



A systematic review of screening for perinatal depression and anxiety in community-based settings

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Abstract

Screening for perinatal depression and anxiety in community-based maternal and child health settings may help close the detection and treatment gap among women at higher risk for these conditions. We aim to review perinatal depression and anxiety screening tools, timing, and follow-up processes for positive screens in community-based settings. We conducted a systematic review of the literature to identify papers describing screening and interventions for perinatal depression and anxiety in community-based settings. We identified 49 papers describing 47 studies of perinatal depression or anxiety screening in community-based settings. The Edinburgh Postnatal Depression Scale (EPDS) was the most frequently used screening tool. Referral and referral tracking for those who screened positive for symptoms were inadequately described. Types of training and technical assistance provided for screening varied widely. It is feasible and acceptable to screen for perinatal depression in community settings, but there is a need for systematic research examining which screening tools to use, the ideal frequency of screening, and referral completion rates. There is a lack of information regarding perinatal anxiety screening and a lack of uniformity in training regarding screening in community-based settings. Future studies should compare the efficacy of screening in community-based settings to screening in healthcare settings.

Keywords Perinatal depression · Perinatal anxiety · Community-based · Screening

Introduction

The perinatal period (pregnancy and up to 1 year postpartum) is a time of heightened risk for common mental health disorders such as depression and anxiety. In the USA, prevalence of perinatal mood and anxiety disorders is estimated to range from 11 to 21% (Gavin et al. 2005, Kendig et al.

2017), accruing an economic cost of approximately \$14.2 billion per year, through loss of productivity, use of public services, and increased maternal and neonatal healthcare use (Luca et al. 2019). Perinatal mood and anxiety disorders are also associated with increased risk of adverse pregnancy outcomes such as preeclampsia, gestational diabetes, spontaneous preterm birth, and low birth weight (Grote et al. 2010). Thus, not identifying and treating these conditions has serious health and economic consequences. Healthcare visits in the prenatal and postpartum periods are opportunities to detect perinatal depression and anxiety. Standard recommendations in the USA for “low risk” pregnancies are that women initiate care before the end of the first trimester and attend 10–15 healthcare visits during pregnancy and 1–2 healthcare visits postpartum (American College of Obstetrics and Gynecology 2017). Black, Indigenous, and other women of color, and those with lower income, who are more likely to have undetected (Sidebottom et al. 2020) and untreated (Kozhimannil et al. 2011) perinatal depression and anxiety, may be less likely to access regular prenatal or postpartum care in healthcare settings (Weir et al. 2011), and may miss scheduled screenings. In contrast,

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reports from community-based programs indicate that 43 to 46% of families served are Black and people of color and most (72 to 85%) are insured through Medicaid, a proxy for lower income (U.S. Department of Health and Human Services 2016).

Encounters with community-based maternal and child health programs such as supported nutrition, supported housing, maternity support services (Hall et al. 2014), and Early Childhood Development programs (ECDs) (Reeves and Krause 2019) may be unrealized opportunities to detect and treat women with common mental health disorders in the perinatal period. Therefore, there have been calls to screen for and manage maternal depression in these community-based settings (Rahman et al. 2013) using alternative delivery strategies such as lay workers, non-specialists, and peers (Chowdhary et al. 2014). While guidelines and recommendations are available for frequency of perinatal depression and anxiety screening in healthcare settings (American College of Obstetricians and Gynecologists 2015), there are no uniform guidelines or guidance regarding screening for perinatal depression or anxiety in community-based settings. Nevertheless, community-based settings are increasingly used as a platform for raising awareness regarding perinatal mental health, screening for common perinatal mood disorders, psychoeducation, skills training, and treatment (Kohrt et al. 2018). Our systematic review aims to understand which community-based settings screen for perinatal depression and/or anxiety, how screening is conducted, and what follow-up is offered to those detected to have depression or anxiety.

Materials and methods

With the assistance of a medical librarian (ALB), we searched PubMed, PsycINFO, CINAHL, and Embase literature databases for articles published between the oldest available date within each database until July 26, 2018. The searches were rerun in the PubMed and CINAHL databases using the same search strategies as before and limited to a July 2018–February 11, 2021, timeframe to update the results and identify additional articles for evaluation. A query framework that included subject headings and keywords focused on services offered (community, maternal and mental health services, facilities, and personnel) along with maternal state (pregnancy and peri/postpartum periods), maternal mental health (depressive and anxiety disorders including depression and anxiety), and process (screening/assessment/intervention) resulted in a total of 221 articles identified for evaluation. To be included, articles needed to be in English, involve screening in community-based rather than healthcare settings (or healthcare settings but not in the context of a healthcare

visit), include participants either currently pregnant or up to 1 year postpartum, and involve screening or intervention for depression or anxiety symptoms or disorders. We included randomized controlled trials (RCTs), programmatic evaluations, case studies, and pilot studies. Exclusion criteria consisted of point of contact within the context of a healthcare visit, or any mental health conditions other than depression or anxiety. We excluded reviews and narrative reviews but checked the bibliography of these papers for relevant citations. Chowdhary et al. previously summarized the content and delivery of perinatal depression interventions by non-specialist health workers in low- and middle-income countries (Chowdhary et al. 2014) and the content of interventions was not a focus of our review.

Two authors independently (two of AB, AN, LM) screened the citations and abstracts and finally full text for inclusion. A third reviewer (JK) was available should a tie breaker need to be decided. A total of 49 articles were included in the final analysis (see Fig. 1—PRISMA diagram). We then extracted data from each included article using a standardized abstraction framework to collect information on study design, setting of screening, perinatal period at which screening was performed, screening tool used, follow-up provided for positive depression and anxiety screens, and any mechanisms for referral tracking. We also extracted information as available on details of training and technical assistance provided for screening and/or intervention delivery. We used descriptive statistics to summarize extracted data.

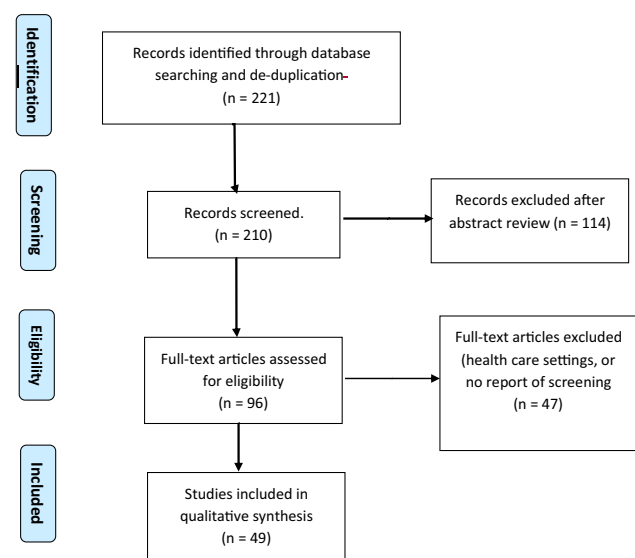


Fig. 1 PRISMA diagram

Results

We included 49 articles describing 47 studies in our final analysis. Table 1 provides key descriptive information for each included study. Of the 47 studies included, 13 were randomized controlled trials, and the remaining were program evaluations or longitudinal studies. Twelve papers described programs in the USA, 12 in the UK, eight in South Africa, five in Norway, three in Pakistan, two in Australia, two in Japan, and one each in Canada, India, and Switzerland. In keeping with our aims, we summarize screening procedures including the setting where screening took place, timing of screening, and the screening tool used. Outcomes are also summarized, including referral to care for those with depression and anxiety. Finally, we summarize the training approaches used for screening or interventions described in each study.

Screening procedures

Setting In 82% of reports (39 of 47), screening was performed at home; other settings included community centers, children's centers, and Healthy Start centers.

Timing Fifteen studies (31.9%) mentioned screening both during pregnancy and postpartum. In 20 (42.6%) of the reports, screening was conducted only in the postpartum period. Only eight studies reporting postpartum screening specifically mentioned screening through 1 year postpartum. The remainder (12 studies) screened only in pregnancy or did not specify the exact time of screening.

Screening tool used The Edinburgh Postnatal Depression Scale (EPDS) was the most frequently used screening tool, and it was used alone or along with other screening tools in 36 of the 47 studies (76.5%). Anxiety was measured in only two studies. Both studies screened only in the postpartum period with one using the Hospital Anxiety Depression Scale – HADS-A (Craig et al. 2005) and the other using the Generalized Anxiety Disorder Scale (Dodge et al. 2014). One qualitative study focused on the lack of screening tools for perinatal anxiety (Ashford et al. 2017).

Screening outcomes Across all studies which reported depression scores, the mean depression score on the most commonly used scale (EPDS) was 6.61 ($n=18$ studies; range 3.6 to 19.7) corresponding to minimal depression (McCabe-Beane et al. 2016). Among studies which reported percentage of patients who scored above a specified cut-off on the EPDS, a variety of cut-off points were used ranging from 9 to 13, and prevalence of positive scores ranged from

19 to 47% depending on the cut-off used. For anxiety, the study using the HADS-A reported scores in the moderate range (HADS-A mean score of 14.64. SD 4.55, range 5–20) (Craig et al. 2005), and in the study using the GAD-7, 21.15 to 29.52% of mothers were reported to have possible anxiety disorder based on their screening scores (Dodge et al. 2014). Seventeen studies reported providing mental health referrals for women with symptoms above the cut-off score. No studies reported systematic follow-up on mental health referral completion rates for positive depression screens (Dodge et al. 2014).

Out of 47 studies, 33 described interventions provided for women who screened positive. Interventions ranged from empathic listening and support for mothers to utilizing principles of CBT.

Training and technical assistance

Duration of training (where specified) Twenty-five studies described various durations of training for nurses or Community Health Workers (CHWs) which ranged from 18 h to six weeks. Seven (Turner et al. 2010; Tomlinson et al. 2016a; Ward, 1999) described a process of ongoing supervision where CHWs were supervised weekly (face-to-face supervision as well as via mobile phones) and randomly observed twice a month.

Training content Training content was described in 26 studies and varied widely. Nurses or CHWs were trained in the use of screening tools (Ward 1999; Ali et al. 2010; Glavin et al. 2010a, b, c; Tsai et al. 2014; Tomlinson et al. 2016a), provided information on anxiety and depression, and taught communication and active listening skills (Craig et al. 2005; Ali et al. 2010; Glavin 2012; Segre et al. 2013). They were trained in general cognitive behavior therapy concepts (Craig et al. 2005, Ali et al. 2010, Glavin et al. 2010a, b, c, Glavin 2012, Smithbattle et al. 2013, Glavin and Leahy-Warren 2015, Samankasikornm et al. 2016) or other counseling and psychological techniques (Cullinan 1991; Cooper et al. 1999; Ward 1999; Fuggle and Haydon 2000; Ali et al. 2010; Naysmith et al. 2015). Other studies described providing information on reproductive and maternal health (Rahman et al. 2008; Mundorf et al. 2017, 2018), and monitoring the development of the baby and providing information on healthy child practices (Ali et al. 2010; Målqvist et al. 2016; Tomlinson et al. 2016a). Several studies referenced specific Cognitive Behavior Therapy (CBT)–based interventions: the CBT-based “Thinking Healthy program” (Rahman 2007), a “Cognitive Behavioral Counseling” therapy that integrated principles of CBT, Interpersonal Therapy (IPT), and problem-solving therapy (Appleby et al. 2003; Munodawafa et al. 2017) and a “Building Strong Families” program module

Table 1 Details of studies included in the review

Study	Country	Study design	Setting	Timing	Screening tool	Screening/treatment delivered by	Training and TA—duration	Training and TA—content	Training and TA—trainers
Ali et al. (2010)	Pakistan	Prospective cohort	Home	3rd trimester	AKU/ADS	CHW's	5 half days per week × 4 wks	Use of screening tools; info on anxiety/depression, stress/anger management; communication/counseling skills	2 family practitioners, a psychiatrist, and a clinical psychologist
Almond and Lathlean (2011)	UK	Case study	Home	PP	EPDS	Health visitors	Not described	Info on PPD	Not described
Appleby et al. (2003)	UK	Prospective cohort	Home	PP	EPDS	Health visitors	2 days	Symptoms of PPD, cognitive aspects of depression, detection of PPD using the EPDS; CBC skills, using role play, observation, and feedback	Not described
Arosemena et al. (2013)	USA	Pilot study, needs assessment	WIC and other community sites	Pregnant, PP up to 6 months	EPDS	Research Assistants with CHW and patient navigation certifications	Not described	Not described	Not described
Ashford et al. (2017)	UK	Qualitative	Home	PP	Whooley, EPDS, PHQ, GAD	Not described	Not described	Not described	Not described
Christodoulou et al. (2019)	South Africa	Cluster RCT	Home	Pregnant	EPDS	Peers	1 month	Cognitive behavioral change strategies	Non governmental organization “Philani program”
Cooper et al. (2002)	South Africa	Pilot study	Home	3rd trimester, 6 months PP	Major depression section from SCID	Community workers	Not described	Basic counseling skills and specific mother-infant intervention	Not described

Table 1 (continued)

Study	Country	Study design	Setting	Timing	Screening tool	Screening/treatment delivered by	Training and TA—duration	Training and TA—content	Training and TA—trainers
Craig et al. (2005)	Australia	Prospective repeated measures design	Community health service centers	PP	EPDS, HADS	CHW	1 day	Info on perinatal depression, introduction to cognitive-behavioral strategies; practice in the use of measurement tools	Clinical psychologist and probationary health psychologist
Cullinan (1991)	UK	Longitudinal	Home	6–14 wks. PP	EPDS	Health visitors	Not described	PPD and Rog-erian counseling techniques, including role play	In-service training officer and project coordinator
Davies et al. (2003)	UK	Pilot, open	Home	PP 1, 3, 6, 12, 18 mths	EPDS	Health visitors	Not described	Not described	Not described
Dodge et al. (2014)	USA	RCT	Home	PP up to 6 months	EPDS	Home interviewers; nurses	Not described	Not described	Not described
Emond et al. (2002)	UK	Retrospective and prospective	Home	3rd trimester, PP up to 2 years	EPDS	Health visitor	Not described	Not described	Not described
Fuggle et al. (2000)	UK	Pilot study	Home	PP	EPDS	Health visitors	3 half-day workshops	Skills-based training program	Clinical psychologist
George et al. (2020)	India	Single-blind, parallel group	Home	< 32 weeks gestations	EPDS	Lay health workers	50 h	Principles of group work, problem-solving, simple cognitive strategies, and coping skills both emotional and behavioral	Psychiatrist

Table 1 (continued)

Study	Country	Study design	Setting	Timing	Screening tool	Screening/treatment delivered by	Training and TA—duration	Training and TA—content	Training and TA—trainers
Glavin et al. (2010a, b, c)	Norway	Cohort	Home or local health facility	PP 6 weeks, 3 months, 6 months	EPDS	Public health nurse	5 days training, supportive counseling methods monthly supervision in groups by psychologists from the public health service	PPD risk factors, symptoms and treatment, identification of mental health problems among new mothers, becoming familiar with EPDS scoring in combination with clinical judgment	Not described
Glavin et al. (2010a, b, c)	Norway	Descriptive	Home	PP	EPDS, PDSS	Public health nurse	5-day training, monthly supervision in groups with psychologists from the public health service	PPD risk factors, symptoms, and treatment, EPDS forms and scoring, supportive conversational methods	Psychologists and researchers
Glavin (2012)	Norway	Quasi-experimental post-test	Home/well baby clinic	PP 6 weeks, 3, 6, and 12 months	EPDS	Public health nurse	5 days, monthly supervision in groups	PPD risk factors, symptoms and treatment, identification of mental health problems among new mothers, becoming familiar with EPDS scoring in combination with clinical judgment	Psychologists and researchers

Table 1 (continued)

Study	Country	Study design	Setting	Timing	Screening tool	Screening/treatment delivered by	Training and TA—duration	Training and TA—content	Training and TA—trainers
Greve et al. (2018)	Norway	Open pilot	Home	24–28 pregnant, PP	EPDS	Midwives and public health nurses	5 days training; 9 months ongoing supervision	Videos of NBO sessions with a focus on the regulatory integration of the infant, attachment theory, and supportive counseling	Certified NBO master trainers
Hung et al. (2014)	South Africa	Prospective cohort study	Home	2nd or 3rd trimester, PP	EPDS	CHW	Not described	Not described	Researchers
Jones et al. (2015)	UK	Secondary data analysis	Home	PP up to 1 year	Non validated rating scale	Home visitors	40 h	Not described	Not described
Keller et al. (2014)	USA	RCT	Home	PP 6 weeks to 6 months	EPDS	Research assistants	Not described	Not described	Not described
Kieffer et al. (2013)	USA	RCT	Home; community center	2nd trimester, 3rd trimester, 6 weeks PP	CES-D	CHWs; data collectors	Not described	Not described	Not described
Le Roux et al. (2020)	South Africa	Group comparison study	Home	Pregnancy and 6 months PP	EPDS	CHW	6 weeks	Not described	Not described
Van Lieshout et al. (2020)	Canada	Open pilot	“Community setting”	PP up to 1 year	EPDS	Public health nurse	2 days of in-classroom and 9-week observership	CBT	Psychiatrist, expert therapist
Lutenbacher et al. (2018)	USA	RCT	Home	≤26 weeks gestation	EPDS	Trained interventionists	40 h	Established maternal infant outreach program	Outreach worker
Mälqvist et al. (2016)	Switzerland	Cross-sectional	Home	3rd trimester	EPDS	Mentor Mothers	Four weeks	Maternal and child health	Health professionals
Mosack and Shore (2006)	USA	Cross-sectional	Community based	pregnancy and PP	EPDS; CES-D	Visiting nurse	Not described	Not described	Not described

Table 1 (continued)

Study	Country	Study design	Setting	Timing	Screening tool	Screening/treatment delivered by	Training and TA—duration	Training and TA—content	Training and TA—trainers
Mundorf et al. (2017); Mundorf et al. (2018)	USA	Longitudinal	Home visits and mobile technology	PP 6 weeks and 6 months	EPDS, anxiety, positive mood, psychological distress	CHWs	Not described	Competency driven curriculum, certified on core public health disciplines, including a subject-specific module on reproductive health	Not described
Munodawafa et al. (2017)	South Africa	Post intervention qualitative semi-structured interviews after an RCT	Home or clinic	Pregnancy, postpartum	Not described	CHW	5-day workshop	Psychoeducation on depression; problem-solving; behavior activation; healthy thinking	Mental health counselor with a master's in clinical social work; Senior Clinical psychologist
Naysmith et al. (2015)	UK	Open	Children's centers	PP	EPDS	Health visitors	Two-day, experienced facilitators run groups with new facilitators to pass on skills	Group processes, CBT concepts, attachment theory, managing endings	MH staff from Infant Perinatal Services
Painter. (1995)	UK	Program evaluation	Home	PP	EPDS	Health visitors	Not described	Not described	Not described
A. Rahman. (2007)	Pakistan	Mixed methods (qualitative)	home	3rd trimester, PP	SCAN	Psychiatrist diagnosis, Lady Health Worker treatment	Initial 2-day workshop, then 1-day refresher course 3 months after first training	Not described	Mental health professional (author) and public health expert
Rahman et al. (2008)	Pakistan	Cluster RCT	Home	3rd trimester	HAM-D	Lady Health Worker	Not described	Preventive maternal and child health care education	Not described

Table 1 (continued)

Study	Country	Study design	Setting	Timing	Screening tool	Screening/treatment delivered by	Training and TA—duration	Training and TA—content	Training and TA—trainers
Roman et al. (2007)	USA	RCT	Home	Pregnancy (<24 weeks) and PP	CES-D	Nurse-Community Health Worker	Not described	Relationship building, problem-solving, goal setting, stress management, and self-esteem and assertiveness	Not described
Roman et al. (2009)	USA	RCT	Home	Pregnancy (<24 weeks), 34–36 weeks, and 6 weeks, 6 months, and 12 months PP	CES-D	Nurse-Community Health Worker	Certificate core training program (10 sessions), plus monthly CHW educational training sessions	Relationship building, problem-solving, goal setting, stress management, and self-esteem and assertiveness	Community agencies and the local community college
Rossiter et al. (2012)	Australia	Qualitative	Home	PP (up to 1 year)	EPDS	Child and family health nurse	Not described	Not described	Not described
Rotheram-Borus et al. (2011)	South Africa	RCT	Home, phone	Pregnancy	EPDS	Mentor Mothers	2 months	Adapted existing evidence-based HIV- and alcohol-related interventions to a new South African cultural context	“Supervisor”
Samankasikorn et al. (2016)	USA	RCT	Home	2nd trimester, 3rd trimester, 3 months PP	EPDS	CHW	Not described	Not described	Director with either an undergraduate or graduate degree

Table 1 (continued)

Study	Country	Study design	Setting	Timing	Screening tool	Screening/treatment delivered by	Training and TA—duration	Training and TA—content	Training and TA—trainers
Segre et al. (2013)	USA	Qualitative	Healthy Start site	Not described	Not described	Healthy Start program personnel	2 days	Perinatal depression overview, screening and referral, psychological and medical treatments, cultural diversity, case management of depression, and community support development	authors of the study (Michael O'Hara, Lisa Segre)
Smithbattle et al. (2013)	USA	Quasi-experimental	Home	3rd trimester, PP	CES-D	Public health nurse	18 h of training in 6 sessions over 2 months	Health teaching, anticipatory guidance, counseling, referrals, advocacy	First author
Tachibana et al. (2019)	Japan	RCT	Home	Pregnancy	EPDS	Public health nurse	Not described	Not described	Not described

Table 1 (continued)

Study	Country	Study design	Setting	Timing	Screening tool	Screening/treatment delivered by	Training and TA—duration	Training and TA—content	Training and TA—trainers
Tomlinson et al. (2015)	South Africa	Cluster RCT	Home	3rd trimester, 2 weeks, 6 months PP	EPDS	CHW	Weekly supervision for CHW and observation twice a month	Cognitive-behavioral approaches, problem-solving around goal setting, choices, triggers, and shaping of desirable behaviors; information about general maternal and child health, techniques for framing each health issue that is a risk and strategies for applying the health information in families' daily lives; coping with their own life challenges	Not described
Tsai et al. (2014)	South Africa	Cross-sectional/descriptive	Home	3rd trimester	EPDS short and ultra-short versions	Research assistants; CHW	Not described	Trained to administer the EPDS	Not described
Turner et al. (2010)	UK	RCT (qualitative sub study)	Home	PP	EPDS	Health visitor	2 days	Detection, treatment, and prevention of PPD, and the value and practice of non-directive counseling	Peer supervision from a local community mental health nurse and ongoing group guidance from clinical psychologist
Ueda et al. (2006)	Japan	Cohort	Home	PP up to 1 year	EPDS	Health visitor	Not described	Not described	Not described
Vik et al. (2009)	Norway	Qualitative	home	PP 6 weeks	EPDS	Health visitor and midwife	Not described	Not described	Not described

Table 1 (continued)

Study	Country	Study design	Setting	Timing	Screening tool	Screening/treatment delivered by	Training and TA—duration	Training and TA—content	Training and TA—trainers
Ward. (1999)	UK	Descriptive	Home	PP	EPDS	Home visiting nurse	Nine 3-h sessions over 8 months followed by monthly individual and group supervision	Preventive strategies for PPD. Etiology of PPD, use of medication, father's role, approaches to counseling, listening skills, introduction and use of EPDS, service plans	Not described

AKUADS, Aga Khan University Anxiety and Depression Scale; CHW, community health worker; PP, postpartum; EPDS, Edinburgh Postnatal Depression Scale; HADS, Hospital Anxiety and Depression Scale; HAM-D, Hamilton Depression Rating Scale; CES-D, Center for Epidemiologic Studies Depression Scale; WIC, women, infant and children; PPD, postpartum depression; CBC, Cognitive Behavioral Counseling; PHQ, Patient Health Questionnaire-9; GAD, Generalized Anxiety Disorder-7; SCAN, Schedules for Clinical Assessment in Neuropsychiatry; NBO, Newborn Behavioral Observation

based on building relationships and self-support (Roman et al. 2009).

Discussion

Our systematic review aimed to summarize existing approaches to screening for perinatal depression and anxiety in community-based settings. Perinatal depression and anxiety are common, frequently co-occur, and are associated with numerous negative outcomes for parents and children. Community-based maternal-child health programs offer a unique opportunity for screening and/or management of perinatal anxiety and depression, especially for women who are both more likely to experience perinatal depression and anxiety and less likely to engage in regular prenatal care. Community-based maternal-child health programs are present in most countries and provide an opportunity to integrate screening and management of maternal mental health issues, potentially improving access to care and decreasing stigma (Rahman et al. 2013). We found that screening for common perinatal mental issues, most commonly perinatal depression, is being implemented in several community-based settings around the world despite a lack of guidelines on the ideal frequency of screening, timing of screening, or training required for screening in these non-healthcare settings. In the absence of such guidelines, there is much variability in the timing of screening. There is also a noteworthy lack of information on perinatal anxiety screening, with most efforts focused on perinatal depression.

Screening was performed mainly at home, and the EPDS was the most frequently used screening tool. This ten-item self-report depression measure has a total score ranging from 0 to 30, with higher scores indicating increased symptom severity, and is validated for use in the perinatal period (Cox et al. 1987). Cut-off scores to determine depression severity using the EPDS have ranged from 9 to 13 (Matthey et al. 2006), potentially leading to challenges in standardizing approaches.

Nearly half of the studies described screening for depression specifically in the postpartum period; however, women with postpartum depression often have onset of depressive symptoms during pregnancy (Putnam et al. 2017), and detection and treatment of depression and anxiety during pregnancy can help prevent postpartum depression. Thus, this represents a potential missed opportunity for prevention of postpartum depression as many community-based program services span the entire perinatal period from pregnancy through postpartum and could consider screening at multiple time points during this period. Another limitation identified was that among programs that screen for depression in the postpartum period, few mentioned continuing screening through the entire first year postpartum. Depression can last

up to 1 year or longer after birth (Torres et al. 2019), and suicide, a leading cause of maternal mortality, often occurs between 9–12 months postpartum (Mangla et al. 2019). The late postpartum period is a time when many women may not be accessing healthcare but may be connected to community-based systems. This highlights the critical role that community-based programs can play in identifying women who have new onset or persistent depression and are at risk for suicide in the late postpartum period.

There is also a dearth of information on how best to handle a positive depression screen in community-based settings. Anywhere between 19 and 47% of women who were screened scored positive for symptoms of depression, and mean baseline depression scores revealed that the severity of depression detected in these settings was most commonly minimal to mild. Mild to moderate perinatal depression responds well to brief evidence-based behavioral interventions and specialty mental health care may not be necessary in many cases (Yonkers et al. 2009; Molenaar et al. 2018). In cases where referrals to mental health treatment are made, efforts must be made to ensure they are completed. In healthcare settings, only 20% of those screening positive for perinatal depression successfully follow up on mental health referrals (Byatt et al. 2015). In contexts such as the UK where Primary Care Provider practices are closely linked to public health services, accessing mental health care after referral from a community-based setting may be relatively easy, but this may not be true of healthcare systems in other countries. Thus, strategies around follow-up after referral to mental health care will need to be tailored for specific contexts.

There was wide variability in the content and duration of training provided to CHWs and home visitors who were asked to administer the screening tool. This may be because of the range of learners in the studies, from public health nurses to CHWs. We did not find any systematic evaluations of the cost effectiveness of training, who the ideal trainers might be, and what the ideal duration or content of training is. Articles not included in our study have used web-based modules (Wisner et al. 2008) or a train the trainer approach (Segre et al. 2011) with good uptake, and increase in screening rates. Thus, these may be appropriate, scalable approaches for training of CHWs and home visitors in screening for perinatal anxiety and depression, but studies are needed that specifically address this issue.

Most programs did not screen for perinatal anxiety, yet we know that perinatal anxiety is common (Brunton et al. 2015), frequently co-occurs with perinatal depression (Alder et al. 2007), and is associated with negative maternal and infant outcomes (Agrati et al. 2015). Even within healthcare settings, there is often a singular focus on screening and treatment of perinatal depression. There is an urgent need to better understand perinatal anxiety and whether

community-based settings can be effective locations for screening for this common mental health disorder.

Limitations to our approach include the fact that some community-based settings such as select WIC clinics are located within public health clinics (Tabb et al. 2015) and may have been excluded by our search which focused on non-healthcare settings. Similarly, search terms related to “home visiting” were not used, and this is a limitation of our approach as our results may not have captured all published reports of screening within home visiting settings. Studies included the use of screening tools in the context of an RCT; however, we did not find any randomized trials comparing screening for perinatal depression and anxiety to usual care in community-based settings. Such trials exist for healthcare settings (O’Connor et al. 2016) and can help establish the effectiveness of screening initiatives.

Although differences in screening rates and treatment rates have been reported based on race ethnicity and income (Bennett et al. 2010; Sidebottom et al. 2020), we could not include demographics, race, or income level in our descriptive summary because most included studies did not provide this information, and for the few that did, it is challenging to compare these variables/categories across different countries. Finally, many community-based programs that screen for perinatal depression and anxiety may not have published their evaluation results in a peer-reviewed journal, limiting our ability to comment on these programs.

Future directions

There is a need for more well-designed RCTs studying the outcomes of maternal depression screening in community-based settings. There is also a need to systematically study the feasibility, acceptability, and efficacy of community-based screening for perinatal anxiety. As demonstrated by a recent application of a learning collaborative approach to home visiting programs in the USA, strategies such as uniform policies regarding screening, training, and supervision, tracking systems for screening, referral, and follow-up are all important in improving rates of identification and referral for perinatal depression and anxiety (Tandon et al. 2020). Other interventions noted to improve screening completion rates and referral rates for perinatal depression and anxiety in healthcare settings include using standardized patients for training, and changes in the electronic patient record (Long et al. 2019), but the utility of such strategies in community-based settings has not yet been established.

Community-based programs serve many women of color and women of low income (U.S. Department of Health and Human Services 2016), yet no studies systematically examined feasibility or screening rates, specifically in these populations. There is a need for such studies in the future.

Clinical recommendations

Based on available information and extrapolating from the American College of Obstetrics and Gynecology (American College of Obstetricians and Gynecologists 2015) and the American Academy of Pediatrics (Earls, Child et al. 2010) recommendations for clinical settings, we suggest that community-based maternal-child health programs screen for depression and anxiety at least once during pregnancy and once postpartum. If possible, we recommend that programs incorporate multiple screenings based on the time points at which they interact with the mother and child.

CHWs and other community-based providers should be trained in the administration of validated screening tools with standardized cut-off scores. EPDS is the most frequently used tool in these settings, although it is unclear what cut-off score should be used. Although community-based settings can successfully screen for perinatal depression and anxiety, it is critically important to ensure that this screening does not occur in a vacuum. Going by USPSTF's recommendation that screening should not occur unless there is a clear plan for referral and treatment (Siu 2016), a workflow appropriate for the given setting must be developed in tandem with any screening protocol, including attention to mental health referral and systematic tracking of referrals. If an evidence-based brief behavioral intervention is provided within the same setting to women with positive depression screens, adequate consideration should be given to aspects such as training, supervision, and measurement and maintenance of fidelity to the intervention. Irrespective of intervention delivery, educating women about their screen results is critical as this can support behavioral intent related to perceived need (Ajzen 1991), and may support referral completion.

Conclusion

Community-based settings provide support to many women in the perinatal period. The frequent interactions with these settings can present opportunities to detect perinatal depression and anxiety, and even provide brief behavioral interventions for mild to moderate symptoms or refer to mental health treatment. At the very least, if screening is conducted, it is an opportunity to educate women about perinatal depression and anxiety, potentially increasing awareness, decreasing stigma, and improving referral and treatment uptake (Silverstein et al. 2017). As demonstrated by the findings of this review, there is an urgent need for a more standardized approach to identify and support women with perinatal mental health problems in community-based settings. Screening in community-based settings is also an opportunity to break down the silos between support

for maternal and child mental well-being (Anderson et al. 2006) and begin to conceptualize the importance of dyadic well-being, as the emotional and physical health of parents and children are strongly intertwined (Nyström and Öhrling 2004).

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Declarations

Conflict of interest The authors declare no competing interests.

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