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Doctoral Thesis

Health visitors' experiences of assessing perinatal mental health and psychotic like experiences in new mothers: a thematic analysis.

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2018 Intake

Word Count Statement

Section	Main Text	Appendices (including references, tables and figures)	Total
Thesis Abstract	244	-	244
Literature Review	7969	9847	17,816
Empirical Paper	7996	6902	14,898
Critical Appraisal	3926	411	4337
Ethics Section	5742	3819	9561
Total	25,877	20,979	46,856

Thesis Abstract

The thesis presented includes a systematic literature review, an empirical research paper and a critical appraisal with wider reflections on the project.

In Chapter One, a systematic literature review exploring the impact of birth trauma on mother-infant attachment is outlined. A systematic search identified 18 quantitative studies which were subject to narrative synthesis and PRISMA guidelines. Results were mixed, however, more studies than not found associations between childbirth trauma and the attachment relationship. The findings are discussed in relation to the wider research around birth trauma and attachment. Further research looking at the direction of causality is recommended.

Chapter Two reports on the empirical research paper which aimed to gain an in-depth understanding of health visitors' knowledge and experiences of assessing mental health, particularly psychotic like phenomena in new mothers. Ten UK health visitors participated in individual semi-structured interviews and transcripts were subject to reflexive thematic analysis. Three overarching themes were identified: 'Engagement with mental health', 'Dilemmas around psychotic-like-experiences' and 'Impact of disclosure'. The data found health visitors' were confident with assessing new mothers' postnatal mental health, however this was limited regarding psychosis. Implications for perinatal services and training for health visitors are discussed, in relation to providing support for new mothers affected by psychotic-like symptoms.

Chapter Three incorporates a critical appraisal which provides a reflective overview of the project. It also includes a critical review of the literature review and empirical paper alongside clinical implications for the findings from these papers.

Declaration

The research presented in this thesis has been undertaken for the Doctorate in Clinical Psychology at the Division for Health Research, Lancaster University. The work presented throughout this thesis is the author's own, except where due reference is made. The work has not been submitted elsewhere for the award of any other academic award.

Name: Hannah Riley

Date 25th September 2023

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Firstly, I would like to thank each person who agreed to take part in the study. Your input and openness were greatly appreciated and extremely helpful in understanding your experiences, challenges, and ways to move forward within your profession. I saw the pressures you are under as health visitors and yet you still spent the time to take part in this research, which would not have happened without you, so thank you. I would also like to thank the experts by experience who spent time reviewing the interview schedule to ensure its appropriateness within their profession and to the Institute of Health Visiting for advertising the study. The work you are doing in support of Health Visitor's in the UK has a clear impact on their support of families.

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Contents

Chapter 1: Systematic Literature Review

What is the impact of birth trauma on mother-infant attachment?

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Abstract

Childbirth trauma can lead to post traumatic stress symptoms and have undesirable implications for both mother and baby. Attachment refers to the relationship between a mother and baby which is important in the child's development. Currently there is limited understanding around the impact of childbirth trauma on attachment. This review aimed to identify if there is an association between childbirth trauma and attachment.

Four databases; PsycInfo, MEDLINE, CINAHL and SCOPUS were searched systematically for papers reporting quantitative studies, looking at birth trauma and mother-infant attachment in the postnatal period (up to one year after birth). A quality assessment of each study was completed, and the papers' findings analysed using a narrative synthesis.

Eighteen studies were included of which most were cross-sectional or cohort design. The studies predominantly took place in Europe, America, and Australia. Eight studies found a negative association between childbirth trauma and attachment relationships, seven studies found no association and three studies had discrepant results. Certain moderating factors, such as depression, influenced the relationship between birth trauma and attachment. In addition, factors such as delivery experience and an unexpected type of birth could predict the perception of a traumatic birth for mothers.

This review, consistent with the wider literature, indicates that birth trauma and attachment behaviours are associated. However, evidence for the direction of causality is very limited. Therefore, avenues for further longitudinal research to shape the understanding of this association further and the development of standardised measures for the variables are provided. Support needs of mothers and the role of maternity services in offering trauma informed care are also outlined.

Introduction

Following a traumatic or difficult birth, where there is a perception of risk to their own or their baby's life, some women can develop post-traumatic stress disorder (PTSD) symptoms (Yildiz et al., 2017). Individual vulnerabilities linked with experiencing birth as a trauma include, a history of trauma, prior psychological difficulties, and anxiety. These factors can be coupled with birth specific experiences such as dissociation, perceived threat, and limited support, which can exacerbate the traumatic experience (Ayers et al., 2016). Childbirth trauma has been linked with negative outcomes for the mother, impacting family links and emotional health (Simpson & Catling, 2016), and for baby, such as emotion regulation, behavioural difficulties, and the attachment relationship (Van Sieleghem et al., 2022). At least 5.9% of women have difficulties related to PTSD symptoms following childbirth (Yildiz et al., 2017) highlighting a clinical need for support.

Attachment theory, originally developed by Bowlby (1969), refers to the relationship between a caregiver and a child in terms of the sensitivity and responsiveness in the caregiver's interaction to accommodate the child's needs – both emotionally and physically. The type of attachment developed by an infant can vary from *secure*, *avoidant*, *ambivalent* or *disorganised*, dependent on this relationship (Ainsworth et al., 2015). The attachment style between a mother and baby can impact the child's early development emotionally (Henschel et al., 2020), behaviourally (Ding et al., 2014) and socially (Groh et al., 2017). This has implications in later life with respect to mental health difficulties (Monaco et al., 2019) and limitations in brain development which could lead to cognitive difficulties and reduced life experiences (Malekpour, 2007). Clinical Psychologists have a role in supporting primary care health professionals in training, supervision, and consultation on the attachment relationship with families, while also providing intervention to these families should further support be required. This is of particular importance in terms of the implications for the child.

A broad definition of the terms birth trauma and attachment was utilised to include a wider range of studies that investigated this association. Please see Table 1 for details of what was included underneath these umbrella terms.

There are several factors that could impact the attachment relationship during infancy. A woman's level of social support, expectations for birth and the subjective experience of birth have all been found to influence attachment and mother's perception of the infant (McKelvin et al., 2021). Waldonstrom et al. (2006) found that around 10% of pregnant women can suffer from a fear of childbirth during pregnancy which often leads to either a negative experience of childbirth or unnecessary caesarean section births. Support for women's mental health difficulties, alongside health professionals' development of communication skills, avoidance of unnecessary interventions and creating a plan for an ideal birth should be offered to reduce anxiety (Waldonstrom et al., 2006). This could also impact pregnancy experiences (Aktas, 2017) which may well in turn influence the development of attachment relationships, highlighting the need for a good understanding of the mother's expectations for birth and available support during and after birth to ensure adequate help and healthcare whether physical or psychological can be offered.

There is limited insight into the impact of severe mental health conditions impacting attachment (Flowers et al., 2018). The limited research that is available has found that generally, prolonged, severe mental health problems are often associated with other factors such as trauma (Wan & Green, 2009). Research highlights that both the experience of trauma by the child - during childhood – (Spinazzola et al., 2021) and the parent individually – not related to birth – (Risi et al., 2021) can influence the attachment relationship they have with their caregiver or child due to the trauma influencing the ability to sensitively interact with each other. This suggests that trauma does play a role in mother-child attachment relationships, however there is limited understanding in how birth trauma specifically can influence this.

It appears that there is a need for further research and support to identify the risk factors and vulnerabilities for mothers to experience birth as traumatic and how this can potentially affect the attachment bond with their child. Qualitative research has shown that mothers who perceive their birth as traumatic can feel disconnected from their infant through feeling unable to read and therefore respond to their baby (Molloy et al., 2021). These experiences have a large impact on mothers mental and physical health affecting their ability to make decisions on their own and the child's care (Taghizadeh et al., 2013) and a reduction in social interactions (Beck & Watson, 2019). Therefore, it is important that there is an awareness of

the factors that can put women at risk in order to offer further support in managing these difficulties or proactively reducing this risk. Both mothers who have experienced a traumatic birth and midwives have described how individualised care and emotional support are vital in supporting mothers through traumatic birth. Mothers also reported time to debrief and ask questions afterwards was also important (Huang et al., 2019, Fenwick et al., 2013) in order to provide an understanding of how they experienced the birth and identify whether this was traumatic for them.

Due to the evidence that trauma is associated with mental health's impact on attachment (Wan & Green, 2009), it would be useful to look at the possible impact of birth trauma independently on attachment. This is due to research highlighting the commonalities of trauma and perceptions of threat as factors impacting both attachment and the perception of a traumatic birth. Previous research and reviews focus largely on the impact of depression on attachment. There are no literature reviews focusing solely on the impact of birth trauma on attachment, even though this could affect a lot of mothers, given that between 9 – 44% of women can experience birth as traumatic, with 3% of these women developing associated PTSD (de Graaff et al., 2018). As both birth trauma and attachment can be measurable variables through empirically reviewed questionnaires, the topic lent itself to a quantitative approach to this review. The aim was to identify and collate all the quantitative, peer reviewed data available relating to this topic and to determine the strength of association between these variables. This could inform future research and in turn potentially update clinical practice.

Therefore, the aims of this review were:

1. To identify if there is a relationship between childbirth trauma and mother-infant attachment in the 12 months postpartum.
2. To identify any further factors that could impact/mediate this relationship.

Method

This systematic literature review was conducted based on the guidelines and criteria described by the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement to outline the transparent process undertaken (Page et al., 2021). The aim was to review the available literature, identify any associations, and generate

conclusions on the link between childbirth trauma and mother-infant attachment, therefore a systematic review approach was adopted. The review aimed to identify all eligible studies, appraise, and synthesise the studies' evidence (Clarke, 2011).

The review included all eligible quantitative studies which provided an understanding of the strength of the relationship between birth trauma specifically and the impact this may have on mother-infant attachment. All quantitative methodologies were included to ensure no exclusion of relevant data.

Initial Search

To determine the suitability of the research question and to check if a review of a similar nature had been completed, a scoping search of Google Scholar and One Search (Lancaster University library database) was initially carried out. To our knowledge, there are no other literature reviews specifically examining whether trauma from childbirth is associated with mother-infant attachment. Prior systematic reviews focussed on risk factors of PTSD from birth with no link to attachment (e.g., Ayers et al., 2016, Andersen et al., 2012) or the impact of other mental health impacting on attachment (e.g., Flowers et al., 2018).

A SPIDER framework (Cooke et al., 2012) was used to define the question for the search which identified the sample as mothers, phenomena of interest being attachment and birth trauma, a focus on any quantitative design of research and evaluating whether there was an association. This was useful in developing a search strategy (Table 2) as it was clear what the broad topics of search terms would be to inform the full searches in each database (Table 3). The SPIDER tool was used as it fitted better with the topics and collating of information aimed for this review.

Eligibility Criteria

Studies were included if they met the following inclusion criteria:

- Quantitative Studies – no restrictions on design
- Studies looking at birth trauma and mother-infant attachment
- Mother's reporting on the postnatal period (up to one year after birth), data being gathered either retrospectively or concurrently.

- Available in English language
- Peer reviewed published studies

Information Sources & Search Strategy

A systematic search of four databases was conducted on 1st November 2022: PsycInfo, MEDLINE, CINAHL and SCOPUS. An example of the full search terms using Boolean operators that were used in each search engine is in Table 3.

The results were exported to EndNote and duplicates removed. A screening of the remaining titles was conducted, the remaining papers' abstracts were read, leading to the final stage of reading full papers to ensure eligibility criteria were met. Hand searching reference lists of included studies was also conducted with no further relevant papers identified. The results of the searches are shown in the PRISMA diagram in Figure 1 (Page et al., 2021).

Data Items

The data extracted included: Study Authors & Year, Location, Participants, Ethnicity, Type of Sample, Setting of Recruitment as seen in Table 5. Study Aim/Research Questions, Research Design, Attachment Measures, Childbirth Trauma Measures, Data Collection Method, Data Analysis and Statistical Findings are summarised in Table 6.

Analysis

A narrative synthesis of the data collated regarding birth trauma and attachment was completed. This was based on guidance provided by Popay et al. (2006). See Figure 2 for details of techniques used in each stage of synthesis.

A meta-analysis was not completed as it was not deemed to be appropriate due to the heterogeneity of studies in terms of the methodology, follow up and measures used. Thus, combining these studies statistically could have led to invalid and meaningless results (Higgins et al., 2023).

Quality Assessment

To assess the methodological quality, the quality assessment tool for quantitative studies by the Effective Public Healthcare Panacea Project (EPHPP, Thomas et al., 2004) was used. This tool was utilised as it is a generic, widely used instrument which can be used to evaluate a

variety of quantitative methodologies and is effective in its use within a systematic review (Armijo-Olivo et al., 2012). Rather than excluding studies based on this assessment, the tool was used to identify the quality of the studies which provided differing weighting dependent on these scores to the findings.

The eight EPHPP domains (See Table 4) are; study design, analysis, withdrawals and dropouts, data collection practices, selection bias, invention integrity, blinding as part of a controlled trial and confounders. Each domain had two - five questions with specific criteria to meet and a total score for that domain was derived. Each section was rated as either strong (1), moderate (2) or weak (3). A global rating for each paper was then generated based on the domain scores. Ratings were reached based on information from the tool's supplementary dictionary. Two or more weak ratings led to a global weak rating as per guidelines, one weak rating gave a moderate score, and no weak ratings gave a strong score.

A sample of the papers (5/18) were co-rated independently by a colleague. Initially across the five papers 83% of the thirty domain ratings were identical. Three study ratings were identical and two had discrepancies. The two discrepant study ratings were discussed in detail and a score was agreed. It had been decided *a priori* that if an agreement could not be reached, a third team member (the project supervisor) would be involved to identify a score, however this was not required.

Results

Study Characteristics

Table 5 lists the 18 included studies. They were published between 2004 and 2022. The location of the studies included ten in Western Europe, three in the USA, two in Australia, two in Israel and one in Japan. Eight studies were cross-sectional (Ayers et al., 2007, Davies et al., 2008, Dekel et al., 2019, Handelzaltz et al., 2021, Handelzaltz et al., 2022, Mayopoulos et al., 2021, Rados et al., 2020, Williams et al., 2016), seven were cohort studies (Evans et al., 2022, Ionio & De Blasio, 2014, Kjerulff et al., 2021, MacMillan et al., 2021, Muller-Nix et al., 2004, Petit et al., 2016, Ponti et al., 2020), two were prospective longitudinal studies (Martini et al., 2022, Suetsugu et al., 2020) , and one was a prospective population-based cohort study (Stuijfzand et al., 2020).

Recruitment took place in a clinical setting for 12 of the studies, in the community in four of the studies and a combination of clinical and community in two studies. Participant numbers ranged from 19 to 3006 and the total sample size across all papers was 7825. Fifteen studies focused on mothers and three of the studies included both mothers and their babies. Demographics of participants in the studies where documented highlighted that most of the mothers included were primiparous (6 studies), single pregnancy (8 studies), aged 20 - 50 (7 studies), either married or cohabiting (11 studies) and employed (6 studies).

Quality Appraisal

The quality rating scores for each study can be found in Table 4.

In the confounders domain, all but one of the studies were rated weak. The weak ratings were mostly due to little or no description of confounders. In terms of study design, no studies were randomised controlled trials or controlled clinical design and therefore could not be given a strong rating. Nine of the studies were given a strong rating for data collection method as valid and reliable measures were used.

Most of the studies were rated weak due to a lack of information on confounders and either weak or moderate scores on study design or selection bias, therefore all the studies received a minimum of two weak ratings and consequently a global weak score as per guidelines for the assessment. Although the questionnaire cross-sectional/cohort design generally used in the included studies fit with the nature of assessing the impact of birth trauma and attachment, what would be viewed as a strong quantitative study design, may not be applicable to this topic area. This coupled with the increased opportunity to drop out of studies due to questionnaires could explain all of the weak ratings. Therefore, all studies were included within this review and given equal weighting in their findings.

Outcome Measures

Attachment Measures

Thirteen measures were used to assess attachment. Only one measure of attachment was used in 11 of the studies – usually a questionnaire, while the remaining seven studies used two measures of either two questionnaires or a questionnaire alongside an attachment observation. A range of questionnaires were used, most commonly, the postpartum bonding

questionnaire (PBQ; Brockington et al., 2006) was used (six studies - one in the German version and one in the Japanese version) and the maternal postnatal attachment scale (MPAS; Condon & Corkindale, 1998) was used in four studies (one in Italian version). The PBQ (Brockington et al., 2006) is a 25-item questionnaire focusing on the attachment relationship between mother and baby scored on the truth of the statements such as 'I feel close to my baby' and it has acceptable internal consistency ($\alpha = .76$) except for one subscale (Wittkowski et al., 2007). The maternal attachment inventory (MAI; Muller, 1994), the emotional availability scale (EAS; Biringen, 2008), mother-to-infant bonding scale (MIBS; Taylor et al., 2005) and recorded interactions between mother and baby were used twice across the review. The remaining measures were used in one study each, including; the Bethlehem mother-infant interaction scale (BMII; Pearce & Ayers, 2005), Mothers' object relations scale – short form (MORS-SF; Oates & Gervai, 2003), Maternal infant responsiveness instrument (MIRI; Amankwaa & Pickler, 2006), the still face paradigm (Tronick et al., 1978), strange situation procedure (Ainsworth et al., 1978), the relationship questionnaire – Japanese version (RQ; Kato, 1998) and paediatric infant parent exam (PIPE; Fiese et al., 2001). There are no literature reviews assessing quality of the measures for mother-infant attachment that have been used in this study. As can be seen, many questionnaires and behavioural measures have been used across the studies. This is useful to consider when interpreting the results and understand whether there is a pattern of influence from the measures used to the findings of the studies.

Birth Trauma Measures

To measure birth trauma, 15 different questionnaires were used. Most studies (n = 13) used a single questionnaire, four of the studies used two questionnaires and one study used three questionnaires. Six of the questionnaires were general trauma screenings whereas the remaining nine were specific to birth and the perinatal period. The most common questionnaire used was the Impact of events scale (IES; Horowitz et al., 1979) in four of the studies, a further study used the Impact of events scale – revised (IES-R, Weiss & Marmar, 1997) in the Japanese version. Both the IES and IES- R have good psychometric properties in terms of validity, reliability, and correlations between corresponding subscales (Beck et al., 2008).

Five of the questionnaires were used in two of the studies including PTSD Checklist for DSM-5 (PCL-5; Weathers et al, 2013), the Peritraumatic Distress Inventory (PDI; Brunet et al., 2001), The City Birth Trauma scale (BiTS; Ayers et al., 2018), the Perinatal PTSD questionnaire (PPQ; De Mier et al., 1996) and the Perinatal PTSD questionnaire-II (PPQ-II, Callahan et al., 2006) including one in the Italian version. A further eight different questionnaires were also used, including the Experience of Birth Scale (EBS; Slade et al., 1993), the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-PTSD; First et al., 1996), post-traumatic stress Disorder Questionnaire (PTSDQ; Watson et al., 1991), Trauma Screening Questionnaire (TSQ; Brewin et al., 2002), FBS Birth Experience Scale (FBS-BES; Elvander et al., 2013), The Childbirth Experience Questionnaire (CEQ; Dencker et al., 2010), Wijma Delivery Expectancy/Experience questionnaire (W-DEQ; Wijma et al., 2004) and the post-traumatic diagnostic scale: French version (PDS-F; Foa et al., 1997). Similarly with attachment, it is important to consider the implications from a wide range of measures used in the studies impacting the results, this could be in terms of differences in what they are measuring and defining the term of birth trauma in relation to, for example, general trauma.

Occurrence of birth trauma

In three studies, the number of women experiencing childbirth related trauma symptoms following childbirth was reported, the remaining studies did not report these data. Kjerulff et al. (2021) found 225 women (7.5% of the total) reported experiencing one or more birth related PTSD symptoms. Petit et al. (2016) reported that 31 mothers (40.2%) showed a score equal or above 19 (19-46) on the PPQ (Callahan et al., 2006) which corresponds to a risk of post-traumatic stress from childbirth. This percentage could be higher due to the lower number of participants completing this study in comparison with the reporting of occurrence in the other studies. Lastly, Rados et al. (2020) found that 11.8% (71/603) of women fulfilled all criteria for PTSD following childbirth. Although varying, these findings are consistent with other research focussing on birth trauma (de Graff et al., 2018) and highlight just how common these symptoms are. The recruitment of participants may also influence this as a cohort study based in a clinic where all mothers are approached to participate might get lower percentage of birth trauma experience than when participating in a study specifically asking about birth trauma, as those who do not have these experiences may be less likely to take part.

Childbirth Trauma and Attachment

In seven of the studies, no association between childbirth trauma and attachment was found (Ayers et al., 2007, Evans et al., 2022, Handelzaltz et al., 2021, Handelzaltz et al., 2022, MacMillan et al., 2021, Martini et al., 2022, Williams et al., 2016). However, a direct association was found in eight studies (Davies et al., 2008, Dekel et al., 2019, Ionio & Di Blasio (2014), Kjerulff et al., 2021, Mayopoulos et al., 2021, Petit et al., 2016, Ponti et al., 2020, Stuijfzand et al., 2020). All the studies used regression modelling to identify whether childbirth had an impact on attachment.

The three remaining studies showed varying results in terms of the association between childbirth trauma and attachment. Muller-Nix et al. (2004) found a partial correlation between maternal traumatic stressful experiences and attachment interactional behaviours. This was a partial correlation as when controlling for the infant's physical health severity, influence on this association was identified. However, the study reported that the maternal traumatic experience could have a bigger impact at six months postpartum in terms of maternal sensitivity ($r = -0.207$, $P < 0.09$), but these results were not significant. Rados et al. (2020) found that birth-related PTSD symptoms did not have a direct or indirect effect on attachment ($r = .30$, $p < .01$), but general PTSD-symptoms did significantly affect attachment, however, the same questionnaire was used to measure both birth-related and general PTSD symptoms. This could therefore impact the validity of the findings. Suetsugu et al. (2020) found that at one-month postpartum, post-traumatic stress symptoms did predict attachment ($r = .631$, $p < .01$) whereas at four months postpartum, post-traumatic stress symptoms did not impact attachment ($r = .426$, $p < .01$) whereas depression did ($r = .371$, $p < .01$).

These findings highlight a lack of consistent results in terms of whether there is an association between birth trauma and attachment, there is a slightly higher number of studies which show an association and therefore could conclude that these factors are related in some way, with further research required.

Longitudinal Findings

Five of the studies had longitudinal designs. Muller-Nix et al. (2004) found that mothers of premature infants who were at high risk of medical complications were found to be less

sensitive and more controlling following a traumatic birth at 6 months postpartum, whereas there were no significant differences in attachment behaviour at 18 months postpartum. Stuijfzand et al. (2020) found that childbirth related PTSD symptoms at one month postpartum were negatively associated with mother-infant attachment at three months postpartum. It was also found that trauma scores were a relevant factor for attachment failure at one month postpartum. At four months postpartum, trauma symptoms were found to be no longer relevant for attachment (Suetsugu et al., 2020). Kjerulff et al. (2021) found that women experiencing childbirth related PTSD symptoms scored significantly lower on postpartum attachment at one, six and 12 months postpartum. In contrast, Evans et al. (2022) found that maternal trauma symptoms were not associated with maternal attachment at 6 weeks postpartum and at 12 months postpartum, higher trauma symptoms were associated with higher levels of self-reported attachment.

Overall, it could be seen that childbirth related trauma symptoms have an impact on attachment in the early stages postpartum, but this decreases in its impact within the first 12-18 months of a baby's life. The studies which showed this finding had large sample sizes, between 105 – 3006 between them. A key difference between the studies which found this effect and the one that did not relates to levels of power. In particular, Evans et al.'s (2022) had a very small sample size and would have been highly unlikely to detect an effect.

Factors associated with birth trauma and attachment

Martini et al. (2022) identified that women with birth related traumatisation also showed difficulties with postpartum depression and anxiety, child-related fears, and sexual problems while the child showed feeding and sleeping difficulties. The relationship between birth trauma and attachment was directly or partially mediated by depression (Ponti et al., 2020, Williams et al., 2016).

Stuijfzand et al. (2020) found that maternal childbirth PTSD symptoms were no longer predictive of mother-infant attachment when adjusted for by psychological distress and therefore may be implicated in this association. However, this study used the Hospital Anxiety and Depression scale (HADS) to assess psychological distress which could overlap with PTSD symptoms and could therefore influence the results. Dekel et al. (2019) also found that the higher distress that was endorsed, the lower the attachment relationship reported.

Evans et al. (2022) found that the relationship between birth trauma and attachment was however not significantly mediated by self-efficacy, but as stated above, their sample was rather small and therefore may not have had sufficient power. These studies, taken together seem to indicate that birth trauma may appear to have an impact on attachment behaviours, but that this is potentially accounted for by greater levels of emotional distress rather than trauma symptoms per se.

Attachment presentation in the child

Four of the eighteen studies used behavioural observations to identify the impact of childbirth trauma on attachment behaviours in the infant. Ionio & Di Blasio (2014) used the still face paradigm and found that during the play phase, the number of PTSD symptoms positively correlated with the child's crying, arch position, and disorganised behaviour. During the still phase, symptoms of PTSD were positively correlated with the child looking away. Children with mothers who had high number of PTSD symptoms are less interested in objects nearby and showed more avoidance behaviours. This was consistent with MacMillan et al.'s study (2021) where women who experienced a more negative childbirth experience were 4% more likely to be classified with a non-emotionally available zone during the mother-infant interaction at six months postpartum.

In comparison, the further two studies identified opposing findings with Martini et al. (2022) identifying no significant associations of birth trauma with infant's temperament, neuropsychological development, or attachment through the strange situation procedure. Likewise, Muller-Nix et al. (2004) found that at 6 months there were no significant differences in the infants' interactional behaviours dependent on attachment scores assessed via observations of a mother-child play. The differing results could be explained by the variance in scoring and recording of different presentations depending on what they were focusing on.

Discussion

Main Findings

The aim of this review was to systematically investigate the association between childbirth trauma and mother-infant attachment. Eighteen studies were included with discrepant

results. There were more studies (8) supporting the association that childbirth trauma negatively impacts mother-infant attachment, but this relationship could also be influenced by other factors.

Eight studies provided evidence for a direct negative statistical association between birth trauma and reduced/impacted attachment behaviour (Davies et al., 2008, Dekel et al., 2019, Ionio & Di Blasio (2014), Kjerulff et al., 2021, Mayopoulos et al., 2021, Petit et al., 2016, Ponti et al., 2020, Stuijfzand et al., 2020). This finding is consistent with qualitative research which has highlighted obstacles for factors such as skin-to-skin contact and breastfeeding after birth trauma led to mothers reporting attachment difficulties with their infant postnatally (Rodríguez-Almagro et al., 2019). Quantitative research has also shown that skin-to-skin contact with an infant such as stroking from birth can reduce infant fear and anger presentations (Sharp et al., 2012). It has been suggested that some women can emotionally detach themselves to manage the traumatic experience of birth which in turn impacts the mother, baby, and their relationship (Shorey & Wong, 2022). However, there is limited research apart from the studies included in this review focusing specifically on the potential impact of childbirth trauma on mother-infant attachment. The subjective nature of identifying the complex experience of childbirth trauma and the confounding factors which could overlap in its influence on attachment could provide an explanation for the varied results found.

In support of this, several of the studies included found other factors which could also have an influence on this association, such as depression (Ponti et al., 2020, Williams et al., 2016) and pre-morbid psychological distress (Stuijfzand et al., 2020). Depression has a large amount of research supporting its role in impacting the attachment relationship (Hazell Raine et al., 2020, Gilden et al., 2020) fitting with the findings from some of the studies in this review. However, there is acknowledgement of the complexity in this relationship (Sliwerski et al., 2020), which when coupled with childbirth trauma may lead to challenges in identifying the specific role of each difficulty associated with attachment. In terms of psychological distress, other (limited) research supports the impact of prior psychological distress influencing mother-infant attachment (Risi et al., 2021) and whether a traumatic childbirth is experienced, particularly with women who have a history of interpersonal trauma (MacKinnon et al., 2018). Those with interpersonal trauma – specifically in relation

to generational attachment experiences – have been found to experience trauma symptoms pre- and post-natally which can lead to an impairment in relationships with their baby (Schwerdtfeger & Goff, 2007). Although the relationship between mental health and trauma experiences during birth and pre-birth on attachment is complex, the research suggests that mental health, particularly trauma and depression are important factors in influencing this. It is important to note that other variables accounted for in regression analysis such as depression, could mask the effects of childbirth trauma on attachment and therefore influence the results due to the link in presentations between depression and trauma. This may explain the discrepancies in results of studies reviewed.

Three studies reported on the percentage of mothers in their sample who had PTSD symptoms resulting from childbirth. These ranged from 7.5 – 40.2% (Kjerulff et al., 2021, Petit et al., 2016) in birthing mothers. This is consistent with reviews focussing on the prevalence of PTSD symptoms following childbirth being between 4.6 – 20% (Dekel et al., 2017, Modarres et al., 2012). This suggests there is a need for early identification of risk factors or symptoms to ensure adequate support is offered. Large numbers of women experience childbirth as traumatic but not meeting full diagnostic criteria for PTSD. For example, in one study, over 50% of mothers viewed their birth as traumatic (Modarres et al., 2012), however again, there is limited research within this area.

The measures for birth trauma and attachment varied with 13 different attachment measures and 15 different trauma measures – both birth specific and generic – used. This could partly explain the varied findings. It is possible that the measures used may be reporting on different elements of trauma or attachment and could therefore influence the consistency of the findings. There was no pattern across the measures used in the studies which did show an association or did not, both for questionnaires or behavioural observations. However, it is important to note that there is no standardised or recommended way of measuring these variables. This may be an area for further work in the field. This range of scales could also explain the differences in findings between the studies.

There are varied results in terms of a clear association between childbirth trauma and attachment and further research is required to understand this likely relationship better. The quality assessment did not provide further information in terms of the quality of studies to rank them, generally the study design was marked moderate for a similar percentage of

studies across those which found associations to those that didn't. The data collection method was marked as strong for five out of six studies that did not show an association compared with four strong and one moderate out of the 13 remaining studies that did show an association. If the data collection method was of higher quality, a clearer picture of the association between birth trauma and attachment may be identifiable. Establishing a recognised set of reliable and valid means to assess these variables seems to be a priority. However, as the global rating of all the studies was weak, it is difficult to hypothesise the impact of changes to the studies when this does not reflect the available research.

In attempting to account for the inconsistencies in results, generally, the studies that showed a significant effect had larger sample sizes, perhaps indicating a lack of power in smaller studies however this was not a consistent observation as some of the studies showed no significant effect did have sufficient power. There were no further methodological issues found to differ between the significant effect studies and those without significant effect that would explain the discrepancy in their findings. A review of the effect sizes for the studies to identify if a lack of power in smaller studies would account for the inconsistent results found a large variability across the studies with no consistent effect sizes to draw upon. However, this could be due to possible variances in the definition of childbirth trauma and attachment between studies. For example, Suetsugu et al., 2020 identified that attachment was significantly impacted by childbirth trauma at one month postpartum ($r = .631$, $p < .01$) showing a large effect size, whereas Hendelzalts et al. (2022) found no significant effect ($r = .06$, $p < .05$), but the latter study focussed on mothers with infants up to 13 months of age. Therefore, the research parameters for dealing with childbirth trauma and the attachment relationship varied. However, again this did not fit with all the research as Handelzalts et al. (2021) approached women two and six months postpartum and found no significant effect on attachment ($r = .36$, $p > 0.01$), however general PTSD symptoms were controlled for, suggesting this could also be impacted in the measurement of childbirth trauma. Due to the variety of methods used across the studies, a meta-analysis was not completed.

The findings in this review highlight that large numbers of women experience childbirth as traumatic but are not meeting full diagnostic criteria for PTSD. Basing trauma experiences simply on meeting PTSD criteria leaves women who do not meet this threshold but are

experiencing intrusive thoughts and symptoms of avoidance (Davies et al., 2008), without the support they may require. Mothers often do not receive psychological support after birth, however, are most at risk of developing mental health difficulties (Howard & Khalifeh, 2020) which will impact the development of positive attachment relationships. Therefore, it would be important for developments in maternity services to reflect this need and ensure mothers are supported, to in turn promote positive bonding processes.

Future Research

It is evident that there is a degree of association between women's experience of birth trauma and mother-infant attachment, with the possibility of other factors moderating or mediating these effects. However, further research in this area would be beneficial in understanding the direction of this association and other factors influencing this in the long term.

Five of the studies in this review completed longitudinal research to assess this association (Evans et al., 2022, Kjerulff et al., 2021, Muller-Nix et al., 2004, Stuijfzand et al., 2020, Suetsugu et al., 2020), however this was limited to between one to eighteen months postpartum. Further longitudinal research of a longer time span into later childhood could not only record the change in terms of the association between childbirth trauma and attachment, but also the progression of childbirth related trauma symptoms and attachment independently to inform future clinical support and practice. It could also look at the implications for both mother and baby in the longer term. If this research was co-produced with mothers, there may be less of an impact of dropouts and designed to highlight what is important for mothers who experience birth as traumatic. Clinically, this would provide recommendations on the risk factors maternity services could look out for, how to hold conversations with mothers about their birth and providing timely intervention to support attachment where required. An understanding of causality over time would be useful in the future, while planning for disadvantages inherent in this type of research such as attrition rates and funding for longer term work (Rajulton, 2001). On review, no research has been identified which looks at a causal relationship between these factors and therefore is an area that could be developed on in the future.

As previously discussed, many measures were used in the studies included in this review and could influence the apparent prevalence and severity of experiences of childbirth trauma along with the timing of administration. In addition, childbirth specific measures are often not validated which could account for the differences in findings (Ayers et al., 2008). It could be suggested that further research focusing on validating specific measurements and as mentioned above, identifying 'gold standard' measures that can be used across studies to reliably progress or replicate the findings would be of use. The findings from this review could inform this in terms of understanding what is being measured in relation to birth trauma/attachment and how moderating factors identified such as depression and social support can influence this. The results highlight links between the variables and associating factors and could show whether associations were found and what moderators influenced this. Attachment measures should be supported using behavioural observations such as the Strange Situation procedure (Ainsworth et al., 1978), due to their strong evidence base and complimentary nature to support findings (O'Connor & Byrne, 2007).

Many of the studies in this review focused on samples in westernised and developed countries. Research has shown that there are cultural variations in childbirth experience, demographics of mothers, differing levels of trauma symptoms following birth and differences in mental health support (Alhussainan, 2019). Coupling this with the cultural variations found in what 'good' attachment looks like in different countries and religions (Keller, 2013), highlights a need to understand the prevalence and risk factors for trauma from childbirth. The development of adapted and specific measures of attachment in line with the population targeted is important to support the understanding behind the association. This research could take place in a range of communities and countries and would require researchers who speak the language or interpreters to support. The clinical implications would benefit mothers who live in these areas in terms of understanding their experience of birth trauma and the support they require, however awareness of maternity funding and stigmatisation would need to be considered.

Finally, in the quality assessment, the confounders element was the area scored consistently low across the studies in this review. This could be an area of development in future research, particularly in support of identifying risk factors that may have a role in the association between birth trauma and attachment. By outlining the confounders that have

been accounted or controlled for, future research could identify how this relationship works and whether difficulties such as depression have an impact directly, indirectly or a mediating role within the relationship without the influence of bias (Skelly et al., 2012). The question essentially remains that if attachment and birth trauma are associated, why are they so?

Clinical Implications

Birth trauma support is recognised within maternity services as a need for mothers and national guidelines are available. National Institute of Clinical Excellence (NICE) Guidelines outline that women who have experienced a traumatic birth should be offered advice and support to initially talk about their experience if they wish with further psychological support (NICE, 2014). Postnatal debriefing services are also on offer to discuss a traumatic birth to reduce the impact of PTSD or depression on the mother (Baxter et al., 2014). These debriefing services have been found to reduce depression scores in new mothers in the three months postpartum (Abdollahpour et al., 2018), further research looking at the impact on trauma symptoms would be useful to understand the role of these services in supporting women postpartum following a traumatic birth. Women can feel angry, disappointed and experience a sense of loss with the lack of support they are offered during and after a traumatic birth (Elmir et al., 2010) Identifying risk factors perinatally is important to offer timely support and reduce negative implications for both mothers, babies, and their family (Simpson & Catling, 2016). The evidence in this review supports the early identification of women who may be at more risk of or experience birth trauma due to the impact on mother-infant attachment, alongside the future impact on both mother and baby such as mental health and relationship challenges.

Health visitors offer mothers support postnatally often receiving information from the midwives who have supported them to give birth. Health visitors can have a lack of detailed knowledge about attachment with a want for further training and understanding (Appleton et al., 2013). This review highlights the need for health professionals to recognise challenges within the attachment relationship, particularly when coupled with a traumatic birth experience to support the mother-infant attachment and prevent future challenges for the child as they develop. A pro-active approach through awareness of risk factors for birth trauma that can be identified postnatally after birth and support offered to reduce the impact emotionally on the mother and on the relationship with their baby. These include

mothers' perspectives of the birth experience as negative (Ayers et al., 2007), delivery conditions (Petit et al., 2016) and an unexpected type of birth (Handelzaltz et al., 2021). Mothers who reported positive childbirth and hospital experiences had infants with higher emotional availability during mother-infant interactions (Ouma, 2017).

Research has looked at the impact of maternity staff being trained in trauma-informed care to support mothers who experience their birth as traumatic through empowering mothers to communicating their choices and reducing the chance of traumatisation (Sachdeva et al., 2022) and in turn improving infant outcomes (Racine et al., 2021). The role of clinical psychology as a profession to support maternity professionals in training, supervision and developing guidelines around trauma led conversations and risk factors for trauma would be beneficial for mothers (Weidner et al., 2023).

Those who experience a birth trauma could be offered a separate assessment by their health visitor for trauma symptoms and review of attachment with their baby to identify any concerns with either of these difficulties. In terms of the birth trauma impact, in the UK, health visitors can offer listening visits and a childbirth debrief. Regarding any attachment difficulties, health visitors could offer listening visits, psychoeducation, and behavioural support to improve their attachment relationship. Further support for mothers in identifying signs of attachment and providing positive reinforcement when encouraging progress is made would also be beneficial. If higher level support is required, a referral to perinatal services to support mothers with the impact from birth trauma and any subsequent attachment difficulties could be beneficial.

Limitations

The reliance on cross sectional data in a large proportion of the studies is a limitation as only associations can be inferred from the findings, not causality. Also, the predominant use of self-report questionnaires could limit these findings due to the impact of social desirability bias on the validity of the findings, particularly with the sensitive nature of the questionnaires in this study (Larson, 2019) such as attachment with baby. Mixed findings were drawn across the studies with a higher number of studies confirming some association between attachment and birth trauma. The quality assessment gave all the papers weak ratings; therefore, it was unable to identify papers of higher quality which could have been

given more weighting in the results. This has impacted on the understanding of the findings due to the discrepant results. However, it has allowed a clear overview of all the research on this topic and outlined where the current body of research could be improved as outlined below.

Another limitation is the exclusion within seven of the studies of women who had a multiple pregnancy (Handelzalts et al., 2020, Handelzaltz et al., 2022, Kjerulff et al., 2021, Ponti et al., 2020, Martini et al., 2022, Stuijfzand et al., 2020, Suetsugu et al., 2020) and in six of the studies excluding women who have a prior mental health diagnosis or background (Davies et al., 2008, Ponti et al., 2020, Ionio & De Blasio, 2014, MacMillan et al., 2021, Muller-Nix et al., 2004, Petit et al., 2016). Many of the studies also identified a predominant sample of women who were either married or in relationships (Davies et al., 2008, Rados et al., 2020). Further research could include women who may not fit the above limits to support a better understanding of this association e.g., women experiencing multiple or subsequent pregnancies (Beck et al., 2013), migrant women (Benza & Liamputtong, 2014), teenage mothers (Akter, 2019) or those with pre-existing mental health conditions (Simpson & Catling, 2016). This could also increase equitable access for healthcare support for mothers who do not fit these restrictive criteria.

The search strategy excluded any studies not reported in the English language and therefore should be reviewed in future research, therefore the studies in this review all took place in highly developed countries. Generally, midwives offer maternity care (Tikkanen et al., 2020) within their health systems. Although there are disadvantages such as medicalised ways of working and a lack of staff and resources, research shows they tend to be functioning better than healthcare in low-income countries due to a better understanding of the impact and reduced exposure to risk factors for mental health (Rayment et al., 2020, Burger et al., 2020). Therefore, further research in other areas of the world could be beneficial in identifying the prevalence of birth trauma and in turn the risk factors and future implications such as attachment. This will identify the support required, however applicability will depend on the resources available in that country/area. In an unpublished study, Ouma et al (2017) examined the association between birth trauma and attachment in Uganda. Building on this research within countries with fewer resources such as Uganda would be useful in developing perinatal services in these areas. Understandably, it has been found that women

should be able to access culturally accessible and respectful perinatal care which is equitable (Oosthuizen et al., 2017), which it could be argued would be better supported if there was available research for all areas of the world, not just westernised and developed countries.

Conclusions

In conclusion, this systematic review found that the evidence favoured a negative association between childbirth trauma and attachment. However, the results were mixed. In addition, moderators such as depression and psychological distress could also have an influence within this relationship. The review has identified that further research is required to understand links between childbirth trauma and attachment, the factors which may influence this association and the implications for mother and child in the long term.

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Table 1. Term Definitions

Term	Definition	Measure Examples
Attachment	In this review, it was decided that as broad of a definition of attachment would be used within the searches. Therefore, this included studies using terms such as bonding, relationship, maternal sensitivity and related terms that link to the attachment relationship. This was to ensure all relevant studies were included within this review. To provide a consistent understanding, the authors have referred to attachment throughout the paper to reduce confusion around possible definitions, as this is highlighted within this table.	PBQ (Brockington et al., 2006) – measured bonding through mother. Questions focused on measuring general attachment, threatened rejection from mother, anxiety or anger towards baby and dangerous behaviour towards baby. MPAS (Condon & Corkindale, 1998) – a 19 item measure which focuses on quality of attachment, absence of hostility and pleasure in interaction.
Birth Trauma	Similarly with attachment, a broad definition of birth trauma was used within this review. DSM-V criteria defines four clusters of PTSD symptoms; intrusive reexperiencing, avoidance, negative mood and cognitions and hyperarousal (Sperlich et al., 2017). This review included individuals diagnosed with PTSD to individuals reporting symptoms of traumatic stress following their experience of birth, which may or may not be viewed as traumatic by professionals. Again, due to limited	IES (Horowitz et al., 1979) – 15 items which focus on measuring the person's reliving of the event and symptoms of numbing/avoidance around thinking about it. PTSD Checklist for DSM-5 (Weathers et al., 2013) – 20 item checklist focusing on symptoms covering intrusion, avoidance, hyperarousal, depression and general stress.

	research, this was to ensure all studies which reviewed this association would be included. Risk factors such as high risk of medical complications (Muller-Nix et al., 2004) would be useful in identifying those at risk of birth trauma.	

Table 2. Search Strategy

Concepts	PsycInfo		Medline		CINAHL		Scopus
	MeSH Terms	Key Words	MeSH Terms	Key Words	MeSH Terms	Key Words	Key Words
Concept 1 Birth	1. Birth 2. Birth Trauma 3. Childbirth	1. Birth 2. Labo?r 3. Childbirth 4. Natural childbirth 5. Caesarean childbirth 6. Birth Trauma 7. Parturition	1. Parturition	1. Birth 2. Labo?r 3. Childbirth 4. Natural childbirth 5. Caesarean childbirth 6. Birth Trauma 7. Parturition	1. Childbirth 2. Labor	1. Birth 2. Labo?r 3. Childbirth 4. Natural childbirth 5. Caesarean childbirth 6. Birth Trauma 7. Parturition	1. Birth 2. Labo?r 3. Childbirth 4. Natural childbirth 5. Caesarean childbirth 6. Birth Trauma 7. Parturition
Concept 2 Trauma	1. Trauma 2. Traumatic Experiences 3. Trauma Reactions 4. Posttraumatic Stress 5. PTSD	1. Trauma 2. PSTD 3. Posttraumatic Stress Disorder 4. Stress 5. Complex PTSD	1. Trauma and stressor related disorders 2. Stress Disorders, Post-Traumatic	1. Trauma 2. PSTD 3. Posttraumatic Stress Disorder 4. Stress 5. Complex PTSD	1. Trauma 2. Stress Disorders, Post-Traumatic	1. Trauma 2. PSTD 3. Posttraumatic Stress Disorder 4. Stress 5. Complex PTSD	1. Trauma 2. PSTD 3. Posttraumatic Stress Disorder 4. Stress 5. Complex PTSD
Concept 3 Attachment	1. Attachment Behavior 2. Attachment Disorders 3. Attachment Style 4. Attachment Theory	1. Attachment 2. Relationship 3. Bond 4. Bonding 5. Emotional security 6. Maternal sensitivity 7. Mother child/infant relations	1. Mother-Child Relations	1. Attachment 2. Relationship 3. Bond 4. Bonding 5. Emotional security 6. Maternal sensitivity **7.** Mother child/infant relations	1. Attachment behavior 2. Mother-Infant Relations 3. Mother-Child Relations	1. Attachment 2. Relationship 3. Bond 4. Bonding 5. Emotional security 6. Maternal sensitivity 7. Mother child/infant relations	1. Attachment 2. Relationship 3. Bond 4. Bonding 5. Emotional security 6. Maternal sensitivity 7. Mother child/infant relations

Table 3. Example Search Strategy

Search Topic	Search Term
Birth	((DE "Birth" OR DE "Birth Weight" OR DE "Caesarean Birth" OR DE "Labor (Childbirth)" OR DE "Natural Childbirth" OR DE "Premature Birth" OR DE "Birth Trauma") OR (DE "Natural Childbirth")) OR AB (birth OR labo?r OR childbirth OR "natural childbirth" OR "caesarean birth" OR "birth trauma" OR parturition) OR TI (birth OR labo?r OR childbirth OR "natural childbirth" OR "caesarean birth" OR "birth trauma" OR parturition)
Trauma	((((DE "Trauma" OR DE "Birth Trauma" OR DE "Collective Trauma" OR DE "Complex Trauma" OR DE "Emotional Trauma" OR DE "Injuries" OR DE "Intergenerational Trauma" OR DE "Moral Injury" OR DE "Posttraumatic Growth" OR DE "Posttraumatic Stress" OR DE "Racial Trauma" OR DE "Trauma Reactions" OR DE "Traumatic Experiences" OR DE "Traumatic Loss") OR (DE "Traumatic Experiences")) OR (DE "Trauma Reactions")) AND (DE "Posttraumatic Stress" OR DE "Posttraumatic Stress Disorder" OR DE "Complex PTSD" OR DE "DESNOS")) OR AB (trauma or ptsd or "post-traumatic stress disorder" or "traumatic experience" or "complex PTSD") OR TI (trauma or ptsd or "post-traumatic stress disorder" or "traumatic experience" or "complex PTSD")
Attachment	(DE "Attachment Behavior" OR DE "Abandonment" OR DE "Attachment Style" OR DE "Object Relations" OR DE "Separation Reactions" OR DE "Attachment Disorders" OR DE "Disinhibited Social Engagement Disorder" OR DE "Attachment Style" OR DE "Attachment Theory") OR AB (Attachment OR Relationship OR Bond OR

	Bonding OR "Emotional security" OR "maternal sensitivity" OR "Mother infant relations") OR TI (Attachment OR Relationship OR Bond OR Bonding OR "Emotional security" OR "maternal sensitivity" OR "Mother infant relations")

Table 4. Quality Assessment

Study	Global Quality Ratings						
	A – Selection Bias	**B – Study Design**	**C - Confounders**	**D – Blinding**	**E – Data Collection Method**	**F – Withdrawals and Dropouts**	**Global Rating**
Ayers et al., 2007	3 - weak	3 - weak	3 - weak	3 - weak	3 - weak	3 - weak	3 - weak
Davies et al., 2008	2 - moderate	3 - weak	3 - weak	3 - weak	1 - strong	2 - moderate	3 - weak
Dekel et al., 2019	3- weak	3 - weak	3 - weak	3 - weak	2 – moderate	2 - moderate	3 – weak
Evans et al., 2022	3 - weak	2 - moderate	3 - weak	3 – weak	1 - strong	1 - strong	3 - weak
Handelzalts et al., 2020	2 - moderate	3 - weak	3 - weak	2 - moderate	1 - strong	2 - moderate	3 - weak
Handelzalts et al., 2022	3 - weak	3 - weak	3 - weak	2 - moderate	2 - moderate	N/A	3 – weak
Ionio & Di Blasio., 2014	3 - weak	2 - moderate	3 - weak	2 - moderate	3 - weak	3 - weak	3 – weak
Kjerulff et al., 2021	2 - moderate	2 - moderate	3 - weak	2 - moderate	3 - weak	3 - weak	3 - weak
MacMilan et al., 2021	2 - moderate	2 - moderate	3 - weak	3 - weak	1 - strong	2 – moderate	3 - weak
Martini et al., 2022	3 - weak	2 - moderate	3 - weak	3 - weak	1 - strong	3 - weak	3 – weak
Mayopoulos et al., 2021	3 - weak	2 – moderate	3 - weak	2 – moderate	3 - weak	3 - weak	3 – weak
Muller-Nix et al., 2004	3 - weak	2 – moderate	3 - weak	2 – moderate	3 - weak	3 - weak	3 - weak
Ouma, 2017	2 – moderate	3 - weak	3 - weak	3 - weak	3 - weak	3 - weak	3 - weak

Petit et al., 2016	3 - weak	2 - moderate	3 - weak	3 - weak	3 - weak	3 - weak	3 – weak
Ponti et al., 2022	2 – moderate	2 – moderate	3 - weak	3 - weak	3 - weak	3 - weak	3 - weak
Rados et al., 2020	3 - weak	3 - weak	1 - strong	2 - moderate	1 - strong	1 - strong	3 – weak
Stuijfzand et al., 2020	2 – moderate	2 – moderate	3 - weak	3 - weak	1 – strong	N/A	3 – weak
Suetsugu et al., 2020	2 - moderate	3 - weak	3 - weak	3 - weak	1 - strong	2 - moderate	3 – weak
Williams et al., 2016	3 - weak	3 - weak	3 - weak	2 - moderate	1 - strong	N/A	3 – weak

Table 5. Study & Participant Details

Study Number	Study Author & Year	Location	Participants	Ethnicity	Type of Sample	Setting of Recruitment
1	Ayers et al., (2007)	London, UK	64 couples	Not reported	Clinical	Maternity ward registers at a London hospital
2	Davies et al., (2008)	Sheffield, UK	211 women over the age of 18	Not reported	Clinical	Sheffield Maternity Hospital
3	Dekel et al., 2019	USA	685 women	Not reported	Community	Postpartum websites
4	Evans et al., 2022	Australia	39 mothers	Not reported	Clinical	Royal Brisbane and Women's Hospital and Mater Mother's Hospital NICU's
5	Handelzaltz et al., 2021	Israel	210 women	Not reported	Clinical	Rabin Medical Center
6	Handelzaltz et al., 2022	Israel	504 mothers aged 20-44	Not reported	Community	Social Media
7	Ionio & Di Blasio, 2014	Northern Italy	19 women	Not reported	Clinical	Obstetric Clinics
8	Kjerulff et al., 2021	Pennsylvania, USA	3006 women	83.2% Non-Hispanic White	Clinical and Community	Childbirth education classes, hospital tours, low-income clinics, private clinician's offices, ultrasound centres, hospital intra-net postings, newspaper and targeted mailings
9	Macmillan et al., 2021	Melbourne, Australia	211 mothers and infants	Not reported	Clinical	Mercy Hospital
10	Martini et al., 2022	Dresden, Germany	306 women	Not reported	Clinical	Gynaecological outpatient settings
11	Mayopoulos et al., 2021	America	637 women and 637 control women	86% US, 5% Oceania, 4% Europe, 1% Central/South America, <1% Asia, Caribbean,	Clinical and Community	Social Media, Professional Organisations and Hospital Announcements

				Africa and the Middle East		
12	Muller-Nix et al., 2004	Switzerland	45 infants and 25 control infants	96% Swiss	Clinical	Lausanne University Medical School
13	Petit et al., 2016	France	62 mothers and children	Not reported	Clinical	3 university hospitals
14	Ponti et al., 2020	Pisa, Italy	103 women aged between 26-46	Not reported	Clinical	Maternity ward of university hospital
15	Rados et al., 2020	Croatia	603 mothers of 1–12-month-old infants	Not reported	Community	Online
16	Stuijfzand et al., (2020)	Switzerland	488 parents	Not reported	Clinical	Lausanne Perinatal Wellbeing Cohort
17	Suetsugu et al., (2020)	Kyushu, Japan	130 mothers	Not reported	Clinical	Local obstetric hospitals
18	Williams et al., (2016)	United Kingdom	502 women aged between 19-50	93.9% white, 0.8% mixed ethnicity, 2% Asian, 0.8% Black/African/ Caribbean, 0.4% Other	Community	Internet Webpages

Table 6. Study Characteristics

Study Number	**Study Aim/Research Questions**	**Research Design**	**Attachment Measures**	**Childbirth Trauma Measures**	**Data Collection Method**	**Data Analysis**	**Statistical Findings**
1	What impact postnatal PTSD symptoms have on the parent-baby bond? What birth factors are associated with PTSD in men and women?	Cross-sectional study	- Bethlehem Mother-Infant Interaction Scale (Pearce & Ayers, 2005)	- Impact of Event Scale (IES; Horowitz et al., 1979) - Experience of Birth Scale (Slade et al., 1993)	Questionnaires	- Wilcoxon signed ranks test - Spearman's correlation - Multiple Regression analyses	- PTSD symptoms are most highly associated with the birth experience, but this was stronger for women. - For women, the only median correlation above 0.2 was between the birth experience and symptoms of PTSD (0.23). - Symptoms of PTSD were not associated with the parent–baby bond or the couple's relationship. - The mother-baby bond was not associated with any of the variables measured in this study.
2	The relationship between self-reported posttraumatic stress and depressive symptomatology at 6 weeks' postpartum and mother's perceptions of their infants, their	Cross-sectional study	- Mothers' Object Relations Scale-Short Form (MORS-SF; Oates & Gervai, 2003) - Maternal Postnatal Attachment Scale (MPAS;	- The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-PTSD; First et al., 1996) - Post-Traumatic Stress Disorder Questionnaire	Questionnaires	- ANOVA - Correlations - Analysis of covariance - Logarithmic transformation	- Mothers with full or partial posttraumatic stress symptoms viewed their infants as being less warm towards them, more invasive, and more difficult in temperament. They also perceived their attachment to their infants to be less optimal. This was

	behavioural characteristics, mother-to-infant attachment, and the quality of early dyadic interaction.		Condon & Corkindale, 1998)	(PTSDQ; Watson et al., 1991) - The Impact of Event Scale (IES; Horowitz et al., 1979)			characterized by greater infant-directed hostility, less pleasure interacting with their infants, and in the case of those women who met full criteria for PTSD at 6 weeks, less desire for proximity to their infants.
3	Whether PP-PTSD symptoms limit maternal attachment even more than non-childhood PTSD and whether PP-PTSD interferes with maternal attachment above and beyond premorbid factors.	Cross-sectional study	- Maternal Attachment Inventory (MAI; Muller, 1994)	- PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013) - Peritraumatic Distress Inventory (PDI; Brunet et al., 2001)	Questionnaires	- ANOVA - Hierarchical multiple regression	- The analysis was significant $F(3397) = 9.79$, $p < 0.001$ with significantly lower maternal attachment levels in PP-PTSD than in no PTSD and even general PTSD, but no differences were found with the comorbid group. - Regarding birth factors, although mode of delivery and birth complications did not contribute to attachment, mother's distress during birth and complication in the infant each had a significant contribution of a total of 7% of the variance. The higher the distress endorsed, the less attachment reported.
4	To investigate the role of maternal trauma symptoms,	Cohort Study	- Maternal Postnatal Attachment	- Impact of Events Scale	Questionnaires	- Multiple Regression Analyses	- Maternal trauma symptoms (95% CI−0.25 to 0.16) and depressive

	depressive symptoms and self-efficacy in predicting self-reported maternal bonding and maternal responsiveness for mothers of very preterm infants born <32 weeks gestational age (GA), at 6 weeks corrected age (CA) and 12 months CA.		Scale (MPAS; Condon & Corkindale, 1998) - Maternal Infant Responsiveness Instrument (MIRI; Amankwaa & Pickler, 2006)	(IES; Horowitz et al., 1979)		- Post-Hoc Power Analysis - Post-Hoc Mediation Analysis	symptoms (95% CI−0.84 to 0.17) did not make a significant unique contribution to maternal bonding. - Maternal trauma symptoms (95% CI−0.37 to 0.04) and maternal depressive symptoms (95% CI−0.93 to 0.41) did not make a significant unique contribution to maternal responsiveness. - The size and direction of the relationship indicated higher levels of maternal trauma symptoms and maternal self-efficacy were associated with higher levels of self-reported maternal bonding. - The relationship between maternal trauma symptoms and maternal bonding was not significantly mediated by self-efficacy, as apparent by a confidence interval that crossed 0 (95% CI−0.06 to 0.03). - Maternal bonding was not significantly predicated by maternal trauma symptoms (95% CI−0.32 to 0.06)

							between 6 weeks and 12 months CA.
5	To examine the relationship between adult attachment styles, postpartum psychopathology and the mother-infant bond.	Cross Sectional Study	Postpartum Bonding Questionnaire (PBQ; Brockington et al., 2006)	The City Birth Trauma Scale (BiTS; Ayers et al., 2018)	Questionnaires	- Pearson Correlation coefficient - One-way ANOVA	- Bonding difficulties were significantly associated with an unexpected type of birth. - The direct link between PP birth related PTSD symptoms and bonding was not significant.
6	To integrate personality variables of Neuroticism and Dispositional Optimism into a model with established risk factors for bonding disturbances, namely PPD and PP PTSD, with a specific and novel focus on PP PTSD birth-related as well as general symptoms.	Cross Sectional Study	Postpartum Bonding Questionnaire (PBQ; Brockington et al., 2006)	The City Birth Trauma Scale (BiTS; Ayers et al., 2018)	Questionnaires	- Pearson's Correlations - Path Analysis and Model Coefficients	- No direct effects affecting bonding were found. Five significant indirect paths were observed: BFI-Neuroticism affected PBQ through EPDS ($\beta = 0.14$, $p = .001$), BiTS birth-related symptoms ($\beta = -0.03$, $p= .013$). - The path from LOT-R to PBQ through BiTS birth-related symptoms was not significant. - the association between childbirth-related PTSD symptoms and bonding was negative, that is, as a mediator, more severe symptoms of childbirth related PTSD predicted fewer bonding difficulties.

							- when controlling for personality factors, mood, and general PTSD symptoms, childbirth-related PTSD symptoms were associated with fewer bonding difficulties.
7	To investigate whether the persistence of stress symptoms two months after delivery may affect the interactive synchrony in the mother-child dyad.	Cohort Study	The Still Face Paradigm (Tronick et al., 1978)	The Perinatal Post Traumatic Stress Disorders Questionnaire (PPQ; De Mier et al., 1996)	Questionnaires and recorded observations	- T-test - Pearson's Correlations - Linear Regressions	- The number of maternal PTSD symptoms is correlated with the child's behaviour. During the Play phase, the number of PTSD symptoms is positively correlated with the child's crying, arch position and disorganised behaviour; during the Still phase they are positively correlated with behaviour of looking away. In the Reunion phase, there are no significant correlations. - Linear regressions may also suggest that the number of symptoms of PTSD two months after birth can have an impact on early mother–child interactions. Through the application of the Still Face paradigm, we have found that children whose mothers had high

							numbers of PTSD symptoms are less interested in objects nearby and show more avoidance behaviours.
8	To conduct a secondary analysis of a large-scale prospective cohort study of women at first childbirth to address: 1. How often during first labour and delivery are women afraid they or their baby might be hurt or die? 4. To what extent is CR-PTSD symptomology associated with maternal-infant bonding after first childbirth while controlling for PP depression and other psychosocial factors? 5. To what extent is CR-PTSD consistently associated with maternal-infant bonding over the first year PP?	Prospective Cohort Study	Postpartum Bonding Questionnaire (PBQ; Brockington et al., 2001)	- Trauma Screening Questionnaire (TSQ; Brewin et al., 2002) - FBS Birth Experience Scale (FBS-BES; Elvander et al., 2013)	Questionnaires	- Chi Square - Bivariate analysis (chi-square and t-test) - Multivariable logistic regression models	- There were 225 women (7.5% of the total) who reported experiencing one or more CR-PTSD symptoms. - Women who reported one or more CR-PTSD symptoms were generally about twice as likely to score in the bottom third on the postpartum bonding measure. - The aORs and 95% CI's to measure the associations between CR-PTSD and maternal-infant bonding across these three time points (1, 6, and 12-months postpartum) were quite similar, indicating a persistent and stable association between CR-PTSD and maternal-infant bonding over the course of the first 12- months after first childbirth.

9	To examine if the relationship between distal trauma from childhood and maternal emotional availability (EA) at 6month postpartum is mediated by more proximate trauma specific to the perinatal period. Whether the relationship between maternal childhood trauma and maternal EA would be mediated by childbirth experience.	Prospective cohort study	- Mother-infant recorded interaction - Maternal Emotional Availability Scales (EAS; Biringen, 2008)	- The Childbirth Experience Questionnaire (CEQ; Dencker et al., 2010)	Questionnaires and recorded interaction	- Pearson's Correlations - Structural equation modelling	- Women who endorsed more negative childbirth experience were 4% more likely to be classified with a non-emotionally available zone during the mother-infant interaction at six months postpartum. - The other direct pathways between both proximate factors, childbirth experience, and antenatal stressful life events, with the latent factor maternal EA were not significant. - To address the final hypothesis regarding a specific mediating pathway between maternal childhood trauma and maternal EA, through each of the proximate traumas in order of their occurrence (i.e., stressful life events in pregnancy to childbirth experience to stressful life events in the postpartum) was not significant.
10	Whether women suffering from birth-related traumatisation were at higher risk for	Prospective longitudinal study	- Postpartum Bonding Instrument – German Version	- Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ)	Questionnaires and Strange Situation	Linear and logistic regression analyses	- Women with birth-related traumatization indicated numerous adverse outcomes (e.g., postpartum anxiety and depression,

	adverse maternal and infant outcomes.		(PBQ; Reck et al., 2005) - Strange Situation Procedure (Ainsworth et al., 1978)				child-related fears, sexual problems), and in case of additional postpartum depression, the infants were more often affected by feeding and sleeping problems. - We saw a higher risk for infant regulatory disorders (sleeping and feeding problems) in mothers with birth-related traumatization. - However, no significant associations were seen for e.g., temperament, neuropsychological development, or bonding.
11	Whether COVID-19 is associated with stressful childbirth and whether acute stress in birth mediates the association between COVID-19's presence in communities and enduring posttraumatic stress and maternal bonding problems.	Cross-sectional study	- Mother-to-Infant Bonding Scale (MIBS; Taylor et al., 2005) - Maternal Attachment Inventory (MAI; Muller, 1994)	- Peritraumatic Distress Inventory (PDI; Brunet et al., 2001) - Posttraumatic Checklist for DSM-5 (PCL-5; Bovin et al., 2016)	Questionnaires	- Kolmogorov-Smirnov and Shapiro-Wilk tests - Structural Equation Modelling	- The model revealed that acute stress response to childbirth significantly mediated the path between study group and CB-PTSD, maternal bonding, and breastfeeding [bias-corrected 95% confidence interval, (95% CIBC) .003, .03 for CB-PTSD symptoms .08, .56 for initial maternal bonding problems, .03, .22 for general bonding problems.

							- The COVID-19 group had higher acute stress response to childbirth; higher acute stress response in turn was associated with more CB-PTSD symptoms (β = 0.42, p < 0.001) and more problems with maternal bonding (β = 0.24, p < 0.001; β = 0.26, p < 0.001).
12	To explore the quality of mother-child interaction, at 6 and 18 months (infant's corrected age) and its relationship with two variables 1. The infant's perinatal risk factors and 2. The maternal stressful traumatic experience.	Cohort Analytic Study	Mother-child play interaction	Perinatal PTSD Questionnaire (PPQ; Callahan et al., 2006)	Questionnaires	- MANOVA - Tukey Post Hoc Test	- Maternal sensitivity was significantly lower in High Stress (HS) dyads compared with Full term (FT) infants. Maternal control was significantly higher in HS dyads compared with FT as well as with low stress dyads. Maternal unresponsiveness showed no significant difference among groups. At 6 months, there were no significant differences in the infants' interactional behaviors, according to the PPQ groups. - Partial correlations seem to suggest that the impact of the maternal traumatic stressful experience could

							be stronger than the impact of the infant's severity of risk on maternal interactional behaviors at 6 months.
13	Parental coping with the very preterm baby may greatly influence mother-infant interactions.	Cohort Study	Pediatric Infant Parent Exam (PIPE; Fiese et al, 2001)	Perinatal PTSD Questionnaire (PPQ; Callahan et al., 2006)	Questionnaires	- ANOVA - Kruskal-Wallis rank sum tests - Chi – squared - Paired T-tests - Spearman's rank correlation analysis	- 31 mothers (40.2%) showed a score equal or above 19 (from 19 to 46), which corresponds to a risk of post-traumatic stress reaction. - A positive correlation is found between PIPE score at 12 months and PPQ score assessing the mother's post-traumatic stress reaction 6 months after birth. A trend is also observed towards a correlation between PIPE score at 12 months and PPQ score at 12 months and at the hospital discharge. - The PPQ score at 6 months was positively correlated with the delivery conditions.
14	To analyse the impact that a childbirth experience lived as a traumatic event could have on	Cohort Study	2Maternal Postnatal Attachment Scale – Italian version (MPAS;	Perinatal PTSD Questionnaire – Italian version (PPQ; Di Blasio et al, 2015)	Questionnaires	- T-tests - Mediational Analysis – Maximum	- Postnatal attachment was negatively correlated with the level of postpartum distress symptoms.

	postnatal attachment by exploring the mediating role of the presence of postpartum depressive symptoms in new mothers.		Scopesi et al., 2004)			Likelihood estimator	- Mediational analysis found high levels of postpartum distress symptoms are linked to higher levels of postnatal depression and lower levels of postnatal attachment. - The relationship between postpartum distress symptoms and postnatal attachment is both directly and indirectly mediated by the level of postnatal depression (β = −.33, p < .001; CI 95%: −.82; −.21).
15	To examine the relationship between PTSD symptoms following childbirth, depressive symptoms and mother-infant bonding.	Cross-sectional study	Postpartum Bonding Scale (PBQ; Brockington et al, 2001)	City Birth Trauma Scale (Ayers et al, 2018)	Questionnaires	- Pearson's Correlation coefficients - Chi-square test	- In this sample, 11.8% (71/603) of women fulfilled all criteria for PTSD following childbirth. - of women with PTSD, 39.4% (28/71) had bonding problems; while of women with probable depression, 35.3% (53/150) had bonding problems. - Bonding had a moderate positive correlation with Birth-related PTSD symptoms. - Birth-related PTSD symptoms did not have a direct (βy = .05, p = .34; βo = .03, p = .58) nor indirect

							effect on bonding (βy = .04, p = .08; βo = .03, p = .34).
16	- Are parental PTSD-CB symptoms (1monthPP) prospectively associated with parent-infant bonding (3monthPP)? - Does psychological distress (1monthPP) mediate the relationship between PTSD-CB symptoms (1monthPP) and bonding?	Prospective population-based cohort study	Mother to Infant Bonding Scale (MIBS, Taylor et al, 2005)	Post Traumatic Diagnostic Scale: French Version (PDS-F, Foa et al, 1997)	Questionnaires and medical records	- Bivariate correlations - Structural equation modelling	- Higher maternal PTSD-CB symptoms at 1month PP were prospectively associated with worse mother-infant bonding at 3months PP β = .27, p < .05 - Maternal PTSD-CB symptoms were no longer predictive of mother-infant bonding when adjusted for by psychological distress and therefore may be implicated in the association between PTSD-CB and bonding (p = 0.57).
17	- To examine the relationship between PTSS after childbirth and bonding failure for Japanese mothers at 1month and 4months after delivery. - To examine whether PTSS after childbirth could be a predictor of bonding failure at 4months after delivery.	Prospective longitudinal study	- Postpartum Bonding Questionnaire – Japanese Version (PBQ, Suetsugu et al., 2015) - The Relationship Questionnaire – Japanese Version (RQ, Kato, 1998)	The Impact of Events Scale – Revised – Japanese Version (IES – R, Asukai et al., 2002)	Questionnaires	- Cohen's d - Multiple regression analysis - Standardised partial regression coefficient (β) and coefficient of determination (R^2)	- At T1 the IES-R (β = 0.417, p < 0.001; β = 0.465, p < 0.001; β = 0.212, p < 0.01, respectively) and the EPDS (β = 0.231, p < 0.01; β = 0.231, p < 0.01; β = 0.280, p < 0.01, respectively) were relevant factors for the PBQ. - At T2 the IES-R score was not a relevant factor for the PBQ, and the EPDS score was a relevant factor (β = 0.426, p < 0.001; β = 0.450, p < 0.0 1; β = 0.312, p <

							0.01, respectively). The coefficients of determination R2 were 0.492, 0.426, and 0.371, respectively. - Predictors for bonding failure at T2 - The IES-R score at T1 was not a predictor of the PBQ at T2. The PBQ at T1 was the most important predictor for the total PBQ score and scores of “impaired bonding,” “rejection and anger,” and “anxiety about care” at T2.
18	To test hypotheses regarding the nature of the relationships between maternal recalled parenting experiences, metacognition, postnatal symptoms of PTS and depression and maternal perceptions of the mother-infant bond.	Web-based cross-sectional questionnaire	The Maternal Postnatal Attachment Scale (MPAS, Condon & Corkindale, 1998)	The Impact of Events Scale – Revised (IES-R, Weiss & Marmar, 1997)	Survey	- Pearson’s Correlations - Chi-square tests of independence - Structural equation modelling	PTS from childbirth had a medium indirect effect on the mother-infant bond, fully mediated by depression $\beta = -.30$, $p < .001$. Therefore, PTS was not directly associated with the mother-infant bond as this was fully mediated by depression.

Table 7. Factors that could influence the association between birth trauma and attachment

Facilitators	Barriers
• Longer timescale postpartum (Muller-Nix et al., 2004, Stuijfzand et al., 2020, Suetsugu et al., 2020) • Postnatal debriefing services (Baxter et al., 2014) • Mother having higher emotional availability (Ouma, 2017)	• Depression (Ponti et al., 2020, Williams et al., 2016) • Psychological Distress (Stuijfzand et al., 2020) • Health problems (Muller-Nix et al., 2004) • Non-birth trauma specific PTSD symptoms (Rados et al., 2020) • Prematurity (Muller-Nix et al., 2004) • Interpersonal trauma (MacKinnon et al., 2018)

Figure 1. PRISMA table of search results

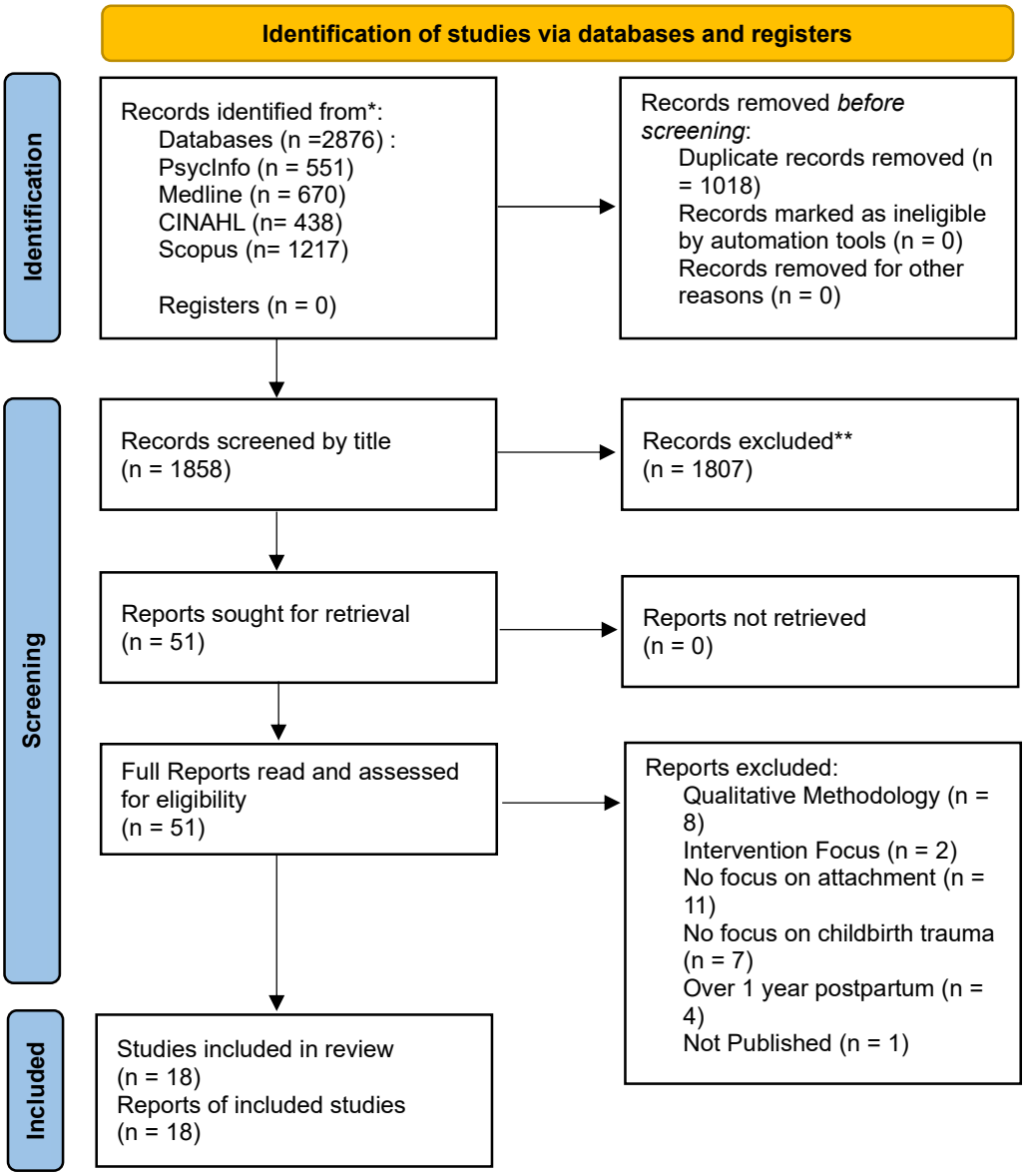
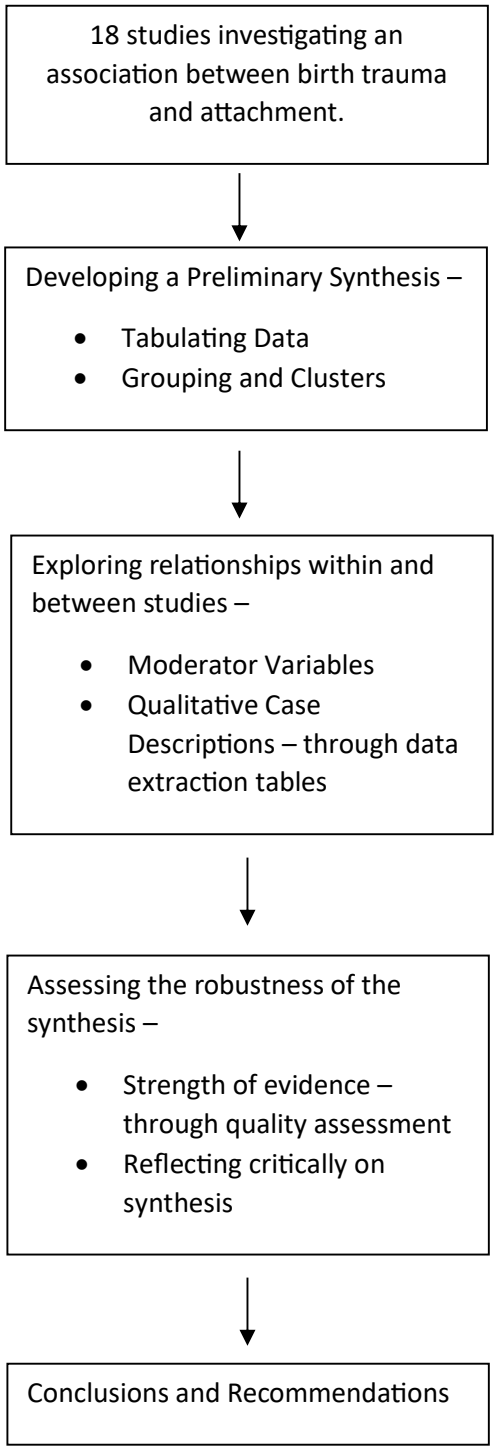


Figure 2. Synthesis/Analysis Process based on Popay et al's (2006) Guidelines.



Appendix A. Author Guidelines for Infant Mental Health Journal

2. Submission and Peer Review Process

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Infant Mental Health Journal operates a double-blind peer review process, so please ensure that all identifying information such as author names and affiliations, acknowledgements, or explicit mentions of authors' institutions in the text are on a separate page.

Your manuscript: This can be a single Word file including text, three key findings and statement of relevance to infant and early childhood mental health, figures, and tables, or separate files—whichever you prefer. All required sections should be contained in your manuscript, including abstract, introduction, methods, results, and conclusions. Figures and tables should have legends. References may be submitted in any style or format, as long as it is consistent throughout the manuscript. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers. If your manuscript is difficult to read, the editorial office may send it back to you for revision.

Before you submit, you will need the following:

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- The title page of the manuscript with author/coauthor information, including statements relating to our ethics and integrity policies as follows:
    - Data sharing and data availability statement
    - Funding statement
    - Conflict of interest disclosure
    - Permission to reproduce material from other sources if applicable

    - Clinical trial registration if applicable
    - An ORCID for the corresponding author, freely available at https://orcid.org.
- Ethics approval statement (please blind the full name of the approving board to ensure a blind review) in the cover letter and in the methods section of the manuscript
- Participant consent statement in the methods section of the manuscript

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The title page should contain**:**

1. A brief, informative title containing the major key words. The title should not contain abbreviations (see Wiley's best practice SEO tips);
2. A short running title of less than 40 characters;
3. The full names of the authors;
4. The author's institutional affiliations where the work was conducted, with a footnote for the author's present address if different from where the work was conducted;
5. Acknowledgements;
6. Conflict of Interest statement.

Abstract

Abstracts are unstructured and no more than 200 words. Please list the country in which the research was conducted in the abstract.

Main Text File

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- A short informative title containing the major key words. The title should not contain abbreviations
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- Up to six keywords appearing below the abstract;
- Relevance and Key Findings
    - 3 key findings/practitioner points appearing below the abstract: Authors will need to provide no more than 3 'key points', written with the practitioner in mind, that summarize the key messages of their paper to be published with their article. Each finding should be one sentence in length.

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    - Fully describe in the abstract, the racial, ethnic, and/or cultural background of the sample and the country in which the study was conducted. We understand that not all research protocols and human research review boards allow for the collection of data on variables such as race and ethnicity. In these cases, please describe the sample in ways permitted.
    - Intentionally use systems-centered language and inclusive language in the abstract, manuscript text, and tables/figures.
    - Intentionally cite the relevant work of diverse scholars, and as far as possible, actively work to collaborate with scholars from the countries in which studies are conducted.
    - o Although not required, authors are invited to include a 100-150 word statement explaining how the research undertaken reflects an appreciation for diversity and/or an anti-racist approach. This statement should appear after the abstract. There are many ways this can be addressed. Please read the guidelines on creating a statement here.
- Main body: formatted as introduction, methods, results, discussion, conclusion and implications for practice and/or further research.
    - In support of fully transparent research, please make sure to fully describe recruitment processes, data collection methods, data analyses, and results. Please include reports of effect sizes, confidence intervals, or other information that provides additional context for the interpretation of findings.
    - Consider making measures and protocols available in an open sources framework, such as Open Science Framework, Dataverse, Databrary, or in another repository that you may find through the Registry of Research Data Repositories.
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On the title page, please define any conflicts of interest that may be present related to the research or dissemination of the research in *IMHJ.*

Authorship/Co-Authorship Details

All listed authors should have contributed to the manuscript substantially and have agreed to the final submitted version. Review **editorial standards** and scroll down for a description of authorship criteria.

Chapter 2: Empirical Paper

Health visitors' experiences of assessing perinatal mental health and psychotic like experiences in new mothers: a thematic analysis.

Word Count (excluding references, tables, and appendices): 7996

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Prepared in accordance with guidelines for submission to: ARCHIVES OF WOMEN'S MENTAL HEALTH JOURNAL (see appendix E).

Abstract

Purpose: Up to 93% of women experience psychotic-like symptoms during the perinatal period. These are distressing and associated with birth trauma and low mood. Health visitors (HVs) are tasked with assessing new mothers' mental health, but it is unclear as to how they understand and appraise psychosis and the related continuum of symptoms. The current study aimed to gain an in-depth understanding of HVs' knowledge and experiences of assessing perinatal mental health (PMH), particularly psychotic like phenomena in new mothers.

Method: Ten UK HVs participated in individual semi-structured interviews and transcripts were subject to reflexive thematic analysis. The HV's (all female) were aged between 25 and 52 years and years of qualification ranged from 2 to 22 years working mostly in standard HV services.

Results: Three overarching themes were identified: 'Engagement with mental health', 'Dilemmas around psychotic-like-experiences' and 'Impact of disclosure'. The themes highlighted HV's confidence with assessing new mothers' PMH, however this was limited regarding psychosis due to a lack of awareness, training, and support in place to manage the continuum of symptoms that mothers could experience, alongside the impact of stigma.

Conclusion: Guidelines, training, and regular supervision for HV's are required. Good communication links with relevant services are also important. It is anticipated that this will improve HV's confidence in supporting PMH and in turn improve the care families receive.

Key Words: Mental Health, mothers, psychotic-like-experiences, perinatal.

Introduction

Perinatal mental health (PMH) difficulties are described as any mental health concern within the pregnancy period and 12 months after childbirth (National Collaborating Centre for Mental Health, 2018). These difficulties can include depression, anxiety, 'baby blues', psychosis, bipolar disorder (O'Hara & Wisner, 2014), post-traumatic stress disorder (White et al., 2006) and obsessive-compulsive disorder (Fairbrother et al., 2022). At least 1 in 5 mothers experience mental health difficulties during the complex time of transition occurring in the perinatal period (Institute of Health Visiting and Maternal Mental Health Alliance, 2023). Mental health problems leading to suicide is the most common cause of death for women in the first year postnatally (MBRRACE, 2022). Children are also affected in terms of emotional, social, cognitive, and behavioural challenges. However, this can be moderated by factors such as parenting styles and the family's socioeconomic status (Stein et al., 2014). Significant investment has been made into supporting families in this important time of transition through the provision of UK wide perinatal specialist services.

Prior to the expansion of PMH teams, there was a significant lack of awareness, training, contact between health professionals, and patients feeling dismissed or stigmatised (Hogg, 2013, Royal College of General Practitioners, 2015). In response, NHS England (2018) identified the need to improve outcomes in perinatal mental health and to minimise the impact of this on the child. The focus was on improved awareness of PMH difficulties and to provide access to appropriate, coordinated PMH support. The Centre for Mental Health (2023) states that initially, maternity services and health visiting, are responsible for the health and well-being of mother and baby, they play a key role in recognising PMH problems and referring to specialist services. It is argued that identification of these issues by primary care professionals such as HVs is a vital first step in promoting efficient, stepped PMH care (Howard & Khalifeh, 2020). In addition, specialist clinical psychologists are well placed to aid in identification and treatment of PMH problems (British Psychological Society – BPS, 2016).

HVs in England follow the *Health Child Programme,* offering five key contacts with every family until the child is aged five. The aim is to support social and emotional well-being, support parenting, early identification of needs and development reviews. Progressive support is also available to families in specific areas where the level of socio-economic need is higher (Department of Health, 2009). NICE Guidelines (2020) recommend that HVs should

ask the two Whooley depression questions and Generalized Anxiety Disorder – 2 item (GAD-2) as part of a general discussion about a mothers' mental health on every contact. If further monitoring is required, then the Edinburgh Postnatal Depression Scale (EPDS) or Patient Health Questionnaire – 9 item (PHQ-9) should be used. Duku et al., (2022) review of studies on HVs' experiences of assessing PMH, found that although aware of PMH they had differing views on their role in intervening, with either early identification and relationship building to it being the responsibility of other specialist services.

Health professionals' perspectives and monitoring of PMH have been found to involve stereotypical attitudes towards mothers with mental health difficulties (Hauck et al., 2015) and feelings of unease and a lack of confidence in supporting women (McConachie & Whitford, 2009). Within studies, perinatal psychosis was either not mentioned by professionals (McConachie & Whitford, 2009) or the least accurately identified condition (Hauck et al., 2015) in comparison with other PMH.

Usually, the experience of mental health within the perinatal period follows a similar course and presents with comparable risks of relapse to any other time. However, perinatal psychosis (PP) is unique to this period (National Collaborating Centre for Mental Health, 2018), due to its puerperal nature. New mothers can report a variety of psychotic symptoms in a short timescale around birth, highlighting the differences in experiences (Heron et al., 2008). Women often recover fully; however, they are associated with a 60% increased risk of PP in future pregnancies (Doyle et al., 2015), emphasising the importance of identification and awareness of PP.

The widely accepted psychosis continuum theory (Van Os et al., 2009) suggests that normal experiences and psychosis are on a continuum which encompasses a range of symptom presentations from subclinical symptoms (PLE's) to the presentations of individuals who have a clinical diagnosis (De Rosse & Karlsgodt, 2015) of a psychosis related "disorder". Puerperal psychosis as a clinical phenomenon is relatively rare with a recent systematic review identifying the incidence rate between 0.89 - 2.6 in 1000 births (VanderKruik et al., 2017). However, recent evidence suggests that 'sub-clinical' psychotic like experiences (PLEs) including delusions and hallucinations, are more common in new mothers than previously realised (Holt et al 2018; Mannion and Slade, 2014). Although PLE's are categorised within the psychosis continuum due to the nature of the presentation, the term may cause panic

for mothers who have these experiences. It could be beneficial to explain these experiences as a product of a combination of physical, emotional and lifestyle changes that occur within the *fourth trimester* which are transient but normal for women to experience.

During the perinatal period, Holt et al (2018) reported that 93.5% of 1393 mothers who completed their study's survey had experienced one or more PLE's in the first two months postpartum. Mannion & Slade (2014) also found that mothers reported experiencing delusional thoughts and/or hallucinations on occasions both during pregnancy and postnatally. They also identified that depressive symptomology and fear during childbirth were associated with PLEs. In addition, Holt et al (2018) found that these experiences were associated with birth trauma and post-traumatic symptoms. Thus, recognition of these phenomena as well as timely advice to new mothers may be extremely important.

There is a growing evidence base for trauma informed care, the research suggests that by having safe, compassionate, stable, and empowering relationships with others, people can heal from trauma (Kimberg & Wheeler, 2019). Women can experience trauma throughout their life, including a traumatic childbirth which can have negative implications for both mother and child. Inquiry and assessment around trauma are important in supporting women throughout the perinatal period (Gerber, 2019). Trauma informed services should realise the widespread impact of trauma, recognise the signs and symptoms, respond by integrating trauma into practice and policy and resist retraumatising the individuals they are working with (Sperlich et al., 2017). Within maternity services, HVs are well placed to address the health and social needs of families that have been exposed to adversity and trauma (Ballard et al., 2022). A strong therapeutic relationship and consistent healthcare professionals have been found to be of core importance to mothers when receiving trauma-informed care (Gokhale et al., 2020). Recent research has highlighted that perinatal clinicians require education and support around the principles and delivery of trauma focused care to develop their confidence and in turn the care being received by mothers (Hall et al., 2021).

Although the prevalence of PLEs has been found to be considerably higher in women in the perinatal period than those who are diagnosed with PP (Holt et al., 2018), it appears that this is an area, health professionals, including HVs, have the least knowledge of or experience within their care. NICE Guidelines (2020) advise that better identification of

mothers who are at risk of PP in primary care is vital. Due to the associations with co-morbid mental health conditions, birth trauma and fear during childbirth with PLE's during the perinatal period, it is important to specify the support needed for HVs to, in turn, support women with these experiences. The aims of this study were to gain an understanding of:

- HVs knowledge about PMH and referring women for further support for these difficulties.
- Understand what may facilitate or be the barriers for HVs to routinely ask about mental health difficulties, particularly PLEs.

Method

Study Design & Epistemological Approach

A qualitative approach was taken using a reflexive thematic analysis applied to semi-structured interviews (Braun & Clarke, 2022a). The aims, focusing on deriving participants' understanding and experiences, required experiential orientation and the adoption of an essentialist theoretical framework (Braun & Clarke, 2022b). This supported the adoption of an inductive approach whereby the data led the analysis. This was important as PLE's is an area of PMH with limited research and awareness (Holt et al, 2018).

Reflexive thematic analysis was chosen over other qualitative analysis due to its focus on process and meaning with a critical reflective stance to the data (Braun & Clarke, 2022b). The aim of the study was not to generate a theory or model to explain a phenomenon as in grounded theory (Noble & Mitchell, 2016) or to understand how the HV's made sense of their experiences as in interpretative phenomenological analysis (Smith & Osbourne, 2015) therefore reflexive thematic analysis was a more appropriate fit.

Epistemologically, a pragmatic approach was taken due to wanting to gain a better understanding of this phenomenon and the benefit of taking a bottom-up approach to the analysis. In terms of the data gained, a critical realist position was taken to gain an understanding of the participants reality shaped by context and language, in this instance making it more applicable in clinical practice.

Participants

The inclusion criteria were: a registered HV with the Nursing and Midwifery Council; currently working as a HV in the UK; and speaks English. HVs were recruited through a poster advertised on the 'Institute of Health Visiting' magazine, social media and through the researcher's professional social media accounts. Recruitment was halted once interview data were rich and highly detailed as well as reaching theoretical sufficiency. That is codes and themes were clearly being repeated with little or no new information being forthcoming. The participants all worked in HV services across the UK, two were newly qualified whereas, the remaining eight had been qualified HV's for at least six years. One of the HV's was a specialist PMH HV.

Ethical Issues

Ethical approval was gained from Lancaster University Faculty of Health and Medicine Research Ethics Committee (see Chapter 4). Informed consent was gained from all participants once they had reviewed the participant information sheet. Participants were informed that there was the option to remove their data for two weeks after their participation and that all data would be anonymised within the analysis (see ethics – Chapter 4 for full details).

Procedure

Potential participants contacted the researcher through email or on social media and were emailed the participant information sheet. Interviews were conducted and recorded using Microsoft Teams or on the telephone due to the COVID-19 pandemic. Initially the researcher read out the consent form to which the participant consented to each statement (See Chapter 4). This consent process was recorded and stored separately to the interview data to ensure anonymity.

The interview schedule used was reviewed by a HV consultation to ensure the language, approach and topics were appropriate and relevant prior to the interviews taking place. A local PMH specialist HV agreed to review the interview schedule. A meeting was then held with the researcher highlighting areas of importance to focus on and areas where HV's may have less information for the answer. As clinical psychologists, it was important to

understand the level of knowledge and understanding around mental health and specifically PLE's within PMH services to inform possible training and consultation that could be offered to develop HV's skills in PMH assessment. Following the interview, the debrief sheet was discussed with participants (see Chapter 4 for full details).

Analytic Process

The analytic process was based on the six-phase approach recommended by Braun & Clarke (2006); familiarisation with the data, generating initial codes, searching for themes, reviewing potential themes, defining, and naming themes and producing the report. The analysis was a dynamic process whereby initial coding and analysis from the early interviews impacted on the interview schedule for the later interviews. This was carried out to support data sufficiency and to ensure the questions being asked sufficiently answered the research questions. The initial codes were initially clustered to support the identification of overarching themes across the interviews. For example, from the overarching theme *impact of disclosure*, the clustering of codes identified relevant issues, including service challenges, professionals' stigma, and societal expectations.

Reflexivity

The researcher is a 29-year-old trainee clinical psychologist completing the Clinical Psychology Doctorate in the UK. She is also a mother of two young children who had recent experiences of the maternity and health visiting system while completing the research. A reflexive log (see Appendix D) was kept throughout the research to actively acknowledge and bring awareness to any assumptions or expectations within each stage of the research. This was to minimise the potential influence these may have on the process and improve the rigour of the findings (Barrett et al., 2020). When reviewing the background detail to the study, there was a degree of surprise in the prevalence of PLE's in new mothers and the lack of available research on these experiences during the perinatal period. It was hypothesised that the HV's participating in the study would also be shocked by the level of prevalence found, however it was unknown whether they would be in support of proactively helping with these experiences or not.

The benefits of the researcher's personal stance through experiencing this system and therefore understanding the participants' experiences, supported the research. This was

coupled with an understanding of the impact of their own projections and how this may impact the view of the findings, highlighting the important of context in interpreting the data (Berger, 2015). These factors were considered and discussed within supervision alongside the reflective log to minimise potential influence.

The researcher's reflexivity is covered in more detail in Chapter Three, the Critical Appraisal.

Results

The ten participants (all female) were aged between 25 and 52 years. All worked as a HV with one a specialist PMH HV. Years of qualification ranged from 2 to 22 years and almost all the participants worked in standard NHS health visiting services across the UK, whilst one worked in a specialist service for young mothers. The interviews lasted between 45-76 minutes via a semi-structured topic guide. See Table 1 for anonymised details of the participants.

Three overarching themes were identified: 'Engagement with mental health', 'Dilemmas around psychotic-like-experiences' and 'Impact of disclosure' (See Figure 1). On development of Figure 1, it was identified that the three themes linked. Engagement with mental health describes the early interaction with families, the discussions in these early interactions could then impact HV's asking about PLE's, which therefore could influence the factors impacting on disclosure of PLE's. Each theme has three subthemes, introduced by the quotes.

Engagement with Mental Health

"it's really important in disclosures that we have that relationship"

Throughout the interviews, a recurrent theme of developing a therapeutic relationship with mothers was of high importance to all the HVs, particularly when supporting a conversation around mental health and any support they may require.

> "I think the biggest thing is just trying to make that relationship with the client so that they feel they can tell you if they need to" (1)

> “it comes back to trying to form that relationship with the mum…so that eventually you can work on that and getting the immediate support that she needs at that time she'll accept it” (2)

HVs often had little training on mental health and therefore most of them felt confident to rely on their abilities in identifying any challenges purely through the skills that they have in listening, developing a relationship and being a consistent person within the family’s life. This was highlighted in terms of the informal support that a HV can offer, providing mothers with a space where they can feel more comfortable to open up if they are having difficulties and access ad hoc support when needed, whether it be through texting or a return visit.

> “it's about having building that relationship you know, I might just pop back in a couple of weeks is that alright? You know, it's not saying right I'm a bit worried about you” (10)

> “every time we see that mum and dad if they're there, we ask about their mental health and keep and the way that we do it. It's so important that we do it in a way where it's helping that mum feel relaxed and able to disclose how she's feeling and a lot about that is about building that relationship up, and that consistency of that one person” (3)

There were mixed responses in holding discussions around mental health difficulties such as PLE’s. Early career participants discussed worries around rupturing the therapeutic relationship if these experiences were brought up. However, more experienced participants felt that a strong relationship could lessen this impact.

> “…so it would be a case, we would be told to put referral into social service and know for a fact that would just ruin any therapeutic relationship with the mother, but then also probably makes the situation a million times worse” (1)

> “it's so personal because you’re really, truly, basing it on people’s personalities and willingness to be open about their experiences, so…I don't think it would be greatly received personally” (4)

Generally, many of the HVs noted their confidence in identifying anxiety and low mood/baby blues in new mothers. Skills in identifying these difficulties are used regularly by HVs and the difficulties are possibly more socially acceptable to discuss. This could explain the worry of the impact on their therapeutic relationship when discussing a less commonly reported struggle for mothers such as PLE’s, particularly with limited insight or support with these experiences.

“that feeling of being overwhelmed”

All of the participants highlighted the common vulnerabilities associated with PMH problems in new mothers. There was a clear understanding and experience of social, environmental, individual, physical, and psychological factors that should be accounted for.

> “isolation, lack of support, housing difficulties especially, you know, it’s actually surprisingly… I mean to me personally… it's been I did obviously housing can cause stress and stuff” (7)

> “I think birth trauma, I think experience of birth is something that we're learning more and more…sort of domestic abuse as well is a big is a big thing really. Alcohol, drugs use, stress, covid, stress lifelong stress um and just obviously you've got all those risks attached anyway, 'cause you're very vulnerable” (2)

However, there was an understanding that any mental health or trauma could be intensified within the perinatal period, suggesting the importance of these conversations was understood.

> “a lot of the time I think pregnancy and childbirth and having this wee baby can actually enlighten a lot of the fears and a lot of anxieties and a lot of the trauma that our mums might have experienced in her own childhood” (9)

A good understanding of the vulnerable place that mothers can be in during the postnatal period was highlighted. A combination of socio-environmental factors alongside the physical and psychological impact of birth, physiological changes and the *fourth trimester* were discussed as common areas of focus for the HVs assessment. The HVs appeared confident and comfortable with identifying vulnerabilities and having conversations around some PMH difficulties.

"identifying an issue and then referring on"

As the assessment process was a strong area for many of the HVs interviewed. Identification was viewed as their main role in relation to mental health. Many felt confident in their ability to identify concerns with mental health, however views varied when discussing support options. This variation ranged from no support, offering listening visits, making referrals to other services, to some providing a therapeutic intervention such as behavioural activation dependent on their experience and time as a HV. It appeared that offering further support depended on the perspective of their role in terms of mental health, further training, and availability for support.

> "I'm also very aware of my role as a health visitor and not to cross those rules. We can offer work; we can make referrals to access services." (9)

> "I feel quite confident and that's maybe just the additional learning and study I've done around it…I suppose in my early health visiting career, I wouldn't have been comfortable with some of the conversations around that, but that is a skill I, I have grown in confidence" (6)

If varying levels of further support is offered dependent on the HV, it is difficult to ensure a consistency in care and presents challenges for mothers in knowing what support they can expect from their HV. Some mothers may not require a further referral if listening visits are carried out.

However, it is interesting to understand whether the number of different areas a HV needs to assess and check within their visits also has an impact on how much they can offer.

> "but I think the problem with health visiting is we've got too many things going on to focus on one um. We've got, you know, breastfeeding…um we've got mental health, we've got development um I think there's a there's a lot of topics that we dip in and out of" (5)

The range of experience, prior working background, training, and support from their service was clearly impacting on the varying levels of confidence and understanding of the HVs in supporting mothers with PMH during the interviews. The profession is fast paced with a large caseload, it was highlighted that although mental health is seen as an important aspect of assessment, there are several competing factors. This can reduce discussion down to the Whooley questions that standard protocols guide HVs to use (NICE, 2020). It is difficult to fully know but it could be suggested that this would limit the availability of time or space for discussing mental health and therefore limit appropriate support.

<u>Dilemmas around PLE's</u>

> ***"our job really is about early intervention, isn't it?"***

A recurrent discussion within the interviews was around HVs being well placed in having early conversations with mothers around mental health to reduce the likelihood of further, more complex difficulties by offering timely support.

> "So the idea behind coming to this role was to be able to, you know, identify any sort of signs quite early on so it doesn't get to have to get to a serious stage where they will require a secondary care or intervention" (7)

> "it's really important that we get in there and we start identifying it at an early, early stage for them…I think this is where health visiting, we're so lucky because we offer a universal program to all families" (3)

In relation to PLE's, the general perception was of a positive impact of having early conversations around these experiences by normalising these for mothers and improving awareness of the symptoms. It was felt that this would allow women to access support/report any difficulties rather than waiting until it is too late and requiring inpatient or more intense support.

> “I think that there are some things we should be asking particularly around the psychotic symptoms 'cause I feel as though there’s a huge comfort blanket with postnatal depression because it's so widely discussed” (9)

> “I think sometimes it can be very therapeutic for that mum to know that actually, this is really common what you're saying. I get that, you know, um and it must be quite scary at times…you know it doesn't put you or the baby at risk, because often we do whatever we can to reduce that risk” (3)

The discussions held highlight that HVs are engaged in supporting mothers with their mental health for them, the baby, and the family. It appears that conversations around PLE’s and psychosis are limited currently but is an area of development that they are open to discussing.

> “think sometimes helping with them feelings and let you actually telling mums about them and if they're experiencing something that they feel they shouldn't…I think actually saying you know this is not saying that you've got a problem…it's just acting on it before it does go into something that's a little bit more chaotic” (10)

However, the group of participants in this study are a small group from a large profession. It was highlighted within the interviews that prior working backgrounds in mental health or a specific interest in this area had an influence on whether individual HVs would have these conversations and the quality of the assessment of mental health delivered, alongside their HV experience and training within mental health.

> “I could be wrong, but I don't think I don't think the health visiting team I worked with would suddenly think oh this is something that we really want to talk about with women” (4)

> ***“I haven't had any training…I'm just kind of on my own trying to help these women”***

Due to the limited awareness and experiences of PLE’s and psychosis, many participants – particularly those early in their career - voiced an uncertainty around discussing these difficulties due to lack of training and experience.

> “I think there's probably still a lot of sort of uncertainty about asking about more complex mental health issues. Maybe that's a training issue and that they feel that they don't really know enough about it and they don't know how to ask about it or what or what things to ask” (2)

> “There's definitely a lack of training um I wouldn’t feel confident in kind of delving around psychosis because I wouldn't know what the signs were for needing a referral or if what this lady is telling me is manageable in the community” (5)

It would be difficult to safely support a mother who had voiced these concerns without having further information and training on how this would be done. HVs are well rehearsed in supporting low mood and anxiety presentations and therefore have the skills to support other mental health concerns if the correct training and supervision is in place. Many participants discussed the format of the training, preferring regular training to ensure there is a space for updates, case discussion and supervision but also time to access this training despite their role demands.

> “think it’s all well and good doing that training once but you need to be doing it on a regular basis and you do need regular updates because if you’re not working with somebody with it, you lose it” (8)

> “it's being able to access that training because we're so busy we don't have time to go on the training and there's some wonderful opportunities that we do get where we could go on training, but our caseloads don't allow us too” (5)

Further to this, the content of the training was outlined with a need for training on specific mental health challenges and outlining the spectrum of severity in relation to this.

> “that's a big barrier for HVs, we've never had training specifically on each mental health um you know, like psychosis what, what you'd get with them, PTSD, what you'd get with this. I know a lot of them crossover with each other…we don't specifically have training” (10)

> "I think it would need significant training in terms of recognising what is normal versus what is really concerning here" (4)

It is important that this training is developed to support these conversations. HVs are generally willing to discuss PMH with mothers and would support discussions around symptoms such as PLE's. However, the uncertainty shown can be understood due to the lack of understanding/awareness around these experiences, particularly when compared with the current societal awareness of 'baby blues' and anxiety.

"oh God, what do I do if they say yes?"

It was highlighted on several occasions that although discussions around mental health are part of an assessment, the HVs are aware that they are not mental health trained workers and so feel this would impact on their confidence to ask about PLE's.

> "I think there's very, very little training to, to you know, I remember finding it shocking that we were dealing with women who were suicidal but none of us have mental health training" (4)

> "I mean we're not the experts in mental health" (6)

This impact on confidence was also heightened through concerns of what the expectation of the HVs would be if a mother reported these difficulties.

> "from a personal point of view, it's thinking, oh God, what do I do if they say yes, you know? That doesn't mean that…we shouldn't ask. It's not something…that I ask. I don't think any of my colleagues do either" (1)

> "there's a bit of concern creeps in for me in that if they shared stuff in the duty-bound stuff and safeguarding side because I know sometimes just how then it tips into the whole safeguarding arena" (6)

A conflict was described by many participants – particularly those who had been qualified for a long time - of the importance of having these conversations coupled with the impact of a limited understanding of PLE's, the autonomous nature of the health visiting role and the limited guidelines and processes in relation to this. The impact of which included anxiety

and challenges in their professional role due to the heightened level of responsibility and the independent holding of this mother with little support.

Impact of Disclosure

"perinatal psychosis is a very serious mental health condition"

When asked about their understanding of perinatal psychosis and the related symptoms, the general view expressed highlighted the serious nature of the symptoms and a link often made with crisis and safeguarding teams as a way of accessing support around this.

> "if 80% of women started telling me that they had maybe had a thought about harming their baby, or they'd heard a voice or they had this obsessive thought, um I'd really struggle with that actually, because I consider that a red flag, I consider that a bit of an alarm bell" (4)

> "we'd be getting the crisis team and go out and support her straight away. We're a proactive service, but we're very reactive as well in terms of we, it's that nursing nature role to say oh my God, this mum's going through this, we can't leave it like this" (10)

If a mother hoped to share any PLE's with her HV, challenges may arise due to the view held around similar symptoms and the lack of awareness generally in relation to these experiences. Mothers may feel less able to disclose any difficulties they are experiencing due to worries around what may happen should social care or mental health teams become involved, even if this is a single episode.

"I refer to mental health services and whilst they're waiting for them, what do I do?"

All of the HVs highlighted challenges in relation to access of mental health support for mothers, ranging from exclusion criteria and waiting lists.

> "that's the difficulty I think for health visitors at the minute because there's nothing in between really, it's quite high the criteria for mental health services involved and

> specifically what they're suffering with as well. Like if you if you're not suffering from a certain thing, ohh no, that's not us" (10)

> "And and then like what do I do, do I refer to mental health services and whilst they're waiting for them, what do I do? You know, some some people don't feel confident with that" (7)

It was reported that the difficulty with waiting lists and mothers not meeting referral criteria lead HVs to experience a sense of the unknown. As highlighted, they are not mental health trained workers and have limited support when it comes to complex mental health presentations. Couple this with an inability to access appropriate services and the frustrations around seeing a mother requiring support, but unable to access it is understandable. This could lead to HVs feeling out of their depth and independently responsible for mothers who require further support. Despite some participants discussing having made links with their local mental health services as a way of supporting their practice, these difficulties could impact their openness to discussing mental health concerns with mothers, reducing the likelihood of any disclosure.

In relation to their own services, many HVs highlighted that their own capacity, service pressures and lack of time also affects the availability of further support such as *listening visits* and low-level therapy support to mothers.

> "what stops us doing more… and it being down to the commissioners…so for example if I have a family in for additional support, if I book them in my diary for a 12 week review of maternal mental health um and new birth come in, or a 6-8 weeks, then I have to book them in as a priority and…I have to cancel that family" (8)

> "it's a capacity issue as well…we're meant to go in and and identify needs…obviously mental health needs. Um but it's then what do we do with that afterwards? And how can we support it afterwards when we're just failing in numbers" (2)

Through *listening visits* and support, HVs are well placed in offering informal mental health support to mothers. However, the increasing demand and reducing numbers of HVs and/or

job roles is leading to suboptimal and differing levels of support depending on the demand at the time of their birth and HV's skills.

"there's a lot of pressure isn't there on mums"

A regular discussion point highlighted the societal stigma around mental health, particularly in the perinatal period and the HVs highlighted how difficult a time this can be when women feel they are being scrutinised in their role as a mother.

> "There's still a lot of stigma I think and I think um they're aware that we're assessing them and that we're sort of doing that and I think that can be a bit of a barrier sometimes" (2)

> "it is not easy and I think some… some people will um when you ask them about the mental health, like I say there can still be that stigma around it and their feelings of they're going to think I'm a bad mum" (3)

Guilt and shame were regularly highlighted within the interviews in relation to how mothers think they should respond, feel, and act towards their baby according to what they see on television, social media and from those around them. If a mother's situation is incongruent with these expectations, there may be a reduced likelihood of reaching out for support, leading to the difficulties worsening over time and possibly requiring greater support later than if a proactive response had been implemented earlier.

A main theme also highlighted mothers' fears that their baby would be taken off them if they disclosed any difficulties with mental health, particularly PLE's.

> "I just still think that fear's there, that that fear is real for them that if I own up to this, they're gonna take my baby and I don't want that. So they still kind of struggle on" (5)

> "it's just the idea of like maybe my child would be taken away from me. You know, maybe if I was saying that I have to urge to kill my baby or throw my baby all day so you know they will take my baby away" (7)

These feelings of fear, guilt, and shame due to expectations of being a mother from society and those around them are leading to further PMH challenges.

Discussion

The aims of the present study were to gain an understanding of HVs knowledge about PMH and what may facilitate HVs to routinely ask about PHM, particularly PLEs. Three themes were derived from analysis of interview transcripts with ten HV's working in the UK NHS. These were 'Engagement with mental health', 'Dilemmas around psychotic-like-experiences' and 'Impact of disclosure'. The key findings were that HV's are confident in assessing and identifying mental health as their main role and they view their role as important in early intervention but have little training or support. Challenges described included not having support in managing PLE's, a 'serious' view of psychosis symptoms and societal stigma around disclosure of these experiences.

The findings highlighted that many of the HVs interviewed had a good understanding of mental health assessment in relation to depression and anxiety and the vulnerabilities which can lead to mental health problems in the perinatal period. However, this understanding had often come from their own research, experience, and decisions regarding further training. Support and training on mental health generally is not routinely offered to HVs or they are unable to attend due to pressures from their caseload. The outline for mental health assessment is documented in NICE (2020) where questions are advised to be part of a discussion around well-being. There is a paragraph around intervention from a primary care perspective, however, there is no guidance on the implementation. Evidence highlights that there are inconsistencies in how HVs assess and intervene in relation to mental health (Duku et al., 2022) which is in accord with the findings in this study.

In the interviews, frustrations were discussed around a lack of communication between HVs and mental health services. This was around both lack of understanding of their care or referrals being rejected due to not meeting criteria and HVs then feeling out of their depth to support mothers. This lack of collaboration and communication between healthcare providers can lead to unfavourable outcomes for PMH (Agapidaki et al., 2014). Factors such as improving collaborative care through clear communication lines, having a mutual understanding and respect for other services and guidelines on working together are

important in delivering person centre care (Kates et al., 2018). Mothers support this recommendation of communication between healthcare staff involved in their care (Aquino et al., 2018).

Jomeen et al., (2013) identified that HV's are well placed to identify and assess mothers' mental health, however, improved training is required to provide adequate support. In the 10 years since Jomeen et al's., (2013) research, mental health conditions such as depression and/or anxiety are discussed in assessments using standardised measures. However, there is still a long way to go for HVs to facilitate conversations with mothers around the potential wider range of presenting symptoms such as PLE's. In turn, it could be suggested that this would reduce the stigma and barriers associated with disclosing PMH problems (McNab et al., 2022), leading to a positive impact for mother and their baby. A training package in PMH would improve knowledge and confidence in HV's ability to make clinical decisions on mental health, understand care pathways and support appropriate referrals (Jones et al., 2015). Training is seen as a priority for HVs and should be supported by regular clinical supervision to facilitate continued development (Condon et al., 2020).

To support HV's in asking about PLE's it was reported that guidelines, or a protocol to outline what would constitute a mother needing lower-level support in comparison with perinatal psychosis was required. This would ensure processes such as safeguarding were not put into place if not necessary, which could further increase the barriers for disclosure. The development of a leaflet which normalises these symptoms and could be given to mothers at their antenatal visit would offer early opportunities to discuss any experiences they may have had. Lack of understanding of PMH, stigma and health professionals' views of PMH perceived by mothers can negatively affect disclosure of difficulties (Webb et al., 2021). Therefore, an understanding and confidence of assessing PMH such as PLE symptoms using a gradual implementation process alongside adequate support through supervision (Vik et al., 2009) could reduce these barriers in accessing timely support before PLE symptoms are exacerbated. There is limited research in how to implement guidance and support for PLE's, therefore literature on PMH interventions could be applied to support professional development specifically for these symptoms, alongside further research to evidence this.

Clinical psychologists are well placed with their training and experience to support HV's with supervision, training on mental health, the development of tools for this specific population,

approaches, and employment of attachment theory for workforce support and development as described in this paper. This support would be beneficial to both HV's and mothers ensuring they are providing/receiving optimal care while the HV's feel supported and trained to support what they encounter with their families. Alongside this, there would be a further benefit of possibly reducing the impact on PMH services by offering early intervention as many mothers may be well supported by this, without requiring further specialist support.

A main barrier HV's felt would impact on disclosure, particularly of PLE's, was the stigma linked with PMH and worries around their baby being taken away. Research supports this finding. Issues such as feeling like a failure and cultural expectations of a mother coupled with silencing of negative experiences (Law et al., 2021) inhibits disclosure of PMH. In relation to psychosis symptoms, evidence also shows that women are specifically concerned about loss of control and a perceived loss of that child and possible subsequent children (Forde et al., 2020). This fear would cause further stress and therefore could exacerbate symptoms women are already experiencing. Early intervention, normalisation of the experiences and information provided to dispel fears and myths around PMH could support mothers in accessing support at an earlier time. This would reduce the likelihood of a more severe response to difficulties they are experiencing, which could further confirm their fears of being separated from their baby should they need more intense support within a hospital. It is interesting that, although societal expectations of mothers can reduce the likelihood of accessing support for PMH (Law et al., 2021) and unmet needs are risk factors for the development of PMH (Adams et al., 2021); the media continue to portray the positive elements of motherhood with limited exposure to the challenges that can also be experienced.

In line with the key findings from this study, HV's would benefit from training and support in providing trauma informed care. The impact on a mother from experiencing PLE's has been discussed within the findings, by offering trauma-informed support, HV's can ensure they are able to recognise signs and symptoms of trauma and respond in an adequate way to ensure they are not retraumatising the individual (Sperlich et al., 2017). This is especially as the research shows that PLE's are associated with trauma – particularly birth trauma (Holt et al., 2018). Many of the HV's reported that a strong therapeutic relationship is of importance in working with families within this study, this falls in line with them offering trauma-

informed care (Gokhale et al., 2020) however, this could be built upon further by training in this approach to ensure they are offering the best care possible and promoting positive mental health for new mothers. This is of particular importance given the impact of the fourth trimester on women emotionally, physically and in lifestyle to ensure they can bond with their baby and move forward. Research highlights the importance of education and support around the principles and delivery of trauma focused care with maternity health professionals with the finding that their confidence increases and in turn the care being received by mothers improves (Hall et al., 2021).

Limitations

Being a qualitative study, the participant numbers were limited and unlikely to represent the array of views that HVs may have generally. However, the depth of data obtained highlights areas for further focus, which may well apply to the broad membership of the profession. This will need testing more thoroughly. It is likely that those who participated had particular views and were interested in mental health, had relevant experience, or completed extra training to support their practice in assessing mental health. Those with negative views or not interested in mental health were unlikely to participate.

In addition, the sample was UK based and thus relates to perinatal care in the UK NHS only. Issues may be similar elsewhere, but further research should focus on more international applicability.

Future Research

A meta-analysis of screening programmes using standardised scales for perinatal depression and anxiety found a reduction in symptoms on a global scale through psychoeducation and therapy when identified at primary level care (Waqas et al., 2022). If there was an opportunity for the development of screening tools for PLEs in the perinatal period it may lead to a greater understanding of the challenges women are facing (Howard & Khalifeh, 2020). There is an association between PLEs and co-morbid mental health conditions (Bourgin et al., 2020), birth trauma (Holt et al., 2018), disturbed sleep (Solomonova et al., 2020) and fear during childbirth (Mannion & Slade, 2014). There are few studies of PLEs in new mothers. However, certain factors highlighted above have been indicated in predicting

their occurrence. It may be possible in future to develop relevant screening and educational materials. These should be evaluated thoroughly.

Conclusions

The three themes indicate a clear set of recommendations which could support HVs in assessing and supporting PMH:

- Initially, adequate provision for HV's to access training, supervision, and informal support as required.
- Training on PMH generally including the spectrum of symptoms that could present and associated risk factors. This training could become a regular occurrence with an early focus on content and expectations in sessions (listening visits), moving to research updates and case discussion groups. A combination of role plays, case examples and teaching of detail will be useful in generating confidence in dealing with e.g., PLEs and that they are generally transient, but often associated with other aspects of childbirth.
- A clear guideline on supporting mothers with PLE's and the spectrum of the experiences in relation to PP with the consideration of mental health services and safeguarding input when required.
- The development of a support materials that HV's can provide mothers with at the antenatal visit which includes information on PLEs to guide discussions around this.
- A support system in place with specialist PMH HV's or a PMH champion within the team for regular updates on service changes and processes and support through offering consultation sessions.
- Procedures for links to be made with local mental health services including talking therapies services, community mental health teams, early intervention services and PMH teams to promote an understanding of roles, referral criteria and the process for parents to access timely MH support.

To offer the early intervention that the HV's took pride in, it is important that these areas are a focus for the future of PMH assessment and intervention. The Perinatal Mental Health Care Pathways guidance (National Collaborating Centre for Mental Health, 2018) outlined both the financial impact on the NHS and social services and the long-term gains for both

parents and their children in terms of outcomes and recovery by receiving timely effective PMH care. The present study highlights the need for HVs to have ready access to relevant training and support regarding PLEs.

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Figure 1. Model of themes

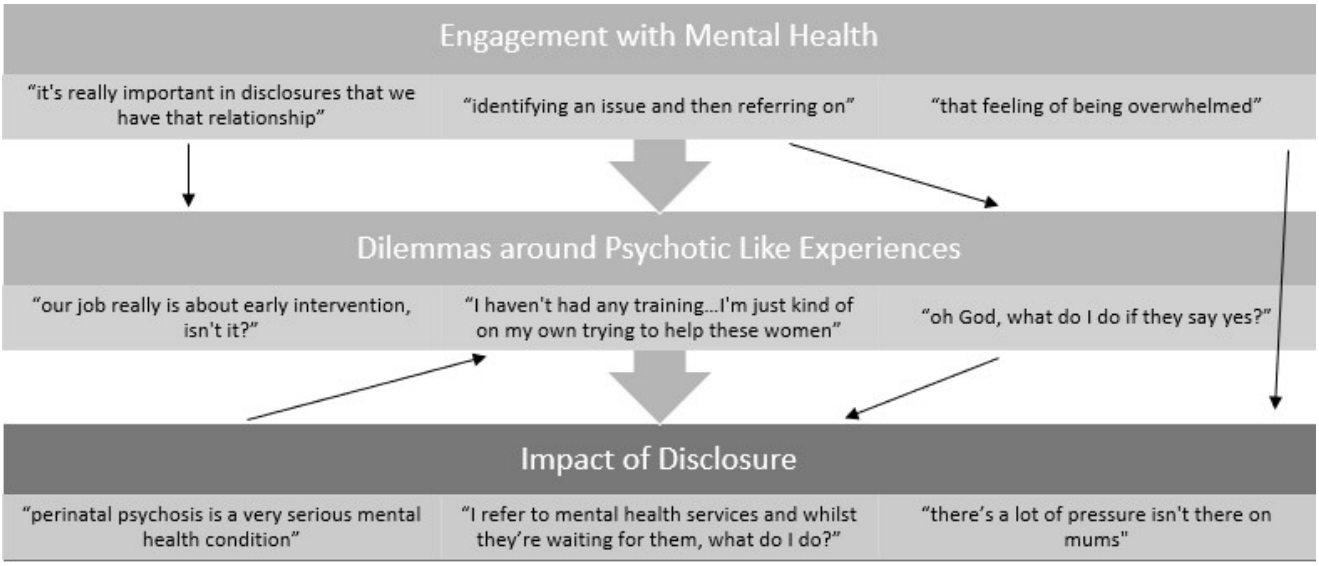

Table 1. Participant Characteristics

Participant 1	29-year-old health visitor. Qualified 6 years ago and previously worked as a nurse with an district nursing service for adults. City based role in the northeast of England with an interest in perinatal mental health with experience gained from health visiting job role, however limited opportunities for training.
Participant 2	42-year-old health visitor. Qualified in 2015 and previously worked as an adult nurse on an intensive care unit. City based role in a high deprivation and social needs area of the northwest of England. Currently a perinatal and infant mental health champion in the health visiting team they work in.
Participant 3	50-year-old health visitor who trained 21 years ago and previously worked as a children's nurse in general health. Became the specialist mental health, health visitor in perinatal and infant mental health for their trust in 2020. Works in a city-based trust in the northwest of England with families with elevated levels of deprivation and social needs.
Participant 4	31-year-old health visitor who qualified 6 years ago. Previously worked as a paediatric nurse in an A&E setting. City based role in a highly deprived area in the northwest of England. Works in a general health visiting role but has an interest in mental health stemming from personal experiences.
Participant 5	40-year-old health visitor, qualified in 2014 with a prior working background as a paediatric nurse. Currently working in a city based highly deprived area of northwest England. Qualified in delivering the Neonatal Behavioural Assessment Scale and a behavioural activation treatment course delivered within the health visiting service. They have an interest in mental health but acknowledge the multiple roles of their health visiting alongside mental health.
Participant 6	52-year-old health visitor who qualified in 2000 in a mixed rural and city-based role in Ireland. Prior to training as a health visitor, they worked in trauma and orthopaedics in a hospital. The service is working with mothers aged up to 19-years-old in an area with increased social needs. Interest stemming from seeking own training into perinatal mental health.

Participant 7	25-year-old health visitor, qualified in 2019 who had previously qualified and worked as a hospital based mental health nurse. Currently works in a diverse city-based area of southwest England. Interest from prior experience of working in a perinatal hospital unit.
Participant 8	50-year-old health visitor who qualified in 2015. Prior working background was in adult nursing. Currently working in a city and rural based affluent area in the southeast of England with elevated levels of safeguarding needs. Less of an interest in mental health but can identify the importance of support due to the needs of families in this area.
Participant 9	28-year-old health visitor who qualified in 2018, with prior work experience as an adult mental health nurse. Currently working in a collection of high needs town areas within Scotland. Interest in mental health stemming from prior working background.
Participant 10	34-year-old health visitor who qualified in 2013. Prior working background adult general nursing. Currently working in a rural/town-based area of the Midlands in England with a mixed level of social support needs within the area. Interest in mental health due to needs within health visiting role.

Appendices

Appendix A. Example of a Coded Transcript

Transcript	Code
Participant: Well, yeah, sorry, I was going to say that for me just in this conversation I was thinking, um if 80% of women started telling me that they had maybe had a thought about harming their baby, or they'd heard a voice or they had this obsessive thought, um I'd really struggle with that actually, because I consider that a red flag, I consider that a bit of an alarm bell. If someone said they thought about harming their baby, no part of me feels like going well, that's a very normal experience. My child safeguarding part of me thinks wow, I really need to be very careful here. What kind of assessments need to go on? Is this child safe? I don't consider it a run of the mill 80%. This is just a normal experience um and so yeah, I think, I think it would need significant training in terms of recognising what is normal versus what is really concerning here.	Struggles with highlighting the experiences as a red flag as would view the symptoms this way Safeguarding concerns would be high if someone disclosed any experiences Significant training would be needed in these experiences and what would be of concern
Interviewer: Mhmm absolutely, absolutely. Um and.	
Participant: If anyone marks, on the half of the team that do the EPDS, if one of the marks is considering harming her child, we automatically refer them for mental health support and contact their GP. It goes on the record, like we treat it really seriously. We don't go oh well, it was only a day or two and then the feelings have gone, it's just it just seems like a really extreme thing actually.	Thoughts of harming child are taken as an extreme thing and mental health support required
Interviewer: Okay, and would sort of support from the perinatal mental health team be available to you?	
Participant: Yeah it would and they do do this long term. They do long term ongoing visits and I imagine that they are more highly trained and you know, maybe they wouldn't find the 80% as shocking as I found hearing that because it may	Awareness of possible differences in experiences of these symptoms between HV and other services

be that when they go into it on a deeper level than the health visiting service, they see that a lot more. It's just not something that women have shared with me and I've had really close relationships with clients before that have gone on for a long time, and those kind of thoughts haven't been shared with me.	No experience of these symptoms being shared previously
Interviewer: Yeah, and I mean it can be a range of thoughts can't it, I mean some of the things that came out in the research was stuff like thinking baby can read their mind or sorry I'm thinking on the top of my head at 9:00 o'clock, but it was just little things that they'd heard something or maybe they'd seen someone in the corner of the room, or seeing something that wasn't there. Um so yeah, it's just really interesting because obviously this isn't a typical conversation for any health visitors I don't think, but it's just interesting on what might help support in having them conversations really.	
Participant: It's just, I think that's really difficult because I think trying to to understand, I mean, thinking you're seeing someone in the corner of the room, I'd be worried that you know that that she she'd had a hallucination, but if she said anything, any sort of negative thought in terms of caring for her child in a significant way, I'd find that really hard to relax the child protection side of the job.	Difficulties with understanding the impact of symptoms such as hallucinations Child protection aspect of the job would be highlighted within these reports

Appendix B. Theme Development

Theme Developed	**Example Quotes**
Engagement with Mental Health - Impact of Therapeutic Relationship	• 1:4 “I think the biggest thing is just trying to make that relationship with the client so that they feel they can tell you if they need to” • 1:21 “so it would be a case, we would be told to put referral into social service and know for a fact that would just ruin any therapeutic relationship with the mother, but then also probably makes the situation a million times worse” • 2:4 “it can be a sort of bit of a marathon really and we have the opportunity to do that as health visitors, um so you know, you've got other health professionals, but they don't have, they don't have the opportunity to build that relationship, really with the mums” • 2:26 “that's about taking that back then into your own practice isn’t it and thinking actually, I don't, I don't like it when people ask me about things in that way. You instantly put that barrier up so you know I'm not going to do that in my own practice” • 3:4 “every time we see that mum and dad if they're there, we ask about their mental health and keep and the way that we do it, it's so important that we do it in a way where it's helping that mum feel relaxed and able to disclose how she's feeling and a lot about that is about building that relationship up, and that consistency of that one person” • 3:16 “the thing with mental health is you know you can't say well if you have this symptom, then you go down that pathway, because that might not be the right pathway for that person, so it you've really got to have that open discussion and um excellent communication skills in a way, because it's not about just the words, is it?” • 3:18 “I think health visitors are very good at um building that relationship with Mum and that trusting relationship and being able to ask these type of questions because we always have the family in mind not just the mum, not just the baby” • 4:28 “It's just not something that women have shared with me and I've had really close relationships with clients before that have gone on for a long time, and those kind of thoughts haven't been shared with me” • 5:11 “that's where the building relationships with families come comes in. It's all about knowing your families and knowing what they expect of you as well” • 5:11 “I think it's really important in early intervention, it's really important in disclosures that we have that relationship with those mums” • 7:14 “I find that if you don't have good relationship with your family it just makes the whole process traumatic for them” • 10:10 “my main thing is trying to build up that really therapeutic good relationship antenatally and getting getting to know my mum's their history, what they've been through, have they suffered from anything in the past um you know even it'll go way back as far as

	suffering at school with something and I'll try and get them as as much information”
Dilemmas around PLE’s – What next?	• 1:16 “from a personal point of view, it's thinking, oh God, what do I do if they say yes, you know? That doesn't mean that we shouldn't answer, we shouldn't ask. It's not something that it's not something that I ask. I don't think any of my colleagues do either” • 1:21 “I think that's something we definitely should do really, but I suppose the issue is then what do we do? There would need to be some sort of plan for us if we get told oh I'm having these thoughts because I know for a fact you’d ring safeguarding you'd have to put a referral into social services and that would really, probably not be necessary” • 3:20 “it's about being confident enough to explore that, this is are these intrusive thoughts at risk regarding the infant? How common are they? Do they believe in them? And that's one of the things that you know, is there an estrangement? Is there a change of their relationship with their baby because of them? Um is it an indication of something else is going on? I'm not a mental health practitioner” • 4:18 “I think there’s very, very little training to, to you know, I remember finding it shocking that we were dealing with women who were suicidal but none of us have mental health training” • 4:27 “I don't think the health visiting team I work with would suddenly think oh this is something that we really want to talk about with women” • 6:5 “I mean we're not the experts in mental health” • 7:25 “I think that I think that will be different because it's just about again, what do I do with this information? You know the, it's not about the asking of the question it’s what do I do with this information?” • 2:24 “I think it would definitely need some support before we started doing it, if we were to do it, I think we’d need to understand why we're doing it and how how we can do it, and I think it maybe needs to be done in in a discussion rather than an assessment” • 2:25 “think as well um the support there as well so whether that be coming back to have some sort of supervision like I say we're trying to do this reflective supervision or whether it be liaising with our IAPT team or the the the sometimes the crisis team can be really good as well at offering sort of general support” • 4:27 “I think it would be a lot of questions with what do we think the benefit of talking about this is, you know, you want to normalize things, but to what extent do you want to normalize things or make them aware that actually maybe you know something is not quite right and maybe this is a time when you do need a little bit more support” • 5:24 “so we had female genital mutilation, we have to ask that routinely. That was really uncomfortable at first, but it starts to become embedded in your practice and then it just becomes second nature and I actually I would find it easier to talk about psychosis than female genital mutilation”

	• 6:16 “I think it's really important, it gives permission to and also normalises it a little”
Impact of Disclosure – Cultural Expectations	• 1:6 “worried about feeding, um, so especially mums who kind of wanted to breastfeed and felt like they've not been able to, that can really make them feel like they’ve failed” • 2:4 “There's still a lot of stigma I think and I think um their aware that we’re assessing them and that we’re sort of doing that and I think that can be a bit of a barrier sometimes” • 2:9 “there’s a lot of pressure isn't there on mums, about what they should and shouldn't be doing and everyone's telling them and there's sort of that that self-efficacy you know and the confidence um and I think that I think that can that can sort trigger as well to mental health” • 4:13 “some women really do get stressed and think you know I’m really not sure I love this baby um and it all, again these sort of guilty feelings about what they expect they should be as a mother or what society has made them feel that they should experience, when it doesn’t come to this, I think really disappointing and difficult to process” • 4:14 “if you watch any adverts on tele, um that have a baby in it, other than I think I’ve seen one advert once that was durex, but pretty much every other advert um never has a crying baby on it, it has a happy baby on it doesn’t it um and you know they’re playing and it’s meant to be the happiest time of your life and couples are holding hands and the baby’s in clean clothes and you know, that doesn’t fit into the reality” • 7:6 “the expectations of what a mother or father should be and what a baby should be. So, depending on the demographical families that I work with, there's this idea that you know well my friend said, you know, this is what should happen or this is what I've read about” • 1:4 “on a personal level, um, when I had my little boy, I I, looking back now and I knew at the time I probably wasn't particularly good emotionally and I didn't seek any help because it's not always like you don't trust in services or whatever. It might just be that you don't want to admit that you’ve maybe failed or whatever, so there's a lot more kind of to it” • 2:11 “it’s about making sure that mums don't feel guilty about that 'cause I think a lot of mums feel they know they know that their struggling to build that relationship with the baby and then that's that self-criticism onto them about that then” • 4:12 “postnatal depression and really struggling with low mood after you’ve had a baby, it’s very difficult because if you’re not feeling great in yourself, you’re then trying to build up a relationship with your baby and sometimes, as much as women have extreme guilt over this feeling, there might be that feeling of actually my life was easier before and I had a better relationship with my partner before”

	• 7:11 “you know a lot of parents you take a lot blame that maybe if I’d done this or done that and you know just that doesn't impact” • 2:20 “think with the with with psychosis um they're worried about their baby being taken off them and then they can be seen as not fit women” • 4:22 “losing their children um or even just worrying about what the people think” • 5:6 “I think the things with mums in in our area is they really struggled to accept that the child's not going to be removed and that's why a lot of them don't admit it” • 5:19 “and I think for mums, because of some of the stories that are in the media they’re so scared to say I'm really struggling because they just think someone's going to come and take the baby” • 5:19 “I just still think that fear’s there, that that fear is real for them that if I own up to this, they're gonna take my baby and I don't want that. So they still kind of struggle on”

Appendix C. Theme Descriptions

Health Visitors awareness of mental health

Impact of Therapeutic Relationship

This theme was developed due to health visitors reporting how building of a positive therapeutic relationship was crucial in both supporting mothers but also to have open discussions exploring mental health challenges they may experience. It was discussed that by having a positive relationship, a discussion around psychotic like experiences (PLE's) would be received better by mothers as they would feel able to answer honestly as to whether these had been experienced. Alternatively, some health visitors also worried about how these conversations may cause ruptures within the relationship, particularly if discussions around PLE's are held early in the relationship.

Vulnerability

Many of the health visitors discussed social, environmental, individual, physical and psychological vulnerabilities that can impact on mother's in developing mental health within the perinatal period. These are factors they discuss within their assessment to ensure that they can monitor women further if they feel a number of these stressors could lead to mental health challenges. There was a confidence displayed by many of the health visitors when discussing these factors, suggesting this was an area they felt more comfortable with in their assessment process.

Identification as main role

This sub theme developed from many of the health visitors highlighting how they view their role in terms of mental health. The predominant view was that identification was their main role, there were differences in confidence in any further support ranging from listening visits to referrals to other services to more intense psychological support such as motivational interviewing. Within this sub-theme there was also a focus on anxiety and depression being areas that there were higher levels of confidence in identification, in comparison with other mental health difficulties such as psychosis.

Asking about Psychotic like Experiences

Proactive Response

Within this theme, many of the health visitors discussed how mental health discussions are part of their daily discussions with all mothers and how proactive early intervention support can be more beneficial to prevent more severe difficulties at a later stage, both generally and with PLE's. Many highlighted that proactive discussions around PLE's antenatally or at early stages postnatally could support women in feeling able to voice any concerns around these experiences, while also normalising them to reduce the worry mothers may experience in discussing PLE's or mental health generally.

Training Needs

This theme was discussed across all the health visitors participating in the study. Reasons for the training, ways to approach it and how to make it accessible were the main factors discussed to promote attendance, confidence, and guidance. This will in turn support an understanding of mental health generally, but also in relation to PLE's to support the proactive response discussed in the previous theme.

What next?

When discussing PLE's, many of the health visitors brought up discussions around what would happen if one of these experiences were disclosed. Challenges around responsibility for the women and how health visitors could hold these difficult discussions with minimal support due to the autonomous nature of the role and them not being experts in mental health were highlighted. Alongside this, the lack of guidance on what they would do next with this responsibility without instantly leading to safeguarding/crisis discussions if PLE's are reported.

Impact of Disclosure

Severity of Psychosis

This theme was developed due to the views held from many of the health visitors of the severity of psychosis within the perinatal period, many discussions were held around feeling panicked or worried if someone disclosed difficulties along these lines and therefore the impact this may have on mothers wanting to report these difficulties to their health visitors.

Service Frustrations

Service challenges reported by the health visitors related to firstly their own capacity to offer extra support to those mothers who they feel are vulnerable or having difficulties with mental health due to a large caseload and a focus on key performance targets within the services. The other difficulty was reported with g mental health services and social care in terms of waiting lists, inclusion criteria and the changing support offered by these services meaning health visitors can be responsible for mental health challenges that they feel ill equipped to support and therefore possibly avoid these conversations.

Cultural Expectations

A main theme coming from many of the health visitors around barriers to disclosure was an impact on mothers of how society expects them to present and the consequential feelings of guilt, shame and fear that are brought on to further exacerbate or develop mental health challenges if this is not perceived. This is particularly prominent for psychosis symptoms due to the severe nature perceived which in turn has led to fears such as their baby being taken away.

Appendix D. Reflective Log Excerpt

January 2021 - From a personal angle I think I need to be aware of my own views from being a mother myself and how mental health may have impacted me when I was in the early postpartum stages. I also have some feelings towards how I experienced support from health visiting in terms of positive in practical factors associated with having a baby but possibly hiding any struggles I had at that time and wanting to present as a capable mum to the professionals including health visitors who visited at the time. I also want to keep in mind that health visitors will have a busy job role and possibly may feel uncomfortable with supporting women and their mental health. Or maybe that they feel that this is of less importance in relation to other factors that they need to cover with Mum's and their babies as part of their role. However, I am also aware that the health visitors coming forward to take part in this study may have a particular interest within mental health and therefore their experiences may not be representative of all health visitors' roles.

On a professional level, my expectations for the study would be health visitors seeing the importance of mental health support but feeling this may not be a part of their role due to other pressures and other professionals possibly being more trained to support this. I feel there will be difficulties around confidence in this area due to possibly lack of training or resources, particularly in relation to the questions around psychosis and psychotic like experiences. Difficulties may also arise around systems, pathways and availability of supervision for themselves in order to manage anything which may be discussed, meaning less likely to bring up these discussions with Mums themselves. I think that there will be some variation in experiences and perspectives however I am also aware that people will want to take part if they are interested in the research which may therefore limit the variability in responses gained.

Aware of my own experience of a health visitor asking about mental health during this time and felt like the question was asked as a fleeting comment and not feeling like this conversation was wanted to be open by the health visitor for my own child. I wondered whether this would differ for others or whether this presentation would be not seen by people who are possibly more interested in mental health. Also if they feel that asking a generic question and being told they are ok is enough and therefore they have 'ticked' the mental health box.

Appendix E. Journal Submission Guidelines

Abstract: Should not exceed 150–250 words and be structured as follows: Purpose, Methods, Results, Conclusions

Keywords: Not more than five, separated by semicolons

Introduction: A brief outline of the background literature leading to the objective(s) of the study and the hypotheses.

Materials and Methods: Describe the basic study design. State the setting (e.g., primary care, referral centre). Explain selection of study subjects and state the system of diagnostic criteria used. Specify the dates in which data were collected (month/year to month/year). Describe all assessment methods and instruments used. Specify all statistical methods. Describe any interventions and include their duration and method of administration. Indicate the main outcome measure(s).

Results: Include the key findings. Give specific data and their statistical significance - Subset Ns should accompany percentages if the total N is ‹100.

Discussion and Conclusions: Discuss your findings critically in comparison to existing literature and considering your methodological and other limitations. Make sure not to interpret mere associations as causal relationship. Conclusions should highlight the potential meaning for the field given the limitations.

The main text (i.e., without abstract, references, figures, tables, or supplementary material) should not exceed 3000 words. Additional information can be given in the supplementary material.

Title Page

Please make sure your title page contains the following information.

Title - The title should be concise and informative.

Author information

The name(s) of the author(s)

The affiliation(s) of the author(s), i.e. institution, (department), city, (state), country

A clear indication and an active e-mail address of the corresponding author

If available, the 16-digit ORCID of the author(s)

If address information is provided with the affiliation(s) it will also be published.

Abstract

Please provide a structured abstract of 150 to 250 words which should be divided into the following sections:

- Purpose (stating the main purposes and research question)
- Methods
- Results
- Conclusion

Keywords

Please provide 4 to 6 keywords which can be used for indexing purposes.

Text

Text Formatting - Manuscripts should be submitted in Word.

Use a normal, plain font (e.g., 10-point Times Roman) for text.

Use italics for emphasis.

Use the automatic page numbering function to number the pages.

Do not use field functions.

Use tab stops or other commands for indents, not the space bar.

Use the table function, not spreadsheets, to make tables.

Use the equation editor or MathType for equations.

Save your file in docx format (Word 2007 or higher) or doc format (older Word versions).

Manuscripts with mathematical content can also be submitted in LaTeX. We recommend using Springer Nature's LaTeX template.

Headings

Please use no more than three levels of displayed headings.

Abbreviations

Abbreviations should be defined at first mention and used consistently thereafter.

Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables. Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Important note:

Authors are requested to use automatic continuous line numbering throughout the manuscript and in double space.

References

Citation - Cite references in the text by name and year in parentheses.

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text.

Reference list entries should be alphabetized by the last names of the first author of each work. Please alphabetize according to the following rules: 1) For one author, by name of author, then chronologically; 2) For two authors, by name of author, then name of coauthor, then chronologically; 3) For more than two authors, by name of first author, then chronologically. If available, please always include DOIs as full DOI links in your reference list (e.g. “https://doi.org/abc”).

Chapter 3: Critical Appraisal

Word Count (excluding references, tables, and appendices): 3926

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This critical appraisal includes an outline of the key findings from the Empirical paper and Systematic Literature review (SLR) initially, to re-orient the reader with the outcomes. This is followed by a reflexive overview of the research process including context around topic selection, an understanding of challenges experienced and the researcher's epistemological position. The later sections of the appraisal will focus on a critical review of the empirical paper and systematic review in line with other literature, followed by clinical implications from the findings of the first two papers for healthcare generally and the role of clinical psychology.

Summary of Key Findings

Chapter one details the SLR which aimed to identify whether there is an association between childbirth trauma and mother-infant attachment. This focus was chosen due to the lack of reviews and literature on this specific association, alongside the limited guidance and awareness around childbirth trauma. Between 9 – 44% of women can experience birth as traumatic (de Graaff et al., 2018). The vast number of women that can be affected and the potential implications for both mother and baby highlights the need for research in this area. due to. This was coupled with the possible impact for mother and baby if birth trauma is associated with impaired attachment relationships. Therefore, it was important to review the evidence in this regard as it could have major clinical implications in maternity and perinatal services in supporting mother, baby, and their attachment. By understanding this relationship, adequate support could be put in place for mothers who experience birth trauma, in turn supporting the emotional well-being of mother and baby's development, alongside their attachment relationship.

Eighteen studies investigated the association between childbirth trauma and attachment. Most studies showed a significant association between these factors. However, longitudinal research showed that childbirth related trauma symptoms have an impact on bonding in the early stages postpartum, but this impact decreases following the first 12-18 months of a baby's life. Risk factors for childbirth trauma included a negative perspective of the birth experience, delivery conditions such as an unexpected type of delivery and health difficulties such as COVID-19 during birth which can cause a higher stress response. The results also

highlighted psychological distress and depression as associated factors within childbirth trauma and attachment with further research required to understand the relationship between these. However, there is a wider literature concerning factors associated with birth trauma (Harrison et al., 2021, Ertan et al., 2021). In addition, there are issues with respect to the direction of the relationship between traumatic birth and attachment. The findings highlight that there is a role for maternity and health visiting services in identifying women who may be at risk of experiencing or have experienced a traumatic childbirth and proactively offering support to reduce the emotional and attachment implications that have been found for mothers and babies. This could include routinely asking around childbirth fears and expectations prenatally. Also, a focus on spending time discussing the childbirth postnatally, particularly around the mother's experience and how they are feeling in themselves, with prior knowledge of any risk factors for experiencing childbirth as traumatic and attachment difficulties with their infant informing this discussion. An open conversation about attachment and how difficulties could present would also be helpful in terms of what attachment is and the support available to build this relationship, which if offered in a non-judgemental way could also support women in accessing support if required. An important element of this is having a regular midwife and/or health visitor who can build a relationship with the mother and is accessible should she feel able to contact to reach out for support.

In chapter two, the empirical paper focused on gaining an in-depth picture of health visitors' understanding and experiences of assessing mental health, particularly psychotic like experiences (PLE's) in new mothers. Health visitors are tasked with assessing mothers' mental health as part of their role, but there are often feelings of unease and a lack of confidence in supporting women with PMH (McConachie & Whitford, 2009) and opinions that the management of mental health is not their responsibility (Noonan et al., 2017). Puerperal psychosis is a relatively rare phenomenon, however sub-clinical psychotic experiences have been found to be more common than was previously thought in new mothers (Holt et al, 2018) and these experiences were associated with birth trauma and post-traumatic stress symptoms. Although these experiences are more common than thought for women in the perinatal period, health professionals, including health visitors, often remain unaware of these symptoms. Therefore, the findings from this paper provided

clear recommendations in how health visitors can develop and access training to provide the best service to mothers by supporting them emotionally following these experiences.

Key recommendations included provision for health visitors to access relevant mental health training, supervision, and informal support. Alongside this, guidelines on supporting specific mental health issues like PLE's with explicit guidance on relevant mental health services, their referral criteria and timing of safeguarding input if required. Key discussion points for health visitors also involved the normalisation of other mental health difficulties such as low mood or anxiety in contrast to the lack of information provided around PLE's. Therefore, the development of educational materials around these experiences, dispelling myths and common concerns around stigma and baby being taken away would be useful for health visitors to offer to mothers in antenatal visits. This would facilitate the opening of conversations if mothers were experiencing these phenomena alongside offering proactive support to reduce the likelihood of symptoms increasing in severity and having a bigger impact on mother and baby.

Future research building on the study findings could look at developing validated screening tools for identification of PLE's to inform mental health assessment. A supported understanding of the risk factors for experiencing PLE's would also support proactive assessment and identification, leading to early interventions being put in place by health visiting.

Reflexive Analysis

Reflexivity can be defined as 'practices through which researchers self-consciously critique, appraise and evaluate how their subjectivity and context influence the research processes' (Olmos-Vega et al, 2023). Throughout the thesis process, a reflective diary was kept to continuously review my context and support an awareness of how this could have impacted the research. As discussed in Chapter Two, I am a mother of two who has been through the health visiting process twice while completing this research and therefore had my own experiences which influenced my understanding and judgements of mental health assessment by health visitors.

Initially, I found the evidence of the high prevalence of PLE's in new mothers to be surprising. This, alongside my own experiences of assessment and support of my mental

health perinatally cemented the rationale for wanting to complete this research. There is an awareness of the pressures on health visiting services in terms of capacity and falling numbers of health visitors (Institute of Health Visiting, 2023), however there is limited research on how this impacts the delivery of services and their understanding of different mental health conditions including PLE's. These factors influenced my choice of research focus. It also informed the development of the SLR topic through the findings that childbirth trauma was associated with the development of PLE's. From this, I was interested in whether this could therefore impact the attachment relationship due to the influence of transient delusional thoughts or hallucinations that the mother may not have experienced before, particularly when they involve the baby. For example, ideas that the baby was possessed by the devil. This was also applicable due to discussions in both the review of relevant research and within the interviews for the empirical paper around the role of health visiting in supporting the attachment relationship between mother and baby.

In the early stages of the empirical work, prior to the interviews, I reflected on my own experience of a health visitor asking about my mental health and although the question was asked, it was presented as a fleeting comment. I was given the perception that they did not want to open this conversation and that they have 'ticked' the mental health box on their assessment by asking. I wondered whether this would differ with other mothers depending on their circumstances, and whether this presentation would be different from health visitors who have an interest in mental health. These factors were coupled with my professional thoughts on the possible responses from the health visitors who would take part in the research. I expected that they would see the importance of mental health support but that they may not see this as a part of their role due to other pressures and other professionals possibly being more trained. I expected there would be difficulties around confidence due to possibly lack of training or resources, particularly in relation to PLE's, alongside difficulties around systems, pathways, and availability of supervision, possibly reducing the likelihood of discussions with mothers. I also expected some variation in experiences and perspectives, but held an awareness that people who take part would probably be interested in mental health which may therefore limit the variability in responses gained and thus general applicability. The use of the reflexive log was paramount in understanding my stance in relation to the research I was conducting and using this to

look objectively at the interviews, transcripts, and analysis to ensure this had the least impact possible on the findings of the study.

The key findings which caused a surprise involved the differences in geographical variations in the health visiting service offer and related caseload differences depending on the area and level of funding provided. Certain areas such as those with high levels of deprivation offered an extended programme and had a higher amount of health visitors in post than in most areas. I reflected on how the extended programme and higher numbers of health visitors felt like an optimal way of working for the services rather than the norm that was described by others. Frustrations around NHS services generally were reflected within the discussions from health visitors, and I understood the challenges and pressures they experienced through also working in the NHS, while highlighting how this can influence the mental health assessment they offer due to constraints in time and further support options.

I was also surprised by the level of interest in mental health and accessing further support, training, and supervision by some of the health visitors. I expected that due to the amount of pressure, assessment points and caseload levels, that mental health may be a topic that is seen to be less important to health visitors. This was voiced by some of the participants, however, most of them had an interest in mental health, often for personal reasons and therefore were taking responsibility for their own development in understanding mental health due to the lack of training and support often offered by the services they work in.

Lastly, the final surprise was the lack of knowledge and awareness generally for puerperal psychosis and PLE's. It was common for health visitors to have had no mothers report any of these experiences. Many discussed extreme responses of contacting crisis teams, safeguarding and managers should a mother report a symptom of having a strange thought or hearing/seeing something that wasn't there. These findings do not reflect the background research which found that 93.5% of mothers questioned had experienced a PLE postnatally (Holt et al, 2018). This suggests that either mothers are not confident in reporting these experiences or have limited understanding of what happened, therefore the findings of this research are of particular use to support mothers with these experiences. A mixed response was received when highlighting these findings to participants, some described support needed to be something they could proactively offer, while others felt that this was not something they need to be more aware of as they had not experienced it. It was important

in these discussions to continuously adopt a curious stance to gain an in depth, rich understanding of the person's perspective, particularly if this differed from my own. Always keeping this stance in mind, alongside discussions with supervisors and the regular use of the reflexive log was useful in supporting this. However, at times it was reflected that I was aware of this challenge.

In relation to my pre-data collection reflections, the findings confirmed that those who had an interest in mental health were more likely to take part in the research and therefore had a higher interest in accessing training and development opportunities which surprisingly is not commonly offered within health visiting services. The lack of knowledge on PLE's and psychosis was also something I thought could be seen however, the degree of lack of knowledge as reflected on was a surprise. I expected some awareness of psychotic-like-phenomena to have been reported to some degree. However, this was not found in the empirical study. The positivity and opportunity described by many of the health visitors around being able to offer proactive support in relation to PLE's did highlight that they are in a great position to open these conversations and normalise these experiences. This in turn could have a positive impact on mothers, however, services need to offer the guidelines, training, and supervision to staff to proactively support these conversations.

It was clear from the research that my professional expectation of mental health being viewed as important to discuss was mostly reported within the findings. However, I am aware the recruitment could be biased towards those with an interest and therefore may not reflect the views of the rest of the profession. I expect that there would be a much wider range of views in a larger sample of health visitors.

Epistemological Stance

Due to conducting the SLR as a quantitative piece of research and using a qualitative approach to conduct the empirical paper, it feels important to reflect on my epistemological stance. When discussing the use of mixed method research, a pragmatic paradigm has been developed which refers to using the strengths of both qualitative and quantitative research, to adapt and benefit the research undertaken (Morgan, 2014). When reflecting on my beliefs on the acquisition of knowledge through research, I feel it is important for this to depend on the nature of the research, the information being investigated and what is hoped to be

understood, with no preference on either type of research. This is reflective of a pragmatic understanding of reality being a normative concept, with a focus on reality being what works for that situation (Kaushik & Walsh, 2019).

In the empirical work, due to the aim of gaining an understanding and in-depth experiences of assessing mental health and PLE's, it was determined that a qualitative approach from an essentialist theoretical approach and experiential orientation would be taken using reflexive thematic analysis (Braun & Clarke, 2022). Also, there are limited data available concerning perinatal staff's understanding of psychosis and psychotic-like-phenomena, therefore in a quantitative approach it would be difficult to know what would need to be measured due to a lack of validated, standardised measures regarding recognisable symptoms. In comparison, in the SLR, where the aim was to investigate the association between childbirth trauma and mother-infant attachment, the synthesis of literature lent itself to a quantitative, 'objective' approach from a positivist perspective to acquire the relevant information. This is because the variables of concern are well defined and recognised, and there are validated, standardised measures for the variables.

Although the benefits of a pragmatic approach have been outlined, due to the difference in approaches between the two chapters, it was important to ensure the techniques applied for one approach were not inappropriately utilised within the other paper. Challenges that could develop from this include hypotheses not being adequately investigated or within the qualitative paper, participants views being taken at face value with little engagement with the data. Therefore, a consistent focus on guidance of best practice in relation to the approaches taken out was utilised (Braun & Clarke, 2022, Boland et al., 2017), conducting each paper separately to reduce the cross over of techniques and seeking support from supervisors regularly to support the process of completing each paper separately.

Critical Review

In the SLR, all the studies came from westernised countries, while all the participants in the empirical paper were from and working in services in the United Kingdom, therefore offering a westernised lens of awareness and understanding of mother's mental health and PLE's. The World Health Organisation (WHO) acknowledges that globally disrespectful and undignified care occurs in many facilities, particularly for those in underprivileged

populations (WHO, 2018) in their recommendations for intrapartum care, highlighting the variation in maternity and perinatal services globally. It could therefore be seen that the research conducted is highly relevant for the UK and other westernised countries but further research to build on Ouma's (2017) thesis study in understanding birth trauma in developing countries is required to ensure adequate care is provided through the implementation of recommendations that are reflective of the services in those areas. In relation to the SLR, further searching of studies in non-English languages could identify research from different countries and is a recommendation for future research within this area as this was not within the scope of the review completed.

The SLR also identified a discrepancy in results in identifying the impact of childbirth trauma on attachment. Although more of the studies showed a significant association between these factors, there was a slightly lower number of studies which did not show such an association. On review of the reasons behind this discrepancy, there did not appear to be any consistent specific methodological issues that could account for this. Studies with larger samples were mostly within the group of studies which did show an association, which could suggest that a larger sample size was able to detect more significance than those studies with a lower sample size. However, this did not reflect all the studies from the review. It could also be that the definitions and therefore the measuring of childbirth trauma and attachment may have varied between the studies, which could account for some of the variance in findings.

The interviews in the empirical paper mostly took place during the time when nationwide restrictions were in place following the lockdown due to the COVID-19 pandemic. The health visitors often reported on the impact of the pandemic on the support being offered at the time to varying degrees within their teams. This included an impact on the face-to-face offer of access to health visiting often which many of the participants described as difficult in terms of getting to know the patients and a higher possibility of missing vital information relevant to mother, baby and the family that would inform their assessment. Those with higher levels of need were also reported to be disproportionally affected by the pandemic due to the less support being available. These reports have been supported by research which investigated the impact of the pandemic on families with children under five accessing health visiting support. There was an increased demand on health visiting which was

compromised by national policy to pause their service offer, alongside existing workforce capacity challenges highlighting the need for the service to be prepared for future challenges to ensure families are well supported (Morton & Adams, 2022). Inability to access health visiting services will be detrimental for both mother and baby in relation to all factors including mental health, impact of birth trauma and attachment difficulties. It is also seemed that face to face appointments were vital to offering these services and therefore the reduction in lockdown restrictions related to COVID-19 are important in ensuring an optimal service is offered. However, a plan of service delivery would be important should further difficulties arise in service provision, while also ensuring the delivery of health visiting as a vital service that can assess and support families in many areas of importance.

Clinical Implications

Recorded writings about birth trauma have been found from the 1920's providing some insight into mother's mental health following birth as 'the trauma of birth relived in the unconscious' (Rank, 1924). It is interesting that although the impact of birth trauma on a mother's well-being has been noted since the early 20th century – if not earlier – there is still little research on the impact of birth trauma. This has implications for limiting health professionals' awareness of the risk factors for birth trauma and the impact the trauma can have on both the mother and baby. This may lead to not having proactive identification processes and support both pre and post birth if required. There are limited support service options, a lack of public awareness around birth trauma and a reduced recognition of trauma experienced by mothers during birth by the health professionals involved (Delicate et al., 2020).

The findings from both the SLR and empirical paper are relevant to each other. For example, in terms of the requirement for health professionals to be able to access relevant training, supervision and guidelines on both mental health and trauma. Also, the need for longitudinal research to gain a better understanding of both the impact of birth trauma but also how this links with mental health and attachment. There is also a link between birth trauma and psychosis symptoms such as delusions (Holt et al., 2018). Therefore, the importance of understanding these links will be useful in supporting mothers during these difficulties. Early intervention and psychoeducation around these experiences, awareness of risk factors for birth trauma and support for the possible implications are clearly of

importance in reducing birth related mental health issues for both mother and baby. However, both the interview discussions and findings from the SLR show that this is yet to be in place. This therefore leaves a large cohort of mothers with possible mental health difficulties, attachment, and bonding challenges and possibly a limited understanding of these difficulties. Moreover, there is nowhere to access support for these difficulties.

To support the implementation of the recommendations from this thesis, the findings have been piloted within a national health service programme. A perinatal service in the northwest of England has reviewed and used the findings and recommendations from the empirical paper through setting up focus groups with midwives, health visitors and other health professionals, using the themes from the research as topic points for discussion. The aim was to identify areas that the service could develop in supporting staff in relation to them supporting factors such as birth trauma, mental health, and attachment. This has led to service development opportunities, regular training to meet staff's needs in accordance with developing the service offer, and expanding the supervision provided to make it useful and effective for staff, with a knock-on impact to the service delivered to families. The Clinical Psychology Service has led this implementation strategy. Clinical Psychologists are well placed in their knowledge and experience of working with individuals with mental health and attachment difficulties to support work in implementing training, supervision, and consultation to other health professionals around these difficulties to in turn provide a better service to families.

The service is also planning on publishing the work they are completing, looking at staff reviews and service user outcomes in relation to the changes they have made based on the findings from the empirical paper. This provides an example of how the author hoped the findings from this research would be used. It demonstrates that the findings can be adapted to and applied within relevant health settings to make a difference for both mothers, babies, and their families.

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Section Four – Ethics Proposal

Word Count (excluding references, tables, and appendices): 5742

Hannah Riley

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Ethics Application Form

Health & Medicine | Lancaster University

Faculty of Health and Medicine Research Ethics Committee (FHMREC)
Lancaster University

Application for Ethical Approval for Research

Title of Project: Health visitors' experiences and perspectives of the assessment of perinatal mental health in new mothers: a thematic analysis.

Name of applicant/researcher: Hannah Riley

ACP ID number (if applicable)*: **Funding source (if applicable)**:

Grant code (if applicable):

***If your project has not been costed on ACP, you will also need to complete the Governance Checklist [link].**

Type of study

☐ Involves existing documents/data only, or the evaluation of an existing project with no direct contact with human participants. **Complete sections one, two and four of this form**

√ Includes direct involvement by human subjects. **Complete sections one, three and four of this form**

SECTION ONE

1. Appointment/position held by applicant and Division within FHM Trainee Clinical Psychologist, Doctorate of Clinical Psychology

2. Contact information for applicant:
E-mail: h.riley1@lancaster.ac.uk **Telephone**: 07871546245 (please give a number on which you can be contacted at short notice)

Address: Health Innovation One, Sir John Fisher Drive, Lancaster University, Lancaster, LA1 4AT

3. **Names and appointments of all members of the research team (including degree where applicable)**
Prof. Bill Sellwood, Course Director, Lancaster University
Dr Elizabeth Chamberlain, Senior Clinical Psychologist

3. If this is a student project, please indicate what type of project by marking the relevant box/deleting as appropriate: (please note that UG and taught masters projects should complete **FHMREC form UG-tPG**, following the procedures set out on the FHMREC website

PG Diploma ☐ Masters by research ☐ PhD Thesis ☐ PhD Pall. Care ☐

PhD Pub. Health ☐ PhD Org. Health & Well Being ☐ PhD Mental Health ☐ MD ☐

June 2018

DClinPsy SRP ☐ [If SRP Service Evaluation, please also indicate here: ☐ DClinPsy Thesis √

4. Project supervisor(s), if different from applicant: Professor Bill Sellwood & Dr Elizabeth Chamberlain

5. **Appointment held by supervisor(s) and institution(s) where based (if applicable):** Professor Bill Sellwood - Course Director - Doctorate of Clinical Psychology, Lancaster University.
Dr Elizabeth Chamberlain - Senior Clinical Psychologist, Mersey Care NHS Foundation Trust.

SECTION THREE
Complete this section if your project includes *direct* involvement by human subjects

1. Summary of research protocol in lay terms (indicative maximum length 150 words):
A variety of mental health problems in new mothers commonly occur during the period just before and after giving birth. Clinical psychology has a role within this care to support both the new mothers and the primary care health professionals such as midwives and health visitors. Difficulties identified by these professionals in identifying and supporting women with perinatal mental health problems and referring to appropriate services, have included limited services, lack of confidence, stigmatising views and lack of responsibility. In addition, there is a limited focus in the research on identification of perinatal psychosis or experiences similar to this which appear to be more prominent within this population than previously thought. This study aims to understand health visitors' experiences and perspectives of assessment of mental health difficulties in women in the perinatal period. The study will be conducted through interviews which will then be analysed to find themes to inform future clinical practice.

2. **Anticipated project dates (month and year only)**

Start date: January 2021 End date: August 2022

Data Collection and Management
For additional guidance on data management, please go to Research Data Management webpage, or email the RDM support email: rdm@lancaster.ac.uk

3. Please describe the sample of participants to be studied (including maximum & minimum number, age, gender):
The study will recruit health visitors with the inclusion criteria of being a qualified health visitor and registered by the Nursing and Midwifery council, currently working in the UK and speaking English. The exclusion criteria includes individuals who are not qualified health visitors and those who do not speak English. There are no limitations on individuals in relation to age or gender of the participants. The language limitation to English has been included due to the limited time available to collect and interpret data in other languages within this study. The study aims to interview between 10-20 participants, using a saturation-based approach to data collection which will inform the number of participants required. The required number will be justified on the basis of sufficiency and breadth of information required and the practicality of a Doctorate in Clinical Psychology thesis project.

4. How will participants be recruited and from where? Be as specific as possible. Ensure that you provide the *full* versions of all recruitment materials you intend to use with this application (eg adverts, flyers, posters).
Participants will be recruited through the 'Institute of Health Visiting' charity, who will advertise the project in their magazine and on social media. The Institute of Health Visiting is a UK centre of excellence charity which supports high-level practice of health visiting and supports members in implementing policies and education in order to support public health (Institute of Health Visiting, n.d.). The project will also be advertised through professional accounts on Facebook and twitter social media outlets using the recruitment advertisement attached below, to approach health visitors who are not members of the Institute of Health Visiting. Individuals can then contact the researcher through the email address on recruitment material. Participants will be asked to verbally confirm the eligibility criteria before taking part in the study.

5. Briefly describe your data collection and analysis methods, and the rationale for their use.
Once the participant consents to take part in the study, then an agreed time for a Microsoft teams video call or telephone call to conduct the interview will be arranged. The interviews are aimed to last for around 45-60 minutes, dependent on the individual and their needs. The researcher will follow a semi-structured interview schedule based on the topic guide. This will include a list of open questions which can be followed up by further questions if required by the researcher. The topics include: their role in assessing mental health, their views on mental health in new mothers and their confidence in asking about mental health, particularly around psychotic symptoms (See Topic Guide for full details of topics). The interview questions may also evolve as earlier interviews are analysed to ensure saturation of data is met. The interviews will be audio recorded on Microsoft Teams or through a pick-up device if the interview is through a telephone call.
The interviews conducted will be analysed using Braun & Clarke's (2006) method of thematic analysis as the study aims to look at the health visitor's experience and understanding, rather than trying to explain where they stem from. The data collection and analysis stages will be connected, with initial interview analysis impacting on future interview schedules to ensure data saturation and that the research questions are answered sufficiently from the questions being asked.
The analysis will follow the six-phase approach as reported by Braun & Clarke (2012), which will entail:

1. Familiarisation with the Data
2. Generating Initial Codes
3. Searching for Themes
4. Reviewing Potential Themes
5. Defining and Naming Themes
6. Producing the Report

Coding of the data will be carried out using a combination of paper processes and NVivo software. A peer review of the analysis will be conducted by the research supervisors on sections of the data to check for consistency of themes developed in order to assess for triangulation (Yardley, 2000). This will support the reliability of the thematic map produced.

6. What plan is in place for the storage, back-up, security and documentation of data (electronic, digital, paper, etc.)? Note who will be responsible for deleting the data at the end of the storage period. Please ensure that your plans comply with General Data Protection Regulation (GDPR) and the (UK) Data Protection Act 2018.
The recorded data from the interviews will be transferred and encrypted from either Microsoft Teams or the pickup on to the researcher's university secure H Drive as soon as the interview has ended to ensure secure storage of the consent procedures and the interview recordings. The initial recordings will then be deleted from the Teams stream and/or the pick-up device once saved securely. The transcripts of the interviews will be saved alongside the recordings. Copies of the transcripts will be kept in locked storage at Lancaster University for 10 years after the research has ended. The consent processes and interview recordings will be deleted once the research is complete. Only the lead researcher will have access to these recordings and will provide access to the supervisors when required. The lead researcher will hold responsibility for deleting the data once the research is complete.

7. Will audio or video recording take place? ☐ no √ audio √ video
a. Please confirm that portable devices (laptop, USB drive etc) will be encrypted where they are used for identifiable data. If it is not possible to encrypt your portable devices, please comment on the steps you will take to protect the data.
Interview recordings and transcripts will be transferred and encrypted in Lancaster University H Drive as soon as the interview has taken place. This is possible as the interviews will be taking place remotely with access to the university server at all times. Analysis of the transcripts will take place on a personal laptop and files will be saved on the university network through the VPN following analysis.

b What arrangements have been made for audio/video data storage? At what point in the research will tapes/digital recordings/files be destroyed?
The audio and video data from the study will be retained by the lead researcher until the study has been finished and published so that the recordings can be reviewed at any point during the process if required. The recordings will then be destroyed after this point. The data will be stored on Lancaster University's H Drive for safety. The interview transcripts will be given participant numbers to ensure anonymity and will be saved in a separate folder to the consent processes to further ensure confidentiality for participants.

Please answer the following questions only if you have not completed a Data Management Plan for an external funder

8a. How will you share and preserve the data underpinning your publications for at least 10 years e.g. PURE?
Supporting data will be provided in an electronic format on the journal website, with unrestricted access post-publication. Paper copies of the transcripts will be securely stored by the Lancaster University Doctorate of Clinical Psychology course for 10 years following submission.

8b. Are there any restrictions on sharing your data ?
Due to the small sample size, even after full anonymization there is a small risk that participants can be identified. Therefore, supporting data will only be shared on request. Access will be granted on a case by case basis by the Faculty of Health and Medicine.

9. Consent
a. Will you take all necessary steps to obtain the voluntary and informed consent of the prospective participant(s) or, in the case of individual(s) not capable of giving informed consent, the permission of a legally authorised representative in accordance with applicable law?
YES

b. Detail the procedure you will use for obtaining consent?
Participants will initially be sent the participant information sheet with all details of the study on for them to consider. The consent form will then be discussed with the participant by the lead researcher at a time that is mutually agreed to ensure they fully understand what to expect and what the interview entails. They will also be advised that should they not want to answer a question or request to stop the interview that they can. If the participant consents to take part in the study, then an agreed time for a teams or telephone call to conduct the interview will be arranged.
At the beginning of the interview, the lead researcher will read out the consent form to the participant from which they will need to consent to each question to take part in the study, this will also include information on audio recording the interview and an explanation of confidentiality within the study. The researcher will also check that the participants fully understand the study and answer any questions that they may have prior to beginning the interview. This consent process will be recorded separately from the interview and saved in a secure folder as an encrypted file on the university's H Drive for safety and anonymity of the participants.

10. What discomfort (including psychological eg distressing or sensitive topics), inconvenience or danger could be caused by participation in the project? Please indicate plans to address these potential risks. State the timescales within which participants may withdraw from the study, noting your reasons.
It is highly unlikely that the topic guide will cause distress for participants, however the researcher is aware that the topic of the interviews can be difficult for some people. The participants will be informed before the interview that they can decline to answer any of the questions or ask to stop the interview at any time. If for any reason a participant should become distressed during the interview, the researcher will make the decision on whether to stop the interview. Participants will be informed of support on the debrief sheet should they require it.
Participants will be informed that they can withdraw their data from the study up to two weeks after the interview, should they wish to do this after this date, every effort will still be made to support this but it may not be possible at a later time.

11. What potential risks may exist for the researcher(s)? Please indicate plans to address such risks (for example, noting the support available to you; counselling considerations arising from the sensitive or distressing nature of the research/topic; details of the lone worker plan you will follow, and the steps you will take).
A university email address and a specific Facebook and twitter account for this research will be used for recruitment in this study, preventing any risk to the researcher. The interviews will be carried out remotely due to the current COVID-19 pandemic, therefore no risk is anticipated to occur.

12. Whilst we do not generally expect direct benefits to participants as a result of this research, please state here any that result from completion of the study.

Although the participants may find the study interesting, there are no direct benefits in taking part. However, it is hoped that this research will impact future health visiting and perinatal mental health services in supporting women who experience mental health in the perinatal period.

13. Details of any incentives/payments (including out-of-pocket expenses) made to participants:
No incentives or payments needed or planned for this research.

14. Confidentiality and Anonymity
a. Will you take the necessary steps to assure the anonymity of subjects, including in subsequent publications?
yes

b. Please include details of how the confidentiality and anonymity of participants will be ensured, and the limits to confidentiality.
Participants' confidentiality will be maintained during the course of the study and following the submission. Consent discussions and the interview recordings will be saved in separate folders on the university's secure H Drive to protect anonymity and participants will be allocated a participant number which will be saved with their interview recording. The transcripts will be anonymised and during transcription, care will be taken to protect the participants anonymity with pseudonyms being used for participants in the empirical paper. These aspects of confidentiality will be discussed with the individuals prior to the interview to inform their decision in consenting to the research.
The projects data management plan involves the recordings of the consent processes and interviews to be saved on the researchers H Drive on Lancaster University's system in separate folders. The interview recordings will be deleted from Teams MS Stream as soon as the interview has finished and has been saved securely on the H drive. Participants will be made aware that confidentiality will be breached should there be any concerns regarding risk for either the participant or another individual. The field supervisor and consultation group will be contacted if required to advise on this. Regular meetings will be held with the research and field supervisor to discuss any concerns if required.

15. If relevant, describe the involvement of your target participant group in the *design and conduct* of your research.
A consultation group of specialist health visitors within the north west area of the UK have been approached through contact with the field supervisor. The group have offered guidance and support on the topic guide and recruitment poster to ensure the language, approach and topics are appropriate and relevant to health visiting and their public health role. No changes to the topic guide or recruitment materials have been made from this guidance.

16. What are the plans for dissemination of findings from the research? If you are a student, include here your thesis.
- The research project will be submitted to the Lancaster Doctoral of Clinical Psychology programme for examination as part of the qualification.
- A presentation of the research will be delivered to Lancaster Doctoral of Clinical Psychology staff and students.
- For participants that request, a lay summary report of the findings will be disseminated outlining the results and clinical implications of the findings. This will also thank participants for their time and contribution to the study.
- The research project will be submitted to an academic peer-reviewed journal such as Archives of women's mental health.
- To utilise opportunities for other relevant presentations and/or conferences.
- Possible development of an article for a professional magazine relevant to health visiting and perinatal mental health in order to disseminate the findings.

17. What particular ethical considerations, not previously noted on this application, do you think there are in the proposed study? Are there any matters about which you wish to seek guidance from the FHMREC?
None that the researchers are aware of.

SECTION FOUR: signature

Applicant electronic signature: H. Riley Date 11/11/2020

Student applicants: please tick to confirm that your supervisor has reviewed your application, and that they are happy for the application to proceed to ethical review √

Project Supervisor name (if applicable): Prof. Bill Sellwood Date application discussed 11/11/2020

Submission Guidance

1. Submit your FHMREC application by email to Becky Case (fhmresearchsupport@lancaster.ac.uk) as two separate documents:
    i. **FHMREC application form.**
    Before submitting, ensure all guidance comments are hidden by going into 'Review' in the menu above then choosing *show markup>balloons>show all revisions in line.*
    ii. **Supporting materials.**
    Collate the following materials for your study, if relevant, into a single word document:
        a. Your full research proposal (background, literature review, methodology/methods, ethical considerations).
        b. Advertising materials (posters, e-mails)
        c. Letters/emails of invitation to participate
        d. Participant information sheets
        e. Consent forms
        f. Questionnaires, surveys, demographic sheets
        g. Interview schedules, interview question guides, focus group scripts
        h. Debriefing sheets, resource lists

    Please note that you DO NOT need to submit pre-existing measures or handbooks which support your work, but which cannot be amended following ethical review. These should simply be referred to in your application form.
2. Submission deadlines:
    i. Projects including direct involvement of human subjects **[section 3 of the form was completed]**. The *electronic* version of your application should be submitted to Becky Case **by the committee deadline date.** Committee meeting dates and application submission dates are listed on the FHMREC website. Prior to the FHMREC meeting you may be contacted by the lead reviewer for further clarification of your application. Please ensure you are available to attend the committee meeting (either in person or via telephone) on the day that your application is considered, if required to do so.
    ii. The following projects will normally be dealt with via chair's action, and may be submitted at any time. **[Section 3 of the form has not been completed, and is not required]**. Those involving:
        a. existing documents/data only;
        b. the evaluation of an existing project with no direct contact with human participants;
        c. service evaluations.
3. **You must submit this application from your Lancaster University email address, and copy your supervisor in to the email in which you submit this application**

Ethical Approval Letter

Applicant: Hannah Riley
Supervisor: Prof Bill Sellwood
Department: Division of Health Research
FHMREC Reference: FHMREC20061

18 December 2020

Re: FHMREC20061
Health visitors' experiences and perspectives of the assessment of perinatal mental health in new mothers: a thematic analysis

Dear Hannah,

Thank you for submitting your research ethics application for the above project for review by the **Faculty of Health and Medicine Research Ethics Committee (FHMREC)**. The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact me if you have any queries or require further information.

Email: fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

Annie Beauchamp,
Research Ethics Officer, Secretary to FHMREC.

Research Protocol

Health visitors' experiences and perspectives of the assessment of perinatal mental health in new mothers: a thematic analysis.

Researcher: Hannah Riley (Trainee Clinical Psychologist)

Supervised by: Prof. Bill Sellwood (Programme Director, Doctorate of Clinical Psychology, Lancaster University) and Dr Elizabeth Chamberlain (Principle Clinical Psychologist, Merseycare NHS Foundation Trust).

Introduction

Perinatal mental health (PMH) difficulties are described as any mental health concern within the pregnancy period and in the 12 months after childbirth (National Collaborating Centre for Mental Health, 2018). These difficulties consist of postnatal depression, anxiety, 'baby blues', psychosis, bipolar disorder (O'Hara & Wisner, 2014) and post-traumatic stress disorder (White et al., 2006). Usually, the experience of mental health within the perinatal period follows a similar course and presents with comparable risks of relapse to any other time. However, perinatal psychosis (PP) is unique to this period (National Collaborating Centre for Mental Health, 2018), due to its puerperal nature. New mothers can report a variety of psychotic symptoms in a short timescale around birth, highlighting the differences in experiences of psychotic presentations (Heron et al., 2008). Women often recover fully from these episodes; however, they are associated with a 60% increased risk of PP in future pregnancies (Doyle et al., 2015), highlighting the importance of identification and awareness of PP.

The Psychosis Continuum theory suggests that normal experiences and psychosis are on a continuum which encompasses a range of symptom presentations from subclinical symptoms to the presentations of individuals who have a clinical diagnosis (De Rosse & Karlsgodt, 2015). Puerperal psychosis as a clinical phenomenon is relatively rare, but recent evidence suggests that 'sub-clinical' psychotic like experiences (PLEs) are more common than realised previously (Holt et al 2018; Mannion and Slade, 2014). Holt et al (2018) found that these unrecognised symptoms are associated with birth trauma and post-traumatic stress symptoms. Thus recognition of these phenomena as well as timely advice to new mothers regarding them may be extremely important.

NHS England (2018) identified the need to improve outcomes for women with mental health difficulties in the perinatal period and to minimise the impact of this on the unborn or developing child. The focus was on improved awareness of mental health difficulties and to provide access to appropriate, coordinated PMH support. The National Collaborating Centre for Mental Health (2018) stated that initially, maternity services and health visiting, are responsible for the health and well-being of mother and baby, play a key role in recognising PMH problems and referring to specialist services. The British Psychological Society (BPS) (2016) identified the importance of clinical psychology's role in the identification and understanding of new or pre-existing mental health conditions perinatally when referred by health visiting and maternity services, in order to care plan appropriately and to support primary care staff such as health visitors in providing early intervention.

Health professionals' perspectives and monitoring of PMH have been found to be characterised by stereotypical attitudes towards mothers with mental health difficulties (Hauck et al., 2015), feelings of unease and a lack of confidence in supporting women with

PMH (McConachie & Whitford, 2009), systemic issues in PMH services of support (Sambrook-Smith et al., 2019) and acknowledgement of their role in PMH, however felt that managing these difficulties wasn't their responsibility (Noonan et al., 2017). Essentially within these studies, perinatal psychosis was either not mentioned by professionals (McConachie & Whitford, 2009), was the least accurately identified condition (Hauck et al., 2015) or identified as a condition least studied (Sambrook-Smith et al., 2019) in comparison with more common PMH difficulties such as postnatal depression and anxiety.

Although the prevalence of PLEs has been found to be considerably higher in women in the perinatal period than those who are diagnosed with PP (Holt et al., 2018), it appears that this is an area midwives and health visitors have the least knowledge of or experience with in their care. This is in comparison with NICE Guidelines (2014) which advise that better identification of mothers who are at risk of PP in primary care was of importance as it would have a significant impact on the welfare of the mother and child.

Current Study

Realistically, it is health visitors and midwives who are in the frontline in terms of detecting PLEs and supporting women who experience them as well as, where appropriate, referring on to specialist services. The aim of this research is to explore health visitors' experiences and perspectives of the assessment of mental health difficulties reported by women within the perinatal period. The focus on health visitors in this study is due to the limited research available which focuses on this profession's experience and perspective. The main research questions are:

- What do health visitors know about perinatal mental health and referring women for further support for these difficulties?

- What may facilitate health visitors to routinely ask about mental health difficulties, particularly difficulties with PLEs?
- What are the health visitor's views on women reporting difficulties with PLEs?
- What barriers there may be to enquiring about PLEs and how these may be resolved.

Method

Design

The study will take a qualitative design through semi-structured interviews. Due to the current COVID-19 pandemic, this is planned to take place and be recorded on Microsoft Teams or over telephone for safety and accessibility to participants across the United Kingdom. The interviews will be approximately an hour in duration and will be analysed based on Braun & Clarke's (2006) guidance for Thematic Analysis.

Participants

The project will recruit a targeted sample of health visitors, with the aim to interview between 10-20 participants. The required number will be justified on the basis of sufficiency and breadth of information required and within the practicality of a Doctorate in Clinical Psychology thesis project. Participants will be recruited through the 'Institute of Health Visiting' charity, who will advertise the project in their magazine and on social media. The Institute of Health Visiting is a UK centre of excellence charity which supports high-level practice of health visiting and supports members in implementing policies and education in order to support public health (Institute of Health Visiting, n.d.). The project will also be advertised through professional accounts on Facebook and twitter social media outlets using

the recruitment material listed (Appendix A) to approach health visitors who are not members of the Institute of Health Visiting. The inclusion and exclusion criteria for this study are highlighted in Table 1, the language limitation to English has been included due to the limited time available to collect and interpret data in other languages within this study.

Table 1.

Inclusion and Exclusion Criteria for Participants

Inclusion Criteria	Exclusion Criteria
Registered Health Visitor with the Nursing and Midwifery Council	Not a qualified Health Visitor in the UK
Currently working as a Health Visitor in the UK	Requires an Interpreter
Speaks English Language	

Materials

Participants can express their interest in the study through the contact details on the recruitment poster (see Appendix A) from which they will be sent the participant information sheet (see Appendix B) to review. If the participant agrees to continue to take part in the study, the consent form will be discussed and recorded (see Appendix C) prior to the interview taking place. The interview schedule will be based on the developed topic guide (see Appendix D) which – along with the recruitment poster – have been reviewed by a health visitor consultation to ensure the language, approach and topics are appropriate and relevant to health visiting and their public health role. The consultation was conducted

with a specialist health visitor who works within the north west area of the UK who were approached through contact with the field supervisor. No significant changes were advised.

Procedure

Participants will be recruited to take part in this study through an advertisement in the Institute of Health Visiting newsletter and through social media outlets Facebook and twitter to reach individuals who may not be a member of the Institute of Health Visiting. On the advertisement for the study, a contact email will be provided for potential participants to contact the researcher. Once an expression of interest has been made, the researcher will send the potential participant the participant information sheet over email for them to review. If the participant consents to take part in the study, then an agreed time for a Microsoft teams video call or telephone call to conduct the interview will be arranged.

At the beginning of the interview, the researcher will read out the consent form to the participant from which they will need to consent to each question to take part in the study, this will also include information on audio recording the interview and an explanation of confidentiality within the study. The researcher will also check that the participants fully understand the study and answer any questions that they may have prior to beginning the interview. This consent process will be recorded separately from the interview and saved in a secure folder as an encrypted file on the university's H Drive for safety and anonymity of the participants.

The interviews are aimed to last for around 45-60 minutes, dependent on the individual and their needs. The researcher will follow a semi-structured interview schedule based upon the topic guide developed (See Appendix D). This will include a list of open questions which can be followed up by further questions if required by the researcher. The topics include; their

role in assessing mental health, their views on mental health in new mothers and their confidence in asking about mental health, particularly around psychotic symptoms (See Appendix E for full details of topics). The interview questions may also evolve as earlier interviews are analysed to ensure data are saturated. The interviews will be audio recorded on Microsoft Teams or will be recorded through a pick up device if the interview is through a telephone call. The recorded interviews will then be saved on to the University's H Drive as an encrypted file in a separate folder to the informed consent. The interviews will be transcribed verbatim on Microsoft Word by the researcher after the interview has taken place. Once the interview has been completed, a copy of the debrief sheet (See Appendix E) will be sent to the participants through email and discussed after the interview. This provides contact details for charities Samaritans and MIND in the event any distress has been caused, however it is expected that this will be unlikely.

Proposed Data Analysis

The interviews conducted will be analysed using Braun & Clarke's (2006) method of thematic analysis as the study aims to look at the health visitor's experience and understanding, rather than trying to explain where they stem from. This method is an accessible but flexible way of identifying themes based on an inductive approach where the researcher plans to take an experiential orientation and essentialist theoretical framework to analyse the data (Braun & Clarke, 2012). However, it has been considered that it is difficult to take this stance purely so the researcher will consider the impact of pre-existing known theories on the interpretation of the data within a reflective log throughout the data collection, transcription, analysis and writing up process, to ensure transparency of the processes through these stages.

The data collection and analysis stages will be connected, with initial interview analysis impacting on future interview schedules to ensure data saturation and that the research questions are answered sufficiently from the questions being asked.

The analysis will follow the six-phase approach as reported by Braun & Clarke (2012), which will entail:

1. Familiarisation with the Data
2. Generating Initial Codes
3. Searching for Themes
4. Reviewing Potential Themes
5. Defining and Naming Themes
6. Producing the Report

Coding of the data will be carried out using a combination of paper processes and NVivo software. A peer review of the analysis will be conducted by the research supervisors on sections of the data to check for consistency of themes developed in order to assess for triangulation (Yardley, 2000). This will support the reliability of the thematic map produced.

Practical Issues

There are limited costs and logistical issues associated with this study. Most of the study will be completed online, should participants want paper copies of the participant information sheet and consent form then the postal costs will be covered by the university. Contact details for the study will be provided as a university email address, should participants want the interview to take place over the telephone, the researcher's own mobile phone can be

used ensuring the Caller ID is switched off, which in turn will present the call as a private number to the participants.

The recorded data from the consent processes and interviews will be transferred from either Microsoft Teams or the pickup device on to the researcher's H Drive through the virtual private network (VPN) connection into separate folders as soon as the interview has ended to ensure secure storage of these recordings. Only the lead researcher will have access to these recordings and will provide access to the supervisors when required. A separate encrypted file will also contain participants email addresses for future dissemination of a lay summary of the results from the study, should this be requested.

Lancaster University Doctorate of Clinical Psychology programme will securely store the transcribed data for ten years in a locked cabinet after the study has been carried out. Once the research has been submitted and marked, the consent and interview recordings files will be destroyed with transcripts being preserved.

Ethical Issues

Informed Consent

Participants will initially be sent the participant information sheet with all of the details of the study on for them to consider. The consent form will then be discussed with the participant at a time that is mutually agreed to ensure they fully understand what to expect and what the interview entails. They will also be advised that should they not want to answer a question or request to stop the interview that they can. They can also withdraw from the study in the following two weeks after the interview as highlighted on the participant information sheet (Appendix B).

Confidentiality

Participants confidentiality will be maintained during the course of the study and following the submission. Consent discussions and the interview recordings will be saved in separate folders on the university's secure H Drive. To protect anonymity participants will be allocated a participant number which will be saved with their interview recording. The transcripts will be anonymised and during transcription, care will be taken to protect the participants' anonymity with pseudonyms being used within the empirical paper. These aspects of confidentiality will be discussed with the individuals prior to the interview to inform their decision in consenting to the research.

The projects data management plan involves the recordings of the consent processes and interviews to be saved on the researchers H Drive on Lancaster University's system in separate folders. The interview recordings will be deleted from Teams MS Stream and the pick-up device as soon as the interview has finished and has been saved securely on the H drive. The analysis of the transcripts will be completed on a personal laptop; however, the transcripts will be saved on the university network continually through the VPN connection.

Participants will be made aware that confidentiality will be breached should there be any concerns regarding risk for either the participant or another individual. The field supervisor will be contacted if required to advise on this. Regular meetings will be held with the research and field supervisor to discuss any concerns if required.

Potential to cause distress

It is highly unlikely that the topic guide will cause distress for participants, however the researcher is aware that the topic of the interviews can be difficult for some people. The

participants will be informed before the interview that they can decline to answer any of the questions or ask to stop the interview at any time. If for any reason a participant should become distressed during the interview, the researcher will make the decision on whether to stop the interview. Participants will be informed of support services available to them, Samaritans and MIND on the debrief sheet should they require it.

Participants will also be informed that they can withdraw their data from the study up to two weeks after the interview, should they wish to do this after this date, every effort will still be made to support this but it may not be possible at a later time.

Timescale

Please see the timetable in Table 1 for details of a proposed timescale for this research project.

Table 1.

Proposed timescale for research project.

Activity	**Date**
Submit Thesis Contract Complete Research Protocol & Ethics Forms	September/October 2020
Submit Ethics Application	November 2020
Predicted Ethical Approval	December 2020/January 2021
Data Collection & Transcription	February – April 2021
Data Analysis	March 2021 – August 2021
Write up of Research Paper	July 2021 – February 2022
Research Paper Draft	February 2022
Submit Thesis	September/October 2022

Due to the current COVID-19 pandemic, there may be some delays in participant recruitment, however, by using multiple platforms to advertise the study, the researcher is hoping that this may be minimally disruptive to the timescale presented. Should participants

request feedback on the results of the study, an overview of the results will be provided once the research paper has been drafted.

Dissemination Strategy

- The research project will be submitted to the Lancaster Doctoral of Clinical Psychology programme for examination as part of the qualification.
- A presentation of the research will be delivered to Lancaster Doctoral of Clinical Psychology staff and students.
- For participants that request, a lay summary report of the findings will be disseminated outlining the results and clinical implications of the findings. This will also thank participants for their time and contribution to the study.
- The research project will be submitted to an academic peer-reviewed journal such as Archives of women's mental health.
- To utilise opportunities for other relevant presentations and/or conferences.
- Possible development of an article for a professional magazine relevant to health visiting and perinatal mental health in order to disseminate the findings.

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Health Visitors: Would you like to take part in some research?

Health & Medicine | Lancaster University

What is the study about?

My name is Hannah Riley and I am a trainee clinical psychologist at Lancaster University conducting this research as part of my training. We are interested in health visitors' experiences and perspectives of the assessment of perinatal mental health in new mothers.

What will it involve?

- You will take part in an interview either over Microsoft Teams or telephone where we will discuss your experiences and perspectives of assessing for mental health difficulties during the perinatal period.
- The interview will last approximately 45-60 minutes.
- Participation is voluntary and will be completely anonymous.

Who can take part:

- Qualified health visitor registered with the Nursing and Midwifery council
- Health visitors currently working in the UK.

If you would like further information about the study or would like to take part, please contact me at: h.riley1@lancaster.ac.uk

Appendix B – Participant Information Sheet

Health visitors' experiences and perspectives of the assessment of perinatal mental health in new mothers: a thematic analysis.

My name is Hannah Riley and I am a Trainee Clinical Psychologist. I am conducting this research as a student on the Doctorate of Clinical Psychology programme at Lancaster University, Lancaster, United Kingdom. I would like to ask you to take part in this study which is asking health visitors about their experiences and perspectives of the assessment of mental health in women who are in the perinatal period. Please take the time to read this participant information sheet to understand why the research is being done and what it involves before deciding whether you would like to take part in this study.

What is the study about?

The purpose of this study is to gain an understanding of health visitors experiences of assessing women both pre and postnatally around a range of mental health difficulties. The study will also be interested in health visitors' perspectives on assessing mental health and whether there are difficulties, benefits or impacts on the relationship with women.

Why am I being asked to take part?

You have expressed your interest to the researcher for further information in taking part in this study. The study is asking for qualified health visitors registered with the HCPC and can speak English to take part in a one-to-one interview to gain valuable insight into the research question.

Do I have to take part?

No. Your participation is voluntary, and it is up to you to decide whether you take part or not. Once you read this information sheet, and have had the opportunity to ask any questions, we will ask you to confirm your consent if you do decide to take part through the researcher reading out a consent form.

What will I be asked to do if I take part?

One you have read this participant information sheet and you decide you would like to be involved, you will be asked to take part in an interview which will be approximately one hour long. Prior to the interview, a consent form will be read out to you to outline your consent in taking part in the study, this process will also be audio recorded. Due to the current COVID-19 pandemic, it is planned that the interviews will take place over either Microsoft Teams through video or over the telephone whichever you would prefer, at a mutually agreed time. The interview will be audio recorded and will be analysed to understand the information you provide and relate this to the information other participants provide.

Will my data be Identifiable?

The details of your participation will remain strictly confidential. The recording of the consent process and all interviews will be audio recorded, encrypted and transferred onto a password-protected computer. Once the recordings have been saved safely, the recordings

will be deleted from the recording device. Consent forms and any personal data provided will be saved in separate files to the interview recordings to ensure anonymity.

The lead researcher will only be able to access this data and the data will be made available to the research team only when needed. Anonymity will be ensured by using participant numbers to differentiate between transcripts and quotes during the analysis. The transcripts will be anonymised and during transcription, care will be taken to protect the participants anonymity. Direct quotes from the interviews will be used in the research paper and every effort will be made to ensure that these are not personally identifiable.

Copies of your transcript will be made available if requested during the study. On completion of the project, printed copies of the interview transcripts will be stored in a locked cupboard at Lancaster University for ten years, however all of your personal data and consent forms will be destroyed once the study has been completed. All reasonable steps will be taken to protect the anonymity of the participants involved in this project.

There are some limits to confidentiality: if what is said in the interview makes me think that you, or someone else, is at significant risk of harm, I will have to break confidentiality and speak to a member of staff about this. If possible, I will tell you if I have to do this.

What if I want to withdraw?

You are able to withdraw from the study at any time without providing a reason. You can withdraw your data up to two weeks after the interview has taken place, should this be after the two weeks, every effort will still take place to remove the data. If you withdraw, your data will be destroyed and will not be used in the report.

What will happen to the results?

The results will be summarised into a report forming part of a thesis project which will be submitted to Lancaster University Doctorate of Clinical Psychology. It is likely that the findings will be submitted for publication in an academic or professional journal in the future. Participants can also request copies of the findings and full research paper, which will be provided once the study has been completed.

Are there any risks?

There are no risks anticipated with participating in this study. However, if you experience any distress following participation you are encouraged to inform the researcher and contact the resources provided below.

Resources in the event of distress

Should you feel distressed either as a result of taking part, or in the future, you can contact Samaritans on 116 123 (24 hours a day) or MIND on 0300 123 3393 (9am-6pm). Alternatively contact with your GP may help if you feel you require further support.

Are there any benefits to taking part?

Although you may find participating interesting, there are no direct benefits in taking part. However, it is hoped that this research will impact future health visiting and perinatal mental health services in supporting women who experience mental health in the perinatal period.

Who has reviewed the project?
This study has been reviewed and approved by the Faculty of Health and Medicine Research Ethics Committee at Lancaster University.

Where can I obtain further information about the study if I need it?
If you have any questions about the study or would like to take part, please contact the main researcher:
Hannah Riley – Trainee Clinical Psychologist on h.riley1@lancaster.ac.uk.

The university research supervisor for the study can also be contacted:
Prof. Bill Sellwood – Course Director on b.sellwood@lancaster.ac.uk

GDPR
For further information about how Lancaster University processes personal data for research purposes and your data rights please visit our webpage: www.lancaster.ac.uk/research/data-protection

Complaints
If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

Dr Ian Smith Tel: +44 (0)75 078 570 69
Research Director; Email: i.smith@lancaster.ac.uk
Lancaster University Clinical Psychology Programme
Lancaster University
Lancaster
LA1 4YG

If you wish to speak to someone outside of the Clinical Psychology Doctorate Programme, you may also contact:

Dr Laura Machin Tel: +44 (0)1524 594973
Chair of FHM REC Email: l.machin@lancaster.ac.uk
Faculty of Health and Medicine
(Lancaster Medical School)
Lancaster University
Lancaster
LA1 4YG

Thank you for taking the time to read this information sheet.

Appendix C – Consent Form

N.B. For information only, as researcher will be reading out this form and recording the responses.

Consent Process Recording Number (Saved File) :

Study Title: Health visitors' experiences and perspectives of the assessment of perinatal mental health in new mothers: a thematic analysis.

We are asking if you would like to take part in a research project which is studying health visitors' perspectives and experiences of the assessment of mental health for women in the perinatal period. This will be conducted as an interview which will be recorded, transcribed and analysed to produce results from the findings.

Before you consent to participating in the study, we ask that you read the participant information sheet and verbal consent will be gained for the following statements which will be read out to you. This consent process will then be recorded and stored confidentially. If you have any questions or queries before consenting to take part in the study, please speak to the principal investigator, Hannah Riley (Trainee Clinical Psychologist).

1. I confirm that I have read the information sheet and fully understand what is expected of me within this study **YES/NO**
2. I confirm that I have had the opportunity to ask any questions and to have them answered. **YES/NO**
3. I understand that my interview will be audio recorded and then made into an anonymised written transcript. **YES/NO**
4. I understand that audio recordings will be kept until the research project has been examined. **YES/NO**
5. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected. **YES/NO**
6. I understand that once my data have been anonymised and incorporated into themes it might not be possible for it to be withdrawn, though every attempt will be made to extract my data, up to the point of publication. **YES/NO**
7. I understand that the information from my interview will be pooled with other participants' responses, anonymised and may be published; all reasonable steps will be taken to protect the anonymity of the participants involved in this project. **YES/NO**
8. I consent to information and quotations from my interview being used in reports, conferences and training events. **YES/NO**
9. I understand that the researcher will discuss data with their supervisor as needed. **YES/NO**

10. I understand that any information I give will remain confidential and anonymous unless it is thought that there is a risk of harm to myself or others, in which case the principal investigator will need to share this information with their research supervisor. **YES/NO**
11. I consent to Lancaster University keeping written transcriptions of the interview for 10 years after the study has finished. **YES/NO**
12. I consent to take part in the above study. **YES/NO**

Name of Participant_____ Signature_____ Date _____

Name of Researcher and Person Reading and Recording Consent Process:
_____Signature _____Date _____

Appendix D – Interview Topic Guide

Health visitors' experiences and perspectives of the assessment of perinatal mental health in new mothers: a thematic analysis.

- Introduce Myself
- Introduce the study and answer any questions
- Confidentiality:
    - All identifiable, personal information given is completely confidential apart from one exception. The interview data shared will be anonymised but not confidential.
    - This will only be broken if there is a disclosure of possible risk to yourself or another person.
    - This will be discussed with supervisors with a plan of action made.
    - Consent processes and interview recordings will be saved in separate folders to support anonymity.
    - The anonymised transcripts will be viewed by supervisors to check my work.
    - Also, important to be aware that the study will likely be published as a research article.
- Consent form to be completed with participant verbally and recorded.

- Thank you for agreeing to take part in the study and for allowing the interview to be recorded. I am interested in hearing about your experiences and perspectives of assessing women for perinatal mental health, how this impacts on your role, your views on mental health and asking about these difficulties and what may support you to ask about difficulties such as psychotic like experiences in the future.

Demographic Information

- Age
- How long ago did you train as a HV?
- Prior Working Background (If applicable)
- Service and Area Context of work
- Experience of mental health within work?

Interview Topics

- Experiences of assessing and supporting women with mental health difficulties in perinatal period.
    - Discuss these experiences

- Understanding of mental health difficulties during this time.
    - What they know about different mental health difficulties commonly seen in new mothers.

- Views on mental health in new mothers.
    - What they think are the causes and risk factors for developing mental health during the perinatal period.
    - What do they think are the vulnerability factors for these difficulties?
    - Views on the impact on attachment, mother and baby.

- Role in assessing and supporting women with mental health.
    - Views on their role and remit in relation to mental health.
    - What they understand about the guidelines for assessing mental health in relation to their role.
    - Difficulties experienced or expected.
    - Interests in mental health as part of their role.

- Assessing mental health.
    - Confidence in assessing and supporting women with these difficulties.
    - Routinely ask about difficulties when meeting with new mothers.

- Understanding of perinatal psychosis
    - What they understand by this term and the presentation.
    - Likelihood of mothers reporting these symptoms.

- Confidence in asking about perinatal psychosis
    - Previous experiences of assessing for these difficulties
    - Hypothetical situations – what would it be like to ask someone if they had heard voices?
    - How supported they would feel to do this
    - Would they know what to ask about to support these discussions.

- What would support them to have these conversations with women about perinatal psychosis?
    - Would clearer pathways, support from perinatal mental health teams or further training aid these conversations?
    - How they feel that these conversations would impact on new mothers.

Appendix E – Debrief Sheet

Health visitors' experiences and perspectives of the assessment of perinatal mental health in new mothers: a thematic analysis.

Thank you for taking part in this study, your participation has been highly valued and helpful, and we hope that you found the process and interview interesting and rewarding when sharing your views. Your participation will support an understanding of health visitors' experiences and perspectives of assessing mental health in new mothers in the perinatal period, in order to inform how this can be supported in the future to improve the use of perinatal mental health services and support health visitors in assessing and supporting women's mental health during this time period.

What happens next?

Your interview will be transcribed anonymously and will be analysed alongside other participants interviews. The results of the study will be written up as part of the lead researcher's thesis project and will be submitted to Lancaster University's Doctorate of Clinical Psychology. It is likely that the findings will be submitted for publication in an academic or professional journal in the future. Participants can also request copies of the findings and full research paper, which will be provided once the study has been completed.

How are you feeling after the study and how did you find the interview?

Should you feel distressed either as a result of taking part, or in the future, you can contact Samaritans on 116 123 (24 hours a day) or MIND on 0300 123 3393 (9am-6pm). Alternatively contact with your GP may help if you feel you require further support.

Thank you again for taking part in the study.

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