



THE UNIVERSITY *of* EDINBURGH

This thesis has been submitted in fulfilment of the requirements for a postgraduate degree (e.g. PhD, MPhil, DClinPsychol) at the University of Edinburgh. Please note the following terms and conditions of use:

This work is protected by copyright and other intellectual property rights, which are retained by the thesis author, unless otherwise stated.

A copy can be downloaded for personal non-commercial research or study, without prior permission or charge.

This thesis cannot be reproduced or quoted extensively from without first obtaining permission in writing from the author.

The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the author.

When referring to this work, full bibliographic details including the author, title, awarding institution and date of the thesis must be given.



THE UNIVERSITY
of EDINBURGH

**Depression during pregnancy: A qualitative exploration
into the lived experience of pregnant women with
depression and a review of the effects on early child
developmental outcomes**

Caroline Ann Morgan

Doctorate in Clinical Psychology

The University of Edinburgh

September 2015

*Submitted in part fulfilment of the degree of doctorate in Clinical
Psychology at the University of Edinburgh*

D. Clin. Psychol. Declaration of own work

Name: Caroline Morgan

Assessed work: Thesis

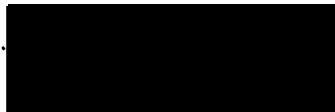
Title of work:

Depression during pregnancy: A qualitative exploration into the lived experience of pregnant women with depression and a review of the effects on early child developmental outcomes

I confirm that all this work is my own except where indicated, and that I have:

- Read and understood the Plagiarism Rules and Regulations ✓
- Composed and undertaken the work myself ✓
- Clearly referenced/listed all sources as appropriate ✓
- Referenced and put in inverted commas any quoted text of more than three words (from books, web, etc.) ✓
- Given the sources of all pictures, data etc. that are not my own ✓
- Not made undue use of essay(s) of any other student(s) either past or present (or where used, this has been referenced appropriately) ✓
- Not sought or used the help of any external professional agencies for the work (or where used, this has been referenced appropriately) ✓
- Not submitted the work for any other degree or professional qualification except as specified ✓
- Acknowledged in appropriate places any help that I have received from others (e.g. fellow students, technicians, statisticians, external sources) ✓
- Complied with other plagiarism criteria specified in the Programme Handbook ✓
- I understand that any false claim for this work will be penalised in accordance with the University regulations ✓
- (For R2 & Thesis) Received ethical approval from the University of Edinburgh, School of Health ✓

Signature



.....Date. 30-09-2015

Acknowledgements

There are a number of people who have helped make this project possible, to whom I am eternally grateful.

First and foremost I would like to thank each of the six women who agreed to meet with me and tell me about their experiences during pregnancy. I hope that what I have written does adequate justice to their words and thoughts. Without these individuals sharing their experiences and giving their time this thesis would not have been possible. I hope that their words will help highlight the difficulties that so many women experience during pregnancy, but are sadly too afraid to talk about.

Secondly, I would like to thank the Perinatal Mental Health Team, particularly Shona and Sharon who were so very helpful and supportive throughout the project. Thank you for putting up with my continued harassment and presence week after week. I think we all thought that recruitment was never going to end! Thank you for keeping me smiling when I felt like giving up.

I would also like to give my sincerest thanks to both of my supervisors; Dr. Jill Cossar and Dr. Andrew Keen. Your continued support, encouragement, guidance, reassurance, and patient and calming influence throughout has been greatly appreciated throughout this entire process.

And finally, thank you, Steven, for all your positive words and keeping me on track and focussed when it felt as though this thesis would never be complete. You have always believed in me and I couldn't have done this without you. It has been a long process for us both and I am delighted that we will be getting our life back, together. I am forever grateful, for everything.

Dedication

I dedicate this body of work to my mum and dad, who have helped me more than they will ever know.

TABLE OF CONTENTS

ABBREVIATIONS	1
1. RESEARCH PORTFOLIO ABSTRACT	2
2. SYSTEMATIC REVIEW JOURNAL ARTICLE: AN INVESTIGATION INTO THE EFFECTS OF ANTENATAL DEPRESSION ON EARLY CHILD DEVELOPMENT.....	6
2.1 ABSTRACT	6
2.2 INTRODUCTION	7
2.2.1 <i>Aim of the review</i>	9
2.3 METHOD	9
2.3.1 <i>Eligibility Criteria</i>	9
2.3.2 <i>Search Strategy</i>	9
2.3.3 <i>Data collection and management process</i>	10
2.3.4 <i>Quality Assessment</i>	11
2.4 RESULTS	13
2.4.1 <i>Methodological quality of included studies</i>	13
2.4.2 <i>Study Characteristics</i>	13
2.4.3 <i>Emotional/Behavioural Development (N=2)</i>	20
2.4.4 <i>Attachment (N=2)</i>	20
2.4.5 <i>General Cognitive Development (N=8)</i>	21
2.5 DISCUSSION.....	22
2.5.1 <i>Limitations of the included studies</i>	23
2.5.2 <i>Strengths and weaknesses of review method</i>	25
2.5.3 <i>Implications for practice</i>	26
2.5.4 <i>Conclusion and Recommendations</i>	27
2.6 REFERENCES	29
3. THE LOST SELF: THE LIVED EXPERIENCE AND MEANING OF PREGNANCY IN WOMEN WITH A DIAGNOSIS OF ANTENATAL DEPRESSION.	35
3.1 ABSTRACT	35
3.2 INTRODUCTION	36
3.2.1 <i>Study aim</i>	37
3.3 METHOD	38
3.3.1 <i>Design</i>	38
3.3.2 <i>Ethics</i>	38
3.3.3 <i>Recruitment</i>	39
3.3.4 <i>Participants</i>	39
3.3.5 <i>Data collection</i>	40
3.3.6 <i>Analysis</i>	40
3.4 RESULTS	41
3.4.1 <i>'The Lost Self'</i>	41
3.4.2 <i>Hitting a Brick Wall</i>	42
3.4.3 <i>Self-Stigma</i>	43

3.4.4 Sense-Making	46
3.4.5 Withholding the Self.....	48
3.5 DISCUSSION.....	51
3.5.1 Implications for practice.....	54
3.5.2 Study Limitations.....	56
3.5.3 Conclusion	57
3.6 REFERENCES	57
4. COMPLETE REFERENCE LIST.....	63
5. TABLE OF APPENDICES	73
<i>Appendix 1: Author Guidelines for the Journal of Reproductive and Infant Psychology.....</i>	<i>74</i>
<i>Appendix 2: Full search terms for each database</i>	<i>79</i>
<i>Appendix 3: Excluded articles after reviewing full text</i>	<i>82</i>
<i>Appendix 4: Quality Criteria used to rate the methodological quality of the included studies.....</i>	<i>84</i>
<i>Appendix 5: Summary of quality ratings for reviewed studies</i>	<i>88</i>
<i>Appendix 6: Participant invitation letter and poster.....</i>	<i>90</i>
<i>Appendix 7: Participant information sheet</i>	<i>92</i>
<i>Appendix 8: Interview guide.....</i>	<i>95</i>
<i>Appendix 9: Ethics approval letter</i>	<i>96</i>
<i>Appendix 10: Amendment 1 – Ethics approval letter.....</i>	<i>99</i>
<i>Appendix 11: Amendment 2 – Ethics approval letter.....</i>	<i>101</i>
<i>Appendix 12: Amendment 3 – Ethics approval letter.....</i>	<i>103</i>
<i>Appendix 13 R&D approval letter</i>	<i>105</i>
<i>Appendix 14: Reflective Commentary</i>	<i>106</i>
<i>Appendix 15: Example of emergent themes from ‘Kate’</i>	<i>116</i>
<i>Appendix 16: Transcript Example.....</i>	<i>120</i>

Abbreviations

SIGN	Scottish Intercollegiate Guidelines Network
NICE	National Institute for Health and Care Excellence
EPDS	Edinburgh Postnatal Depression Scale
CES-D	Center for Epidemiological Studies Depression Scale
BSI	Brief Symptom Inventory
IACLIDE	Inventory of the Clinical Evaluation of Depression (Portuguese Inventory)
POMS	Profile of Moods Scale
CBCL	Child Behaviour Checklist
BITSEA	Brief-Infant Toddler Social and Emotional Assessment
BSID	Bayley Scales of Infant Development
DDST	Denver Developmental Screening Test
PPVT	Peabody Picture Vocabulary Scale
WRAVMA	Wide Range Achievement of Visual Motor Abilities
IPA	Interpretative Phenomenological Analysis

1. Research Portfolio Abstract

Introduction

Maternal mental health during pregnancy and its effects on offspring outcomes have received increased attention as a public health concern. Recent policies have highlighted the need for better universal perinatal services and to routinely incorporate attention to mental health into antenatal care. This thesis aimed to examine and evaluate current research into the effects of maternal antenatal depression on child psychological, development and developmental psychopathology. A research study was carried out with the aim of understanding the subjective experiences of women with antenatal depression during pregnancy and their transition to motherhood.

Method

Quantitative studies, exploring the relationship between antenatal depression and early child development were reviewed systematically. The empirical study employed Interpretative Phenomenological Analysis to investigate the experience of antenatal depression in pregnant women. Semi-structured interviews were conducted with six participants who were pregnant and recruited from a perinatal mental health service.

Results

The small number of papers considered suitable for this review highlights the lack of good quality research in this field. Twelve studies met inclusion criteria for the systematic review, demonstrating mixed results regarding whether antenatal depression affects early child development. Studies were predominantly of poor methodological quality, with inconsistent results and limited by the use of differing antenatal depression and infant development outcomes, making cross study comparisons difficult and weakening any conclusions that could be drawn. In the empirical study one super-ordinate theme, 'The Lost Self', and four main themes emerged.

Conclusions

Findings were inconsistent and of poor quality, and so we cannot say for sure whether antenatal depression itself is associated with adverse outcomes for young children. Further rigorous research on antenatal depression and adverse early child outcomes is needed in order to try and disentangle the effects of both antenatal and postnatal depression on each other and on child development. The findings from the empirical study contribute to an increased understanding of the experiences and challenges faced by women experiencing depression during pregnancy. The study highlights the need for improved awareness of depression during pregnancy to improve understanding of this disorder during the antenatal period.

SYSTEMATIC REVIEW JOURNAL ARTICLE

An investigation into the effects of antenatal depression on early child development: A systematic review

Caroline Morgan¹, Jill Cossar², and Andrew Keen^{3**}

¹ NHS Grampian, Child and Family Mental Health Service, Lower Ground Floor, Royal Aberdeen Children's Hospital, Aberdeen, AB51 2ZG

² Clinical Psychology, School of Health in Social Science, University of Edinburgh, Teviot Place, Edinburgh, EH8 9AG

³ NHS Grampian, Child and Family Mental Health Service, Lower Ground Floor, Royal Aberdeen Children's Hospital, Aberdeen, AB51 2ZG

Correspondence: caroline.morgan@hotmail.co.uk

** This piece of work is written in its entirety by Caroline Morgan, Trainee Clinical Psychologist, supervised by Dr Jill Cossar, Academic Supervisor, and Dr Andrew Keen, Clinical Supervisor. Supervisors' names are included on the article for publication purposes only, in acknowledgement of their intellectual contribution. Supervisors were not involved in the writing of this piece for the thesis.

An investigation into the effects of antenatal depression on
early child development:
A systematic review^{**}

^{**} This review is written in accordance with the Journal of Reproductive and Infant Psychology author guidelines (Appendix 1).

2. Systematic Review Journal Article: An investigation into the effects of antenatal depression on early child development

2.1 Abstract

Objectives: To determine the effects, if any, of antenatal depression in pregnancy on early child development. **Background:** This systematic review synthesises the results of studies examining antenatal depression during pregnancy and its effects on early child developmental outcomes up to four years of age. **Methods:** Electronic databases were searched for relevant articles and PRISMA guidelines for selection of articles were used. Only studies that measured antenatal depression during pregnancy were included. The quality assessment was based on protocols of the Cochrane Database of Systematic. Following screening, twelve studies that met all inclusion criteria were critically evaluated. **Results:** The findings were inconsistent and limited by the use of different antenatal depression and infant development outcomes, making cross- study comparisons difficult. **Conclusions:** Further rigorous research on antenatal depression and adverse early child outcomes is needed.

Keywords: Antenatal Depression, Pregnancy, Child development, Child development, Systematic Review

Word Count - 3590

2.2 Introduction

Depression is a common condition, affecting many women in the perinatal period. Estimates of the prevalence of antenatal depression derived from two meta-analyses range between 7 and 11 % for the first trimester and 9 and 13 % for the second and third trimesters, respectively (Bennett, Einarson, Taddio, Koren, & Einarson, 2004; Gavin et al., 2005). Perinatal mental health is recognised as a major public health concern and the need for improved care in this area is acknowledged (SIGN, 2012; NICE, 2014). Despite these findings, antenatal depression continues to be undetected and untreated in pregnancy, often because the symptoms of depression are attributed to the physical and hormonal changes that are associated with pregnancy (Bowen and Muhajarine, 2006; Kelly, Russo & Katon, 2001).

There is a growing interest in the long-term effects of risks that occur during pregnancy on child development. Given that maternal depression in pregnancy is common and a substantial proportion of women who experience depression in pregnancy or during the postpartum period continue to have symptoms into their child's early years, it represents a prevalent, enduring, and modifiable influence that may significantly impact fetal and child development (Woods, Melville, Guo, Fan & Gavin, 2010; Austin, Tully & Parker, 2007; Horwitz, Briggs-Gowan, Storfer-Isser & Carter, 2009). While much of the early research has focused on studying the impact of postnatal depression on outcomes such as maternal-infant interaction and infant temperament, more recent studies have explored the effects of different forms of maternal psychological distress and their timing on a broader array of infant outcomes, including infant development (Poobalan et al., 2007).

Antenatal depression has been found to be one of the strongest predictors of postnatal depression (Robertson, Grace, Wallington & Stewart., 2004). This has clinical significance because of the known effects of postnatal depression on the child, which can include poor psychological and physiological development (Sanger, Iles, Andrew

& Ramchandani, 2015; Milgrom, Westley & Gemmill, 2004; Bagner, Pettit, Lewinsohn & Seeley, 2010). However, due to the significant overlap and complexity of disentangling antenatal depression effects from those of postnatal, it remains unclear if these effects on children are due to antenatal depression, postnatal depression, or both. Despite the difficulties of studying antenatal depression effects on child development, some researchers have attempted to control for potentially confounding antenatal variables and for the postnatal depression variable and have shown the negative effects of antenatal depression (Deave, Heron, Evans & Emond, 2008).

Recent studies have reported significant associations between antenatal depression and several adverse obstetric, fetal and neonatal outcomes, such as premature delivery and low birth weight (Grigoriadis et al., 2013; Grote et al., 2010). However, findings in this area have been variable and inconsistent. It is acknowledged that differential results can be explained by methodological problems, such as the assessment of depression made across different trimesters of pregnancy by different self-assessment questionnaires.

Likewise, there is lack of robust evidence on the relationship between antenatal depression and adverse child psychological and developmental outcomes, with findings remaining contradictory and difficult to interpret (NICE, 2014; SIGN, 2012). Stein et al. (2014) reported that longitudinal studies have shown that antenatal depression is associated with an increase risk for child emotional problems and self-reported symptoms and depressive disorder are associated with an increased risk of clinical depression in late adolescence. It was unclear, however, whether these findings were independent of postnatal depression. Furthermore, they reported that antenatal depression was associated with lower levels of general cognitive development, including IQ scores in childhood. However, other studies have presented inconclusive and inconsistent evidence regarding links between antenatal depression and adverse child development (Ross et al., 2013; Waters, Hay, Simmonds

& van Goozen, 2014; Kingston & Tough, 2014).

2.2.1 Aim of the review

Although preliminary evidence of a relationship between antenatal depression and early child developmental problems exists, it is acknowledged that effect sizes are generally small. Perinatal mental health is an area where health and social care workers can play significant roles in mental health promotion, the prevention of mental health problems, and in the care, treatment and intervention for women and their families whose lives may be impacted by mental health problems. Given the importance of the role of infant development in future child development and health, a review of the impact and effect of antenatal depression on early child development could help inform prevention and early intervention policies. The present review is therefore concerned with evaluating the association between antenatal depression and early child development.

2.3 Method

2.3.1 Eligibility Criteria

This systematic review included both longitudinal and cross-sectional studies, that: (1) included participants with a measure of maternal depression during the antenatal period; (2) included an outcome measure of child development (global, behavioural, cognitive, psychomotor, socio-emotional) between twelve months and four years post-partum; (3) were written in English (due to lack of feasibility for translation), and; (4) recruited participants from developed countries. Studies were excluded if they used a qualitative methodology, were unpublished dissertations, single case studies or conference abstracts.

Early child development between twelve months and four years was of particular interest as the first five years of a child's life is known to be a sensitive period for

mother-infant attachment relationships and the subsequent developing child.

Recent reviews exist investigating the effects of perinatal depression on birth and infant outcomes (Field, Diego & Hernandez-Reif, 2006; Grigoriadis et al., 2013). Given the lack of synthesis of the literature on antenatal depression and offspring outcomes with this age group, this paper will systematically review the relevant literature from studies in the area.

2.3.2 Search Strategy

Four electronic databases (PsycINFO, EMBASE, Medline and CINHALL) were searched up to week 5 March 2015. The thesaurus function was used to determine subject headings or descriptors that were specific to each database. Searches were confined to the domains of title, abstract and keywords. Keyword searches were carried out using the terms:

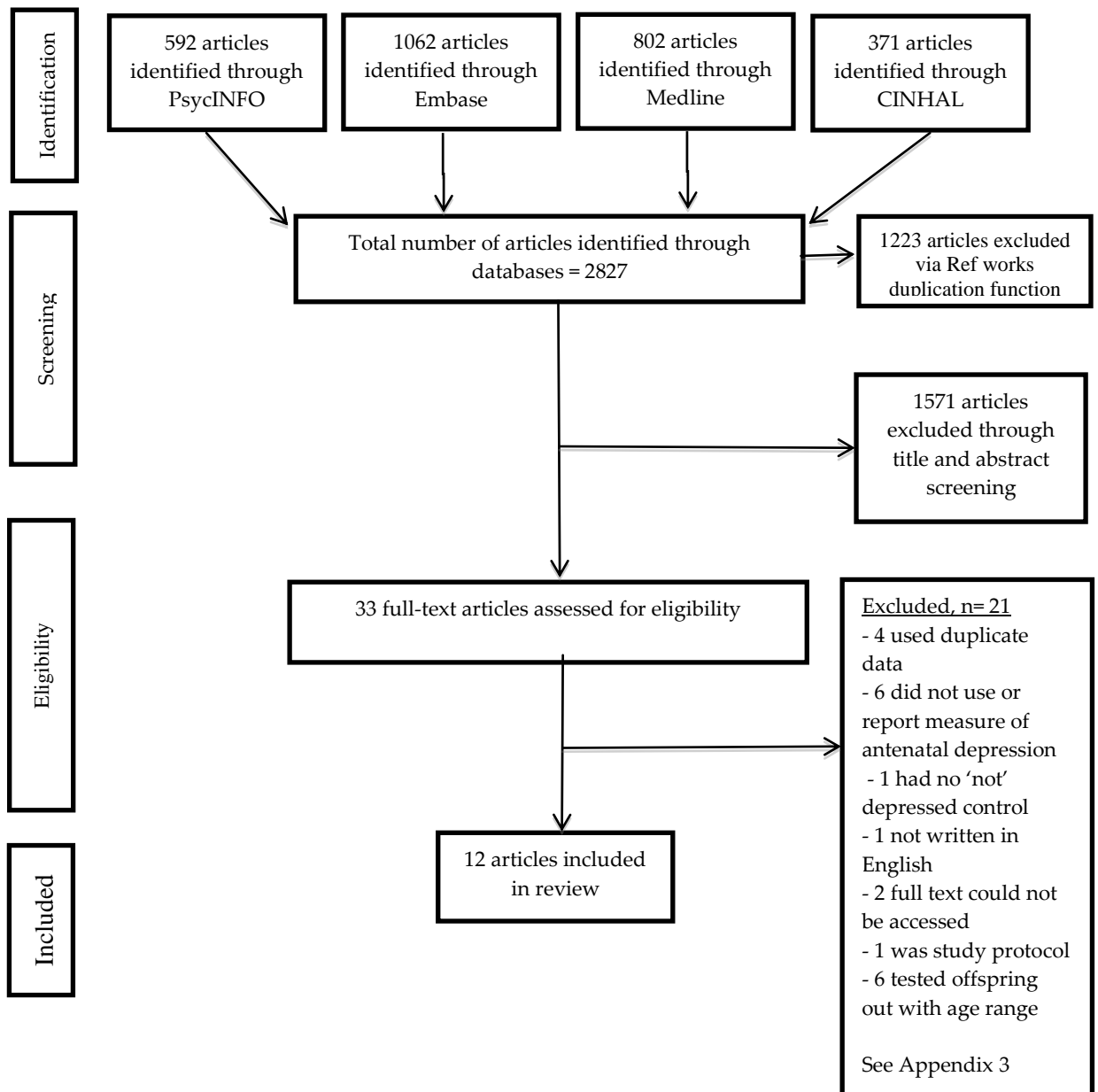
“Antenatal depression” or “antepartum depression” AND “pregnancy” or “antenatal” or “prenatal” or “pregnant wom*” or “perinatal” AND “child development” or “child outcome*” or “infant outcome*” or “cognitive development” or “infant development” or “emotional development” or “psychosocial development” or “language development” or “behavioural development” or “mother-child relations” (see appendix 2 for full search terms).

2.3.3 Data collection and management process

An initial review of the titles and/or abstracts of papers identified those that failed to meet inclusion criteria or which met exclusion criteria. After removal of duplicates, these papers were excluded. The flow of the selection process is illustrated in Figure 1 using the format recommended by the PRISMA group (Moher, Liberati, Tetzlaff & Altman, 2009). Articles that appeared to meet the inclusion criteria were retrieved in full-text for closer inspection and included where criteria were met. A summary of reasons for exclusion of full text papers is included in Appendix three. The reference lists of included papers were searched to identify any other relevant articles. No

further papers met the inclusion criteria that had not already been identified.

Figure 1: Prisma diagram of study selection



2.3.4 Quality Assessment

One of the most important aspects of any study is quality, as the integrity of the conclusions drawn by the study are, in large part, determined by the quality of the data collected. Many aspects of data collection can impact on the quality of the data

(Whitney, Lind & Wahl, 1998). Longitudinal research is open to threats to validity, affected by selection, attrition, instrumentation and regression to the mean (Shadish, Cook & Campbell, 2002). A review by Sanderson, Tatt and Higgins (2007) highlighted a lack of suitable tools for assessing the methodological quality of longitudinal studies. There is therefore a general consensus that existing quality rating tools and scales are often not sufficiently sophisticated to be able to be utilised in all situations, so these are typically adapted as required (e.g. Gough, Oliver & Thomas, 2012).

A quality assessment tool was designed to assess the methodological quality of papers included (see Appendix 4). This was based on guidance published by the Scottish Intercollegiate Guidelines Network (SIGN, 2014) for cohort studies and checklists developed by NICE (2012) and STROBE (van Elm et al., 2008). Eleven criteria were developed, each of which had six possible outcome ratings. Papers were rated against each criterion and scores were allocated depending on whether the criterion was evaluated to be: 'well covered', 'adequately addressed', 'poorly addressed', 'not addressed', 'not reported', or 'not applicable. Overall quality was given based on the criteria from Scottish Intercollegiate Guidance Network (Methodology Checklist 3: Cohort Studies, SIGN), 2012) (See Table 1). Quality assessment was completed by the first author (see Appendix five). In order to measure inter-rater reliability all of the included papers were co-rated by an appropriately qualified colleague (AK). An intraclass correlation coefficient was calculated (0.861) and indicated high agreement between raters' scores ($p < 0.001$). Discussions took place to identify the appropriate rating for the criteria where differences were noted. None of the differences were more than 1 point difference.

Table 1: SIGN (2012) scoring for overall quality criteria

Overall Quality Rating	Scoring
++	75% or more of quality criteria met 'well covered' ratings
+	Between 50-75% of quality criteria met 'well covered' ratings
-	<50% of quality criteria received well covered ratings

2.4 Results

Twelve studies were included in the final analysis. Each was evaluated on the basis of its methodological quality according to the criteria detailed previously. Key characteristics of the included articles were extracted based on the PRISMA guidelines (Moher, Liberati, Tetzlaff & Altman, 2009), and are described in Table 2.

2.4.1 Methodological quality of included studies

Three studies were assigned a ‘++’ quality rating category, two a ‘+’ and seven a ‘-’ category. Overall, the papers reviewed were of a relatively low quality, with weaknesses in the validity and reliability of measures employed, failure to take into account key confounding variables, lack of attrition rates and poor generalisability. Due to diversity in the reporting of outcomes, a meta-analysis was not feasible, thus a narrative approach was used to synthesise the data.

In order to facilitate clarity within this review, articles are described under three main categories of emotional/behavioural development (n=2), parent-child relationship (n=2) and general cognitive development (n=8).

2.4.2 Study Characteristics

All of the studies used a prospective longitudinal design, although individual methodologies and follow up time points varied. Studies recruited participants from the UK (n=2), the Netherlands (n=2), USA (n=5), Finland (n=1), Greece (n=1), and Portugal (n=1). The majority were community based with most recruiting partnered, middle class Caucasian women. The ages of their children ranged from 12 months to 3 years.

Table 2: Key aspects of included studies

Reference, Country and study name (if specified)	Sample size, mean age and recruitment location	Sample of participants who were depressed antenatally	Exposure (measure; timing)	Infant age at follow up, outcome assessment used and outcome assessor	Key Results	Adjusted for key potential confounders	Overall Quality rating
Emotional/Behavioural Development (N=2)							
De Bruijn et al. (2009) The Netherlands	N=444 Mean age = 30.7 Community Midwifery practices	Unclear how many women were over cut off (EDS cut off ≥ 12)	EDS (Dutch Version) 12, 24, and 36 weeks gestation	14-54 months CBCL Self –report (Mothers and fathers)	No significant effects were found for mean prenatal EDS scores and child outcome.	Maternal/paternal age at birth, birth weight, gestational age at birth, occurrence of a new pregnancy between delivery and child assessment.	+
Velders et al. (2011) The Netherlands (Generation R study)	N= 2698 Mean age = 30.8 Population based cohort	Unclear how many women were depressed antenatally	BSI 20 weeks	3 years CBCL Self –report (Mothers and fathers)	Parental depressive symptoms increased the risk of child emotional (internalizing), and behavioural (externalizing) problems, but this increase was explained by postnatal parental hostile behaviour.	Gender, birth weight, birth order, child ethnicity, parental age; smoking and drinking during pregnancy and level of education.	+

Reference, Country and study name (if specified)	Sample size, mean age and recruitment location	Sample of participants who were depressed antenatally	Exposure (measure; timing)	Infant age at follow up, outcome assessment used and outcome assessor	Key Results	Adjusted for key potential confounders	Overall Quality rating
General Cognitive Development (N=8)							
Almeida et al. (2012) Portugal	N=204 Mean = 29 years Convenience sample from obstetric services	N=42 (21.2%) (BSI) N= 37 (19.1%) (IACLIDE)	BSI IACLIDE 3 rd trimester	12 months Griffiths Mental Scale (0-2) BITSEA Administered by a Psychologist	Women with a positive diagnosis on the BSI's depression subscale had babies with a lower mean score in global mental development than did babies born to women who did not have depressive symptoms; these same babies had a lower mean score on the Personal-Social subscale than babies born to non-depressed women.	Not reported	—
Deave (2005) UK	N=358 (at 2 years) Mean = 26 years Midwifery services	N= 79 (25%) (EPDS ≥ 12)	EPDS 32-38 weeks	2 years old BSID-II Research health visitor	Children whose mothers scored <i>below</i> the cut-off for depression had higher cognitive development scores, on average, than children of women who were <i>high</i> EPDS scorers. Children's behaviour was found to be associated with mothers having had EPDS scores <i>lower</i> than the cut-off.	Not reported	—

Reference, Country and study name (if specified)	Sample size, mean age and recruitment location	Sample of participants who were depressed antenatally	Exposure (measure; timing)	Infant age at follow up, outcome assessment used and outcome assessor	Key Results	Adjusted for key potential confounders	Overall Quality rating
Deave et al. (2008) UK (ALSPAC study)	N= 9244 (83%) Mean = 28 years Birth Cohort	N=1565 12/13 cut off	EPDS 18 and 32 weeks	18 months DDST (modified) Parental report (mother)	Children exposed to maternal depressive symptoms at 18 and 32 weeks gestation, but not postnatally, showed greater developmental delay at 18 months than children with mothers who were not depressed in pregnancy.	Socio-demographic details (both parents), previous maternal depression, maternal anxiety, postnatal depression and anxiety, life events in previous year and postnatally, gestation, gender and ethnicity of child	++
DiPietro et al. (2006) USA	N=94 Mean = 32 years Does not state where recruited from	Unsure how many were above the cut off	POMS – Depression subscale (24 weeks) CES-D (32 weeks)	24.8 months (mean) BSID-II Clinical Psychologist	Antenatal depression was significantly associated with <i>better</i> scores on the Mental Development Index and the Psychomotor Development Index.	Maternal education, infant sex, postnatal psychological measures	–

Reference, Country and study name (if specified)	Sample size, mean age and recruitment location	Sample of participants who were depressed antenatally	Exposure (measure; timing)	Infant age at follow up, outcome assessment used and outcome assessor	Key Results	Adjusted for key potential confounders	Overall Quality rating
Keim et al. (2011) USA (PIN study)	N=358 Mean = 30.2 Birth Cohort	N=59 CES-D >16	CES-D 24 -29 weeks	12 months Mullen Scales of Early Learning Researcher	High scores on the CES-D (>16) at both time points during pregnancy were associated with <i>better</i> fine motor development. No significant negative consequences to cognitive development in infancy from maternal antenatal depression	Maternal education, self-esteem, infant sex, maternal age, income, gestational age, trait anxiety, perceived stress score (17-22 weeks gestation)	—
Koutra et al. (2013) Greece (Rhea Study)	N= 223 (47.4%) Mean = 30.31 years Maternity clinics	Unclear how many above cut off <i>EPDS</i> ≥ 13	EPDS 28 -32 weeks	18 months (±6 weeks) Bayley-III Trained Psychologists	High levels of antenatal maternal depressive symptoms were associated with 5.5 units decrease in the scale of cognitive development, independently of postnatal depression.	Maternal age, maternal education, gestational age, quality of assessment, sex of child, duration of breastfeeding, and parent employment status	+ +

Reference, Country and study name (if specified)	Sample size, mean age and recruitment location	Sample of participants who were depressed antenatally	Exposure (measure; timing)	Infant age at follow up, outcome assessment used and outcome assessor	Key Results	Adjusted for key potential confounders	Overall Quality rating
Sandman et al. (2012) USA	N=221 Mean age not reported University medical centre	N=101	CES-D (9-item version) 14-16 weeks, 24-26 weeks, 30-32 weeks, 36+ weeks	12 months BSID-II Researcher	At 12 months of age infants in the concordant groups (depressed both before and after birth) had higher mental development scores but not psychomotor scores, compared with the infants in the 2 discrepant groups (exposed only at either time). No main effects were found to indicate exposure alone influenced mental or psychomotor development.	Not reported	—
Tse et al. (2010) USA (project viva)	N=1030 Mean = 32.6 years Maternity Clinics	N=81 <i>EPDS</i> ≥ 13	EPDS Mid-pregnancy (mean 27.9)	3 years PPVT (language) WRAVMA (Visual motor) Researcher	No evidence to suggest that maternal prenatal depression is independently associated with early child cognition.	Self reported socio-demographic, anxiety, substance use, obstetrics and PND	+ +

Reference, Country and study name (if specified)	Sample size, mean age and recruitment location	Sample of participants who were depressed antenatally	Exposure (measure; timing)	Infant age at follow up, outcome assessment used and outcome assessor	Key Results	Adjusted for key potential confounders	Overall Quality rating
Parent-child relationship (N=2)							
Flykt et al. (2010) Finland	N=49 Mean = 29 years Maternity healthcare centres	N=6 <i>EPDS ≥ 14</i>	EPDS Third trimester	14 months Care-index (mother-child interaction) Trained coders	Prenatal depressive symptoms had a stronger impact on unresponsiveness in the mother-baby interaction than postnatal symptoms	Not reported	—
Hayes et al. (2013) USA	N=79 Mean = 30.3 years Obstetrics or media	N = 33 BDI ≥ 11	SCID-IV BDI-II (Completed monthly throughout pregnancy)	12 months Strange Situation Procedure Clinical Psychologist	Antenatal depression was associated with disorganised attachment	Sex of infant; parenting; antenatal antidepressant drugs	—

Key: BSI = Brief Symptom Inventory; IACLIDE = Inventory of the Clinical Evaluation of Depression; BITSEA = Brief Infant-Toddler Social and Emotional Assessment; EDS= Edinburgh Depression Scale; CBCL= Child Behaviour Check List; EPDS = Edinburgh Postnatal Depression Scale; Bayley-II = Bayley Scale of Infant Development; DDST = Denver Developmental Screening Test; POMS = Profile of Moods Scale; CES-D = Center for Epidemiological Studies Depression Scale; Structured Clinical Interview for DSM-IV Axis I Disorders-Patient Edition; Bayley III – Bayley Scales of Infant and Toddler Development – Third Edition; PPVT = Peabody Picture Vocabulary Test; WRAVMA = Wide Range Achievement of Visual Motor Abilities;

2.4.3 Emotional/Behavioural Development (N=2)

Velders et al. (2011) found that parental depressive symptoms increased the risk of child internalising (emotional) problems, but associations were no longer significant when antenatal and postnatal parental hostility were added to the regression model. The same pattern was found for the associations between the determinants and child externalising (behavioural) problems. However, in the subtype analyses, antenatal maternal depressive symptoms significantly predicted child anxious/depressed behaviour and emotionally reactive behaviour on the individual syndrome scales of the internalising scale of the CBCL, independent of parental hostility. De Bruijn et al. (2009) presented conflicting evidence and found no significant effects for antenatal depression and child outcome.

2.4.4 Parent-Child Relationship (N=2)

Only two papers were identified that fitted the inclusion criteria looking at parent-child relationship for this study. Hayes et al. (2013) reported that infants who were classified as disorganised had mothers with higher levels of depressive symptoms during pregnancy, compared with infants classified as organised attachment. There was no evidence that the association between antenatal depressive symptoms and infant disorganised attachment was mediated by postnatal depressive symptoms. However, increased disorganised attachment was only evident in those mothers with antenatal depression and whose parenting was compromised at 3-months postpartum. No direct association between postnatal depressive symptoms and infant attachment disorganisation was found. Flykt et al. (2010) reported that maternal attachment style was not associated with maternal depressive symptoms antenatally. Flykt et al. (2010) found that the combination of relatively high depressive symptoms both antenatally and postnatally constituted the highest risk for problematic mother-child interaction. Surprisingly, mothers with relatively high levels of depression symptoms during the antenatal period only, were found to be less responsive to their children's needs than mothers who had significant depressive symptoms postpartum only.

To measure parent-child relationships, Flykt et al. (2010) utilised the Care-Index, whereas Hayes et al. (2013) measured attachment using the widely used Strange Situation Procedure (SSP). It is recognised that multiple measures exist that claim to measure children's attachment style. However attachment is difficult to formally measure and it is therefore debateable whether existing measures capture what they say they are measuring. Generally measures looking at attachment demonstrate a lack of consistency, reliability and validity and results and comparison of different measures utilised in this area should be interpreted with caution.

2.4.5 General Cognitive Development (N=8)

Three studies found a significant relationship between clinically significant levels of antenatal depression and lower than expected levels of cognitive development. Deave et al. (2008) found that elevated EPDS scores at both 18 and 32 weeks gestation (but not at single time point) were associated with lower scores on the DDST at 18 months (50% increase in the odds of developmental delay associated with persistent antenatal depression). The presence of postnatal depression had a modifying effect on the odds ratio, and found evidence of an independent and statistically significant 34% increase in the probability of developmental delay when the standard 12/13 cut-off on the EPDS was used to indicate depression. Likewise, Koutra et al. (2013) found that high levels of maternal antenatal depressive symptoms, independent of postpartum depressive symptoms and after controlling for adverse birth outcomes and other established confounders, were associated with adverse cognitive development at 18 months of age. Almeida et al. (2012) also concluded that women scoring 0.28 or above on the BSI's depression subscale had babies with a lower mean score in global mental development than did babies born to women who did not have depressive symptoms; these same babies also had a lower mean score on the Personal-Social subscale of the Griffiths Mental Development Scale than babies born to non-depressed women.

Conversely, Deave (2005) found that children whose mothers had scored below the cut off for risk of depression in the antenatal period had higher cognitive development

scores, on average, than children of women who were high EPDS scorers. DiPietro et al. (2006) found that more depressive symptoms were associated with higher scores on both the Mental Development Index and Psychomotor Development Index of the BSID at 2 years of age.

Tse et al. (2010) found no evidence to suggest that antenatal depression, assessed at 28 weeks of gestation, was independently associated with child development at three years of age. Keim et al. (2011) also reported no significant consequences to cognitive development in infancy from antenatal depressive symptoms.

2.5 Discussion

This systematic review aimed to identify what is currently known about the relationship between antenatal depression and early child outcomes. Synthesis of the data suggests that there is ambiguity in the extant literature. The results are varied and contradictory, reporting either no effect of antenatal depression or small effects that weaken following adjustment for other antenatal and postnatal risk factors. As a result it is difficult to draw meaningful conclusions from the available literature other than the fact that we need further high quality research using sophisticated design methods and large sample sizes.

Similarly, research into the effects of antenatal anxiety has been predominantly focused on outcomes during infancy (0-3 years). Anxiety has been found to have a negative influence on obstetric, fetal and perinatal outcomes, but conclusions are often limited due to low sample size in these studies, and to methodological weakness (Alder, 2007; Littleton, 2007). Few robust studies exist investigating the effects of maternal antenatal stress/anxiety on the neurodevelopmental and psychopathology outcomes of children aged 3 to 18, and these are in their infancy. Results suggest that, where the mother experiences increased antenatal anxiety, offspring are at increased risk of childhood

psychopathology and behavioural problems (O'Connor et al., 2002; Rodriguez & Bohlin, 2005; Van den Bergh & Marcoen, 2004; Van den Bergh et al., 2005) and reduced cognitive performance (LaPlante, Brunet, Schmitz, Ciampi, & King, 2008; Niederhofer & Reiter, 2004). However, the evidence around the effects of maternal antenatal anxiety on infant outcomes is conflicting and conclusions are often limited due to low sample sizes and similar methodological weaknesses. As a result, there is also a lack of consensus among researchers on the role of anxiety in perinatal outcomes (Glover, 2002; Johnson, 2003; Littleton, 2007).

Research has also shown that anxiety symptoms may be more common in perinatal depression in comparison to non-perinatal depression (Stuart, Couser, Schilder, O'Hara & Gorman, 1998; Da Costa, Larouche, Dritsa & Brender, 2000; Matthey, Barmett, Ungerer & Waters, 2000). In light of these findings, it has been argued that there is a need to abandon dichotomous classification systems and to distinguish other affective states in the perinatal period, such as perinatal stress (Austin, 2004; Green, 1998), which has shown to be present during the first postpartum year and thus may add to a broader and better understanding of perinatal distress (Miller, Pallant & Negri, 2006). Thus, the existence of such symptoms as a collective may have important implications for any effort to provide a comprehensive understanding of negative affective states, and may also be a term that is more readily accepted and associated with less stigma by the wider community (Lovibond & Lovibond, 1995).

2.5.1 Limitations of the included studies

Inconsistent findings were difficult to interpret given methodological differences. There was huge variability in sample size, with samples ranging from 94 to 9244 at baseline, although the majority had small samples. Due to the high number of community samples, participants with antenatal depression represented a very small group within the sample. This meant small incidences, low statistical power, and wide confidence intervals. Few of the studies discussed the risk of statistical errors in their

findings or subsequently conducted statistical corrections to account for such limitations.

There was a lack of consensus on what should be measured, when and how. Commonly, there was a reliance on mothers' reports of both the independent and dependent variables, thus resulting in shared method variance and potentially biased maternal reports of child outcome. This may have led to an artificial inflation in the effect size and thus, an over estimation of the impact of antenatal depression on child development. Whilst most of the studies acknowledged the use of self-report measures as a potential problem, only one of the included studies (Hayes et al., 2013) used a diagnostic interview to diagnose clinical depression.

None of the studies explored whether depression was present before pregnancy or what the antecedent to depressive episodes was, for example, if the antenatal depression was ongoing, or related to recent losses or traumas, pregnancy factors, illnesses, or family history. Similarly no studies reported whether women were currently receiving treatment from mental health services or whether their children had received any early intervention, factors which are known to influence development.

One of the most common factors contributing to low quality scores was the lack of control of potential confounding variables. Few studies controlled for postnatal depression effects. The importance of disentangling the effects of antenatal versus postnatal depression on child development is fundamental in order to try and distinguish the biological basis of poor developmental outcomes and the role of antenatal and postnatal influences. Understanding the pathways that link antenatal and postnatal depression to child development, as well as their cumulative effects, remains a significant gap in the science of child development.

Few studies were conducted with disadvantaged families, with most reporting on white, middle class and well-educated participants. There is evidence that socioeconomic adversity and status and education moderates the association between depression in the postnatal period and child outcomes; that is, poor outcomes occur predominantly in families living in socioeconomic difficulties (Pearson et al., 2013; Lovejoy, Graczyk, O'Hare & Neuman., 2000). It is possible that risk factors such as smoking, obesity or domestic violence and abuse, which are more common in women with mental health problems, explained some of the adverse consequences of mental health problems in pregnancy because these co-morbidities are also risk factors for adverse child outcomes. Disentangling causal factors and mediating/ moderating variables requires more sophisticated, multivariate, longitudinal research designs. That said, it is important to note that although there is an increased risk of adverse outcomes in the children of mothers with mental health problems, these are not inevitable.

2.5.2 Strengths and weaknesses of review method

The findings of this review are the result of a rigorous, systematic process of review of a large number of studies. The application of broad search terms increased confidence that all possible papers were identified, however, a number of factors meant that this was not guaranteed. A limited number of databases were searched due to time constraints and only English language papers were included due to resource limitations. The search was limited to developed countries, because it was considered that the influences on child development may be quite different in developing countries. Identification of eligible studies was completed by only one author. There is also limited validity of the quality criteria as there is potential for subjectivity to bias this analysis. However, having the studies independently rated mitigated this against and this demonstrated high inter-rater reliability.

2.5.3 Implications for practice

More research is needed to understand the relationship and direction of the links between antenatal depression, postnatal depression and their effects on child development.

Research in this field is important for a number of reasons. Maternal mental health during pregnancy has received increased attention as a public health concern (DoH, 2014). It is widely acknowledged that large gaps in service provision exist and action for perinatal mental health is required from governments, professional bodies, and organisations (The Scottish Government, 2008, 2009, 2011; Hogg, 2013). From a policy and practice perspective, an essential first step is to increase identification of women who are at an increased risk of developing perinatal mental health disorders to enable early treatment and prevention. A recent report estimated the average cost to society of one case of perinatal depression is reported to be around £74,000, of which £23,000 relates to the mother and £51,000 relates to impacts on the child (Bauer, Parsonage, Knapp, Lemmi, & Adelaja, 2014). Antenatal depression is known to be one of the strongest predictors of postnatal depression, simply because for so many women their depression persists. Therefore targeting mental health during the antenatal period may provide an opportunity to reduce symptoms of depression before they continue to persist into the postnatal period.

SIGN (2012) and NICE (2014) guidelines recommend that mothers who develop mild or moderate depression during the perinatal period can benefit from psychological interventions and/or antidepressant drugs. However, provision of perinatal mental health services remains patchy with lack of funding. Clinically, proactive early and repeated screening for antenatal depression is warranted to facilitate detection and onward referral for effective treatment. Identifying and treating depression during the antenatal period may be hugely beneficial to women, their children, and to health care organisations and society.

2.5.4 Conclusion and Recommendations

A growing number of studies have sought to investigate an association between exposure to depression during pregnancy and offspring adversity. However, the small number of papers considered suitable for this review highlights the lack of good quality research in this field. Overall, the findings were inconsistent and of poor quality, and so we cannot say for sure at this stage whether antenatal depression itself is associated with adverse outcomes for young children. It is therefore important for future research to try and disentangle the effects of both antenatal and postnatal depression on each other and on child development.

It is clear from this review that the initial effects of exposure to antenatal depression on outcomes often attenuate when risk factors are taken into account. It is known that a number of risk factors that predict antenatal depression are themselves associated with adverse child outcome (e.g. antenatal substance use, domestic violence, parental antisocial behaviour) (Lancaster et al., 2010). Thus, there is a need to consider the complex relationship between the psychological, social, and biological risk factors that mediate and moderate the association between exposure to antenatal depression, postnatal depression and adverse early child outcomes.

Recommendations for future research should consider the following: (a) include women's use of antidepressants during the antenatal period in order to further understand the impact of treated versus untreated depression on child outcomes; (b) measure and control for potential confounders to try and isolate the impact of antenatal depression alone; (c) Maternal reports of child outcomes should be accompanied by an assessment of current maternal depression to help reduce the potential for reporter bias; (d) and inclusion of robust measures of antenatal depression, severity and timing.

It is clear that whilst there are many questions left to answer, the antenatal period presents a unique opportunity to identify and provide support to a group of women and children at multiple sources of risk. Appropriate and timely therapeutic strategies offer the promise of breaking this intergenerational transmission of mental health problems. However, it is clear that substantial interest and investment from governments and health care organisations is required.

2.6 References

* Studies included in this review.

*Almeida, C. P. D., Sá, E., Cunha, F. F., & Pires, E. P. (2012). Common mental disorders during pregnancy and baby's development in the first year of life. *Journal of Reproductive and Infant Psychology*, 30(4), 341-351.

Austin, M. P. (2004). Antenatal screening and early intervention for "perinatal" distress, depression and anxiety: where to from here? *Archives of Women's Mental Health*, 7(1), 1-6.

Austin, M. P., Tully, L., & Parker, G. (2007). Examining the relationship between antenatal anxiety and postnatal depression. *Journal of affective disorders*, 101(1), 169-174.

Bagner, D. M., Pettit, J. W., Lewinsohn, P. M., & Seeley, J. R. (2010). Effect of maternal depression on child behavior: a sensitive period?. *Journal of the American Academy of Child & Adolescent Psychiatry*, 49(7), 699-707.

Bauer, A., Parsonage, M., Knapp, M., Iemmi, V., & Adelaja, B. (2014). *The costs of perinatal mental health problems*. London: London School of Economics and Political Science. http://www.centreformentalhealth.org.uk/pdfs/ Costs_of_perinatal_mh.pdf

Bennett, H. A., Einarson, A., Taddio, A., Koren, G., & Einarson, T. R. (2004). Prevalence of depression during pregnancy: systematic review. *Obstetrics & Gynecology*, 103(4), 698-709.

Bowen, A., & Muhajarine, N. (2006). Prevalence of antenatal depression in women enrolled in an outreach program in Canada. *Journal of Obstetric Gynecologic, and Neonatal Nursing*, 35, 491-498.

Da Costa, D., Larouche, J., Dritsa, M., & Brender, W. (2000). Psychosocial correlates of prepartum and postpartum depressed mood. *Journal of Affective Disorders*, 59(1), 31-40.

*de Bruijn, A. T., van Bakel, H. J., & van Baar, A. L. (2009). Sex differences in the relation between prenatal maternal emotional complaints and child outcome. *Early human development*, 85(5), 319-324.

*Deave, T. (2005). Associations between child development and women's attitudes to pregnancy and motherhood. *Journal of Reproductive and Infant Psychology*, 23(1), 63-75.

*Deave, T., Heron, J., Evans, J., & Emond, A. (2008). The impact of maternal depression in pregnancy on early child development. *BJOG: An International Journal of Obstetrics & Gynaecology*, 115(8), 1043-1051.

Department of Health (2014) *Closing the Gap Priorities for essential change in mental health*.

London: Department of Health.

*DiPietro, J. A., Novak, M. F., Costigan, K. A., Atella, L. D., & Reusing, S. P. (2006). Maternal psychological distress during pregnancy in relation to child development at age two. *Child development*, 77(3), 573-587.

Field, T., Diego, M., & Hernandez-Reif, M. (2006). Prenatal depression effects on the fetus and newborn: a review. *Infant Behavior and Development*, 29(3), 445-455.

*Flykt, M., Kanninen, K., Sinkkonen, J., & Punamäki, R. L. (2010). Maternal depression and dyadic interaction: the role of maternal attachment style. *Infant and Child Development*, 19(5), 530-550.

Gavin, N. I., Gaynes, B. N., Lohr, K. N., Meltzer-Brody, S., Gatrelhner, G., & Swinson, T. (2005). Perinatal depression: a systematic review of prevalence and incidence. *Obstetrics and Gynecology*, 106, 1071-83.

Gough, D., Oliver, S. & Thomas, J. (2012). An introduction to Systematic Reviews. Croyden, UK: Sage Publications.

Green, J. M. (1998). Postnatal depression or perinatal dysphoria? Findings from a longitudinal community-based study using the Edinburgh Postnatal Depression Scale. *Journal of Reproductive and Infant Psychology*, 16(2-3), 143-155.

Grigoriadis, S., VonderPorten, E. H., Mamisashvili, L., Tomlinson, G., Dennis, C. L., Koren, G., & Ross, L. E. (2013). The impact of maternal depression during pregnancy on perinatal outcomes: a systematic review and meta-analysis. *The Journal of clinical psychiatry*, 74(4), e321-41.

Grote, N. K., Bridge, J. A., Gavin, A. R., Melville, J. L., Iyengar, S., & Katon, W. J. (2010). A meta-analysis of depression during pregnancy and the risk of preterm birth, low birth weight, and intrauterine growth restriction. *Archives of general psychiatry*, 67(10), 1012-1024.

*Hayes, L. J., Goodman, S. H., & Carlson, E. (2013). Maternal antenatal depression and infant disorganized attachment at 12 months. *Attachment & human development*, 15(2), 133-153.

Hogg, Sally. (2013). Prevention in mind: All Babies Count: spotlight on perinatal mental health. London: NSPCC.

Horwitz, S. M., Briggs-Gowan, M. J., Storfer-Isser, A., & Carter, A. S. (2009). Persistence of maternal depressive symptoms throughout the early years of childhood. *Journal of Women's Health*, 18(5), 637-645.

- *Keim, S. A., Daniels, J. L., Dole, N., Herring, A. H., Siega-Riz, A. M., & Scheidt, P. C. (2011). A prospective study of maternal anxiety, perceived stress, and depressive symptoms in relation to infant cognitive development. *Early human development*, 87(5), 373-380.
- Kelly, R. H., Russo, J., & Katon, W. (2001). Somatic complaints among pregnant women cared for in obstetrics: normal pregnancy or depressive and anxiety symptom amplification revisited?. *General Hospital Psychiatry*, 23(3), 107-113.
- Kingston, D., & Tough, S. (2014). Prenatal and postnatal maternal mental health and school-age child development: a systematic review. *Maternal and child health journal*, 18(7), 1728-1741.
- *Koutra, K., Chatzi, L., Bagkeris, M., Vassilaki, M., Bitsios, P., & Kogevinas, M. (2013). Antenatal and postnatal maternal mental health as determinants of infant neurodevelopment at 18 months of age in a mother-child cohort (Rhea Study) in Crete, Greece. *Social psychiatry and psychiatric epidemiology*, 48(8), 1335-1345.
- Lancaster, C. A., Gold, K. J., Flynn, H. A., Yoo, H., Marcus, S. M., & Davis, M. M. (2010). Risk factors for depressive symptoms during pregnancy: a systematic review. *American journal of obstetrics and gynecology*, 202(1), 5-14.
- Lovejoy, M. C., Graczyk, P. A., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior: A meta-analytic review. *Clinical psychology review*, 20(5), 561-592.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour research and therapy*, 33(3), 335-343.
- Matthey, S., Barnett, B., Ungerer, J., & Waters, B. (2000). Paternal and maternal depressed mood during the transition to parenthood. *Journal of affective disorders*, 60(2), 75-85.
- Milgrom, J., Westley, D. T., & Gemmill, A. W. (2004). The mediating role of maternal responsiveness in some longer term effects of postnatal depression on infant development. *Infant Behavior and Development*, 27(4), 443-454.
- Miller, R. L., Pallant, J. F., & Negri, L. M. (2006). Anxiety and stress in the postpartum: Is there more to postnatal distress than depression?. *BMC psychiatry*, 6(1), 12.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G. (2009). The PRISMA Group Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement.

National Institute for Health and Clinical Excellence (2012). *Methods for the development of NICE public health guidance (third edition)*. NICE: London.

National Institute for Health and Clinical Excellence (NICE). (2014). *Nice Clinical guideline CG192. Antenatal and postnatal mental health: Clinical management and service guidance*. NICE: London.

Pearson, R. M., Evans, J., Kounali, D., Lewis, G., Heron, J., Ramchandani, P. G., ... & Stein, A. (2013). Maternal depression during pregnancy and the postnatal period: risks and possible mechanisms for offspring depression at age 18 years. *JAMA psychiatry*, 70(12), 1312-1319.

Poobalan, A. S., Aucott, L. S., Ross, L., Smith, W. C. S., Helms, P. J., & Williams, J. H. (2007). Effects of treating postnatal depression on mother–infant interaction and child development. *The British journal of psychiatry*, 191(5), 378-386.

Robertson, E., Grace, S., Wallington, T., & Stewart, D. E. (2004). Antenatal risk factors for postpartum depression: a synthesis of recent literature. *General hospital psychiatry*, 26(4), 289-295.

Ross, L. E., Grigoriadis, S., Mamisashvili, L., VonderPorten, E. H., Roerecke, M., Rehm, J., ... & Cheung, A. (2013). Selected pregnancy and delivery outcomes after exposure to antidepressant medication: a systematic review and meta-analysis. *JAMA psychiatry*, 70(4), 436-443.

Sanderson, S., Tatt, I.D. & Higgins, J.P.T. (2007). Tools for assessing quality and susceptibility to bias in observational studies in epidemiology: a systematic review and annotated bibliography. *International Journal of Epidemiology*: 36, 666-676.

*Sandman, C. A., Davis, E. P., & Glynn, L. M. (2012). Prescient human fetuses thrive. *Psychological science*, 23(1), 93-100.

Sanger, C., Iles, J. E., Andrew, C. S., & Ramchandani, P. G. (2015). Associations between postnatal maternal depression and psychological outcomes in adolescent offspring: a systematic review. *Archives of women's mental health*, 18(2), 147-162.

Scottish Intercollegiate Guidelines Network (SIGN). *Management of perinatal mood disorders*. Edinburgh: SIGN; 2012. (SIGN publication no. 127). [March 2012]. Available from URL: <http://www.sign.ac.uk>

Scottish Intercollegiate Guidelines Network (SIGN). *SIGN 50: a guideline developer's handbook*. Edinburgh: SIGN; 2014. (SIGN publication no. 50). [October 2014]. Available from URL: <http://www.sign.ac.uk>

- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin.
- Stein, A., Pearson, R. M., Goodman, S. H., Rapa, E., Rahman, A., McCallum, M., ... & Pariante, C. M. (2014). Effects of perinatal mental disorders on the fetus and child. *The Lancet*, *384*, 1800-1819.
- Stuart, S., Couser, G., Schilder, K., O'HARA, M. W., & Gorman, L. (1998). Postpartum anxiety and depression: onset and co morbidity in a community sample. *The Journal of nervous and mental disease*, *186*(7), 420-424.
- The Scottish Government. (2008). *The Early Years Framework*. The Scottish Government: Edinburgh.
- The Scottish Government. (2009). *Better health, better care: National delivery plan for children and young people's specialist services in Scotland*. The Scottish Government: Edinburgh.
- The Scottish Government. (2011). *A refreshed framework for maternity care in Scotland: The maternity services action group*. The Scottish Government: Edinburgh.
- *Tse, A. C., Rich-Edwards, J. W., Rifas-Shiman, S. L., Gillman, M. W., & Oken, E. (2010). Association of maternal prenatal depressive symptoms with child cognition at age 3 years. *Paediatric and perinatal epidemiology*, *24*(3), 232-240.
- Van Elm, E., Altman, G., Egger, M., Pocock, S. J., Gotsche, P. C. & Vandembrouke, J. P. (2008). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Journal of Clinical Epidemiology*, *61*, 344-349.
- *Velders, F. P., Dieleman, G., Henrichs, J., Jaddoe, V. W., Hofman, A., Verhulst, F. C., ... & Tiemeier, H. (2011). Prenatal and postnatal psychological symptoms of parents and family functioning: the impact on child emotional and behavioural problems. *European child & adolescent psychiatry*, *20*(7), 341-350.
- Waters, C. S., Hay, D. F., Simmonds, J. R., & van Goozen, S. H. (2014). Antenatal depression and children's developmental outcomes: potential mechanisms and treatment options. *European child & adolescent psychiatry*, *23*(10), 957-971.
- Whitney, C.W., Lind, B.K., and Wahl, P.W. (1998). Quality assurance and quality control in longitudinal studies. *Epidemiologic Review*: *20* (1), 71-80.
- Woods, S. M., Melville, J. L., Guo, Y., Fan, M. Y., & Gavin, A. (2010). Psychosocial stress during pregnancy. *American journal of obstetrics and gynecology*, *202*(1), 61-e1

EMPIRICAL PROJECT JOURNAL ARTICLE

The Lost Self: The lived experience and meaning of pregnancy in women with existing depression*.

Caroline Morgan¹, Jill Cossar², and Andrew Keen^{3**}

¹ NHS Grampian, Child and Family Mental Health Service, Lower Ground Floor, Royal Aberdeen Children's Hospital, Aberdeen, AB51 2ZG

² Clinical Psychology, School of Health in Social Science, University of Edinburgh, Teviot Place Edinburgh, EH8 9AG

³ NHS Grampian, Child and Family Mental Health Service, Lower Ground Floor, Royal Aberdeen Children's Hospital, Aberdeen, AB51 2ZG

Correspondence: caroline.morgan@hotmail.co.uk

*This is written in accordance with the Journal of Reproductive and Infant Psychology author guidelines (Appendix 1).

** This piece of work is written in its entirety by Caroline Morgan, Trainee Clinical Psychologist, supervised by Dr Jill Cossar, Academic Supervisor, and Dr Andrew Keen, Clinical Supervisor. Supervisors' names are included on the article for publication purposes only, in acknowledgement of their intellectual contribution. Supervisors were not involved in the writing of this piece for the thesis.

3. The Lost Self: The lived experience and meaning of pregnancy in women with existing depression.

3.1 Abstract

Objective: This study aimed to further our understanding of the lived experience of being a woman with antenatal depression. It contributes to an understudied and important area of perinatal mental health. **Background:** Antenatal depression is common in pregnancy and there is growing recognition of the long-term individual, societal and economic impact that can arise from perinatal mental health problems and the need for improved care in this area. However, little qualitative research has explored how antenatal depression influences the experiences of pregnancy for women on their transition to motherhood. **Methods:** Interpretative Phenomenological Analysis was used to analyse the transcripts of six women recruited from a Perinatal Mental Health Service. **Results:** An overarching theme of 'The Lost Self' incorporated four main themes; 'Hitting a brick wall', 'Self-stigma', 'Sense-making' and 'Withholding the self'. The interviews conveyed women's senses of losing their former selves, their identities, their coping strategies, and their interests, which in turn affected relationships with partners, extended families and most importantly their new babies. Women described feeling lost, stuck, overwhelmed and uncertain how to move forward. **Conclusions:** Antenatal depression can be debilitating for pregnant women. This study highlights the need for improved awareness of depression during pregnancy to improve understanding of this disorder during the antenatal period.

Keywords: Women; Pregnancy; Antenatal Depression; Qualitative

Word count: 5,042

3.2 Introduction

There is a general agreement that pregnancy is a stressful life event for women because it challenges them to adapt to diverse psychosocial and physiological changes (Hodgkinson, Smith & Wittkowsk, 2014). For some this important period is made more difficult by the experience of mental illness (Bennett, Boon, Romans & Grootendorst, 2007).

Antenatal depression is common and estimates of its prevalence derived from two meta-analyses range from 7 - 11% for the first trimester and between 9 -13% for the second and third trimesters (Bennett, Einarson, Taddio, Koren & Einarson, 2004; Gavin et al., 2005). Co-morbid anxiety is also common (Teixeira, Figueiredo, Conde, Pacheco & Costa, 2009; Skouteris, Wertheim, Paxton and Milgrom, 2009). There are a number of established factors that increase the risk of antenatal depression, some of which are similar to unipolar depression (e.g. poverty, low education levels, previous depression, anxiety and life stress), and some are relationship and pregnancy-specific (e.g. quality of relationship, partner violence and whether the pregnancy is wanted or not) (Lancaster et al., 2010; SIGN, 2012).

Perinatal mental health problems are a recognised public health concern (NICE, 2014; NES, 2006). Recently in the UK there has been an encouraging recognition of the long-term individual, societal and economic impact that can arise from perinatal mental health problems and the need for improved care in this area (The Scottish Government, 2008; Department of Health, 2014; SIGN, 2012). Currently the costs are substantial to women, their unborn child and to society. A recent report estimated that the average cost to society of one case of perinatal depression is around £74,000, with an estimated 72% of the total costs related to direct effects on the child, rather than the mother (Bauer, Parsonage, Knapp, Iemmi & Adelaja, 2014). However, this cost analysis used prevalence rates of identified cases and thus does not account for unidentified women with mental health problems.

It is estimated that of the 40% of women who are detected and diagnosed with antenatal depression, only 60% of these women go on to receive appropriate treatment with appropriate services (Gavin et al., 2015). Failure to identify and treat antenatal depression has significant consequences, including ongoing mental health problems for women post-partum, poorer birth outcomes and attachment-related problems between mothers and their children (O'Hara & Gorman, 2004; Carter, Garrity-Rokous, Chazan-Cohen, Little & Briggs-Gowan, 2001; Staneva, Bogossian, Pritchard & Wisskowsky, 2015a; Grote, Swartz, Geibel & Zuckoff, 2009). Establishing a secure attachment relationship in the first months of life is widely recognised to be central to future good infant mental health and adaptive development (Bowlby 1969; Schore, 2001). With maternal mental health symptoms found to be related to poorer prenatal attachment, a lack of treatment can therefore have long-term implications for children's well being (Rubertsson, Pallant, Sydsjö, Haines, & Hildingsson, 2014).

The majority of research in the perinatal period originates from bio-medical perspectives, and tends to focus on the physical aspects of childbearing, diagnosis and prevalence issues (Beijers, Buitelaar & de Weerth, 2014; Bennett et al., 2004; Marcus, Flynn, Blow & Barry, 2003). Little is known about pregnant women's subjective experiences of depression in this major transition to motherhood, which brings complex interactions between current, past and evolving attachment relationships. One recent systematic review reported on the findings of four prospective studies on the experience of women with antenatal psychological distress (Staneva, Bogossian and Wittkowski, 2015b). They concluded that there remains a dearth of qualitative research on women's perceptions and views of distress during pregnancy and the implications that these have on their physical and psychological wellbeing.

3.2.1 Study aim

The aim of the current research was to further our understanding of the lived experience of pregnancy of women suffering from depression during their pregnancy in order to inform service design and delivery.

3.3 Method

3.3.1 Design

Interpretative phenomenological analysis (IPA) focuses on sense making activity, texture of experience, emphasis on the individual and recommended for exploring the lived experience of groups of people (Larkin & Griffiths, 2004; Smith, Flowers & Larkin, 2009; Willig, 2008; Chenail, 2011). It is used to obtain a sense that participants make of their experiences and the personal meaning of these experiences to the participants (Smith et al., 2009). Moreover, this approach is also used to explore the 'double hermeneutic' of the researcher seeking to make sense of the participant's 'meaning making' (Smith, 2011). Guidelines specific to IPA were followed as well as those for achieving rigour in qualitative research to ensure transparency of the process as well as the stance of the researcher (Smith, 2011; Willig, 2008; Chenail, 2011).

IPA (Smith et al., 2009) was chosen for this study over other possible qualitative methodologies such as Discourse Analysis (Starks & Trinidad, 2007), or Grounded Theory (Glaser & Strauss, 1967). This study is concerned with individuals' subjective experiences of being depressed during pregnancy, how they make sense of it and what it means to them. Currently this is an understudied phenomenon that hasn't been investigated. Although Grounded Theory and IPA share many features, the primary aim of Grounded Theory is to develop an explanatory model of how a social process operates in a given context. IPA therefore seemed the most appropriate methodology for this area of research.

3.3.2 Ethics

The study received ethical approval from the local ethics committee and Research and Development office (see appendices 9-13).

3.3.3 Recruitment

Staff within the perinatal mental health and community midwifery services were asked to identify potential participants. Eligible participants were given information about the study either face-to-face by staff, or by post (see appendices six & seven). The researcher contacted interested participants to arrange an interview. Interviews took place at the woman's home or on NHS premises.

Women were eligible for participation if they were currently pregnant, aged 18 years or over, and scored > 12 on the Edinburgh Postnatal Depression screening tool (EPDS; Cox, Holden & Sagovsky, 1987). Women were required to be able to understand and communicate in English and provide informed consent.

Although originally developed as a screening tool for depression following childbirth, this scale has been validated during pregnancy as well as outside the postpartum period (Murray & Carothers, 1990; Murray & Cox, 1990; Cox & Holden, 2003). It is also recommended by NICE (NICE, 2014).

Those with a diagnosis of psychosis, schizophrenia, bipolar disorder or personality disorder, had had serious substance misuse in the past 12 months, or those with a learning disability were excluded.

3.3.4 Participants

Participants were six women who were experiencing depression or symptoms of low mood during pregnancy. Participants were recruited from a local perinatal mental health service and therefore represented a treatment-seeking sample who were already on a treatment pathway. All women had previous experience of a depressive episode prior to their current pregnancy. Table 1 displays sample characteristics of the included participants. The sample size was consistent with recommendations by Smith et al., (2009), which prioritises the intensive analysis of a small sample. An

additional eight women initially showed interest in the study, however failed to provide consent to participate. Reasons for non-participation included time constraints, no longer being interested, were un-contactable or failed to turn up for the interview. Overall, nine women were interviewed for the study, but three did not meet the clinical cut off for the EPDS so were not included in the final sample for analysis.

3.3.5 Data collection

One-off, individual interviews were conducted and recorded by digital dictaphone. Interviews lasted between 46 and 80 minutes (mean 62 minutes). A semi-structured interview schedule was used flexibly to enable the natural exploration of mothers' experiences (see appendix eight). Participants were reminded that the interview was about hearing their story and there were no right or wrong responses to the questions asked. Consistent with IPA methodology, questions were open-ended, allowing themes to emerge from data. The interview was piloted on one participant and revised in light of this. Consistent with IPA, extensive field notes were made following interviews and supervision was used to reflect and attempt to 'bracket' any expectations. Entries were made about expectations, thoughts about interviews, recruitment and analysis (see appendix 14).

3.3.6 Analysis

The analysis of the data adhered to the process outlined by Smith et al. (2009). Following transcription, interviews were read and re-read alongside listening to the audio recordings. Descriptive, linguistic and conceptual comments were made (Smith et al., 2009), followed by documentation of identified emergent themes (see appendix 16). Emergent themes were intended to reflect not only the participants' experiences but also the researcher's interpretations (see appendix 15). Recurring themes, contradictions and particularly emotive parts of interviews were noted (Reid, Flowers & Larkin, 2005). This was done for each case independently and then cross-case

analysis took place. For validity purposes two transcripts were coded by the researchers academic supervisor. Extensive discussion followed around thematic coding and emerging themes in order to reduce researcher bias and ensure they were consistent with the model of IPA analysis.

3.4 Results

Six women were interviewed. The characteristics of the sample are detailed in Table 1.

Table 3 - Participant Demographic information

Name	EPDS Score	Age Range	Marital Status	Trimester at Interview	Other children	Planned Pregnancy	History of Depression	Previous AND	Previous PND	SIMD* Rank
Laura	20	18-24	Living with partner	3 rd Trimester	0	No	Yes	N/A	N/A	3
Sarah	15	25-34	Living with partner	3 rd Trimester	0	Yes	Yes	N/A	N/A	4
Amy	13	35+	Living with partner	2 nd Trimester	1	Yes	Yes	No	Yes	4
Emma	12	25-34	Married	2 nd Trimester	1	Yes	Yes	No	Yes	5
Hannah	17	25-34	Married	2 nd Trimester	0	Yes	Yes	N/A	N/A	2
Kate	16	25-34	Living with partner	3 rd Trimester	1	Yes	No	Yes	Yes	4

Key: EPDS= Edinburgh Postnatal depression Scale; AND= Antenatal depression; PND=Postnatal depression

3.4.1 'The Lost Self'

One superordinate theme encapsulated four themes in the interviews (see Figure 1).

The overarching category 'The Lost Self' captures the women's experiences of antenatal depression and how they try to understand and manage it. The interviews

* SIMD = The Scottish Index of Multiple Deprivation (SIMD) is the Scottish Government's official tool for identifying those places in Scotland suffering from deprivation. It incorporates several different aspects of deprivation, combining them into a single index. 'Quintile 1 (most deprived area)'...'Quintile 5 (least deprived area)'.

conveyed women's senses of losing their former selves, their identities, their coping strategies, and their interests, which in turn affected relationships with partners, extended families and most importantly their new babies. Women described feeling lost, stuck, overwhelmed and uncertain how to move forward.



Figure 1. Overarching theme with its four themes and eight subthemes.

3.4.2 Hitting a Brick Wall

The inability to organise their thoughts and difficulties in making decisions affected functioning and resulted in the women feeling like they were 'hitting a brick wall' with nowhere or no one to turn to. Most women struggled to understand what exactly was wrong and found it confusing to explain their experience and feelings.

Losing the ability to think

All women described feeling overwhelmed by their difficulties. They spoke of frequent episodes of sadness, anxiety, crying and worry, which all impacted on their capacity to think. Most women struggled to understand what exactly was wrong and found it confusing to explain their experiences and feelings. This appeared to leave the women with a feeling of entrapment and loss. Women appeared consumed by the cognitive processes that were going on in their heads and for many it seemed that they

got little respite from the 'constant ruminations,' spending a lot of the time 'worrying about worrying'.

'It's mostly because of the intrusive thoughts I am getting...and having all of these thoughts coming into my head and trying to hold on to some *normality*, some *normal* conversations, can sometimes be too much.' (Laura)

Being lost for words

There was a recurrent pattern in the interviews of women being seemingly unable to articulate their feelings of distress, bewilderment and confusion and instead expressing these overwhelming emotions in a somatic way (e.g. feeling sore, nauseous and tired). Doing so seemed to be a safer way for women to try and describe their experiences.

'Ehhh I will feel a pressure on the top of my stomach and when I get really anxious I will cough like I'm going to throw up but I'm not really going to throw up, it's just like a reflex of the stress of the anxiety...'. (Emma)

They appeared powerless in their efforts to control their feelings, emotions, thoughts, and behaviour. It seemed as though women were frightened that they had lost control of their emotional and physical worlds.

'Because I actually feel like I can't cope, and I don't want to feel like I can't cope. I need to find a way I can cope, cause that's life'. (Emma)

3.4.3 Self-Stigma

This theme related to the discrepancy between how experiencing distress was at odds with how woman wanted to be perceived by others. Feeling different increased their sense of inadequacy and women questioned their ability to nurture and care. These feelings appeared to result in women attempting to minimise their distress and doubt their maternal abilities.

Minimising Distress

Many women spoke about having to 'keep up appearances' for fear of being perceived that they weren't coping. They talked about their struggles to 'put a front on' and described their perceived need to try and minimise their distress, both internally and externally. There seemed to be a feeling that negative feelings should be hidden and act 'normal'.

'I know that not everybody does everything so I think it is keeping up an image as well that things are – are okay, or you are worried you know how people will think that you are going to cope. And I think this is what perhaps more what weighs on my mind now as to how people are expecting me to cope this time.' (Kate)

There was a recurrent theme that many of the women were reluctant to share their experiences and appeared to play down their distress to their partners and those in their external world. In this way, it would seem that women appeared frightened that if they truly opened up about the extent of their difficulties, they may be perceived as not 'being fit' to care for their baby or their children. There was a strong sense that this left women open to perceived feelings of negative judgment and criticism about themselves as a mother and as a person. Although the women talked about perceived negative judgment from others, many made harsh judgments about themselves. They talked about their experiences in a derogatory way using dismissive language such as 'little', 'silly', 'pointless' or 'ridiculous things'. It would appear that women talked in this way as a way of trying to minimise the way they felt and berate themselves for not being 'good enough'. These comparisons served to exacerbate their beliefs that they were 'not good enough' as a mother and perpetuate their feelings of low self-esteem, self-worth and guilt.

One woman described a time where she had allowed herself to breakdown in front of her toddler. It appeared that her child was the only person she felt safe and fully able to show the extent of her struggles as she felt she wouldn't be judged. The woman found this particularly distressing to describe and spoke about shame and guilt that

her mood may impact on her child's development.

'She just has to say 'mummy you feel better' and she will give me a cuddle and it's just like, you know. (Begins crying) So it's maybe easier to cry to my two year old (sobs). I guess, I guess I don't put on a front for her, whereas with everybody else I kind of do.' (Kate)

Doubting the Self

Many questioned their ability to mother, their decision to become pregnant, their ability to continue with the pregnancy, and they lacked hope for the future. In this way it seemed as though they had lost touch with their former selves, whom they remembered as competent and confident women, and were now doubting their abilities to find solutions to the simplest of challenges and cope with the most basic tasks.

'I'm anxious about it in the sense that what if my head is still the way it is once the baby gets here, I mean how do I cope with that. ...I mean what am I going to do if I'm like this, plus have a baby to look after as well.' (Laura)

Women appeared to rely heavily on partners and there appeared to be a sense that this reliance fed into feeling a burden and feeling despair that they had no choice but to lean on their partners for support. This theme was encapsulated by a strong sense of guilt and shame that they cannot manage anymore.

'And I feel like that I put too much (sighs) kind off pressure on my husband because he is the one that I get to see everyday (cries) and then if I am not feeling well, he's the only person that can know that I'm not feeling well.' (Emma)

Those women that had children already were also pre-occupied and distressed about the impact their mood could have on the development (emotional, social, and cognitive) of their child. It seemed that many women were aware of the effects that depression can have on the maternal-infant bond and questioned whether they were being 'good enough' parents for their children.

'That's when I start to feel guilty, guilty for her, guilty for...and that's not even thinking about this baby.' (Kate)

Women appeared to compare their current selves with their previous selves, with previous pregnancies and with others who were pregnant. These comparisons appeared to feed into their concerns and expectations about pregnancy and left them feeling somewhat defective that they were unable to enjoy the pregnancy as much as others, cope as well as others and provide the best for their unborn child.

'...And it makes me feel sad and (becomes upset) that I will not be able to cope because I know many people that can so why am I the one that can't – I can't do it'. (Emma)

3.4.4 Sense-Making

This theme related to the process that women were experiencing in order to try and make sense of their experiences during their pregnancy and question their changed sense of self, lack of control and intense emotions. Ambivalence, change of self, loss of identity and revision of past and future roles were all identified as ways in which the women were trying to navigate their new role as a pregnant woman on the path to motherhood. It appeared that many of the women were preoccupied by the loss of their previous sense of self and the discrepancy between expectations and their actual circumstances, which were associated with negative emotions and confusion. The actual experience of pregnancy contrasted significantly with women's expectations and challenged their previous beliefs about motherhood. It appeared that many women were therefore continually searching for answers and trying to make sense of their current reality.

Searching for Meaning

Women appeared to search continuously for answers and understanding as to why they were feeling the way they were. There was a sense of puzzlement as women tried to search for meaning and reasons as to why things had changed so much. In their search for reasons for these feelings, women attributed past adverse experiences and

life events as triggers for their current distress and spoke about their previous pregnancies, difficult births and losses such as miscarriages and bereavement of close family members.

'It's just... if my mum was still here, I probably wouldn't be here. She would have sorted me out. I don't think I would have the same worries, and I wouldn't have depression. She would have been the person that I would have gone to'. It's hard to know that, this could and should be different. (Sarah)

Many of the women talked about the conflict between the past and the current self and the searching for answers for how things have changed so dramatically. Women who had previous pregnancies and had not experienced depression recognised their mood as in contrast to their previous pregnancy experience.

'I guess I really just thought it was going to be a one off feeling, the feeling low and that the last time, and that was something that happened in that pregnancy. I guess now it is just about trying to accept that this one is the same...worse. (Kate)

Women who had experienced depression before had the knowledge that enabled them to assess their level of depression and recognise that they needed to ask for help. For the women who had no experience of depression or who were expecting their first baby it seemed that their decision to seek help was based around their perceived expectations of pregnancy and feeling that 'something wasn't right'.

Trying to carry on

All of the women were actively trying hard to 'carry on' and described feeling exhausted, hopeless, helpless and frustrated in their continual efforts to find adaptive solutions. Most women had not found helpful coping mechanisms and many spoke about their need to 'take each day as it comes'. There was a strong sense that all effort and energy was being put into trying to 'carry on' and it appeared to be a constant battle for women to try and fight the feelings of low mood and anxiety that kept

overwhelming them.

“You have to get on with it, even though some days I just don’t get on at all. Some days I just can’t”. (Laura)

All women in the study were in a relationship. Most described their partners as providing both practical and emotional support. There was a strong sense for many of the women that they relied heavily on their partners to help them cope. Although partners were a source of support for women in their efforts to carry on, this feeling of reliance left women feeling like a burden.

‘I think a large part of how I cope I suppose with difficult feelings... He seems to be comfortable with it and I sometimes wonder myself if I am overly comfortable but he seems to be, well I rely on him a bit more with my emotions than the other way round.’ (Amy)

Perceived emotional distance and not feeling understood also made it difficult for the women to communicate their anxieties to their partners. It appeared that women were not entirely convinced that their partners, as supportive as they were, fully grasped the depth of their emotional problems and this left them feeling misunderstood and isolated.

‘Well there is my partner, but well I don’t talk to him. No I do, I do, but again I just keep it to myself... It’s not that I don’t want to, I think it’s just the fact that, I don’t know, I just feel that, I, I can’t, cause they don’t know that to say back to you, you know.’ (Sarah)

3.4.5 Withholding the Self

This theme describes how women seemed to try and withhold themselves emotionally and physically from close relationships, their pregnancy and their wider interpersonal worlds. The mothers experienced their negative feelings as unspeakable and, as a result, described continually separating themselves from their developing baby and withdrawing from family and friends. This detachment or withdrawal seemed to be a self-protective strategy to try and protect themselves from the rawness of their fearful,

confusing and perceived shameful feelings. Women also appeared to withhold the expression of their emotions and feelings of sadness due to expecting to receive, or at times receiving negative responses from others. Unfortunately this strategy only seemed to leave them feeling guilty and regretful, particularly when they recognised a lack of connection towards their developing child.

Detaching from others

There was a strong sense from women of helpless, loss and powerless withdrawal from those around them and their external world. For many, social interaction, especially with other expecting women, seemed to only serve as evidence that they were not 'good enough' and further highlighted the intensity of their despair. It appeared that they did not know what else to do and they felt stuck in a bleak wilderness with little direction or clarity of where or who to turn to.

'I just feel, just not really functioning or participating much in society. I just feel quite, you know, worthless. Not worthless, just pointless. Pointless... and very much alone.' (Emma)

In a way, it seemed that avoidance, 'shutting down' and isolating themselves was the only way that these women felt able to protect themselves from perceived negativity and criticism from partners, family members, to healthcare professionals, and to an extent themselves.

'Because I smile...and I think that's why my friends think that I am perfectly fine. Well unless you tell them they aren't going to know. They aren't going to know that each day is a constant struggle. It's my own fault, but I don't want to tell everybody, cause then they will all think I am nuts [laughs].' (Sarah)

For some women, at times they were able to protect themselves by denying or trying to ignore what they were feeling, and in the short term it seemed that they were able to pretend to themselves and to those around them that everything was fine. Women

repeatedly spoke of trying to “keep the depression inside”, “not talking about it,” and “hiding the crying”.

Relationship with baby

For some of the women their difficulties had meant that they had not allowed themselves to connect with their pregnancy and baby. This appeared to manifest itself in avoidance of psychological, emotional and practical preparation for the arrival of baby. Trying to prepare psychologically for labour and the future exacerbated women's already anxious and vulnerable state. Women appeared to ensure that they were looking after themselves physically even though there seemed to be a lack of emotional connection. This avoidance appeared to be a way for the women to be able to cope in the ‘here and now’, as it seemed any thought around the future was just too overwhelming for most of them to manage.

‘I’m 39 weeks... to be honest I haven’t really thought about it. It’s just about getting by each day at a time, so I don’t know.’ (Laura)

Not connecting also seemed to serve as a protective factor for some of the women who appeared too frightened to allow themselves to connect psychologically for fear of something ‘bad’ happening during the pregnancy.

‘Well I haven’t been putting music to it, you know to the baby, and I was doing that by this time before. So I don’t want to kind of not, not make it special. So I guess I am getting to that point where I feel like it’s sort of ‘ok’ to connect, to the pregnancy this time.’ (Emma)

Not all women had difficulties connecting with the pregnancy and the developing child. One woman spoke about the comfort she felt from feeling the baby growing inside her and described although she felt alone on the outside world she was in tune with her baby and that provided comfort.

3.5 Discussion

This study provides a unique insight into a largely understudied area. Participants discussed how the symptoms of low mood affected their experience of pregnancy, how they believed others viewed them and their own sense of who they were. The emotional experiences associated with these representations were powerful. Feelings of powerlessness, sadness, shame, guilt, loneliness and hopelessness, feeling a 'burden' and feeling negatively judged and criticised were described. The impact of 'the lost self' however, was very evident and common across all participants at some point in their pregnancy journeys. Women frequently described losing themselves, their former selves, and experiencing a complete loss of control due to how invasive and debilitating their low and anxious mood was. The women held perhaps unrealistic and idealised expectations of pregnancy and motherhood, which were shattered by the reality of their own lives and therefore experienced their pregnancy as less than 'ideal'.

In line with earlier studies, this study provides further understanding on these sometimes unrealistic and idealised expectations of pregnancy and how these shape their experiences, resulting in feelings of inadequacy, defeat and isolation, all of which may contribute to and perpetuate their distress (Choi, Henshaw, Baker & Tree, 2005; Staneva & Wittkowski, 2013). Traditional views and ideas about pregnancy and motherhood in Western society may compound the negative feelings experienced by women with antenatal depression. Having a baby, being nurturing and taking care of her family are viewed as normal 'feminine' roles (Lewis & Nicolson, 1998). This reflects the cultural representations of femininity today that are of a 'superwoman' able to cope with so many competing demands (Ussher et al., 2000). Thus, women are reluctant to be seen to have 'failed' as perhaps this would threaten their sense of self and their identity as a woman. Failure to fulfill these 'expected' roles undoubtedly leads to increased feelings of guilt and loss, which continue after recovery as women react on their illness. Further, views of 'being a good mother' emphasise the

importance of mothers putting the baby's 'needs' before their own (Phoenix & Woollett, 1996). For the women in this sample, this was not always possible and these conflicting expectations and experiences led them down a path of becoming overwhelmed, feeling a sense of loss, perceiving themselves as failures as mothers, and bearing a shameful burden of guilt. A discrepancy between ideal and real self has been established as a known trigger for depression and anxiety (Higgins, Klein & Strauman, 1985), pointing to an important task for health care professionals to challenge these idealised views.

There are some similarities between the findings of this study and those that have examined postnatal depression (Beck, 2002). Loss of control, altered perception of self, and doubts about maternal ability described by the women in this study are similar to the findings of a meta-synthesis of qualitative studies of postnatal depression (Beck, 2002). Those findings have drawn attention to the women's sense of loss (of control, self, relationships, and voice) as being a pervasive component of postnatal depression. This has prompted the use of loss and grief frameworks in designing interventions for postnatally depressed women, something which may be of relevance to the population studied here as well (Beck, 2002; Schreiber, 1996).

Feelings of loss in the form of loss of control over emotions and physical body were a pervasive feature of women's narratives with women trying, but struggling to find a way through. This positions women's experiences within the framework of psychological loss, disturbance and grief, experienced as a result of change and adjustment. Motherhood, interpreted as a succession of losses of identity, autonomy, appearance, and feminine roles have been proposed by Nicolson (1990, 1999) in her research using a feminist approach to examine postnatal depression. It could be argued that Nicolson's framework is also applicable within the antenatal context, thus providing a framework to potentially understand the demanding psychological processes that can occur in pregnancy.

A significant proportion of women within this sample spoke about previous birth trauma, such as difficult birthing experiences or miscarriages and recent adverse life events such as death of a parent. These experiences appeared to have a considerable impact on how the women were trying to make sense of their current pregnancy experience. It has long been recognised that a traumatic birth experience can have a severe impact on women and their families (Ayers, 2004, Olde et al., 2006). Traumatic birth may have negative implications for maternal and infant health, future pregnancies and child birth and relationships with infants and partners (Fenech & Thomson, 2014). Recent meta-syntheses of qualitative studies highlight the emotional impact on women, with reports of anger, self-blame, suicidal ideation, loss of positive affect, isolation and dissociation from others (Elmir et al., 2010; Fenech & Thomson, 2014). Women's relationships may also be affected, with research suggesting women can struggle to form a positive relationship with their infant (Elmir et al., 2010; Fenech & Thomson, 2014), although the role of co-morbid depression in this remains unclear (Davies, Slade, Wright, & Stewart, 2008; Parfitt & Ayers, 2009). All of these findings certainly appear to emulate the findings of this study. While there is substantial qualitative research showing that a traumatic birth can have a wide-ranging impact on women and their families, more quantitative research is needed to confirm and extend these findings and investigate the links between birth trauma, adversity and perinatal mental health.

Interestingly, many of the themes identified and discussed within this sample of women could be considered to be reflective of some type of attachment insecurity due to psychological responses to trauma and adversity. Many of the women presented with what could be described as difficulties with maternal reflective functioning, affect regulation and poor mentalization. There is evidence, suggesting that maternal sensitivity and affection have their origins in pregnancy (Leifer, 1977; Mercer, 2004). Attachment theory argues that sensitive responses by the mother to her infant's needs

provide the basis for a secure infant–mother relationship (Bowlby, 1969). A mothers' capacity to hold her child's mental state in mind and understand this is considered to be intrinsic to sensitive parenting (Slade, 2005) and crucial to the child's development of mentalization and affect regulation (Fonagy 1997; 2002). There was a sense that many of the women in this study struggled in these areas and may have benefited from treatment which specifically focuses psychological constructs such as encouraging mentalization and sensitive parenting. It may be that treatment focussing on psychological theories such as mentalization, attachment and post-traumatic growth would be the most beneficial and preventative intervention for this group of vulnerable women and their developing child in order to minimise potentially adverse consequences of this upon the parent-child or parent-infant attachment relationship. Early identification may have important clinical implications by minimising disruption to the attachment relationship through timely delivery of appropriate interventions.

3.5.1 Implications for practice

Understanding women's experience is a vital first step in providing effective treatment. SIGN (2012) and NICE (2014) recommend open communication around mental health and the importance of non-judgmental and compassionate support from health professionals. This study supports these recommendations and the need for health professionals to gain a better understanding of the lived experience of these women in order to try and improve on the care and support that is provided.

Throughout pregnancy women are in frequent contact with healthcare services, which provides a window of opportunity to increase awareness of mental health problems in the perinatal period, identify those at risk of developing, or currently experiencing a mental health problem and improve detection skills of mental health issues. However like depression in other stages, detection in pregnancy remains variable, and this elevates the risk of under-detection and lack of timely treatment. Currently many opportunities for such identification are missed, and it is estimated that around 50% of

cases can go undetected (Ramsay, 1993). Perhaps even more neglected, are the early signs of elevated distress levels as well as subclinical symptom levels.

Future research should work to inform those engaged in the provision of care for perinatal women, to facilitate the building of a safe space for vulnerable women in a timely and meaningful manner, as well as to encourage a healthy self-image and self-care by 'normalising' the experience of pregnancy and motherhood. The treatment of antenatal depression using effective interventions based on psychological theories is an area that continues to be neglected and requires further exploration (Friedli & Parsonage, 2007; Robertson, Grace, Wallington & Stewart, 2004). The stories told by these six women would support the idea that psychological interventions may be beneficial and consideration should be given to therapies that promote maternal reflective functioning, mentalization and attachment. Pregnancy provides a unique and optimal opportunity to intervene and effect change at the level of prenatal attachment and provide possible subsequent benefits for longer postnatal attachment. Another emerging area of interest in the perinatal time is the application of mindfulness-based interventions, which aim to promote deeper self-awareness and knowledge, and most importantly, self-acceptance, which could be a very effective strategy for women at times of little or no control over their pregnant body and during the time of transition towards motherhood (Dimidjian and Goodman 2009; Duncan and Bardacke 2010). Many of the women touched on their confusion regarding treatment pathways and although on the treatment pathway appeared to be still searching for support which could best meet their needs. Clearer pathways therefore need to be developed to ensure that women receive the right type of support (psychological or medical) at the right time.

Future research should also include a measurement of ethnicity. Although women were recruited in the North East of Scotland, no data regarding the participant's culture or ethnicity was gathered. Differing cultures may have impacted on the

women's experiences and their abilities to articulate and make sense of their experiences.

3.5.2 Study Limitations

The current study has some limitations. Participant numbers were small (although consistent with recommendations for IPA studies), and participants were recruited from just one specialist perinatal mental health service in the north east of Scotland. As highlighted in the literature, the majority of women with antenatal depression remain unknown to services and as a result very little is known about their experiences. The current sample therefore captured the experiences of a specific group of women who were already on a support pathway for specialist mental health. As this was a clinical sample, results are difficult to generalise to the wider population. Staff in the service assisted with recruitment, which might have led to the inclusion of women who would provide more favourable accounts. Other possible factors influencing participants' views and experiences of their current treatment may include stage of pregnancy or treatment, duration of illness and previous treatment experiences. The sample in this study is not representative and results cannot be generalised. However, the study provides valuable insights into these women's experiences of depression during pregnancy and the consistency of themes that arose suggests that this may not have been a significant issue.

Despite attempts to bracket knowledge in the initial stages of analysis, the researcher's background in psychology, experience of clinical work and existing links with the perinatal mental health service may have influenced how data were approached and analysed. However, IPA does acknowledge the researcher's perspective and knowledge as a strength in terms of making informed interpretations in the latter stages of analysis.

A further limitation is that an additional eight women initially agreed to participate but later withdrew. Due to service constraints it was not possible to have figures on the

number of women who would have been seen by the service and would have been suitable for the study. Therefore, there was a lack of sociodemographic information on non-participants, which makes it difficult to compare the sample to those who chose not to participate. It is possible too, that they may have had different perspectives.

3.5.3 Conclusion

The findings contribute to an increased understanding of the experiences and challenges faced by women experiencing depression during pregnancy. Pregnancy is not always a time of joyful and harmonious contentment, and those mothers-to-be who have the misfortune to become depressed have a difficult path to negotiate. This study provides insight into the lived experiences of the journey from the viewpoint of women who are currently struggling to travel along that path. This study highlights that an improved awareness of depression during pregnancy is needed to help improve societies understanding of this disorder during the antenatal period. It is evident that these women are a vulnerable cohort and careful thinking needs to take place as to who can best meet the complex psychological needs of women struggling with their mental health in the perinatal period, their developing child and family.

3.6 References

- Ayers, S. (2004). Delivery as a traumatic event: prevalence, risk factors, and treatment for postnatal posttraumatic stress disorder. *Clinical Obstetrics and Gynecology*, 47(3), 552-567.
- Bauer, A., Parsonage, M., Knapp, M., Iemmi, V., & Adelaja, B. (2014). Costs of perinatal mental health problems.
- Beck, C. T. (2002). Postpartum depression: A meta-synthesis. *Qualitative Health Research*, 12(4), 453-472.
- Beijers, R., Buitelaar, J. K., & de Weerth, C. (2014). Mechanisms underlying the effects of prenatal psychosocial stress on child outcomes: beyond the HPA axis. *European child & adolescent psychiatry*, 23(10), 943-956.
- Bennett, H. A., Boon, H. S., Romans, S. E., & Grootendorst, P. (2007). Becoming the best mom that I can: women's experiences of managing depression during pregnancy—a qualitative study. *BMC women's health*, 7(1), 13.
- Bennett, H. A., Einarson, A., Taddio, A., Koren, G., & Einarson, T. R. (2004). Prevalence of depression during pregnancy: systematic review. *Obstetrics & Gynecology*, 103(4), 698-709.
- Bowlby, J. (1969). Attachment: (Attachment and Loss Series, Vol 1). *New York*.
- Carter, A. S., Garrity-Rokous, F. E., Chazan-Cohen, R., Little, C., & Briggs-Gowan, M. J. (2001). Maternal depression and comorbidity: predicting early parenting, attachment security, and toddler social-emotional problems and competencies. *Journal of the American Academy of Child & Adolescent Psychiatry*, 40(1), 18-26.
- Chenail, R. J. (2011). Ten Steps for Conceptualizing and Conducting Qualitative Research Studies in a Pragmatically Curious Manner. *Qualitative Report*, 16(6), 1713-1730.
- Choi, P., Henshaw, C., Baker, S., & Tree, J. (2005). Super mum, super wife, super everything: performing femininity in the transition to motherhood. *Journal of reproductive and infant psychology*, 23(2), 167-180.
- Cox, J. L. & Holden, J. M. (2003). *Perinatal mental health: A guide to the Edinburgh Postnatal Depression Scale*. Royal College of Psychiatrists: London.

- Cox, J. L., Holden, J. M. & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh postnatal depression scale. *British Journal of Psychiatry*, 150, 782-786.
- Davies, J., Slade, P., Wright, I., & Stewart, P. (2008). Posttraumatic stress symptoms following childbirth and mothers' perceptions of their infants. *Infant Mental Health Journal*, 29(6), 537-554.
- Department of Health. (2014). Closing the gap: Priorities for essential change in mental health. London: DoH.
- Dimidjian, S., & Goodman, S. (2009). Nonpharmacologic intervention and prevention strategies for depression during pregnancy and the postpartum. *Clinical obstetrics and gynecology*, 52(3), 498-515.
- Duncan, L. G., & Bardacke, N. (2010). Mindfulness-based childbirth and parenting education: Promoting family mindfulness during the perinatal period. *Journal of Child and Family Studies*, 19(2), 190-202.
- Elmir, R., Schmied, V., Wilkes, L., & Jackson, D. (2010). Women's perceptions and experiences of a traumatic birth: a meta-ethnography. *Journal of Advanced Nursing*, 66(10), 2142-2153.
- Fenech, G., & Thomson, G. (2014). Tormented by ghosts from their past': A meta-synthesis to explore the psychosocial implications of a traumatic birth on maternal well-being. *Midwifery*, 30(2), 185-193.
- Fonagy, P. (1997). Attachment & Theory of mind: Overlapping constructs? Association for Child Psychology and Psychiatry, Occasional Papers, 14, 31-40.
- Fonagy, P., Gergely, G., Jurist, E.L., Target, M. (2002) Affect regulation, Mentalization, and the Development of the Self. Karnac books.
- Friedli, L., & Parsonage, M. (2007). *Mental health promotion: building an economic case*. NIAMH.
- Gavin, N. I., Gaynes, B. N., Lohr, K. N., Meltzer-Brody, S., Gartlehner, G., & Swinson, T. (2005). Perinatal depression: a systematic review of prevalence and incidence. *Obstetrics & Gynecology*, 106(5, Part 1), 1071-1083.
- Glaser, B.G. & Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine.

- Grote, N. K., Swartz, H. A., Geibel, S. L., Zuckoff, A., Houck, P. R., & Frank, E. (2009). A randomized controlled trial of culturally relevant, brief interpersonal psychotherapy for perinatal depression. *Psychiatric Services, 60*(3), 313-321.
- Higgins, E. T., Klein, R., & Strauman, T. (1985). Self-concept discrepancy theory: A psychological model for distinguishing among different aspects of depression and anxiety. *Social cognition, 3*(1), 51-76
- Hodgkinson, E. L., Smith, D. M., & Wittkowski, A. (2014). Women's experiences of their pregnancy and postpartum body image: a systematic review and meta-synthesis. *BMC pregnancy and childbirth, 14*(1), 330.
- Lancaster, C. A., Gold, K. J., Flynn, H. A., Yoo, H., Marcus, S. M., & Davis, M. M. (2010). Risk factors for depressive symptoms during pregnancy: a systematic review. *American journal of obstetrics and gynecology, 202*(1), 5-14.
- Larkin, M., & Griffiths, M. D. (2004). Dangerous sports and recreational drug-use: rationalizing and contextualizing risk. *Journal of community & applied social psychology, 14*(4), 215-232.
- Leifer, M. (1977). Psychological changes accompanying pregnancy and motherhood. *Genetic psychology monographs.*
- Lewis, S. E. & Nicolson, P. (1998). Talking about early motherhood: Recognizing loss and reconstructing depression. *Journal of Reproductive and Infant Psychology, 16* (2-3), 177-197.
- Marcus, S. M., Flynn, H. A., Blow, F. C., & Barry. K. L. (2003). Depressive symptom among pregnant women screened in obstetric settings. *Journal of Women's Health, 12*(4), 373-380.
- Mercer, R. T. (2004). Becoming a mother versus maternal role attainment. *Journal of nursing scholarship, 36*(3), 226-232.
- Murray, L., & Carothers, A. D. (1990). The validation of the Edinburgh Post-natal Depression Scale on a community sample. *The British Journal of Psychiatry, 157*(2), 288-290.
- Murray, D., & Cox, J. L. (1990). Screening for depression during pregnancy with the Edinburgh Depression Scale (EDDS). *Journal of Reproductive and Infant psychology, 8*(2), 99-107.
- National Institute for Health and Clinical Excellence (NICE). (2014). *Nice Clinical guideline 25. Antenatal and postnatal mental health: Clinical management and service guidance.* NICE: London.

- NHS Education for Scotland. (2006). Perinatal Mental Health Curricular Framework. Edinburgh: NES.
- Nicolson, P. (1990). Understanding postnatal depression: a mother-centred approach. *Journal of Advanced Nursing*, 15(6), 689-695.
- Nicolson, P. (1999). Loss, happiness and postpartum depression: The ultimate paradox. *Canadian Psychology*/40(2), 162.
- O'Connor, T. G., Heron, J., Golding, J., & Glover, V. (2002). Maternal antenatal anxiety and children's behavioural/emotional problems at 4 years. Report from the Avon Longitudinal Study of Parents and Children. *British Journal of Psychiatry*, 180, 502-508.
- O'Hara, M., Gorman, L.L., 2004. Can postpartum depression be predicted? *Prim. Psychiatry* 11, 42-47.
- Olde, E., van der Hart, O., Kleber, R., & Van Son, M. (2006). Posttraumatic stress following childbirth: a review. *Clinical psychology review*, 26(1), 1-16.
- Parfitt, Y. M., & Ayers, S. (2009). The effect of post-natal symptoms of post-traumatic stress and depression on the couple's relationship and parent-baby bond. *Journal of Reproductive and Infant Psychology*, 27(2), 127-142.
- Phoenix, A., & Woollett, A. (1996). Motherhood as pedagogy: Contrasting feminist and developmental psychology accounts. In C. Luke (Ed.), *Feminisms and Pedagogies of Everyday Life*. (pp. 80-102). New York, USA: State University of New York Press.
- Ramsay, R. (1993). Postnatal depression. *The Lancet*, 342(8883), 1358. Chicago.
- Reid K., Flowers P. & Larkin, M. (2005) Exploring lived experience. *The Psychologist* 8, 20-23.
- Robertson, E., Grace, S., Wallington, T., & Stewart, D. E. (2004). Antenatal risk factors for postpartum depression: a synthesis of recent literature. *General hospital psychiatry*, 26(4), 289-295.
- Rubertsson, C., Hellström, J., Cross, M., & Sydsjö, G. (2014). Anxiety in early pregnancy: prevalence and contributing factors. *Archives of women's mental health*, 17(3), 221-228.
- Schore, A. N. (2001). Effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant mental health journal*, 22(1-2), 7-66.
- Scottish Intercollegiate Guidelines Network (SIGN). Management of perinatal mood

disorders. Edinburgh: SIGN; 2012. (SIGN publication no. 127). [March 2012]. Available from URL: <http://www.sign.ac.uk>.

Schreiber, R. (1996). Understanding and helping depressed women. *Archives of psychiatric nursing*, 10(3), 165-175.

Skouteris, H., Wertheim, E. H., Rallis, S., Milgrom, J., & Paxton, S. J. (2009). Depression and anxiety through pregnancy and the early postpartum: an examination of prospective relationships. *Journal of affective disorders*, 113(3), 303-308.

Slade, A. (2005). Parental reflective functioning: An introduction. *Attachment & human development*, 7(3), 269-281.

Smith, J. (2011). Evaluating the contribution of Interpretative Phenomenological Analysis. *Health Psychology Review*, 5, 9-27.

Smith, J., A., Flowers, P. & Larkin, M. (2009). *Interpretative Phenomenological Analysis; Theory, Method and Research*. London: Sage.

Staneva, A., & Wittkowski, A. (2013). Exploring beliefs and expectations about motherhood in Bulgarian mothers: a qualitative study. *Midwifery*, 29(3), 260-267.

Staneva, A., Bogossian, F., Pritchard, M., & Wittkowski, A. (2015a). The effects of maternal depression, anxiety, and perceived stress during pregnancy on preterm birth: A systematic review. *Women and Birth (in press)*.

Staneva, A. A., Bogossian, F., & Wittkowski, A. (2015b). The experience of psychological distress, depression, and anxiety during pregnancy: A meta-synthesis of qualitative research. *Midwifery*, 31(6), 563-573.

Starks, H. & Trinidad, S. B. (2007). Choose your method: A comparison of phenomenology, discourse analysis, and grounded theory. *Qualitative Health Research*, 17, 1372-1380.

Teixeira, C., Figueiredo, B., Conde, A., Pacheco, A., & Costa, R. (2009). Anxiety and depression during pregnancy in women and men. *Journal of affective disorders*, 119(1), 142-148.

The Scottish Government. (2008). *The Early Years Framework*. The Scottish Government: Edinburgh.

Willig, C. (2008). *Introducing Qualitative Research in Psychology*. (2nd edn). Maidenhead: Open University Press.

4. Complete Reference List

- Almeida, C. P. D., Sá, E., Cunha, F. F., & Pires, E. P. (2012). Common mental disorders during pregnancy and baby's development in the first year of life. *Journal of Reproductive and Infant Psychology, 30*(4), 341-351.
- Austin, M. P. (2004). Antenatal screening and early intervention for "perinatal" distress, depression and anxiety: where to from here? *Archives of Women's Mental Health, 7*(1), 1-6.
- Austin, M. P., Tully, L., & Parker, G. (2007). Examining the relationship between antenatal anxiety and postnatal depression. *Journal of affective disorders, 101*(1), 169-174.
- Ayers, S. (2004). Delivery as a traumatic event: prevalence, risk factors, and treatment for postnatal posttraumatic stress disorder. *Clinical Obstetrics and Gynecology, 47*(3), 552-567.
- Bagner, D. M., Pettit, J. W., Lewinsohn, P. M., & Seeley, J. R. (2010). Effect of maternal depression on child behavior: a sensitive period? *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(7), 699-707.
- Bauer, A., Parsonage, M., Knapp, M., Iemmi, V., & Adelaja, B. (2014). *The costs of perinatal mental health problems*. London: London School of Economics and Political Science. http://www.centreformentalhealth.org.uk/pdfs/ Costs_of_perinatal_mh.pdf
- Beck, C. T. (2002). Postpartum depression: A meta-synthesis. *Qualitative Health Research, 12*(4), 453-472.
- Beijers, R., Buitelaar, J. K., & de Weerth, C. (2014). Mechanisms underlying the effects of prenatal psychosocial stress on child outcomes: beyond the HPA axis. *European child & adolescent psychiatry, 23*(10), 943-956.
- Bennett, H. A., Boon, H. S., Romans, S. E., & Grootendorst, P. (2007). Becoming the best mom that I can: women's experiences of managing depression during pregnancy—a qualitative study. *BMC women's health, 7*(1), 13.
- Bennett, H. A., Einarson, A., Taddio, A., Koren, G., & Einarson, T. R. (2004). Prevalence of depression during pregnancy: systematic review. *Obstetrics & Gynecology, 103*(4), 698-709.
- Bowen, A., & Muhajarine, N. (2006). Prevalence of antenatal depression in women enrolled in an outreach program in Canada. *Journal of Obstetric Gynecologic, and Neonatal Nursing, 35*, 491-498.

Bowlby, J. (1969). *Attachment: (Attachment and Loss Series, Vol 1)*. New York.

Carter, A. S., Garrity-Rokous, F. E., Chazan-Cohen, R., Little, C., & Briggs-Gowan, M. J. (2001). Maternal depression and comorbidity: predicting early parenting, attachment security, and toddler social-emotional problems and competencies. *Journal of the American Academy of Child & Adolescent Psychiatry*, 40(1), 18-26.

Chenail, R. J. (2011). Ten Steps for Conceptualizing and Conducting Qualitative Research Studies in a Pragmatically Curious Manner. *Qualitative Report*, 16(6), 1713-1730.

Choi, P., Henshaw, C., Baker, S., & Tree, J. (2005). Super mum, super wife, super everything: performing femininity in the transition to motherhood. *Journal of reproductive and infant psychology*, 23(2), 167-180.

Cox, J. L. & Holden, J. M. (2003). *Perinatal mental health: A guide to the Edinburgh Postnatal Depression Scale*. Royal College of Psychiatrists: London.

Cox, J. L., Holden, J. M. & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh postnatal depression scale. *British Journal of Psychiatry*, 150, 782-786.

Da Costa, D., Larouche, J., Dritsa, M., & Brender, W. (2000). Psychosocial correlates of prepartum and postpartum depressed mood. *Journal of Affective Disorders*, 59(1), 31-40.

Davies, J., Slade, P., Wright, I., & Stewart, P. (2008). Posttraumatic stress symptoms following childbirth and mothers' perceptions of their infants. *Infant Mental Health Journal*, 29(6), 537-554.

Deave, T. (2005). Associations between child development and women's attitudes to pregnancy and motherhood. *Journal of Reproductive and Infant Psychology*, 23(1), 63-75.

Deave, T., Heron, J., Evans, J., & Emond, A. (2008). The impact of maternal depression in pregnancy on early child development. *BJOG: An International Journal of Obstetrics & Gynaecology*, 115(8), 1043-1051.

de Bruijn, A. T., van Bakel, H. J., & van Baar, A. L. (2009). Sex differences in the relation between prenatal maternal emotional complaints and child outcome. *Early human development*, 85(5), 319-324.

Department of Health. (2014). *Closing the Gap Priorities for essential change in mental health*. London: Department of Health.

- Dimidjian, S., & Goodman, S. (2009). Nonpharmacologic intervention and prevention strategies for depression during pregnancy and the postpartum. *Clinical obstetrics and gynecology*, 52(3), 498-515.
- DiPietro, J. A., Novak, M. F., Costigan, K. A., Atella, L. D., & Reusing, S. P. (2006). Maternal psychological distress during pregnancy in relation to child development at age two. *Child development*, 77(3), 573-587.
- Duncan, L. G., & Bardacke, N. (2010). Mindfulness-based childbirth and parenting education: Promoting family mindfulness during the perinatal period. *Journal of Child and Family Studies*, 19(2), 190-202.
- Elmir, R., Schmied, V., Wilkes, L., & Jackson, D. (2010). Women's perceptions and experiences of a traumatic birth: a meta-ethnography. *Journal of Advanced Nursing*, 66(10), 2142-2153.
- Fenech, G., & Thomson, G. (2014). Tormented by ghosts from their past': A meta-synthesis to explore the psychosocial implications of a traumatic birth on maternal well-being. *Midwifery*, 30(2), 185-193.
- Field, T., Diego, M., & Hernandez-Reif, M. (2006). Prenatal depression effects on the fetus and newborn: a review. *Infant Behavior and Development*, 29(3), 445-455.
- Fonagy, P. (1997). Attachment & Theory of mind: Overlapping constructs? Association for Child Psychology and Psychiatry, Occasional Papers, 14, 31-40.
- Fonagy, P., Gergely, G., Jurist, E.L., Target, M. (2002) Affect regulation, Mentalization, and the Development of the Self. Karnac books.
- Flykt, M., Kanninen, K., Sinkkonen, J., & Punamäki, R. L. (2010). Maternal depression and dyadic interaction: the role of maternal attachment style. *Infant and Child Development*, 19(5), 530-550.
- Friedli, L., & Parsonage, M. (2007). *Mental health promotion: building an economic case*. NIAMH.
- Gavin, N. I., Gaynes, B. N., Lohr, K. N., Meltzer-Brody, S., Gartlehner, G., & Swinson, T. (2005). Perinatal depression: a systematic review of prevalence and incidence. *Obstetrics & Gynecology*, 106(5, Part 1), 1071-1083.
- Glaser, B.G. & Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine.

Gough, D., Oliver, S. & Thomas, J. (2012). *An introduction to Systematic Reviews*. Croyden, UK: Sage Publications.

Green, J. M. (1998). Postnatal depression or perinatal dysphoria? Findings from a longitudinal community-based study using the Edinburgh Postnatal Depression Scale. *Journal of Reproductive and Infant Psychology*, 16(2-3), 143-155.

Grigoriadis, S., VonderPorten, E. H., Mamisashvili, L., Tomlinson, G., Dennis, C. L., Koren, G., & Ross, L. E. (2013). The impact of maternal depression during pregnancy on perinatal outcomes: a systematic review and meta-analysis. *The Journal of clinical psychiatry*, 74(4), e321-41.

Grote, N. K., Bridge, J. A., Gavin, A. R., Melville, J. L., Iyengar, S., & Katon, W. J. (2010). A meta-analysis of depression during pregnancy and the risk of preterm birth, low birth weight, and intrauterine growth restriction. *Archives of general psychiatry*, 67(10), 1012-1024.

Grote, N. K., Swartz, H. A., Geibel, S. L., Zuckoff, A., Houck, P. R., & Frank, E. (2009). A randomized controlled trial of culturally relevant, brief interpersonal psychotherapy for perinatal depression. *Psychiatric Services*, 60(3), 313-321.

Hayes, L. J., Goodman, S. H., & Carlson, E. (2013). Maternal antenatal depression and infant disorganized attachment at 12 months. *Attachment & human development*, 15(2), 133-153.

Higgins, E. T., Klein, R., & Strauman, T. (1985). Self-concept discrepancy theory: A psychological model for distinguishing among different aspects of depression and anxiety. *Social cognition*, 3(1), 51-76

Hodgkinson, E. L., Smith, D. M., & Wittkowski, A. (2014). Women's experiences of their pregnancy and postpartum body image: a systematic review and meta-synthesis. *BMC pregnancy and childbirth*, 14(1), 330.

Hogg, Sally. (2013). *Prevention in mind: All Babies Count: spotlight on perinatal mental health*. London: NSPCC.

Horwitz, S. M., Briggs-Gowan, M. J., Storfer-Isser, A., & Carter, A. S. (2009). Persistence of maternal depressive symptoms throughout the early years of childhood. *Journal of Women's Health*, 18(5), 637-645.

Keim, S. A., Daniels, J. L., Dole, N., Herring, A. H., Siega-Riz, A. M., & Scheidt, P. C. (2011). A prospective study of maternal anxiety, perceived stress, and depressive symptoms in relation to infant cognitive development. *Early human development*, 87(5), 373-380.

- Kelly, R. H., Russo, J., & Katon, W. (2001). Somatic complaints among pregnant women cared for in obstetrics: normal pregnancy or depressive and anxiety symptom amplification revisited? *General Hospital Psychiatry, 23*(3), 107-113.
- Kingston, D., & Tough, S. (2014). Prenatal and postnatal maternal mental health and school-age child development: a systematic review. *Maternal and child health journal, 18*(7), 1728-1741.
- Koutra, K., Chatzi, L., Bagkeris, M., Vassilaki, M., Bitsios, P., & Kogevinas, M. (2013). Antenatal and postnatal maternal mental health as determinants of infant neurodevelopment at 18 months of age in a mother–child cohort (Rhea Study) in Crete, Greece. *Social psychiatry and psychiatric epidemiology, 48*(8), 1335-1345.
- Lancaster, C. A., Gold, K. J., Flynn, H. A., Yoo, H., Marcus, S. M., & Davis, M. M. (2010). Risk factors for depressive symptoms during pregnancy: a systematic review. *American journal of obstetrics and gynecology, 202*(1), 5-14.
- Larkin, M., & Griffiths, M. D. (2004). Dangerous sports and recreational drug-use: rationalizing and contextualizing risk. *Journal of community & applied social psychology, 14*(4), 215-232.
- Leifer, M. (1977). Psychological changes accompanying pregnancy and motherhood. *Genetic psychology monographs.*
- Lewis, S. E. & Nicolson, P. (1998). Talking about early motherhood: Recognizing loss and reconstructing depression. *Journal of Reproductive and Infant Psychology, 16* (2-3), 177-197.
- Lovejoy, M. C., Graczyk, P. A., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior: A meta-analytic review. *Clinical psychology review, 20*(5), 561-592.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour research and therapy, 33*(3), 335-343.
- Marcus, S. M., Flynn, H. A., Blow, F. C., & Barry, K. L. (2003). Depressive symptom among pregnant women screened in obstetric settings. *Journal of Women's Health, 12*(4), 373-380.
- Matthey, S., Barnett, B., Ungerer, J., & Waters, B. (2000). Paternal and maternal depressed mood during the transition to parenthood. *Journal of affective disorders, 60*(2), 75-85.

- Mercer, R. T. (2004). Becoming a mother versus maternal role attainment. *Journal of nursing scholarship*, 36(3), 226-232.
- Milgrom, J., Westley, D. T., & Gemmill, A. W. (2004). The mediating role of maternal responsiveness in some longer term effects of postnatal depression on infant development. *Infant Behavior and Development*, 27(4), 443-454.
- Miller, R. L., Pallant, J. F., & Negri, L. M. (2006). Anxiety and stress in the postpartum: Is there more to postnatal distress than depression?. *BMC psychiatry*, 6(1), 12.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G. (2009). The PRISMA Group Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement.
- Murray, D., & Cox, J. L. (1990). Screening for depression during pregnancy with the Edinburgh Depression Scale (EDDS). *Journal of Reproductive and Infant psychology*, 8(2), 99-107.
- Murray, L., & Carothers, A. D. (1990). The validation of the Edinburgh Post-natal Depression Scale on a community sample. *The British Journal of Psychiatry*, 157(2), 288-290.
- National Institute for Health and Clinical Excellence (2012). Methods for the development of NICE public health guidance (third edition). NICE: London.
- National Institute for Health and Clinical Excellence (NICE). (2014). *Nice Clinical guideline CG192. Antenatal and postnatal mental health: Clinical management and service guidance*. NICE: London.
- NHS Education for Scotland. (2006). Perinatal Mental Health Curricular Framework. Edinburgh: NES.
- Nicolson, P. (1990). Understanding postnatal depression: a mother-centred approach. *Journal of Advanced Nursing*, 15(6), 689-695.
- Nicolson, P. (1999). Loss, happiness and postpartum depression: The ultimate paradox. *Canadian Psychology*, 40 (2), 162.
- O'Connor, T. G., Heron, J., Golding, J., & Glover, V. (2002). Maternal antenatal anxiety and children's behavioural/emotional problems at 4 years. Report from the Avon Longitudinal Study of Parents and Children. *British Journal of Psychiatry*, 180, 502-508.
- O'Hara, M., & Gorman, L.L. (2004). Can postpartum depression be predicted? *Prim. Psychiatry* 11, 42-47.

Olde, E., van der Hart, O., Kleber, R., & Van Son, M. (2006). Posttraumatic stress following childbirth: a review. *Clinical psychology review*, 26(1), 1-16.

Parfitt, Y. M., & Ayers, S. (2009). The effect of post-natal symptoms of post-traumatic stress and depression on the couple's relationship and parent–baby bond. *Journal of Reproductive and Infant Psychology*, 27(2), 127-142.

Pearson, R. M., Evans, J., Kounali, D., Lewis, G., Heron, J., Ramchandani, P. G., et al. (2013). Maternal depression during pregnancy and the postnatal period: risks and possible mechanisms for offspring depression at age 18 years. *JAMA psychiatry*, 70(12), 1312-1319.

Phoenix, A., & Woollett, A. (1996). Motherhood as pedagogy: Contrasting feminist and developmental psychology accounts. In C. Luke (Ed.), *Feminisms and Pedagogies of Everyday Life*. (pp. 80-102). New York, USA: State University of New York Press.

Poobalan, A. S., Aucott, L. S., Ross, L., Smith, W. C. S., Helms, P. J., & Williams, J. H. (2007). Effects of treating postnatal depression on mother–infant interaction and child development. *The British journal of psychiatry*, 191(5), 378-386.

Ramsay, R. (1993). Postnatal depression. *The Lancet*, 342(8883), 1358. Chicago.

Reid K., Flowers P. & Larkin, M. (2005) Exploring lived experience. *The Psychologist* 8, 20–23.

Robertson, E., Grace, S., Wallington, T., & Stewart, D. E. (2004). Antenatal risk factors for postpartum depression: a synthesis of recent literature. *General hospital psychiatry*, 26(4), 289-295.

Ross, L. E., Grigoriadis, S., Mamisashvili, L., VonderPorten, E. H., Roerecke, M., Rehm, J., et al. (2013). Selected pregnancy and delivery outcomes after exposure to antidepressant medication: a systematic review and meta-analysis. *JAMA psychiatry*, 70(4), 436-443.

Rubertsson, C., Hellström, J., Cross, M., & Sydsjö, G. (2014). Anxiety in early pregnancy: prevalence and contributing factors. *Archives of women's mental health*, 17(3), 221-228.

Sanderson, S., Tatt, I.D. & Higgins, J.P.T. (2007). Tools for assessing quality and susceptibility to bias in observational studies in epidemiology: a systematic review and annotated bibliography. *International Journal of Epidemiology*: 36, 666-676.

Sandman, C. A., Davis, E. P., & Glynn, L. M. (2012). Prescient human fetuses thrive. *Psychological science*, 23(1), 93-100.

Sanger, C., Iles, J. E., Andrew, C. S., & Ramchandani, P. G. (2015). Associations between postnatal maternal depression and psychological outcomes in adolescent offspring: a systematic review. *Archives of women's mental health, 18*(2), 147-162.

Schore, A. N. (2001). Effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant mental health journal, 22*(1-2), 7-66.

Schreiber, R. (1996). Understanding and helping depressed women. *Archives of psychiatric nursing, 10*(3), 165-175.

Scottish Intercollegiate Guidelines Network (SIGN). Management of perinatal mood disorders. Edinburgh: SIGN; 2012. (SIGN publication no. 127). [March 2012]. Available from URL: <http://www.sign.ac.uk>.

Scottish Intercollegiate Guidelines Network (SIGN). SIGN 50: a guideline developer's handbook. Edinburgh: SIGN; 2014. (SIGN publication no. 50). [October 2014]. Available from URL: <http://www.sign.ac.uk>

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). Experimental and quasi-experimental designs for generalized causal inference. Boston, MA: Houghton Mifflin.

Skouteris, H., Wertheim, E. H., Rallis, S., Milgrom, J., & Paxton, S. J. (2009). Depression and anxiety through pregnancy and the early postpartum: an examination of prospective relationships. *Journal of affective disorders, 113*(3), 303-308.

Slade, A. (2005). Parental reflective functioning: An introduction. *Attachment & human development, 7*(3), 269-281.

Smith, J. (2011). Evaluating the contribution of Interpretative Phenomenological Analysis. *Health Psychology Review, 5*, 9-27.

Smith, J., A., Flowers, P. & Larkin, M. (2009). Interpretative Phenomenological Analysis; Theory, Method and Research. London: Sage.

Staneva, A., & Wittkowski, A. (2013). Exploring beliefs and expectations about motherhood in Bulgarian mothers: a qualitative study. *Midwifery, 29*(3), 260-267.

Staneva, A., Bogossian, F., Pritchard, M., & Wittkowski, A. (2015a). The effects of maternal depression, anxiety, and perceived stress during pregnancy on preterm birth: A systematic review. *Women and Birth (in press)*.

- Staneva, A. A., Bogossian, F., & Wittkowski, A. (2015b). The experience of psychological distress, depression, and anxiety during pregnancy: A meta-synthesis of qualitative research. *Midwifery*, 31(6), 563-573.
- Starks, H. & Trinidad, S. B. (2007). Choose your method: A comparison of phenomenology, discourse analysis, and grounded theory. *Qualitative Health Research*, 17, 1372-1380.
- Stein, A., Pearson, R. M., Goodman, S. H., Rapa, E., Rahman, A., McCallum, M., et al. (2014). Effects of perinatal mental disorders on the fetus and child. *The Lancet*, 384, 1800-1819.
- Stuart, S., Couser, G., Schilder, K., O'HARA, M. W., & Gorman, L. (1998). Postpartum anxiety and depression: onset and co morbidity in a community sample. *The Journal of nervous and mental disease*, 186(7), 420-424.
- Teixeira, C., Figueiredo, B., Conde, A., Pacheco, A., & Costa, R. (2009). Anxiety and depression during pregnancy in women and men. *Journal of affective disorders*, 119(1), 142-148.
- The Scottish Government. (2008). *The Early Years Framework*. The Scottish Government: Edinburgh.
- The Scottish Government. (2009). *Better health, better care: National delivery plan for children and young people's specialist services in Scotland*. The Scottish Government: Edinburgh.
- The Scottish Government. (2011). *A refreshed framework for maternity care in Scotland: The maternity services action group*. The Scottish Government: Edinburgh.
- Tse, A. C., Rich-Edwards, J. W., Rifas-Shiman, S. L., Gillman, M. W., & Oken, E. (2010). Association of maternal prenatal depressive symptoms with child cognition at age 3 years. *Paediatric and perinatal epidemiology*, 24(3), 232-240.
- Van Elm, E., Altman, G., Egger, M., Pocock, S. J., Gotsche, P. C. & Vandembrouke, J. P. (2008). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Journal of Clinical Epidemiology*, 61, 344-349.
- Velders, F. P., Dieleman, G., Henrichs, J., Jaddoe, V. W., Hofman, A., Verhulst, F. C., ... & Tiemeier, H. (2011). Prenatal and postnatal psychological symptoms of parents and family functioning: the impact on child emotional and behavioural problems. *European child & adolescent psychiatry*, 20(7), 341-350.

Waters, C. S., Hay, D. F., Simmonds, J. R., & van Goozen, S. H. (2014). Antenatal depression and children's developmental outcomes: potential mechanisms and treatment options. *European child & adolescent psychiatry*, 23(10), 957-971.

Whitney, C.W., Lind, B.K., and Wahl, P.W. (1998). Quality assurance and quality control in longitudinal studies. *Epidemiologic Review*: 20 (1), 71-80.

Willig, C. (2008). *Introducing Qualitative Research in Psychology*. (2nd edn). Maidenhead: Open University Press.

Woods, S. M., Melville, J. L., Guo, Y., Fan, M. Y., & Gavin, A. (2010). Psychosocial stress during pregnancy. *American journal of obstetrics and gynecology*, 202(1), 61-e1.

5. Table of Appendices

Systematic Review

Appendix 1	Author Guidelines for the Journal of Reproductive and Infant Psychology
Appendix 2	Full search terms for each database searched
Appendix 3	Excluded articles after reviewing full text
Appendix 4	Quality Criteria used to rate the methodological quality of the included studies
Appendix 5	Summary of quality ratings for reviewed studies

Empirical Paper

Appendix 6	Participant invitation letter and poster
Appendix 7	Participant information sheet
Appendix 8	Interview guide
Appendix 9	Ethics approval letter
Appendix 10	Ethics amendment letter 1
Appendix 11	Ethics amendment letter 2
Appendix 12	Ethics amendment letter 3
Appendix 13	R&D approval letter
Appendix 14	Reflective Commentary
Appendix 15	Example of emergent themes from Kate's interview
Appendix 16	Transcript example

Appendix 1: Author Guidelines for the Journal of Reproductive and Infant Psychology

This journal uses ScholarOne Manuscripts (previously Manuscript Central) to peer review manuscript submissions. Please read the guide for ScholarOne authors before making a submission. Complete guidelines for preparing and submitting your manuscript to this journal are provided below.

Use these instructions if you are preparing a manuscript to submit to *Journal of Reproductive and Infant Psychology*. To explore our journals portfolio, visit <http://www.tandfonline.com>, and for more author resources, visit our [Author Services](#) website.

Journal of Reproductive and Infant Psychology considers all manuscripts on the strict condition that

- the manuscript is your own original work, and does not duplicate any other previously published work, including your own previously published work.
- the manuscript has been submitted only to *Journal of Reproductive and Infant Psychology*; it is not under consideration or peer review or accepted for publication or in press or published elsewhere.
- the manuscript contains nothing that is abusive, defamatory, libellous, obscene, fraudulent, or illegal.

Please note that *Journal of Reproductive and Infant Psychology* uses **CrossCheck™** software to screen manuscripts for unoriginal material. By submitting your manuscript to *Journal of Reproductive and Infant Psychology* you are agreeing to any necessary originality checks your manuscript may have to undergo during the peer-review and production processes.

Any author who fails to adhere to the above conditions will be charged with costs which *Journal of Reproductive and Infant Psychology* incurs for their manuscript at the discretion of the *Journal of Reproductive and Infant Psychology's* Editors and Taylor & Francis, and their manuscript will be rejected.

Topics of interest to the journal include psychological, behavioural, cognitive, affective, dynamic, medical, societal and social aspects of: fertility and infertility; menstruation and menopause; pregnancy and childbirth; antenatal preparation; motherhood and fatherhood; early infancy; infant feeding; early parent-child relationships; postnatal psychological disturbance and psychiatric illness; obstetrics and gynecology including preparation for medical procedures; psychology of women; nursing, midwifery, neonatal care, health visiting, health promotion and health psychology.

The journal also publishes brief reports, comment articles and special issues dealing with innovative and controversial topics. A review section reports on new books and training material.

This journal is compliant with the Research Councils UK OA policy. Please see the licence options and embargo periods [here](#).

Manuscript preparation

1. General guidelines

- Manuscripts are accepted only in English. Please use single quotation marks, except where 'a quotation is "within" a quotation'. Long quotations of 40 words or more should be indented without quotation marks.
- Use British spelling (e.g. colour, organisation) but note the journal's use of 'fetal' not 'foetal'. Use British punctuation conventions. Initials and acronym (e.g. US, BBC) do not have full points between them.
- Use capitalisation sparingly. Use lower case when using general terms (e.g. committee, council, state/provincial agencies).
- Numbers: spell out one to nine, then use numerals with commas for 10,000 and upwards: 10, 1000, 10,000. Use '%' not 'percent'.
- A typical manuscript will not exceed 3500 words (2500 words for short reports) not including tables/references/figure captions/footnotes/endnotes. Contributions should be as concise as possible. Manuscripts that greatly exceed this will be critically reviewed with respect to length. Authors should include a word count with their manuscript.
- The title should not exceed 15 words and the references should be no more than 50 in number. Section headings should be concise.
- Manuscripts should be compiled in the following order: title page (including Acknowledgements as well as Funding and grant-awarding bodies); abstract; keywords; main text; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figure caption(s) (as a list).
- **Abstracts** of no more than 250 words are required for all manuscripts submitted. The abstract should be structured **Objective, Background, Methods** (to include design and participants), **Results**, and **Conclusion**.
- Each manuscript should have 5 or 6 **keywords**.
- Search engine optimization (SEO) is a means of making your article more visible to anyone who might be looking for it. Please consult our guidance [here](#).
- All authors of a manuscript should include their full ids, affiliations, postal addresses, telephone numbers and email addresses on the cover page of the manuscript. One author should be identified as the corresponding author. Please give the affiliation where the research was conducted. If any of the individual co-authors moves affiliation during the peer review process, the new affiliation can be given as a footnote. Please note that no changes to affiliation can be made after the manuscript is accepted. Please note that the email address of the corresponding author will normally be displayed in the article PDF (depending on the journal style) and the online article.
- All persons who have a reasonable claim to authorship must be included in the manuscript as co-authors; the corresponding author must be authorized by all co-authors to act as an agent on their behalf in all matters pertaining to publication of the manuscript, and the order of ids should be agreed by all authors.
- Biographical notes on contributors are not required for this journal.
- Authors must also incorporate a **Disclosure Statement** which will acknowledge any financial interest or benefit they have arising from the direct applications of their research.
- For all manuscripts non-discriminatory language is mandatory. Sexist or racist terms must not be used.
- Authors must adhere to **SI units**. Units are not italicised.
- When using a word which is or is asserted to be a proprietary term or trade mark, authors must use the symbol ® or TM.

- Authors must not embed equations or image files within their manuscript.

2. Style guidelines

- [Advice to authors on preparing a manuscript](#)
- [Description of the Journal's reference style](#).
- An EndNote output style is available for this journal.
- [Guide to using mathematical symbols and equations](#) .
- [Word templates](#) are available for this journal. If you are not able to use the template via the links or if you have any other template queries, please contact authortemplate@tandf.co.uk .

3. Figures

- Please provide the highest quality figure format possible. **Please be sure that all imported scanned material is scanned at the appropriate resolution: 1200 dpi for line art, 600 dpi for gray scale and 300 dpi for colour.**
- Figures must be saved separate to text. Please do not embed figures in the manuscript file.
- Files should be saved as one of the following formats: TIFF (tagged image file format), PostScript or EPS (encapsulated PostScript), and should contain all the necessary font information and the source file of the application (e.g. CorelDraw/Mac, CorelDraw/PC).
- All figures must be numbered in the order in which they appear in the manuscript (e.g. Figure 1, Figure 2). In multi-part figures, each part should be labelled (e.g. Figure 1(a), Figure 1(b)).
- Figure captions must be saved separately, as part of the file containing the complete text of the manuscript, and numbered correspondingly.
- The file id for a graphic should be descriptive of the graphic, e.g. Figure1, Figure2a.

4. Publication charges

Submission fee

There is no submission fee for Journal of Reproductive and Infant Psychology.

Page charges

There are no page charges for Journal of Reproductive and Infant Psychology.

Colour charges

Colour figures will be reproduced in colour in the online edition of the journal free of charge. If it is necessary for the figures to be reproduced in colour in the print version, a charge will apply. Charges for colour figures in print are £250 per figure (\$395 US Dollars; \$385 Australian Dollars; 315 Euros). For more than 4 colour figures, figures 5 and above will be charged at £50 per figure (\$80 US Dollars; \$75 Australian Dollars; 63 Euros).

Depending on your location, these charges may be subject to [Value Added Tax](#).

5. Reproduction of copyright material

If you wish to include any material in your manuscript in which you do not hold copyright, you must obtain written permission from the copyright owner, prior to submission. Such material may be in the form of text, data, table, illustration, photograph, line drawing, audio clip, video clip, film still, and screenshot, and any supplemental material you propose to include. This applies to direct (verbatim or facsimile) reproduction as well as “derivative reproduction” (where you have created a new figure or table which derives substantially from a copyrighted source).

You must ensure appropriate acknowledgement is given to the permission granted to you for reuse by the copyright holder in each figure or table caption. You are solely responsible for any fees which the copyright holder may charge for reuse.

The reproduction of short extracts of text, excluding poetry and song lyrics, for the purposes of criticism may be possible without formal permission on the basis that the quotation is reproduced accurately and full attribution is given.

For further information and FAQs on the reproduction of copyright material, please consult our [Guide](#).

6. Supplemental online material

Authors are encouraged to submit animations, movie files, sound files or any additional information for online publication.

· [Information about supplemental online material](#)

Manuscript submission

All submissions should be made online at the *Journal of Reproductive and Infant Psychology* [ScholarOne Manuscripts site](#) . New users should first create an account. Once logged on to the site, submissions should be made via the Author Centre. Online user guides and access to a helpdesk are available on this website.

Manuscripts may be submitted in any standard format, including Word and EndNote. These files will be automatically converted into a PDF file for the review process. LaTeX files should be converted to PDF prior to submission because ScholarOne Manuscripts is not able to convert LaTeX files into PDFs directly. All LaTeX source files should be uploaded alongside the PDF.

Click here for [information regarding anonymous peer review](#).

Copyright and authors' rights

To assure the integrity, dissemination, and protection against copyright infringement of published articles, you will be asked to assign to the Society for Reproductive and Infant Psychology, via a Publishing Agreement, the copyright in your article. Your Article is defined as the final, definitive, and citable Version of Record, and includes: (a) the accepted manuscript in its final form, including the abstract, text, bibliography, and all accompanying tables, illustrations, data; and (b) any supplemental material hosted by Taylor & Francis. Our Publishing Agreement with you will constitute the entire agreement and the sole understanding between the Society for Reproductive and Infant Psychology and you; no amendment, addendum, or other communication will be taken into account when interpreting your and the Society for Reproductive and Infant Psychology rights and obligations under this Agreement.

Free article access

As an author, you will receive free access to your article on Taylor & Francis Online. You will be given access to the *My authored works* section of Taylor & Francis Online, which shows you all your published articles. You can easily view, read, and download your published articles from there. In addition, if someone has cited your article, you will be able to see this information.

We are committed to promoting and increasing the visibility of your article and have provided [guidance on how you can help](#). Also within *My authored works*, author eprints allow you as an author to quickly and easily give anyone free access to the electronic version of your article so that your friends and contacts can read and download your published article for free. This applies to all authors (not just the corresponding author).

Reprints and journal copies

Corresponding authors can receive a complimentary copy of the issue containing their article. Article reprints can be ordered through Rightslink® when you receive your proofs. If you have any queries about reprints, please contact the Taylor & Francis Author Services team at reprints@tandf.co.uk. To order extra copies of the issue containing your article, please contact

our Customer Services team at Adhoc@tandf.co.uk.

Open access

Taylor & Francis Open Select provides authors or their research sponsors and funders with the option of paying a publishing fee and thereby making an article permanently available for free online access – *open access* – immediately on publication to anyone, anywhere, at any time. This option is made available once an article has been accepted in peer review.

Last updated 13 March 2014

Appendix 2: Full search terms for each database

PsycINFO Search Strategy: via OVID from 1987 to March week 5 2015

Search Terms	
1	Major Depression/
2	Depressive disorder.mp.
3	Affective Disorders/
4	Maternal depression.mp.
5	Antenatal depression.mp.
6	"Depression (Emotion)"/
7	Depressi*.mp.
8	Dysthymic Disorder/
9	prenatal.mp.
10	Expectant Mothers/
11	Pregnant wom*.mp.
12	Perinatal Period/
13	Pregnancy/
14	Childhood Development/
15	Early Childhood Development/
16	Infant Development/
17	Emotional Development/
18	Psychosocial Development/
19	Language Development/
20	Mother Child Relations/
21	Child outcome*.mp.
22	Infant outcome*.mp.
23	Antepartum depression.mp.
24	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 23
25	antenatal.mp.
26	9 or 10 or 11 or 12 or 13 or 25
27	Cognitive development/
28	behavioral development.mp.
29	behavioural development.mp.
30	14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 27 or 28 or 29
31	24 and 26 and 30

Medline search strategy: Via Ovid MEDLINE(R) 1946 to March Week 5 2015

Search Terms	
1	Depression/
2	Depressive Disorder/
3	Dysthymic Disorder/
4	Mood Disorders/
5	Depressive Disorder, Major/
6	Depressi*.mp.
7	Maternal depression.mp.
8	Antenatal depression.mp.
9	Pregnancy/
10	antenatal.mp.
11	prenatal.mp.

12	Pregnant Women/
13	pregnant wom*.mp.
14	perinatal.mp.
15	Child Development/
16	Child outcome*.mp.
17	Cognitive development.mp.
18	Infant development.mp.
19	Emotional development.mp.
20	psychosocial development.mp.
21	Language Development/
22	Behavioural development.mp.
23	Behavioral development.mp.
24	Mother-Child Relations/
25	infant outcome*.mp.
26	antepartum depression.mp.
27	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 26
28	9 or 10 or 11 or 12 or 13 or 14
29	29. 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25
30	27 and 28 and 29

EMBASE search strategy: Via OVID/ from Embase 1980 to 2015

Search Terms	
1	Depression/
2	major depression/
3	depressive disorder.mp.
4	dysthymia/
5	mood disorder/
6	maternal depression.mp.
7	antenatal depression.mp.
8	depressi*.mp.
9	pregnancy/
10	antenatal.mp.
11	prenatal.mp.
12	expectant mother/
13	pregnant wom*.mp.
14	pregnant woman/
15	perinatal period/
16	child development/
17	cognitive development/
18	emotional development.mp.
19	psychosocial development/
20	language development/
21	behavioural development.mp.
22	behavioral development.mp.
23	mother child relation/
24	child outcome*.mp.
25	infant outcome*.mp.
26	antepartum depression.mp.
27	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 26
28	9 or 10 or 11 or 12 or 13 or 14 or 15

29	16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25
30	27 and 28 and 29

CINHAL: via EBSCOHOST

Search Terms	
1	(MH "Depression")
2	"major depression"
3	"depressive disorder"
4	(MH "Affective Disorders")
5	(MH "Dysthymic Disorder")
6	"maternal depression"
7	"antenatal depression"
8	"depressi*"
9	"antepartum depression"
10	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9
11	(MH "Pregnancy")
12	"antenatal"
13	"prenatal"
14	(MH "Expectant Mothers")
15	"pregnant wom*"
16	"perinatal period"
17	S11 OR S12 OR S13 OR S14 OR S15 OR S16
18	(MH "Child Development")
19	(MH "Infant Development")
20	"child outcome"
21	"infant outcome"
22	"cognitive development"
23	"emotional development"
24	"psychosocial development"
25	(MH "Language Development")
26	(MH "Mother-Child Relations")
27	(MH "Mother-Infant Relations")
28	S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27
29	S10 AND S17 AND S27

Appendix 3: Excluded articles after reviewing full text

	Article Reference	Reason for Exclusion
1	Barker, E. D. (2013). The duration and timing of maternal depression as a moderator of the relationship between dependent interpersonal stress, contextual risk and early child dysregulation. <i>Psychological Medicine</i> , 43(8), 1587–96.	Part of the AVON study – used duplicate data
2	Bergman, K., Sarkar, P., O' Connor, T. G., Modi, N., & Glover, V. (2007). Maternal stress during pregnancy predicts cognitive ability and fearfulness in infancy. <i>Journal of the American Academy of Child & Adolescent Psychiatry</i> , 46(11), 1454-1463.	Did not use or report measure of antenatal depression.
3	Casper, R. C., Fleisher, B. E., Lee-Ancas, J. C., Gilles, A., Gaylor, E., DeBattista, A., & Hoyme, H. E. (2003). Follow-up of children of depressed mothers exposed or not exposed to antidepressant drugs during pregnancy. <i>The Journal of pediatrics</i> , 142(4), 402-408.	No 'not depressed' control group
4	Cents, R. A. M., Diamantopoulou, S., Hudziak, J. J., Jaddoe, V. W. V., Hofman, A., Verhulst, F. C., ... & Tiemeier, H. (2013). Trajectories of maternal depressive symptoms predict child problem behaviour: the Generation R study. <i>Psychological medicine</i> , 43(01), 13-25.	Part of the Generation study – used duplicate data
5	Field, T., Diego, M., Hernandez-Reif, M., Figueiredo, B., Deeds, O., Ascencio, A., ... & Kuhn, C. (2010). Comorbid depression and anxiety effects on pregnancy and neonatal outcome. <i>Infant Behavior and Development</i> , 33(1), 23-29.	No child outcome measured or reported
6	Gerardin, P. (2012). Spécificité et enjeux de la dépression de la grossesse. Principaux résultats d'une recherche longitudinale sur les dépressions du péripartum, du troisième trimestre de grossesse au 12 e mois de l'enfant. <i>Neuropsychiatrie de l'Enfance et de l'Adolescence</i> , 60(2), 138-146.	Not available in English
7	Goodman, S. H., Rouse, M. H., Long, Q., Ji, S., & Brand, S. R. (2011). Deconstructing antenatal depression: What is it that matters for neonatal behavioral functioning? <i>Infant Mental Health Journal</i> , 32(3), 339-361.	Tested offspring out with age range of review
8	Hanington, L., Heron, J., Stein, A., & Ramchandani, P. (2012). Parental depression and child outcomes—is marital conflict the missing link?. <i>Child: care, health and development</i> , 38(4), 520-529.	Part of the AVON study – used duplicate data
9	Laurent, H. K., Ablow, J. C., & Measelle, J. (2011). Risky shifts: How the timing and course of mothers' depressive symptoms across the perinatal period shape their own and infant's stress response profiles. <i>Development and psychopathology</i> , 23(02), 521-538.	No child outcome measured or reported
10	Luoma, I., Kaukonen, P., Mäntymaa, M., Puura, K., Tamminen, T., & Salmelin, R. (2004). A longitudinal study of maternal depressive symptoms, negative expectations and perceptions of child problems. <i>Child psychiatry and human development</i> , 35(1), 37-53.	Tested offspring out with age range of review

	Article Reference	Reason for Exclusion
11	Marcus, S., Lopez, J. F., McDonough, S., MacKenzie, M. J., Flynn, H., Neal, C. R., ... & Vazquez, D. M. (2011). Depressive symptoms during pregnancy: impact on neuroendocrine and neonatal outcomes. <i>Infant Behavior and Development</i> , 34(1), 26-34.	Tested offspring out with age range of review
12	McGrath, J. M., Records, K., & Rice, M. (2008). Maternal depression and infant temperament characteristics. <i>Infant Behavior and Development</i> , 31(1), 71-80.	Tested offspring out with age range of review
13	Melchior, M., Chastang, J. F., de Lauzon, B., Galéra, C., Saurel-Cubizolles, M. J., Larroque, B., & EDEN Mother–Child Cohort Study Group. (2012). Maternal depression, socioeconomic position, and temperament in early childhood: The EDEN mother–child cohort. <i>Journal of affective disorders</i> , 137(1), 165-169.	No child outcome measured or reported
14	Mohan, D., Fitzgerald, M., & Collins, C. (1998). The relationship between maternal depression (antenatal and pre-school stage) and childhood behavioural problems. <i>Irish Journal of Psychological Medicine</i> , 15(01), 10-13.	No access to full text of article
15	Ohoka, H., Koide, T., Goto, S., Murase, S., Kanai, A., Masuda, T., ... & Ozaki, N. (2014). Effects of maternal depressive symptomatology during pregnancy and the postpartum period on infant–mother attachment. <i>Psychiatry and clinical neurosciences</i> , 68(8), 631-639.	Tested offspring out with age range of review
16	Parfitt, Y., Pike, A., & Ayers, S. (2014). Infant developmental outcomes: A family systems perspective. <i>Infant and Child Development</i> , 23(4), 353-373.	No child outcome measured or reported
17	Pearson, R. M., Melotti, R., Heron, J., Joinson, C., Stein, A., Ramchandani, P. G., & Evans, J. (2012). Disruption to the development of maternal responsiveness? The impact of prenatal depression on mother–infant interactions. <i>Infant Behavior and Development</i> , 35(4), 613-626.	Part of the AVON study – used duplicate data
18	Perren, S., Von Wyl, A., Bürgin, D., Simoni, H., & Von Klitzing, K. (2005). Depressive symptoms and psychosocial stress across the transition to parenthood: Associations with parental psychopathology and child difficulty. <i>Journal of Psychosomatic Obstetrics & Gynecology</i> , 26(3), 173-183.	No child outcome measured or reported
19	Sandman, C. A., Buss, C., Head, K., & Davis, E. P. (2015). Fetal exposure to maternal depressive symptoms is associated with cortical thickness in late childhood. <i>Biological psychiatry</i> , 77(4), 324-334.	No access to full text of article
20	Spittle, A. J., Thompson, D. K., Brown, N. C., Treyvaud, K., Cheong, J. L., Lee, K. J., ... & Anderson, P. J. (2014). Neurobehaviour between birth and 40 weeks' gestation in infants born < 30 weeks' gestation and parental psychological wellbeing: predictors of brain development and child outcomes. <i>BMC pediatrics</i> , 14(1), 111.	Study protocol
21	Zuckerman, B., Bauchner, H., Parker, S., & Cabral, H. (1990). Maternal depressive symptoms during pregnancy, and newborn irritability. <i>Journal of Developmental & Behavioral Pediatrics</i> , 11(4), 190-194.	Tested offspring out with age range of review

Appendix 4: Quality Criteria used to rate the methodological quality of the included studies

Full Review Question: What is the effect of antenatal depression on early child development?

	Quality Criteria
1	Rationale and theoretical background for the investigated variables
2	Participant characteristics reported including ethnicity, SES, age range and location of study centres
3	Sampling strategy and representativeness of the target population
4	Percentage of participants asked to participate and who consented to participate reported.
5	Measure of maternal antenatal depression is reliable and valid
6	Sample size & power
7	Measures of child/infant development is reliable and valid
8	Appropriate analysis has been performed on the data
9	Confidence intervals, means, standard deviations and p-values are reported where appropriate
10	Analysis can be carried out in a way that takes consideration of confounding variables
11	External validity

1 – Rationale and theoretical background for the investigated variables

Well covered	There is a clear rationale and theoretical background that links to clearly defined study aims and objectives. There is a clear explanation of, and justification for, the focus of the research.
Adequately addressed	There is some description for rationale and theoretical background for research, however this is less clearly defined or weaker in the context of the study aims and objectives.
Poorly addressed	There is a lack of clarity of the rationale and study aims /objectives
Not addressed	The study does not provide a clear rationale and no study aims or objectives are given. No explanation is given as to why.
Not reported	The study does not provide a clear rationale and no study aims or objectives are given, however an explanation is given as to why not.
Not applicable	

2 – Participant characteristics reported including ethnicity, SES, age range and location of study centres.

Well covered	Sample characteristics have been described fully and information on all of the above quality category participant characteristics are reported.
Adequately addressed	At least 3 out of the 4 quality category characteristics are reported.
Poorly addressed	Only 1 or 2 out of the 4 quality category characteristics are reported, or only characteristic not identified by quality criteria are reported.
Not addressed	No participant characteristics are reported and no explanation given as to why.
Not reported	No participant characteristics are reported, an explanation is given as to why not.
Not applicable	

3- Sampling strategy and representativeness of the target population.

Well covered	There is a clear description of the recruitment strategy AND the inclusion/exclusion criteria are clearly described AND the eligible population was representative of the target population.
Adequately addressed	The method of selection is addressed, but there is likely to be bias in those approached and/or those that agreed to participate, and they do not best represent the target population. The inclusion/exclusion criteria is not outlined clearly, though they can be ascertained from the details given.
Poorly addressed	The method of selection is poorly defined and there is a strong possibility of bias in those that were approached and/or those that agreed to take part. No inclusion/exclusion criteria defined.
Not addressed	No sampling strategy is reported and no explanation is given as to why.
Not reported	No sampling strategy is reported, an explanation is given as to why.
Not applicable	

4 – Percentage of participants asked to participate and who consented to participate reported.

Well covered	Reports percentage who consented to participate and precise information given about number of people invited to participate AND includes characteristic information regarding who did and did not chose to take part.
Adequately addressed	Reports percentage who were approached and consented to participate and precise information given about number of people invited to participate. Does not include characteristics of those who did and did not choose to participate.
Poorly addressed	Reports percentage who consented to take part only. NO information given about numbers of those who did not choose to participate OR characteristics of such people.
Not addressed	No information provided on the above provided.
Not reported	No information is provided, an explanation is provided as to why not.
Not applicable	

5 – Measure of maternal antenatal depression is reliable and valid

Well covered	The measure has been shown to be reliable and valid with antenatal women.
Adequately addressed	The measure is generally reliable and valid but this has not been evidenced in an antenatal population.
Poorly addressed	There is little or no evidence for the general reliability and validity of the measure.
Not addressed	Reliability and validity is not reported.
Not reported	Reliability and validity is not reported, an explanation is provided as to why not.
Not applicable	

6 – Sample size & power

Well covered	Power calculation was completed using a reasonable effect size estimation and is clearly reported. There is a sufficient sample size in all groups.
Adequately addressed	Power calculation was completed using a reasonable effect size estimation and is clearly reported. There is an insufficient sample size within one or more groups.
Poorly addressed	Power calculation is carried out, however there is no evidence to support the use of the effect size estimation used. The sample size may or may not have been achieved.
Not addressed	No power calculation is reported.
Not reported	No power calculation is reported, an explanation is given as to why not.
Not applicable	

7 – Measure of child/infant development is reliable and valid.

Well covered	The measure of development is evidenced to have strong psychometric properties and has been demonstrated for use in the infant population
Adequately addressed	The measure of development is evidenced to have less good psychometric properties AND has been evidenced for use in the infant population.
Poorly addressed	The measure of development is evidenced to have weak psychometric properties AND/OR has not been demonstrated for use in the infant population.
Not addressed	Reliability and validity not reported.
Not reported	Reliability and validity is not reported, an explanation is provided as to why not.
Not applicable	

8 – Appropriate analysis has been performed on the data

Well covered	Comprehensive preliminary analysis and analysis of main hypothesis carried out. Analysis appropriate to number and type of variables is carried out.
Adequately addressed	Some preliminary analysis carried out, although this could be more thorough. Main analysis appropriate to number and type is carried out.
Poorly addressed	Limited analysis carried out and this is difficult to interpret AND/OR type of analysis is not specified AND/OR analysis not appropriate to number and types of variables.
Not addressed	Details of analysis not reported.
Not reported	Details of analysis not reported, explanation provided as to why not.
Not applicable	

9 –Confidence intervals, means, standard deviations and p-values are reported.

Well covered	The results of association are clearly reported. Confidence intervals, means, standard deviations and p-values clearly reported for every analysis (where appropriate).
Adequately addressed	The results of associations are not fully reported and are less clear, however are calculable. Reporting of confidence intervals, means, standard deviations and p-values is provided but is less clear.
Poorly addressed	Confidence intervals, p-value, means and standard deviations reported for only some analyses (where appropriate).
Not	No information pertaining to the above calculations are reported for any analysis.

addressed	
Not reported	No information pertaining to above calculations are reported for any analysis, but explanation given as to why.
Not applicable	

10 – Analysis can be carried out in a way that takes consideration of confounding variables

Well covered	A wide range of confounding variables are considered and analysis performed to take possible effects into consideration.
Adequately addressed	Confounding variables are acknowledged, but it is less clear how these were managed within the study design, analysis and interpretation.
Poorly addressed	Very little information and little consideration for confounding variables and where data relating to these are gathered, they are not controlled for in the analyses. There is clear bias within the study design, analysis or results.
Not addressed	Confounding variables are not addressed.
Not reported	Confounding variables are not addressed, an explanation is given as to why not.
Not applicable	

11 – External validity

Well covered	There is a clear and coherent discussion about the generalisability of the results to the source population, including reflections on the limitations of the study.
Adequately addressed	There is a clear and coherent discussion about the generalisability of the results to the source population, but limited, if any reflection on the limitations of the study.
Poorly addressed	There is a limited discussion about the generalisability of the results to the source population, and limited if any reflection on the limitations of the study.
Not addressed	
Not reported	
Not applicable	

Appendix 5: Summary of quality ratings for reviewed studies

Study	Quality Criteria											Overall Quality Rating
	1. Rationale	2. Participant characteristics	3. Sampling strategy	4. Attrition Rates	5. Reliable and valid antenatal measure	6. Sample Size & Power	7. Reliable and valid child outcome	8. Analysis	9. Confidence intervals and p-values	10. Confounding Variables	11. External Validity	
<i>Emotional/Behavioural Development</i>												
De Bruijn et al. (2009)	Adequately Addressed	Well Covered	Adequately Addressed	Well Covered	Well Covered	Not Addressed	Well Covered	Well Covered	Poorly Addressed	Well Covered	Adequately Addressed	+
Velders et al. (2011)	Well Covered	Well Covered	Well Covered	Adequately Addressed	Adequately Addressed	Not Addressed	Well Covered	Well Covered	Poorly Addressed	Well Covered	Well Covered	+
<i>General Child Development</i>												
Almeida et al. (2012)	Adequately Addressed	Well Covered	Adequately Addressed	Poorly Addressed	Adequately Addressed	Not Addressed	Well Covered	Poorly Addressed	Adequately Addressed	Not Addressed	Adequately Addressed	-
Deave (2005)	Well Covered	Adequately Addressed	Adequately Addressed	Well Covered	Well Covered	Not Addressed	Well Covered	Adequately Addressed	Well Covered	Not Addressed	Adequately Addressed	-
Deave et al. (2008)	Well Covered	Well Covered	Well Covered	Poorly Addressed	Well Covered	Well Covered	Well Covered	Well Covered	Well Covered	Well Covered	Well Covered	++
DiPietro et al. (2006)	Well Covered	Adequately Addressed	Poorly Addressed	Poorly Addressed	Well Covered	Not Addressed	Well Covered	Adequately Addressed	Poorly Addressed	Well Covered	Adequately Addressed	-
Keim et al. (2011)	Well Covered	Adequately Addressed	Poorly Addressed	Poorly Addressed	Well Covered	Not Addressed	Well Covered	Poorly Addressed	Poorly Addressed	Adequately Addressed	Well Covered	-
Koutra et al. (2013)	Well Covered	Well Covered	Well Covered	Adequately Covered	Well Covered	Not Addressed	Well Covered	Well Covered	Well Covered	Well Covered	Well Covered	++

Sandman et al. (2012)	Adequately Addressed	Not Addressed	Not Addressed	Not Addressed	Adequately Addressed	Not Addressed	Well Covered	Adequately Addressed	Poorly Addressed	Adequately Addressed	Poorly Addressed	-
Tse et al. (2010)	Well Covered	Well Covered	Adequately Addressed	Well Covered	Well Covered	Not Addressed	Well Covered	Well Covered	Adequately Addressed	Well Covered	Well Covered	++
<u>Attachment</u>												
Flykt et al. (2010)	Well Covered	Adequately Addressed	Adequately Addressed	Poorly Addressed	Well Covered	Not Addressed	Poorly Addressed	Poorly Addressed	Adequately Addressed	Not Addressed	Poorly Addressed	-
Hayes et al. (2013)	Well Covered	Adequately Addressed	Poorly Addressed	Not Addressed	Well Covered	Not Addressed	Well Covered	Adequately Addressed	Well Covered	Adequately Addressed	Well Covered	-

Quality Criteria

- 1 Rationale and theoretical background for the investigated variables
- 2 Participant characteristics reported including ethnicity, SES, age range and location of study centres
- 3 Sampling strategy and representativeness of the target population
- 4 Percentage of participants asked to participate and who consented to participate reported.
- 5 Measure of maternal antenatal depression is reliable and valid
- 6 Sample size & power adequate
- 7 Measures of child/infant development is reliable and valid
- 8 Appropriate analysis has been performed on the data in relation to the study aims/hypotheses?
- 9 Confidence intervals and p-values are reported where appropriate
- 10 Confounding variables that may have influenced the results have been taken into account.
- 11 External validity

Appendix 6: Participant invitation letter and poster



Dear Madam

Re: Understanding the experiences of women who are coping with difficult emotions throughout pregnancy.

I understand that you have had recent contact with the Perinatal Mental Health Service. I am writing to let you know that we are currently running a study about low mood and/or anxiety throughout pregnancy and hope that you will be interested in taking part.

We are recruiting women who are currently pregnant and who have been having difficulties with their mood, thoughts and feelings. The aim of this project is to have a greater understanding of how pregnant women cope and manage difficult emotions such as feeling anxious, low in mood or feeling miserable throughout their pregnancy.

The project involves attending one appointment of between 30 and 60 minutes where you will be asked to talk a little about how you have been feeling during your pregnancy and what help or support you think would be helpful for you and other women who may be experiencing the same types of difficulties as you.

If you would like to find out more, then please contact Ms Caroline Morgan by filling out your contact details on the slip provided and sending it to Caroline using the pre-paid envelope provided. Alternatively you can contact her on 07444322160, by text or phone call, or by email at nhsg.pregnancy.psychology@nhs.net.

As a thank you for taking part in the study you will be offered a £10 gift voucher.

Your routine care will be in no way affected by whether or not you decide to find out further information about this study.

Many thanks for taking time to consider your involvement.

Yours sincerely

The Perinatal Mental Health Team

Have you been feeling down or anxious during your pregnancy?

We are conducting a research study exploring the experience of pregnant women who are having difficult feelings such as anxiety, low mood and depression. We are keen to learn how they manage and what kinds of services may help.

If you would like to take part or like further information then please contact

Caroline Morgan

email: nhsg.pregnancy.psychology@nhs.net

Tel: 07444 322160

Appendix 7: Participant information sheet



PATIENT INFORMATION SHEET

Understanding the experiences of women who are coping with difficult emotions throughout pregnancy.

You are being invited to take part in a research study, which aims to explore women's experiences of being pregnant and experiencing difficult emotions such as anxiety and low mood. Before you decide whether or not to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read this information sheet carefully before you decide whether or not you would like to take part.

Why are we doing this research?

The transition to motherhood is a major life event where a number of significant changes take place. Feeling sad, miserable and anxious are extremely common emotions to experience during pregnancy. However, these difficult feelings are often not talked about and therefore pregnant women may not receive the help and treatment that they need. We would like to find out more about your experiences of having these difficult emotions during your transition to motherhood. Having a greater understanding of your experiences may lead to increased support and improved interventions in the future for pregnant women who are having the same type of difficulties that you have had during pregnancy.

Why have I been asked to take part?

We have asked you to participate because you have been identified as experiencing some difficult emotions such as low mood or anxiety during your pregnancy.

Do I have to take part?

No. Your participation in the study would be voluntary and your responses would remain anonymous. If you do decide to take part you will be given this information sheet to read carefully and then asked to sign a consent form. **If you decide to take part you are still free to withdraw at any time until the data is analysed and do not have to give a reason for this.** If you withdraw, your data will be destroyed. A decision to withdraw at any time will not interfere with your treatment and care or your relationship with staff in any way.

What is involved at this stage?

By expressing an interest to find out more about the study you are not agreeing to take part in the study, you are just expressing an interest so that you can find out more information and decide whether or not you want to take part. At this meeting you will have all the information about taking part clarified before deciding whether or not you wish to participate.

What will happen if I take part?

If you agree to take part you will be asked to meet with the researcher at a time that is convenient to you. The interviews will take place at a place most convenient to you. This can either be at the maternity hospital or the lead researcher can come and visit you at home.

It is expected that the interview will last between 30 – 90 minutes. We will only need to meet you once for the interview. This interview will be audio recorded so that they can be transcribed later. The recording will be kept in a secure place and will be transcribed within 48 hours of the interview taking place. When they are transcribed the researcher will ensure that any information that might identify you is removed. During this interview you will be asked a number of questions about how your pregnancy has been and asked about your mood throughout your pregnancy. If you do not wish to answer any of the questions please let the researcher know (you are under no obligation to answer all questions).

What are the possible benefits of taking part?

We do not anticipate any direct benefits to you of taking part in this study. However it is hoped that the results of this study can be used to improve future services for pregnant women who are experiencing the same type of difficulties as you.

What are the possible disadvantages and risks of taking part?

We do not anticipate any risks or disadvantages of taking part. People who have taken part in similar studies have found it a positive experience to have a chance to feel listened to. However, you may find it upsetting if you decide to discuss any experiences that have been difficult for you. If you do feel upset the interview could be stopped for a break or to reschedule. You may also decide at this point that you wish to withdraw from the study.

What if there is a problem?

If you have a concern about any aspect of this study or the way that you have been treated we would advise you in the first instance to contact the researcher, Caroline Morgan (contact details provided below) who will try her best to address any concerns you may have. After this, if you wish to discuss your concerns further please contact Dr Andrew Keen, Consultant Health Psychologist. If you would prefer to talk to an independent person who is not part of the research team, then you would be very welcome to contact Dr Lynn Buntin, Clinical Psychologist. She can be contacted on 01224 550139 (Secretary).

In the unlikely event that something goes wrong and you are harmed during the research and this is due to someone's negligence then you may have grounds for a legal action for compensation against NHS Grampian but you may have to pay your legal costs. The normal National Health Service complaints mechanisms will still be available to you (if appropriate).

Will my taking part in the study be kept confidential?

Yes. All the information that is collected during the course of the study will be kept confidential. There are strict laws which safeguard your privacy at every stage. In the study, your name will be replaced with a participant number, and it will not be possible

for you to be identified in any reporting of the data gathered. All audio-recordings and transcripts will be kept in a locked cabinet within NHS property. The audiotapes will be transcribed and transcripts will be made anonymous. Once the transcripts have been made anonymous all tapes will be destroyed. You will not be identified in any reporting of the data gathered. During your participation, if you indicate that you or another person are at risk of harm, confidentiality would have to be breached and relevant clinical staff will be informed so that you can be provided with the appropriate support.

What will happen to the results of the study?

The study will be written up as a thesis as part of the Doctorate in Clinical Psychology at University of Edinburgh. The results will also be submitted to relevant peer reviewed journals and conferences for publication. All results will be anonymous and you will not be identifiable in any published results. A general summary of the results will be made available to all participants. Should you wish a copy of this please indicate on the consent form and include your address so these can be posted to you.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given a favourable opinion by the North of Scotland Research Ethics Committee.

If you have any further questions about the study please contact Caroline Morgan (researcher) on:

Address: Child and Family Mental Health Service, Royal Aberdeen Children's Hospital, Westburn Road, Foresterhill, Aberdeen, AB25 2ZG
Telephone: 01224 550139 (secretary)
Monday – Friday (9am – 5pm)
Mobile: 07444322160 (9am – 5pm)
Email: nhsg.pregnancy.psychology@nhs.net

This study is being supervised by:

Dr Jill Cossar, Lecturer, University of Edinburgh. Tel: 0131 651 3952
Dr Andrew Keen (Consultant Health Psychologist), NHS Grampian. Tel: 01224 550139 (secretary)

If you wish to make a complaint about the study please contact NHS Grampian:

NHS Grampian Feedback Service,
Summerfield House,
2 Eday Road,
Aberdeen,
AB15 6RE
Tel: 0845 337 6338

***Thank you for taking the time to read this information sheet.
It is greatly appreciated***

Appendix 8: Interview guide

Semi-Structured Interview Schedule

Can you begin by telling me about how your pregnancy has been?

What was your reaction to the pregnancy?

How did you feel when you found out that you were pregnant?

At what stage did it get difficult?

Does it feel the same/different from before you were pregnant?

What was happening in your life at this time?

Can you tell me about your experience of pregnancy and having depression?

How long?

What do you think brought this about?

How do you think your experience of having depression/ has affected you during your pregnancy?

How do you feel about yourself?

Can you think of any ways your experiences have affected you in a good way? Can you think of any ways your experiences have affected you in a not so good way?)

Are others aware that you are getting help?

(Prompts: partner, family, friends, work colleagues, self?) What impact has their reaction had on you?

What has your treatment been?

Why do you think that you are getting that?

Can you tell me what is helping you cope?

What hasn't helped? What do you think might be/have been useful?

What do you think would be helpful for professionals to know about women who are pregnant and suffering with the same type of difficulties as you?

What support do you think would be helpful to women who are going through the same as you? What advice would you give to someone who is in a similar situation to you?

Additional Prompts:

- I'm interested in / can you tell me more about that?
- What do you mean by that?
- What would be an example of that?
- What did you do?
- How do you feel about that?
- What do you think about that?
- What were your thoughts then?

Appendix 9: Ethics approval letter

NRES Committees - North of Scotland

Summerfield House
2 Eday Road
Aberdeen
AB15 6RE

Telephone: 01224 558474
Facsimile: 01224 558609
Email: nosres@nhs.net



30 April 2014

Miss Caroline Morgan
Trainee Clinical Psychologist
NHS Grampian
Royal Aberdeen Children's Hospital,
Westburn Road
Foresterhill,
ABERDEEN
AB25 2ZG

Dear Miss Morgan

Study title:	The lived experience and meaning of pregnancy in women with a diagnosis of antenatal depression: a qualitative study.
REC reference:	14/NS/0048
IRAS project ID:	140624

Thank you for your letter of 22 April 2014 responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Scientific Officer.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the Scientific Officer, Dr Rachel Venables, nosres@nhs.net.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Covering Letter		22 April 2014
Interview Schedules/Topic Guides – Semi structured		15 December 2013
Investigator CV – Miss Caroline Ann Morgan		07 March 2014
CV - Dr Gillian Strachan		07 February 2014
CV - Dr Jill Cosser		10 March 2014
GCP Certificate - Miss Caroline Morgan		11 October 2013
Debrief Sheet	2	08 April 2014
Letter of Interest	2	10 April 2014
Research Flowchart	2	10 April 2014
Participant Consent Form	1	16 October 2013
Participant Information Sheet	2	08 April 2014
Protocol	1	16 October 2013
Questionnaire: Demographic Information Sheet	1	15 December 2013
REC application	140624/577 026/1/715	06 March 2014
Referees or other scientific critique report		05 August 2013
Response to Request for Further Information		

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document “*After ethical review – guidance for researchers*” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

14/NS/0048

Please quote this number on all correspondence

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

With the Committee's best wishes for the success of this project.

Yours sincerely



Professor Helen Galley
Chair

Enclosures: After ethical review – guidance for researchers

Copy to: Professor Charlotte Clarke
NHS Grampian R&D Department

Appendix 10: Amendment 1 – Ethics approval letter

NRES Committees – North of Scotland

Summerfield House
2 Eday Road
Aberdeen
AB15 6RE

Telephone: 01224 558474
Facsimile: 01224 558609
Email: nosres@nhs.net



8 January 2015

Miss Caroline Morgan
Trainee Clinical Psychologist
NHS Grampian
Royal Aberdeen Children's Hospital,
Westburn Road
Foresterhill,
ABERDEEN
AB25 2ZG

Dear Miss Morgan

Study title: The lived experience and meaning of pregnancy in women with a diagnosis of antenatal depression: a qualitative study.
REC reference: 14/NS/0048
Amendment number: AM01
Amendment date: 23 December 2014
Amendment Summary: Changes to the Recruitment Process and letter of invitation. The introduction of a screening instrument and changes to Sponsorship contact details.
IRAS project ID: 140624

The above amendment was reviewed at the meeting of the Sub-Committee held on 5 January 2015 by the Sub-Committee in correspondence.

Ethical opinion

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Letters of invitation to participant	3	30 October 2014
Notice of Substantial Amendment (non-CTIMP)	AM01	23 December 2014
Reply Slip	2	01 December 2014
Protocol	2	11 December 2014

Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

R&D approval

All investigators and research collaborators in the NHS should notify the R&D office for the relevant NHS care organisation of this amendment and check whether it affects R&D approval of the research.

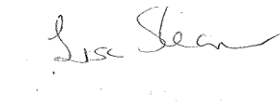
Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

14/NS/0048: Please quote this number on all correspondence

Yours sincerely



**Ppd on behalf of
Sue Harrison
Alternate Vice Chair**

Enclosures: List of names and professions of members who took part in the review

Copy to: Dr Rituka Sharma, NHS Grampian
Professor Charlotte Clarke

Appendix 11: Amendment 2 – Ethics approval letter

NRES Committees - North of Scotland

Summerfield House
2 Eday Road
Aberdeen
AB15 6RE

Telephone: 01224 558458
Facsimile: 01224 558609
Email: nosres@nhs.net



02 March 2015

Miss Caroline Morgan
Trainee Clinical Psychologist
NHS Grampian
Royal Aberdeen Children's Hospital,
Westburn Road
Foresterhill,
ABERDEEN
AB25 2ZG

Dear Miss Morgan

Study title: The lived experience and meaning of pregnancy in women with a diagnosis of antenatal depression: a qualitative study.
REC reference: 14/NS/0048
Amendment number: AM02 (REC Ref only)
Amendment date: 22 February 2015
Amendment Summary: A2.1 – Change of Clinical Thesis Supervisor
A13, A27, A29 - Information leaflet for using with community midwives
IRAS project ID: 140624

The above amendment was reviewed at the meeting of the Sub-Committee held = in correspondence.

Ethical opinion

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Notice of Substantial Amendment (non-CTIMP)	AM02	22 February 2015
Leaflet for Community Midwives	1	23 February 2015
Dr Andrew Keen CV		24 February 2015
Participant information sheet (PIS)	3	06 February 2015

Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

R&D approval

All investigators and research collaborators in the NHS should notify the R&D office for the relevant NHS care organisation of this amendment and check whether it affects R&D approval of the research.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

14/NS/0048:	Please quote this number on all correspondence
--------------------	---

Yours sincerely



Professor Helen Galley
Chair

Enclosures: List of names and professions of members who took part in the review

*Copy to: NHSG R&D Department
Prof Charlotte Clarke – University of Edinburgh*

Appendix 12: Amendment 3 – Ethics approval letter

NRES Committees - North of Scotland

Summerfield House
2 Eday Road
Aberdeen
AB15 6RE

Telephone: 01224 558458
Facsimile: 01224 558609
Email: nosres@nhs.net



15 May 2015

Miss Caroline Morgan
Trainee Clinical Psychologist
NHS Grampian
Royal Aberdeen Children's Hospital
Westburn Road
Foresterhill
ABERDEEN
AB25 2ZG

Dear Miss Morgan

Study title: The lived experience and meaning of pregnancy in women with a diagnosis of antenatal depression: a qualitative study.
REC reference: 14/NS/0048
Amendment number: AM03
Amendment date: 13 May 2015
IRAS project ID: 140624

The above amendment was reviewed by the Sub-Committee in correspondence.

Ethical opinion

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Copies of advertisement materials for research participants: Leaflet/Flyer	2	29 April 2015
Covering letter on headed paper: Email		13 May 2015
Interview schedules or topic guides for participants	3	29 April 2015
Letters of invitation to participant	4	29 April 2015
Notice of Substantial Amendment (non-CTIMP)	AM03	13 May 2015
Contact Details Sheet	3	29 April 2015

<i>Document</i>	<i>Version</i>	<i>Date</i>
Demographic Information Sheet Questionnaire	2	29 April 2015
Participant consent form	2	29 April 2015
Participant Information Sheet (PIS)	4	29 April 2015
Participant Information Sheet (PIS): Debrief Information Sheet	3	29 April 2015
Research protocol or project proposal	3	29 April 2015

Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

R&D approval

All investigators and research collaborators in the NHS should notify the R&D office for the relevant NHS care organisation of this amendment and check whether it affects R&D approval of the research.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

14/NS/0048:	Please quote this number on all correspondence
--------------------	---

Yours sincerely



Professor Helen Galley
Chair

Enclosures: List of names and professions of members who took part in the review

Copy to: NHSG R&D Department
Professor Charlotte Clarke

Appendix 13 R&D approval letter

Research and Development Foresterhill House Annexe
Foresterhill
ABERDEEN
AB25 2ZB



Miss Caroline Morgan	Date	02/05/2014
NHS Grampian	Project No	2014MH004
Child & Family Mental Health Services	Enquiries to	Lynn Massie
Lower Ground Floor	Extension	53846
RACH	Direct Line	01224 553846
Aberdeen	Email	grampian.randdpermissions@nhs.net

Dear Miss Morgan

Management Permission for Non-Commercial Research





STUDY TITLE: The lived experience and meaning of pregnancy in women with a diagnosis of antenatal depression: a qualitative study.
PROTOCOL NO: V1; 16.10.2013
REC REF: 14/NS/0048

Thank you very much for sending all relevant documentation. I am pleased to confirm that the project is now registered with the NHS Grampian Research & Development Office. The project now has R & D Management Permission to proceed locally. This is based on the documents received from yourself and the relevant Approvals being in place.

All research with an NHS element is subject to the Research Governance Framework for Health and Community Care (2006, 2nd edition), and as Chief or Principal Investigator you should be fully committed to your responsibilities associated with this.

It is particularly important that you inform us when the study terminates.

The R&D Office must be notified immediately and any relevant documents forwarded to us if any of the following occur:

-  A change of Principal Investigator, Chief Investigator or any additional research personnel
-  Premature project termination
-  Any amendments – substantial or non-substantial (particularly a study extension)
-  Any change to funding or any additional funding

We hope the project goes well, and if you need any help or advice relating to your R&D Management Permission, please do not hesitate to contact the office.

Yours sincerely

A handwritten signature in black ink, appearing to read 'S. Ridge', written over a light blue horizontal line.

Susan Ridge
Non-Commercial Manager

c.c. Dr Gillian Strachan

Sponsor: University of Edinburgh

NHSG-RD-DOC-019 – V3.1 – R&D Management Permission Letter (Non-CTIMP)

Appendix 14: Reflective Commentary

Reflective Commentary

Overview

The hermeneutic phenomenological position is a strong influence within Interpretive Phenomenological Analysis (IPA), as such it is understood that analysis will always involve some level of interpretation (Smith *et al.*, 2009). The investigation of how participants make sense of their experiences and how they derive their meaning requires the researcher to engage in interpretive activity. Within this area it is assumed that research findings are the product of the researcher and the researched (Larkin *et al.*, 2006). As such the researcher must adopt a reflexive practice during the research process. It is considered that this not only increases self-awareness of the researcher's feelings and values but also increases the transparency and rigor of the research. This is achieved by the reader being provided with an account of events and influences during the research process. They are also made aware of how the researchers past experiences, beliefs and theoretical stance could have impacted upon the findings of the research. For this reason, the researcher kept a reflective diary throughout the study to record any experiences during the research process, including reactions to participant's interviews, and the process of transcribing and analysing.

The following section is written in the first person to capture the reflections of the researcher. Extracts from the diary are also included.

Reflections on my own context and perspectives

I am a 30-year-old female currently living in the North East of Scotland, but I was born and brought in the Northern Isles. The culmination of both personal and professional factors has brought my attention to this area. First, as a woman in my early thirties, I have recently become introduced to the world of

pregnancy and babies. Through conversations with friends and family members who are pregnant or new mothers, I have gained invaluable knowledge about their experiences. Many of our conversations were akin to the joy, harmony and ponderings of an expectant mother that is portrayed in the media, books and movies. Some appeared to take to pregnancy well, with many describing them as very much 'suited' pregnancy and their baby bump. However, other conversations of worry, uncertainty, and feelings of sadness and loss were surprising to me and left me with questions that I had not really thought about before. I became interested in other women's experiences. Were these negative feelings a normal part of pregnancy? If so, when is it no longer normal, but deemed an illness? What does it feel like to be depressed during a time when everyone expects joy and happiness from you?

During my first clinical placement as a trainee clinical psychologist in an adult mental health service, I began working with a young woman who had emetophobia. During our time working together she became pregnant. I was struck by the different experience of pregnancy that she was having compared to my friends who were also pregnant at the same time. Her experience was engulfed by anxiety, fear and she was not enjoying any aspect of being pregnant. It proved difficult to know what service would best meet her needs and she described to me that she felt very alone and isolated from her partner and family. I vividly remember her becoming extremely distressed and telling me that she felt like 'the only woman ever to wish her pregnancy away' and she was in constant turmoil of wanting/wishing the pregnancy to be terminated, but also the wish to have the baby that she had always longed for. I also found it a struggle to access up to date and relevant information regarding perinatal mental health.

Why IPA?

The choice of IPA not only suited the research area but its foundations in the philosophy of qualitative epistemology were also compatible with my own position and beliefs. Specifically, that an individual's knowledge and experience

of the world is not an objective appraisal of reality but shaped by their subjective perception and cultural influences (Yardley, 2000). Further, I felt that the broad focus of the research question would enable participants to focus on the experiences that felt important to them, which coupled with the ideographic nature of analysis would enable the findings of the research to remain firmly rooted in their accounts and thus what was important to the participants.

Reflections on the research process

Recruitment

The involvement and support of the Perinatal Mental Health Team throughout the recruitment process was invaluable, although did pose its own challenges. The service is a developing service, consisting of a small team, which I was not directly involved with. The service had many of its own demands and of course my research was not their priority.

The service has a high volume of weekly referrals and it was initially believed that recruitment of potential and suitable participants would not be an issue. This was certainly not the case and it proved continually challenging for clinicians to identify suitable pregnant women that met the inclusion criteria for the study. Many of the women that were being referred had complex mental health backgrounds and simply were not suitable for the study. This certainly was a very anxiety provoking part of my research journey due to concerns that participant numbers would remain minimal, if not non-existent! The effort and legwork that I put into recruitment seemed never ending, with the result that I felt that I had little to show for the effort I was making each week. It certainly was hard to stay motivated and enthusiastic. On many occasions I felt like giving up. I believed that I was to blame and was trying to do everything I could to aid the recruitment process but I was powerless in the process.

Containing my anxieties at this stage felt like a full-time job in itself and the idea of quantitative research using questionnaires seemed like the easier option.

However, I discussed my concerns with my clinical research supervisor who assured me that this was all part of the research process. So I contained my anxieties and I continued with the recruitment phase. Quite a few women had initially agreed to be contacted, however they subsequently changed their mind. I can remember the feeling well when one woman who had agreed to meet, failed to turn up.

“Just back to the office and my participant failed to turn up today. I had been building myself up for so long for my first recruit and now my numbers still remain at 0. I hope that she is well, but it is hard to hide my disappointment and despair, and to not take it personally”.

Although recruitment remained slow, with many suitable women opting out of the study, I eventually began to find participants willing to take part. A second wave of anxiety then ensued as I began to think about interviewing the pregnant women. My anxiety about the interviews was centered on my ability to generate the information I was looking for and I felt pressured to conduct a ‘good interview’ seeing as few women were agreeing to take part.

Interview process

In the early stages of the interview process I felt anxious as I had little experience of qualitative research and I had never used IPA before. The first couple of interviews were difficult as I adjusted to carrying out a research interview as opposed to a clinical interview, which I was much more familiar with and comfortable in doing. For example, I was very aware that I needed to avoid any leading or suggestive questions that could bias participants’ accounts and although I had an interview schedule to guide the interview process I felt a huge sense of responsibility to gather ‘enough’ information. I do believe that this responsibility was also greater due the small amount of participants that were coming forward to take part. At this time I also wrote about the difficulty of questioning and prompting participants and I did not want to be intrusive, but conversely I did not want to appear disinterested. I think that because these women were particularly vulnerable and low in mood, I did not want to come

across as being intrusive. I also found it difficult conducting the interviews from a research stance. It felt difficult for me to meet with these women for a one off appointment and seeing them distressed made me feel powerless in terms of a therapist and wanting to help people in distress.

As I expected, interviewing the women about their experiences of depression and associated difficulties was personally and emotionally demanding. At times this was an uncomfortable journey. However, it was essential if I wanted to understand how depression was experienced from the pregnant women's perspectives.

All participants described the interview process as a positive experience. Prior to interviewing I had not fully considered the benefit that people may experience from being interviewed. I had been focussed on the fact that they were taking time out to meet with me at a time when they probably didn't need any extra stress. I was struck by how many of the participants said that they had found it helpful talking to someone about their difficulties. This became more apparent as several participants clearly described the limited opportunities that they had to reflect on and discuss their difficulties. This cathartic element of the interview process alongside several participants saying that they wished that we could meet with me again to talk clearly highlighted that the interview served a positive and perhaps therapeutic process for some participants. On considering this time in the research process again, I now wonder if some of my concerns are related to the fact that I had awareness of the service that was being offered to these women and the little support that these somewhat isolated participants had. It felt a real struggle for me to let the women go away, knowing that they were not going to get the frequency of help and support that they were looking for or perhaps needed.

“ Did my first interview today, at long last. I was extremely anxious as I have waited so long for this to happen. What happens if I have messed it up? I can't afford to have an interview that is not rich in data. I did enjoy the experience, although felt strange, and almost 'lost' without my clipboard. I had to consciously resist the urges to scribble down notes

from my participants accounts as I would in clinical sessions. The interview lasted over 60 minutes but I'm not sure I have got enough detailed description of her experiences for analyses purposes, but was aware that I don't want to come across as too 'pushy' or potentially leading during the interview. I was struck by how open and honest the woman was in recalling her experiences. At times she spoke about being frustrated that professionals didn't appear to understand her and she felt patronized at times. I couldn't help but wonder and worry that I was doing exactly the same. I hope that when analysis begins I am able to fully capture this and in a sense do 'justice' to her account."

The interviews were all very individual although there were very similar themes emerging from each. Some reported that this was one of the first opportunities they had been given to describe their difficult experiences and others suggested it was good to actually be asked these questions that no one had ever asked.

As the interviews progressed, the ways in which I asked my questions developed and became more attuned to the needs of the women and to the research aims and objectives. I recall Hannah saying to me: *"that's a good question, I've not really thought about it that way before now"*. That said, the actual content of their descriptions was distressing both for them to describe and for me to hear. I sought research supervision and utilised my reflective journal to note any emotional impact the women might be having on me.

I was also aware of a number of different feelings post-interview. I was often left with a feeling of intruding into the women's life. Although I learnt a lot about the pregnant women, because they often disclosed very intimate details about themselves and their backgrounds, clearly I could not reciprocate due to my role as researcher. This had the effect of creating a feeling of inequity between the women and myself due to the fact that I felt I alone was benefitting from their willingness to talk about their difficult experiences. However, having thought about this in my reflective journal I was able to recognise these feelings and consider them with my clinical research supervisor. It transpired that as a result of my overwhelming feelings I had forgotten what many of the women

had been telling me: that they had gained something from the interviews too and the reason that a few women had actually participated was to benefit others in the future who were also experiencing what they had.

Reflections through the analysis process

The data analysis also required a lot of emotional energy to get through. It was very hard not to become totally overwhelmed by the data, and at times I certainly did feel very overwhelmed. Unsurprisingly, transcribing six interviews took me a long time and the data analysis took even longer than I had originally anticipated. Support from my research supervisor, in terms of investigator triangulation, was fundamental to the latter process.

During transcription, I felt somewhat reassured that the amount of information I gathered was enough, in fact I felt overwhelmed at the amount of information I had.

“ I’m half way through transcribing my second interview. Even with warnings from supervisors and colleagues who had also completed qualitative theses, I totally underestimated how long this takes. I worked out on average it is taking me an hour to transcribe around 10 minutes of interview. I always thought I was quite quick at typing. However, despite sore wrists from typing and strained eyes! I have found the process of transcribing a helpful first step in ‘immersing’ myself with the data. I can hear the participants speak the words when I am reading the text back”.

Re-reading the transcripts was experienced by me, in my mind’s eye, as an interesting and insightful journey back to the original time of interview. At times, it was as if the women were in the room again describing their experiences. This process reminded me of how well the women had been able to articulate their experiences of depression and pregnancy and I felt extremely privileged to be holding onto the information they had provided, particularly because most of it was very sensitive and highly emotive.

As I began my first analysis, I again felt apprehensive due to my inexperience with qualitative research and IPA. I did however feel reassured and comforted

by the clear process set out by Smith *et al.* (2009), however, this was quickly replaced by a lack of confidence in my own ability to interpret and follow the process correctly.

“Analysing my first transcript. I feel really unsure about the process, hopefully this is just because of my unfamiliarity of this. I keep my IPA book close by, in fact I am carrying it around everywhere I go in the hope it will instill in me how it’s meant to be done. I have also sent an email to my supervisor, I think just to get reassurance that I am on the right path. Hopefully the step by step guide makes the process seem more accessible, especially to me as a novice qualitative researcher....”

Supervision and support from peers who had also conducted IPA research reassured me that the anxiety I felt was a typical part of the process, and that what I was doing was appropriate. However, the anxiety I experienced at this time resulted in the analysis of my first few transcripts taking a very long period of time.

In these early stages the interpretation of the data felt very scary, and I felt an overwhelming sense of needing to get it right. As I went on, I slowly became more mindful that analysis needed to be ‘good enough’ (Smith *et al.*, 2009) rather than perfect. A helpful process I undertook at this time was triangulation, from which my supervisor and I could discuss analysed transcripts and the themes that had emerged from these.

In my reflective diary, I also noted how my personal position (as a person who is not a parent) may have influenced my interpretation of the data and I worried that because of this I may overlook key experiences.

“I wonder if my analysis would be different if I myself were a parent? I wonder if these feelings may be common to general parenting experiences, but I am interpreting them to be specific to women who are experiencing low mood and the types of difficulties these women are experiencing?”

Later, I reflected on the completion of my first analysis;

“Finished the full analysis of my first transcript. I know this sounds cliché but I have enjoyed the process and I feel in a sense privileged to have had such in depth access to the accounts of my participants. Although I know that there is no ‘correct’ interpretation, in the back of my mind I am hoping my interpretation is ‘good enough’ and provides a sound understanding for these women who have been struggling in silence”.

The whole process was experienced as very humbling and I felt so grateful for their participation in my study. The information from the six pregnant women allowed me to complete a thorough data analysis and to identify a number of subordinate and, thereafter, superordinate themes pertaining to their experiences of low mood throughout pregnancy.

Conclusions

IPA recognises that research is not an objective and emotionally detached process. Emotional issues, such as those, which have been described above, can arise for the researcher as well as the research participants and at different points and in different guises. Hence, just as research can at times be an exciting experience, it can also be distressing and emotionally isolating. This highlights the importance of utilising a reflective journal as a means of encouraging transparency in the data collecting and analysis processes and I believe this has enhanced my understanding and interpretation of the themes I have presented in the analysis. Reflecting on this journey, I recognise the challenge it was to get to this point and I am grateful to all of the pregnant women who made it possible.

In general, the entries in my diary highlight my initial anxieties and need to gain reassurance from others in a process, which felt unfamiliar and somehow new to me as a researcher. I also felt an underlying feeling of having to provide the ‘right’ interpretation of the participant’s accounts. However, as the process unfolded I gained confidence and was able to acknowledge that there are no ‘right’ or indeed ‘wrong’ answers in interpretations, but instead that people’s

experiences are complex. Therefore, any attempt to understand this should reflect this complexity.

I am now at the end of this research journey and I am very aware that most of my reflections have surrounded the difficulties experienced at each stage of the process, with little about the positives I feel this project and the approach have provided. I hope that by providing this reflective commentary and by maintaining a 'reflexive' position throughout the project that the rigor and quality described at the start have been achieved. The process has certainly encouraged me to be more self-reflective regarding my own perspectives and potential motives, in a research capacity and in my clinical work. Being self-reflective is also a fundamental part of my clinical practice, but I feel that this process has encouraged me to be more creative in reflecting, and take more time to explore my perceptions and interpretations. I hope that this process has acted to enhance the projects findings by facilitating richer interpretations, whilst also enabling an open and honest audit trail to demonstrate methodological rigor and transparency to be provided.

Appendix 15: Example of emergent themes from 'Kate'

1. Dismissing Feelings

Worrying about little things x 2
Worrying about really silly things
Thinking ridiculous things
'That was my 'latest' worry'
Wallowing in self-pity, not even self-pity.
'I just call it self pity'
Can't be seen crying
Keeping feelings to self
Feeling shouldn't be feeling happy
Feeling sorry for herself
Personally thought people could 'snap out of it' – we would all love that
Others thinking she is just being moody
Keeping quiet
'Sounds crazy'
Thinking that she wouldn't feel that way this time – one off feeling
'I guess I am good at speaking about how I feel I am doing, but actually getting it done is sometimes easier said than done.'
'I was fine'
'I'm just feeling low' – dismissing feelings to her partner
Dismisses my offer of empathy – extremely uncomfortable that she was upset, hard for her to talk about it

2. Anxious Feelings

Feeling breathless
Worrying about worrying
Feelings building up – then exploding
Constant rumination of worries – fixated on things
Vicious cycle of worry
Trying to make sense of low mood and anxiety cycle –
Anxiety causes low mood, low mood causes anxiety
Feeling overwhelmed
Distracted
Worrying about 'little things', 'silly things'
Ruminations leading to feeling guilty
Dwelling on things

3. Insecurity about relationship with partner

Ruminations about relationship
Worrying that partner will leave
He's a man's man – feeling like he can't understand properly
Wishing she could be the 'perfect' wife
Acknowledging it must be tiring for her partner – guilt
She is also tired - I couldn't be bothered
Realises that she has not been there/neglected partners needs
'We are not married' – making her more insecure?
He asks what he can do to help - she says nothing, could he ever do anything to make help her?

Confronting partner – him hiding things from her but that makes her more anxious

'Need to be a perfect wife'

4. Sense making around MH

Didn't think it was an illness

Thought people could just snap out of it

'Sceptical' about depression previously

Contrast to how she would normally be as a person

5. Sense making about why she feels this way?

Think I like to analyse things

Trying to find a rational for it all

Trying to find an explanation – doesn't understand why

Don't know where the feelings/thoughts are coming from

Can't find an explanation

Stark contrast to how she views herself as a person – usually organised, in control, outspoken, good at putting point across

Wasn't an anxious person before – feels it has changed her for good

6. Low mood

Feeling low

Waking up feeling low

Quite tearful

Try and withdraw from others

Tiredness – can't be bothered

Feeling pointless

Wasting days - guilt not doing anything

Withdrawing

7. Crying

It's not ok to cry – feels it is a weakness

You shouldn't feel unhappy in pregnancy

8. Worrying about whether is a 'good enough' parent

Being protective – not letting others take her daughter

Asking/needing help means that she is 'failing' (not coping)

Comparing self to others

Worrying that the child will resent her for the way she feels

Feeling responsible for baby not smiling

Causing the child's 'negativity'

Worrying low mood will impact development of baby/child

9. Hope/Optimism about future?

Cycles of feelings – knows it will pass/hopes it will pass

Feeling better now

Distraction

Talking helps

Belief that feelings will pass

Expectation that this pregnancy would have been different

10. Expectations about pregnancy

Wasn't prepared for how
It's just not what you think
You just think its going to be like...
'Settling into something you just never expect to be so difficult or hard'
Lack of control – unknown
Wasn't prepared feeling the way again
Feelings of disappointment in self
Pressure to be 'perfect' mum
Motherhood is *hard*

11. Stiff upper lip?

Putting on a front
Keeping up appearances
Try and withdraw from others
Didn't think people would notice
Keeping up an image
Worried about how she will be perceived by others – is she coping?
People expecting her to be ok
Worried about being judged or criticised by others – leads her to think others think she isn't coping.
Not being a good enough wife, mother or daughter etc
'Always been that you do what your mother does'
Just get on with attitude

12. Feeling overwhelmed by emotions

'Some days people just have to ask me If I am ok, and that's the worst question to ask someone'
'I just burst into tears and that's when days when I know I am not ok'.
I can't cover it up, I can't
'Sometimes you can't hide, there is only so much you can do before you feel it come over you and you can't do anything about it'
Unable to hide it when with her daughter - easier not to have to hide it
It is maybe easier to cry to a 2 year old – guilt at doing that
That's when I start to feel guilty, guilty for her, guilty for- and that's not even thinking about this baby.
Having to admit that she wasn't coping
At times feeling powerless and overwhelmed by how she feels
It was obvious that things weren't right

13. Difficulties asking for help/accepting help

To actually ask for help – difficult
Tell self its ok to ask – doesn't say if would actually accept it

14. Feeling relief/Normalisation

Relief to know that's its not abnormal
Its common
Wasn't alone
Acceptance that it's ok to feel that way – unsure if she actually accepts it though
Just to know that you are not alone

*I think it was just an acknowledgement of how I was feeling was ok
Comfort that others feel the same way*

15. Impact of mood on providing care to baby

Guilt about having a sofa day and the impact that might have on her daughter

Not 'entertaining' her – interacting with her

Recognising lack of interaction with baby – not actually thought about baby

Focussing on impact mood has on her daughter

Having to tell self that she needs to interact – guilt

*Becoming upset during interview about the impact her mood is having on her
perceived ability to parent*

Doesn't want her daughter to see her upset

Worrying daughter is picking up on her negativity – not smiling

I'm miserable – my child will be miserable

I made her that way

'We all want to be perfect but we just need to be good enough'

16. Lack of control

Not having control of feelings

Used to being in control = contrast to how she feels now

Organised – now not organised

17. Trying to keep going

Trying to get on with it

It's a case of riding them out

I just got through it this time

Just a case of nipping it in the bud

Feeling better by time go and get help

Going through the motions

Just getting up and doing

Getting up and going

Not moping around

18. Self-compassion/recognising own needs

I need to rest?

I know I need to take a break?

Appendix 16: Transcript Example

Emerging Themes	Transcript	Exploratory Notes
<p>Impact her mood is having on others around her.</p> <p>Impact on her daughter</p> <p>Having to put a front on for others</p>	<p>P: My 2 year old can see how upset I am and I hate being and feeling upset in front of her. And I don't want her to see me upset and then she is so aware of things. You know she just has to say something like, 'Mummy you feel better' and she will give me a cuddle and it's just like – you know (pauses and upset)...sorry.</p> <p>Me: Its ok, just take your time.</p> <p>P: No, no, I think it's stuff like that, you know, that I – and then I start thinking emotionally, thinking about like you know, like, how she sees me and I like I don't want her to see me upset or anything like that. And I don't want her to think – of course, she doesn't understand, and it's not her fault or anything like that. But I suppose Steve wouldn't look at me like, in a certain way and I wouldn't be thinking, you know. So it is maybe easier to cry to my 2 year old (sobbing). I guess, I guess I don't put on a front for her, whereas with everybody else I kind of do. Not put a front on but I just get on with things you know. (sniffs and sighs) And that's when I start to feel guilty. Guilty for her, guilty for – and that's not even thinking about this baby. I don't think I have had this much time to over-analyse this child or thinking how – you know worrying about the new baby and stuff like that. I just want to worry about her. I just worry about how it is impacting on her.</p>	<p>Appeared annoyed that a 2 year old is able to pick up that she is upset – doesn't want her to see her like that but feels powerless to stop it.</p> <p>Dismissing offer of empathy. Extremely uncomfortable in the room at being upset in front of me.</p> <p>Safer to be upset in front of her 2 year old – doesn't get judged? Is it easier to cry to her daughter?</p> <p>Encapsulated by guilt No room to even think about the baby inside her – focus is on her daughter and the effect her mood is having on her</p>