماذا سيحدث لنتائج البحث عند الانتهاء منه؟

ستحفظ نصوص المقابلة بصورة غير معرفة لمدة لا تزيد عن ٧ سنوات لإمكانية استخدامها في أبحاث علمية مستقبلية.
في حال الرغبة في الحصول على نتائج البحث، يرجى إخبار الباحثة بذلك كي يتسنى لها ارسال النتائج لكِ عبر البريد بعد انتهاء سير العمل وتحليل البيانات.
سيتم نشر نتائج البحث لاحقاً في مجلات علمية محكمة ومؤتمرات أكاديمية، بالإضافة الى بحث الدكتورة الخاص بالباحثة، كل هذا وبياناتك الشخصية ستكون محفوظة بسرية تامة.

من قام بمراجعة هذه الدراسة؟

تمت مراجعة محتوى خطة البحث والموافقة عليه من قِبل لجنة أخلاقيات البحث بجامعة ادنبره ولجنة أخلاقيات البحث بمستشفى جامعة الملك عبد العزيز بجدة وهن لجان يعنون بحماية المشاركين في الأبحاث.

ماذا افعل في حال لدي استفسارات أخرى؟

يمكنكِ التواصل الآن أو لاحقاً بالباحثة اسراء سناري من خلال:
البريد الإلكتروني: s1723513@ed.ac.uk جوال: 0501060188

في حال الرغبة في تقديم ملاحظات يمكنك التواصل مع:

- د. ماتشيرس سكوانور بجامعة ادنبره

البريد الإلكتروني: headofschool.health@ed.ac.uk جوال: +44 131 651 3954

- اللجنة المحلية للأخلاقيات الطبية والحيوية بكلية الطب والمستشفى الجامعي، جامعة الملك عبد العزيز

البريد الإلكتروني: Med.rcommittee@kau.edu.sa

ولمزيد من المعلومات عن كيفية سير العمل والحفاظ على سرية المعلومات، الرجاء الاطلاع على الرابط ادناه:
https://www.ed.ac.uk/records-management/privacy-notice-research

Appendix 6: Informed Consent

Informed Consent (English)

THE UNIVERSITY of EDINBURGH
School of Health in
Social Science

INFORMED CONSENT

Study Title: Illness and treatment-seeking experience of Saudi Women with Acute Coronary Syndrome

	Please tick box
1. I confirm that I have read and understood the Participant Information Sheet (Version 1, 20Apr2021) for the above study.	☐
2. I have been given the opportunity to consider the information provided, ask questions and have had these questions answered to my satisfaction.	☐
3. I understand that my participation is voluntary and that I can ask to withdraw at any time without giving a reason and without my medical care or legal rights being affected.	☐
4. I understand that my anonymised data will be stored by the researcher for 7 years and that may be used in ethically approved research studies in future.	☐
5. I understand that my anonymised data will be archived and shared in an open-access data bank for as long as practicable to benefit the research community.	☐
6. I understand that data collected during the study may be looked at by individuals from the University of Edinburgh which is relevant to my taking part in this research. I give permission for these individuals to review my anonymised data.	☐

7. I agree to my interview being audio recorded. ☐

8. I agree for my interview transcripts to be reviewed by an approved translator to ensure an accurate translation of my interview ☐

9. I am aware that participating in this study at the current time may carry risks in relation to potential exposure to COVID-19, and I understand the steps that have been taken in relation to minimising the risks of exposure and transmission. ☐

10. I agree to take part in this study. ☐

Name of person giving consent	Date	Signature
_____	_____	_____

Name of person taking consent	Date	Signature
_____	_____	_____

Informed Consent (Arabic)

THE UNIVERSITY of EDINBURGH
School of Health in Social Science

خطاب إقرار

عنوان البحث: تجربة المرض والبحث عن المساعدة والعلاج لدى السيدات السعوديات اللاتي تم تنويمهن إثر الإصابة بمتلازمة الشريان التاجي الحادة

سيتم إعطائك نسخة من هذا الإقرار عند الموافقة على المشاركة في البحث

☐ ١. أُقِر بأني قمت بقراءة جميع المعلومات في ورقة معلومات البحث وأنه تم إخباري بهدف الدراسة، نوع الإجراء البحثي، والفوائد والمخاطر المتوقعة.

☐ ٢. أُقِر انه تم اتاحة الفرصة لي لطرح أي أسئلة أو استفسار بخصوص البحث قبل التوقيع وأنني أجبت بشكل وافٍ.

☐ ٣. أُقِر بأنني فهمت أن مشاركتي في البحث اختيارية كلياً وأن رفض المشاركة لا يتعارض مع الرعاية المقدمة لي الآن ومستقبلاً، كما يمكنني التوقف عن المشاركة في أي وقت بدون إبراز أسباب أو مبررات.

☐ ٤. أُقِر أن بياناتي غير المُعرّفة ستكون محفوظة بشكل سري لدى الباحث لمدة لا تزيد عن ٧ سنوات من لإمكانية الاستفادة منها بدراسات بحثية مستقبلية.

☐ ٥. أقِر بأن معلوماتي غير المُعرّفة قد تُشارك من قبل الباحث في قواعد بيانات أكاديمية بهدف الاستفادة والاطلاع من قبل باحثين وأكاديميين.

☐ ٦. أُقِر بأن بياناتي غير المعرفة قد يُطّلع عليها من قبل مشرفين البحث من أجل المناقشة.

٧. أُقِر بالموافقة على تسجيل المقابلة صوتيا بغرض تحليل البيانات لاحقاً. ☐

٨. أوافق على أن يتم مراجعة ترجمة نصوص المقابلة الإنجليزية من قبل مترجم للتحقق من صحة الترجمة. ☐

٩. أقر بمعرفتي بمخاطر فايروس كورونا (كوفيد ١٩) وكيفية أخذ الاحترازات الصحية لمنع الإصابة. ☐

١٠. أُقِر بالمشاركة في هذه الدراسة البحثية. ☐

اسم المشاركة: _____

التوقيع: _____

التاريخ: _____

الباحث:

أقر بأنني قمت بقراءة ورقة معلومات البحث وشرح التفاصيل بعناية فائقة وأنني قمت بقصار جهدي بتوضيح جميع المعلومات المتعلقة بغرض الدراسة، نوع الإجراء البحثي، والفوائد والمخاطر المتوقعة. وأنه أُتيحت فرصة للمشاركة لطرح أي أسئلة أو استفسارات وأنه تم اجابتها بشكل وافٍ. كما أنني أقر بأنه لم يتم الإكراه على المشاركة بأي شكل. تم منح المُشارِكة نسخة من خطاب الإقرار.

اسم الباحث: _____

التوقيع: _____

التاريخ: _____

Appendix 7: Interview Guide

THE UNIVERSITY of EDINBURGH
School of Health in Social Science

Semi-Structured Interview Guide

Self-introducing the researcher:

Hi, thank you for participating in my research study and giving me your time. My name is Esra and I am a PhD student at Edinburgh University. I hope you are well. [Icebreaker]. I'm undertaking this study to understand the illness and treatment-seeking experiences of Saudi women with acute cardiac disease so that findings could help healthcare professionals gain more insight into the experience of women seeking treatment for acute cardiac illness and support them in this life event.

I will be asking you a few questions about your thoughts and experiences with your recent illness. Before we start, please be aware that your privacy is respected and whatever we talk about today will be confidential and will be only used for the purpose of this research. I would like to remind you that our conversation will be audio recorded so that I don't miss any of our discussions, please confirm this is still okay with you! Please be aware there is no right or wrong answer to my questions, and I am only asking because I'm really interested to know about your experience and thoughts with respect to your recent illness and what led up to your hospitalisation.

If at any time during the interview you become emotionally unwell for any reason, you can ask to pause or stop the interview, and I will ensure that you have proper access to support within the hospital.

تعريف شخصي للباحث القائم بالمقابلة:

مرحباً، شكرا لمشاركتك في دراستي البحثية وإعطائي بعض من وقتكِ. اسمي اسراء وأنا باحثة دكتوراة في مجال تمريض العناية القلبية بجامعة إدنبره بالمملكة المتحدة. أقوم بهذه الدراسة البحثية كجزء من بحث الدكتوراة الذي يُعنى بفهم تجربة المرض وأساليب البحث عن المساعدة والعلاج الطبي لدى السيدات السعوديات اللاتي تم تنويمهن إثر الإصابة بمتلازمة الشريان التاجي الحادة (بما في ذلك انسداد الشرايين التاجية والذبحات الصدرية الناجمة عنها). سأقوم بطرح بعض من الأسئلة حول هذا الموضوع. قبل ان نبدأ، أأكد لك احترامي لخصوصيتك وأن اسمك أو أي أو معرفات شخصية لن تعرض ابدا.

إذا شعرتي بأي تعب خلال المقابلة، أرجو منك اخباري في الحال حيث يمكننا التوقف وتأجيل اللقاء الى وقت لاحق.

Broad questions to start

- Could you please tell me a little about yourself?
  - Perhaps starting with how old are you?

- what education you have had?
- are you working or employed or mainly have caring responsibilities at home?
- What is your current marital status? That's great, thanks.
- today we are mainly going to talk about your recent illness event, but can you tell me if you have any other health conditions?

- Great, thanks. Now, could you please tell me about your general health and wellbeing before your recent time in hospital? This will be helpful to understand more.

- ممكن أن تخبريني قليلاً عن نفسك؟ كم عمرك؟
- ما هوا التعليم الذي حصلتِ عليه؟
- هل أنت موظفة أم ربة منزل؟
- ماهي حالتك الاجتماعية؟
- سنتحدث بشكل رئيسي عن حالتك الصحية التي استدعت لتنويمك بالمستشفى، لكن قبل هذا، هل لديك أي أمراض مزمنة؟
- شكراً لكِ، الآن أخبريني عن حالتك الصحية بشكل عام قبل آخر تنويم لك. هذا سوف يُساعد كثيراً في فهم الصورة العامة بشكل أعمق.

Lead questions: [more focused; content and sequence subject to change based on participants' answers and the dynamic of the conversation]

Symptomatology

- Now I'd like to learn more about your symptoms and what you think or feel about what happened when you first experienced them. If we can go back to when you first became unwell?
- In general, what was your experience with this event and
- how did you feel about it?
- What did you notice exactly? What made you start feeling you were becoming unwell?
- (if symptoms (e.g., pain) are reported) how did it feel? Can you describe more?
- When did your symptom(s) start? How long did they last?
- Where were you at?
- Were you alone or with somebody else? And how did that make you feel?
- Going back then, were you expecting anything wrong when you first noticed these symptoms?
- ***(If the participant reported uncertainty about the situation when she first experienced her symptom):*** So I understand that you were not sure about what was happening to you initially, tell me what did you think it was all about?
- Did your symptom(s) concern you back then? How?

شكراً على المقدمة المبدئية، الأن هل أريد معرفة بعض التفاصيل عن ماذا حدث عند إحساسك بأعراض وما هو شعورك حينها

- بصفة عامة، كيف كانت تجربتك مع الأعراض التي استدعت طلب المساعدة والعلاج وكيف كان شعورك وقتها؟
- ماذا فعلتِ حينها؟ ما الذي جعلك تشعرين بأن هناك مشكلة ما (ان وجدت أعراض)؟
- (في حال قالت المُشاركة أن هناك كانت أعراض كالألم مثلاً) كيف كان ذلك؟ هل يمكنك وصفه لي بالتحديد؟
- متى بدأت هذه الأعراض تحديداً؟ وكم كانت مدتها؟
- أين كنتي وقتها؟
- هل كنتي برفقة أحد أم بمفردك؟ وكيف جعلك ذلك تشعرين؟
- في ذلك الوقت تحديداً، هل شعرتي بأن هناك شيء مريب؟
- (في حال قالت المُشاركة آنها لم تُدرك ما يحصل لها على وجه التحديد) أرى أنك لم تستوعبي ما حصل لكِ في البداية، إذا أخبريني ماذا شعرتي حيال تلك الأعراض وأسبابها؟
- هل أقلقتكِ تلك الأعراض؟

Situational influencers

- Thinking back, might you have had a similar experience before?
- (if yes) was your recent event different from your previous experience? How?
- What did you think might be causing the symptoms back then?
- Did you think that your symptoms could be due to potential cardiac illness?

- هل كانت لكِ تجربة مماثلة لما شعرتِ به في هذاك الوقت؟
- (إذا كنت الإجابة نعم) خل كانت تلك التجربة مختلفة؟ كيف؟
- ماذا كان تفكيرك تجاه تلك الأعراض وقتها؟
- هل خطر ببالك أنها أعراض لمشاكل قلبية؟

Health-seeking behaviours

- I see. Now, could you please tell me what did you ***do*** when you first recognised your symptoms?
- what happened next? [***follow up***]
- Did you tell anyone? Perhaps a family member, a friend, or a colleague?

[***if yes***]

- [***Follow up***] how did that make you feel? In which way telling someone have influenced your feelings/actions?
- Did you look for any information, for example, online?

- Can you tell me about what else was happening when you were experiencing the symptoms?
- have you tried to contain these symptoms within the home?

[***if yes***]

- [***follow up***] So you have tried (for example over-the-counter painkillers). How did that make you feel?
- [***follow up***] So, you have tried XXXX. Did that help you to keep up your familial/work responsibilities?
- I'm interested in knowing and understanding how you decided to go to the hospital after that. Could you please describe the events that led up to you seeking treatment/help?
- How long it took you to decide to seek help? You can give an estimated time from when you first had your symptoms until you actively sought help.
- [***if reported delays in seeking help***] So it sounds like you did not think about going to the hospital at first. Was there anything in particular that influenced this decision?
- So, what do you think about what might have influenced you to go to the hospital and seek treatment?

- هلاّ أخبرتني الآن ماذا فعلتي عندما شعرتي بتلك الأعراض؟

- هل أخبرتِ أحداً عن تلك الأعراض؟
- ماذا شعرتي حيال ذلك؟ كيف ماذا كان أثر اخبار الآخرين على شعورك تجاخ تلك الأعراض؟
- كيف بحثتِ عن أجوبة لتساؤلاتك حيال تلك الأعراض؟ (مثلا عن طريق الانترنت)
- أخبريني ماذا كان يحصل في حياتك بصفة عامة أثناء احساسك بتلك الأعراض الجانبية؟
- هل أردتِ احتواء تلك الأعراض في المنزل؟
- (إذا كانت الإجابة نعم) كيف؟ أدوية؟ كيف جعلكِ ذلك تشعرين؟
- (إذا أجابت المشاركة بأي طرق أخرى لاحتواء الأعراض) هل ساعدك ذلك وقتها؟ خصوصاً من الناحية الاجتماعية أو العمل؟
- أريد معرفة كيف قررتِ طلب المساعدة والذهاب الى المستشفى؟ هلاّ أخبرتني كيف آل بكل المطاف الى المستشفى؟
- كم أخذك منك من الوقت كيف تطلبي المساعدة أو تأتي الى المستشفى؟ هل تستطيعين اعطائي وقت تقريبي من وقت الشعور بالأعراض الى حين طلب المساعدة؟
- (في حين أن المشاركة كانت قد أجلت الذهاب الى المستشفى لأي سبب كان) أرى انكِ أردت تأجيل طلب المساعدة أو القدوم للمستشفى بالرغم بشعورك للأعراض. ما كان سبب ذلك على وجه التحديد؟
- إذا ما هوا الدافع وراء طلبك للمساعدة والقدوم الى المستشفى؟

Illness beliefs and perception

- Thinking back before the recent event, what did you know about heart disease in general?
- Who would you have thought was a typical person who might have heart disease?
- Did you think that cardiac illness can affect women?
- Was your experience with cardiac illness similar/different to what you have expected about heart illness or the kind of person who can get a heart attack?
- Now having been hospitalised for an acute cardiac illness, are your ideas/thoughts influenced by the recent event?

- في ذلك الوقت، ماذا كنتي تعرفين عن الأمراض القلبية بصفة عامة؟

- في تصورك آن ذاك، من هو الشخص الذي قد يكون عُرضة للأمراض القلبية؟
- هل كنت تعتقدين أن الأمراض القلبية قد تصيب النساء بكثرة؟
- هل كانت تجربتك مؤخراً مع مرض القلب مُشابه/مختلفة عن تصورك لأمراض القلب أو عن الشخص الذي قد يكون عُرضة لأمراض القلب؟
- الآن وبعد تنويمك الأخير، هل تغيرت أفكارك عن الأمراض القلبية؟

Closing remarks

Thank you so much for giving me your time today. I really appreciate that. Before we finish off, is there anything else you think I should know to understand better? Is there anything else that you would like to discuss?

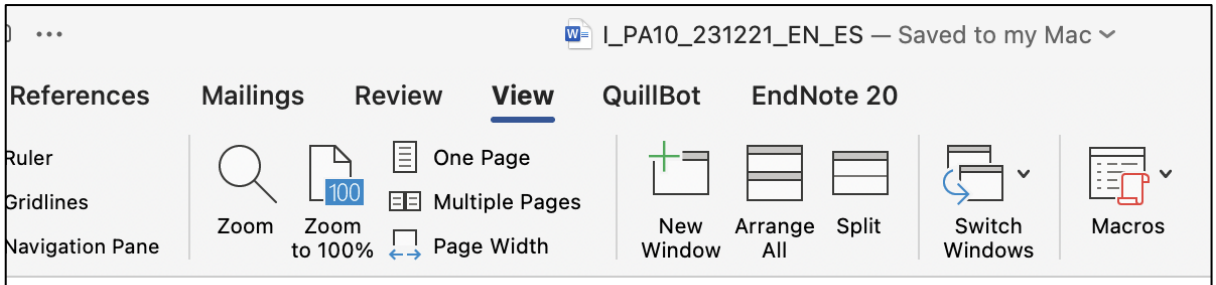
شكراً جزيلاً لك على وقتك اليوم. قبل الانتهاء من هذا اللقاء، هل هناك أي شيء آخر متعلق بهذا الموضوع تحبين مشاركتي إياه أو مناقشته؟

Probes to use during the discussion

- Can you please explain more?
- Why do you think is that?
- What happened next?
- What did you think then?

- هل من الممكن شرح هذا أكثر؟
- لماذا؟
- ماذا حدث فيما بعد؟
- ماذا فكرتي حينها؟

Appendix 8: Raw Data Sample



Participant: I used to take injections, I was injecting [Insulin] to my abdomen and thighs. Then I went to a healthcare centre[3] in Abha[4]. There they prescribed medicine – pills. He told me to ditch the injections and take the pills only. I take three different pills now.

And how's your blood sugar? Is it stable?

Participant: It's good, good. I mean sometimes up and sometimes down.

Researcher: What do you mean? Is it fluctuating?

Participant: I mean sometimes it goes up to 250, sometimes 300, sometimes 150, I mean it depends. Alhamdulillah.

Researcher: Do you have any other chronic conditions? Perhaps blood pressure? Or is it only diabetes?

Participant: Huh? [faint background noice]

Researcher: Do you have other chronic conditions?

Participant: No, no, only diabetes. Diabetes itself is not something easy. Alhamdulillah.

Researcher: Definitely. Now I'd like to ask you about your health in general before you got unwell and were admitted to the hospital.

Participant: I mean I had nothing, just diabetes, I mean I take my morning and evening meds and everything was fine. Then suddenly I got unwell, I had chest pain, it continued for about three weeks. Then we went to perform Umrah[5]. We performed Umrah and prayed. I walked long distances... then I got unwell there. Okay? Then my chest pain got worse. I drank water and cooled down myself. I said to myself, "What is this pain that I have? I don't know what is going on?". I never thought it was my heart! Anyways, I washed my face... and sat down to take a small break. Then we left [Mecca]. We went to Jeddah by car. We stayed in a rental flat there. When it was nighttime already, the pain started to get worse. The pain got worse in my chest. I

[3] Means to a GP
[4] Abha, is a city in southwestern Saudi Arabia, and relatively bigger than Najran.
Distance between Abha and Najran is 190 kilometers (118 miles).
[5] Umrah is the pilgrimage to Mecca, a minor version of the annual Hajj gathering. However, Unlike Hajj, Umrah can be performed anytime of the year.