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SYSTEMATIC REVIEW

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Peer support and mobile health for perinatal mental health: A scoping review

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Abstract

Background: Up to one in five women experience perinatal depression and/or anxiety with profound negative consequences for mothers and families. Peer support interventions have the potential to effectively prevent perinatal mental health conditions. Meanwhile, mobile health has gained popularity and plays a significant role in enhancing maternal health services. However, little is known about the availability of mobile health combined with peer support for supporting perinatal mental health. This scoping review aimed to map the relevant literature and gain insights into the available evidence on mobile health and peer support for perinatal mental health, to identify gaps and inform opportunities for future research.

Methods: A scoping review of the literature was conducted. The search strategy included five databases: CIANHL, Scopus, PsycInfo, PubMed, and ScienceDirect for the period from 2007 to 2022.

Results: Eight studies met the inclusion criteria, including features of online support strategies, effectiveness, and attitudes of women about peer support with mobile health. The results showed decreased depressive scores and provided a positive experience for women. Strong satisfaction with accessibility and flexibility of mobile health was found when combined with the peer support features. Additional emotional support tools (e.g., mindfulness-based activities) were likely to be acceptable to women and beneficial to mobile health.

Conclusions: Understanding the context of peer support and mobile health informs the potential to support perinatal mental health. Further research in this growing area is needed to test the effectiveness of peer support in combination with mobile health intervention for supporting perinatal mental health.

KEYWORDS

anxiety, depression, mobile health, peer support, perinatal mental health

1 | INTRODUCTION

Women have an increased chance of experiencing mental health problems during the perinatal period (pregnancy and up to 1 year postpartum). Up to one in five women experience perinatal mental health problems.[1,2] Depression and anxiety are the most common mental health conditions experienced by pregnant women with 12% of women suffering from depression and 13% experiencing occasional anxiety.[1] A systematic review reported that 19.4% of women globally experience antenatal anxiety during pregnancy, and 13.7% experience postpartum anxiety in high-income countries.[3] The international prevalence of postnatal depression and anxiety is considerably higher at 15–20%.[1]

Perinatal mental health problems are associated with significant short-term and long-term adverse effects on both mothers and children.[4] Preterm birth, low birth weight, and maternal morbidity are linked to antenatal mental health issues.[1,2] Antenatal anxiety is associated with postpartum depression.[5,6] Postpartum depression can negatively affect mother–child relationships due to a lack of emotional connection.[7] Maternal anxiety raises cortisol levels in fetuses and infants, predicting behavioral and physiological stress throughout childhood.[8,9–11] Therefore, early detection, preventive strategies, and effective treatment are essential.

Perinatal mental health problems can be managed in several ways depending on the severity of a woman's conditions.[1,2] Clinical practice guidelines emphasize the significance of screening emotional health during the perinatal period and consider further screening for perinatal depression if indicated.[2,12] This proactive approach can help promote mental health and well-being and facilitates early intervention when required.[1,2] Non-pharmacological treatments, such as social support and psychoeducation, have been demonstrated to effectively prevent mild to moderate depression and anxiety in women.[2] Recent research indicates that electronic mental health support, including mobile apps to promote mental health and emotional wellness in perinatal individuals, shows promise in preventing and treating perinatal mental health disorders.[2]

The World Health Organization recommends promoting perinatal mental health by strengthening social support.[13] Peer support, a subset of social support, may also be an effective strategy for treating and preventing depression.[7,14] Peer support refers to mutual peer-to-peer assistance between individuals with similar life experiences, and has been used in maternity care, including peer support hotlines,[7,15,16] home-visit peer support,[17,18] and other in-person support.[19–21] Peer support can help pregnant women feel less alone and more confident, leading to behavioral changes.[22,23] Connecting with other mothers with similar experiences can help create a safe space for self-disclosure.[23,24]

Face-to-face peer support has historically been challenged as an intervention because of several logistical restrictions, including time and space.[25] For instance, the COVID-19 pandemic has resulted in limited in-person consultations and restrictions on the number of support people who could be present during intrapartum care.[26] Due to its cost-effectiveness and flexibility for users and health systems, mobile health (mHealth) is helping improve preventive maternal health services.[27,28]

Fang et al.[14] found that in-person and telephone/online support can reduce stigma around perinatal depression and anxiety and overcome some of the barriers pregnant women face when seeking treatment. The psychosocial benefits of peer support can be applied to various modern communication channels, such as social media and mobile devices.[22] As mobile technology becomes more widespread and accessible, mHealth with peer support may become an acceptable social support method for mothers. Researchers have explored mHealth for perinatal mental health, but the results have been mixed.[29,30] There are conflicting results about the benefits and effectiveness of peer support in perinatal depression.[14] Understanding the effect of peer support and mHealth's current ability to support perinatal mental health would be helpful to guide future research, but this understanding does not yet exist. Using the scoping review methodology,[31] quantitative and qualitative evidence were systematically considered to answer the broad research question, "What is the available evidence regarding peer support and mHealth for supporting perinatal mental health?" and to synthesize the heterogeneous evidence.[32] The aim of this scoping review was to map the relevant literature and gain insights into the available evidence on mHealth and peer support for perinatal mental health to identify the gaps and provide recommendations for future research.

2 | METHODS

According to the Joanna Briggs Institute guidelines, a scoping review is useful to map the available literature and to develop ideas and/or approaches best suited to answer broad research questions, and is particularly helpful when the literature is complex and heterogeneous.[32] Considering the conflicting results about the benefits and effectiveness of peer support for perinatal depression[14] and the diverse outcomes of mobile health interventions for supporting perinatal mental health,[29,30] a scoping review was chosen to conceptually map the available evidence and identify gaps in the literature at the intersection

of two research fields: peer support and mHealth in perinatal mental health.

A scoping review framework, defined by Arksey and O'Malley,[31,33] was used to strengthen the methodology of this study. The framework comprises five stages: defining the research question, identifying relevant literature, selecting studies, mapping the data, and summarizing, synthesizing, and reporting results. Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines for scoping reviews were followed.[34]

2.1 | Eligibility criteria

The review considered studies that investigated mHealth and incorporated peer support elements pertaining to perinatal mental health (Table 1). Perinatal mental health was defined as mental health and well-being of individuals during pregnancy and up to 1 year after childbirth.[2,35] Anxiety and depression are the most commonly experienced perinatal mental health challenges[1] and were therefore the focus of this review. This review focused on studies that aimed to provide support for anxiety and depression or to improve well-being for women during pregnancy and up to 1 year after childbirth.

This review was concentrated on mental health; therefore, any mHealth studies that focused on self-care or physical activity rather than mental health directly were excluded. This review omitted mHealth-related substance abuse interventions due to their specific focus on use reduction,[36] which falls outside the review's general scope.

Mobile health is defined as the use of mobile devices, such as mobile phones or smartphones, to transmit various health content and services.[37] We included studies that met the definition of perinatal mental health and mHealth, such as mobile apps, web apps (easily accessible through mobile phones),[38] and social media platforms.

2.2 | Search strategy

Five databases (Medline, CINAHL, Scopus, PsycINFO, and ScienceDirect) were searched. Four main search terms were used: (1) pregnancy OR childbirth OR postnatal OR pregnant women OR perinatal OR antenatal OR mothers AND (2) perinatal mental health OR anxiety OR depression OR stress OR mental health OR well-being AND (3) mobile app* OR mHealth OR mobile phones OR mobile health OR mobile device AND (4) peer support OR support group.

The search strategy included searching the reference lists of the selected full-text articles to obtain additional papers. Studies from 2007 were included in this review as this time frame reflects the surge in publications on mHealth after 2007, which occurred because of the introduction of the Apple iPhone and aligns with the availability of 3G mobile telecommunications globally.[39,40] Only studies written in English were included in this review. There were no restrictions with respect to study design, study setting, measured outcome, or country of publication.

2.3 | Selection criteria

The process began with identification, followed by screening, and then determining the eligibility of studies by three research team members. Inclusion or exclusion disagreements were resolved through discussion among all team members. Covidence software, an online systematic review management tool, was used to manage the review process.[41]

TABLE 1 Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
Study includes both mHealth and peer support components for perinatal mental health	Studies focusing on clinical conditions, diseases, or prevention of specific clinical/health conditions/lifestyles or partner violence/stillbirth/pregnancy loss/termination/congenital anomaly/substance abuse
Studies about the knowledge and experience of using peer support in mHealth concerning perinatal mental health	Studies using exclusively telephones for delivering interventions were excluded as telephones could indicate either cell phones or landline telephones. All other mHealth and peer support for perinatal mental health studies not published or translated into English
The target population included pregnant women or those within 1 year postpartum	
Primary qualitative, quantitative, and mixed method studies and literature reviews	

Critical appraisal or risk of bias assessment is generally not recommended in scoping reviews because the aim is to map the available evidence rather than provide a synthesized and clinically meaningful answer to a question.[42]

2.4 | Data extraction

One independent author performed data extraction and recorded the results. The extracted information included title, year of publication, authors, country, aim, methodology, participant information, and summary of the main findings (Table 2).

2.5 | Data analysis and presentation

The data extracted from full-text articles are reported in tabular and diagrammatic format according to the scoping review guidelines.[32] A thematic analysis of the extracted information was conducted to identify similar concepts and themes within the data.[43] These were grouped into categories and presented in a charted diagram, which presents the map of main concepts by the number of studies. The tabular format presents a narrative summary that describes information relevant to the scoping review question (i.e., study aim, study design, type of mHealth with peer support, and main finding).

3 | FINDINGS/DATA SYNTHESIS

The primary search strategy identified 207 articles that reported on various study types. Additional studies were identified from the reference lists of the included papers, and 10 duplicate records were removed. Following level one screening, 25 full-text articles were retrieved and subjected to level two screening. Finally, eight papers were included in this review (Figure 1).

3.1 | Characteristics of the included studies

Most (6/8) of the included articles were published between 2019 and 2022.[5,16,44–47] Four studies used qualitative methodologies, including semi-structured interviews ($n=1$), grounded theory research design ($n=1$), a multi-method qualitative approach ($n=1$), and focus groups ($n=1$). Two quantitative methodologies were used: a randomized controlled trial ($n=1$) and a quasi-experimental study ($n=1$). The studies included one formative research study and one systematic review. The eight studies were conducted in four different countries: the UK ($n=3$), the United States ($n=2$), Singapore ($n=2$), and Taiwan ($n=1$). The results from the included studies are presented as a narrative and summarized in Table 2.

Four of the studies focused on depression,[16,44,45,47] two on anxiety,[5,46] and two on well-being.[45,48] Only one study focused on both depression and anxiety.[49]

More than half (5/8) of the included studies investigated the available mHealth using a peer support strategy and explored ways to enhance it. Of these, four focused on investigating the available online peer support platforms.[5,46,48,49] One focused on developing app-based peer support.[47] The remaining three studies evaluated the effectiveness of available online peer support.[16,44,45]

The results demonstrated a range of formats for delivering peer support through mHealth services. Three studies used web apps or web-based forums,[5,46,48] two used text messages via WhatsApp,[16,44] and one used Facebook.[45] Two studies targeted an app-based messaging system[49] and developed a virtual "avatar" therapist delivering cognitive therapy-based treatments through a peer-operated app.[47] Interventions were for promotion,[45,48] prevention,[16,44] and treatment,[47,49] and two studies did not report this information.[5,46] Half of the included studies focused on guided interventions,[16,44,47,49] three studies investigated unguided interventions,[45,46,48] and one study did not report this information.[5]

A thematic analysis was conducted, and similar concepts were grouped into categories. Three overarching themes were generated: mental health support (emotional and social support, and psychological outcomes), acceptability (accessibility and virtual social interaction), and design elements for adapting mHealth, as presented in Figure 2.

3.1.1 | Mental health support

Five of the eight studies focused on women's experiences with peer support via mHealth in the perinatal period and reported the benefits of mental health support in terms of emotional and social support and psychological outcomes.[16,44,45,48,49]

Emotional and social support

Regardless of mental health status, all studies reported that mHealth with peer support enhanced emotional and social support. Women with perinatal mood disorders gained positive emotional support after undergoing peer-based online interventions,[49] demonstrating that the

TABLE 2 Included studies.

Author, year, country	Title	Aim of study	Study design and participants	Types of mHealth and peer support (formats/strategies/structures)	Main findings
Harrison et al. (2020), UK	Supporting perinatal anxiety in the digital age; A qualitative exploration of stressors and support strategies	To explore women's experience of anxiety triggers and support in the perinatal period and gain insight into what online support is acceptable for women with PNA	Qualitative research using a focus group with 23 women who were pregnant or had had a baby in the last 12 months, aged 20–45 years, and had experienced anxiety during the perinatal period	Online support program Not reported Unguided	It is possible to provide acceptable support for anxiety to women via internet-based support Online platform features may not address women's needs. Other strategies need to be considered to maximize user engagement Online peer support can provide realistic information and psychoeducation about PNA symptoms and management as well as authentic peer experiences
Shorey et al. (2019), Singapore	Evaluation of a technology-based peer support intervention program (PIP) for preventing postnatal depression (Part 1): Randomized controlled trial	To evaluate the effectiveness of a technology-based PIP on maternal outcomes during the early postpartum period.	Randomized controlled trial with 138 mothers EPDS ≥9; peer volunteers who have a self-reported history of and recovery from PND	Technology-based peer support, including WhatsApp messages, 1 month postpartum/once a week with trained peer volunteers Prevention Guided	There was a significant difference in EPDS score between the intervention and control group at 3 months postpartum Effectiveness of technology-based PIP in reducing the risk of PND and increasing perceived social support among new mothers was reported Immediately postpartum was the most effective period for technology-based interventions targeting at-risk women
Shorey and Ng (2019), Singapore	Evaluation of a technology-based PIP for preventing postnatal depression (Part 2)	To evaluate the effectiveness of a technology-based PIP on maternal outcomes during the early postpartum period (Part 2)	Qualitative research by semi-structured interview with 20 Asian mothers at risk of depression and 19 peer volunteers for RCT (Part 1)	Technology-based peer support, including WhatsApp messages, 1 month postpartum/once a week with trained peer volunteers Prevention Guided	Peer volunteers and mothers expressed satisfaction with the program's flexibility, positive birth experiences, and maintaining friendships between peers and mothers Matching peer volunteers to mothers was an important component of successful peer mentoring

TABLE 2 (Continued)

Author, year, country	Title	Aim of study	Study design and participants	Types of mHealth and peer support (formats/strategies/structures)	Main findings
Gui et al. (2017), USA	Investigating support seeking from peers for pregnancy in online health communities	To report a study of peer support in online health communities for pregnancy care along three gestational stages (trimesters) to investigate how pregnant women seek and receive peer support during different stages of pregnancy.	A grounded theory with qualitative content analysis of online forums "Babycenter.com" to gain narratives from women who were pregnant and posting within a web-based community across the three trimesters of pregnancy—in all, 600 posts (200 for each trimester) and their associated comments	BabyCenter.com: an online health community that provides many forums where pregnant women can discuss various topics Promotion Unguided	Participation in a web-based peer support platform provided a strategy for women to manage their stress and anxiety Currently, experiential knowledge exchange often occurs through one-to-one, question-and-answer interactions, resulting in many repetitive questions and little use of existing answers Social media and design of online health communities should consider better ways of archiving, indexing, and recommending experiential knowledge in the large body of existing replies
Baumel and Schueller (2016), USA	Adjusting an available online peer support platform in a program to supplement the treatment of perinatal depression and anxiety	To present a program to use Seven Cups of Tea (7Cups), an available technological platform that provides online peer-based emotional support to supplement treatment for women	Two stages; First, five clinicians specializing in treating perinatal mood provided feedback on the 7Cups platform. Second, nine women with perinatal depression or anxiety used the platform and provided feedback	7Cups: technological platform that provides online peer-based emotional support. 7Cups provides free, 24/7 emotional support to users through a web-based or app-based messaging system with trained peer volunteers Treatment Guided	7Cups might be helpful to integrate more didactic information and resources to teach skills to cope with mood and anxiety Online peer support providing support when the clinicians were unavailable and matching support from persons on similarities such as people with depression, anxiety, and first-time mothers
Wu and Hung CH (2019), Taiwan	Pregnant women's coping strategies, participation roles and social support in the online community during the COVID-19	To investigate the effects of a virtual community on pregnant women's well-being	A repeated-measure and quasi-experimental study with pregnant women who were less than 12 weeks in gestation	Closed Facebook community for peer-to-peer interaction with no mediator Promotion Unguided	No significant effects were noted on pregnant women's physical symptoms, depression, social support, maternal-fetal attachment, or pregnancy adaptation Higher adherence to the virtual community was significantly related to first-time pregnant women and women whose pregnancy was assisted by a technology treatment

(Continues)

TABLE 2 (Continued)

Author, year, country	Title	Aim of study	Study design and participants	Types of mHealth and peer support (formats/strategies/structures)	Main findings
Evans et al. (2022), UK	Remotely Delivered Interventions to Support Women With Symptoms of Anxiety in Pregnancy: Mixed Methods Systematic Review and Meta-analysis	To identify and evaluate remotely delivered, digital, or web-based interventions to support women with symptoms of anxiety during pregnancy	A stepwise systematic approach with 39 Apps in the UK that were therapeutic or supportive content relevant for a pregnant women population	Peer web-based forums Not reported Not reported	The quantitative data suggested that interventions were more effective in improving anxiety symptoms when interventions included individual contact from a therapist, or peer web-based forums Interventions are more effective when women maintain regular participation which may be enhanced by providing regular contact with therapists or peer support, appropriate targeting of interventions involving components of relaxation and cognitive-based skills
Atif et al. (2022), UK	Technology-assisted peer therapy: A new way of delivering evidence-based psychological interventions	To develop a technology-assisted peer-delivered Thinking Healthy Programme for perinatal depression focusing on the needs of women living in resource-poor rural communities.	Formative research to develop a cognitive therapy-based intervention of technology-assisted peer support and its key features; Women living in resource-poor rural communities in Pakistan; Feedback from the design team's user group and the participants about usability testing	Mobile apps using peers who are women from the neighborhood with no prior experience in healthcare delivery Treatment Guided	The peer and app act as co-therapists in delivering the intervention, allowing human contact, empathy, and support It requires very basic technology skills from the delivery agent and none from the consumer as the peer fully operates it It is a rare example of a digital intervention that has been co-designed with the user community

Abbreviations: EPDS, Edinburgh Postnatal Depression Scale; PNA, perinatal anxiety; PND, postnatal depression; RCT, randomized controlled trial.

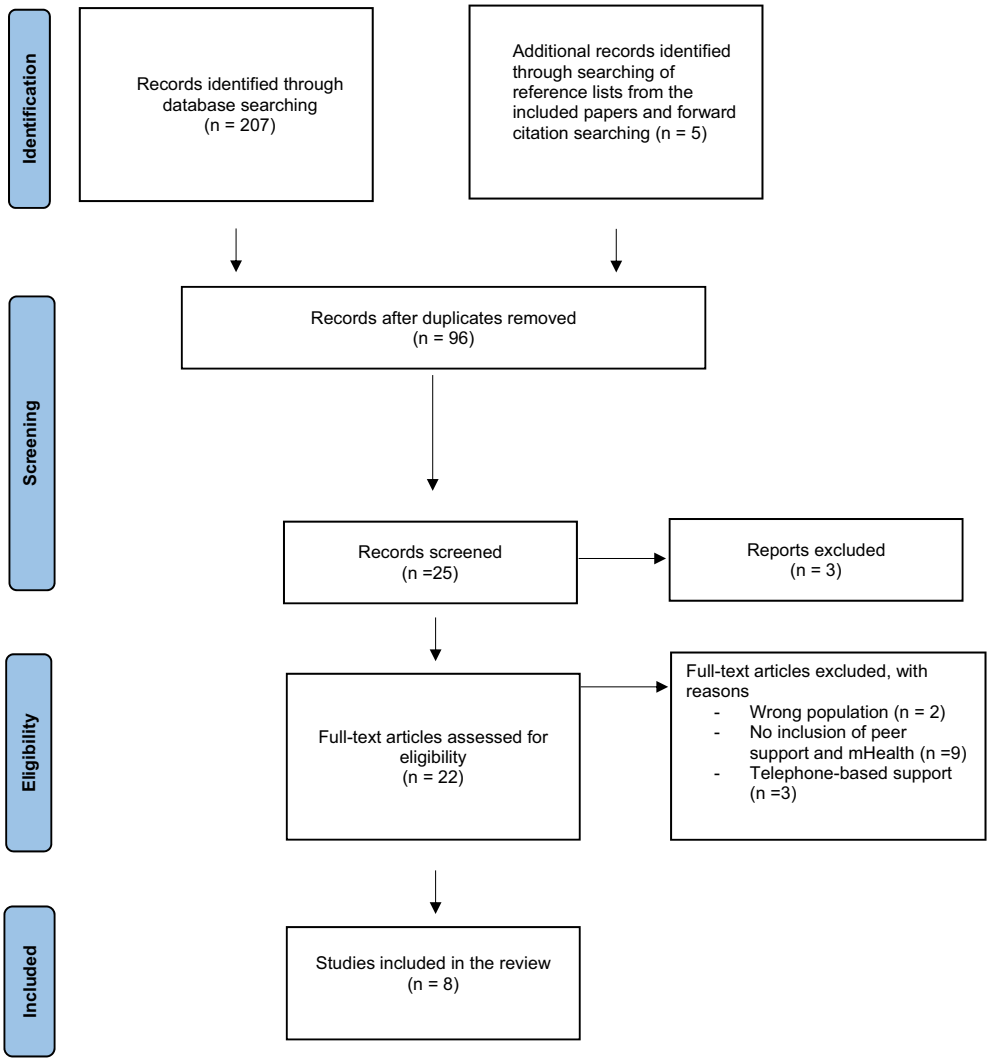

FIGURE 1 Preferred reporting items for systematic reviews and meta-analyses (PRISMA) chart. PRISMA flowchart of identification, screening, eligibility, and study selection process. From: Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T.C., Mulrow, C. D., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. 10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/. [Color figure can be viewed at wileyonlinelibrary.com]

online peer support program was useful for promptly supporting women's emotions and stress. The Shorey and Ng[16,44] study showed that technology-based peer support helps women feel less alone and more reassured and reduces negative feelings. Gui et al[48] also found that women without anxiety and depression turned to peers for online support when they felt frustrated or lonely.

Psychological outcomes

Only two studies measured psychological outcomes, such as depressive scores.[44,45] Randomized controlled trial results showed that peer support delivered via WhatsApp reduced depressive scores and increased perceptions of social support.[44] In contrast, a quasi-experimental study of virtual peer-to-peer interaction (closed Facebook groups/pages) for pregnant women's well-being found no significant effects on depression.[45]

3.1.2 | Acceptability of Peer Support with mHealth

Included studies were focused on the acceptability of peer support on mobile health. All included studies except one[47] discussed using peer support with mHealth in relation to its accessibility and the benefit of virtual social interaction.[5,16,44–46,48,49]

Accessibility

Peer support through mHealth services provides high accessibility and is easy to use. First-time pregnant women in a peer-to-peer virtual community showed a high preference for reading information online.[45] Online platforms also improved women's emotional support, with high adherence through flexibility and accessibility.[45] Likewise, women who suffered from

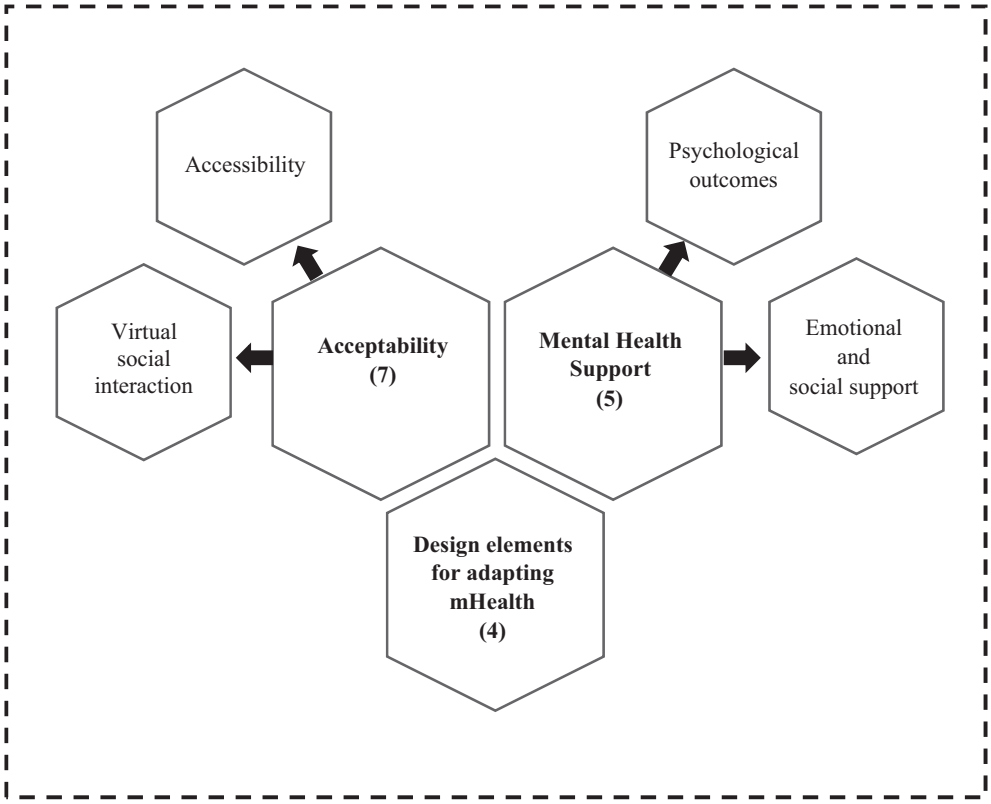

FIGURE 2 Map of included themes. Figure presents the themes using hexagons. The numbers in brackets refer to the study availability. (4) Four studies provided insights into design elements for adapting mHealth. (5) Five studies highlighted mental health support of peer support and mHealth in terms of emotional and social support, and psychological outcomes. (7) Seven studies discussed women's experience of using peer support with mHealth in relation to acceptability with its accessibility and virtual social Interaction.

perinatal depression or anxiety benefited from web-based or app-based messaging platforms because they were easily accessible.[49] Furthermore, web-based sites provided urgent support when professionals were unavailable.[48] Using the internet to seek information and assistance during pregnancy and after birth supported women emotionally; therefore, online platforms are likely to be an acceptable strategy for providing peer support to women with perinatal anxiety.[46]

Virtual social interaction

Women's perceptions of peer support on mHealth or online platforms were not universally positive and providing such support has been reported to be challenging. Although online social support shows promise in reducing loneliness, it often provides only superficial relationships, with participants reporting discomfort in sharing their thoughts with strangers.[16,44] The inability to connect face-to-face can restrict the effectiveness of remotely delivered interventions.[5] Shorey and Ng[16] explained that mothers at risk of postpartum depression requested at least one home visit or in-person meeting rather than relying solely on text messages.

Baumel and Schueller[49] noted that some women found online chat functions unhelpful for anxiety reduction. Web-based communities often use question-and-answer modes, which may not meet women's needs.[48] A large web-based forum with unmoderated peer input has been found to be anxiety-inducing compared with a smaller, moderated forum such as a Facebook group.[46] Likewise, peer-to-peer forum interactions may have declined due to a lack of interest in forum conversations.[45]

3.1.3 | Design elements for adapting mHealth

Four studies provided insights into design elements for adapting mHealth for future interventions.[5,46,47,49] The approaches involve understanding women's preferences and using integrated psychological interventions that include peer support as adaptations of mHealth. Harrison et al.'s study[46] found that women experiencing perinatal anxiety may perceive large internet forums as anxiety-inducing, in contrast to the potential benefits of small support groups, such as online peer support groups encouraging

mothers to discuss similar experiences. Moreover, using storytelling by avatars of women who had suffered from depression might assist in reflection and understanding of ways of dealing with the challenges of perinatal mental health issues in depressed mothers.[47] In addition, an integrated, evidence-based psychological intervention with peer input could improve motherhood management.[49] A strategy for adding emotional support (e.g., cognitive behavioral therapy and mindfulness practices) might be to increase the instructional resources and information available to users.[46] Women with anxiety during pregnancy were shown to adhere to an intervention and achieve its benefits if they had regular contact with peer support and appropriate interventions that included relaxation and cognitive skills.[5]

4 | DISCUSSION AND RECOMMENDATIONS FOR PRACTICE

This scoping review aimed to explore and map the available evidence of peer support and mHealth in perinatal mental health. Eight studies were identified, and the most frequently involved web apps or web-based forums, WhatsApp and Facebook, as well as mobile applications. More studies focused on depression, while only one study focused on both depression and anxiety. This review shows that research into the use of mHealth incorporating peer support strategies to support perinatal mental health is growing and that there are considerable areas of focus for further study.

This review identified the potential benefits of mHealth platforms with embedded peer support for emotional support and satisfaction to prevent perinatal depression.[44,45] These findings support previous studies of internet-based interventions during the perinatal period, which noted the flexibility and accessibility provided by mobile phones[50] and addressed pregnant women's barriers to peer support, such as geographic constraints.[51] However, most studies in this review were qualitative, and there are few studies evaluating the effectiveness of mHealth platforms with peer support during the perinatal period. Only two studies used validated tools to assess depression outcomes among women without perinatal mental health conditions following online peer support.[44,45] Validated pre-intervention and post-intervention evaluation methods increase statistical and clinical significance.[52] Further research is required using validated tools to measure improvements in perinatal mental health.

This review found that uptake and adherence were increased when mHealth included peer support strategies.[5,45] Incorporating social support into digital health initiatives may enhance participants' engagement in the support service.[53] Peer support could act as a social support strategy that increases engagement in and efficacy of mHealth.[22] Studies included in this review found that women were more likely to accept mental health support from mHealth platforms when they included support from peers or practitioners.[5,47] These findings are supported by a systematic review of mHealth interventions that found that women need social support, such as friends' advice, to adjust to the emotional and physical challenges of motherhood.[51] mHealth is a simple social support resource that minimizes the stigma of accessing mental health services while providing health information and social support.[51] Several recommendations from the literature have identified social support strategies for enhancing mHealth engagement, applicable to both women with and without mental health issues. For example, Green et al.[54] found that women wished for mobile apps to include social support components (e.g., pregnancy communities and group meditations). Video conferencing with peers via mobile apps may assist mothers at risk of depression.[44] Cognitive therapy-based delivery for women with perinatal depression can be incorporated into applications and operated by peers.[47] As such, women may benefit from social interactions during the perinatal period,[5,45] and mobile health platforms with two-way communication are likely to be acceptable for women.[55]

However, a review of eHealth interventions showed that peer interaction, though common in web-based interventions, might not be as influential as other factors in boosting adherence.[56] The extent of adherence and engagement in peer support strategies may differ from that in other modalities of mHealth/ eHealth interventions. For instance, gamification technique improves online intervention participation through increased cognitive and affective engagement, but its impact can vary depending on the context.[57] Self-monitoring eHealth is highly engaging for individuals with high-stress levels; however, increased device use did not improve their sleep or stress levels.[58] Users' preferences, habits, and values may all affect their engagement with mHealth/eHealth systems.[59,60] Incorporating user or stakeholder feedback into an adapted technology design may contribute to enhancing engagement and success, particularly within specific perinatal mental health contexts.[57,61]

This scoping review found that mHealth cannot replace in-person consultations between women and peers or therapists, despite its acceptability and integrated peer support.[5,16] However, younger pregnant women are more likely to accept online peer support.[62] A systematic review noted that both internet-based and in-person

peer support are equally effective in supporting women who experience perinatal depression.[14] Certain features of mHealth platforms with integrated peer support must be considered to maximize engagement.[5,46–48] The anonymity of web-based forums gives women the privacy to disclose their anxiety disorders.[5] In contrast, unmoderated peer input, like that which occurs in large, web-based forums, was usually anxiety-inducing, unlike smaller moderated forums, like Facebook groups, which focused on a single issue.[46]

Possible strategies for adapting mHealth for future interventions were identified in this review. Integrated evidence-based psychological interventions with peer input may enhance mental health management. For example, using computerized cognitive behavioral therapy (CCBT) and mindfulness-based practices, along with peer input, might provide benefits to support women with mental health conditions.[5,46,49] The Centre of Perinatal Excellence's guideline recommends that CBT and mindfulness-based interventions may have a preventive effect for women at risk of perinatal anxiety and depression.[2] Future research is required to identify ways in which interventions can be tailored to meet women's needs.

5 | CONCLUSION

The use of peer support within mHealth platforms to support perinatal mental health is growing. It has mostly been studied in populations comprising women with perinatal depression, with few studies including both anxiety and depression. This review found that integrated, evidence-based psychological interventions with peer support could improve online approaches. More research is needed to explore the benefits of integrating peer support interventions into mHealth platforms.

6 | STRENGTHS AND LIMITATIONS

To our knowledge, this is the first study to explore the literature on the use of mHealth combined with peer support for perinatal mental health. This review suggests that integrating peer support into mHealth may enhance the flexibility and acceptability of perinatal mental health interventions. This review is limited to mobile health, including web apps, due to mobile accessibility. However, web apps may yield different outcomes on computers and mobile phones. Future research should explore these distinct intervention types in greater detail. Due to the mixed literature, heterogeneity in the interventions was observed. Participants' depressive states, risk factors, and well-being status might lead to different intervention effects, so results require cautious interpretation.

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CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest to be reported.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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