Breastfeeding experiences and perspectives among women with postnatal depression: a qualitative evidence synthesis

ABSTRACT

Background: Studies show that postnatal depression affects around 10-16% of women globally. It is associated with earlier cessation of breast feeding, which can negatively impact infants' long-term development. Mechanisms underpinning associations between mental health and women's decision to commence and continue to breastfeed are complex and poorly understood.

Aim: The aim of this review was to investigate breastfeeding experiences, perceptions, and support needs of women with postnatal depression. No previous reviews were identified which had addressed this aim.

Method: A systematic search was conducted of six databases to identify relevant qualitative studies. Six included studies were critically appraised and synthesised using thematic synthesis.

Findings: Five themes were identified: (1) desire to breastfeed and be a 'good mother', (2) struggles with breastfeeding, (3) mixed experiences of support from healthcare professionals, (4) importance of practical and social support, (5) support for mental health and breastfeeding. Most women with postnatal depression expressed strong intentions to breastfeed, although some perceived 'failure' to breastfeed triggered their mental health problems. Practical and non-judgemental support for their mental health needs and for successful breastfeeding from healthcare professionals, family and friends are needed.

Conclusion: Most women with postnatal depression desired to breastfeed but experienced breastfeeding difficulties that could impact on their mental health. By offering women with postnatal depression tailored and timely support, healthcare professionals could help women minimize breastfeeding problems which could consequently impact on their mental well-being and ensure they and their infants have opportunity to benefit from the advantages that breastfeeding offers.

Key words:

Postpartum depression; postnatal depression; mental health; breastfeeding; support needs; experiences.

STATEMENT OF SIGNIFICANCE

Problem	Postnatal depression is associated with earlier cessation of breast feeding, which can negatively impact infants' long-term development.
What is Already Known	Breastfeeding to three months or longer has been shown to reduce postnatal depression symptoms. Women with early breastfeeding difficulties often report higher scores on Edinburgh Postnatal Depression Scale.
What this Paper Adds	This review collated qualitative research evidence and provides additional insights into experiences and perspectives of women with postnatal depression. The findings suggested that these women should be better supported both in terms of their mental health and with infant feeding.

INTRODUCTION

Postnatal depression (PND) is defined by the Scottish Intercollegiate Guidelines Network[1] as being any mild to moderate non-psychotic depressive illness which occurs within the first year after giving birth. Depression experienced by women following birth encompasses a range of physical, cognitive and emotional symptoms,[2,3] similar to those reported in the general depressed population. Studies which

have used validated screening tools such as the Edinburgh Postnatal Depression Scale (EPDS),[4] women's self-report or diagnostic clinical interview suggest PND affects around 10-16% of women, although the actual incidence may be higher.[5,6] PND affects not only the woman but can also affect relationships with her infant and family, and longer-term may adversely impact on her infant's emotional and social behavioural development and psychological wellbeing.[7,8]

Breastfeeding benefits for women and infants are widely documented.[9,10] The World Health Organisation (WHO) recommends infants are exclusively breastfed for the first six months of life for optimal health and development .[11] However, the Global Breastfeeding Collective reported that only 23 out of 129 countries met the goal of at least 60% of infants less than six months old being exclusively breastfed.[12] Breastfeeding from birth to three months or longer has been shown in some studies to significantly reduce PND and depressive symptoms.[13,14,15] Conversely, women with negative early breastfeeding experiences i.e. reporting a dislike of breastfeeding in the first postnatal week or experiencing severe breastfeeding pain in the first two weeks postnatally, were found in one observational study to be more likely to record higher scores (≥13) on EPDS at two months postnatally.[16] Experiencing PND has been linked to earlier cessation of breastfeeding and early introduction of infant weaning.[13,14,15,17]

The relationship between PND and breastfeeding has been found to involve physiological mechanisms. For example, oxytocin uptake during breastfeeding has been shown to be impaired in women with an increased risk of depression as shown by them being screened with higher scores (≥10) on EPDS.[18] Oxytocin has been suggested to have a mood ameliorating effect[18] which could suggest a physiological mechanism between PND and breastfeeding. However, the direction and nature of a relationship between breastfeeding and depression is not clearly understood. Further robust evidence is needed to understand physiological mechanisms between PND and breastfeed, and the nature and direction

of a relationship between them using precise definition of breastfeeding variables, validated measures and outcomes.[15,17]

Given conflicting findings of previous studies, a qualitative review of women's experiences and perspectives is important to provide additional insight into and understanding of possible associations between PND and breastfeeding and offer insight into how women with PND could be supported with respect to infant feeding.[17]

Aims

This systematic review aimed to consider the breastfeeding experiences and perspectives of women with symptoms of PND. The review aimed to explore reasons for initiation, continuation, and early cessation of breastfeeding among these women. A search of Cochrane Library and PROSPERO found no current or planned reviews on this topic.

METHOD

The review was developed in line with 'Enhancing transparency in reporting the synthesis of qualitative research (ENTREQ)' guidelines.[19] It was registered on the PROSPERO international prospective register of systematic reviews (PROSPERO 2018 CRD42018090841).

Two primary and one secondary review questions were developed to support identification of the available evidence.

Primary questions:

- What are the experiences and perspectives of breastfeeding among women with postnatal depression?
- What are the breastfeeding support, and advice needs of women with postnatal depression?

Secondary question:

- What are the factors affecting decisions to initiate, continue or stop breastfeeding among women with postnatal depression?

Eligibility criteria

Studies published in English from any settings were considered if they presented qualitative primary research centred on the experiences, perspectives, support and advice needs of breastfeeding among women with symptoms of PND. Adhering to the definition of PND provided in the introduction of this review, studies were considered if they included women who had onset of symptoms of depression within one year postpartum, who perceived or self-reported themselves as having postnatal depression, who completed screening tools which indicated they were likely to have symptoms of PND (e.g. such as the EPDS[4]) or were diagnosed following clinical interview (e.g. Structured Clinical Interview for DSM-IV[20]). Studies were excluded if published prior to 1991 when the Baby Friendly Hospital Initiative (BFHI) was first launched[21], which encouraged promotion of breastfeeding internationally and could have affected breastfeeding support women received, compared to that prior to the BFHI launch. Reviews, grey literature and publications such as policy documents, opinion papers and guidelines in which primary research data were not reported were excluded.

Search strategy

Searches were conducted in six databases: CINAHL, Maternity and Infant Care, Medline, PsycInfo, Scopus, and Web of Science on 21st January 2018. These searches were updated on 9th July 2018. Reference lists of three relevant reviews[22,23,24] and included paper were hand searched for other

relevant articles. Initial keywords and index terms included postnatal depression, postpartum depression, perinatal depression, breastfeeding, infant feeding, experience, perspective, view, and need were searched. An example of electronic search is presented in Figure 1.

----INSERT FIGURE 1----

All publications identified by the search were initially assessed for relevance based on the title by DDST and verified by Y-SC. Following initial assessment, abstracts were screened against inclusion criteria by DDST and a random sample of 20% were independently screened by Y-SC. Papers which were considered to be relevant were retrieved for full texts and independently screened by DDST and Y-SC. Any disagreements were resolved through discussion. Papers were excluded if they did not meet the inclusion criteria described above or answer the review questions.

Quality appraisal

DSTT and Y-SC independently assessed the quality of included studies using an adapted Critical Appraisal Skills Programme [CASP] checklist for qualitative studies,[25] with a maximum of 10 questions/scores (Table 1). Both assessors had received training on assessing qualitative studies. Any disagreements were resolved through discussion.

---INSERT TABLE 1---

Evidence synthesis

Data were analysed using thematic synthesis as described by Thomas and Harden.[26] This approach to synthesis was used because it allowed data extracted from the primary studies to be combined into themes which reflected the authors' interpretation of the data. A three stage process was followed:

(1) Findings from included studies were coded line by line; (2) Codes with similar meanings were categorised into a smaller number of new codes; (3) Analytical themes were developed inductively. DDST undertook the initial synthesis process, and discussed initial codes and preliminary themes with Y-SC. All authors agreed on the final themes.

RESULTS

Following the initial systematic search, 11,560 publications were identified. A total of 9,179 remained after removing duplicates. After evaluation of titles, 136 abstracts were screened. Fifteen full texts were retrieved and assessed. Following this, ten papers were excluded (Figure 2). Reference lists of relevant reviews and selected papers were searched, and one further paper was identified. Quality assessment was undertaken independently by DDST and Y-SC for six included papers using the adapted CASP checklist. Quality assessment scores of these papers are presented in Table 1 which shows that two of the papers[27,30] scored 10. The other papers were scored 8 or 9. One common reason for losing a mark was failure to discuss the relationship between the researchers and participants. No further papers were selected following the updated search in July 2018.

---INSERT Figure 2---

All six papers[27-32] were from high-income countries and presented qualitative data relevant to the review questions: two from the UK,[27,28] one from Canada,[29] one from Norway,[30] one from Sweden,[31] and one from the USA.[32] A summary of study characteristics is shown in Table 2. Five themes developed from evidence synthesis are presented below.

---INSERT TABLE 2---

Desire to breastfeed and be a 'good mother'

Most women emphasized their strong initial intention to breastfeed and the desire and importance of succeeding with breastfeeding.[27,30-32] Feelings were so strong that women in some instances continued to breastfeed even if it negatively affected their health and wellbeing.[27,30] In one study of the experiences of 30 women self-reported as depressed, only five would have considered taking prescription medication if needed.[32] Six of these 30 women described 'fear of transmitting medication via breastmilk' or medication disrupting the breastfeeding experience as possible deterrents to treatment.[32] Letourneau et al[29] found that the need to be viewed as a perfect mother motivated women to deny they were experiencing symptoms of PND. Women in this study similarly described fears that antidepressant medication would impact on the health of their infants and did not seek help or support for their mental health needs because of this.[29]

The desire to breastfeed ran parallel to views expressed by some women that a 'good mother' breastfeeds her child,[27,28,30,31] which influenced their decision to initiate and continue to breastfeed. If women did not breastfeed, they felt they had 'failed as mothers'.[27,28,31,32] This contrasted with the perspectives of other women for whom 'breastfeeding was not central to their identity as mothers',[28] highlighting the range of individual factors impacting on a woman's infant feeding decisions.

In some circumstances, women felt pressurised to breastfeed when they may not have otherwise made this decision ,[30,31] which influenced them to start breastfeeding. This pressure came from healthcare professionals, and society at large:

> *[…] you get fed with this- that you should be breastfeeding at every price, it's like harassment…*[31]

Struggles with breastfeeding

Studies described women's struggles with breastfeeding.[27,30-32] Women experienced sore nipples, pain and discomfort when breastfeeding. Many women had assumed breastfeeding would be easy and initiated breastfeeding with a high expectation that breastfeeding would be successful.[27,28] However, their actual experiences directly contrasted with this expectation:

> *[…] you should be able to know this instinctively [breastfeeding] and in fact it's probably the hardest thing I've ever done.*[27]

Struggling with breastfeeding was closely associated with women's perspectives on their mental health and well-being, and many described how experiences had left them exhausted.

> *The first month was really tough, plain and simple. The fact that breastfeeding was so hard affected everything else. Since I didn't manage to breastfeed properly I didn't want to go out and see people and so I ended up sitting on the couch all day, without really doing anything.*[30]

> *It was the wearing, you know, being completely worn by it […] it was just feed, feed, that was it, that was my life.*[27]

Edhborg et al[31] found that not being able to offer their infant enough food was described by some women as triggering anxiety.[31] Five of the 30 women in Ugarriza's study[32] directly referred to their failure to breastfeed as a trigger for their PND. Shakespeare et al[27] also reported that for some women

failure to breastfeed was perceived as a cause of their depression, while others ascribed physical breastfeeding difficulties as the trigger.[27]

Breastfeeding difficulties negatively impacted on women's relationship with their baby, including physical and psychological aspects. Women dreaded each breastfeed, and described adverse physical impacts of breastfeeding: [27,30]

> *[…] my whole life was just hoping he wasn't gonna wake up and want the next feed […] I was in tears all the time with pain […] I just wanted to throttle him… so I didn't feel much love then.*[27]

In some cases, women felt that they had no choice but to continue breastfeeding despite difficulties:[27]

> *I really just so wanted to do it [breastfeeding] that… I wasn't going to put anything else in his mouth […] you obviously lose the little baby and you're doing the best you can and, just, that's what made me keep going.*[27]

The need to find ways to cope and continue to breastfeed were described by some women.[27,29,31,32] For example, in Shakespeare et al's study,[27] some women decided to adopt a more 'flexible' approach to breastfeeding, by occasionally feeding their babies by bottle (it was unclear if this was expressed breast milk or formula feed) to feel 'in control'.[27]

In situations where women could not breastfeed, they referred to experiencing overwhelming feelings of failure and guilt.[27,28,30-32] For some women, physical breastfeeding difficulties were contributing factors to stopping breastfeeding, with mental health concerns.[27,30,32] Some women felt they could cope better with their emotional well-being if they stopped breastfeeding.[27]

A chemical thing happened every time I nursed the baby. It was like the black wings of death… I just wanted to curl up into a ball. I had to stop breastfeeding.[32]

No further information was provided by the study author[32] and on what the woman meant by 'black wings of death', although this might be an allusion to very low mood.

Mixed experiences of support from healthcare professionals

Women who needed additional support to breastfeed and/or with their mental health problems frequently sought this from relevant healthcare professionals.[27,29,31] When support was available, it was not always accessible. For example women found it difficult to attend group support meetings due to logistics of trying to arrange transport,[32] while others felt they had to be more self-reliant due to living in rural communities.[29] A few women did describe positive contacts with healthcare professionals who "had time to listen, were non-judgemental and encouraging".[27] The opportunity to attend a hospital breastfeeding clinic was valued:

I just found them to be so supportive, and treated me as a sort of whole person and not just about the breastfeeding.[27]

In contrast, for some women healthcare professionals offered negative support,[27,31] and were described by women as 'bossy, judgemental, gave conflicting advice or were inaccessible'.[27] In one case, a woman described the midwife becoming angry with her for not breastfeeding.[27] Some women felt that healthcare professionals lacked the expertise necessary to help them and consequently the advice offered was contradictory.[31] Some women felt that healthcare professionals were too biased towards breastfeeding, possibly because of compliance with BFHI policies.[27]

[…] they showed us a video about feeding your baby and they said, 'It's alright if you don't want to breastfeed', but when the video got to the point where it said 'If you're not going to breastfeed', they turned it off (laughs). God! [27]

Importance of practical and social support

In addition to support from healthcare professionals, women also looked for support from family and friends.[27,29,31,32] Limited evidence was presented of support from partners, probably due to this not being a core focus of included studies and was more of an incidental finding.[32] Where women did refer to partner support, it was most frequently a negative comment, for example:

Even my husband, who is a great guy, didn't help me with breastfeeding. He wouldn't help me out during the night so I could rest. [32]

Letourneau et al[29] described that women perceived family and friends with whom they had trusting relationships as important sources of support, with female relatives cited as good sources of support. As one woman described:

One time, I was feeding the baby in the kitchen and I called my mom and said 'Mom I need you to come over with the kids and I have to go. I need to get some help'. But, just talking to my mom made me feel better. [29]

Women who had succeeded with breastfeeding in Edhborg et al's study[31] reported that advice on breastfeeding given by relatives and friends was contradictory but did not provide further information to explain this. Friends' own experiences were reported as offering reassurance to support women's decisions to stop breastfeeding.[27] One woman described:

I spoke to Dave's mum, […] she didn't breast feed any of hers, […] they're all these sort of huge, strapping, you know, healthy things and she said, you know, 'It doesn't mean that they're not going to be strong and healthy and everything just because you don't breast feed, cos I didn't breast feed and look at them'. Once I sort of got myself over that, you know I was okay. [27]

Support for mental health and breastfeeding

Included papers described support needs similar to those of most new mothers, including emotional, affirmational and informational needs.[27,29,31] However, women with symptoms of PND expressed a need to be able to talk to someone about their mental health, their struggles with breastfeeding and other 'practical' needs, but were unable or unwilling to do this because of possible negative response, placing the burden on someone else, or that no one would listen to them.[28,31] Women desired breastfeeding support programmes specific to meet the requirements of those who experienced PND. [29]

In addition to the positive support women valued from healthcare professionals and family described above, women needed ongoing reassurance from their healthcare professionals.[27] Some women articulated a lack of confidence to commence and continue breastfeeding but did not receive the individualised counselling they considered was necessary to develop their confidence.[31] Healthcare professionals needed to be perceived by women as breastfeeding 'experts' who have the competences and skills to support women. [27] Support needs reflected in-patient and community contacts with healthcare professionals, as one woman described with respect to her experiences on the postnatal ward:

I was alone….and the nurse often didn't answer the buzzer, my buzzer when I was trying to breastfeed and things. Again I felt so kind of, incredibly sensitive about everything, and they just weren't there, were never there for me. [27]

Receiving healthcare professional support which was perceived as encouraging and non-judgemental was clearly important to this woman when she was breastfeeding:

Having the midwife sitting there, just smiling and saying, "You're doing brilliantly", when I obviously wasn't, but that was what I needed. [27]

DISCUSSION

This systematic review aimed to consider the breastfeeding experiences and perspectives amongst women with PND. Our review contributes to further the understanding of women's experiences, and their support needs and highlights gaps in practice and research. Despite PND being relatively common, only six studies were identified which met review inclusion criteria. Study samples included women with self-reported symptoms of PND or recorded higher scores on screening tools such as the EPDS. A few women were diagnosed with depression following clinical diagnostic interview.

Breastfeeding experiences and their interlinks with PND

Women had strong intentions to breastfeed, linked to their perceptions of being a 'good mother' and awareness of the benefits of breastfeeding.[10] However, breastfeeding difficulties, including physical pain and tiredness were commonly reported, which is not unsurprising given that these are frequently reported in general breastfeeding studies.[33,34] However, problems were frequently described amongst women with PND. In some cases, physical breastfeeding problems were aggravated due to a perceived lack of appropriate support from healthcare professionals but may have reflected the impact of women's mental health problems on their ability to cope with the ongoing demands and sole

breastfeeding responsibilities, particularly in the first few weeks following birth. Despite difficulties, many women were determined to 'succeed' in breastfeeding.

Women in the included studies experienced more negative breastfeeding experiences than positive ones. Previous studies have shown that women with higher EPDS scores (≥12) were more likely to face a range of difficulties with breastfeeding than women with lower EPDS scores, indicating that their breastfeeding experiences impacted on a decision to stop.[35] Women reported feelings of guilt and failure over their breastfeeding difficulties and early cessation, attributing this in some cases as a 'trigger' of their PND. It is unclear whether other women were already depressed before giving birth which then developed into PND, or at which point they developed PND, although they likely had very different and individual 'triggers'. Previous research exploring potential causative relationships between PND and breastfeeding have described the association as bidirectional.[14,15] This review showed that some women considered that their decision to stop breastfeeding directly impacted on the onset of PND, while other women stopped breastfeeding because of the emotional distress they felt. Furthermore, many women continued to breastfeed despite their difficulties, although this affected their mood. This review supports evidence of a bidirectional relationship between breastfeeding and depression, although the desire to breastfeed was very strong amongst these women.

Antidepressant medication and breastfeeding

Women in included studies feared that taking antidepressants would not allow them to continue breastfeeding or that the medication would have negative consequences for their infants' health. Some women chose not to take medication rather than stop breastfeeding. Their concerns reflected that the effects of drugs on lactation are not well understood. This includes timing of feeds and drug dosages, which could potentially result in poor compliance with prescribed medication, or sub-optimal

dosages being prescribed by clinicians.[2,36,37] Current recommendations include that the risks of taking antidepressants are taken into account for women who are breastfeeding, although women should be encouraged and supported in their choice to breastfeed,[1] and their infants observed carefully during this period,[36] with the balance of risks of not prescribing medication with risks of treating considered carefully.

Many of the women in the included studies described themselves as 'depressed' rather than having a clinical diagnosis, suggesting that the option to take antidepressants not available. However, if women were diagnosed as depressed by their doctor, they may have considered taking medication. Some antidepressants are not contraindicated for breastfeeding[38] and prescription of 'lower risk medication' is recommended.[2] Healthcare professionals should be aware of current evidence on use of antidepressant medication so they can discuss this with women, and implement ongoing review of medication and risk assessment according to each woman's individual needs,[36] and referral to specialist services as needed. Ensuring women are aware of current evidence, including time needed to enable antidepressants to work effectively, could help them feel less fearful of antidepressants and consider medication as a treatment option if indicated. As women with more severe mental health problems may have more complex social lives and poorer lifestyles, healthcare services also need to monitor, advise and support accordingly. Further evidence on longer-term follow-up, infant outcomes and safety of breastfeeding among women prescribed antidepressants is needed.[39]

Need for timely and appropriate support from healthcare professionals

Support from healthcare professionals was frequently mentioned, but most women perceived this as insufficient. It is unclear whether the lack of support contributed to women feeling depressed or if women who were depressed and found little support available. Women should be supported by healthcare professionals trained in breastfeeding management, supported in how to position and

attach their baby to the breast,[40] an important issue if women have a caesarean section wound[41] or are overweight or obese.[42] Tailored breastfeeding education and support can reduce breastfeeding difficulties[43] and failing to offer this could result in health inequalities in high-income settings such as the UK where poorer women are less likely to breastfeed.[44] However, women in included studies described not receiving appropriate or timely support not just for the physical aspects of breastfeeding, but to acknowledge their mental health needs as well. It is possible that with the right support, breastfeeding difficulties could have been prevented, with potential positive impacts for women's mental health and well-being.

Policies such as the BFHI[21] have undoubtedly influenced breastfeeding outcomes and how healthcare professionals practice and support women with infant feeding.[45] However this was negatively perceived by some women, who felt they were exposed to excessive healthcare professional pressure to breastfeed. Societal expectations that women should breastfeed were also described.[30] Our findings suggest that it is important to understand individual women's breastfeeding intentions, and then support them in achieving their infant feeding goals, which also takes mental health needs into account.

Women experience a range of morbidities following birth, both psychological and physical.[47] Although a wide range of guidance is available which focuses on specific health topics or systems of maternity care, we now need guidance and more awareness of managing women who have co-morbidity, including more complex social needs. Routine screening to identify women at risk of developing PND is recommended during and after pregnancy,[1] to facilitate early treatment and prevent adverse outcomes. For women identified as at risk, discussions during screening contacts could include implications for infant feeding.

Support from partner, relatives and peers

A negative picture of support from partners was identified from the review, although evidence was limited, and further studies are needed. Support from a woman's partner when she is trying to get breastfeeding established can boost women's confidence and feelings of self-efficacy.[48] However, studies have reported a lack of paternal engagement and commitment to breastfeeding support, although some fathers are interested and motivated.[49] Paternal health following a child's birth has been neglected, with evidence accruing of mental health needs in fathers, including first time fathers,[50] which may impact on their ability to positively support their partners.

Support from close female relatives for a woman to breastfeed is also important.[51] Breastfeeding peer support programmes appear to have a greater effect on any breastfeeding in low- or middle-income countries compared to high-income counties including the UK.[52] Few interventions to support the uptake and duration of breastfeeding among women experiencing perinatal mental health problems have been developed or tested. Kao et al[53] conducted a secondary analysis of data from a randomised controlled trial, with a group interpersonal therapy approach focused on teaching low-income pregnant women at risk of PND about the importance of self-care and seeking help assertively as an intervention. Women receiving therapy had longer breastfeeding duration than those who did not (median days breastfed: 54 vs. 21), suggesting it might positively affect breastfeeding, but further evidence is warranted.[53] Interventions to support women at risk of PND and with PND to successfully breastfeed are needed.

Strengths and limitations

The review was undertaken using a thorough search strategy to obtain all relevant evidence to address the review questions without limiting to county settings. Critical appraisal and review were conducted

on all included studies. An important limitation was the lack of a formal clinical diagnosis of PND in most included studies. Most researchers included women in their study samples on the basis of self-reported symptoms of PND.[28-30,32] In some cases, women were diagnosed with PND by a relevant healthcare professional, but not additionally assessed prior to study recruitment.[28] A woman's perception that she is experiencing symptoms of PND should not be contra-indicatory to study participation, but if recommendations for care are to be clear and evidence-based, clarity is needed about the specific population of women as intended recipients of any intervention. In some studies, it was unclear if women included had developed symptoms of PND within 12 months postnatally.[28,29]

All the included studies were undertaken in high-income settings suggesting that findings are likely only applicable to populations in similar settings. Some findings of this review seemed similar to those experienced by postnatal women generally. Future rigorous qualitative research is needed to compare the experiences and perspectives of women with PND and of those without PND.

CONCLUSION

Women with PND frequently described breastfeeding difficulties which impacted negatively on their well-being and relationship with their infant. Although women had strong intentions to breastfeed, failure left them feeling low and guilty. Despite this, many persevered to support their perception of a good mother. Appropriate and beneficial healthcare support was lacking, despite women's clear need for this. To improve breastfeeding outcomes and experiences, healthcare professionals need appropriate training in mental health awareness for maternal and paternal health, and consequences of any management options for infant feeding. Tailored breastfeeding support to ensure women with PND are content with their infant feeding practices, alongside appropriate mental health support is required.

ACKNOWLEDGEMENTS

No funding was received for this review. The authors declare no conflicts of interest.

REFERENCES

1. National Institute for Health and Care Excellence [NICE]. Antenatal and postnatal mental health: clinical management and service guidance [CG192]. 2018. [cited 2019 Mar 26] Available from: https://www.nice.org.uk/guidance/cg192/.
2. Fisher SD, Wisner KL, Clark CT, Sit DK, Luther JF, Wisniewski S. Factors associated with onset timing, symptoms, and severity of depression identified in the postpartum period. Journal of Affective Disorders. 2016;203:111-120. doi: 10.1016/j.jad.2016.05.063.
3. Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. The British Journal of Psychiatry. 1987;150(6):782-786.
4. Almond P. Postnatal depression: A global public health perspective. Perspectives in Public Health. 2009;129(5):221-227. doi: 10.1177/1757913909343882.
5. Leung BMY, Kaplan BJ. Perinatal Depression: Prevalence, Risks, and the Nutrition Link—A Review of the Literature. Journal of the American Dietetic Association. 2009;109(9):1566-1575.
6. Stein A, Pearson RM, Goodman SH, et al. Effects of perinatal mental disorders on the fetus and child. The Lancet. 2014;384(9956):1800-1819.
7. Tsivos Z, Wittkowski A, Calam R, Sanders M. Postnatal depression – the impact for women and children and interventions to enhance the mother-infant relationship. Perspective. 2011:16-20.

8. Turck D, Vidailhet M, Bocquet A, et al. Breastfeeding: health benefits for child and mother. *Archives de Pediatrie*. 2013;20(Suppl 2):S29-S48.
9. Victora CG, Bahl R, Barros AJD, et al. Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect. Lancet. 2016;387(10017):475–490.
10. World Health Organization [WHO]. Infant and young child feeding: Model Chapter for textbooks for medical students and allied health professionals [internet]. 2009 [cited 2018 Jun 7]. Available from: http://www.who.int/maternal_child_adolescent/documents/9789241597494/en/.
11. Global Breastfeeding Collective. Global breastfeeding scorecard: tracking progress for breastfeeding policies and programmes [internet]. 2017 [cited 2018 Jun 10] Available from: http://www.who.int/nutrition/publications/infantfeeding/global-bf-scorecard-2017.pdf?ua=1.
12. Figueiredo B, Canário C, Field T. Breastfeeding is negatively affected by prenatal depression and reduces postpartum depression. Psychological Medicine. 2014;44(5):927-936. doi: 10.1017/S0033291713001530.
13. Hahn-Holbrook J, Haselton MG, Dunkel Schetter C, Glynn LM. Does breastfeeding offer protection against maternal depressive symptomatology?. Archives of Women's Mental Health. 2013;16(5):411-422.
14. Pope CJ, Mazmanian D. Breastfeeding and Postpartum Depression: An Overview and Methodological Recommendations for Future Research. Depression Research and Treatment. 2016; Article ID 4765310: 9 pages.
15. Watkins S, Meltzer-Brody S, Zolnoun D, Stuebe A. Early Breastfeeding Experiences and Postpartum Depression. Obstetrics & Gynecology. 2011;118(2):214-221. doi:10.1097/AOG.0b013e3182260a2d.
16. Dias CC, Figueiredo B. Breastfeeding and depression: A systematic review of the literature. Journal of Affective Disorders. 2015;171:142-154.

17. Stuebe AM, Grewen K, Meltzer-Brody S. Association Between Maternal Mood and Oxytocin Response to Breastfeeding. J Women's Health (Larchmt). 2013 Apr;22(4):352-361. doi: 10.1089/jwh.2012.3768.
18. Tong A, Flemming K, McInnes E, Oliver S, Craig, J. Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. BMC Medical Research Methodology. 2012;12(181). doi:10.1186/1471-2288-12-181.
19. First MB, Spitzer RL, Gibbon M, Williams JBW. Structured Clinical Interview for DSM-IV Axis I Disorders, Clinician Version (SCID-CV). Washington: American Psychiatric Press, Inc; 1996.
20. World Health Organization [WHO]. Baby Friendly Hospital Initiative: Revised, updated and expanded for integrated care [internet]; 2009 [cited 2018 Jun 21] Available from: http://www.who.int/nutrition/publications/infantfeeding/bfhi_trainingcourse/en/.
21. Dennis CL, McQueen K. The relationship between infant-feeding outcomes and postpartum depression: a qualitative systematic review. Pediatrics. 2009;123(4):e736-751. doi: 10.1542/peds.20081629.
22. Field T. Postpartum depression effects on early interactions, parenting, and safety practices: A review. Infant Behavior and Development. 2010;33(1):1-6.
23. Zauderer C & Galea E. Breastfeeding and depression: empowering the new mother. British Journal of Midwifery. 2010;18(2):88-91.
24. Critical Appraisal Skills Programme [CASP]. CASP Qualitative Checklist [internet]. 2018 [cited 2019 Jun 24] Available from: https://casp-uk.net/wp-content/uploads/2018/03/CASP-Qualitative-Checklist-2018_fillable_form.pdf.
25. Thomas J, Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. BMC Med Res Methodol. 2008;8(1):45.
26. Shakespeare J, Blake F, Garcia J. Breast-feeding difficulties experienced by women taking part in a qualitative interview study of postnatal depression. Midwifery. 2004;20(3):251-260.

27. Mauthner NS. Feeling Low and Feeling Really Bad About Feeling Low: Women's Experiences of Motherhood and Postpartum Depression. Canadian Psychology. 1999;40(2):143-161.
28. Letourneau N, Duffet-Leger L, Stewart M, et al. Canadian Mothers' Perceived Support Needs During Postpartum Depression. Journal of obstetric, gynecologic, and neonatal nursing. 2007;36(5):441-449.
29. Haga SM, Lynne A. Slinning K, Kraft P. A qualitative study of depressive symptoms and well-being among first time mothers. Scandinavian Journal of Caring Sciences. 2012;26(3):158-466.
30. Edhborg M, Friberg M, Lundh W, Widstrom AM. "Struggling with life": Narratives from women with signs of postpartum depression. Scandinavian Journal of Public Health. 2005;33(4):261-267.
31. Ugarriza DN. Postpartum Depressed Women's Explanation of Depression. Journal of Nursing Scholarship. 2002;34(3):227-233.
32. Odom EC, Li R, Scanlon KS, Perrine CG, Grummer-Strawn L. Reasons for earlier than desired cessation of breastfeeding. Pediatrics. 2012;131(3):e726-732. doi: 10.1542/peds.2012-1295.
33. Bergmann RL, Bergmann KE, von Weizsäcker K, Berns M, Henrich W, Dudenhausen JW. Breastfeeding is natural but not always easy: intervention for common medical problems of breastfeeding mothers – a review of the scientific evidence. Journal of Perinatal Medicine. 2013;42(1). doi: 10.1515/jpm-2013-0095.
34. Brown A, Rance J, Bennett P. Understanding the relationship between breastfeeding and postnatal depression: the role of pain and physical difficulties. Journal of Advanced Nursing. 2016;72(2):273-282.
35. Sriraman NK, Melvin K, Meltzer-Brody S. ABM Clinical Protocol #18: Use of Antidepressants in Breastfeeding Mothers. Breastfeeding Medicine. 2015;10(6):290-299.

533 36. Kronenfeld N, Baran TZ, Berlin M, et al. Chronic use of psychotropic medications in
534 breastfeeding women: Is it safe?. PLOS ONE. 2018;13(6): e0197196. doi:
535 10.1371/journal.pone.0199906.
536 37. Davanzo R, Copertino M, De Cunto A, Minen F, Amaddeo A. Antidepressant Drugs and
537 Breastfeeding: A Review of the Literature. Breastfeeding Medicine. 2011;6(2):89-98.
538 38. Molyneaux E, Howard LM, McGeown HR, Karia AM, Trevillion K. Antidepressant treatment
539 for postnatal depression. Cochrane Database of Systematic Reviews. 2014;(9). Art. No.:
540 CD002018. [cited 2019 Apr 15]. Available from:
541 https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD002018.pub2/full.
542 39. National Institute for Health and Care Excellence (NICE). Maternal and child nutrition
543 [internet]. 2014 [cited 2019 Mar 26] Available from:
544 https://www.nice.org.uk/guidance/ph11.
545 40. Beake S, Bick D, Narracott C, Chang YS. Interventions for women who have had a caesarean
546 birth to increase uptake and duration of breastfeeding: a systematic review. Maternal &
547 Child Nutrition. 2017;13:e12390. doi: 10.1111/mcn.12390.
548 41. Babendure JB, Reifsnider E, Mendias E, Moramarco MW, Davila YR. Reduced breastfeeding
549 rates among obese mothers: a review of contributing factors, clinical considerations and
550 future directions. International Breastfeeding Journal. 2015;10(21). doi: 10.1186/s13006-
551 015-0046-5.
552 42. Pollard M. Evidence Based Care for Breastfeeding Mothers: A Resource for Midwives and
553 Allied Healthcare Professionals. Abingdon: Routledge; 2012.
554 43. McAndrew F, Thompson J, Fellows L, Large A, Speed M, Renfrew MJ. Infant feeding Survey
555 2010 [internet] Leeds: Health and Social Care Information Centre; 2012 [cited 2018 Dec 22].
556 Available from: https://digital.nhs.uk/data-and-information/publications/statistical/infant-
557 feeding-survey/infant-feeding-survey-uk-2010#resources.

44. Pérez-Escamilla R, Martinez JL, Segura-Pérez S. Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review. Maternal and Child Nutrition. 2016;12(3):402-417.
45. Unicef. Infant formula and responsive bottle feeding [internet] 2019 [cited 2019 Mar 26] Available from: https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2018/02/Infant-formula-and-responsive-bottle-feeding.pdf.
46. Bick D, MacArthur C, Knight M, Adams C, Nelson-Piercy C, Shakespeare J. Post-pregnancy care: missed opportunities during the reproductive years. In: Davies SC. Annual Report of the Chief Medical Officer, 2014, The Health of the 51%: Women. London: Department of Health; 2015. 95p.
47. Mannion CA, Hobbs AJ, McDonald SW, Tough SC. Maternal perceptions of partner support during breastfeeding. International Breastfeeding Journal. 2013;8(4). doi: 10.1186/1746-4358-8-4.
48. Tohotoa J, Maycock B, Hauck YL, Howat P, Burns S, Binns CW. Dads make a difference: an exploratory study of paternal support for breastfeeding in Perth, Western Australia. International Breastfeeding Journal. 2009;4(15). doi: 10.1186/1746-4358-4-15.
49. Baldwin S, Malone M, Sandall J, Bick D. Mental health and wellbeing during the transition to fatherhood: a systematic review of first time fathers' experiences. JBI Database System Rev Implement Rep. 2018;16(11): 2118-2191. doi: 10.11124/JBISRIR-2017-003773.
50. Ekstrom A, Widstrom AM, Nissen E. Breastfeeding Support from Partners and Grandmothers: Perceptions of Swedish Women. Birth Issues in Perinatal Care. 2003;30(4):261-266.
51. Jolly K, Ingram L, Khan KS, et al. Systematic review of peer support for breastfeeding continuation: metaregression analysis of the effect of setting, intensity, and timing. BMJ. 2012;344:d8287. doi: 10.1136/bmj.d8287.

582 52. Kao JC, Johnson J, Todorova R, Zlotnick C. The Positive Effect of a Group Intervention to
583 Reduce Postpartum Depression on Breastfeeding Outcomes in Low-Income Women.
584 International Journal of Group Psychotherapy. 2015;65(3):445-458.

585

586 **Figure 1** Electronic search strategy (Maternity & Infant Care)

1. (Postnatal depression or Depression).de.
2. (postpartum depress* or post-partum depress* or post partum depress*).af.
3. (postnatal depress* or post-natal depress* or post natal depress*).af.
4. (perinatal depress* or peri-natal depress* or peri natal depress*).af.
5. depress*.af.
6. (pnd and ppd).af.
7. 1 or 2 or 3 or 4 or 5 or 6
8. (Infant feeding or Breastfeeding).de.
9. (breastfeed* or breast feed* or breast-feed*).af.
10. (lactat* or breastfed or infant feed* or baby feed*).af.
11. 8 or 9 or 10
12. (experience* or perspective* or attitude* or view* or support need* or advice need* or need* or help need* or perception* or opinion*).af.
13. 7 and 11 and 12

587

Figure 2 Flow chart of stages of searching

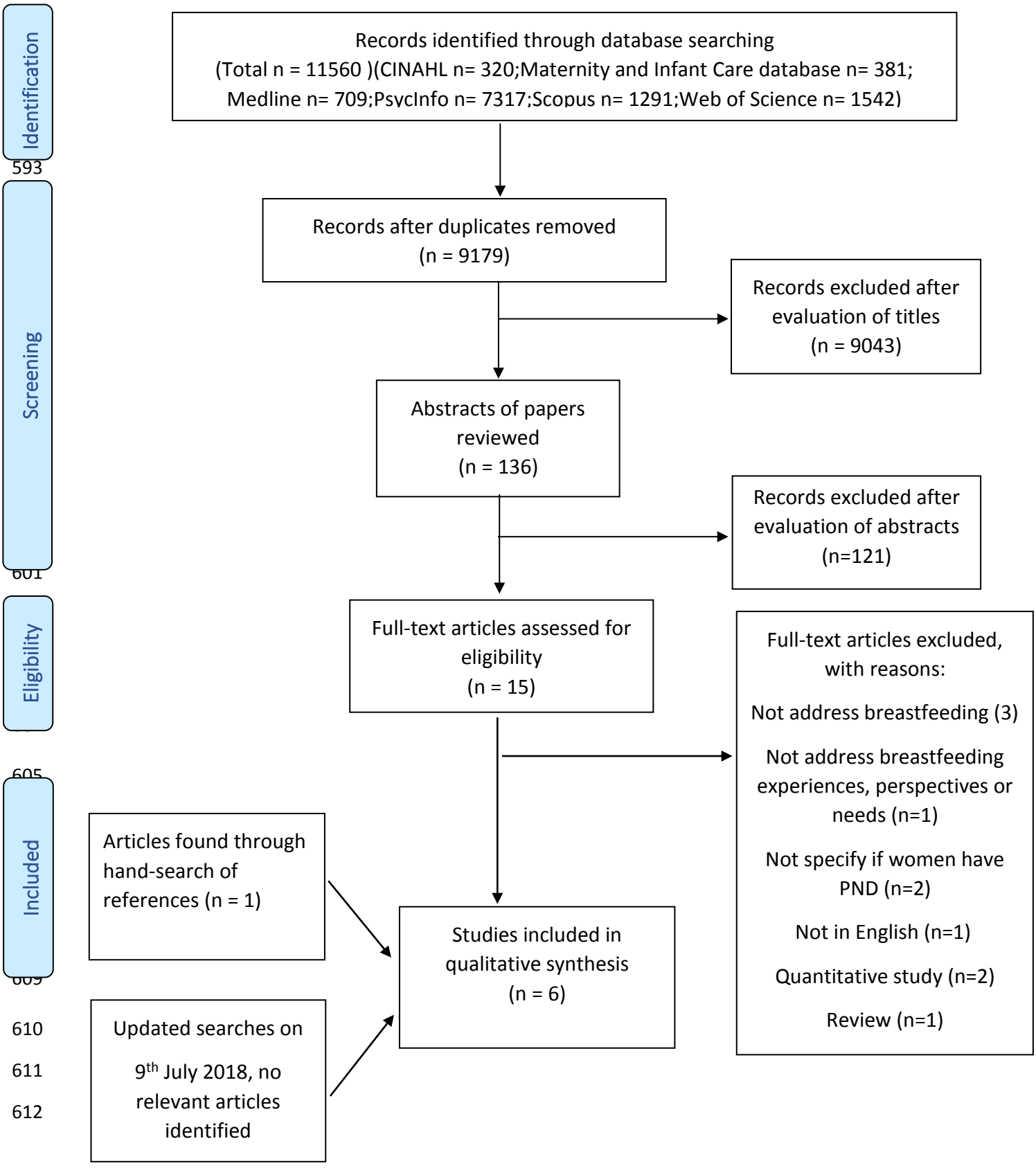

Table 1 CASP Checklist Assessment Table

Author(s) and year	**1. Was there a clear statement of the aims of the research?**	**2. Is a qualitative methodology appropriate?**	**3. Was the research design appropriate to address the aims of the research?**	**4. Was the recruitment strategy appropriate to the aims of the research?**	**5. Was the data collected in a way that addressed the research issue?**	**6. Has the relationship between researcher and participants been adequately considered?**	**7. Have ethical issues been taken into consideration?**	**8. Was the data analysis sufficiently rigorous?**	**9. Is there a clear statement of findings?**	**10. Is the research valuable?**	**Score (out of 10)**
Edhborg et al, 2005[30]	✓*	✓	✓	✓	✓	×	✓	?	✓	✓	8
Haga et al, 2012[29]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
Letourneau at al, 2007[28]	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	9
Mauthner, 1999[27]	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	9

Shakespeare et al, 2004[26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
Ugarriza, 2002[31]	✓	✓	✓	✓	✓	✖	✖	✓	✓	✓	8

***** ✓: yes; ✖: no; **?**: can't tell

Table 2 Characteristics of included papers

Author, year, country	Aim	Sample	Study design/methods	Key findings
Edhborg et al, 2005,[30] Sweden	To explore and describe how Swedish women with signs of PND 2 months postpartum experience this time with their child.	22 mothers who scored 10 points or more in the EPDS.	A grounded theory approach; Unstructured interviews.	• Mothers indicated that good mothers breastfeed their children. They felt like they failed as mothers if they could not breastfeed. They felt negatively influenced by breastfeeding information. • Mothers felt unprepared to have a child and lacked confidence, including in breastfeeding. The mothers reported initial difficulties in breastfeeding. • Mothers reported that they received contradictory advice in breastfeeding

				from healthcare professionals, friends, and relatives.
Haga et al, 2012, [29] Norway	To gain an insight as to why some women find the transition to motherhood so taxing that they develop PND, while other mothers feel mostly content postnatally.	12 first-time mothers; 3 of whom described themselves as being depressed, 5 slightly depressed, 4 mostly content.	In-depth, semi-structured interviews.	• There was disappointment with the level of support received from healthcare professionals at well-baby clinics. • All mothers discussed the importance of succeeding at breastfeeding, but difficulties were expressed by some mothers.
Letourneau et al, 2007, [28] Canada	To assess support needs, barriers, resources, and preferences of women with PND.	41 mothers who reported symptoms of PND within the past 2 years, or if they reported PND	Semi-structured interviews and group discussions.	• Overall, mothers described a variety of needs, i.e. instrumental, informational, affirmational, and emotional.

		symptoms 12 weeks post-partum, a symptom duration of longer than 2 weeks and concerns that these symptoms affected their ability to look after their baby or themselves.		• Mothers expressed a desire for support groups/programmes that were specific to women with PND.
Mauthner, 1999, [27] England	To explore motherhood and PND from women's perspectives.	40 mothers of young children, 18 of whom self-reported as having PND. 15 of the 18 mothers reported being diagnosed with PND by a health professional;	Semi-structured, in-depths interviews.	• Some mothers had difficulty with breastfeeding and unmet expectations of what it would be like. These unmet expectations and assumptions also applied to other aspects of their lives, especially for women with PND.

		14 of which were prescribed medication		
Shakespeare et al, 2004,[26] England	To explore how women experience breastfeeding difficulties	39 postnatal women with a high rate of them having probable PND. Probable PND based on the evidence of receiving listening visits from health visitors (justified by a PND diagnosis given by the health visitor) and an EPDS score $\geqq$13 at either eight weeks or eight months post birth.	Qualitative in-depth interviews.	• Reports of breast feeding difficulties emerged unambiguously early in the interviews. • Women had high expectations of succeeding with breastfeeding and were committed. • The difficulties (both physical and emotional) in breastfeeding were unexpected. • Professional support was sought for these difficulties. Some women had very positive experiences with healthcare professionals and others had negative ones.

				• Women felt guilty and felt like a failure if they could not breastfeed • Women adopted different strategies to attempt to cope with their breastfeeding difficulties and PND.
Ugarriza, 2002, [31] United States of America	To gather information from mothers with PND about their perceptions of PND and compare these to the biomedical view of PND.	30 women who self-identified as having PND and gave birth from 1 month to 1 year of the time of the study	Qualitative interviews with open ended questions carried out in person or by telephone.	• Women reported different perceived causes for their PND, such as changes in their hormones and roles, and poor breastfeeding and birthing experiences. Some mothers attributed their PND to a combination of causes. • Not a lot of the mothers considered antidepressants as a treatment option, citing various reasons such as a fear of their impact on breastfeeding.