UK National Screening Committee

SCREENING FOR ANTENATAL AND POSTNATAL MENTAL HEALTH CONDITIONS

An evidence map to outline the volume and type of evidence related to screening for antenatal and postnatal mental health conditions for the UK National Screening Committee

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About the UK National Screening Committee (UK NSC)

The UK National Screening Committee (UK NSC) advises ministers and the NHS in the 4 UK countries about all aspects of population and targeted screening and supports implementation of screening programmes.

Conditions are reviewed against evidence review criteria according to the UK NSC's evidence review process.

Read a complete list of UK NSC recommendations.

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Blog: https://nationalscreening.blog.gov.uk/

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Summary

This document discusses the findings of the evidence map on screening for antenatal and postnatal mental health conditions.

Evidence maps are a way of scanning published literature to look at the volume and type of evidence in relation to a specific topic. They inform whether the evidence is sufficient to commission a more sustained analysis on the topic under consideration.

Based on the findings of this evidence map, no further evidence synthesis work on screening for antenatal and postnatal mental health conditions should be commissioned at the present time.

Introduction and approach

Background and objectives

The UK NSC external reviews (also known as evidence summaries or evidence reviews) are developed in keeping with the UK NSC evidence review process to ensure that each topic is addressed in the most appropriate and proportionate manner. Further information on the evidence review process can be accessed online [1].

Screening for antenatal and postnatal mental health conditions is a topic currently due for an update external review.

Antenatal and postnatal mental health conditions include common mental health disorders such as anxiety, depression, phobias, obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD) plus severe mental illness (SMI) such as psychosis and personality disorder [2]. The nature of most of these conditions may range from mild to severe, requiring different kinds of care or treatment and support provided by universal and specialist services. Moreover, the management and treatment of mental health conditions during pregnancy and the postnatal period is different from other times in the women's life, because such interventions need to take into consideration the potential impact they have not only on the woman but also on her baby. Untreated, these conditions can lead to ongoing mental health challenges, difficult relationships and negative impacts on the child's development [2].

Globally, the World Health Organisation estimate that about 10% of pregnant women and 13% of women who have just given birth will develop a mental health disorder, with higher rates in low and middle income countries [3]. In the UK, depression and anxiety are the most common mental health conditions during pregnancy with around 12% of women experiencing depression, 13% experiencing anxiety and many experiencing both [4]. In the first year after childbirth, depression and anxiety also affect around 15% to 20% of women [4]. It is estimated that postpartum psychosis affects between 1 and 2 in 1,000 women who have given birth [4].

Estimates of the prevalence of all mental health disorders affecting women in the perinatal period from 3 months prior to pregnancy to 2 years postpartum have been reported for England for 2019 [2]. These estimates include all women with a record of a diagnosis of a mental health condition made during the perinatal period, symptoms of mental health conditions and medication usage recorded in this period and those with a historical diagnosis and perinatal diagnosis of SMI [2]. Overall, in 2019 the estimated prevalence of perinatal mental health disorders in England was 25.8% accounting for 155,660 women [2]. Over 98% of diagnoses were for common mental health disorders [2].

When considering antenatal and postnatal screening for mental health conditions the time period of interest is during pregnancy and in the early postpartum period [5]. A considerable number of screening tools have been studied, primarily focussed on detecting anxiety and depression in women who have not previously had mental health conditions. Examples of screening tools include the Edinburgh Postnatal Depression Scale (EPDS), the Patient Health Questionnaire (PHQ), and the Whooley questions [5]. There has been less focus on screening tools for other mental health disorders in the antenatal and postpartum periods although there is a Yale-Brown Obsessive-Compulsive Scale in pregnant women and the Revised Obsessive-Compulsive Inventory (OCI-R) for OCD has been studied in postpartum women [6].

In the UK, there is guidance about the management of women presenting with mental health conditions in the perinatal period developed by the Scottish Intercollegiate Guideline Network (2023) [7], and the National Institute for Health and Care Excellence (2014) [4]. Treatment may involve psychological, psychosocial, or pharmacological interventions and will be determined by the diagnosis, the possible harms and benefits to the woman and baby, previous mental health history and acceptability of the treatment by the woman [4].

Previous review on screening for antenatal and postnatal mental health conditions

Based on an evidence review published in 2019, the UK NSC currently recommends against screening for common mental health conditions in pregnancy and for postnatal depression [5].

The 2019 UK NSC evidence summary [5] looked for evidence published between 2006 and February 2018, focusing on updating the quality and volume of the evidence available.

The 2019 evidence summary reported studies of women in pregnancy and in the postnatal period, concerning adverse outcomes of untreated common mental health conditions, the diagnostic accuracy of screening tools to detect mental health conditions, the effectiveness of pharmacological and non-pharmacological interventions (alone or in combination) for treating women with screen-detected common mental health conditions during pregnancy and for women with screen-detected postnatal depression. The evidence summary also searched for evidence on whether the clinical detection and management of mental health conditions in pregnancy was well implemented in the UK.

The 2019 evidence summary found a large volume of evidence about adverse outcomes associated with mental health conditions experienced by women during pregnancy and postpartum that was applicable to the UK population.

In the 2019 evidence summary there was a lack of evidence for effective screening tests for common mental conditions such as generalised anxiety disorder, panic disorder, phobias, social anxiety disorder, obsessive compulsive disorder and post-traumatic stress disorder during pregnancy. Screening tools that could be used as part of an overall screening programme were identified, such as the Edinburgh Postnatal Depression Scale. However, the positive predictive values for detecting major depressive disorder reported in the included studies were low suggesting that a high proportion of women with a positive screen referred for a full psychological assessment would likely not have a major depressive disorder.

The 2019 evidence summary found that the effectiveness of pharmacological and non-pharmacological interventions for women with screen-detected antenatal mental health conditions and postnatal depression was very limited. There was some evidence that cognitive behavioural therapy is likely to lead to a small reduction in the severity of the condition.

In addition, the 2019 evidence summary found that mental health services in the UK were not implementing the NICE guidance in its entirety.

Aims of the evidence map

Evidence maps are rapid evidence products which aim to gauge the volume and type of evidence relating to a specific topic.

This evidence map has been developed to assess whether a more sustained review on screening for antenatal and postnatal mental health conditions should be commissioned and to evaluate the volume and type of evidence on key issues related to screening for antenatal and postnatal mental health conditions.

The aim was to address the following questions:

1. What is the volume and type of evidence on the reported accuracy of screening tools to detect common mental health conditions during pregnancy?
2. What is the volume and type of evidence on the reported accuracy of screening tools to detect postnatal depression?
3. What is the volume and type of evidence on the benefits of pharmacological and non-pharmacological intervention (alone or in combination) in women with screen-detected common mental health conditions during pregnancy?
4. What is the volume and type of evidence on the benefits of early pharmacological and non-pharmacological intervention (alone or in combination) in women with screen-detected postnatal depression?
5. Is there evidence that clinical detection and management currently well implemented in the UK?

The populations of interest in this evidence map are pregnant women and postpartum women without any previous clinical diagnosis of mental health conditions aged 18 years or over.

The findings of this evidence map will provide the basis for discussion to support decision making on whether there is sufficient evidence to justify commissioning a more sustained review of the evidence on antenatal and postnatal mental health conditions.

The aim of this document is to present the information necessary to inform UK NSC decision-making processes.

Search methods and results

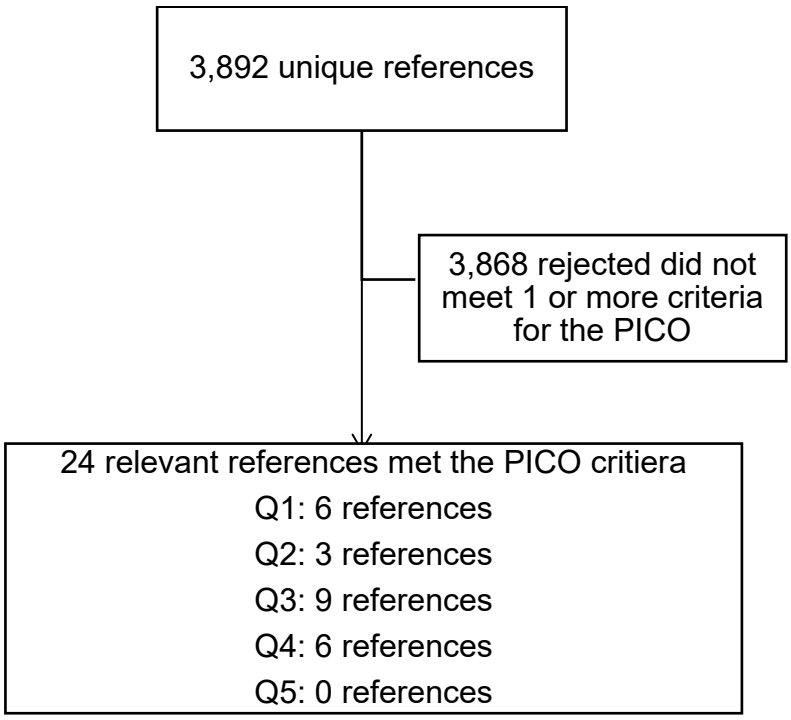
The searches were conducted on 10 and 11 July 2025 on 6 databases: Medline, Embase, PsycINFO, the Cochrane Library, the Health Technology Appraisal database and the TRIPdatabase. De-duplication was conducted using Endnote. The search period was restricted to February 2018 to July 2025. The search date was determined by the search period for the previous UK NSC review. The detailed search strategies, including exclusion and inclusion criteria are available in Appendix 1.

One reviewer sifted all titles and abstracts. All references were reviewed at abstract level, though in some cases full texts were reviewed to clarify uncertain pieces of information. A formal quality appraisal of the evidence was not required, given the remit of the evidence map.

Abstract reporting tables are available in Appendix 2.

The search returned 9,748 results. After automatic and manual de-duplication, 3,892 unique references were sifted for relevance to the questions and 24 references met the criteria for inclusion in the final evidence map. A flow diagram summarising the number of studies included and excluded is presented in Figure 1.

Figure 1: Summary of included and excluded publications



Summary of findings

Question 1: What is the volume and type of evidence on the reported accuracy of screening tools to detect common mental health conditions during pregnancy?

The 2019 evidence summary [5] identified a moderate volume of evidence evaluating the accuracy of screening tools to detect common mental health conditions during pregnancy. Five papers about tools to detect depression, anxiety and stress were included comprising 3 systematic reviews and 2 studies published after the systematic reviews. The tools evaluated were various versions of the Edinburgh Postnatal Depression Scale (EPDS), the Patient Health Questionnaire (PHQ), and the General Health Questionnaire (GHQ). Performance of the EPDS was reported in 2 systematic reviews from 2016 and a further study from 2018. Two systematic reviews from 2016 and 1 study from 2017 reported the performance of the PHQ whilst 1 systematic review from 2011 reported outcomes from the GHQ-30. The 2019 evidence summary concluded overall that there was a paucity of evidence for screening tests for common mental disorders during pregnancy and the available evidence was based on studies with small sample sizes and the accuracy of data reported across the studies was variable.

The searches for this evidence map returned 6 studies that met the inclusion criteria for this question. These comprised of 2 systematic reviews with meta-analyses, 1 systematic review with individual participant data (IPD) meta-analysis, 1 secondary analysis of this IPD meta-analysis and 2 primary diagnostic test accuracy studies. Collectively, these studies evaluated screening tools for:

- depression: EPDS-10, EPDS-5, PHQ-9, PHQ-2 and Whooley questions (2 and 3-items)
- general anxiety: EPDS-10, EPDS anxiety 3-item subscale (EPDS-3A), Generalised Anxiety Disorder 7-item scale (GAD-7) and GAD 2-item scale (GAD-2)
- obsessive-compulsive disorder (OCD): EPDS-10, EPDS-3A, Dimensional Obsessive–Compulsive Scale (DOCS), and 4-item Obsessive–Compulsive Inventory (OCI-4)
- mood: Matthey Generic Mood Questionnaire (MGMQ)

All were compared to a reference standard of diagnosis confirmed with clinical interview.

The systematic reviews included UK studies (at least 4 studies) and the international IPD meta-analysis included participants from the UK (n=1,283). The diagnostic accuracy studies were conducted in countries comparable to the UK (Canada and the USA). An abstract summary for each of these studies is provided in Appendix 2.

Screening tools for depression

Two systematic reviews and 1 secondary meta-analysis were identified that evaluated the diagnostic accuracy of the EPDS in identifying depression in pregnant women.

A large IPD meta-analysis (58 studies including 15,557 participants) by Levis et al. 2020 [8], found that a cut-off value of ≥11 maximised combined sensitivity (0.85, 95% confidence intervals (CI) 0.79 to 0.90) and specificity (0.84, 95% CI 0.79 to 0.88) for the EPDS-10 in identifying major depression in pregnant and postpartum women. Results were not reported

separately for pregnant and postpartum women, but the authors noted that the accuracy was similar among both groups. It should be noted that the search date was October 2018 so the meta-analysis will not have captured new studies published since the 2019 evidence summary but it will have provided more robust estimates than the previously pooled estimates.

A systematic review and meta-analysis of 12 studies by Rondung et al. 2024 [9], found that a cut-off value of ≥10 maximised combined sensitivity (0.84, 95% CI 0.75 to 0.90) and specificity (0.87, 95% CI 0.79 to 0.92) for the EPDS-10 in identifying major depression in pregnant women. However the authors reported that the moderate sensitivity value combined with a low positive predictive value of 0.25 would result in a high proportion of false positives with women referred with a positive screen and assessed but who would not be diagnosed with major depression. It should be noted that only 2 out of the 12 studies were published since the 2019 evidence summary and both were on translated versions of the EPDS.

A secondary analysis of the Levis et al. 2020 IPD meta-analysis, by Harel et al. 2021 [10], constructed a 5-item short form of the EPDS and, at the pre-specified cut-off value of ≥4, reported a sensitivity of 0.83 (95% CI 0.73 to 0.89) and specificity of 0.86 (95% CI 0.80 to 0.90) in identifying major depression. The authors stated that this demonstrated that the 5-item EPDS was statistically non-inferior to the full EPDS in pregnant and postpartum women.

Two systematic reviews were identified that evaluated the diagnostic accuracy of versions of the Whooley questions in identifying depression in pregnant women.

The systematic review by Rondung et al. 2024 [9] identified 1 study that evaluated the diagnostic accuracy of the Whooley questions in pregnant women. This study was included in the 2019 evidence summary and therefore the results are not reported in this evidence map.

A systematic review and meta-analysis of 5 studies by Smith et al. 2022 [11] reported a pooled sensitivity of 0.95 (95% CI 0.81 to 0.99) and a pooled specificity of 0.60 (95% CI 0.44 to 0.74) for the 2 or 3-item Whooley questions in identifying depression among perinatal women. The authors concluded that the Whooley questions have high sensitivity but moderate specificity for perinatal women. Therefore, a potential risk exists of incorrectly identifying a high proportion of women as having depression which could be mitigated by using the Whooley questions followed by a secondary case-finding tool.

The systematic review by Rondung et al. 2024 [9] also included individual studies on 2 versions of the PHQ. As these studies were published in 2010 and 2012 respectively they do not represent new evidence and the results are therefore not reported in this evidence map.

Screening tools for anxiety

A systematic review by Rondung et al. 2024 [9] identified no studies evaluating the GAD-7 and 1 UK study evaluating the GAD-2 and. This UK study (n=528) reported a sensitivity of 0.69 (95% CI 0.55 to 0.80) and specificity of 0.91 (95% CI 0.88 to 0.93) for generalised anxiety disorder for the GAD-2 at a cut-off value of ≥3. Rondung et al. 2024 [9] also identified 1 study evaluating the EPDS-10 to identify generalised anxiety disorder in pregnant women. The study (n=353) reported a sensitivity of 0.90 (95% CI 0.80 to 0.96) and a specificity of 0.66 (95% CI 0.61 to 0.72) at a cut-off value of ≥12. The systematic review identified no studies evaluating the EPDS-3A.

Screening tools for obsessive-compulsive disorder

One primary study (n=574) by Fairbrother et al. 2023 [12] evaluated the diagnostic accuracy of DOCS-20, EPDS-10 and EPDS-3A to identify OCD during the perinatal period. They reported that during the late prenatal period at a cut-off value of 18.60, the sensitivity of the DOCS-20 was 0.73 and specificity 0.91 (CIs not reported). They also reported that during the late prenatal period at a cut-off value of 9, the EPDS-10 had a sensitivity of 0.50 and specificity of 0.76, and the EPDS-3A at a cut-off value of 4.63 had a sensitivity of 0.80 and a specificity of 0.72 (CIs not reported). The authors reported that the DOCS-20 demonstrated a very high level of screening accuracy but that neither the EPDS-10 nor the EPDS-3A met the criteria of a sufficiently accurate screening tool for OCD.

One primary study (n=255) evaluated the diagnostic accuracy of OCI-4 in identifying OCD during pregnancy and postpartum. Abramowitz et al. 2024 [13] reported that at 20 weeks of pregnancy, a cut-off value of 3 provided the best balance of sensitivity (0.62) and specificity (0.78; CIs not reported). The authors concluded that the OCI-4 is an effective screener that should be used for identifying OCD symptoms in perinatal settings.

Mood screening tools

One systematic review was identified that evaluated the diagnostic accuracy of the MGMQ in pregnant women. Rondung et al. 2024 [9] identified 1 study evaluating the MGMQ. Using the "≥ *lower bother impact*" threshold to identify pregnant women with major depressive disorder, any anxiety disorder, or both (including OCD and PTSD), the study found a sensitivity of 0.75 (95% CI 0.58 to 0.88) and a specificity of 0.80 (95% CI 0.74 to 0.85).

Other studies identified

Four additional studies were identified that were considered but ultimately did not meet the criteria for inclusion. These are briefly described below for information.

Two of the studies reported results for pregnant women.

One prospective longitudinal study, Alves et al. 2019 [14], examined the diagnostic accuracy of the prenatal and postnatal versions of the Postpartum Depression Predictors Inventory-Revised (PDPI-R) in 140 Portuguese women attending a public referral maternity hospital in Portugal. For the prenatal version, a sensitivity of 83.3% and specificity of 85.8% was reported at a cut-off score of 4.5. The authors concluded that both prenatal and postnatal versions accurately predicted women who developed a clinical diagnosis of postnatal depression. This study was not formally included as the PDPI-R assessed was translated into Portuguese and therefore the results may not be applicable to the UK.

Heslin et al. 2022 [15] using modelling, explored the cost-effectiveness of screening tools to identify depression in early pregnancy compared to no screening, from an NHS and Personal Social Services perspective. The screening tools evaluated were the EPDS, the Whooley questions and a combination of the Whooley questions followed by the EPDS. The authors reported that each screening tool had a 30% probability of being cost-effective with a quality-adjusted life year of between £20,000 and £30,000. No screening, with women receiving usual care of routine clinical assessment with midwives at the first antenatal appointment and identifying depression via clinical judgement, had a 20% probability of being cost-effective.

Two of the reported studies included perinatal women. They are described here but are also of interest to question 2.

Sambrook Smith et al. 2022 [16], a systematic review of systematic reviews, evaluated screening tools used to identify common perinatal mental disorders. The most frequently validated tools were the EPDS (n=28 reviews), BDI (n=13 reviews) and PHQ (n=12 reviews). The systematic review was not formally included in the evidence map as the results from the individual systematic reviews were not pooled and instead, sensitivity and specificity results of each systematic review were presented visually in a forest plot. The forest plots showed a wide variation in sensitivity results across the systematic reviews over a range of cut-off values and the authors stated that *"a pattern of decreasing sensitivity and increasing specificity with increase in cut-off of the EPDS score was observed"* and *"this pattern was also observed in the BDI and PHQ tools".*

One systematic review of 34 articles, Clarke et al. 2024 [17], evaluated the effectiveness of digital screening (electronic or digital versions of screening tools) compared to standard care (paper-and pen-based screening or no screening) for mental health in pregnancy and postpartum, and identified barriers and enablers to implementing digital screening. The authors concluded that digital screening for mental health in pregnancy and postpartum is acceptable, feasible and more effective than standard care. Common barriers included environmental context and resources, skills, social/professional role and identity and beliefs about consequences and common enablers included knowledge, social influences, emotion and behavioural regulation.

Summary

Six studies were identified for this question covering different screening tools for depression, anxiety, OCD and mood. No evidence was identified on screening tools for panic disorder, phobias, social anxiety disorder or PTSD. The systematic reviews with meta-analysis included some UK data and the remaining evidence was from countries comparable to the UK. Although the volume of evidence identified overall is sufficient for further review in an evidence summary, many of the studies included in the systematic reviews and meta-analysis were published prior to the 2019 evidence summary and the evidence available for each individual screening tool is limited and with mixed results in terms of accuracy. It is therefore uncertain whether the type of evidence identified is likely to lead to a change in the UK NSC's current position.

Question 2: What is the volume and type of evidence on the reported accuracy of screening tools to detect postnatal depression?

Sub-question: What is the optimum timing to perform the screening test?

The 2019 evidence summary [5] identified a moderate volume of evidence evaluating the accuracy of screening tools to detect postnatal depression. Three papers were included, 2 systematic reviews and one primary study, that covered 9 tools to detect postnatal depression. The tools evaluated were various versions of the Edinburgh Postnatal Depression Scale (EPDS), the Patient Health Questionnaire (PHQ), the Beck Depression Inventory-II (BDI-II), the Inventory of Depression and Anxiety Symptoms-General Depression (IDAS-GD), the Postpartum Depression Screening Scale (PDSS), and the Pregnancy and Risk Assessment Monitoring System (PRAMS). One systematic review included 26 studies with 23 reporting results on the EPDS and 3 on the PHQ. The other systematic review included 14 articles and reported on all 9 tools. Meta-analyses were not possible for either systematic review due to high heterogeneity between the studies. The 2019 evidence summary concluded that while evidence in relation to postnatal depression comes from studies with larger numbers of participants compared to studies in the antenatal period, the number remains low when considering screening in whole populations, and there is considerable heterogeneity between the studies.

The searches for this evidence map returned 3 studies that met the inclusion criteria for this question. These comprised of 1 systematic review and individual participant data (IPD) meta-analysis, 1 secondary analysis of this IPD meta-analysis and 1 diagnostic test accuracy study. Collectively, these studies evaluated the following screening tools:

- EPDS
- BDI-II
- PDSS

All were compared to diagnosis confirmed with clinical interview. The international IPD meta-analysis included participants from the UK and the diagnostic accuracy studies was conducted in a country comparable to the UK (the USA). An abstract summary for each of these studies is provided in Appendix 2.

The IPD meta-analysis by Levis et al. 2020 [8] and secondary analysis by Harel et al. 2021 [10] detailed in this evidence map for question 1 (pregnant women) were the only papers identified that included the performance of different versions of the EPDS for postpartum women. Results were not reported separately for pregnant and postpartum women in these publications although the authors noted that the accuracy was similar for both groups. Furthermore, the search date was October 2018 so the meta-analysis will not have captured new studies published since the 2019 evidence summary but it will have provided more robust estimates than the previously pooled estimates. Levis et al. [8] reported that a cut-off value of ≥11 maximised combined sensitivity (0.85, 95% CI 0.79 to 0.90) and specificity (0.84, 95% CI 0.79 to 0.88) and Harel et al. [10] reported that a shorter version of EPDS with a cut-off value of ≥4 was statistically non-inferior to the full EPDS in pregnant and postpartum women.

One primary study (n=238) by Vogeli et al. 2018 [18] evaluated the diagnostic accuracy of the BDI-II and PDSS in identifying major depressive disorder in mothers 4 to 15 months postpartum. For the BDI-II, sensitivity was 0.75 and specificity 0.89 (CIs not reported) at a cut-off value of ≥14. For the PDSS, sensitivity was 0.76 and specificity 0.83 (CIs not reported) at a cut-off value ≥80.

What is the optimum timing to perform the screening test?

None of the included studies were designed to determine an optimum screening time point.

Other studies identified

One additional study with separate data for postnatal women was identified and considered but ultimately did not meet the criteria for inclusion. This is briefly described below for information.

One prospective longitudinal study, Alves et al. 2019 [14], also reported in Question 1, concluded that the postnatal version of the PDPI-R performed better than the prenatal version but both versions accurately predicted women who developed a clinical diagnosis of postnatal depression. For the postnatal version, a sensitivity of 83.3% and specificity of 94.8% was reported at a cut-off score of 9.5. This study was not formally included in the evidence map as the PDPI-R assessed was translated into Portuguese and therefore the results may not be applicable to the UK.

Summary

Three studies were identified for this question on screening tools for postnatal depression. One large international IPD meta-analysis of the EPDS in combined pregnant and postpartum women (with UK data) and a secondary analysis of this dataset, plus a primary diagnostic accuracy study from the USA evaluating the BDI-II and the PDSS in postpartum women. The studies included in the IPD meta-analysis were published prior to the 2019 evidence summary. No evidence was found on the optimum screening time point. Overall, the volume and type of evidence is insufficient to justify commissioning an evidence summary for this question.

Question 3: What is the volume and type of evidence on the benefits of pharmacological and non-pharmacological intervention (alone or in combination) in women with screen-detected common mental health conditions during pregnancy?

The 2019 evidence summary [5] identified a large volume of evidence describing interventions for common mental health conditions during pregnancy. However, only 1 systematic review and 2 primary studies were identified that were explicitly focused on screen-detected populations, with studies including between 25 and 149 women. The mental health conditions covered in these studies were antenatal depression and post-traumatic stress disorder and the interventions were cognitive behavioural therapy (CBT), a psychoeducational intervention and a collaborative intervention (MOMCare) combining pharmacological and non-pharmacological interventions. No studies about the use of pharmacological interventions in pregnant women that were known to have been screen-detected were identified.

The searches for this evidence map returned 15 primary studies reporting outcomes for pregnant women with common mental health conditions who were screen-detected. Of these, 14 were randomised controlled trials (RCTs) and one was a prospective cohort study. Due to the overall volume of evidence identified, studies were only selected for further consideration if it was clear from the abstract that the population was screen-detected or if the abstract contained sufficient information to suspect that the population might be screen-detected and this was then confirmed on checking the full paper.

As a large number of studies in screen-detected women were identified, 9 selected key studies are featured in this evidence map to summarise the type of evidence available. These 9 key studies are summarised below and an abstract summary for each study is provided in Appendix 2. Other studies in screen-detected women identified are briefly described in the text below but do not have abstract summaries in the Appendix as these additional studies did not fully meet the inclusion criteria.

A small number of RCTs in screen detected populations were not selected for inclusion in the evidence map because they were pilot studies with less than 50 participants and/or were focused on the feasibility of conducting a larger RCT.

Key studies of screen-detected women

Non-pharmacological interventions

Eight RCTs and 1 prospective cohort study investigated non-pharmacological interventions for between 54 and 460 pregnant women with screen-detected depression and/or anxiety. The prospective cohort study included 8,816 pregnant women with screen-detected depression. The screening tool used in 7 of these studies was the EPDS with a cut-off for a positive screen of between ≥9 to >12. One study used the PHQ-9 screening tool (cut-off not stated), 1 study used the GAD-7 scale with a cut-off of ≥ 7 and 2 studies used the State-Trait Anxiety Inventory with a cut-off of >39 or ≥ 42 respectively.

One study was conducted in the UK, 2 in the USA, 2 in Spain and 1 each for Germany, the Czech Republic, Australia and the Netherlands.

The interventions in these studies were:

- CBT (8 sessions and 10 to 14 sessions in 2 studies respectively)
- group sessions led by a midwife and psychological therapist using CBT principles (3 sessions)
- a 12-week eHealth programme
- an 8-week electronic mindfulness-based intervention
- telephone-based peer support intervention (duration as required)
- a 6-week immersive virtual reality eHealth intervention
- 8 weeks of interdisciplinary online therapeutic groups and mental health counselling (between 1 and ≥ 4 sessions)

The comparator in these studies was described as usual care or treatment as usual. It was not always clear what this entailed, and this is likely to differ between studies and countries.

Five studies included only maternal outcomes, assessed after the intervention or up to approximately 6 months postpartum. Four studies reported maternal and/or baby/child outcomes up to 5 years after birth. The outcomes reported related to:

- danger to self or infant (1 study)
- maternal depression and/or anxiety (7 studies)
- quality of life (4 studies)
- mother-infant interaction (2 studies)
- adherence to treatment (5 studies)
- birth weight and gestational age (1 study)
- child emotional and behavioural adjustment (2 studies)
- child social development (1 study)
- child cognitive development (3 studies)

All of the studies described below are RCTs with the exception of 1 prospective cohort study (Li et al. 2025 [19]) which was selected as a key study as it reported outcomes from a universal screening programme and included a large number of participants.

Five studies reported maternal outcomes only:

- Danaher et al. 2023 [20] investigated the effectiveness of an eHealth programme (MomMoodBooster2) plus usual care compared to usual care alone for 95 pregnant women and 96 postpartum women who screened positive for depression. Results were not separately reported for pregnant and postpartum women. The authors reported significant improvements after 12-weeks in both groups, with greater decreases in depression severity and stress for the intervention group relative to usual care. The authors also reported that 99% of women visited programme sessions and 49% viewed all 6 of the programme sessions

- Hassdenteufel et al. 2023 [21] compared an 8-week electronic mindfulness-based intervention to usual care in 460 pregnant women in Germany who screened positive for emotional distress. The authors reported mixed results, stating that the intervention could not prevent maternal depression and general anxiety but can improve pregnancy- and birth-related anxiety and improve mindfulness scores
- Horakova et al. 2024 [22] compared telephone-based peer support (Mom Supports Mom) plus usual care to usual care alone for 167 Czech pregnant women who screened positive for depression. The authors reported that maternal anxiety and stress were reduced after 1 month with the intervention but there was no reduction in depression
- Jimenez-Barragan et al. 2025 [23] investigated the effectiveness of a 6-week immersive virtual reality eHealth mindfulness and relaxation intervention compared to usual care in 70 pregnant women in Spain who screened positive for depression. The authors reported improvements in depression and anxiety in the intervention group after 6 weeks but not in the comparator group. The authors also reported that 79% of women completed at least 30 of the daily sessions
- O'Mahen et al. 2022 [24] compared group sessions led by a midwife and psychological therapist (ACORN) plus usual care to usual care alone for 114 pregnant women in the UK who screened positive for anxiety. The authors reported that 77% of women attended at least 1 of the 3 sessions and 51% attended 2 or more sessions. The authors reported a decrease in anxiety for both groups. The improvement was greater in the intervention group period than the comparator group across the 34 week follow-up but the difference between the groups was not significant.

Four studies reported maternal and/or baby/child outcomes:

- Bleker et al. 2020 [25] reported outcomes for 24 children, 5 years after an RCT that compared CBT to usual care in 54 pregnant women with depression in Australia. The initial recruitment of pregnant women was via screening programmes and healthcare services. The authors reported some differences in neurobiological outcomes favouring the intervention group but did not find any differences between the groups in child behaviour or cognition
- Burger et al. 2020 [26] investigated the effectiveness of prenatally initiated CBT compared to usual care in 282 pregnant women in the Netherlands who screened positive for symptoms of depression and/or anxiety. The authors reported that about two thirds of participants completed the study and found that the intervention did not improve maternal symptoms or child outcomes up to 18 months after birth among "*non-help seeking women with antenatal depression or anxiety*"
- Gomà et al. 2024 [27] compared interdisciplinary online therapeutic groups to usual care for 72 pregnant women and new mothers in Spain who screened positive for anxiety and/or depression. Results were not separately reported for pregnant and postpartum women. The authors reported a significant decrease in anxiety and depression symptomology 6 months after the intervention compared to usual care and significantly better outcomes at the babies' development assessment for the intervention group. The authors also reported that women attended between 5 and 8 of the 8 sessions

- A prospective cohort study by Li et al. 2025 [19] reported risk of preterm birth following mental health counselling compared to no treatment using data from a universal antenatal depression screening programme in the USA. Women with depression who received any mental health counselling (n=5,100) had an 18% reduced risk of preterm birth relative to women with untreated depression (n=3,716). An increased number of counselling visits was associated with a greater reduction in preterm birth (a 43% reduction with 4 or more visits).

No studies were identified that reported outcomes for adolescents.

Pharmacological interventions

One study on pharmacological interventions in screen-detected women was identified for inclusion:

- The prospective cohort study by Li et al. 2025 [19] described above, also reported risk of preterm birth with anti-depressant use compared to no treatment. Women with depression who received anti-depressants (n=1,171) had an 31% increased risk of preterm birth relative to women with untreated depression (n=3,716). The authors reported a dose-response relationship with duration of use from "*little increased risk of preterm delivery for a cumulative use for less than 60 days, to 32% increased risk for 60 to 120 days of use, to 64% increased risk for more than 120 days of use*".

Other studies of screen-detected pregnant women

Additional studies where the population was screen-detected pregnant women were identified. These are briefly described below but were not fully included in the evidence map due to reservations about their match to the map inclusion criteria and their applicability to screening for common mental health conditions in the UK.

Four RCTs appeared to be comparing 2 active interventions rather than comparing an intervention to usual care or no active intervention:

- Byatt et al. 2024 [28] compared the Massachusetts Child Psychiatry Access Program for Moms to the Program In Support of Moms for 312 pregnant women in the USA who had screened positive for depression. The authors concluded that both programmes were equally effective in improving depression symptoms. A secondary analysis of data from this RCT (Zimmermann et al. 2024) [29] focused on a sub-set of women with co-occurring symptoms of depression, generalised anxiety disorder or post-traumatic stress disorder

- Elansary et al. 2023 [30] compared engagement-focused care co-ordination to problem-solving education (a cognitive behavioural programme) in 230 pregnant women in the USA who had screened positive for depression. The authors reported improvements in depression and anxiety symptom burden for both interventions over 12 months with no differences between the groups

- Evans et al. 2021 [31] compared 6 sessions of interpersonal counselling (IPC) to low intensity perinatal specific CBT for 52 pregnant women in the UK who screened positive for depression. The authors reported that 71% of women completed IPC and that there was a similar improvement in mood in both the intervention and comparator groups

- Hankin et al. 2023 [32] compared 8 sessions of interpersonal psychotherapy to enhanced usual care (engagement and maternity support services) for 234 pregnant women in the USA who screened positive for depression. The authors reported that the interpersonal psychotherapy reduced maternal depression symptoms and major depressive disorder during pregnancy.

Two RCTs appeared to be less applicable to screening for common mental health conditions in the UK in addition to some reservations about the comparator reported:

- Gennaro et al. 2024 [33] considered the effectiveness of a CBT-based intervention compared to receipt of health promotion content for 299 pregnant women in the USA who were from Black or Hispanic ethnic groups and who had screened "*high*" on 1 of 3 mental health measures. The authors reported that both interventions improved anxiety, depression and stress from baseline to the end of the intervention
- Oxford et al. 2021 [34] and Oxford et al. 2023 [35] compared a 10-week home visiting programme with video feedback (Promoting First Relationships) to receipt of a resource packet (information on child development, parenting and brochures from a variety of local resources) for 252 pregnant women in the USA who initiated treatment after mental health screening for depression anxiety and post-traumatic stress disorder. The study was described as "*involving populations experiencing adversity*". The authors reported improved behavioural outcomes for infants at 12 months old with the intervention.

Summary

Eight RCTs reporting outcomes of non-pharmacological interventions for screen-detected pregnant women were included for this question, along with 1 prospective cohort study that reported outcomes for both pharmacological and non-pharmacological intervention for screen-detected pregnant women. These women were screened for depression and/or anxiety. No studies were identified considering the effectiveness of women with screen-detected panic disorder, phobias, social anxiety disorder, obsessive-compulsive disease or post-traumatic stress disorder.

One RCT was conducted in the UK with the remainder conducted in countries that are comparable to the UK. The studies covered a variety of different interventions with most authors claiming some improvement with interventions relative to usual care and others reporting more mixed results. Most of the outcomes reported related to the mother however, longer term outcomes for the baby and child were also identified. No studies reported outcomes for adolescents.

The volume of evidence identified for this question is sufficient for further consideration in an evidence summary. However, it is uncertain whether the type of evidence identified is likely to lead to a change in the UK NSC's current position.

Question 4: What is the volume and type of evidence on the benefits of early pharmacological and non-pharmacological intervention (alone or in combination) in women with screen-detected postnatal depression?

The 2019 evidence summary [5] identified a large volume of evidence describing interventions for postpartum women with depression. One systematic review was identified that focused on studies on screen-detected women, with the number of participants in the included studies ranging from 37 to 192. This systematic review covered the use of CBT, interpersonal therapy and fluoxetine in women with postnatal depression. No other studies about the use of pharmacological or non-pharmacological interventions in women with screen-detected postnatal depression were identified.

The searches for this evidence map returned 7 studies reporting outcomes for women with postnatal depression who were screen-detected. Due to the overall volume of evidence identified, studies were only selected for further consideration if it was clear from the abstract that the population was screen-detected or if the abstract contained sufficient information to suspect that the population might be screen-detected and this was then confirmed on checking the full paper.

Six of the 7 studies identified were selected as key studies for inclusion. These 6 key studies are summarised below and an abstract summary for each of the studies is provided in Appendix 2. The additional study in screen-detected women identified is briefly described in the text below but does not have an abstract summary in the Appendix as it did not fully meet the criteria for inclusion.

A small number of RCTs in screen detected populations were not selected for inclusion in the evidence map because they were pilot studies with less than 50 participants and/or were focused on the feasibility of conducting a larger RCT.

Key studies of screen-detected women

Non-pharmacological interventions

Six RCTs investigated non-pharmacological interventions for between 72 and 732 women with screen-detected postnatal depression. The screening tool used in 4 of these studies was the EPDS with a cut-off for a positive screen of between ≥ 9 to ≥ 10. Two studies used the PHQ-9 screening tool with a cut-off of ≥ 10 or the PHQ-2 screening tool with a cut-off of ≥ 3. Screening took place at up to 2 months after birth in 2 studies, up to 6 months after birth in 2 studies and up to 12 months after birth in 2 studies.

One study was conducted in the UK, 3 in the USA, 1 in Spain and 1 in Denmark.

The interventions in these studies were:

- a 4-month group CBT based programme
- 8 weeks of interdisciplinary online therapeutic groups
- 10-sessions of psychoeducational support
- a 12-week eHealth programme

- a 5-session home visitation programme
- an eHealth physical activity programme (a library of workout videos).

The comparator in these studies was described as usual care or treatment as usual. It was not always clear what this entailed, and this is likely to differ between studies and countries.

Four studies reported only maternal outcomes and two studies reported maternal and/or baby/child outcomes. Outcomes were assessed after the intervention and/or up to 12 months after randomisation.

The outcomes reported related to:

- maternal depression and/or anxiety (5 studies)
- quality of life (4 studies)
- mother-infant interaction (2 studies)
- adherence to treatment (5 studies)
- child social development (2 studies)
- child cognitive development (2 studies).

All of the studies described below are RCTs.

Four studies reported maternal outcomes only:

- The study by Danaher et al. 2023 [20], also reported in question 3, investigating the effectiveness of an eHealth programme (MomMoodBooster2) plus usual care compared to usual care alone included 95 pregnant women and 96 postpartum women who screened positive for depression and did not report separate outcomes for postpartum women. The authors reported significant improvements for both the intervention and comparator groups after 12-weeks, with greater decreases in depression severity and stress for the intervention group. 99% of women visited programme sessions and 49% viewed all 6 of the programme sessions
- Husain et al. 2024 [36] compared a culturally-adapted group CBT intervention (the Positive Health Programme) plus usual care to usual care alone for 732 British South Asian women who screened positive for postnatal depression. The authors reported that a significantly higher proportion of women showed recovery from depression after the 4 month intervention compared to usual care, but there was no difference between the groups at 12 months follow-up
- Stuart et al. 2025 [37] compared a psychoeducational intervention (Circle of Security Parenting™) plus usual care to usual care alone in 297 women in Denmark. The majority (94%) of women screening positive for postnatal depression with the remaining women eligible because the infant screened positive for social withdrawal. The authors reported no difference between the groups for any of the outcomes assessed (quality of life and mother-infant interaction) at an average of 7 months after the intervention. The authors also reported dropout of 15% for the intervention and 31% for usual care
- Van Horne et al. 2022 [38] investigated the effectiveness of a home visitation programme using problem-solving tools compared to usual care for 118 women in the USA who

screened positive for postnatal depression. The authors reported that both groups showed significant decreases in postnatal depression symptoms at 6 months postpartum with no difference between the groups. The authors also reported that 96% of the intervention group attended the first visit with 54% completing the 5-visit programme.

Two studies reported maternal and/or baby/child outcomes:

- Badon et al. 2025 [39] compared an eHealth physical activity intervention plus usual care to usual care alone for 99 women in the USA who were identified from a database containing the results of universal screening for postnatal depression conducted as part of routine care. The authors reported no association between the intervention and change in depressive symptoms at 3 or 6 months follow-up. There was also no association between the intervention and infant bonding or development. The authors reported that engagement with the intervention was sub-optimal
- The study by Gomà et al. 2024 [27], also reported in question 3, comparing interdisciplinary online therapeutic groups to usual care for 72 pregnant women and new mothers in Spain who screened positive for anxiety and/or depression did not separately report outcomes for pregnant and postpartum women. The authors reported that the intervention group had a significant decrease in anxiety and depression symptomology after 6 months and significantly better outcomes at the babies' development assessment. Women attended between 5 and 8 of the 8 sessions.

No studies were identified that reported outcomes for adolescents.

Pharmacological interventions

Systematic reviews and RCTs about pharmacological interventions for women with postnatal depression were identified. However, there was no indication that these studies included women who were screen-detected. Therefore, there were no studies for well recognised pharmacological interventions for postnatal depression that met the inclusion criteria.

Other studies of postnatal screen-detected women

One RCT appeared to be comparing 2 active interventions rather than comparing an intervention to usual care or no active intervention and therefore did not fully meet the map inclusion criteria:

- Jidong et al. 2024 [40] compared online Learning Through Play plus culturally-adapted CBT to psychoeducation for 130 British mothers of African/Caribbean origin who screened positive for postnatal depression. The authors reported that the reduction in postnatal depression was higher for the CBT group and that anxiety reduced in both groups.

Other studies about intervention for perinatal women following screening

One systematic review and 1 meta-analysis were identified about whether women accepted mental health interventions offered following screening, and about whether interventions for women who screened positive as part of a screening programme were effective.

- Han et al. 2024 [41] reported the pooled uptake of interventions among women who screened positive for perinatal depression based on a systematic review of studies published up to May 2023. They identified 41 studies with an overall uptake rate of 55% (95% CI 43 to 67). This rose to 57% (95% CI 50 to 65) in subgroup analysis limited to high-income countries. The authors stated that they could not adequately explain the source of heterogeneity between studies because there were too many mediating variables
- Waqas et al. 2022 [42] investigated whether screening programmes for perinatal depression and anxiety compared to no screening improve mental health and infant outcomes. The authors searched for evidence published up to December 2019 for women screened during the antenatal period or up until 12 months postpartum. The meta-analyses found that screening was associated with a positive impact for the intervention group on depression (odds ratio 0.55, 95% CI 0.45 to 0.66, I^2 = 39.75%) based on moderate quality evidence from 9 studies. There was high quality evidence from 3 studies for a significant improvement on symptoms of anxiety (standardised mean difference (SMD) -0.18, 95% CI -0.25 to -0.12, I^2 = 0%). The authors reported differing results for quality of life based on 3 studies, with an improvement with screening for the mental component of the Short-Form quality of life scale (SMD 0.20, 95% CI 0.14 to 0.27, I^2 = 37.80%) but no improvement for the physical component (SMD -0.03, 95% CI -0.23 to 0.17, I^2 = 0%). For outcomes relating to infants, there was evidence from 3 studies for a "*weak improvement*" in child socio-emotional development (SMD -0.10, 95% CI -0.16 to -0.04, I^2 = 0%) but no improvement in physical development (SMD 0.09, 95% CI -0.02 to 0.19, I^2 = 0%).

Summary

Six RCTs reporting outcomes of non-pharmacological interventions for screen-detected women with postnatal depression were included for this question. No studies were identified that reported outcomes for screen-detected women with postnatal depression following treatment with well recognised pharmacological interventions.

One RCT was conducted in the UK with the remainder conducted in countries that are comparable to the UK. The studies covered a variety of different interventions with some authors claiming some improvement with interventions relative to usual care and others reporting more mixed or less promising results. Most of the outcomes reported related to the mother however, longer term outcomes for the baby and child were also identified. No studies reported outcomes for adolescents.

The volume of evidence identified for this question is sufficient for further consideration in an evidence summary. However, it is uncertain whether the type of evidence identified is likely to lead to a change in the UK NSC's current position.

Question 5: Is there evidence that clinical detection and management are currently well implemented in the UK?

Sub-question: Is there evidence on what is the proportion of such conditions that remain undiagnosed?

The 2019 evidence summary [5] included 6 papers about the clinical detection and management of mental health conditions in the UK. These provided evidence about the proportion of mental health conditions detected in pregnancy and the postpartum period, the proportion of women asked questions about their mental health according to guidance, the proportion of women referred for intervention and user experiences. The 2019 evidence summary concluded that overall, the clinical detection and management of antenatal and postpartum mental health conditions was not effectively implemented in the areas of the UK where the included studies were carried out, although the picture across the whole of the UK was less clear. Most women were likely to be asked about their mental health, but actions to address those conditions, by onward referral, support, advice and treatment was variable.

The current evidence map identified no new evidence about whether the clinical detection and management of mental health conditions is currently well implemented in the UK in terms of the proportion of mental health conditions detected, the proportion of women referred for intervention and the proportion of women attending/complying with intervention. There was also no new evidence identified in the proportion of mental health conditions that remain undiagnosed. The searches did return 5 publications on user experiences of services, 1 of which provided some information about whether women were asked about their mental health and referral practices. These are briefly summarised below. Abstract reporting tables have not been completed for these publications as they do not fully address the map question.

User experiences

One UK publication provided some information about women's experiences of being asked about their mental health and referral to services.

Martin-Key et al. 2021 [43] surveyed 829 women, 103 partners and 90 midwives about the current state of perinatal mental health care provision in the UK as part of a study to explore views about the development and implementation of digital mental health assessment. Participants were recruited between April and August 2020 from across the UK. The women were either planning or trying to conceive (n=76), currently pregnant (n=259) or had given birth within the last 2 years (n=494). The authors reported that:

- 85% of women had been asked about mental health during pregnancy
- 92% of women had been asked about their mental health after birth
- 62% of women had experienced mental health symptoms during pregnancy and/or after delivery with 14% being diagnosed with a mental health condition by a healthcare professional during the perinatal period. Over half of these women (55%) reported having the condition before they became pregnant
- 78% of women had referred themselves to a mental health specialist, 8% were encouraged to seek help by their family and 14% of women were referred by a healthcare professional involved in their antenatal or postnatal care.

Four UK publications reported user views of perinatal mental health services.

Two studies conducted interviews with women about their experiences of care:

- Fisher et al. 2024 [44] interviewed 139 women recruited between April 2020 and June 2021 from 10 different community perinatal mental health teams in England. These interviews focused on how elements of provider care affected women's engagement with services
- Meades et al. 2024 [45] interviewed 60 women recruited between August 2022 and March 2023 across England and Scotland. These interviews explored women's views on the acceptability of how their anxiety was identified and managed by healthcare professionals and how services could be improved.

One study explored the views of both women and healthcare professionals:

- Darwin et al. 2022 [46] interviewed 19 women from ethnic minority and/or socio-economically deprived backgrounds, 12 people from the voluntary and community sector workforce and surveyed 145 NHS healthcare professionals. All participants were based in Northern England. Study dates were not specified but data collection took place whilst social distancing restrictions were in place due to the COVID-19 pandemic. This study aimed to understand the key factors that enable and hinder access to services for women from minoritised groups who had experienced perinatal mental health difficulties.

One study explored the views of healthcare professionals:

- Baker et al. 2020 [47] conducted focus groups with 9 community midwives from 1 hospital in the South of England about barriers and facilitators to screening for mental health in pregnancy. Issues identified included workload, continuity, trust and uncertainty about women's willingness to disclose mental health conditions

Summary

In summary, no new evidence was identified to determine whether the clinical detection and management of mental health conditions is currently well implemented in the UK. The evidence identified was limited to experiences of services for small numbers of individuals. The search period for this evidence map (2018 to 2025) includes the years in which the COVID-19 pandemic impacted the delivery of services. This may be a factor in the lack of studies about the implementation of services identified for inclusion in the evidence map.

There is an insufficient volume and type of evidence to justify commissioning an evidence summary for this question.

Conclusions

The volume of new evidence identified for the questions relating to screening tools to detect common mental health conditions during pregnancy and interventions for screen-detected mental health conditions in pregnancy and postpartum is sufficient for further consideration in an evidence summary. However, it is unclear that the type of evidence available is likely to impact on current recommendations on screening for antenatal and postnatal depression. In contrast, the volume of new evidence relating to the accuracy of screening tools for postnatal depression was limited and no new evidence about whether the clinical detection and management of mental health conditions is currently well implemented in the UK was identified. With this in mind, it is uncertain that commissioning a full, more sustained review of screening for antenatal and postnatal depression would be justified at the current time.

Recommendations

On the basis of this evidence map, the volume and type of evidence relating to screening for antenatal and postnatal depression is currently insufficient to justify an update review at this stage and so should be re-considered in 3-years' time.

Appendix 1 — Search strategy for the evidence map

The searches were conducted on 10 and 11 June 2025.

Databases and platforms searched

Medline, Embase, PsycINFO, the Cochrane Library, the Health Technology Appraisal database and the TRIPdatabase.

Search dates

February 2018 to July 2025

Search strategies

Medline search strategy for questions 1 and 2

Systematic Reviews

1. Mental Disorders/ - 187522
2. exp Anxiety Disorders/ or Anxiety/ - 202844
3. exp Depressive Disorder/ or Depression/ - 282727
4. exp Stress Disorders, Traumatic/ - 50821
5. Persons with Psychiatric Disorders/ - 6482
6. 1 or 2 or 3 or 4 or 5 - 630392
7. Pregnancy/ - 1044646
8. Pregnant People/ - 16875
9. exp Pregnancy Complications/ - 500409
10. perinatal care/ or postnatal care/ or prenatal care/ - 44886
11. 7 or 8 or 9 or 10 - 1087410
12. 6 and 11 - 25780
13. ((pregnan* or prenatal* or pre-natal* or antenatal* or ante-natal* or antepart* or ante-part* or perinat* or peri-nat* or peripart* or peri-part* or postnatal* or post-natal* or post-part* or post-part* or puerper* or maternal) and (depress* or anxiety or anxious or obsessive compulsive or mental* or psychiatr* or panic or phobia or psychos?s or psychotic* or trauma* stress or posttraumatic stress or distress or mood? or dysythm* or ptsd or ptdd)).ti. - 22213
14. Depression, Postpartum/ - 8627
15. 12 or 13 or 14 - 34648
16. Mass Screening/ - 122041
17. exp Anxiety Disorders/di and (screen* or detect*).mp. - 2740
18. exp Depressive Disorder/di and (screen* or detect*).mp.- 6239

19. exp Stress Disorders, Traumatic/di and (screen* or detect*).mp.- 2040
20. (screen* or detect*).ti,kf.- 805697
21. case finding.ti,ab,kf. - 6503
22. ((anxiet* or depress* or phobia* or panic* or dysythm* or mood? or stress* or mental* or psycholog*) adj5 (screen* or detect*)).ab. - 39235
23. ((Generali?ed Anxiety Disorder adj2 (scale? or question* or index* or instrument* or tool*)) or (gad-2 or gad2 or gad-7 or gad7)).ti,ab,kf. and (screen* or detect*).mp. - 1612
24. (("Hospital Anxiety and Depression" adj2 (scale? or question* or index* or instrument* or tool*)) or hads).ti,ab,kf. and (screen* or detect*).mp. - 2921
25. (whooley adj2 (scale? or question* or index* or instrument* or tool*)).ti,ab,kf. and (screen* or detect*).mp. - 41
26. (Prenatal Distress Questionnaire or pdq-9 or pdq9).ti,ab,kf. - 56
27. (Edinburgh Postnatal Depression Scale or EPDS).ti,ab,kf. and (screen* or detect*).mp. - 1925
28. ("Beck Depression Inventory II" or "Beck Depression Inventory 2" or BDI-II or BDIII or BDI-2 or BDI2).ti,ab,kf. and (screen* or detect*).mp. - 822
29. (Postpartum Depression Screening Scale or pdss).ti,ab,kf. - 892
30. (Patient Health Questionnaire or phq-9 or phq9).ti,ab,kf. and (screen* or detect*).mp. - 4773
31. 31. (general health questionnaire or ghq).ti,ab,kf. and (screen* or detect*).mp. - 1383
32. 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 - 897748
33. 15 and 32 - 4483
34. (meta-analysis or scoping review or systematic review).pt. or (meta-analysis or metaanalysis or systematic review or scoping review).ti,kf. - 524148
35. 33 and 34 - 231
36. limit 35 to (english language and yr="2018 -Current") - 172

Diagnostic Test Assessment Studies

1. Mental Disorders/ - 187522
2. exp Anxiety Disorders/ or Anxiety/ - 202844
3. exp Depressive Disorder/ or Depression/ - 282727
4. exp Stress Disorders, Traumatic/ - 50821
5. Persons with Psychiatric Disorders/ - 6482
6. 1 or 2 or 3 or 4 or 5 - 630392
7. Pregnancy/ - 1044646
8. Pregnant People/ - 16875
9. exp Pregnancy Complications/ - 500409
10. perinatal care/ or postnatal care/ or prenatal care/ - 44886
11. 7 or 8 or 9 or 10 - 1087410
12. 6 and 11 - 25780

13. ((pregnan* or prenatal* or pre-natal* or antenatal* or ante-natal* or antepart* or ante-part* or perinat* or peri-nat* or peripart* or peri-part* or postnatal* or post-natal* or post-part* or post-part* or puerper* or maternal) and (depress* or anxiety or anxious or obsessive compulsive or mental* or psychiatr* or panic or phobia or psychos?s or psychotic* or trauma* stress or posttraumatic stress or distress or mood? or dysythm* or ptsd or ptdd)).ti. - 22213
14. Depression, Postpartum/ - 8627
15. 12 or 13 or 14 - 34648
16. Mass Screening/ - 122041
17. exp Anxiety Disorders/di and (screen* or detect*).mp. - 2740
18. exp Depressive Disorder/di and (screen* or detect*).mp. 6239
19. exp Stress Disorders, Traumatic/di and (screen* or detect*).mp. - 2040
20. (screen* or detect*).ti,kf. - 805697
21. case finding.ti,ab,kf. - 6503
22. ((anxiet* or depress* or phobia* or panic* or dysythm* or mood? or stress* or mental* or psycholog*) adj5 (screen* or detect*)).ab. - 39235
23. ((Generali?ed Anxiety Disorder adj2 (scale? or question* or index* or instrument* or tool*)) or (gad-2 or gad2 or gad-7 or gad7)).ti,ab,kf. and (screen* or detect*).mp. - 1612
24. (("Hospital Anxiety and Depression" adj2 (scale? or question* or index* or instrument* or tool*)) or hads).ti,ab,kf. and (screen* or detect*).mp. 2921
25. (whooley adj2 (scale? or question* or index* or instrument* or tool*)).ti,ab,kf. and (screen* or detect*).mp. 41
26. (Prenatal Distress Questionnaire or pdq-9 or pdq9).ti,ab,kf. - 56
27. (Edinburgh Postnatal Depression Scale or EPDS).ti,ab,kf. and (screen* or detect*).mp. - 1925
28. ("Beck Depression Inventory II" or "Beck Depression Inventory 2" or BDI-II or BDIII or BDI-2 or BDI2).ti,ab,kf. and (screen* or detect*).mp. - 822
29. (Postpartum Depression Screening Scale or pdss).ti,ab,kf. - 892
30. (Patient Health Questionnaire or phq-9 or phq9).ti,ab,kf. and (screen* or detect*).mp. - 4773
31. (general health questionnaire or ghq).ti,ab,kf. and (screen* or detect*).mp. - 1383
32. 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 - 897748
33. 15 and 32 - 4483
34. reproducibility of results/ or exp "sensitivity and specificity"/ - 1028200
35. (accura* or performan* or valid*).ti,kf. or ((diagnos* or screen* or test*) adj2 (accura* or perform* or valid*)).ab. or (sensitiv* or specific* or precision or prediction or predictive value or ppv or npv or false positive? or false negative? or roc or Receiver Operating Characteristic or auc or "Area Under the Curve" or likelihood?).ti,ab,kf. - 6948363
36. 34 or 35 - 7383653
37. 33 and 36 - 1386
38. afghanistan/ or exp africa/ or albania/ or andorra/ or antarctic regions/ or argentina/ or exp asia, central/ or exp asia, northern/ or exp asia, southeastern/ or exp atlantic is-

lands/ or bahrain/ or bangladesh/ or bhutan/ or bolivia/ or borneo/ or "bosnia and herzegovina"/ or brazil/ or bulgaria/ or exp central america/ or exp china/ or colombia/ or "commonwealth of independent states"/ or croatia/ or "democratic people's republic of korea"/ or ecuador/ or gibraltar/ or guyana/ or exp india/ or indonesia/ or iran/ or iraq/ or jordan/ or kosovo/ or kuwait/ or lebanon/ or liechtenstein/ or macau/ or "macedonia (republic)"/ or exp melanesia/ or moldova/ or monaco/ or mongolia/ or montenegro/ or nepal/ or netherlands antilles/ or new guinea/ or oman/ or pakistan/ or paraguay/ or peru/ or philippines/ or qatar/ or "republic of belarus"/ or romania/ or exp russia/ or saudi arabia/ or serbia/ or sri lanka/ or suriname/ or syria/ or taiwan/ or exp transcaucasia/ or ukraine/ or uruguay/ or united arab emirates/ or exp ussr/ or venezuela/ or yemen/ - 1492018

39. organisation for economic co-operation and development/ - 685
40. australasia/ or exp australia/ or austria/ or exp baltic states/ or belgium/ or exp canada/ or chile/ or czech republic/ or europe/ or exp france/ or exp germany/ or greece/ or hungary/ or ireland/ or israel/ or exp italy/ or exp japan/ or korea/ or luxembourg/ or mexico/ or netherlands/ or new zealand/ or north america/ or poland/ or portugal/ or exp "republic of korea"/ or exp "scandinavian and nordic countries"/ or slovakia/ or slovenia/ or spain/ or switzerland/ or turkey/ or exp united kingdom/ or exp united states/ - 3667842
41. european union/ - 18538
42. developed countries/ - 21842
43. 39 or 40 or 41 or 42 - 3684812
44. 38 not 43 - 1395942
45. 37 not 44 - 1180
46. (comment or editorial or letter or news or preprint or review).pt. - 5955784
47. 45 not 46 -1068
48. (baboon$1 or bovine$1 or canine$1 or cat$1 or chimpanzee$1 or cow$1 or dog$1 or feline$1 or goat$1 or hens or macque$1 or mice or monkey$1 or mouse or murine$1 or ovine or pig$1 or porcine or (non-human adj2 primate$1) or sheep or rabbit$1 or rat or rats or rattus or rhesus or rodent$1 or zebrafish).ti. - 2448032
49. 47 not 48 - 1066
50. limit 49 to (english language and yr="2018 -Current") – 536

Medline search for questions 3 and 4

1. Mental Disorders/ - 187549
2. exp Anxiety Disorders/ or Anxiety/ - 202877
3. exp Depressive Disorder/ or Depression/ - 282788
4. exp Stress Disorders, Traumatic/ - 50827
5. Persons with Psychiatric Disorders/ - 6482
6. 1 or 2 or 3 or 4 or 5 - 630497
7. Pregnancy/ - 1044769
8. Pregnant People/ - 16881
9. exp Pregnancy Complications/ - 500469
10. perinatal care/ or postnatal care/ or prenatal care/ - 44890

11. 7 or 8 or 9 or 10 - 1087536
12. 6 and 11 - 25789
13. ((pregnan* or prenatal* or pre-natal* or antenatal* or ante-natal* or antepart* or ante-part* or perinat* or peri-nat* or peripart* or peri-part* or postnatal* or post-natal* or postpart* or post-part* or puerper* or maternal) and (depress* or anxiety or anxious or obsessive compulsive or mental* or psychiatr* or panic or phobia or psychos?s or psychotic* or trauma* stress or posttraumatic stress or distress or mood? or dysythm* or ptsd or ptdd)).ti. - 22218
14. Depression, Postpartum/ - 8632
15. 12 or 13 or 14 - 34656
16. Mental Disorders/dh, dt, pc, th - 61689
17. exp Anxiety Disorders/dh, dt, pc, th - 30645
18. exp Depressive Disorder/dh, dt, pc, th - 53608
19. exp Stress Disorders, Traumatic/dh, dt, pc, th - 13513
20. exp Psychotropic Drugs/ - 409028
21. exp Mental Health Services/ - 111262
22. exp Psychotherapy/ - 232752
23. exp Telemedicine/ or Mobile Applications/ or exp Internet/ or exp Cell Phone/ or exp Computers, Handheld/ or Medical Informatics Applications/ or Therapy, Computer-Assisted/ - 194605
24. exp Diet Therapy/ or exp Exercise Therapy/ - 136363
25. (treat* or therap* or pharmaco* or nonpharmaco* or manage*).ti,kf. - 3873137
26. (antidepress* or anti-depress* or antianxiet* or anti-anxiet* or psychotrop* or tranquili* or drug? or agent? or medication? or medicine?).ti,kf. - 1369499
27. (((antidepress* or anti-depress* or antianxiet* or anti-anxiet*) adj5 (treat* or therap* or manage* or drug? or agent? or medication? or medicine?)) or (antidepressant? or anti-depressant?)).ab. - 77635
28. (psychotherap* or counsel?ing or mindfulness or ((cognitive or behavio* or brief or group or family or psychological) adj2 (therap* or intervention?)) or cbt or iapt or talking therap* or ((non-pharmaco* or nonpharmaco*) adj2 (therap* or treatment or intervention?))).ti,ab,kf. - 389238
29. (((online or web* or internet or digital or virtual) adj5 (therap* or treatment or consult* or program* or intervention)) or (telemed* or tele-med* or telehealth or tele-health or telemental* or tele-mental* or telepsych* or tele-psych* or teletherap* or tele-therap* or teleconsult* or tele-consult*) or (app or apps or smartphone? or smart phone? or cellphone? or cell phone? or cellular phone? or mobile phone? or mobile health or mhealth or m-health) or (ehealth or e-health or digital health or online health or virtual health) or (web-based or internet based)).ti,ab,kf. - 252998
30. ((diet* or nutrition* or exercise or physical activity or lifestyle or life style) adj5 (therap* or treatment or consult* or program* or intervention)).ti,ab,kf. - 181590
31. or/16-30 - 6102233
32. 15 and 31 - 11048
33. exp randomized controlled trial/ - 643615
34. controlled clinical trial.pt. - 95722

35. randomized.ab. - 699873
36. placebo.ab. - 260225
37. drug therapy.fs. - 2831698
38. randomly.ab. - 464085
39. trial.ab. - 763953
40. groups.ab. - 2882356
41. 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 - 6346286
42. (baboon$1 or bovine$1 or canine$1 or cat$1 or chimpanzee$1 or cow$1 or dog$1 or feline$1 or goat$1 or hens or macque$1 or mice or monkey$1 or mouse or murine$1 or ovine or pig$1 or porcine or (non-human adj2 primate$1) or sheep or rabbit$1 or rat or rats or rattus or rhesus or rodent$1 or zebrafish).ti. - 2448225
43. (comment or editorial or letter or news or preprint or review).pt. - 5956861
44. 41 not (42 or 43) - 4987007
45. 32 and 44 - 4018
46. (meta-analysis or scoping review or systematic review).pt. or (meta-analysis or metaanalysis or systematic review or scoping review).ti,kf. 524458
47. 32 and 46 - 756
48. 45 or 47 - 4451
49. afghanistan/ or exp africa/ or albania/ or andorra/ or antarctic regions/ or argentina/ or exp asia, central/ or exp asia, northern/ or exp asia, southeastern/ or exp atlantic islands/ or bahrain/ or bangladesh/ or bhutan/ or bolivia/ or borneo/ or "bosnia and herzegovina"/ or brazil/ or bulgaria/ or exp central america/ or exp china/ or colombia/ or "commonwealth of independent states"/ or croatia/ or "democratic people's republic of korea"/ or ecuador/ or gibraltar/ or guyana/ or exp india/ or indonesia/ or iran/ or iraq/ or jordan/ or kosovo/ or kuwait/ or lebanon/ or liechtenstein/ or macau/ or "macedonia (republic)"/ or exp melanesia/ or moldova/ or monaco/ or mongolia/ or montenegro/ or nepal/ or netherlands antilles/ or new guinea/ or oman/ or pakistan/ or paraguay/ or peru/ or philippines/ or qatar/ or "republic of belarus"/ or romania/ or exp russia/ or saudi arabia/ or serbia/ or sri lanka/ or suriname/ or syria/ or taiwan/ or exp transcaucasia/ or ukraine/ or uruguay/ or united arab emirates/ or exp ussr/ or venezuela/ or yemen/ - 1492362
50. organisation for economic co-operation and development/ - 686
51. australasia/ or exp australia/ or austria/ or exp baltic states/ or belgium/ or exp canada/ or chile/ or czech republic/ or europe/ or exp france/ or exp germany/ or greece/ or hungary/ or ireland/ or israel/ or exp italy/ or exp japan/ or korea/ or luxembourg/ or mexico/ or netherlands/ or new zealand/ or north america/ or poland/ or portugal/ or exp "republic of korea"/ or exp "scandinavian and nordic countries"/ or slovakia/ or slovenia/ or spain/ or switzerland/ or turkey/ or exp united kingdom/ or exp united states/ - 3668305
52. european union/ - 18540
53. developed countries/ - 21842
54. 50 or 51 or 52 or 53 - 3685277
55. 49 not 54 - 1396274
56. 48 not 55 – 4161
57. limit 56 to (english language and yr="2018 -Current") - 1947

Medline search strategy for question 5

1. Mental Disorders/ - 187549
2. exp Anxiety Disorders/ or Anxiety/ - 202877
3. exp Depressive Disorder/ or Depression/ - 282788
4. exp Stress Disorders, Traumatic/ - 50827
5. Persons with Psychiatric Disorders/ - 6482
6. 1 or 2 or 3 or 4 or 5 - 630497
7. Pregnancy/ - 1044769
8. Pregnant People/ - 16881
9. exp Pregnancy Complications/ - 500469
10. perinatal care/ or postnatal care/ or prenatal care/ - 44890
11. 7 or 8 or 9 or 10 - 1087536
12. 6 and 11 - 25789
13. ((pregnan* or prenatal* or pre-natal* or antenatal* or ante-natal* or antepart* or ante-part* or perinat* or peri-nat* or peripart* or peri-part* or postnatal* or post-natal* or postpart* or post-part* or puerper* or maternal) and (depress* or anxiety or anxious or obsessive compulsive or mental* or psychiatr* or panic or phobia or psychos?s or psychotic* or trauma* stress or posttraumatic stress or distress or mood? or dysythm* or ptsd or ptdd)).ti. - 22218
14. Depression, Postpartum/ - 8632
15. 12 or 13 or 14 - 34656
16. Mass Screening/ - 122055
17. exp Anxiety Disorders/di and (screen* or detect*).mp. - 2741
18. exp Depressive Disorder/di and (screen* or detect*).mp. - 6240
19. exp Stress Disorders, Traumatic/di and (screen* or detect*).mp. - 2040
20. (screen* or detect*).ti,kf. - 805897
21. case finding.ti,ab,kf. - 6504
22. ((anxiet* or depress* or phobia* or panic* or dysythm* or mood? or stress* or mental* or psycholog*) adj5 (screen* or detect*)).ab. - 39247
23. ((Generali?ed Anxiety Disorder adj2 (scale? or question* or index* or instrument* or tool*)) or (gad-2 or gad2 or gad-7 or gad7)).ti,ab,kf. and (screen* or detect*).mp. - 1613
24. (("Hospital Anxiety and Depression" adj2 (scale? or question* or index* or instrument* or tool*)) or hads).ti,ab,kf. and (screen* or detect*).mp. - 2921
25. (whooley adj2 (scale? or question* or index* or instrument* or tool*)).ti,ab,kf. and (screen* or detect*).mp. - 41
26. (Prenatal Distress Questionnaire or pdq-9 or pdq9).ti,ab,kf. - 56
27. (Edinburgh Postnatal Depression Scale or EPDS).ti,ab,kf. and (screen* or detect*).mp. - 1927
28. ("Beck Depression Inventory II" or "Beck Depression Inventory 2" or BDI-II or BDIII or BDI-2 or BDI2).ti,ab,kf. and (screen* or detect*).mp. - 822
29. (Postpartum Depression Screening Scale or pdss).ti,ab,kf. - 892

30. (Patient Health Questionnaire or phq-9 or phq9).ti,ab,kf. and (screen* or detect*).mp. - 4775
31. (general health questionnaire or ghq).ti,ab,kf. and (screen* or detect*).mp. - 1383
32. 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 - 897966
33. 15 and 32 - 4484
34. exp United Kingdom/ - 406131
35. (uk or united kingdom or britain or (british not british columbia) or (england not new england) or (wales not new south wales) or scotland or northern ireland or nhs or national health service).ti,ab,kf. - 360752
36. 34 or 35 - 598303
37. 33 and 36 - 162
38. limit 37 to (english language and yr="2018 -Current") - 54

Numbers of results for each database and question if applicable

Medline: 2,709

Embase: 2,347

PsychINFO: 1,083

Cochrane Library: 3,549

TRIP database: 48

International Health Technology Assessment database: 12

Total: 9,748

After exclusion of duplicates:3,892

Inclusions and exclusions

Publications not in the English language or published prior to February 2018, case reports, conference abstracts, trial protocols and comment/editorials/letters were excluded.

A hierarchical approach was used for questions 1 and 2: studies in randomly assigned or consecutively enrolled populations and systematic reviews of these were prioritised in the reporting as these are more likely to justify the development of an evidence summary. Where none or few of these designs were found, other study designs were considered, for example case-control studies

Eligibility for inclusion in the map

Question 1: What is the volume and type of evidence on the reported accuracy of screening tools to detect common mental health conditions during pregnancy?

Note: The common mental disorders are defined by the NICE national clinical guideline on antenatal and postnatal mental health (CG 192) [4] and include; depression, generalised anxiety disorder (GAD), panic disorder, phobias, social anxiety disorder, obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD)

- population: Pregnant women without any previous clinical diagnosis of mental health conditions. Pregnant individuals with experience of miscarriage, a previous termination of pregnancy for medical reasons (fetal or maternal indicators), stillbirth and neonatal death and women under 18 years of age are excluded
- index test: Screening tools to detect mental health conditions during the pregnancy period, for example: Whooley questionnaire, the Hospital Anxiety and Depression Scales (HADS), or the Prenatal Distress Questionnaire (PHQ-9) Edinburgh Postnatal Depression Scale (EPDS), Beck Depression Inventory II (BDI-II), and Postpartum Depression Screening Scale (PDSS). Including methods recommended by the NICE CG 192
- reference standard: Diagnosis confirmed with clinical interview
- outcomes: Sensitivity, specificity, false positive rate, false negative rate, positive predictive value (PPV), negative predictive value (NPV)
- geographical focus: Studies from the UK prioritised and in the absence of such studies, others from the UK or those from comparable countries can be considered

Question 2: What is the volume and type of evidence on the reported accuracy of screening tools to detect postnatal depression?

Sub question: When is the optimum timing to perform the screening test?

- population: Postpartum women without previous clinical diagnosis of mental health conditions. Women with experience of miscarriage, stillbirth and neonatal death and women under 18 years of age are excluded
- index test: Tools in common use such as the General Health Questionnaire (GHQ), Beck Depression Inventory (BDI), Postpartum Depression Screening Scale (PDSS), Edinburgh Postnatal Depression Scale (EPDS)
- reference standard: Diagnosis conformed with clinical interview
- outcomes: Sensitivity, specificity, false positive rate, false negative rate, PPV/NPV
- geographical focus: Studies from the UK prioritised and in the absence of such studies, others from the UK or those from comparable countries can be considered

Question 3: What is the volume and type of evidence on the benefits of pharmacological and non-pharmacological intervention (alone or in combination) in women with screen-detected common mental health conditions during pregnancy?

- population: Pregnant women with screen detected common mental health conditions during pregnancy including: depression, generalised anxiety disorder (GAD), panic disorder, phobias, social anxiety disorder, obsessive-compulsive disorder (OCD), post-traumatic stress disorder (PTSD)
- intervention: Well recognised pharmacological and non-pharmacological interventions used in pregnancy

- comparator: Compared to usual care or placebo (for pharmacological) or no active intervention
- outcomes:
  - maternal: Danger to self or infant, increased risk of subsequent depression, puerperal psychosis (including schizophrenia, schizoaffective disorder and bipolar disorder), increased risk of subsequent anxiety disorders (including panic disorder, generalised anxiety disorder, obsessive-compulsive disorder, tokophobia, post-traumatic stress disorder), increased risk of subsequent personality disorders (including schizoid, avoidant, obsessive-compulsive, borderline), substance misuse (including drugs, alcohol and nicotine), eating disorders (including anorexia nervosa, bulimia nervosa, eating disorders not otherwise specified), mother-infant interaction, quality of life (including family life; relationship with partner) using validated scales, adherence or persistence with treatment
  - baby: Preterm birth (less than 37 weeks gestation), small for gestational age (birth weight less than 10% for sex and gestation), large for gestational age (birth weight greater than 90% for sex and gestation), low birth weight (birth weight less than 2,500g at birth), Neonatal Intensive Care Unit admission, growth and development up to 1 year of age, mealtime conflict
  - child: Emotional and behavioural adjustment, social adjustment, cognitive development
  - adolescent: Depression
- study design: Experimental and quasi experimental designs and systematic and rapid reviews of these

Question 4: What is the volume and type of evidence on the benefits of early pharmacological and non-pharmacological intervention (alone or in combination) in women with screen-detected postnatal depression?

- population: Postpartum women without previous clinical diagnosis of mental health conditions. Women with experience of miscarriage, stillbirth and neonatal death and women under 18 years of age are excluded
- intervention: Well recognised pharmacological and non-pharmacological interventions used in the postnatal period
- comparator: Compared with placebo or no active intervention or usual care
- outcomes:
  - maternal: Danger to self or infant, increased risk of subsequent depression, puerperal psychosis (including schizophrenia, schizoaffective disorder and bipolar disorder), increased risk of subsequent anxiety disorders (including panic disorder, generalised anxiety disorder, obsessive-compulsive disorder, tokophobia, post-traumatic

stress disorder), increased risk of subsequent personality disorders (including schizoid, avoidant, obsessive-compulsive, borderline), substance misuse (including drugs, alcohol and nicotine), eating disorders (including anorexia nervosa, bulimia nervosa, eating disorders not otherwise specified), mother-infant interaction, quality of life (including family life; relationship with partner) using validated scales, adherence or persistence with treatment

    - baby: Preterm birth (less than 37 weeks gestation), small for gestational age (birth weight less than 10% for sex and gestation), large for gestational age (birth weight greater than 90% for sex and gestation), low birth weight (birth weight less than 2,500g at birth), Neonatal Intensive Care Unit admission, growth and development up to 1 year of age, mealtime conflict
    - child: Emotional and behavioural adjustment, social adjustment, cognitive development
    - adolescent: Depression
- study design: Experimental and quasi experimental designs and systematic and rapid reviews of these

Question 5: Is there evidence that the clinical detection and management are currently well implemented in the UK?

Sub question: Is there evidence on what is the proportion of such conditions that remain undiagnosed?

- population: All pregnant women
- intervention: Current clinical management in the UK
- comparator: Disease known prevalence
- outcomes: Proportion of mental health conditions detected, proportion of women asked questions according to guidance, proportion of women with mental health conditions referred for intervention, proportion of women attending/complying with intervention, user experiences
- study design: Audit data, cross sectional study, cohort study (prospective and retrospective), systematic reviews of these. Non-Uk studies, non-systematic reviews and case studies are excluded

Appendix 2 – Abstract reporting

Question 1 What is the volume and type of evidence on the reported accuracy of screening tools to detect common mental health conditions during pregnancy?

Citation 1

Levis et al. 2020 [8]

Study type

Systematic review and IPD meta-analysis

Objectives

To evaluate the EPDS for screening to detect major depression in pregnant and postpartum women

Components of the study

Population: Women aged ≥18 years who completed assessments during pregnancy or within 12 months of giving birth; and were not recruited because they were receiving psychiatric assessment or care, or because they were identified as having possible depression. Fifty-eight studies were included (n=15,557). 25 studies included pregnant women, 30 postpartum women and 3 both pregnant and postpartum women. 4 studies (n=1,283) were conducted in the UK (taken from supplementary material). Search date was October 2018

Index test: EPDS-10; cut-off values 7 to 15 evaluated

Reference standard: Diagnostic classification of current major depressive episode/disorder according to DSM or ICD criteria using validated interviews: semi-structured (e.g. SCID), fully structured or Mini International Neuropsychiatric Interview (MINI)

[Full text consulted]

Outcomes reported

Outcomes not separately reported for pregnant and postnatal women

- sensitivity and specificity
- Youden's J
- PPV and NPV
- area under the curve

Outcomes specified by the commissioning document that are not reported include false positive rate and false negative rate

[Full text consulted]

Conclusions

An EPDS cut-off value of 11 or higher maximised combined sensitivity and specificity; a cut-off value of 13 or higher was less sensitive but more specific. To identify pregnant and postpartum women with higher symptom levels, a cut-off of 13 or higher could be used. Lower cut-off values could be used if the intention is to avoid false negatives and identify most patients who meet diagnostic criteria

Citation 2

Rondung et al. 2024 [9]

Study type

Systematic review and meta-analysis

Objectives

To review and assess the diagnostic test accuracy of selected screening tools used to identify women with antenatal depression or anxiety in Western countries

Components of the study

Population: Pregnant women without an established clinical diagnosis of depression or anxiety, regardless of risk- or other predisposing factors. Studies focussed on populations with specific somatic or psychiatric diagnoses, or specific age groups were excluded. 14 studies were included. Four studies were conducted in the USA, 2 in Australia, and 8 in Europe. Search date was January 2023

Index test: EPDS-10 (n=12 studies), EPDS-3A (n=0 studies identified), PHQ-9 (n=1), PHQ-2 (n=1), MGMQ (n=1), GAD-7 (n=0 studies identified), GAD-2 (n=1), and/or the Whooley questions (n=1)

Reference standard: Diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders, fourth or fifth edition (DSM-IV and DSM-5) or the International Statistical Classification of Diseases and Related Health Conditions 10th revision (ICD-10) based on a structured clinical interview

[Full text consulted]

Outcomes reported

- sensitivity and specificity
- Youden's J
- PPV and NPV
- Positive likelihood ratio (PLHR) and negative likelihood ratio (NLHR)

Outcomes specified by the commissioning document that are not reported include false positive rate and false negative rate

[Full text consulted]

Conclusions

Findings from the meta-analysis suggest that the EPDS alone is not perfectly suited for the detection of major depressive disorder during pregnancy. Few studies have evaluated the other instruments, therefore, their usefulness for identification of women with depression and anxiety during pregnancy remains very uncertain. At present, case-identification with any tool may best serve as a complement to a broader dialogue between healthcare professionals and their patients

Citation 3

Harel et al. 2021 [10]

Study type

Secondary analysis of individual participant data (IPD) from an IPD meta-analysis of diagnostic accuracy studies

[Full text consulted]

Objectives

To use a large database to develop a reliable and valid shortened form of the EPDS, a self-report questionnaire used for depression screening in pregnancy and postpartum, based on objective criteria

Components of the study

Population: Women ≥18 years (n=5,157 from 22 studies) who were pregnant (n=1,455) or had given birth in the previous year (n=3,702). Participants recruited from psychiatric settings or settings where scales or interviews were administrated because of reported symptoms of depression were excluded. Participants were recruited from 18 countries, including from the UK (n=1,093)

Index test: EPDS-10. A 5-item short form (EPDS-Dep-5) was derived using confirmatory factor analysis, item-response theory, and optimal test assembly methods

Reference standard: Diagnostic classification for a current major depressive episode using DSM or ICD criteria based on a validated semi-structured or fully structured interview administered within 2 weeks of EPDS

[Full text consulted]

Outcomes reported

Outcomes not separately reported for pregnant and postnatal women

- sensitivity and specificity
- Youden's J
- non-inferiority
- Cronbach's alpha and correlation of scores

Outcomes specified by the commissioning document that are not reported include false positive rate, false negative rate, PPV/NPV

[Full text consulted]

Conclusions

The EPDS-Dep-5 is a valid short form with minimal loss of information when compared to the full-length EPDS. The EPDS-Dep-5 was developed with optimal test assembly methods using objective, pre-specified criteria, but the approach is data-driven and exploratory. Thus, there is a need to replicate results of this study in different populations

Citation 4

Smith et al. 2022 [11]

Study type

Systematic review and meta-analysis

Objectives

To assess the diagnostic properties of the Whooley questions in identifying depression among perinatal women according to previously published studies

Components of the study

Population: Perinatal women (pregnant or ≤4 weeks postpartum). Six primary studies were included of which 5 were meta-analysed. Studies were conducted in the UK (n=3), USA (n=1), South Africa (n=1) and Mexico (n=1). Settings included primary care/community and hospital/specialist clinics. 5 studies were conducted in pregnant women and 1 study in women with infants aged 0 to 1 months. Search date was October 2021

Index test: Whooley questions (2 or 3 item)

Reference standard: Diagnostic interview based on DSM-IV/DSM-5 (e.g. SCID, CIS-R, MINI or equivalent structured/semi-structured interviews), generally within ≤2 weeks of the index test

[Full text consulted]

Outcomes reported

- sensitivity and specificity
- PLHR and NLHR
- diagnostic odds ratio

Outcomes specified by the commissioning document that are not reported include false positive rate, false negative rate and PPV/NPV

[Full text consulted]

Conclusions

The Whooley questions have high sensitivity but moderate specificity for perinatal women. The Whooley questions are a short and acceptable tool for identifying depression in perinatal women. However, a potential risk exists of incorrectly identifying a high proportion of women as positive. Using the Whooley questions followed by a secondary case-finding tool could reduce the misdiagnosis risk

Citation 5

Abramowitz et al. 2024 [13]

Study type

Diagnostic test accuracy study

[Full text consulted]

Objectives

To evaluate the psychometric properties of the 4-item Obsessive Compulsive Inventory (OCI-4), and investigate it as a screening measure, in a perinatal sample

Components of the study

Population: Pregnant women aged ≥18 years (n=255) recruited from 2 centres from the USA. Exclusions included medically complicated pregnancy, significant birth defects, and/or severe labour and delivery or postpartum complications; current active suicidality or suicidal behaviour within the last 6 months; a diagnosis of any DSM-5 psychotic disorder, substance use disorder, or eating disorder within the last 2 years, a BMI > 35 or < than 18); a diagnosis of any chronic medical condition; acute medical illness, trauma or surgical procedure in the last 2 months; use of recreational drugs since learning of pregnancy; and smoking more than 10 cigarettes per day or comparable consumption of other forms of tobacco

Index test: OCI-4, Yale–Brown Obsessive Compulsive Scale (Y-BOCS), EPDS, and Perceived Stress Scale (PSS) at 20- and 34-weeks' gestation, 6 weeks postpartum, and 6 months postpartum

Reference standard: Diagnostic classification using the MINI v7 (DSM-5) at baseline and 6 months postpartum and Y-BOCS, EPDS, and PSS at 20- and 34-weeks' gestation, 6 weeks postpartum, and 6 months postpartum

[Full text consulted]

Outcomes reported

- sensitivity and specificity
- Youden's J
- test–retest reliability
- convergent and discriminant validity (correlations with Y-BOCS, EPDS, PSS)

Outcomes specified by the commissioning document that are not reported include false positive rate, false negative rate, and PPV/NPV

[Full text consulted]

Conclusions

The OCI-4 demonstrated good test-retest reliability, convergent and discriminant validity, and criterion-related validity. The measure also showed moderate to high diagnostic sensitivity. A score of 3 provided the best balance of sensitivity and specificity for screening. The OCI-4 is an

effective screener that should be used for identifying OCD symptoms in perinatal settings. Despite the need for further study, its ease of use and quick administration make it a valuable tool for early detection and referral for assessment intervention

Citation 6

Fairbrother et al. 2023 [12]

Study type

Diagnostic test accuracy study

[Full text consulted]

Objectives

To evaluate the Dimensional Obsessive-Compulsive Scale (DOCS) as a screening tool for perinatal OCD and compare the screening accuracy of the DOCS with the commonly recommended EPDS

Components of the study

Population: English-speaking pregnant individuals (n=574) aged ≥19 years living in British Columbia, Canada. Recruited through hospital-based methods (85.3%) community-based (13.3%) and rural-focused (1.4%) recruitment

Index test: DOCS (total and 4 subscales), EPDS-10, and EPDS-3A at 3 timepoints (once in late pregnancy and twice postpartum)

Reference standard: Structured Clinical Interview for DSM-5 (SCID-5), focused on OCD symptoms in the preceding 2 weeks

[Full text consulted]

Outcomes reported

- sensitivity and specificity
- Youden's J
- PPV and NPV
- PLHR
- area under the curve

Outcomes specified by the commissioning document that are not reported include false positive rate and false negative rate

[Full text consulted]

Conclusions

The DOCS total score demonstrated the highest level of accuracy. Neither the EPDS-Full nor EPDS-3A met the criteria of a sufficiently accurate screening tool for OCD at any of the assessment points. Findings provide support for the DOCS as a screening tool for perinatal OCD and indicate a need for disorder-specific screening for perinatal anxiety and their related disorders.

Future research would benefit from comparisons with measures of perinatal OCD (e.g. the Perinatal Obsessive-Compulsive Scale)

Question 2 What is the volume and type of evidence on the reported accuracy of screening tools to detect postnatal depression?

Sub-question: When is the optimum timing to perform the screening test?

See question 1 for further details of the studies by Levis et al. 2020 [8] and Harel et al. [10].

Citation 1

Vogeli et al. 2018 [18]

Study type

Diagnostic test accuracy study

[Full text consulted]

Objectives

To explore the efficacy of the Postpartum Depression Screening Scale (PDSS), developed for use in the first months after childbirth, as a screening tool for the detection of depression beyond the immediate postpartum period in a racially and ethnically diverse sample of mothers

[Full text consulted]

Components of the study

Population: Community sample of mothers (n=238) with infants aged 4 to 15 months from Denver, USA

Index test: PDSS (35 items; total and subscale scores)

Reference standard: Structured Clinical Interview for DSM-IV Axis I Disorders

[Full text consulted]

Outcomes reported

- sensitivity and specificity
- PPV and NPV
- discriminant/classification accuracy
- internal consistency

Outcomes specified by the commissioning document that are not reported include false positive rate and false negative rate

[Full text consulted]

Conclusions

Sensitivity and specificity for major depressive disorder diagnosis were good and comparable to those of the BDI-II. Even in mothers who were somewhat more diverse and had older infants than those in the original normative study, the PDSS appears to be a psychometrically sound screener for identifying depressed mothers in the 15 months after childbirth

Question 3 What is the volume and type of evidence on the benefits of pharmacological and non-pharmacological intervention (alone or in combination) in women with screen-detected common mental health conditions during pregnancy?

Non-pharmacological interventions

Citation 1

Danaher et al. 2023 [20]

Study type

RCT

Objectives

To evaluate the effectiveness of a perinatal version of MomMoodBooster encompassing both prenatal and postpartum content in a healthcare delivery setting already providing universal screening and referral of at-risk patients as part of routine care

Components of the study

Population: Pregnant women (n=95) and postpartum women (n=96) in the USA aged 18 years or older who screened positive for depression on the EPDS (a score > 12) and were then contacted by a social worker to tailor recommended treatment. Screening took place as part of a universal screening programme at 26 to 28 weeks gestation. Women with active suicidal ideation or no broadband internet access were excluded

Intervention: eHealth programme (MomMoodBooster2) (12-week active treatment phase with 6 sessions available to a weekly schedule and access for an additional 7 months) plus routine care

Comparator: Routine care (the healthcare organisation’s perinatal depression care programme)

[Full text consulted]

Outcomes reported

Outcomes assessed after the 12 week active treatment phase. Outcomes were not separately reported for pregnant and postpartum women

Maternal:

- impact on depression
- impact on anxiety

- stress, automatic thoughts, behavioural activation and self-efficacy
- adherence to treatment

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health and outcomes for the baby, child or adolescent

Conclusions

Results support the effectiveness of using MomMoodBooster2 as a treatment option for perinatal women with depression, especially when combined with universal depression screening and referral. Consequently, the eHealth programme shows promise as a tool to increase the reach of treatment delivery and to potentially reduce the number of untreated perinatal women with depression

Citation 2

Hassdenteufel et al. 2023 [21]

Study type

RCT

Objectives

To investigate the clinical effectiveness of an electronic mindfulness-based intervention in a sample of pregnant women who screened positive for emotional distress

Components of the study

Population: Women (n=460) in Germany aged 18 years or older with a singleton pregnancy who screened positive on the EPDS (a score > 9) and were then assessed using a diagnostic clinical interview. Screening took place routinely at participating gynaecological practices or maternity departments as part of a contract with statutory health insurance providers. Women with known neonatal malformations, anomalies or underlying risk factors for preterm birth were excluded. Women who were in acute need of psychiatric treatment were also excluded

Intervention: Electronic mindfulness-based intervention (8 week programme between the 29th and 36th gestational week)

Comparator: Treatment as usual

[Full text consulted]

Outcomes reported

Outcomes assessed to 5 months postpartum

Maternal:

- danger to self or infant (adverse events including suicidal ideation)
- impact on depression
- impact on anxiety
- mindfulness

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health, adherence to treatment and outcomes for the baby, child or adolescent

[Full text consulted]

Conclusions

No significant interaction effects for depressive symptoms and anxiety were found. Pregnancy- and birth-related anxiety decreased significantly in the intervention group and 6 weeks after birth, the rate of women at risk for adverse mental outcome was significantly lower compared to the control group. Mindfulness scores improved significantly in the intervention group. The electronic mindfulness-based intervention programme did not show effectiveness regarding general depressive or anxiety symptoms, however, positive results were demonstrated regarding pregnancy and birth-related anxiety and the prevention of postnatal depression

Citation 3

Horakova et al. 2024 [22]

Study type

RCT

Objectives

To test the effectiveness of a telephone-based peer support intervention (Mom Supports Mom) in Czech pregnant women at risk of mental disorder

Components of the study

Population: Czech women (n=167) aged 18 to 45 years old who screened positive on the EPDS (a score ≥10). Screening took place during routine appointments during pregnancy. No exclusion criteria stated

Intervention: Telephone-based peer support intervention (Mom Supports Mom) (frequency and duration of contact determined by mutual agreement) plus usual care

Comparator: Care as usual, which did not contain any psychological support intervention

[Full text consulted]

Outcomes reported

Outcomes assessed to 1 month after screening

Maternal:

- impact on depression
- impact on anxiety
- attachment
- stress

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health, adherence to treatment and outcomes for the baby, child or adolescent

Conclusions

The telephone-based peer support intervention (Mom Supports Mom) is effective in reducing stress and anxiety and increasing prenatal attachment but does not reduce depression among high-risk women

Citation 4

Jimenez-Barragan et al. 2025 [23]

Study type

RCT

Objectives

To evaluate the effectiveness of an immersive virtual reality eHealth intervention in reducing anxiety and depression symptoms in women during pregnancy

Components of the study

Population: Pregnant women (n=70) in Spain aged 18 years or older with moderate anxiety and depression symptoms on the EPDS (score between 9 and 12). Screening took place during attendance at primary care centres at 12 to 14 weeks gestation. Women with a diagnosis of severe psychiatric disorder, ongoing treatment by mental health specialists and a history of gender-based violence were excluded

Intervention: Immersive virtual reality eHealth intervention (daily 14 minute mindfulness and relaxation sessions for 6 weeks)

Comparator: Usual antenatal care

[Full text consulted]

Outcomes reported

Outcomes assessed 6 weeks after the start of the intervention

Maternal:

- impact on depression
- impact on anxiety
- adherence to treatment

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health and outcomes for the baby, child or adolescent

[Full text consulted]

Conclusions

The immersive virtual reality eHealth intervention significantly reduced symptoms of anxiety and depression, demonstrating its potential as an accessible and effective tool for mental health support during pregnancy. High adherence and satisfaction levels underscore its feasibility and acceptability. Future research should explore the long-term effects and scalability in diverse settings

Citation 5

O'Mahen et al. 2022 [24]

Study type

RCT

Objectives

To investigate the acceptability and feasibility of a new brief intervention for maternal prenatal anxiety within maternity services in London and Exeter

Components of the study

Population: Pregnant women (n=114) in the UK aged 18 years or older with no previous children who screened positive on the Generalised Anxiety Disorder-7 scale (a score ≥7). Screening took place when women attended their 12-week scan. Women with significant illness or disability that would make it difficult for them to participate were excluded

Intervention: Group sessions using CBT principles, led by a midwife and psychological therapists for women and their partners (ACORN) (3, 2-hour sessions) plus treatment as usual

Comparator: Treatment as usual

[Full text consulted]

Outcomes reported

Outcomes assessed up to 34 weeks post-randomisation

Maternal:

- impact on depression
- impact on anxiety
- health related quality of life
- adherence to treatment

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health and outcomes for the baby, child or adolescent

[Full text consulted]

Conclusions

The ACORN intervention was acceptable to pregnant individuals and their partners and resulted in reductions in anxiety. With further evaluation in a larger-scale trial with child outcomes, there is significant potential for large scale public health benefit

Citation 6

Bleker et al. 2020 [25]

Study type

Long-term follow-up of an RCT

Objectives

To summarise 5-year follow-up results for an RCT that compared CBT to treatment as usual for pregnant women with depression (Beating the Blues before Birth)

Components of the study

Population: The original RCT included 54 pregnant women in Australia who screened positive for depression. Data were available for 24 children 5-years after the RCT. In the RCT, women aged 18 years or older who were less than 30 weeks pregnant were recruited via screening programmes (proportion not stated) and via health services and professionals. Women who screened positive on the EPDS (a score ≥ 13) were eligible for inclusion and were further assessed by a psychologist. Women were excluded if they had concurrent major psychiatric disorders, comorbid axis I disorders, medical disorders that were likely to interfere with participation, risk requiring crisis management in case of very were severe symptoms or suicidal ideation

Intervention: CBT (7 sessions for the mother with an additional session including the partner)

Comparator: Treatment as usual

[Full text consulted]

Outcomes reported

Outcomes assessed at 5-year follow-up

Child:

- behaviour
- cognition

Outcomes specified by the commissioning document that are not reported include outcomes relating to maternal mental health, adherence to treatment and outcomes for the baby, or adolescent

Conclusions

Explorative findings suggest that antenatal depression treatment decreases overall child DNA-methylation, increases cortical thickness, and decreases white matter fibre-bundle cross-section in regions involved in cognitive function and the stress response. Nevertheless, larger studies are warranted to confirm the preliminary conclusion that CBT in pregnancy alters neurobiological outcomes in children. Clinical relevance remains unclear as no effects of antenatal CBT on child behaviour or cognition were found

Citation 7

Burger et al. 2020 [26]

Study type

RCT

Objectives

To assess the effectiveness of prenatally initiated CBT on women with antenatal depression or anxiety for the women and their child compared to care as usual

Components of the study

Population: Pregnant women (n=282) in the Netherlands who screened positive on the EPDS (a score of ≥ 12) or the State-Trait Anxiety Inventory (a score of ≥ 42). Screening took place during booking visits between 10 and 12 weeks of pregnancy. Women were excluded if they had substantial physical disease, a multiple pregnancy, high suicide risk, a history of bipolar disorder, psychosis, manic disorder or substance misuse. Women who were receiving psychotherapy were also excluded

Intervention: CBT (10 to 14 individual sessions, with 6 to 10 intended to be delivered during pregnancy and the remainder up to 3 months postpartum)

Comparator: Care as usual

[Full text consulted]

Outcomes reported

Outcomes assessed up to 18 months after birth

Maternal:

- impact on depression
- impact on anxiety
- mother-infant bonding
- adherence to treatment

Baby:

- birth weight and gestational age

Child:

- emotional and behavioural conditions
- cognitive development

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health, additional outcomes for the baby and child and outcomes for the adolescent

[Full text consulted]

Conclusions

Prenatally initiated CBT did not improve maternal symptoms or child outcomes among non-help-seeking women with antenatal depression or anxiety. Findings are not in line with present recommendations for universal screening and treatment for antenatal depression or anxiety, and future work may include the relevance of baseline help-seeking

Citation 8

Gomà et al. 2024 [27]

Study type

RCT

Objectives

To assess the effects of interdisciplinary online therapeutic groups in mothers at risk for anxiety or depression and their babies during the COVID-19 pandemic in a disadvantaged neighbourhood in Barcelona

Components of the study

Population: Pregnant women and new mothers (n=72) in Spain who were aged 18 years or older and screened positive on the EPDS (a score ≥ 9) or the State-Trait Anxiety Inventory (a score of > 39). Screening took place during the first paediatric visit to a primary care centre for pregnant women at 20 to 32 weeks gestation or mothers with newborn babies aged up to 2 months. Women with major psychiatric disorders or severe abnormalities in the newborn were excluded. Women who were receiving other therapies were also excluded

Intervention: Interdisciplinary online therapeutic groups (weekly, 90 minute online sessions for 8 weeks)

Comparator: Treatment as usual

[Full text consulted]

Outcomes reported

Outcomes assessed up to 6 months after birth. Outcomes were not separately reported for pregnant and postpartum women

Maternal:

- impact on depression
- impact on anxiety
- adherence to treatment

Child:

- social development
- cognitive development

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health and outcomes for the baby, child or adolescent

[Full text consulted]

Conclusions

There was a significant decrease in anxiety-depression symptomatology after the intervention in the intervention group compared to treatment as usual. Paediatric follow-up at 6 months demonstrated significant differences between the groups in babies' development assessment. The intervention helped to ensure healthy development of the baby and reduction of the mothers' depressive-anxiety symptomatology

Citation 9

Li et al. 2025 [19]

Study type

Prospective cohort study

Objectives

To determine the comparative effectiveness of 2 commonly used options for treating prenatal depression in limiting the risk of preterm delivery associated with maternal depression

Components of the study

Population: Pregnant women aged 18 years or older identified from the electronic health record system of a universal depression screening programme in the USA. 8,816 women who screened positive for depression on the PHQ-9 (cut-off not stated) were included. Women with twins or other multiple births were excluded

Intervention: Mental health counselling (between 1 and ≥ 4 visits)

Comparator: No treatment

[Full text consulted]

Outcomes reported

Baby:

- preterm birth

Outcomes specified by the commissioning document that are not reported include outcomes relating to maternal mental health, adherence to treatment and additional outcomes for the baby, child or adolescent

Conclusions

The results indicate that, to reduce preterm delivery risk due to maternal depression, mental health counselling is more effective than antidepressant use. Use of antidepressants may add additional risk of preterm delivery, independent of the underlying depression

Pharmacological interventions

Citation 10

Li et al. 2025 [19]

Study type

Prospective cohort study

Objectives

To determine the comparative effectiveness of 2 commonly used options for treating prenatal depression in limiting the risk of preterm delivery associated with maternal depression

Components of the study

Population: Pregnant women aged 18 years or older identified from the electronic health record system of a universal depression screening programme in the USA. 4,887 women who screened positive for depression on the PHQ-9 (cut-off not stated) were included. Women with twins or other multiple births were excluded

Intervention: Antidepressants (including selective serotonin reuptake inhibitors, tricyclics, norepinephrine-dopamine reuptake inhibitors, monoamine oxidase inhibitors, serotonin antagonist and reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors and atypical antidepressants)

Comparator: No treatment

[Full text consulted]

Outcomes reported

Baby:

- preterm birth

Outcomes specified by the commissioning document that are not reported include outcomes relating to maternal mental health, adherence to treatment and additional outcomes for the baby, child or adolescent

Conclusions

The results indicate that, to reduce preterm delivery risk due to maternal depression, mental health counselling is more effective than antidepressant use. Use of antidepressants may add additional risk of preterm delivery, independent of the underlying depression

Question 4 What is the volume and type of evidence on the benefits of early pharmacological and non-pharmacological intervention (alone or in combination) in women with screen-detected postnatal depression?

Non-pharmacological interventions

See question 3 for further details of the studies by Danaher et al. 2023 [20] and Gomà et al. 2024 [27].

Citation 1

Husain et al. 2024 [36]

Study type

RCT

Objectives

To test the clinical efficacy of a culturally adapted, group CBT-based intervention (Positive Health Programme) delivered by non-specialist health workers for postnatal depression in British South Asian women

Components of the study

Population: British South Asian women (n=732) aged 16 years or older with infants aged 0 to 12 months who screened positive on the PHQ-9 (a score ≥10) and had postnatal depression confirmed by a diagnostic clinical interview. Screening took place at 5 study centres (general practices, community settings and children's centres) in the UK with high South Asian populations. Women with a diagnosis of postpartum or other psychosis, active suicidal ideation and physical or intellectual disability that would limit the ability to provide informed consent were excluded. Women were not excluded if they were taking antidepressant medication or had a history of common mental illness such as previous postnatal depression

Intervention: Group CBT-based intervention (Positive Health Programme) (12 group sessions over 4 months) plus treatment as usual

Comparator: Treatment as usual

[Full text consulted]

Outcomes reported

Outcomes assessed at 4 and 12 months after randomisation

Maternal:

- impact on depression
- impact on anxiety
- quality of life, social functioning and parenting competence

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health, adherence to treatment and outcomes for the baby, child or adolescent

[Full text consulted]

Conclusions

In British south Asian women with postnatal depression, a culturally adapted group CBT-based intervention could aid in quicker recovery from depression compared with treatment as usual. Further research is needed to identify how to sustain the treatment effect and establish strategies for scale-up

Citation 2

Stuart et al. 2025 [37]

Study type

RCT

Objectives

To investigate the effect of a psychoeducational intervention (Circle of Security Parenting™) aiming at fostering secure child-parent attachment relationships

Components of the study

Population: Women (n=297) in Denmark aged 18 years or older with infants aged 2 to 12 months. The majority of the population (88%) screened positive for postnatal depression on the EPDS (a score ≥ 10) during routine postpartum visits. The remaining participants were included because the infants screened positive for social withdrawal using the Alarm Distress Baby Scale (6%) or because both the woman and infant screened positive (6%). Women were excluded if the infant had a severe medical condition/early retardation, or for extremely premature birth (<28 weeks), maternal bipolar/psychotic disorder, known severe intellectual impairment, mother attempted suicide pre- or postpartum or alcohol/substance misuse

Intervention: Psychoeducational intervention (Circle of Security Parenting™) (10 sessions of 90 minutes delivered weekly) plus usual care

Comparator: Usual care

[Full text consulted]

Outcomes reported

Follow-up assessments took place when the infant was between 11 and 16 months old, an average of 7.4 months after the intervention

Maternal:

- quality of life (maternal sensitivity and reflective functioning (social interactions and functioning))
- mother-infant interaction
- adherence with treatment

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health and outcomes for the baby, child or adolescent

[Full text consulted]

Conclusions

Results showed no significant differences between the RCT groups on either the primary or secondary outcomes

Citation 3

Van Horne et al. 2022 [38]

Study type

RCT

Objectives

To evaluate the effectiveness of a home visitation programme as a treatment option for a racially diverse population of women with mild to moderate symptoms of postnatal depression

Components of the study

Population: Women (n=118) in the USA aged 19 years or older who screened positive for postnatal depression on the EPDS (a score between 10 and 20) who had an infant aged 4 months or younger. Screening took place during paediatric well-child visits and women were identified for the study using the electronic medical records system recording screening results. Women with active suicidal ideation were excluded

Intervention: Home visitation programme using the Problem-Solving Tools for postnatal depression (5 sessions lasting between 30 minutes and 1 hour)

Comparator: Standard care (referral to a psychiatrist)

[Full text consulted]

Outcomes reported

Outcomes assessed at 6 months postpartum

Maternal:

- impact on depression
- adherence to treatment

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health and outcomes for the baby, child or adolescent

[Full text consulted]

Conclusions

The home visitation programme was as effective as psychiatric treatment in significantly reducing postnatal depression symptoms. Additionally, a high proportion of women in the home visitation programme completed visits and demonstrated increased maternal self-efficacy. Based on these results, a short-term home visitation programme by a social worker appears to be a promising treatment option for postpartum women with mild to moderate postnatal depression symptoms.

Citation 4

Badon et al. 2025 [39]

Study type

RCT

Objectives

To test the effectiveness of a tailored eHealth physical activity intervention for increasing physical activity and decreasing depressive symptoms in individuals at high risk of postnatal depression.

Components of the study

Population: Women (n=99) in the USA aged over 18 years who were 2 to 6 months postpartum. Participants were identified from the electronic health record system of a universal depression screening programme. Women had either screened positive for postnatal depression on the PHQ-9 (a score of 10 to 19) or the PHQ-2 (a score ≥ 3) or who had a history of depression diagnosis or antidepressant medication use (proportion detected through screening tools not stated). Exclusion criteria were not stated in the abstract or main paper.

Intervention: eHealth physical activity programme (a library of 98 10-minute workout videos) plus usual care.

Comparator: Usual care (typically a brief discussion about their depression symptoms with their obstetric provider).

[Full text consulted]

Outcomes reported

Outcomes assessed up to 6 months after randomisation

Maternal:

- impact on depression
- impact on anxiety
- mother-infant bonding
- sleep quality, perceived stress and physical activity
- adherence to treatment

Child:

- infant development (communication, gross motor function, fine motor function, problem-solving and personal social skills).

Outcomes specified by the commissioning document that are not reported include additional outcomes relating to maternal mental health and outcomes for the baby, child or adolescent.

Conclusions

An eHealth physical activity intervention tailored to postpartum individuals did not affect depressive symptoms or physical activity among those at high risk for postnatal depression. Additional research to develop effective and engaging physical activity interventions is needed to help alleviate postnatal depression symptoms and decrease postnatal depression risk.

Pharmacological interventions

No studies were identified reporting outcomes for well recognised pharmacological interventions for screen-detected women.

Question 5 Is there evidence that clinical detection and management are currently well implemented in the UK?

No key studies were identified for this question

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Question 1

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Other studies mentioned in the evidence map

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Question 5

Key studies featured in the evidence map

No key studies were identified for this question

Other studies mentioned in the evidence map

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