Mental health care in the perinatal period: Australian clinical practice guideline

2023 Update

Technical Report Part C:

Effectiveness of treatment and prevention interventions for depression and anxiety in the perinatal period

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clinical evidence for the real world

CONSULTATION VERSION

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TABLES

Abbreviations

BAI	Beck Anxiety Inventory
BDI	Beck Depression Inventory
BSI	Brief Symptom Inventory
CBCL	Child Behaviour Checklist
CBT	cognitive behaviour therapy
CI	confidence interval
CIS-R	Computerised version of the Clinical Interview Schedule – Revised
DASS	Depression Anxiety Stress Scale
DSM	Diagnostic and Statistical Manual of Mental Disorders
ECT	electroconvulsive therapy
EPA	eicosapentaenoic acid
EPDS	Edinburgh Postnatal Depression Scale
EWG	Expert Working Group
GHQ	General Health Questionnaire
GRADE	Grading of Recommendations, Assessment, Development and Evaluation
HADS	Hospital Anxiety and Depression Scale
HIV	human immunodeficiency virus
HRSD	Hamilton Rating Scale for Depression
IPT	interpersonal psychotherapy
ITT	intention-to-treat
MADRS	Montgomery–Åsberg Depression Rating Scale
MD	mean difference
MDD	major depressive disorder
MINI	Mini-International Neuropsychiatric Interview
NICE	National Institute of Health and Care Excellence
NICU	neonatal intensive care unit
NPV	negative predictive value
NR	not reported
OCD	obsessive-compulsive disorder
PND	postnatal depression
PPQ	Perinatal PTSD Questionnaire
PSS	Perceived Stress Scale
PTSD	post-traumatic stress disorder
RCT	randomised controlled trial
RR	relative risk
SADS	Schedule for Affective Disorders and Schizophrenia
SCID	Structural Clinical Interview for DSM Disorders
SD	standard deviation
SF	Short Form Health Survey
SMD	standardised mean difference
SR	systematic review
SSRI	selective serotonin reuptake inhibitor
STAI	State-Trait Anxiety Inventory
STAI-S	State-Trait Anxiety Inventory-State
STAI-T	State-Trait Anxiety Inventory-Trait
TAU	treatment as usual
TCA	tricyclic antidepressants
TMS	transcranial magnetic stimulation
UK	United Kingdom
US	United States
VAS	visual analogue scale
WHO	World Health Organization

C1. Introduction

In October 2017, the Centre of Perinatal Excellence (COPE) published a national clinical practice guideline on *Effective Mental Health Care in the Perinatal Period* (hereafter referred to as the **2017 Australian Guideline**).

The aim of this Evidence Review Update is to assess the body of evidence – including the 'new' evidence – relating to the treatment and prevention of mental health problems in birthing parents during pregnancy and the postnatal period. The following Technical Reports are related to this assessment:

- Part C Technical Report – Effectiveness of treatment and prevention interventions *(this report)*
- Part D Technical Report – Harms associated with treatment and prevention interventions

This Technical Report includes an overview of the methods used to identify and appraise new evidence relating to the **effectiveness** of interventions used for the treatment and prevention of mental health problems in birthing parents during the perinatal period and presents the findings of the assessment of this evidence. Details of the literature search strategies, included/excluded studies, characteristics of included studies, Evidence Profile Tables and risk of bias assessments are included in the Appendices.

C2. Methodology

C2.1 Clinical questions

The Research Protocol for this update of the evidence review outlined two main research questions relating to the effectiveness of interventions for the treatment of mental health problems in birthing parents, or prevention of mental health problems in birthing parents identified as being at risk of developing mental health problems. Both questions were addressed via systematic review.

It should be noted that while the side effects of treatment experienced by the mother have been captured in this part of the Technical Report (Part C), harms to the birthing parent (postpartum haemorrhage) and harms to the fetus, infant or child due to exposure to pharmacological, complementary or physical (specifically electroconvulsive therapy [ECT], transcranial magnetic stimulation [TMS]) interventions have been assessed in Technical Report Part D.

The research questions and the interventions of interest (see Section C2.2) are similar to those investigated for the 2017 Australian Guideline.

Main research questions:

Q4	What is the efficacy and safety of interventions (psychosocial, psychological, online, pharmacological, complementary, physical) for the treatment of mental health problems in birthing parents in the antenatal or postnatal period?
Q5	What is the efficacy and safety of interventions (psychosocial, psychological, online, pharmacological, complementary, physical) for the prevention of mental health problems in birthing parents identified as being at risk of developing a mental health problem in the antenatal or postnatal period?

C2.2 Criteria for determining study eligibility

For the 2017 Australian Guideline, the EWG agreed that Level I evidence (systematic review of randomised controlled trials [RCTs]) should be used as the basis of the review of the effectiveness of treatment and prevention using psychosocial, psychological and most physical interventions, with preference given to those systematic reviews that used a Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach for assessment of the evidence. For online, pharmacological, complementary and selected physical interventions (electroconvulsive therapy [ECT] and transcranial magnetic stimulation [TMS]), Level II evidence (RCTs) was included if Level I evidence was unavailable or out of date (i.e. pre-2014). No lower-level evidence was included for the assessment of effectiveness.

For this Evidence Review Update, 'new' RCTs of the efficacy and safety of treatment or prevention interventions (psychosocial, psychological, physical, pharmacological, complementary, online or physical) were included if they met the PICO criteria below and were published after the literature search date in the NICE 2015 Guideline (which formed the basis of the assessment of intervention effectiveness in the 2017 Australian Guideline).

Table 1 Detailed PICO criteria for Q4&5: Interventions for the treatment or prevention of metal health problems

Question 4	**What is the efficacy and safety of interventions for the treatment of mental health problems in birthing parents in the antenatal or postnatal period?**	
Question 5	**What is the efficacy and safety of interventions for the prevention of mental health problems in birthing parents identified as being at risk of developing a mental health problem in the antenatal or postnatal period?**	
Population	Pregnant or postnatal women who: • have an existing mental health problem (**Q4 treatment**) • are considered to be at risk of developing a mental health problem (**Q5 prevention**)	
Intervention	• Psychosocial interventions • Psychological interventions • Online interventions	• Pharmacological interventions • Complementary interventions • Physical interventions
Comparator	• Treatment as usual • Enhanced treatment as usual • No treatment/placebo or waitlist control • Other active interventions	
Outcomes	<u>Maternal mental health symptomatology or diagnosis</u> • Depression/anxiety/PTSD diagnosis • Depression/anxiety/PTSD symptomatology • Negative thoughts/mood <u>Safety</u> • Side effects	<u>Mother-infant interactions</u> • Mother-infant attachment problems • Positive mother-infant interaction • Maternal sensitivity

Abbreviations: PTSD, post-traumatic stress disorder.
Note: Specific psychosocial, psychological, online, pharmacological, complementary and physical interventions are listed in Table 2.

A comprehensive range of interventions were reviewed for treatment and prevention under the categories of psychosocial, psychological, online, pharmacological, complementary and physical (38 in total, see Table 2). The list of eligible interventions is similar to the 2017 Australian Guidelines, with the following exceptions:

- the EWG reassigned 'mother-infant relationship interventions' and 'mindfulness' from the category 'psychosocial interventions' to 'psychological interventions'
- the EWG added five new interventions
    - online peer-to-peer support
    - eye movement desensitisation and reprocessing (EMDR)
    - acceptance and commitment therapy (ACT)
    - dexamphetamine
    - meditation

Studies were considered eligible if they reported the following outcomes:

- Maternal mental health outcomes – antenatal or postnatal development of, or change in, a mental health diagnosis or symptomatology using validated instruments.
- Mother-infant interactions – postnatal assessment of attachment problems, positive interactions, and maternal sensitivity, using validated instruments.
- Safety – in terms of side effects to the mother (excluding postpartum haemorrhage, which is captured in Technical Report Part D).

Table 2 Eligible psychosocial, psychological, online, pharmacological, complementary and physical interventions

Psychosocial	Psychological	Online

• Psychoeducation
• Psychoeducational booklet
• Social/peer support
• Online peer-to-peer support
• Home visits
• Non-mental health-focused education and support
• Pre-delivery discussion
• Post-delivery discussion
• Post-miscarriage self-help
• Seeing and/or holding stillborn infant
• Co-parenting interventions
	• Structured psychological interventions (CBT and IPT)
	• Directive counselling
	• Non-directive counselling
	• Case management / individualised treatment
	• Self-help or facilitated self-help
	• Post-traumatic birth counselling
	• Post-miscarriage counselling
	• Mother-infant relationship interventions
	• Eye movement desensitisation and reprocessing (EMDR)
	• Acceptance and commitment therapy (ACT)
	• Mindfulness
		• Web-based and computer-based online programs
		  ○ Guided
		  ○ Self-guided/unguided

Pharmacological	**Complementary**	**Physical**

• Antidepressants
• Antipsychotics
• Mood stabilisers
  ○ Anticonvulsants
  ○ Benzodiazepines and z-drugs
• Lithium
• Dexamphetamine
	• Omega-3 fatty acids
	• St John's wort
	• Ginkgo biloba
		• Exercise
		• Yoga
		• Acupuncture
		• Electroconvulsive therapy (ECT)
		• Transcranial magnetic stimulation (TMS)
		• Meditation

Abbreviations: CBT, cognitive behaviour therapy; IPT, interpersonal psychotherapy
Note: Shaded interventions were added by the EWG for this literature search update.

C2.3 Literature search

As this is a guideline update, the search strings used for the 2017 Australian Guideline were updated to reflect changes in search terminology since the original search was undertaken. Search strings for identification of evidence relating to treatment and prevention interventions are shown in **Appendix 1**.

Searches were restricted to English-language, full text articles. As per the Research Protocol, primary studies (RCTs only) were eligible; conference abstracts and dissertations were excluded. The literature search for RCTs of treatment and prevention interventions was conducted on 07 March 2022 and captured records included in PubMed/MEDLINE, Embase and CINAHL since 01 January 2014 (the literature searches for NICE included RCTs from the late 1990s to 07 April 2014).

After deduplicating records in EndNote, unique records were uploaded into systematic review software, DistillerSR, for determination of study eligibility.

In addition to the formal literature search, EWG members were provided with a full list of potentially included studies and were asked to forward any additional studies that were missing from the list.

The searches did not specifically aim to identify or limit retrieval of articles to studies that addressed socioeconomic, Aboriginal or Torres Strait Islander populations. However, the reviewers were required to document any papers addressing these populations for specific consideration by the EWG. Implications for rural and remote areas, and the Indigenous population, have been considered and documented in the clinical guidance.

C2.4 Study eligibility

For this Evidence Review Update, a two-step eligibility process was undertaken. **Step 1** involved standard inclusion of potentially relevant studies on the basis of the broad PICO criteria outlined in the Research Protocol. This step was primarily undertaken by the evidence review team. **Step 2** required the judgement of the EWG to determine whether potentially included studies from Step 1 met the threshold to change existing recommendations.

C2.4.1 Step 1 – PICO-based eligibility

Study eligibility in **Step 1** was informed by the PICO criteria outlined in Table 1. All evidence selection criteria were applied in two stages: first to the titles/abstracts and then to the full publications/reports of potentially included studies. Records were excluded for the following reasons:

- Wrong **publication type** – not a full-text report (excludes protocols, conference abstracts, editorials, letters)
- Wrong **study type** – not an RCT (excludes non-randomised studies)
- Wrong **population** – study was not conducted in pregnant or postpartum birthing parents with a mental health problem or at risk of a mental health problem
- Wrong **intervention** – study did not examine at least one of the interventions (psychosocial, psychological, online, pharmacological, complementary or physical) listed in Table 2
- Wrong **comparator** – study did not compare the intervention to treatment as usual (or enhanced treatment as usual), no treatment/placebo, waitlist control, or to one of the other interventions listed in Table 2
- Wrong **outcome** – study did not examine at least one of the outcomes listed in Table 1
- Not in **English** – full text article not published in English language

The application of the eligibility criteria above is summarised in **Appendix 1.2**. Of note, interventions focused on a particular risk factor for mental health problems (such as insomnia or family domestic violence) were excluded because treatment or prevention of maternal mental health problems was not the main goal of the intervention. Interventions for fear of childbirth (tokophobia) were excluded. Refer to Technical Report Part E for the methodology and findings related to birth trauma.

Appendix 2.1 provides the citation details and reason for exclusion of studies excluded at full text.

Appendix 3 provides the citation details for all studies that met the eligibility criteria, by intervention type (psychosocial, psychological, online, pharmacological, complementary, physical).

C2.4.2 Step 2 – Applying a threshold for full GRADE appraisal

As this is a guideline update, **Step 2** involved a thorough process to identify the studies included in Step 1 that could potentially change existing recommendations or result in the development of new recommendations. Step 2 was instigated as a pragmatic solution to handle a large body of new evidence, much of which was obviously not applicable to the Australian setting or was insufficient to impact on current recommendations (e.g. an RCT of HIV-positive pregnant women from South Africa; a pilot RCT with a total sample size of 27 postpartum women).

All studies that met the PICO-based eligibility criteria in Step 1 were firstly categorised according to (1) treatment/prevention, and (2) intervention type. There was a great deal of inconsistency in how researchers defined their trials as preventative or treatment. Consistent with the approach used in NICE

2015, this Evidence Review Update used inclusion criteria and/or baseline mean symptom scores to make the distinction between treatment and prevention studies. Where participants in a trial had a psychiatric diagnosis, the study was included in the treatment review. However, where the disordered group were defined based on symptomatology, criteria were used to categorise subthreshold symptoms and symptoms of the disorder into the treatment review and below threshold symptoms into the prevention review. NICE 2015 defined an EPDS score >9 as 'treatment'; however, the EWG raised concerns if the mean EPDS in a study was <13 because the study population could be mixed (some at risk and others with mental health problems). Studies excluded by the EWG on this basis are listed in **Appendix 2.2**.

After study categorisation, summaries were prepared for consideration by the EWG. The information provided in the summary tables included the author, year of publication, country, study population, timing, number of participants per arm, intervention and comparator, and the relevant outcomes. The summaries (provided in **Appendix 4** – Treatment, and **Appendix 5** – Prevention), did not include study findings or conclusions, so that decisions about which studies would/would not be taken through the full GRADE appraisal process were based on key study characteristics without knowledge of the results. When making determinations on whether new evidence could potentially change existing recommendations, the EWG took into consideration:

- the 'sufficiency' of the evidence for an intervention (i.e. whether there were enough studies and adequate power to have confidence in the results)
- applicability to the Australian setting
- whether the intervention is realistically implementable in Australia
- the type and strength of the existing recommendation.

Appendix 4 (Treatment) and **Appendix 5** (Prevention) provides boxed summaries of the decisions made by the EWG in relation to the new evidence for each intervention type. New studies that met the agreed threshold in terms of sufficiency, applicability and implementability underwent GRADE appraisal.

C2.5 Assessment of the evidence

Risk of bias was assessed using the Cochrane Risk of Bias 2.0 Tool[1] for randomised trials. A summary of the risk of bias for each domain is provided in **Appendix 7**. Full details are available on request.

GRADE (Grading of Recommendations, Assessment, Development and Evaluations) methodology was used to appraise the quality of the evidence for each intervention and outcome and translate this into recommendations and practice points. For further details about GRADE see http://www.gradeworkinggroup.org/. For an evidence base drawn from RCTs, the grading of the certainty of the body of evidence starts at 'high' (⊕⊕⊕⊕) and can be downgraded for each domain depending on whether the limitation is considered serious (downgrade one level) or very serious (downgrade two levels).

As this is a guideline update, the presentation of GRADE Evidence Profile Tables and Summary of Findings tables is similar to those presented in the Technical Report Part C for the 2017 Australian Guideline (which were largely taken from NICE 2015). Evidence Profile Tables are provided in **Appendix 6** for those interventions and individual studies that passed the threshold for full GRADE appraisal.

Evidence Statements for each outcome have been derived from the data presented in the Summary of Findings tables. Although Evidence Statements are not a requirement for GRADE, it was agreed that describing the data in words is a useful bridge from the Summary of Findings tables to the recommendations. The following general 'phrasing rules' have been applied to the Evidence Statements:

[1] https://methods.cochrane.org/bias/resources/rob-2-revised-cochrane-risk-bias-tool-randomized-trials

- Where there is a statistically significant effect, and the quality of the evidence has been rated 'high' or 'moderate', the phrasing "improves [outcome]" has been used.
- Where there is a statistically significant effect, and the quality of the evidence has been rated 'low' or 'very low', the phrasing "may improve [outcome]" has been used.
- Where no statistically significant effect is observed, and the quality of the evidence has been rated 'high' or 'moderate', the phrasing "has no effect on [outcome]" has been used.
- Where no statistically significant effect is observed, and the quality of the evidence has been rated 'low' or 'very low', the phrasing "appears to have no effect on [outcome]" has been used.

C2.6 Evidence to recommendation process

EWG members were provided with a summary of the evidence base and recommendations from the 2017 Australian Guideline (see **Appendix 4** – Treatment, and **Appendix 5** – Prevention) together with the new evidence identified in the Evidence Review Update ('Results' section of this report and the appendices). The EWG met on 29 August 2022 and a structured evidence-to-decision framework was used to assist with the development of new recommendations and amendment of existing recommendations. Completed evidence-to-decision tables are provided as an Appendix to the Guideline.

For mental health interventions that may potentially be harmful to the fetus, infant or child, the EWG also considered the deliberations of the Harms Expert Subcommittee, who met on 12 August 2022. The Harms Expert Subcommittee reviewed the 2017 Australian Guideline recommendations in the context of the new evidence relating to harms of pharmacological, complementary and physical interventions detailed in Technical Report Part D.

C3. Results

Eighty-one records (77 individual RCTs) were deemed eligible for inclusion in the Evidence Review Update of treatment and prevention interventions (see Appendix 1, Table App. 2). Of these, 59 RCTs examined interventions for the treatment of mental health problems in birthing parents and 18 RCTs examined interventions for the prevention of mental health problems in birthing parents.

The number of 'new' RCTs by intervention type are summarised in Table 3 for interventions used for the *treatment* of mental health problems in birthing parents, and in Table 4 for interventions used for the *prevention* of mental health problems in birthing parents at risk. Additional details for each RCT are available in **Appendix 4**, with links provided in Table 3. Several studies involved more than two arms, and therefore may be represented in multiple intervention categories in Table 3 and Table 4. Several RCTs also had multiple publications (for example, separate publications for different outcomes).

The EWG reviewed the 81 included records (77 RCTs) at its meeting on the 17 June 2022 and identified RCTs that were suitable to proceed to full GRADE appraisal based on sufficiency, applicability and implementability (as described in Section C2.4.2). For treatment interventions, the only RCTs identified as suitable were in the categories of *structured psychological interventions* (8 RCTs) and *online interventions* (4 RCTs). There were no RCTs suitable to proceed to full GRADE appraisal for preventative interventions (i.e. the EWG did not consider that any of the 'new' prevention studies could inform a change to existing recommendations or development of a new recommendation).

The reasons for RCTs not proceeding to full GRADE appraisal are detailed in **Appendix 4**. The most common reason was that the study population was not generalisable to the general Australian perinatal population, or that the intervention type was not applicable to the Australian context. Studies did not proceed to full evidence review if the number and/or size of studies in an intervention category were deemed insufficient to change the strength and/or direction of the 2017 recommendation, or to develop a new recommendation. In future guideline updates, these studies may become suitable for full evidence review if sufficient new evidence becomes available in the relevant intervention category.

Table 3 New evidence identified in the Evidence Review Update for treatment interventions

Intervention type	Number of RCTs	Number of RCTs proceeding to full GRADE appraisal	Location of study details
Psychosocial interventions (treatment)			
Psychoeducation	4	0	Table App. 4
Psychoeducational booklet	0	0	Table App. 6
Social/peer support	2	0	Table App. 8
Online peer-to-peer support	0	0	Table App. 9
Home visits	0	0	Table App. 11
Non-mental-health-focused education/support	0	0	Table App. 13
Pre-delivery discussion	0	0	Table App. 15
Post-delivery discussion	0	0	Table App. 17
Post-miscarriage self-help	0	0	Table App. 19
Seeing and/or holding stillborn infant	0	0	Table App. 21
Co-parenting interventions	0	0	Table App. 23
Psychological interventions (treatment)			
Structured psychological interventions	28	**8**[2]	Table App. 25

[2] One of the 8 RCTs was reported in two publications

Intervention type	Number of RCTs	Number of RCTs proceeding to full GRADE appraisal	Location of study details
Directive counselling	2	0	Table App. 27
Non-directive counselling	0	0	Table App. 29
Case management/individual treatment	0	0	Table App. 31
Self-help or facilitated self-help	3	0	Table App. 33
Post-traumatic birth counselling	See Technical Report Part E	N/A	See Technical Report Part E
Post-miscarriage counselling	0	0	Table App. 36
Mother-infant relationship interventions	4	0	Table App. 38
Eye movement desensitisation and reprocessing (EMDR)	0	0	Table App. 39
Acceptance and Commitment therapy (ACT)	0	0	Table App. 40
Mindfulness	2	0	Table App. 42
Online interventions (treatment)			
Online interventions	12	**4**	Table App. 44
Pharmacological interventions (treatment)			
Antidepressants	1	0	Table App. 46
Antipsychotics	0	0	Table App. 48
Anticonvulsants	0	0	Table App. 50
Benzodiazepines or z-drugs	0	0	Table App. 52
Lithium	0	0	Table App. 54
Dexamphetamine	0	0	Table App. 55
Complementary interventions (treatment)			
Omega-3 fatty acids	2	0	Table App. 57
St John's wort	0	0	Table App. 59
Ginkgo biloba	0	0	Table App. 61
Physical interventions (treatment)			
Exercise	2	0	Table App. 63
Yoga	1	0	Table App. 65
Acupuncture	1	0	Table App. 67
Electroconvulsive therapy	0	0	Table App. 69
Transcranial magnetic stimulation	1	0	Table App. 71
Meditation	0	0	Table App. 72

Table 4 New evidence identified in the Evidence Review Update for prevention interventions

Intervention type	Number of RCTs	Number of RCTs proceeding to full GRADE appraisal	Location of study details
Psychosocial interventions (prevention)			
Psychoeducation	2	0	Table App. 74
Psychoeducational booklet	0	0	Table App. 76
Social/peer support	0	0	Table App. 78
Online peer-to-peer support	0	0	Table App. 79
Home visits	2	0	Table App. 81
Non-mental-health-focused education/support	0	0	Table App. 83
Pre-delivery discussion	0	0	Table App. 85

Intervention type	Number of RCTs	Number of RCTs proceeding to full GRADE appraisal	Location of study details
Post-delivery discussion	0	0	Table App. 87
Post-miscarriage self-help	0	0	Table App. 89
Seeing and/or holding stillborn infant	0	0	Table App. 91
Co-parenting interventions	0	0	Table App. 93
Psychological interventions (prevention)			
Structured psychological interventions	3	0	Table App. 95
Directive counselling	1	0	Table App. 97
Non-directive counselling	0	0	Table App. 99
Case management/individual treatment	0	0	Table App. 101
Self-help or facilitated self-help	1	0	Table App. 103
Post-traumatic birth counselling	See Technical Report Part E	N/A	See Technical Report Part E
Post-miscarriage counselling	2	0	Table App. 106
Mother-infant relationship interventions	2	0	Table App. 108
Eye movement desensitisation and reprocessing (EMDR)	0	0	Table App. 109
Acceptance and Commitment therapy (ACT)	0	0	Table App. 110
Mindfulness	2	0	Table App. 112
Online interventions (prevention)			
Online interventions	1	0	Table App. 114
Pharmacological interventions (prevention)			
Antidepressants	0	0	Table App. 116
Antipsychotics	0	0	Table App. 118
Anticonvulsants	0	0	Table App. 120
Benzodiazepines or z-drugs	0	0	Table App. 122
Lithium	0	0	Table App. 124
Dexamphetamine	0	0	Table App. 125
Complementary interventions (prevention)			
Omega-3 fatty acids	0	0	Table App. 127
St John's wort	0	0	Table App. 129
Ginkgo biloba	0	0	Table App. 131
Physical interventions (prevention)			
Exercise	2	0	Table App. 133
Yoga	0	0	Table App. 135
Acupuncture	0	0	Table App. 137
Electroconvulsive therapy	0	0	Table App. 139
Transcranial magnetic stimulation	0	0	Table App. 141
Meditation	0	0	Table App. 142

C3.1 Structured psychological interventions (treatment)

What is the efficacy and safety of psychological interventions for the treatment of mental health problems in birthing parents in the antenatal or postnatal period?

C3.1.1 Evidence summaries

Evidence summaries are provided for the 8 new RCTs of structured psychological interventions. All assessed CBT versus usual care, enhanced usual care or waitlist control. Table 5 summarises the characteristics of the 3 RCTs (4 publications) of individual CBT. Table 6 summarises the 5 RCTs of group CBT. In addition to format (individual/group), the studies differed in terms of timing of the intervention (antenatal/postnatal), intensity (i.e. number of sessions), mode of delivery (face-to-face or telephone-based), who delivered the intervention (psychologist, psychiatrist, midwife, peers), duration of follow-up and assessment tool.

Table 5 Treatment with structured psychological interventions – Individual CBT

Study ID	Burger 2020	Milgrom 2021[3]	Ngai 2016 & Ngai 2015
Characteristics			
Country	Netherlands	Australia	Hong Kong
No. participants	282	116	397
Baseline diagnostic status	moderate anxiety or depression (STAI ≥42 or EPDS ≥12)	EPDS 11-25 and diagnosis of major or minor depressive episodes (SCID-IV)	EPDS >9
Intervention	Individual CBT delivered at times of shared decision making, with optional modules on anxiety, depressive disorders, trauma, PTSD	Individual manualised CBT program developed for PND, with additional session involving partners	Individual CBT adopted from a manual with modification based on local experience
Timing	Antenatal & Postnatal	Postnatal	Postnatal
Mode of delivery	Face-to-face	Face-to-face	Telephone-based
Facilitator	Psychologist	Psychologist	Trained midwife
Intensity	Moderate (10-14 sessions)	Moderate (10 sessions)	Low (5 sessions)
Setting	Therapist Clinic	Therapist Clinic	Home
Follow-up	Post-treatment, Short and long-term (EPDS & STAI, post-treatment, 3,9,15 months post-intervention; PBQ, 3 to 15 months post-intervention)	Post-treatment (for all measures except SCID-IV) & Short-term (12 weeks post-intervention) for all measures	Post-treatment & Intermediate term (19 weeks post-intervention)
Comparison	Usual care	Usual care	Usual care
Findings			
Depression symptomatology	EPDS	BDI-II, DASS-21	EPDS
Depression diagnosis		SCID-IV	
Anxiety symptomatology	STAI	DASS-21	
Parenting stress			PSI-SF
Mother-infant bonding	PBQ		
Overall Risk of Bias	High	High	High

Key: favours intervention | no statistically significant difference | favours comparator

Intensity: Low intensity (<8 sessions of contact with healthcare professional); Moderate intensity (8-15 sessions); High intensity (≥16 sessions).
Time points: post-treatment or first measurement; Short-term follow-up (9-16 weeks postintervention); Intermediate follow-up (17-24 weeks postintervention); Long-term follow-up (25-103 weeks postintervention); Very long-term follow-up (≥104 weeks).
Abbreviations: BDI-II, revised Beck Depression Inventory; CBT, cognitive behavioural therapy; DASS-21, Depression Anxiety Stress Scales; DSM-IV, Diagnostic and Statistical Manual of Mental Disorders, fourth edition; EPDS, Edinburgh Postnatal Depression Scale; ITT, intention-to-treat; PBQ, Postpartum Bonding Questionnaire; PND, postnatal depression; PSI-SF, Parenting Stress Index-Short Form; PTSD, post-traumatic stress disorder; SCID-IV, Structured clinical interview for DSM-IV disorders; STAI, State-Trait Anxiety Inventory.

[3] Three-arm study comparing face-to-face CBT vs. guided web-based CBT vs. treatment as usual

Table 6 Treatment with structured psychological interventions – Group CBT

Study ID	Leung 2016	Salehi 2016	Bittner 2014	Green 2020	Amani 2021
Characteristics					
Country	Hong Kong	Iran	Germany	Canada	Canada
No. participants	164	114	160	96	73
Baseline diagnostic status	EPDS ≥10 and depression on SCID (DSM-IV)	mild to moderate anxiety (STAI <75)	elevated symptoms of anxiety and depression symptoms (PDQ >14, STAI >36 or BDI-V >20) but not a severe mental disorder on CIDI	anxiety disorder by SCID (DSM-IV) with or without comorbid depression	EPDS ≥10
Intervention	Group CBT comprising group discussion, exercises and homework	Group CBT comprising group counselling, exercises and homework	Group CBT program adapted to second/third trimester pregnant women	Group CBT tailored for comorbid perinatal anxiety and depression	Group CBT with practice of core CBT skills followed by unstructured group discussion
Timing	Postnatal	Antenatal	Antenatal	Antenatal or Postnatal	Postnatal
Mode of delivery	Face-to-face	Face-to-face	Face-to-face	Face-to-face	Face-to-face
Facilitator	unclear	Trained midwife & psychiatrist	Clinical psychologist	Clinical psychologist & psychology trainee	Trained peers
Intensity	Low (6 sessions)	Low (4 sessions)	Moderate (8 sessions)	Low (6 sessions)	Moderate (9 sessions)
Setting	unclear	unclear	unclear	unclear	Community centre
Follow-up	Intermediate-term (6 months post intervention)	Short-term (4 weeks post intervention)	Post-treatment & Short-term (3 months post-partum/post-intervention)	Post-treatment	Post-treatment
Comparison	Information and PND education booklet	Usual care	Usual care	Wait list	Wait list
Findings					
Depression symptomatology	EPDS		EPDS	EPDS, MADRS	EPDS
Anxiety symptomatology		STAI	STAI	STICSA, HAM-A	GAD-7
Worry				PSWQ 6	
Perceived stress				PSS-14	
Postpartum bonding					PBQ
Overall Risk of Bias	High	High	High	High	High

Key: favours intervention | no statistically significant difference | favours comparator

Intensity: Low intensity (<8 sessions of contact with healthcare professional); Moderate intensity (8-15 sessions); High intensity (≥16 sessions).
Time points: post-treatment or first measurement; Short-term follow-up (9-16 weeks postintervention); Intermediate follow-up (17-24 weeks postintervention); Long-term follow-up (25-103 weeks postintervention); Very long-term follow-up (≥104 weeks).
Abbreviations: BDI-V, simplified Beck Depression Inventory; CBT, cognitive behavioural therapy; CIDI; composite international diagnostic interview; DSM-IV, Diagnostic and Statistical Manual of Mental Disorders, fourth edition; EPDS, Edinburgh Postnatal Depression Scale; HAM-A, Hamilton Anxiety Rating Scale; ITT, intention-to-treat; MADRS, Montgomery-Asberg Depression Rating Scale; MINI, Mini-international neuropsychiatric interview; PBQ, Postpartum Bonding Questionnaire; PDQ, Personality Diagnostic Questionnaire; PND, postnatal depression; PSS-14, Perceived Stress Scale; PSWQ, Penn State Worry Questionnaire; SCID, Structured clinical interview for DSM-IV disorders; STAI, State-Trait Anxiety Inventory; STICSA, State-Trait Inventory of Cognitive and Somatic Anxiety.

C3.1.2 Structured psychological interventions versus treatment as usual

The 8 new RCTs of individual or group CBT were added to the body of evidence from the 2017 Australian Guideline Technical Report Part C. Refer to **Appendix 6.1** for Evidence Profile Tables containing the original body of evidence (from NICE 2015) and the new evidence, by outcome.

In total, NICE 2015 included 14 RCTs (N=2,099) that compared face-to-face structured psychological interventions (CBT or IPT) with treatment as usual or enhanced treatment as usual in women with a diagnosis of depression (MDD, major depressive episode, minor depression, depressive disorder) or symptoms of depression. The intervention was IPT in four RCTs and CBT in the remaining 10 RCTs. Across the 14 RCTs, the timing and format of the intervention varied considerably. In nine RCTs the intervention was postnatal, two RCTs assessed antenatal interventions, and in three RCTs the intervention was both antenatal and postnatal. The format was individual in 12 RCTs, group in one RCT, and both individual and group in one RCT. The comparator also varied across the 14 included RCTs in NICE 2015. One RCT compared CBT plus home visits with home visits only, one RCT compared IPT with waitlist, six RCTs compared CBT or IPT with treatment as usual, and six RCTs compared CBT or IPT with enhanced treatment as usual[4].

These differences in intervention delivery and study conduct were not explored in the NICE 2015 analyses, which were based on outcome types, measurement timepoints and type of analysis (ITT or available case analysis). NICE 2015 did not separately consider CBT and IPT interventions in their analyses. Furthermore, NICE did not consider the timing of the intervention, format, setting or mode of delivery.

The 8 RCTs identified in the Evidence Review Update were also heterogeneous in terms of timing of the intervention, format, setting, intensity, and mode of delivery. On that basis, it was agreed that meta-analysis is not appropriate, and the new studies are presented separately in the Summary of Findings tables below.

Based on the evidence presented in NICE 2015, the following was noted in the 2017 Australian Technical Report Part C:

> *Very low-to-high certainty evidence from up to ten studies showed that structured psychological interventions (CBT or IPT) were more effective than treatment as usual or enhanced treatment as usual in reducing depression diagnosis, depression symptomatology, and depression mean scores at post-treatment, with large to moderate effects observed for all outcomes and some low certainty evidence for maintained moderate-to-large effects at short-term follow-up. At intermediate follow-up periods, there was evidence for moderate benefits associated with structured psychological interventions; however, confidence that these were true measures of effect was low to very low, due to wide confidence intervals. At longer-term follow-ups (>24 weeks post intervention), the evidence for structured psychological interventions was very inconsistent with point estimates of effect in favour of CBT or IPT for depression symptomatology, but in favour of treatment as usual or enhanced treatment as usual for depression diagnosis.*
>
> *There was low quality, single-study evidence for a large effect of a structured psychological intervention on mean state anxiety symptoms (using an ITT analysis approach); however, an available case analysis approach (two studies) revealed no evidence for clinically significant benefits (although differences were statistically significant) associated with mean state anxiety symptoms, and the small benefit for trait anxiety symptoms found in a single-study analysis also failed to reach the threshold for appreciable benefit despite meeting statistical-significance criteria.*

[4] Enhanced treatment as usual varied across the six RCTs: single session psychoeducation; GP training; single session post-delivery discussion; non-specific emotional support and mothercraft advice; and psychoeducation booklet, monitoring and improved access to support.

There was low to very low certainty evidence from up to two studies for moderate-to-large benefits of structured psychological interventions (CBT or IPT) on general mental health outcomes at endpoint, and at short-term and intermediate follow-ups. There was also evidence for a statistically significant, but not clinically significant, effect of CBT on reducing the risk of self-harm.

There was high-to-very low certainty evidence from up to two studies for moderate-to-large benefits of structured psychological interventions (CBT or IPT) in reducing mother-infant attachment problems at endpoint and at long-term follow-up, mother-infant attachment mean scores and mother-infant play frequency. There was, however, no evidence for clinically or statistically significant benefits on mother-infant attachment mean scores at short-term follow-up.

Overall, the new body of evidence from the Evidence Review Update provides single study, very-low certainty evidence showing that CBT either appears to improve or has no effect on mental health outcomes.

Table 7 Summary of Findings (treatment) – structured psychological interventions (CBT or IPT) versus treatment as usual or enhanced treatment as usual

Guideline version	Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
Depression diagnosis						
2017 GL	**Post-treatment – ITT** SCID or CIS-R	*Study population* 652 per 1000 *Moderate* 687 per 1000	*Study population* 313 per 1000 (254, 391) *Moderate* 330 per 1000 (268, 412)	**RR 0.48 (0.39, 0.6)**	1307 (6 studies)	⊕⊕⊕⊕ HIGH
Update	*No new studies*					
2017 GL	**Post-treatment – available case analysis** SCID or CIS-R	*Study population* 602 per 1000 *Moderate* 615 per 1000	*Study population* 229 per 1000 (145, 349) *Moderate* 234 per 1000 (148, 357)	**RR 0.38 (0.24, 0.58)**	1,066 (5 studies)	⊕⊕OO LOW [a]
Update	*No new studies*					
2017 GL	**Short Follow-up (9-16 weeks post intervention) – ITT** SCID or SCID-IV	*Study population* 435 per 1000 *Moderate* 435 per 1000	*Study population* 170 per 1000 (83, 348) *Moderate* 170 per 1000 (83, 348)	**RR 0.39 (0.19, 0.8)**	93 (1 study)	⊕⊕OO LOW [e]
Update		*Study population* 342 per 1000	*Study population* 154 per 1000 (65, 363)	RR 0.45 (0.19 to 1.06)	116 (1 study)	⊕OOO VERY LOW
2017 GL	**Short Follow-up (9-16 weeks post intervention) – available case analysis** SCID	*No included studies*				
Update		*Study population* 316 per 1000	*Study population* 136 per 1000 (60, 316)	RR 0.43 (0.19 to 1.00)	116 (1 study)	⊕OOO VERY LOW
2017 GL	**Intermediate follow-up (17-24 weeks post intervention) – ITT** CIS-R or SCID	*Study population* 471 per 1000 *Moderate* 572 per 1000	*Study population* 278 per 1000 (113, 665) *Moderate* 337 per 1000 (137, 807)	RR 0.59 (0.24, 1.41)	138 (2 studies)	⊕OOO VERY LOW [a,e,f]
Update	*No new studies*					
2017 GL	**Intermediate follow-up (17-24 weeks post intervention) – available case analysis** CIS-R or SCID	*Study population* 373 per 1000 *Moderate* 474 per 1000	*Study population* 186 per 1000 (86, 403) *Moderate* 237 per 1000 (109, 512)	RR 0.5 (0.23, 1.08)	118 (2 studies)	⊕⊕OO LOW [e,f]
Update	*No new studies*					
2017 GL	**Long Follow-up (25-103 weeks post intervention) – ITT** SCID	*Study population* 250 per 1000 *Moderate* 250 per 1000	*Study population* 420 per 1000 (237, 745) *Moderate* 420 per 1000 (237, 745)	RR 1.68 (0.95, 2.98)	102 (1 study)	⊕⊕OO LOW [e,f]
Update	*No new studies*					
2017 GL	**Long Follow-up (25-103 weeks post intervention) – available case analysis** SCID	*Study population* 188 per 1000 *Moderate* 188 per 1000	*Study population* 292 per 1000 (137, 624) *Moderate* 293 per 1000 (137, 626)	RR 1.56 (0.73, 3.33)	89 (1 study)	⊕⊕OO LOW [e,f]
Update	*No new studies*					

Guideline version	Outcomes (follow-up)	Illustrative comparative risks*		Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
		Assumed risk Control	Corresponding risk Intervention			
2017 GL	**Very long Follow-up (>104 weeks post intervention) – ITT** SCID	*Study population* 250 per 1000 *Moderate* 250 per 1000	480 per 1000 (278, 832) 480 per 1000 (278, 832)	**RR 1.92 (1.11, 3.33)**	102 (1 study)	⊕⊕OO LOW [e]
Update	*No new studies*					
2017 GL	**Very long Follow-up (>104 weeks post intervention) – available case analysis** SCID	*Study population* 243 per 1000 *Moderate* 243 per 1000	212 per 1000 (90, 506) 211 per 1000 (90, 505)	RR 0.87 (0.37, 2.08)	70 (1 study)	⊕⊕OO LOW [e,f]
Update	*No new studies*					
Depression symptomatology						
2017 GL	**Post-treatment – ITT** EPDS ≥10/EPDS ≥12/Treatment non-response (baseline to endpoint decrease <4 points and EPDS >13)/Treatment non-response (<50% improvement) or BDI ≥16 or BDI-II ≥14	*Study population* 643 per 1000 *Moderate* 626 per 1000	444 per 1000 (360, 547) 432 per 1000 (351, 532)	**RR 0.69 (0.56, 0.85)**	969 (10 studies)	⊕⊕OO LOW [b,c]
Update	*No new studies*					
2017 GL	**Post-treatment – available case analysis** EPDS ≥10/EPDS ≥12/Treatment non-response (baseline to endpoint decrease <4 points and EPDS >13) or BDI ≥ 16 or BDI-II ≥ 14 (6-16 weeks)	*Study population* 559 per 1000 *Moderate* 588 per 1000	347 per 1000 (296, 408) 365 per 1000 (312, 429)	**RR 0.62 (0.53, 0.73)**	702 (9 studies)	⊕⊕⊕⊕ HIGH
Update	*No new studies*					
2017 GL	**Short Follow-up (9-16 weeks post intervention) – ITT** BDI-II ≥14 (mean 29 weeks)	*Study population* 560 per 1000 *Moderate* 560 per 1000	498 per 1000 (302, 823) 498 per 1000 (302, 823)	RR 0.89 (0.54, 1.47)	55 (1 study)	⊕⊕OO LOW [e,f]
Update	*No new studies*					
2017 GL	**Short Follow-up (9-16 weeks post intervention) – available case analysis** BDI-II ≥14 (mean 29 weeks)	*Study population* 667 per 1000 *Moderate* 667 per 1000	380 per 1000 (207, 713) 380 per 1000 (207, 713)	RR 0.57 (0.31, 1.07)	42 (1 study)	⊕⊕OO LOW [e]
Update	*No new studies*					
2017 GL	**Long Follow-up (25-103 weeks post intervention) – ITT** EPDS ≥10 (mean 32 weeks)	*Study population* 250 per 1000 *Moderate* 250 per 1000	178 per 1000 (50, 632) 178 per 1000 (50, 632)	RR 0.71 (0.2, 2.53)	37 (1 study)	⊕OOO VERY LOW [e,f,g]
Update	*No new studies*					
2017 GL	**Long Follow-up (25-103 weeks post intervention) – available case analysis** EPDS ≥10 (mean 32 weeks)	*Study population* 167 per 1000 *Moderate* 167 per 1000	67 per 1000 (8, 577) 67 per 1000 (8, 578)	RR 0.4 (0.05, 3.46)	33 (1 study)	⊕OOO VERY LOW [e,f,g]
Update	*No new studies*					

Guideline version	Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
Depression mean scores						
2017 GL	**Post-treatment – ITT** EPDS or BDI-II		**SMD -1.31 (-2.36, -0.26)**	-	306 (5 studies)	⊕⊕⊕O MODERATE [a,d]
Update			MD 2.51 (-2.58, 7.60)	-	77 (1 study)	⊕OOO VERY LOW
			MD -5.00 (-3.12, -6.88 lower) *major depression*	-	397 (1 study)	⊕OOO VERY LOW
			MD -1.90 (0.72, -3.08 lower) *minor depression*			
			MD -4.49 (-6.35, -2.63 lower) *EPDS*	-	86 (1 study)	⊕OOO VERY LOW
			MD -4.51 (-7.01, -2.01 lower) *MADRS*			
2017 GL	**Post-treatment – available case analysis** EPDS, BDI, BDI-II or HRSD		**SMD -0.6 (-0.8, -0.4)**	-	1,508 (10 studies)	⊕⊕⊕O MODERATE [b]
Update			MD -0.5 (-2.18, 1.18)	-	93 (1 study)	⊕OOO VERY LOW
			MD -6.20 (-9.29, -3.11)	-	38 (1 study)	⊕OOO VERY LOW
			MD 0.3 (-1.0, 1.5)	-	162 (1 study)	⊕OOO VERY LOW
2017 GL	**Short Follow-up (9-16 weeks post intervention) – ITT** EPDS or BDI-II		SMD -1.84 (-4.31, 0.64)	-	148 (2 studies)	⊕OOO VERY LOW [a,d,f]
Update			MD -2.41 (-7.46, 2.64)	-	77 (1 study)	⊕OOO VERY LOW
			MD -0.85 (-1.88, 0.18)	-	164 (1 study)	⊕OOO VERY LOW
2017 GL	**Short Follow-up (9-16 weeks post intervention) – available case analysis** EPDS or BDI-II		**SMD -0.66 (-1.14, -0.18)**	-	89 (2 studies)	⊕⊕OO LOW [d]
Update			MD -0.5 (-1.97, 0.97)	-	98 (1 study)	⊕OOO VERY LOW
			MD -0.3 (-1.6, 1.0)	-	182 (1 study)	⊕OOO VERY LOW
2017 GL	**Intermediate Follow-up (17-24 weeks post intervention) – ITT analysis** EPDS	*No included studies*		-	-	-
Update			**MD -1.20 (-0.09, -2.32)** *minor depression*	-	397 (1 study)	⊕OOO VERY LOW

Guideline version	Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
			MD -1.69 (-3.47, 0.10) *major depression*			
			MD -0.60 (-1.53, 0.33)	-	164 (1 study)	⊕OOO VERY LOW
2017 GL	**Intermediate Follow-up (17-24 weeks post intervention) – available case analysis** EPDS		SMD -0.51 (-1.72, 0.7)	-	118 (2 studies)	⊕OOO VERY LOW [a,d,f]
Update	*No new studies*					
2017 GL	**Long Follow-up (25-103 weeks post intervention) – available case analysis** EPDS or BDI		SMD -0.28 (-0.8, 0.23)	-	142 (3 studies)	⊕⊕OO LOW [d,f]
Update			MD 0.5 (-1.0, 1.9) *9-months post intervention*	-	152 (1 study)	⊕OOO VERY LOW
			MD 0.9 (-0.7, 2.6) *15-months post intervention*			
2017 GL	**Very long Follow-up (>104 weeks post intervention) – available case analysis** EPDS		SMD -0.17 (-0.67, 0.33)	-	62 (1 study)	⊕⊕OO LOW [d,f]
Update	*No new studies*					
Negative thoughts/mood mean scores						
2017 GL	**Available case analysis** Automatic Thought Questionnaire (mean 4 weeks)		**SMD -0.94 (-1.83, -0.04)**	-	22 (1 study)	⊕OOO VERY LOW [d,g]
Update	*No new studies*					
Anxiety mean scores						
2017 GL	**Post-treatment – ITT analysis** Beck Anxiety Inventory (BAI), DASS-21, HAM-A, STICSA		**SMD -1.34 (-1.94, -0.74)**	-	53 (1 study)	⊕⊕OO LOW [d]
Update			**MD 3.38 (0.32, 6.44)**	-	77 (1 study)	⊕OOO VERY LOW
			MD -5.60 (-10.26, -0.94) *STICSA*	-	86 (1 study)	⊕OOO VERY LOW
			MD -5.17 (-8.01 -2.33) *HAM-A*			
2017 GL	**Post-treatment – available case analysis** BAI, GAD-7, STAI or STAI-S		**SMD -0.35 (-0.58, -0.13)**	-	315 (2 studies)	⊕⊕OO LOW [c,d]
Update			**MD -4.60 (-7.75, -1.45)**	-	93 (1 study)	⊕OOO VERY LOW
			MD -5.50 (-8.59, -2.41)	-	38 (1 study)	⊕OOO VERY LOW
			MD 2.2 (-0.9, 5.4)	-	163 (1 study)	⊕OOO VERY LOW

Guideline version	Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
		MD -5.78 (-1.44, -10.10) *state anxiety score*		-	61 (1 study)	⊕OOO VERY LOW
		MD -5.77 (-1.19, -10.35) *trait anxiety score*				
2017 GL	**Short follow-up (9-16 weeks post-intervention) – ITT analysis** DASS-21, STAI	*No included studies*				
Update		MD -0.74 (-3.23, 1.75)		-	77 (1 study)	⊕OOO VERY LOW
2017 GL	**Short follow-up (9-16 weeks post-intervention) – available case analysis** STAI	*No included studies*				
Update		MD -1.30 (-4.48, 1.88)		-	98 (1 study)	⊕OOO VERY LOW
		MD 0.9 (-2.2, 4.1)		-	188 (1 study)	⊕OOO VERY LOW
2017 GL	**Long follow-up (25-103 weeks post-intervention) – available case analysis** STAI	*No included studies*				
Update		MD 0.7 (-2.9, 4.3) *9-months post intervention*		-	154 (1 study)	⊕OOO VERY LOW
		MD 1.5 (-2.4, 5.4) *15-months post intervention*		-	138 (1 study)	⊕OOO VERY LOW
Mother-infant attachment problems						
2017 GL	**Post-treatment – ITT analysis** Maternal report: Mother-infant relationship problems (mean 20 weeks)	*Study population* 827 per 1000	537 per 1000 (405, 719)	**RR 0.65 (0.49, 0.87)**	102 (1 study)	⊕⊕OO LOW [e]
		Moderate 827 per 1000	538 per 1000 (405, 719)			
Update	*No new studies*					
2017 GL	**Post-treatment – available case analysis** Maternal report: Mother-infant relationship problems (mean 20 weeks)	*Study population* 743 per 1000	468 per 1000 (319, 676)	**RR 0.63 (0.43, 0.91)**	78 (1 study)	⊕⊕OO LOW [e]
		Moderate 743 per 1000	468 per 1000 (319, 676)			
Update	*No new studies*					
2017 GL	**Long follow-up (25-103 weeks post intervention) – ITT analysis** Maternal report: Mother-infant relationship problems (mean 78 weeks)	*Study population* 481 per 1000	620 per 1000 (433, 885)	RR 1.29 (0.9, 1.84)	102 (1 study)	⊕⊕OO LOW [e,f]
		Moderate 481 per 1000	620 per 1000 (433, 885)			
Update	*No new studies*					

Guideline version	Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
2017 GL	**Long follow-up (25-103 weeks post intervention) – available case analysis** Maternal report: Mother-infant relationship problems (mean 78 weeks)	*Study population* 426 per 1000 *Moderate* 426 per 1000	 523 per 1000 (336, 817) 524 per 1000 (337, 818)	RR 1.23 (0.79, 1.92)	87 (1 study)	⊕⊕OO LOW [e,f]
Update	*No new studies*					
Mother-infant attachment mean scores						
2017 GL	**Post-treatment – available case analysis** Prenatal Attachment Inventory or Maternal Attachment Inventory, PBQ	SMD 2.28 (-1.17, 5.73)		-	76 (2 studies)	⊕OOO VERY LOW [d,f,h]
Update		MD -2.60 (-7.19, 1.99) *impaired bonding subscale* MD -1.50 (-4.35, 1.35) *rejection and pathological anger subscale* MD -0.30 (-4.49, 3.89) *infant-focused anxiety subscale*		-	36 (1 study)	⊕OOO VERY LOW
2017 GL	**Short follow-up (9-16 weeks post intervention) – available case analysis** Maternal Attachment Inventory (mean 21 weeks), PBQ	SMD 0.32 (-0.27, 0.91)		-	45 (1 study)	⊕⊕OO LOW [d,f]
Update		MD -0.30 (-1.8, 1.2) *3 to 15 months post-intervention*		-	184 (1 study)	⊕OOO VERY LOW
Maternal sensitivity mean scores						
2017 GL	**Post-treatment – ITT analysis** PSI, PSS, PSWQ	*No included studies*				
Update		**MD -9.42 (-5.85, -12.99)**		-	397 (1 study)	⊕OOO VERY LOW
		MD -12.16 (-16.20, -8.12) *PSWQ* **MD -8.42 (-11.62, -5.22)** *PSS*		-	86 (1 study)	⊕OOO VERY LOW
2017 GL	**Intermediate follow-up – ITT analysis** PSI	*No included studies*				
Update		**MD -3.58 (-0.07, -7.09)**		-	397 (1 study)	⊕OOO VERY LOW

Evidence Statements:

CBT or IPT

Structured psychological interventions (individual CBT or IPT) improve depression diagnosis at endpoint or first measurement (high certainty evidence) compared with treatment as usual or enhanced treatment as usual in pregnant or postpartum women with a diagnosis of depression.

Structured psychological interventions (individual CBT or IPT) appear to have no effect on depression diagnosis at intermediate follow-up (17-24 weeks post intervention) (low certainty evidence) compared with treatment as usual in pregnant or postpartum women with a diagnosis of MDD or depression.

Guideline version	Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
Structured psychological interventions (individual or group CBT or IPT) may improve depression symptomatology at endpoint or first measurement (low certainty evidence) compared with treatment as usual or enhanced treatment as usual in pregnant or postpartum women with a diagnosis of depression or symptoms of depression.						
Structured psychological interventions (individual CBT or IPT) improve depression mean scores at endpoint or first measurement (moderate certainty evidence) compared with treatment as usual or enhanced treatment as usual in pregnant and postpartum women with a diagnosis of depression or symptoms of depression.						
Structured psychological interventions (individual CBT or IPT) appear to have no effect on depression mean scores at intermediate follow-up (17-24 weeks post intervention) (very low certainty evidence) compared with treatment as usual in pregnant or postpartum women with a diagnosis of MDD or depression.						
Structured psychological interventions (individual or group CBT or IPT) appear to have no effect on depression mean scores at long follow-up (>24 weeks post intervention) (low certainty evidence) compared with treatment as usual or enhanced treatment as usual in postpartum women with a diagnosis of MDD or depression.						
Structured psychological interventions (individual or group CBT or IPT) appear to have no effect on mother-infant attachment mean scores at endpoint or first measurement (very low certainty evidence) compared with treatment as usual in pregnant or postpartum women with a diagnosis of depression or MDD.						
CBT *Structured psychological interventions (individual CBT and home visits) may improve depression diagnosis at short follow-up (9-16 weeks post intervention) (low certainty evidence) compared with home visits alone in postpartum women with a diagnosis of MDD.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on depression diagnosis at short follow-up (9-16 weeks post intervention) (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depressive episode.*						
Structured psychological interventions (individual CBT) appear to have no effect on depression symptomatology at short follow-up (9-16 weeks post intervention) (low certainty evidence) compared with treatment as usual in pregnant or postpartum women with a diagnosis of MDD.						
Structured psychological interventions (individual CBT) appear to have no effect on depression symptomatology at long follow-up (>24 weeks post intervention) (very low certainty evidence) compared with enhanced treatment as usual non-specific emotional support and mothercraft advice) in postpartum women with a diagnosis of MDD.						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on depression mean scores post-treatment (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depressive episode.*						
NEW *Structured psychological interventions (individual CBT) may improve depression mean scores post-treatment (very low certainty evidence) compared with treatment as usual in postpartum women with major depression.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on depression mean scores post-treatment (very low certainty evidence) compared with treatment as usual in postpartum women with minor depression.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on depression mean scores post-treatment (very low certainty evidence) compared with treatment as usual in pregnant or postpartum women with moderate anxiety or depression.*						
NEW *Structured psychological interventions (group CBT) may improve depression mean scores post-treatment (very low certainty evidence) compared with treatment as usual in pregnant or postpartum women with anxiety disorder with or without comorbid depression.*						
NEW *Structured psychological interventions (group CBT) appear to have no effect on depression mean scores post-treatment (very low certainty evidence) compared with treatment as usual in pregnant women with elevated symptoms of anxiety and depression in the absence of a severe mental health disorder.*						
NEW *Structured psychological interventions (group CBT) may improve depression mean scores post-treatment (very low certainty evidence) compared with treatment as usual in postnatal women with an EPDS score ≥10.*						

Guideline version	Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
Structured psychological interventions (individual CBT with or without home visits) appear to have no effect on depression mean scores at short follow-up (9-16 weeks post intervention) (very low certainty evidence) compared with treatment as usual or home visits alone in pregnant or postpartum women with a diagnosis of MDD.						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on depression mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in postnatal women with a diagnosis of major or minor depressive episode.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on depression mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in pregnant or postnatal women with moderate anxiety or depression.*						
NEW *Structured psychological interventions (group CBT) appear to have no effect on depression mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with enhanced treatment as usual (information booklet about postnatal depression and community resources) in postnatal women with a diagnosis of depression.*						
NEW *Structured psychological interventions (group CBT) appear to have no effect on depression mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in pregnant women with elevated symptoms of anxiety and depression in the absence of a severe mental health disorder.*						
NEW *Structured psychological interventions (individual CBT) may improve depression mean scores at intermediate follow-up (17-24 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in postnatal women with minor depression.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on depression mean scores at intermediate follow-up (17-24 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in postnatal women with major depression.*						
NEW *Structured psychological interventions (group CBT) appear to have no effect on depression mean scores at intermediate follow-up (17-24 weeks post-intervention) (very low certainty evidence) compared with enhanced treatment as usual (information booklet about postnatal depression and community resources) in postnatal women with a diagnosis of depression.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on depression mean scores at long follow-up (25-103 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in pregnant and postnatal women with moderate anxiety or depression.*						
Structured psychological interventions (individual CBT) may improve negative thoughts/mood mean score at endpoint or first measurement (very low certainty evidence) compared with enhanced treatment as usual (single session psychoeducation) in pregnant women with a diagnosis of depressive disorder.						
NEW *Structured psychological interventions (individual CBT) may be less effective at improving anxiety mean scores post-treatment (very low certainty evidence) compared with treatment as usual in postnatal women diagnosed with major or minor depressive episode.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on anxiety mean scores post-treatment (very low certainty evidence) compared with treatment as usual in pregnant or postnatal women with moderate anxiety or depression.*						
NEW *Structured psychological interventions (group CBT) may improve anxiety mean scores post-treatment (very low certainty evidence) compared with treatment as usual in pregnant or postnatal women with anxiety disorder with or without comorbid depression.*						
NEW *Structured psychological interventions (group CBT) may improve anxiety mean scores post-treatment (very low certainty evidence) compared with treatment as usual in pregnant women with elevated symptoms of anxiety and depression in the absence of a severe mental health disorder.*						
NEW *Structured psychological interventions (group CBT) may improve anxiety mean scores post-treatment (very low certainty evidence) compared with treatment as usual in postnatal women with an EPDS score ≥10.*						
NEW *Structured psychological interventions (group CBT) may improve anxiety mean scores post-treatment (very low certainty evidence) compared with treatment as usual in pregnant women with mild to moderate anxiety.*						

Guideline version	Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
NEW *Structured psychological interventions (individual CBT) appear to have no effect on anxiety mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in postnatal women diagnosed with major or minor depressive episode.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on anxiety mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in pregnant or postnatal women with moderate anxiety or depression.*						
NEW *Structured psychological interventions (group CBT) appear to have no effect on anxiety mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in pregnant women with elevated symptoms of anxiety and depression in the absence of a severe mental health disorder.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on anxiety mean scores at long follow-up (25-103 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in pregnant and postnatal women with moderate anxiety or depression.*						
NEW *Structured psychological interventions (group CBT) appear to have no effect on mother-infant attachment mean scores post-treatment (very low certainty evidence) compared with treatment as usual in postnatal women with an EPDS score ≥10.*						
NEW *Structured psychological interventions (individual CBT) appear to have no effect on mother-infant attachment mean scores at short to long follow-up (12-60 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in pregnant and postnatal women with moderate anxiety or depression.*						
NEW *Structured psychological interventions (individual CBT) may improve maternal sensitivity mean scores post-treatment (very low certainty evidence) compared with treatment as usual in postnatal women with an EPDS score >9.*						
NEW *Structured psychological interventions (group CBT) may improve maternal sensitivity mean scores post-treatment (very low certainty evidence) compared with treatment as usual in pregnant or postnatal women with an anxiety disorder with or without comorbid depression.*						
NEW *Structured psychological interventions (individual CBT) may improve maternal sensitivity mean scores at intermediate follow-up (17-24 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in postnatal women with an EPDS score >9.*						
IPT *Structured psychological interventions (individual IPT) may improve anxiety mean scores at endpoint or first measurement (low certainty evidence) compared with enhanced treatment as usual (psychoeducation booklet, monitoring and improved access to support) in pregnant or postpartum women with a diagnosis of depression; however, the magnitude of the benefit may not be clinically significant.*						
Structured psychological interventions (individual and group IPT) appear to have no effect on mother-infant attachment mean scores at short follow-up (9-16 weeks post intervention) (low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of MDD.						
IPT – psychodynamic therapy *Structured psychological interventions (individual IPT [psychodynamic therapy]) appear to be less effective at improving depression diagnosis at long follow-up (>24 weeks post intervention) (low certainty evidence) and at very long follow-up (>104 weeks post intervention) (low certainty evidence) than treatment as usual in postpartum women with a diagnosis of MDD.*						
Structured psychological interventions (individual IPT [psychodynamic therapy]) appear to have no effect on depression mean scores at very long follow-up (>104 weeks post intervention) (low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of MDD.						
Structured psychological interventions (individual IPT [psychodynamic therapy]) may improve mother-infant attachment problems at endpoint or first measurement (low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of MDD.						
Structured psychological interventions (individual IPT [psychodynamic therapy]) appear to have no effect on (and may be harmful to) mother-infant attachment problems at long follow-up (>24 weeks) (low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of MDD.						

Guideline version	Outcomes (follow-up)	Illustrative comparative risks*		Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
		Assumed risk Control	Corresponding risk Intervention			

Footnotes:

* The 'assumed risk' for the *study population* is calculated using the mean baseline risk from the studies in the meta-analysis (i.e. total number of events in the control/comparison group divided by the total number of patients in the control/comparison group). The *moderate* risk scenario is calculated using the median control/comparison group risk from the studies in the meta-analysis. The 'corresponding risk' (and its 95% CI) is based on the assumed risk in the control/comparison group and the relative effect of the intervention (and its 95% CI).

a. There was evidence of substantial heterogeneity between effect sizes.

b. There was evidence of moderate-to-substantial heterogeneity between effect sizes.

c. Papers omit data.

d. Total population size is less than 400 (a threshold rule of thumb).

e. Total number of events is less than 300 (a threshold rule of thumb).

f. 95% CI crosses both line of no effect and measure of appreciable benefit or harm (SMD -0.5/0.5 or RR 0.75/1.25).

g. Risk of bias due to statistically significant group differences at baseline.

h. There is evidence of considerable heterogeneity of study effect sizes.

i. Risk of bias due to unclear blinding of outcome assessment.

Source: 2017 Australian Guideline Technical Report Part C, Table C3-19

Abbreviations: CBT, cognitive behaviour therapy; BAI, Beck Anxiety Inventory; BDI, Beck Depression Inventory; BDI-II, revised Beck Depression Inventory; BSI, Brief Symptom Inventory; CI, confidence interval; CIS-R, Computerised version of the Clinical Interview Schedule – Revised; CORE-OM, Clinical Outcomes in Routine Evaluation-Outcome Measure; DASS-21, Depression Anxiety Stress Scales; EPDS, Edinburgh Postnatal Depression Scale; ES-R, Impact of Events Scale – Revised; GL, guideline; HAM-A, Hamilton Anxiety Rating Scale; HRSD, Hamilton Depression Rating Scale; IPT, interpersonal psychotherapy; ITT, intention-to-treat; MADRS, Montgomery-Asberg Depression Rating Scale; MD, mean difference; MDD, major depressive disorder; PBQ, Postpartum Bonding Questionnaire; PSI, Parenting Stress Index; PSS, Perceived Stress Scale; PSWQ, Penn State Worry Questionnaire; PTSD, post-traumatic stress disorder; RR, relative risk; SCID, Structured Clinical Interview for DSM Disorders; SCID-IV, Structured clinical interview for DSM-IV disorders; SF, Short Form Health Survey; SMD, standardised mean difference; STAI, State-Trait Anxiety Inventory; STAI-S, State-Trait Anxiety Inventory-State; STAI-T, State-Trait Anxiety Inventory-Trait; STICSA, State-trait Inventory of Cognitive and Somatic Anxiety; WHO, World Health Organization.

Note: Statistically significant differences are shown in bold.

C3.1.3 Structured psychological interventions versus other interventions

NICE 2015 also included four RCTs that compared CBT or IPT with active interventions. However, this evidence was heterogeneous and is not reproduced here. The Literature Search Update identified two RCTS with active comparators: one RCT compared individual CBT plus home visiting with home visiting alone (N=93; Ammerman 2015), and one RCT compared individual CBT with directive counselling (N=52; Evans 2021). As mentioned in **Appendix 4.2**, the EWG agreed that these studies should not undergo full GRADE appraisal.

C3.2 Online interventions (treatment)

The evidence for online interventions included in the 2017 Australian Guideline was restricted to RCTs where the comparator was an offline version of the same intervention. In the 2017 Australian Technical Report Part C, the overall conclusion was 'there is no RCT evidence for online interventions compared with offline versions of the same intervention in women who have mental health problems in the perinatal period'. As such, no recommendations were made about online interventions in the 2017 Australian Guideline. In the current guideline update, the comparator was not restricted to offline versions of the same intervention, allowing RCTs comparing online interventions with treatment as usual or other interventions to be included.

C3.2.1 Evidence summaries

Of the 12 RCTs of online interventions deemed eligible for inclusion in the current Evidence Review Update, 4 were assessed as suitable to proceed to full GRADE appraisal based on sufficiency, applicability and implementability. Evidence summaries are shown in Table 8 for three of these RCTs (Van Lieshout 2021, Heller 2020 and Milgrom 2021). The fourth study (Pugh 2016, Ref ID 95) could not be summarised or taken further through the evidence review process due to a lack of clarity in the reporting of results, and concerns regarding the small sample size and power. Pugh 2016 compared therapist-assisted internet-delivered CBT (n=25) to a waitlist control group (n=25) in postnatal birthing parents. The study had been assessed to have a high risk of bias according to the Cochrane Risk of Bias 2 tool (see **Appendix 7**).

Table 8 Treatment with online interventions

Study ID	Van Lieshout 2021 (Ref ID 411)	Heller 2020 Ref ID (319)	Milgrom 2021[5] (Ref ID 688)
Characteristics			
Country	Canada	Netherlands	Australia
No. participants	403	159	116
Baseline diagnostic status	EPDS ≥10	Moderate to severe depression (CES-D ≥16) and/or anxiety (HADS-A ≥8) symptoms	EPDS 11-25 and DSM-IV diagnosis of major or minor depression
Intervention	Online interactive 1-day CBT-based workshop	Self-guided internet-based problem-solving treatment with online coaching, plus usual care	Self-guided internet-based CBT with weekly telephone support (coaching)
Timing	Postnatal	Antenatal	Postnatal
Mode of delivery	Online live via Zoom	Online with coaching via email	Online with telephone support (coaching)

[5] Three-arm study comparing face-to-face CBT vs. guided web-based CBT vs. treatment as usual.

Study ID	Van Lieshout 2021 (Ref ID 411)	Heller 2020 Ref ID (319)	Milgrom 2021[5] (Ref ID 688)	
Facilitator	Registered psychotherapist, psychiatrist or clinical psychology graduate student	Trained coaches (Masters in Psychology students)	Qualifications of coaches not reported	
Intensity	Low (1 full-day workshop)	Low (5 modules)	Low (6 online sessions, plus up to 30 minutes telephone coaching/week)	
Follow-up	Post-treatment (12 weeks post-baseline), no follow-up	Post-treatment (10 weeks post-baseline) and short to long-term follow-up (36 weeks of pregnancy i.e., 7 – 30 weeks post-intervention and 6 weeks postpartum i.e., 19 – 42 weeks post-intervention)	Post-treatment (12 weeks post-baseline for all measures except SCID-IV) & Short-term follow-up (12 weeks post-intervention for all measures)	
Comparison	Treatment as usual/waitlist	Treatment as usual	Treatment as usual	Validated individual face-to-face CBT
Findings				
Depression symptomatology	EPDS (post-treatment)	CES-D, EPDS (all time points)	BDI-II	BDI-II
			PHQ-9	PHQ-9
Depression diagnosis	N/A	N/A	SCID-IV (21 weeks)	SCID-IV (21 weeks)
Anxiety symptomatology	GAD-7 (post-treatment)	HADS-A (all time points)	DASS-21 (anxiety symptoms, perceived stress)	DASS-21 (anxiety symptoms)
				DASS-21 (perceived stress)
Negative thoughts/mood	N/A	N/A	ATQ	ATQ
Mother-infant bonding	Postpartum Bonding Questionnaire (PBQ) – impaired bonding and infant-focused anxiety (post-treatment)	N/A	N/A	N/A
	PBQ – rejection and pathological anger (post-treatment)			
Overall Risk of Bias	High	High	High	High

Key: favours intervention | no statistically significant difference | favours comparator | Statistical significance not reported

Intensity: Low intensity (<8 sessions of contact with healthcare professional); Moderate intensity (8-15 sessions); High intensity (≥16 sessions).

Time points: post-treatment or first measurement; Short-term follow-up (9-16 weeks postintervention); Intermediate follow-up (17-24 weeks postintervention); Long-term follow-up (25-103 weeks postintervention); Very long-term follow-up (≥104 weeks).

Abbreviations: ATQ, Automatic Thoughts Questionnaire; BDI-II, revised Beck Depression Inventory; CBT, cognitive behavioural therapy; CES-D, Center for Epidemiological Studies Depression Scale; DASS-21, Depression Anxiety Stress Scales; DSM-IV, Diagnostic and Statistical Manual of Mental Disorders, fourth edition; EPDS, Edinburgh Postnatal Depression Scale; GAD-7, Generalized Anxiety Disorder Questionnaire; HADS-A, Hospital Anxiety and Depression Scale-Anxiety subscale; ITT, intention-to-treat; N/A, not applicable; PBQ, Postpartum Bonding Questionnaire; PHQ-9, 9-item Patient Health Questionnaire; PSI-SF, Parenting Stress Index-short form; SCID-IV, Structured clinical interview for DSM-IV disorders.

C3.2.2 Online interventions versus treatment as usual/waitlist

Three RCTs of online interventions versus usual care, enhanced usual care or waitlist were appraised (see Table 9). There was variation amongst the studies in terms of mode and timing of intervention delivery, intervention type, facilitator, baseline diagnostic status of participants, and type and timing of assessments. One study was conducted in the antenatal period and two studies were conducted in the postnatal period. One study included participants with a DSM-IV confirmed diagnosis of major or minor depression, whilst the remaining two studies included participants with depression and/or anxiety symptoms exceeding pre-specified cut-off scores on depression and/or anxiety symptom scales. Two studies investigated online CBT, with one delivering the intervention via a live online one-day workshop, and the other via six guided online modules. The remaining study delivered problem solving treatment via five guided online modules. The qualifications of the individual facilitating the intervention varied across the studies, as did the timing of assessments. Due to the heterogeneity of the studies, it was agreed that meta-analysis is not appropriate, and the studies are presented separately in Evidence Profile Tables (see **Appendix 6**) and in the Summary of Findings table below (Table 9).

Overall, the way that outcomes were reported in the publications resulted in some challenges in calculating risks (dichotomous outcomes) or mean differences (continuous outcomes) for the GRADE tables. Whilst the mean differences reported in Table 9 may demonstrate a significant difference, it is important to note that these calculations **do not take into account** baseline differences between the groups.

C3.2.3 Online CBT versus face-to-face CBT

One RCT of online CBT versus face-to-face CBT was appraised (Milgrom 2021). The study was a three-arm study comparing online CBT (n=39) versus face-to-face CBT (n=39) versus treatment as usual (n=38) and is therefore included in both Table 9 and Table 10. The way that outcomes were reported in the publications resulted in some challenges in calculating risks or mean differences for the GRADE tables. While the mean differences reported in Table 10 may demonstrate a significant difference, favouring online CBT, it is important to note that these calculations **do not take into account** baseline differences between the groups. The study was not powered for non-inferiority.

Table 9 Summary of Findings (treatment) – online interventions versus treatment as usual/waitlist

Outcomes (follow-up)	Illustrative comparative risks*		Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
	Assumed risk Control	Corresponding risk Intervention			
Depression diagnosis (remission)					
Short Follow-up (9-16 weeks post intervention) – available case analysis SCID-IV	*Study population* 581 per 1000	 784 per 1000 (552, 1109)	RR=1.35 (0.95 to 1.91)	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – ITT SCID-IV	*Study population* 474 per 1000	 639 per 1000 (426, 966)	RR=1.35 (0.90 to 2.04)	116 (1 study, 3-arms)	⊕OOO VERY LOW
Depression diagnosis (ongoing depression)					
Short Follow-up (9-16 weeks post intervention) – available case analysis SCID-IV	*Study population* 419 per 1000	 218 per 1000 (101, 474)	RR=0.52 (0.24 to 1.13)	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – ITT SCID-IV	*Study population* 526 per 1000	 358 per 1000 (216, 600)	RR=0.68 (0.41 to 1.14)	116 (1 study, 3-arms)	⊕OOO VERY LOW
Depression symptomatology					
Post-treatment – ITT[6] EPDS (clinically significant change of ≥4 points)	-		**OR 4.15 (2.66 to 6.46)**	403 (1 study)	⊕OOO VERY LOW
Depression mean scores					
Post-treatment – available case analysis EPDS	MD 0.60 (-1.42, 2.62)		-	159 (1 study)	⊕OOO VERY LOW
Post-treatment – available case analysis CES-D	MD 0.90 (-2.66, 4.46)		-	159 (1 study)	⊕OOO VERY LOW
Post-treatment – available case analysis BDI-II	**MD -7.22 (-11.97, -2.47)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – available case analysis BDI-II	**MD -8.71 (-13.44, -3.98)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short to long Follow-up[7] – available case analysis EPDS	MD 0.80 (-1.41, 3.01)		-	159 (1 study)	⊕OOO VERY LOW
Short to long Follow-up[7] – available case analysis CES-D	MD 1.10 (-3.26, 5.46)		-	159 (1 study)	⊕OOO VERY LOW

[6] Authors report using an intention-to-treat approach however it is not clear whether all randomised participants were included in the analyses
[7] Follow-up at 36 weeks of pregnancy. Time post-intervention varies by participant depending on gestation at enrolment.

Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
Intermediate to long Follow-up[8] – available case analysis EPDS	MD -0.70 (-2.74, 1.34)		-	159 (1 study)	⊕OOO VERY LOW
Intermediate to long Follow-up[8] – available case analysis CES-D	MD -3.00 (-7.09, 1.09)		-	159 (1 study)	⊕OOO VERY LOW
Negative thoughts/mood mean scores					
Post-treatment – available case analysis ATQ	**MD -12.71 (-24.16, -1.26)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – available case analysis ATQ	**MD -16.14 (-28.06, -4.22)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Anxiety symptomatology					
Post-treatment – ITT[9] GAD-7 (clinically significant change defined as a difference of 4 points)	-		**OR 3.09 (1.99 to 4.81)**	403 (1 study)	⊕OOO VERY LOW
Anxiety mean scores					
Post-treatment – available case analysis HADS-A	MD -0.20 (-1.63, 1.23)		-	159 (1 study)	⊕OOO VERY LOW
Post-treatment – available case analysis DASS-21 (anxiety symptoms)	**MD -2.92 (-4.98, -0.86)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Post-treatment – available case analysis DASS-21 (perceived stress)	**MD -3.79 (-7.14, -0.44)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – available case analysis DASS-21 (anxiety symptoms)	MD -2.50 (-5.05, 0.05)		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – available case analysis DASS-21 (perceived stress)	**MD -4.70 (-8.57, -0.83)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short to long Follow-up[10] – available case analysis HADS-A	MD 0.00 (-1.76, 1.76)		-	159 (1 study)	⊕OOO VERY LOW

[8] Follow-up at 6 weeks after childbirth. Time post-intervention varies by participant depending on gestation at enrolment.
[9] Authors report using an intention-to-treat approach however it is not clear whether all randomised participants were included in the analyses
[10] Follow-up at 36 weeks of pregnancy. Time post-intervention varies by participant depending on gestation at enrolment.

Outcomes (follow-up)	Illustrative comparative risks*		Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
	Assumed risk Control	Corresponding risk Intervention			
Intermediate to long Follow-up[11] – available case analysis HADS-A	MD -0.80 (-2.42, 0.82)		-	159 (1 study)	⊕OOO VERY LOW
Evidence Statements: *Online interventions (online CBT) appear to have no effect on depression diagnosis (remission) at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depression.* *Online interventions (online CBT) appear to have no effect on depression diagnosis (ongoing depression) at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depression.* *Online interventions (online CBT) may improve depression symptomatology at post-treatment (very low certainty evidence) compared with treatment as usual in postpartum women with an EPDS score ≥10.* *Online interventions (online problem-solving treatment) appear to have no effect on depression mean scores at post-treatment (very low certainty evidence) compared with treatment as usual in pregnant women with moderate to severe depression (CES-D ≥16) and/or anxiety (HADS-A ≥8) symptoms.* *Online interventions (online CBT) may improve depression mean scores at post-treatment (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depression.* *Online interventions (online CBT) may improve depression mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depression.* *Online interventions (online problem-solving treatment) appear to have no effect on depression mean scores at short to long follow-up (7 to 42 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in pregnant women with moderate to severe depression (CES-D ≥16) and/or anxiety (HADS-A ≥8) symptoms.* *Online interventions (online problem-solving treatment) appear to have no effect on depression mean scores at intermediate to long follow-up (19 to 42 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in pregnant women with moderate to severe depression (CES-D ≥16) and/or anxiety (HADS-A ≥8) symptoms.* *Online interventions (online CBT) may improve negative thoughts/mood mean scores at post-treatment (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depression.* *Online interventions (online CBT) appear to have no effect on negative thoughts/mood mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depression, based on statistical analyses performed by the study authors.* *Online interventions (online CBT) may improve anxiety symptomatology at post-treatment (very low certainty evidence) compared with treatment as usual in postpartum women with an EPDS score ≥10.* *Online interventions (online problem-solving treatment) appear to have no effect on anxiety mean scores at post-treatment (very low certainty evidence) compared with treatment as usual in pregnant women with moderate to severe depression (CES-D ≥16) and/or anxiety (HADS-A ≥8) symptoms.* *Online interventions (online CBT) may improve anxiety mean scores (anxiety symptoms and perceived stress) at post-treatment (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depression.* *Online interventions (online CBT) appear to have no effect on anxiety mean scores (anxiety symptoms) at short follow-up (9-16 weeks post intervention) (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depression; however, growth model analysis performed by the study authors suggests online interventions may improve anxiety symptoms at this time point in these participants.*					

[11] Follow-up at 6 weeks after childbirth. Time post-intervention varies by participant depending on gestation at enrolment.

Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
Online interventions (online CBT) may improve anxiety mean scores (perceived stress) at short follow-up (9-16 weeks post intervention) (very low certainty evidence) compared with treatment as usual in postpartum women with a diagnosis of major or minor depression.					
Online interventions (online problem-solving treatment) appear to have no effect on anxiety mean scores at short to long follow-up (7 to 42 weeks post intervention) (very low certainty evidence) compared with treatment as usual in pregnant women with moderate to severe depression (CES-D ≥16) and/or anxiety (HADS-A ≥8) symptoms.					
Online interventions (online problem-solving treatment) appear to have no effect on anxiety mean scores at intermediate to long follow-up (19 to 42 weeks post intervention) (very low certainty evidence) compared with treatment as usual in pregnant women with moderate to severe depression (CES-D ≥16) and/or anxiety (HADS-A ≥8) symptoms.					

Abbreviations: ATQ, Automatic Thoughts Questionnaire; BDI-II, revised Beck Depression Inventory; CBT, cognitive behavioural therapy; CES-D, Center for Epidemiological Studies Depression Scale; CI, confidence interval; DASS-21, Depression Anxiety Stress Scales; EPDS, Edinburgh Postnatal Depression Scale; GAD-7, Generalized Anxiety Disorder Questionnaire; GRADE, Grading of Recommendations, Assessment, Development and Evaluation; HADS-A, Hospital Anxiety and Depression Scale-Anxiety subscale; ITT, intention-to-treat; MD, mean difference; OR, odds ratio; RR, relative risk; SCID-IV, Structured clinical interview for DSM-IV disorders.
Footnotes:
* The 'assumed risk' for the *study population* is calculated using the mean baseline risk from the study (i.e. total number of events in the control/comparison group divided by the total number of patients in the control/comparison group).

Note: Statistically significant differences are shown in bold

Table 10 Summary of Findings (treatment) – online CBT versus face-to-face CBT

Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
Depression diagnosis (remission)					
Short Follow-up (9-16 weeks post intervention) – available case analysis SCID-IV	*Study population* 818 per 1000	777 per 1000 (614, 998)	RR=0.95 (0.75 to 1.22)	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – ITT SCID-IV	*Study population* 692 per 1000	644 per 1000 (471, 879)	RR=0.93 (0.68 to 1.27)	116 (1 study, 3-arms)	⊕OOO VERY LOW
Depression diagnosis (ongoing depression)					
Short Follow-up (9-16 weeks post intervention) – available case analysis SCID-IV	*Study population* 182 per 1000	218 per 1000 (82, 580)	RR=1.20 (0.45 to 3.19)	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – ITT SCID-IV	*Study population* 308 per 1000	360 per 1000 (191, 674)	RR=1.17 (0.62 to 2.19)	116 (1 study, 3-arms)	⊕OOO VERY LOW
Depression mean scores					
Post-treatment – available case analysis BDI-II	**MD -9.73 (-14.95, -4.51)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW

Outcomes (follow-up)	Illustrative comparative risks* Assumed risk Control	Illustrative comparative risks* Corresponding risk Intervention	Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
Short Follow-up (9-16 weeks post intervention) – available case analysis BDI-II	**MD -6.30 (-11.00, -1.60)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Negative thoughts/mood **mean scores**					
Post-treatment – available case analysis ATQ	**MD -14.81 (-26.92, -2.70)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – available case analysis ATQ	MD -8.03 (-18.94, 2.88)		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Anxiety **mean scores**					
Post-treatment – available case analysis DASS-21 (anxiety symptoms)	**MD -6.30 (-9.26, -3.34)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Post-treatment – available case analysis DASS-21 (perceived stress)	**MD -6.06 (-10.09, -2.03)**		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – available case analysis DASS-21 (anxiety symptoms)	MD -1.76 (-4.31, 0.79)		-	116 (1 study, 3-arms)	⊕OOO VERY LOW
Short Follow-up (9-16 weeks post intervention) – available case analysis DASS-21 (perceived stress)	MD -3.84 (-7.70, 0.02)		-	116 (1 study, 3-arms)	⊕OOO VERY LOW

Evidence Statements:

Online interventions (online CBT) appear to have no effect on depression diagnosis (remission) at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with face-to-face CBT in postpartum women with a diagnosis of major or minor depression.

Online interventions (online CBT) appear to have no effect on depression diagnosis (ongoing depression) at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with face-to-face CBT in postpartum women with a diagnosis of major or minor depression

Online interventions (online CBT) may improve depression mean scores post-treatment (very low certainty evidence) compared with face-to-face CBT in postpartum women with a diagnosis of major or minor depression.

Online interventions (online CBT) may improve depression mean scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with face-to-face CBT in postpartum women with a diagnosis of major or minor depression.

Online interventions (online CBT) may improve negative thoughts/mood scores post-treatment (very low certainty evidence) compared with face-to-face CBT in postpartum women with a diagnosis of major or minor depression.

Online interventions (online CBT) appear to have no effect on negative thoughts/mood scores at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with face-to-face CBT in postpartum women with a diagnosis of major or minor depression.

Online interventions (online CBT) may improve anxiety mean scores (anxiety symptoms and perceived stress) post-treatment (very low certainty evidence) compared with face-to-face CBT in postpartum women with a diagnosis of major or minor depression.

Outcomes (follow-up)	Illustrative comparative risks*		Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
	Assumed risk Control	Corresponding risk Intervention			
Online interventions (online CBT) appear to have no effect on anxiety mean scores (anxiety symptoms and perceived stress) at short follow-up (9-16 weeks post-intervention) (very low certainty evidence) compared with face-to-face CBT in postpartum women with a diagnosis of major or minor depression; however, growth model analysis performed by the study authors suggests that online interventions may improve perceived stress at this time point in these participants.					

Abbreviations: ATQ, Automatic Thoughts Questionnaire; BDI-II, revised Beck Depression Inventory; CBT, cognitive behavioural therapy; CI, confidence interval; DASS-21, Depression Anxiety Stress Scales; GRADE, Grading of Recommendations, Assessment, Development and Evaluation; ITT, intention-to-treat; MD, mean difference; RR, relative risk; SCID-IV, Structured clinical interview for DSM-IV disorders.

Footnotes:

* The 'assumed risk' for the *study* population is calculated using the mean baseline risk from the study (i.e. total number of events in the control/comparison group divided by the total number of patients in the control/comparison group).

Note: Statistically significant differences are shown in bold

Appendix 1 Literature search

1.1 Search strings

The updated literature search covered the period from **01 January 2014** to **07 March 2022**. A broad search was undertaken to identify RCTs relating to mental health problems in the perinatal period.

Table App. 1 Cochrane Library CENTRAL search string – RCTs for treatment and prevention interventions

Search set	Search string
Perinatal period	pregnancy OR pregnant OR perinatal OR 'peri natal' OR peripartum OR 'peri partum' OR prenatal OR 'pre natal' OR postnatal OR 'post natal' OR postpartum OR 'post partum' OR antenatal OR 'ante natal' OR antepartum OR 'ante partum' OR parturition OR puerperal OR maternal
Mental health problems	depression OR depressive OR anxiety OR psychosis OR psychotic OR bipolar OR schizophrenia OR 'borderline state' OR 'borderline personality disorder' OR 'mental health' OR 'mental disease' OR 'mental disorder' OR 'mood disorder' OR 'post traumatic stress disorder' OR 'posttaumatic stress disorder' OR PTSD OR 'affective disorder'
Search limits	With Publication Year from 2014 to 2022 *(update from NICE Guideline search date)*
	In 'Trials with Pregnancy and Childbirth' in Cochrane Groups (Word variations have been searched)
Total records identified	Total records including entries from Clinicaltrials.gov [CT.gov] and trialsearch.who.it [ICTRP]): **1,782** Total records after trial registry exclusion in EndNote: **1,058**

Note: Records in CENTRAL are systematically sourced from searches of PubMed/MEDLINE, Embase, CINAHL, ClinicalTrials.gov, WHO ICTRP

1.2 Study inclusion/exclusion

Table App. 2 Inclusion/exclusion – RCTs for treatment and prevention interventions

	No. records
Records identified via literature search on 07 March 2022	1,058
Records included after title/abstract screen	250
Records excluded after full text screen	149
Excluded – non-English paper	4
Excluded – wrong publication type	46
Excluded – wrong population	65
Excluded – wrong intervention	2
Excluded – no comparator	3
Excluded – wrong outcomes	28
Excluded – wrong study type	1
Records included after full text screen	101
Additional records identified by EWG (list of potentially included records circulated 19 June 2022)	0
Records included after EWG input (pre-meetings) on 6-9 June 2022	81 (77 RCTs)
Prevention	*18 (18 RCTs)*
Treatment	*63 (59 RCTs)*

Note: The 2015 NICE Guideline included 98 treatment RCTs and 46 prevention RCTs, published from late 1990s to the literature search on 07 April 2014.

Appendix 2 Excluded studies list

2.1 Studies excluded at full text review, with reason for exclusion

(2020). Effects of a supportive program on uncertainty, anxiety, and maternal-fetal attachment in women with high-risk pregnancy. Korean j women health nurs, 26(2), 180-190
Ref ID: 243
Reason for exclusion: non-English paper

Abhari, Z. H., Karimi, F. Z., Mazloom, S. R., Taghizdeh, Z., Asghari Nekah, S. M. (2021). Effect of Counseling Based on Gamble's Approach on Postpartum Anxiety in Primiparous Women. Journal of midwifery & reproductive health, 9(1), 2530-2540
Ref ID: 994
Reason for exclusion: wrong intervention - purpose

Agako, A., Donegan, E., McCabe, R. E., Frey, B. N., Streiner, D., Green, S. (2021). The role of emotion dysregulation in cognitive behavioural group therapy for perinatal anxiety: Results from a randomized controlled trial and routine clinical care. Journal of affective disorders, 292(2021), 517-525
Ref ID: 1076
Reason for exclusion: wrong outcome

Akbarian, Z., Kohan, S., Nasiri, H., Ehsanpour, S. (2018). The effects of mental health training program on stress, anxiety, and depression during pregnancy. Iranian journal of nursing and midwifery research, 23(2), 93-97
Ref ID: 793
Reason for exclusion: wrong population - all birthing parents

Apostolopoulos, M., Hnatiuk, J. A., Maple, J. L., Olander, E. K., Brennan, L., van der Pligt, P., Teychenne, M. (2021). Influences on physical activity and screen time amongst postpartum women with heightened depressive symptoms: a qualitative study. BMC pregnancy and childbirth, 21(1), 376
Ref ID: 755
Reason for exclusion: no comparator

Dau, A. L. B. T. B. T., Callinan, L. S., Smith, M. V. (2019). An examination of the impact of maternal fetal attachment, postpartum depressive symptoms and parenting stress on maternal sensitivity. Infant behavior & development, 54(2019), 99-107
Ref ID: 130
Reason for exclusion: no comparator

Baumgartner, J. N., Ali, M., Gallis, J. A., Lillie, M., Owusu, R., Abubakr-Bibilazu, S., Adam, H., Aborigo, R., McEwan, E., Zhou, Y., et al., (2021). Effect of a lay counselor-delivered integrated maternal mental health and early childhood development group-based intervention in Northern Ghana: a cluster-randomized controlled trial. Global mental health, 8(e18), 1-11
Ref ID: 290
Reason for exclusion: wrong population - all birthing parents

Beijers, C., Verbeek, T., Van Pampus, M. G., Meijer, J. L., Burger, H., Bockting, C. L. H. (2015). Cognitive behavioral therapy for treatment of antenatal anxiety and depressive symptoms: a randomized controlled trial. Archives of women's mental health, 18(2), 373
Ref ID: 724
Reason for exclusion: wrong publication type

Berry, O. J. (2019). Postpartum Depression Prevention through the Mother-Infant Dyad: The Role of Childhood Trauma. Journal of the American Academy of Child and Adolescent Psychiatry, 58(10), S299-
Ref ID: 530
Reason for exclusion: wrong publication type

Berry, O. O., Babineau, V., Lee, S., Feng, T., Scorza, P., Werner, E. A., Monk, C. (2021). Perinatal depression prevention through the mother-infant dyad: the role of maternal childhood maltreatment. Journal of affective disorders, 290(2021), 188-196
Ref ID: 205
Reason for exclusion: wrong population - all birthing parents

Blasio, P. D., Camisasca, E., Caravita, S. C., Ionio, C., Milani, L., Valtolina, G. G. (2015). The effects of expressive writing on postpartum depression and posttraumatic stress symptoms. Psychological reports, 117(3), 856-882
Ref ID: 229
Reason for exclusion: wrong population - all birthing parents

Bliznashka, L., Yousafzai, A. K., Asheri, G., Masanja, H., Sudfeld, C. R. (2021). Effects of a community health worker delivered intervention on maternal depressive symptoms in rural Tanzania. Health policy and planning, 36(4), 473-483
Ref ID: 185
Reason for exclusion: wrong population - all birthing parents

Borghini, A., Habersaat, S., Forcada-Guex, M., Nessi, J., Pierrehumbert, B., Ansermet, F., Müller-Nix, C. (2014). Effects of an early intervention on maternal post-traumatic stress symptoms and the quality of mother-infant interaction: the case of preterm birth. Infant behavior & development, 37(4), 624-631
Ref ID: 240
Reason for exclusion: wrong population - all birthing parents

Broberg, L., Backhausen, M., Damm, P., Bech, P., Tabor, A., Hegaard, H. K. (2017). Effect of supervised exercise in groups on psychological well-being among pregnant women at risk of depression (the EWE Study): study protocol for a randomized controlled trial. Trials, 18(1), 210
Ref ID: 192
Reason for exclusion: wrong outcome

Burger, H., Verbeek, T., Meijer, J., Beijers, C., Mol, B., Ormel, J., van Pampus, M., Bockting, C. (2019). 80: effects of cognitive behavioural therapy for antenatal anxiety and depression on mother and offspring. American journal of obstetrics and gynecology, 220(1), S65
Ref ID: 334
Reason for exclusion: wrong publication type

Carter, R., Cust, F., Boath, E. (2020). Effectiveness of a peer support intervention for antenatal depression: a feasibility study. Journal of reproductive and infant psychology, 38(3), 259-270
Ref ID: 722
Reason for exclusion: wrong population - all birthing parents

Catherine, N. L., Gonzalez, A., Boyle, M., Sheehan, D., Jack, S. M., Hougham, K. A., McCandless, L., MacMillan, H. L., Waddell, C. (2016). Improving children's health and development in British Columbia through nurse home visiting: a randomized controlled trial protocol. BMC health services research, 16(a), 349
Ref ID: 579
Reason for exclusion: wrong population - all birthing parents

Catling, C. J., Medley, N., Foureur, M., Ryan, C., Leap, N., Teate, A., Homer, C. S. E. (2015). Group versus conventional antenatal care for women. Cochrane Database of Systematic Reviews, 2015(2), Art. No.: CD007622
Ref ID: 76
Reason for exclusion: wrong population - all birthing parents

Cheng, H. Y., Carol, S., Wu, B., Cheng, Y. F. (2020). Effect of acupressure on postpartum low back pain, salivary cortisol, physical limitations, and depression: a randomized controlled pilot study. Journal of traditional Chinese medicine = Chung i tsa chih ying wen pan, 40(1), 128-136
Ref ID: 946
Reason for exclusion: wrong population - all birthing parents

Chou, C. C., Liaw, J. J., Chen, C. C., Liou, Y. M., Wang, C. J. (2021). Effects of a Case Management Program for Women With Pregnancy-Induced Hypertension. Journal of nursing research, 29(5), e169
Ref ID: 326
Reason for exclusion: wrong population - all birthing parents

Cooijmans, K. H. M., Beijers, R., Rovers, A. C., de Weerth, C. (2017). Effectiveness of skin-to-skin contact versus care-as-usual in mothers and their full-term infants: study protocol for a parallel-group randomized controlled trial. BMC pediatrics, 17(1), 154
Ref ID: 136
Reason for exclusion: wrong population - all birthing parents

Costa, J., Santos, O., Virgolino, A., Pereira, M. E., Stefanovska-Petkovska, M., Silva, H., Navarro-Costa, P., Barbosa, M., Das Neves, R. C., Silva, I. D. E., et al., (2021). Maternal mental health in the workplace (Mamh@work): A protocol for promoting perinatal maternal mental health and wellbeing. International Journal of Environmental Research and Public Health, 18(5), 1-20
Ref ID: 115
Reason for exclusion: wrong population - all birthing parents

da Silva, H. L., de Souza Almeida, M. V., da Silva Papi Diniz, J., Marabotti Costa Leite, F., Vasconcelos Moura, M. A., de Oliveira Bringuente, M. E., Brandão-Souza, C., Costa Amorim, M. H. (2020). Effects of auriculotherapy on anxiety of pregnant women receiving low-risk prenatal care. Acta paulista de enfermagem, 33(4), 1-8
Ref ID: 1053
Reason for exclusion: non-English paper

Dabas, S., Joshi, P., Agarwal, R., Yadav, R. K., Kachhawa, G. (2019). Impact of audio assisted relaxation technique on stress, anxiety and milk output among postpartum mothers of hospitalized neonates: A randomized controlled trial. Journal of neonatal nursing, 25(4), 200-204
Ref ID: 1011
Reason for exclusion: wrong population - all birthing parents

Delaram, M., Poor, F. S., Jafarzadeh, L. (2015). Effects of fetal movement counting on mental health of mother in third trimester: a randomized controlled trial. Iranian journal of obstetrics, gynecology and infertility, 18(139), 8-14
Ref ID: 618
Reason for exclusion: non-English paper

Deligiannidis, K., Huang, M. Y., Acaster, S., Fridman, M., Gunduz-Bruce, H., Lasser, R., Bonthapally, V., Kanes, S. J., Werneburg, B. (2021). Rapid and Sustained Improvement in Concurrent Symptoms of Depression and Anxiety in a Post Hoc Analysis of Zuranolone Treatment in Postpartum Depression. Biological psychiatry, 89(9), S157

Ref ID: 943
Reason for exclusion: wrong publication type

Deligiannidis, K., Huang, M. Y., Suthoff, E., Acaster, S., Fridman, M., Gunduz-Bruce, H., Lasser, R., Bonthapally, V., Kanes, S. J., Werneburg, B. (2021). Evaluation of Insomnia Symptoms in a Double-Blind, Randomized, Placebo-Controlled Phase 3 Trial of Zuranolone in Postpartum Depression. Biological psychiatry, 89(9), S91
Ref ID: 888
Reason for exclusion: wrong publication type

Deligiannidis, K., Lasser, R., Gunduz-Bruce, H., Silber, C., Sankoh, A., Li, S., Werneburg, B., Jonas, J., Doherty, J., Kanes, S. (2019). Evaluation of depression and anxiety in a phase 3, double-blind, placebo-controlled trial of the neuroactive steroid GABAA receptor positive allosteric modulator SAGE-217 in postpartum depression. Neuropsychopharmacology, 44, 426-427
Ref ID: 921
Reason for exclusion: wrong publication type

Deligiannidis, K., Werneburg, B., Huang, M. Y., Suthoff, E., Lasser, R., Gunduz-Bruce, H., Acaster, S., Fridman, M., Bonthapally, V., Kanes, S. J. (2020). Clinical global impression scores and number needed to treat outcomes in patients with postpartum depression treated with the oral neuroactive steroid zuranolone. Neuropsychopharmacology, 45, 323-324
Ref ID: 900
Reason for exclusion: wrong publication type

Dennis, C. L., Birken, C., Hoch, J., Maquire, J., Thorpe, K. (2015). Evaluating collaborative care for postpartum depression in early childhood primary care settings: a randomized controlled trial protocol. Archives of women's mental health, 18(2), 301-
Ref ID: 799
Reason for exclusion: wrong publication type

Dennis, C. L., Ravitz, P., Grigoriadis, S., Jovellanos, M., Hodnett, E., Ross, L., Zupancic, J. (2015). A multi-site randomized controlled trial to evaluate the effect of telephone-based interpersonal psychotherapy by trained nurses for the treatment of postpartum depression. Archives of women's mental health, 18(2), 288-289
Ref ID: 375
xclusion: wrong publication type

Dinh, P. V., Urizar, G. (2020). The Effectiveness of Prenatal Stress Management Interventions in Regulating Postpartum Cortisol Levels As Moderated by Level of Prenatal Depression. Psychosomatic medicine, 82(6), A36-
Ref ID: 709
Reason for exclusion: wrong publication type

Dodge, K. A., Goodman, W. B., Bai, Y., O'Donnell, K., Murphy, R. A. (2019). Effect of a Community Agency-Administered Nurse Home Visitation Program on Program Use and Maternal and Infant Health Outcomes: a Randomized Clinical Trial. JAMA network open, 2(11), e1914522
Ref ID: 294
Reason for exclusion: wrong population - all birthing parents

Doi, S., Fujiwara, T., Isumi, A., Mitsuda, N. (2020). Preventing postpartum depressive symptoms using an educational video on infant crying: a cluster randomized controlled trial. Depression and anxiety, 37(5), 449-457
Ref ID: 335
Reason for exclusion: wrong population - all birthing parents

Doty, M. S., Chen, H. Y., Ajishegiri, O., Sibai, B. M., Blackwell, S. C., Chauhan, S. P. (2021). 251 Mindful meditation for anxiety in individuals admitted to the antepartum unit: a randomized controlled trial. American Journal of Obstetrics and Gynecology, 224(2), S166
Ref ID: 452
Reason for exclusion: wrong publication type

Duffecy, J., Grekin, R., Hinkel, H., Gallivan, N., Nelson, G., O'Hara, M. W. (2019). A group-based online intervention to prevent postpartum depression (sunnyside): feasibility randomized controlled trial. JMIR mental health, 6(5), e10778
Ref ID: 929
Reason for exclusion: wrong population - all birthing parents

Ericksen, J., Milgrom, J., Holt, C., Holt, C., Ross, J., Gemmill, A. (2020). Treatment for antenatal anxiety and depression with Beating the Blues before Birth BBB© positively impacts infant postnatal development at 9 months, a pilot RCT. Archives of Women's Mental Health, 23(2), 304-305
Ref ID: 502
Reason for exclusion: wrong publication type

Esfandiari, M., Faramarzi, M., Nasiri-Amiri, F., Parsian, H., Chehrazi, M., Pasha, H., Omidvar, S., Gholinia, H. (2020). Effect of supportive counseling on pregnancy-specific stress, general stress, and prenatal health behaviors: a multicenter randomized controlled trial. Patient education and counseling, 103(11), 2297-2304
Ref ID: 914
Reason for exclusion: wrong population - all birthing parents

Fahey, M. C., Wayne Talcott, G., Cox Bauer, C. M., Bursac, Z., Gladney, L., Hare, M. E., Harvey, J., Little, M., McCullough, D., Hryshko-Mullen, A. S., et al., (2018). Moms fit 2 fight: rationale, design, and analysis plan of a behavioral weight management intervention for pregnant and postpartum women in the U.S. military. Contemporary clinical trials, 74, 46-54
Ref ID: 435
Reason for exclusion: wrong population - all birthing parents

Fatori, D., Polanczyk, G. V., Miguel, E., Matijasevich, A. (2017). Maternal depression trajectories in adolescent mothers living in a poor urban area and their association with parental stress, infant behavioral problems, and psychological violence. Journal of the American Academy of Child and Adolescent Psychiatry, 56(10), S274
Ref ID: 289
Reason for exclusion: wrong publication type

Fealy, S., Chan, S., Wynne, O., Dowse, E., Ebert, L., Ho, R., Zhang, M. W. B., Jones, D. (2019). The Support for New Mums Project: a protocol for a pilot randomized controlled trial designed to test a postnatal psychoeducation smartphone application. Journal of advanced nursing, 75(6), 1347-1359
Ref ID: 532
Reason for exclusion: wrong population - all birthing parents

Felder, J. N., Epel, E. S., Neuhaus, J., Krystal, A. D., Prather, A. A. (2021). Randomized controlled trial of digital cognitive behavior therapy for prenatal insomnia symptoms: Effects on postpartum insomnia and mental health. SleepJ, 45(2), 1-9
Ref ID: 776
Reason for exclusion: wrong population - all birthing parents

Felder, J. N., Epel, E. S., Neuhaus, J., Krystal, A. D., Prather, A. A. (2020). Efficacy of Digital Cognitive Behavioral Therapy for the Treatment of Insomnia Symptoms Among Pregnant Women: a Randomized Clinical Trial. JAMA psychiatry, 77(5), 484-492

Ref ID: 1023
Reason for exclusion: wrong population - all birthing parents

Felder, J. N., Epel, E., Lewis, J. B., Cunningham, S. D., Tobin, J. N., Rising, S. S., Thomas, M., Ickovics, J. R. (2017). Depressive symptoms and gestational length among pregnant adolescents: cluster randomized control trial of CenteringPregnancy® plus group prenatal care. Journal of consulting and clinical psychology, 85(6), 574-584
Ref ID: 935
Reason for exclusion: wrong population - all birthing parents

Fish, R., Weber, A., Crowley, M., March, M., Thompson, C., Voos, K. (2021). Early antenatal counseling in the outpatient setting for high-risk pregnancies: a randomized control trial. Journal of perinatology, 41(7), 1595-1604
Ref ID: 511
Reason for exclusion: wrong population - all birthing parents

Fiskin, G., Sahin, N. H. (2018). Effect of diaphragmatic breathing exercise on psychological parameters in gestational diabetes: a randomised controlled trial. European journal of integrative medicine, 23(2018), 50-56
Ref ID: 599
Reason for exclusion: wrong population - all birthing parents

Fonseca, A., Monteiro, F., Alves, S., Gorayeb, R., Canavarro, M. C. (2019). Be a Mom, a Web-Based Intervention to Prevent Postpartum Depression: the Enhancement of Self-Regulatory Skills and Its Association With Postpartum Depressive Symptoms. Frontiers in psychology, 10, 265
Ref ID: 923
Reason for exclusion: wrong outcome

Hamidi, F., Javadnoori, M., Hosseinifard, S. M., Nikbakht, R. (2020). The effectiveness of mindfulness-based training on anxiety in pregnant women with gestational diabetes. Family Medicine and Primary Care Review, 22(4), 279-283
Ref ID: 1093
Reason for exclusion: wrong population - all birthing parents

Heller, H. M., van Straten, A., de Groot, C. J., Honig, A. (2014). The (cost) effectiveness of an online intervention for pregnant women with affective symptoms: protocol of a randomised controlled trial. BMC pregnancy and childbirth, 14, 273
Ref ID: 133
Reason for exclusion: wrong outcome

Hendrix, Ymga, van Dongen, K. S. M., de Jongh, A., van Pampus, M. G. (2021). Postpartum Early EMDR therapy Intervention (PERCEIVE) study for women after a traumatic birth experience: study protocol for a randomized controlled trial. Trials, 22(2021), 599
Ref ID: 488
Reason for exclusion: wrong outcome

Hogh, S., Hegaard, H. K., Renault, K. M., Cvetanovska, E., Kjaerbye-Thygesen, A., Juul, A., Borgsted, C., Bjertrup, A. J., Miskowiak, K. W., Vaever, M. S., et al., (2021). P.0409 Evaluating short-term estrogen as prevention of postpartum depression in women at high risk: the MAMA trial protocol. European neuropsychopharmacology, 53(Suppl1), S296-S297
Ref ID: 454
Reason for exclusion: wrong publication type

Horsch, A., Gilbert, L., Lanzi, S., Gross, J., Keyser, B. (2019). Factors and mental health issues in GDM A new lifestyle and psychosocial intervention for women with GDM and their families. Journal of reproductive and infant psychology, 37(5), 24
Ref ID: 615
Reason for exclusion: wrong publication type

Howell, E. A., Bodnar-Deren, S., Balbierz, A., Loudon, H., Mora, P. A., Zlotnick, C., Wang, J., Leventhal, H. (2014). An intervention to reduce postpartum depressive symptoms: a randomized controlled trial. Archives of women's mental health, 17(1), 57-63
Ref ID: 102
Reason for exclusion: wrong population - all birthing parents

Huang, M. Y., Deligiannidis, K., Suthoff, E., Mittal, A., Werneburg, B., Acaster, S., Fridman, M., Lasser, R., Gunduz-Bruce, H., Bonthapally, V., et al., (2020). SAGE-217 in Postpartum Depression (PPD): number Needed to Treat (NNT) From a Phase 3, Randomized, Placebo-Controlled Trial. Biological psychiatry, 87(9), S334-S335
Ref ID: 761
Reason for exclusion: wrong publication type

Huang, M. Y., Suthoff, E., Deligiannidis, K., Lasser, R., Gunduz-Bruce, H., Silber, C., Sankoh, A., li, S., Jonas, J., Doherty, J., et al., (2020). 934: phase 3, randomized, placebo-controlled trial of SAGE-217 in postpartum depression: association between HAM-D and PHQ-9. American journal of obstetrics and gynecology, 222(1), S578
Ref ID: 772
Reason for exclusion: wrong publication type

Huma, Z. E., Gillani, A., Shafique, F., Rashid, A., Mahjabeen, B., Javed, H., Wang, D., Rahman, A., Hamdani, S. U. (2021). Evaluating the impact of a common elements-based intervention to improve maternal psychological well-being and mother-infant interaction in rural Pakistan: study protocol for a randomised controlled trial. BMJ open, 11(7), e047609
Ref ID: 353
Reason for exclusion: wrong outcome

Husain, N., Kiran, T., Shah, S., Rahman, A., Raza-Ur-Rehman, null, Saeed, Q., Naeem, S., Bassett, P., Husain, M., Haq, S. U., et al., (2021). Efficacy of learning through play plus intervention to reduce maternal depression in women with malnourished children: a randomized controlled trial from Pakistan. Journal of affective disorders, 278(2021), 78-84
Ref ID: 308
Reason for exclusion: wrong population - all birthing parents

Husain, N., Lovell, K., Lunat, F., Atif, N., Bhokari, A., Bhojani, I., Tomenson, B., Waheed, W., Rahman, A., Chaudhry, N. (2016). Exploratory randomized controlled trial of a group psychological intervention for postnatal depression in British mothers of South Asian origin. European psychiatry, 33(S1), S279
Ref ID: 1038
Reason for exclusion: wrong publication type

Ingram, J., Johnson, D., Johnson, S., O'Mahen, H. A., Kessler, D., Taylor, H., Law, R., Round, J., Ford, J., Hopley, R., et al., (2019). Protocol for a feasibility randomised trial of low-intensity interventions for antenatal depression: ADAGIO trial comparing interpersonal counselling with cognitive behavioural therapy. BMJ open, 9(8), e032649
Ref ID: 747
Reason for exclusion: wrong outcome

Jack, S. M., Boyle, M., McKee, C., Ford-Gilboe, M., Wathen, C. N., Scribano, P., Davidov, D., McNaughton, D., O'Brien, R., Johnston, C., et al., (2019). Effect of Addition of an Intimate Partner Violence Intervention to a Nurse Home Visitation Program on Maternal Quality of Life: a Randomized Clinical Trial. JAMA, 321(16), 1576-1585
Ref ID: 307
Reason for exclusion: wrong outcome

Jahdi, F., Koohsarian, Z., Rasoulian, M., Montazerim, A. (2016). Evaluating the effectiveness of empowerment-based education on empowerment and anxiety in nulliparous women. Acta medica mediterranea, 32(Special Issue 4), 1281-1287
Ref ID: 654
Reason for exclusion: wrong population - all birthing parents

Jesse, D. E., Bian, H., Feldhousen, E. B., Newton, E. R., Gaynes, B. N., Hollon, S. D. (2016). The role of mediators in reducing antepartum depressive symptoms in rural low-income women receiving a culturally tailored cognitive behavioral intervention. Journal of midwifery & women's health, 61(5), 659-660
Ref ID: 650
Reason for exclusion: wrong publication type

Jones, D. L., Rodriguez, V. J., Mandell, L. N., Lee, T. K., Weiss, S. M., Peltzer, K. (2018). Influences on Exclusive Breastfeeding Among Rural HIV-Infected South African Women: a Cluster Randomized Control Trial. AIDS and behavior, 22(9), 2966-2977
Ref ID: 815
Reason for exclusion: wrong population - all birthing parents

Judge, M. P., Beck, C. T., Durham, H., McKelvey, M. M., Lammi-Keefe, C. J. (2014). Pilot trial evaluating maternal docosahexaenoic acid consumption during pregnancy: decreased postpartum depressive symptomatology. International journal of nursing sciences, 1(4), 339-345
Ref ID: 180
Reason for exclusion: wrong population - all birthing parents

Kalmbach, D. A., Cheng, P., O'Brien, L. M., Swanson, L. M., Sangha, R., Sen, S., Guille, C., Cuamatzi-Castelan, A., Henry, A. L., Roth, T., et al., (2020). A randomized controlled trial of digital cognitive behavioral therapy for insomnia in pregnant women. Sleep medicine, 72(August), 82-92
Ref ID: 979
Reason for exclusion: wrong population

Kalmbach, D. A., Cuamatzi-Castelan, A., Tonnu, C. V., Roth, T., Sangha, R., Swanson, L. M., O'Brien, L. M., Drake, C. L. (2020). A randomized controlled trial of digital cognitive behavioral therapy for insomnia in pregnant women. Sleep, 43(SUPPL 1), A180
Ref ID: 636
Reason for exclusion: wrong publication type

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Reason for exclusion: wrong population - all birthing parents & wrong outcome

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Reason for exclusion: wrong population - all birthing parents

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Reason for exclusion: wrong population - all birthing parents

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Reason for exclusion: wrong population - all birthing parents

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Zamani, M., Roudsari, R. L., Moradi, M., Esmaili, H. A. (2017). Effect of Sexual Counseling on Stress, Anxiety, and Depression in Women during Postpartum Period. Journal of evidence-based care, 7(2), 17-27
Ref ID: 984
Reason for exclusion: wrong population - all birthing parents

Zhang, S., Lu, Z., Kang, X., Zhang, X. (2020). Analysis of the effect of postpartum rehabilitation nursing on the management of postpartum depression JPMA. The Journal of the Pakistan Medical Association, 70(9),

9-15
Ref ID: 807
Reason for exclusion: wrong population - all birthing parents

Zlotnick, C., Tzilos, G., Miller, I., Seifer, R., Stout, R. (2016). Randomized controlled trial to prevent postpartum depression in mothers on public assistance. Journal of affective disorders, 189, 263-268
Ref ID: 927
Reason for exclusion: wrong population - all birthing parents

2.2 Studies excluded by EWG, with reason for exclusion

Ahmadpanah, M., Nazaribadie, M., Aghaei, E., Ghaleiha, A., Bakhtiari, A., Haghighi, M., Bahmani, D. S., Akhondi, A., Bajoghli, H., Jahangard, L., et al., (2017). Influence of adjuvant detached mindfulness and stress management training compared to pharmacologic treatment in primiparae with postpartum depression. Archives of women's mental health, 21, 65-73
Reason for exclusion: Mixed intervention (antidepressant plus mindfulness or stress management)
RefID: 854

Bhat, A., Grote, N. K., Russo, J., Lohr, M. J., Jung, H., Rouse, C. E., Howell, E. C., Melville, J. L., Carson, K., Katon, W. (2017). Collaborative Care for Perinatal Depression Among Socioeconomically Disadvantaged Women: adverse Neonatal Birth Events and Treatment Response. Psychiatric services (Washington, D.C.), 68(1), 17-24
Reason for exclusion: Mixed intervention (collaborative care intervention)
RefID: 126

Deligiannidis, K. M., Meltzer-Brody, S., Gunduz-Bruce, H., Doherty, J., Jonas, J., Li, S., Sankoh, A. J., Silber, C., Campbell, A. D., Werneburg, B., et al., (2021). Effect of Zuranolone vs Placebo in Postpartum Depression: a Randomized Clinical Trial. JAMA psychiatry
Reason for exclusion: Antidepressant not available in Australia
RefID: 800

Grote, N. K., Katon, W. J., Russo, J. E., Lohr, M. J., Curran, M., Galvin, E., Carson, K. (2015). Collaborative care for perinatal depression in socioeconomically disadvantaged women: a randomised trial. Depression and anxiety, 32(11), 821-834
Reason for exclusion: Mixed intervention (collaborative care intervention)
RefID: 108

Grote, N. K., Katon, W. J., Russo, J. E., Lohr, M. J., Curran, M., Galvin, E., Carson, K. (2016). A Randomized Trial of Collaborative Care for Perinatal Depression in Socioeconomically Disadvantaged Women: the Impact of Comorbid Posttraumatic Stress Disorder. Journal of clinical psychiatry, 77(11), 1527-1537
Reason for exclusion: Mixed intervention (collaborative care intervention)
RefID: 116

Hamilton, J., Saxon, D., Best, E., Glover, V., Walters, S. J., Kerr, I. B. (2021). A randomized, controlled pilot study of cognitive analytic therapy for stressed pregnant women with underlying anxiety and depression in a routine health service setting. Clinical psychology & psychotherapy, 28(2), 394-408
Reason for exclusion: Intervention (relational therapy [cognitive analytic therapy]) not in PICO
RefID: 1026

Hantsoo, L., Criniti, S., Khan, A., Moseley, M., Kincler, N., Faherty, L. J., Epperson, C. N., Bennett, I. M. (2018). A mobile application for monitoring and management of depressed mood in a vulnerable pregnant population. Psychiatric services (Washington, D.C.), 69(1), 104-107

Reason for exclusion: Not an intervention to address mental health problems, but rather to improve interactions with health provider
RefID: 875

Jesse, D. E., Gaynes, B. N., Feldhousen, E. B., Newton, E. R., Bunch, S., Hollon, S. D. (2015). Performance of a Culturally Tailored Cognitive-Behavioral Intervention Integrated in a Public Health Setting to Reduce Risk of Antepartum Depression: a Randomized Controlled Trial. Journal of midwifery & women's health, 60(5), 578-592
Reason for exclusion: Mixed population (55% had EPDS ≥10)
RefID: 321

Molenaar, N. M., Brouwer, M. E., Burger, H., Kamperman, A. M., Bergink, V., Hoogendijk, W. J. G., Williams, A. D., Bockting, C. L. H., Lambregtse-van den Berg, M. P. (2020). Preventive Cognitive Therapy With Antidepressant Discontinuation During Pregnancy: results From a Randomized Controlled Trial. Journal of clinical psychiatry, 81(4)
Reason for exclusion: Intervention unclear and confounded by impacts of medication withdrawal
RefID: 1091

Nazaralivand, R., Tadayon Najafabadi, M., Behroozi, N., Haghighy Zadeh, M. H. (2021). The effectiveness of problem-solving group counseling on women's mental health after spontaneous abortion. Journal of Babol University of Medical Sciences, 23(1), 142-149
Reason for exclusion: No PICO outcomes
RefID: 794

Ngai, F. W., Wong, P. W., Chung, K. F., Leung, K. Y. (2017). The effect of a telephone-based cognitive behavioral therapy on quality of life: a randomized controlled trial. Archives of women's mental health, 20(3), 421-426
Reason for exclusion: No PICO outcomes
RefID: 858

Oxford, M. L., Hash, J. B., Lohr, M. J., Bleil, M. E., Fleming, C. B., Unützer, J., Spieker, S. J. (2021). Randomized trial of promoting first relationships for new mothers who received community mental health services in pregnancy. Developmental psychology, 57(8), 1228-1241
Reason for exclusion: Mixed population and no breakdown of results by current mental health problem or at risk of mental health problem
RefID: 144

Shorey, S., Chee, C. Y. I., Ng, E. D., Lau, Y., Dennis, C. L., Chan, Y. H. (2019). Evaluation of a Technology-Based Peer-Support Intervention Program for Preventing Postnatal Depression (Part 1): randomized Controlled Trial. Journal of medical Internet research, 21(8), e12410
Reason for exclusion: Mixed population (mean 11-12 at baseline [taken from graph with no variance bars])
RefID: 496

Sun, S., Li, J., Ma, Y., Bu, H., Luo, Q., Yu, X. (2018). Effects of a family-support programme for pregnant women with foetal abnormalities requiring pregnancy termination: a randomized controlled trial in China. International journal of nursing practice, 24(1)
Reason for exclusion: Population very specific – women with fetal abnormalities
RefID: 931

Van Ravesteyn, L. M., Kamperman, A. M., Schneider, T. A. J., Raats, M. E., Steegers, E. A. P., Tiemeier, H., Hoogendijk, W. J. G., Lambregtse-van den Berg, M. P. (2018). Group-based multicomponent treatment to

reduce depressive symptoms in women with co-morbid psychiatric and psychosocial problems during pregnancy: a randomized controlled trial. Journal of affective disorders, 226, 36-44
Reason for exclusion: Multicomponent intervention (comprising CBT by a clinical psychologist, psychoeducation by a perinatal psychiatrist, body-oriented therapy by an infant mental health specialist, relaxation therapy by a creative arts therapist, and evaluation of treatment goals by a social psychiatric nurse); difficult to attribute effect
RefID: 716

Vaz, J. D. S., Farias, D. R., Adegboye, A. R. A., Nardi, A. E., Kac, G. (2017). Omega-3 supplementation from pregnancy to postpartum to prevent depressive symptoms: a randomized placebo-controlled trial. BMC pregnancy and childbirth, 17(1), 180
Reason for exclusion: Mixed population (median EPDS 10 at baseline)
RefID: 577

Vigod, S., Murphy, K., Dennis, C., Oberlander, T., Ray, J., Daskalakis, Z., Blumberger, D. (2019). Transcranial direct current stimulation (tDCS) for depression in pregnancy: a pilot randomized controlled trial. Brain Stimulation, 12(6), 1475-1483
Reason for exclusion: Intervention (transcranial direct current stimulation [tDCS]) not listed in PICO
RefID: 547

Zhao, Y., Lin, Q., Wang, J., Bao, J. (2020). Effects of prenatal individualized mixed management on breastfeeding and maternal health at three days postpartum: a randomized controlled trial. Early human development, 141, 104944
Reason for exclusion: Mixed intervention (individualised mixed management combining psychoeducation and breastfeeding education, with telephone support); difficult to attribute effect
RefID: 217

Zhao, Y., Lin, Q., Zhu, X., Wang, J. (2021). Randomized Clinical Trial of a Prenatal Breastfeeding and Mental Health Mixed Management Intervention. Journal of human lactation, 37(4), 761-774
Reason for exclusion: Mixed intervention (individualised mixed management combining psychoeducation and breastfeeding education, with telephone support); difficult to attribute effect
RefID: 141

Zhao, Y., Lin, Q., Wang, J. (2021). An evaluation of a prenatal individualised mixed management intervention addressing breastfeeding outcomes and postpartum depression: a ramdomised controlled trial. Journal of clinical nursing, 30(9-10), 1347-1359
Reason for exclusion: Mixed intervention (individualised mixed management combining psychoeducation and breastfeeding education, with telephone support); difficult to attribute effect
RefID: 739

Appendix 3 Included studies list

The updated literature search covered the period from **01 January 2014** to **07 March 2022**.

Note: This list includes a total of **81** publications relating to **77 RCTs**. It does not include studies that were included in the Technical Report (Part C) for the 2017 Australian Guideline (which was primarily derived from the NICE 2015 Guideline).

Akbarzadeh, M., Dokuhaki, A., Joker, A., Pishva, N., Zare, N. (2016). Teaching attachment behaviors to pregnant women: a randomized controlled trial of effects on infant mental health from birth to the age of three months. Annals of Saudi medicine, 36(3), 175-183
RefID: 540

Alhusen, J. L., Hayat, M. J., Borg, L. (2021). A pilot study of a group-based perinatal depression intervention on reducing depressive symptoms and improving maternal-fetal attachment and maternal sensitivity. Archives of women's mental health, 24(1), 145-154
RefID: 173

Amani, B., Merza, D., Savoy, C., Streiner, D., Bieling, P., Ferro, M. A., Van Lieshout, R. J. (2021). Peer-Delivered Cognitive-Behavioral Therapy for Postpartum Depression: a Randomized Controlled Trial. Journal of clinical psychiatry, 83(1)
RefID: 920

Ammerman, R. T., Altaye, M., Putnam, F. W., Teeters, A. R., Zou, Y., Van Ginkel, J. B. (2015). Depression improvement and parenting in low-income mothers in home visiting. Archives of women's mental health, 18(3), 555-563
RefID: 127

Barlow, A., Mullany, B., Neault, N., Goklish, N., Billy, T., Hastings, R., Lorenzo, S., Kee, C., Lake, K., Redmond, C., et al., (2015). Paraprofessional-delivered home-visiting intervention for American Indian teen mothers and children: 3-year outcomes from a randomized controlled trial. American journal of psychiatry, 172(2), 154-162
RefID: 359

Bayat, A., Amiri-Farahani, L., Soleimani, M., Eshraghi, N., Haghani, S. (2021). Effect of short-term psychological intervention on anxiety of pregnant women with positive screening results for chromosomal disorders: a randomized controlled trial. BMC pregnancy and childbirth, 21(1), 757
RefID: 1062

Berkule, S. B., Cates, C. B., Dreyer, B. P., Huberman, H. S., Arevalo, J., Burtchen, N., Weisleder, A., Mendelsohn, A. L. (2014). Reducing maternal depressive symptoms through promotion of parenting in pediatric primary care. Clinical pediatrics, 53(5), 460-469
RefID: 123

Bittner, A., Peukert, J., Zimmermann, C., Junge-Hoffmeister, J., Parker, L. S., Stobel-Richter, Y., Weidner, K. (2014). Early intervention in pregnant women with elevated anxiety and depressive symptoms: efficacy of a cognitive-behavioral group program. Journal of perinatal & neonatal nursing, 28(3), 185-195
RefID: 790

Boath, E., Henshaw, C., Forsyth, J. (2015). Exercise as an adjunct therapy for postnatal depression: a pilot study. Archives of women's mental health, 18(2), 297-298
RefID: 415

Broberg, L., Tabor, A., Rosthøj, S., Backhausen, M., Frokjaer, V. G., Damm, P., Hegaard, H. K. (2021). Effect of supervised group exercise on psychological well-being among pregnant women with or at high risk of depression (the EWE Study): a randomized controlled trial. Acta obstetricia et gynecologica Scandinavica, 100(1), 129-138
RefID: 798

Burger, H., Verbeek, T., Aris-Meijer, J. L., Beijers, C., Mol, B. W., Hollon, S. D., Ormel, J., van Pampus, M. G., Bockting, C. L. H. (2020). Effects of psychological treatment of mental health problems in pregnant women to protect their offspring: randomised controlled trial. British journal of psychiatry, 216(4), 182-188
RefID: 483

Davis, K., Goodman, S. H., Leiferman, J., Taylor, M., Dimidjian, S. (2015). A randomized controlled trial of yoga for pregnant women with symptoms of depression and anxiety. Complementary therapies in clinical practice, 21(3), 166-172
RefID: 1044

Dennis, C. L., Grigoriadis, S., Zupancic, J., Kiss, A., Ravitz, P. (2020). Telephone-based nurse-delivered interpersonal psychotherapy for postpartum depression: nationwide randomised controlled trial. British journal of psychiatry, 216(4), 189-196
RefID: 704

Dimidjian, S., Goodman, S. H., Felder, J. N., Gallop, R., Brown, A. P., Beck, A. (2016). Staying well during pregnancy and the postpartum: A pilot randomized trial of mindfulness-based cognitive therapy for the prevention of depressive relapse/recurrence. Journal of consulting and clinical psychology, 84(2), 134-145
RefID: 938

Dimidjian, S., Goodman, S. H., Sherwood, N. E., Simon, G. E., Ludman, E., Gallop, R., Welch, S. S., Boggs, J. M., Metcalf, C. A., Hubley, S., et al., (2017). A pragmatic randomized clinical trial of behavioral activation for depressed pregnant women. Journal of consulting and clinical psychology, 85(1), 26-36
RefID: 122

Ekrami, F., Mohammad-Alizadeh Charandabi, S., Babapour Kheiroddin, J., Mirghafourvand, M. (2019). The Effect of Counselling on Depression and Anxiety of Women with Unplanned Pregnancy: a Randomized Controlled Trial. Community mental health journal, 55(6), 1047-1056
RefID: 1016

Elsharkawy, N. B., Mohamed, S. M., Awad, M. H., Ouda, M. M. A. (2021). Effect of happiness counseling on depression, anxiety, and stress in women with recurrent miscarriage. International Journal of Women's Health, 13, 287-295
RefID: 851

Evans, J., Ingram, J., Law, R., Taylor, H., Johnson, D., Glynn, J., Hopley, B., Kessler, D., Round, J., Ford, J., et al., (2021). Interpersonal counselling versus perinatal-specific cognitive behavioural therapy for women with depression during pregnancy offered in routine psychological treatment services: a phase II randomised trial. BMC psychiatry, 21(1), 504
RefID: 500

Fancourt, D., Perkins, R. (2018). Effect of singing interventions on symptoms of postnatal depression: three-arm randomised controlled trial. British journal of psychiatry, 212(2), 119-121
RefID: 863

Fathi-Ashtiani, A., Ahmadi, A., Ghobari-Bonab, B., Parsa Azizi, M., Saheb-Alzamani, S. M. (2015). Randomized trial of psychological interventions to preventing postpartum depression among Iranian first-time mothers. International journal of preventive medicine, 2015-November (6), 109
RefID: 749

Fonseca, A., Alves, S., Monteiro, F., Gorayeb, R., Canavarro, M. C. (2020). Be a Mom, a Web-Based Intervention to Prevent Postpartum Depression: results From a Pilot Randomized Controlled Trial. Behavior therapy, 51(4), 616-633
RefID: 981

Forsell, E., Bendix, M., Holländare, F., Szymanska von Schultz, B., Nasiell, J., Blomdahl-Wetterholm, M., Eriksson, C., Kvarned, S., Lindau van der Linden, J., Söderberg, E., et al., (2017). Internet delivered cognitive behavior therapy for antenatal depression: a randomised controlled trial. Journal of affective disorders, 221, 56-64
RefID: 751

Goldfeld, S., Bryson, H., Mensah, F., Gold, L., Orsini, F., Perlen, S., Price, A., Hiscock, H., Grobler, A., Dakin, P., et al., (2021). Nurse Home Visiting and Maternal Mental Health: 3-Year Follow-Up of a Randomized Trial. Pediatrics, 147(2)
RefID: 177

Golshani, F., Hasanpour, S., Mirghafourvand, M., Esmaeilpour, K. (2021). Effect of cognitive behavioral therapy-based counseling on perceived stress in pregnant women with history of primary infertility: a controlled randomized clinical trial. BMC psychiatry, 21(1), 278
RefID: 882

Goodman, J. H., Prager, J., Goldstein, R., Freeman, M. (2015). Perinatal Dyadic Psychotherapy for postpartum depression: a randomized controlled pilot trial. Archives of women's mental health, 18(3), 493-506
RefID: 391

Green, S. M., Donegan, E., McCabe, R. E., Streiner, D. L., Agako, A., Frey, B. N. (2020). Cognitive behavioral therapy for perinatal anxiety: a randomized controlled trial. Australian and New Zealand journal of psychiatry, 54(4), 423-432
RefID: 556

Gureje, O., Oladeji, B. D., Montgomery, A. A., Araya, R., Bello, T., Chisholm, D., Groleau, D., Kirmayer, L. J., Kola, L., Olley, L. B., et al., (2019). High- versus low-intensity interventions for perinatal depression delivered by non-specialist primary maternal care providers in Nigeria: cluster randomised controlled trial (the EXPONATE trial). British journal of psychiatry, 215(3), 528-535
RefID: 281

Heller, H. M., Hoogendoorn, A. W., Honig, A., Broekman, B. F. P., van Straten, A. (2020). The effectiveness of a guided Internet-based tool for the treatment of depression and anxiety in pregnancy (Mamakits online): Randomized controlled trial. Journal of Medical Internet Research, 22(3)
RefID: 319

Husain, N., Kiran, T., Fatima, B., Chaudhry, I. B., Husain, M., Shah, S., Bassett, P., Cohen, N., Jafri, F., Naeem, S., et al., (2021). An integrated parenting intervention for maternal depression and child development in a low-resource setting: cluster randomized controlled trial. Depression and anxiety, 38(9), 925-939
RefID: 250

Husain, N., Zulqernain, F., Carter, L. A., Chaudhry, I. B., Fatima, B., Kiran, T., Chaudhry, N., Naeem, S., Jafri, F., Lunat, F., et al., (2017). Treatment of maternal depression in urban slums of Karachi, Pakistan: a randomized controlled trial (RCT) of an integrated maternal psychological and early child development intervention. Asian journal of psychiatry, 29, 63-70
RefID: 110

Jiang, L., Wang, Z. Z., Qiu, L. R., Wan, G. B., Lin, Y., Wei, Z. (2014). Psychological intervention for postpartum depression. Hua zhong ke ji da xue xue bao. Yi xue Ying De wen ban [Journal of Huazhong University of Science and Technology. Medical sciences], 34(3), 437-442
RefID: 611

Karamoozian, M., Askarizadeh, G. (2015). Impact of prenatal cognitive-behavioral stress management intervention on maternal anxiety and depression and newborns' Apgar scores. Iranian journal of neonatology, 6(2), 14-23
RefID: 99

Khan, M. N., Dherani, M., Chiumento, A., Atif, N., Bristow, K., Sikander, S., Rahman, A. (2017). Evaluating feasibility and acceptability of a local psycho-educational intervention for pregnant women with common mental problems affected by armed conflict in Swat, Pakistan: a parallel randomized controlled feasibility trial. International journal of social psychiatry, 63(8), 724-735
RefID: 959

Kim, D. R., Wang, E., McGeehan, B., Snell, J., Ewing, G., Iannelli, C., O'Reardon, J. P., Sammel, M. D., Epperson, C. N. (2019) Randomized controlled trial of transcranial magnetic stimulation in pregnant women with major depressive disorder. Brain stimulation, 12, 96-102
RefID: 233

Lenze, S. N., Potts, M. A. (2017). Brief Interpersonal Psychotherapy for depression during pregnancy in a low-income population: A randomized controlled trial. Journal of affective disorders, 210, 151-157
RefID: 725

Lenze, S. N., Potts, M. A., Rodgers, J., Luby, J. (2020). Lessons learned from a pilot randomized controlled trial of dyadic interpersonal psychotherapy for perinatal depression in a low-income population. Journal of affective disorders, 271, 286-292
RefID: 633

Leung, S. S., Lee, A. M., Wong, D. F., Wong, C. M., Leung, K. Y., Chiang, V. C., Yung, W. K., Chan, S. W., Chung, K. F. (2016). A brief group intervention using a cognitive-behavioural approach to reduce postnatal depressive symptoms: a randomised controlled trial. Hong kong medical journal, 22 Suppl 2, S4-8
RefID: 861

Lewis, B. A., Gjerdingen, D. K., Avery, M. D., Sirard, J. R., Guo, H., Schuver, K., Marcus, B. H. (2014). A randomized trial examining a physical activity intervention for the prevention of postpartum depression: the healthy mom trial. Mental health and physical activity, 7(1), 42-49
RefID: 559

Lewis, B. A., Schuver, K., Dunsiger, S., Samson, L., Frayeh, A. L., Terrell, C. A., Ciccolo, J. T., Fischer, J., Avery, M. D. (2021). Randomized trial examining the effect of exercise and wellness interventions on preventing postpartum depression and perceived stress. BMC pregnancy and childbirth, 21(1), 785
RefID: 901

Liu, H., Yang, Y. (2021). Effects of a psychological nursing intervention on prevention of anxiety and depression in the postpartum period: a randomized controlled trial. Annals of General Psychiatry, 20(1)
RefID: 712

Lönnberg, G., Jonas, W., Unternaehrer, E., Bränström, R., Nissen, E., Niemi, M. (2020). Effects of a mindfulness based childbirth and parenting program on pregnant women's perceived stress and risk of perinatal depression-Results from a randomized controlled trial. Journal of affective disorders, 262, 133-142
RefID: 154

Loughnan, S. A., Butler, C., Sie, A. A., Grierson, A. B., Chen, A. Z., Hobbs, M. J., Joubert, A. E., Haskelberg, H., Mahoney, A., Holt, C., et al., (2019). A randomised controlled trial of 'MUMentum postnatal': Internet-delivered cognitive behavioural therapy for anxiety and depression in postpartum women. Behaviour research and therapy, 116, 94-103
RefID: 385

Loughnan, S. A., Sie, A., Hobbs, M. J., Joubert, A. E., Smith, J., Haskelberg, H., Mahoney, A. E. J., Kladnitski, N., Holt, C. J., Milgrom, J., et al., (2019). A randomized controlled trial of 'MUMentum Pregnancy': internet-delivered cognitive behavioral therapy program for antenatal anxiety and depression. Journal of affective disorders, 243, 381-390
RefID: 737

Lowndes, T. A., Egan, S. J., McEvoy, P. M. (2019). Efficacy of brief guided self-help cognitive behavioral treatment for perfectionism in reducing perinatal depression and anxiety: a randomized controlled trial. Cognitive behaviour therapy, 48(2), 106-120
RefID: 837

Lund, C., Schneider, M., Garman, E. C., Davies, T., Munodawafa, M., Honikman, S., Bhana, A., Bass, J., Bolton, P., Dewey, M., et al., (2020). Task-sharing of psychological treatment for antenatal depression in Khayelitsha, South Africa: effects on antenatal and postnatal outcomes in an individual randomised controlled trial. Behaviour research and therapy, 130, 103466
RefID: 715

Madigan, S., Vaillancourt, K., McKibbon, A., Benoit, D. (2015). Trauma and traumatic loss in pregnant adolescents: the impact of Trauma-Focused Cognitive Behavior Therapy on maternal unresolved states of mind and Posttraumatic Stress Disorder. Attachment & human development, 17(2), 175-198
RefID: 138

Milgrom, J., Danaher, B. G., Gemmill, A. W., Holt, C., Holt, C. J., Seeley, J. R., Tyler, M. S., Ross, J., Ericksen, J. (2016). Internet Cognitive Behavioral Therapy for Women With Postnatal Depression: A Randomized Controlled Trial of MumMoodBooster. Journal of medical Internet research, 18(3), e54
RefID: 896

Milgrom, J., Danaher, B. G., Seeley, J. R., Holt, C. J., Holt, C., Ericksen, J., Tyler, M. S., Gau, J. M., Gemmill, A. W. (2021). Internet and Face-to-face Cognitive Behavioral Therapy for Postnatal Depression Compared

With Treatment as Usual: Randomized Controlled Trial of MumMoodBooster. Journal of medical Internet research, 23(12), e17185
RefID: 688

Milgrom, J., Gemmill, A. W., Ericksen, J., Burrows, G., Buist, A., Reece, J. (2015). Treatment of postnatal depression with cognitive behavioural therapy, sertraline and combination therapy: a randomised controlled trial. Australian and New Zealand journal of psychiatry, 49(3), 236-245
RefID: 330

Milgrom, J., Holt, C. J., Bleker, L., Holt, C., Ross, J., Ericksen, J., Glover, V., O'Donnell, K. J., De Rooij, S., Gemmill, A. W. (2019). Maternal antenatal mood and child development: An exploratory study of treatment effects on child outcomes up to 5 years. Archives of Women's Mental Health, 22(5), 653-654
RefID: 231

Milgrom, J., Holt, C., Holt, C. J., Ross, J., Ericksen, J., Gemmill, A. W. (2015). Feasibility study and pilot randomised trial of an antenatal depression treatment with infant follow-up. Archives of women's mental health, 18(5), 717-730
RefID: 370

Nejad, F. K., Shahraki, K. A., Nejad, P. S., Moghaddam, N. K., Jahani, Y., Divsalar, P. (2021). The influence of mindfulness-based stress reduction (MBSR) on stress, anxiety and depression due to unwanted pregnancy: a randomized clinical trial. Journal of preventive medicine and hygiene, 62(1), E82-E88
RefID: 419

Netsi, E., Evans, J., Wulff, K., O'Mahen, H., Ramchandani, P. G. (2015). Infant outcomes following treatment of antenatal depression: findings from a pilot randomized controlled trial. Journal of affective disorders, 188, 252-256
RefID: 159

Ngai, F. W., Wong, P. W., Chung, K. F., Leung, K. Y. (2016). The effect of telephone-based cognitive-behavioural therapy on parenting stress: a randomised controlled trial. Journal of psychosomatic research, 86, 34-38
RefID: 889

Ngai, F. W., Wong, P. W., Leung, K. Y., Chau, P. H., Chung, K. F. (2015). The Effect of Telephone-Based Cognitive-Behavioral Therapy on Postnatal Depression: a Randomized Controlled Trial. Psychotherapy and psychosomatics, 84(5), 294-303
RefID: 331

Nishi, D., Su, K. P., Usuda, K., Chang, J. P., Hamazaki, K., Ishima, T., Sano, Y., Ito, H., Isaka, K., Tachibana, Y., et al., (2020). Plasma estradiol levels and antidepressant effects of omega-3 fatty acids in pregnant women. Brain, behavior, and immunity, 85, 29-34
RefID: 941

O'Hara, M. W., Pearlstein, T., Stuart, S., Long, J. D., Mills, J. A., Zlotnick, C. (2019). A placebo controlled treatment trial of sertraline and interpersonal psychotherapy for postpartum depression. Journal of affective disorders, 245, 524-532
RefID: 891

Opiyo, R. O., Nyasulu, P. S., Koigi, R. K., Obondo, A., Ogoyi, D., Kogi-Makau, W. (2018). Effect of fish oil omega-3 fatty acids on reduction of depressive symptoms among HIV-seropositive pregnant women: a randomized, double-blind controlled trial. Annals of general psychiatry, 17(1)
RefID: 1096

Ormsby, S. M., Smith, C. A., Dahlen, H. G., Hay, P. J. (2020). The feasibility of acupuncture as an adjunct intervention for antenatal depression: a pragmatic randomised controlled trial. Journal of affective disorders, 275, 82-93
RefID: 695

Palas Karaca, P., Oskay, ÜY (2021). Effect of supportive care on the psychosocial health status of women who had a miscarriage. Perspectives in psychiatric care, 57(1), 179-188
RefID: 1071

Pugh, N. E., Hadjistavropoulos, H. D., Dirkse, D. (2016). A Randomised Controlled Trial of Therapist-Assisted, Internet-Delivered Cognitive Behavior Therapy for Women with Maternal Depression. PloS one, 11(3), e0149186
RefID: 95

Rabiei, L., Amidi Mazaheri, M., Masoudi, R., Hasheminia, S. A. M. (2014). Fordyce happiness program and postpartum depression. Journal of research in medical sciences, 19(3), 251-256
RefID: 332

Salehi, F., Pourasghar, M., Khalilian, A., Shahhosseini, Z. (2016). Comparison of group cognitive behavioral therapy and interactive lectures in reducing anxiety during pregnancy: a quasi experimental trial. Medicine, 95(43), e5224
RefID: 601

Sapkota, D., Baird, K., Saito, A., Rijal, P., Anderson, D. (2020). Antenatal-Based Pilot Psychosocial Intervention to Enhance Mental Health of Pregnant Women Experiencing Domestic and Family Violence in Nepal. Journal of interpersonal violence, 37(5-6), NP3605–NP3627
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Zhao, Y., Munro-Kramer, M. L., Shi, S., Wang, J., Luo, J. (2017). A randomized controlled trial: effects of a prenatal depression intervention on perinatal outcomes among Chinese high-risk pregnant women with medically defined complications. Archives of women's mental health, 20(2), 333-344
RefID: 119

Zhao, Y., Munro-Kramer, M. L., Shi, S., Wang, J., Zhao, Q. (2019). Effects of antenatal depression screening and intervention among Chinese high-risk pregnant women with medically defined complications: a randomized controlled trial. Early intervention in psychiatry, 13(5), 1090-1098
RefID: 548

Appendix 4 Evidence base – Treatment

For each intervention type included in this appendix, two tables are provided. The first table summarises the evidence-base and recommendations included in the 2017 Australian Guideline. Where evidence-based and consensus-based recommendations were made in the 2017 Australian Guideline for a specific intervention, these are included in this table. General recommendations not linked to a specific intervention are not shown, nor are practice points.

The second table summarises the characteristics of the new studies identified in the Evidence Review Update that met the eligibility criteria specified in Section C2. The EWG considered this information (without knowledge of study results) to determine whether each new study should proceed through the GRADE appraisal process. EWG decisions are presented in a boxed summary at the end of each section.

4.1 Treatment with psychosocial interventions

4.1.1 Psychoeducation

Table App. 3 Evidence included in 2017 Guideline – Psychoeducation

		Location in 2017 Guideline
Included studies	NICE 2015: 17 RCTs[a] • Kozinsky 2012, Leung 2012, Bernard 2011, Le 2011, Silverstein 2011, Tandon 2011, Timpano 2011, Zlotnick 2011, Gao 2010, Austin 2008, El-Mohandes 2008, Munoz 2007, Zlotnick 2006, Hagan 2004, Spinelli 2003, Honey 2002, Zlotnick 2001	Appendix to Technical Report Part C, Table AppC2-2
Evidence statement(s)	**Psychologically (CBT/IPT) informed psychoeducation versus treatment as usual or enhanced treatment as usual** • Psychologically (CBT/IPT) informed psychoeducation has inconsistent effects on depression diagnosis at endpoint or first measurement (**very low certainty evidence**), at intermediate follow-up (17-24 weeks post intervention) (**very low certainty evidence**), and at long follow-up (25-103 weeks post intervention) (**very low certainty evidence**) compared with treatment as usual or enhanced treatment as usual in women who have symptoms (or subthreshold symptoms) of depression in the perinatal period. • Psychologically (CBT/IPT) informed psychoeducation improves depression symptomatology (**high certainty evidence**) at endpoint or first measurement compared with treatment as usual or enhanced treatment as usual in women who have symptoms (or subthreshold symptoms) of depression in the perinatal period. • Psychologically (CBT/IPT) informed psychoeducation has inconsistent effects on depression mean scores at endpoint or first measurement (**moderate certainty evidence**), at short follow-up (9-16 weeks post intervention) (**moderate certainty evidence**), at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**), and at long follow-up (25-103 weeks post intervention) (**low certainty evidence**) compared with treatment as usual or enhanced treatment as usual in women who have symptoms (or subthreshold symptoms) of depression in the perinatal period; however, the magnitude of any benefit may not be clinically significant.	Technical Report Part C, Table C3-1

		Location in 2017 Guideline
	• Psychologically (CBT/IPT) informed psychoeducation appears to have no effect on anxiety diagnosis at endpoint or first measurement (**very low certainty evidence**) or at long follow-up (25-103 weeks post intervention) (**very low certainty evidence**) compared with treatment as usual or enhanced treatment as usual in women who have symptoms (or subthreshold symptoms) of depression in the perinatal period. • Psychologically (CBT/IPT) informed psychoeducation appears to have no effect on PTSD diagnosis at endpoint or first measurement (**very low certainty evidence**) compared with enhanced treatment as usual in women who have experienced intimate partner violence and have subthreshold symptoms of depression in the perinatal period. • Psychologically (CBT/IPT) informed psychoeducation appears to have no effect on PTSD mean scores at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual or enhanced treatment as usual in women who have experienced intimate partner violence or have infants in the neonatal intensive care unit, and have subthreshold symptoms of depression in the perinatal period. • Psychologically (CBT/IPT) informed psychoeducation may improve OCD mean scores at endpoint or first measurement at post-treatment (**very low certainty evidence**), at intermediate follow-up (17-24 weeks post intervention) (**very low certainty evidence**) and at long follow-up (25-103 weeks post intervention) (**very low certainty evidence**) compared with enhanced treatment as usual in pregnant women who have subthreshold symptoms of OCD; however, the magnitude of the benefits may not be clinically significant.	
	IPT-informed psychoeducation versus non-mental health-focused education and support • IPT-informed group psychoeducation appears to have no effect on depressive symptomatology at endpoint or first measurement (**low certainty evidence**) compared with non-mental-health-focused education and support in pregnant women with a diagnosis of MDD.	Technical Report Part C, Table C3-2
Relevant recommendation(s)	**EBR 4:** Provide structured psychoeducation to women with symptoms of depression in the perinatal period.	2017 Guideline, Part C and Appendix C

Abbreviations: CBR, consensus-based recommendation; CBT, cognitive behavioural therapy; EBR, evidence-based recommendation; IPT, interpersonal psychotherapy; MDD, major depressive disorder; OCD, obsessive compulsive disorder; PTSD, post-traumatic stress disorder.

a NICE 2015 SR focused on psychologically (CBT/IPT)-informed psychoeducation.

Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS. Evidence Statements underpinning recommendations are shaded the same colour.

Table App. 4 New evidence identified in the literature search update – Psychoeducation

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Psychoeducation	**vs.**	**treatment as usual or enhanced treatment as usual**		
119	Zhao 2017 (see related Zhou 2019)	China	N=352 pregnant women <28 weeks' gestation with **obstetric complication** (defined by High-Risk Pregnancy Scoring Criteria in Shanghai) and high risk for PPD (EPDS ≥9 or Postpartum Depression	Antenatal	Group psychoeducation (6 sessions, 5 focused on maternal mental health and one focused on husbands) N=176	Usual care (with feedback on EPDS/PDSS scores at each timepoint) N=176	Depressive status (assessed using EPDS/PDSS) at 42 days postpartum

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Screen Scale [PDSS] ≥60), enrolled 2014-2015				
548	Zhao 2019 (see related Zhou 2017)	China	N=352 pregnant women <28 weeks' gestation with **obstetric complication** (defined by High-Risk Pregnancy Scoring Criteria in Shanghai) and high risk for PPD (EPDS ≥9 or Postpartum Depression Screen Scale [PDSS] ≥60), enrolled 2014-2015	Antenatal	Group psychoeducation (6 sessions, 5 focused on maternal mental health and one focused on husbands) N=176	Usual care (with feedback on EPDS/PDSS scores at each timepoint) N=176	EPDS, PDSS at 42 days postpartum
332	Rabiei 2014	Iran	N=133 postpartum (4-8 weeks) women with BDI-II-Persian >16, enrolled 2011-2012	Postnatal	**Fordyce Happiness program** comprising education provided by a trained instructor and group discussion (8 sessions, 2 per week) N=63	Control (no intervention) N=70	BDI-II-Persian to 2 months post-intervention
899	Wisner 2017	US	N=628 postpartum (4-6 weeks) women with EPDS ≥10, enrolled 2006-2010	Postnatal	Telephone-delivered psychoeducational depression care management (DCM) to educate, assist with treatment decisions, monitor symptoms, facilitate access to services and encourage links to community resources (regular calls, 10-20 minutes by Masters' level clinicians) N=312	Enhanced usual care, with more systematic evaluation and monitoring then real-world care N=316	Structured Interview Guide for the Hamilton Depression Rating Scale with Atypical Depression Supplement **(SIGH-ADS)**, SF-12 to 12 months postpartum
601	Salehi 2016[12]	Iran	N=114 pregnant women in 2nd trimester with mild to moderate anxiety (STAI <75), enrolled 2015	Antenatal	Interactive lectures relating to anxiety (4 lectures over 2 weeks) held by trained midwives N=38	Standard care N=38	STAI at 4 weeks post-intervention

[12] Three-arm study comparing group CBT vs. psychoeducation (interactive lectures relating to anxiety) vs. standard care

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Psychoeducation	**vs.**	**group CBT**		
601	Salehi 2016[12]	Iran	N=114 pregnant women in 2nd trimester with mild to moderate anxiety (STAI <75), enrolled 2015	Antenatal	Interactive lectures relating to anxiety (4 lectures over 2 weeks) held by trained midwives N=38	**Group** CBT (4 counselling sessions over 2 weeks) led by a trained midwife and a psychiatrist N=38	STAI at 4 weeks post-intervention

Abbreviations: BDI, Beck Depression Inventory; CBT, cognitive behavioural therapy; EPDS, Edinburgh Postnatal Depression Scale; PDSS, Postpartum Depression Screen Scale; PPD, postpartum depression; SIGH-ADS, Structured Interview Guide for the Hamilton Depression Rating Scale with Atypical Depression Supplement; STAI, State Trait Anxiety Inventory

The EWG agreed that, in all studies listed in Table App. 4 (except Wisner 2017), the population specified was not generalisable to the general Australian perinatal population or the type of intervention was not applicable to the Australian context. As such, these studies did not proceed through to the full evidence review process. The intervention in Wisner 2017 was not structured, or based on CBT or IPT principles, and was therefore different to the 2017 body of evidence for psychoeducational interventions. It was agreed that Wisner 2017 would not proceed through to the full evidence review process.

4.1.2 Psychoeducational booklet

Table App. 5 Evidence included in 2017 Guideline – Psychoeducational booklet

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Technical Report Part C, C3.1.2
Evidence statement(s)	There is no RCT evidence for psychoeducational booklet in women who have mental health problems in the perinatal period.	Technical Report Part C, Table C3-3
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review

Table App. 6 New evidence identified in the literature search update – Psychoeducational booklet

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.1.3 Social/peer support

Table App. 7 Evidence included in 2017 Guideline – Social/peer support

		Location in 2017 Guideline
Included studies	NICE 2015: 6 RCTs • Letourneau 2011, Dennis 2009, Armstrong 2004, Armstrong 2003, Dennis 2003, Chen 2000	Appendix to Technical Report Part C, Table AppC2-4
Evidence statement(s)	**Social support versus treatment as usual** • Social support (peer-mediated support or support group) may have an effect[13] on depression symptomatology at endpoint or first measurement (**low certainty evidence**) compared with treatment as usual in women who have symptoms of depression in the postnatal period; however, the effect is not maintained at short-term follow-up (9-16 weeks post intervention**) (low certainty evidence)**. • Social support (peer-mediated support or support group) appears to have no effect on depression mean scores at endpoint or first measurement **(very low certainty evidence)** compared with treatment as usual in women who have symptoms of depression in the postnatal period. • Telephone peer-mediated support appears to have no effect on depression diagnosis at endpoint or first measurement **(very low certainty evidence)** compared with treatment as usual in women who have symptoms of depression in the postnatal period. • Telephone peer-mediated support has no effect on anxiety mean scores **(moderate certainty evidence)** and appears to have no effect or on anxiety symptomatology **(low certainty evidence)** at endpoint or first measurement compared with treatment as usual in women who have symptoms of depression in the postnatal period. • Peer-mediated support (with mother-infant relationship intervention content) appears to have no effect on mother-infant feeding interactions at endpoint or first measurement **(low certainty evidence)** compared with treatment as usual in women who have symptoms of depression in the postnatal period.	Technical Report Part C, Table C3-4
	Combined social support and physical exercise versus enhanced treatment as usual • Social support group combined with physical exercise (a pram walking exercise program) may improve depression mean symptoms **(low certainty evidence)** and may have an effect[14] on depression symptomatology **(low certainty evidence)** at endpoint or first	Technical Report Part C, Table C3-5

[13] RR 0.69 (95% CI 0.47, 1.01); P=0.05
[14] RR 0.07 (95% CI 0, 1.03)

		Location in 2017 Guideline
	measurement compared with enhanced treatment as usual (telephone support) in women who have symptoms of depression in the postnatal period.	
	Social support versus physical exercise • Social support group may improve depression mean symptoms at endpoint or first measurement **(low certainty evidence)** compared with physical exercise (a pram walking exercise program) in women who have symptoms of depression in the postnatal period.	Technical Report Part C, Table C3-6
Relevant recommendation(s)	**EBR 5:** Advise women with symptoms of depression in the postnatal period of the potential benefits of a social support group.	2017 Guideline, Part C and Appendix C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; NICE, National Institute of Health and Care Excellence; RCT, randomised controlled trial.
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS. Evidence Statements underpinning recommendations are shaded the same colour.

Table App. 8 New evidence identified in the literature search update – Social/peer support

Ref ID	Author & year	Country	Population	Timing	Intervention(s)	Comparator	Relevant outcomes
			Social/peer support	**vs.**	**treatment as usual**		
863	Fancourt 2018[15]	UK	N=135 women up to 40 weeks' postpartum with EPDS ≥11, enrolled 2015-2016	Postnatal	Community singing program (10 weeks) N=45	No intervention N=45	EPDS at 10 weeks
863	Fancourt 2018[16]	UK	N=135 women up to 40 weeks' postpartum with EPDS ≥11, enrolled 2015-2016	Postnatal	Community play activities (10 weeks) N=45	No intervention N=45	EPDS at 10 weeks
585	Shamshiri Milani 2015	Iran	N=54 postpartum women at 10-15 days after birth with EPDS >10 to <14, enrolment years NR	Postnatal	Health volunteer telephone-based support for 6 weeks N=27	Routine care N=27	EPDS at post-intervention
			Social/peer support	**vs.**	**social/peer support**		
863	Fancourt 2018[17]	UK	N=135 women up to 40 weeks' postpartum with EPDS ≥11, enrolled 2015-2016	Postnatal	Community singing program (10 weeks) N=45	Community play activities (10 weeks) N=45	EPDS at 10 weeks

Abbreviations: EPDS, Edinburgh Postnatal Depression Scale; NR, not reported; UK, United Kingdom.

[15] This three-arm RCT compared a community singing program vs. community play activities vs. no intervention
[16] This three-arm RCT compared a community singing program vs. community play activities vs. no intervention
[17] This three-arm RCT compared a community singing program vs. community play activities vs. no intervention

The EWG agreed that, in all studies listed in Table App. 8, the population specified was not generalisable to the general Australian perinatal population or the type of intervention was not applicable to the Australian context. As such, these studies did not proceed through to the full evidence review process.

4.1.4 Online peer-to-peer support

This is a new intervention type that was not explicitly covered in the 2017 Technical Reports.

Table App. 9 New evidence identified in the literature search update – Online peer-to-peer support

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.1.5 Home visits

Table App. 10 Evidence included in 2017 Guideline – Home visits

		Location in 2017 Guideline
Included studies	NICE 2015: 5 RCTs • Dugravier 2013, Roman 2009, Tamaki 2008, Duggan 2007, Armstrong 1999	Appendix to Technical Report Part C, Table AppC2-6
Evidence statement(s)	**Home visits versus treatment as usual or enhanced treatment as usual** • Home visits improve depression mean scores at endpoint or first measurement **(high certainty evidence)** compared with treatment as usual in women who have symptoms of depression in the perinatal period; however, the magnitude of the benefit may not be clinically significant. • Home visits have no effect on depression symptomatology **(moderate certainty evidence)** and appear to have no effect on depression diagnosis **(very low certainty evidence)** at endpoint or first measurement compared with treatment as usual in women who have a diagnosis of depression in the postnatal period. • A long-term home visiting program to prevent child abuse appears to have no effect on mother-infant attachment problems **(very low certainty evidence)** at endpoint or first measurement compared with treatment as usual in families that screen positive for family stress in the perinatal period.	Technical Report Part C, Table C3-7
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 11 New evidence identified in the literature search update – Home visits

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.1.6 Non-mental health-focused education/support

Table App. 12 Evidence included in 2017 Guideline – Non-mental health-focused education/support

		Location in 2017 Guideline
Included studies	NICE 2015: 1 RCT • Kaaya 2013	Appendix to Technical Report Part C, Table AppC2-8
Evidence statement(s)	**Non-mental-health-focused education and support versus treatment as usual** • Non-mental-health-focused education and support during the perinatal period has no effect on depression symptomatology at endpoint or first measurement compared with treatment (**moderate certainty evidence**) as usual in HIV-positive women.	Technical Report Part C, Table C3-8
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: HIV, human immunodeficiency virus; N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 13 New evidence identified in the literature search update – Non-mental health-focused education/support

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.1.7 Pre-delivery discussion

Table App. 14 Evidence included in 2017 Guideline – Pre-delivery discussion

		Location in 2017 Guideline
Included studies	The literature search identified one SR (NICE 2015) relating to the assessment of pre-delivery discussion/psychoeducation for fear of childbirth (symptoms of tokophobia). However, the outcomes reported in the included RCTs are not relevant to the current Evidence Review.	Technical Report Part C, C3.1.6
Evidence statement(s)	• There is no RCT evidence for pre-delivery discussion in pregnant women who have mental health problems.	Technical Report Part C, Table C3-9

		Location in 2017 Guideline
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial; SR, systematic reivew

Table App. 15 New evidence identified in the literature search update – Pre-delivery discussion

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial; SR, systematic review

4.1.8 Post-delivery discussion

Table App. 16 Evidence included in 2017 Guideline – Post-delivery discussion

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Appendix to Technical Report Part C, AppC2.1.7.1
Evidence statement(s)	• There is no RCT evidence for post-delivery discussion in women who have mental health problems in the perinatal period.	Technical Report Part C, Table C3-10
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review

Table App. 17 New evidence identified in the literature search update – Post-delivery discussion

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.1.9 Post-miscarriage self-help

Table App. 18 Evidence included in 2017 Guideline – Post-miscarriage self-help

		Location in 2017 Guideline
Included studies	NICE 2015: 2 RCTs • Kersting 2011, Swanson 2009[18]	Appendix to Technical Report Part C, Table AppC2-10
Evidence statement(s)	**Post-miscarriage self-help versus treatment as usual** **Women with symptoms of depression** • Post-miscarriage self-help appears to have no effect on depression mean scores at long follow-up (25-103 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in women with symptoms of depression. **Women with subthreshold symptoms of PTSD** • Post-miscarriage self-help may improve depression symptomatology (**low certainty evidence**) but appears to have no effect on depression mean scores (**very low certainty evidence**) at endpoint or first measurement compared with treatment as usual in women with subthreshold symptoms of PTSD. • Post-miscarriage self-help appears to have no effect on anxiety symptomatology (**low certainty evidence**) or on anxiety mean scores (**low certainty evidence**) at endpoint or first measurement compared with treatment as usual in women with subthreshold symptoms of PTSD. • Post-miscarriage self-help may improve PTSD symptomatology (**low certainty evidence**) and PTSD mean scores (**low certainty evidence**) at endpoint or first measurement compared with treatment as usual in women with subthreshold symptoms of PTSD.	Technical Report Part C, Table C3-11
	Post-miscarriage facilitated self-help versus treatment as usual • Post-miscarriage facilitated self-help (video and workbook delivery and face-to-face support) appears to have no effect on depression mean scores at endpoint or first measurement (**low certainty evidence**), or at long follow-up (25-103 weeks post intervention) (**low certainty evidence**), compared with treatment as usual in women with symptoms of depression.	Technical Report Part C, Table C3-12
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; PTSD, post-traumatic stress disorder; RCT, randomised controlled trial

Table App. 19 New evidence identified in the literature search update – Post-miscarriage self-help

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

[18] Four-armed trial: post-miscarriage self-help; post-miscarriage facilitated self-help; post-miscarriage counselling; treatment as usual.

4.1.10 Seeing and/or holding stillborn infant

Table App. 20 Evidence included in 2017 Guideline – Seeing and/or holding stillborn infant

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Appendix to Technical Report Part C, AppC2.1.9.1
Evidence statement(s)	• There is no RCT evidence for seeing and/or holding a stillborn infant in women who have mental health problems in the perinatal period.	Technical Report Part C, Table C3-13
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review

Table App. 21 New evidence identified in the literature search update – Seeing and/or holding stillborn infant

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.1.11 Co-parenting interventions

Table App. 22 Evidence included in 2017 Guideline – Co-parenting interventions

		Location in 2017 Guideline
Included studies	NICE 2015: 1 RCT • Misri 2000	Appendix to Technical Report Part C, Table AppC2-14
Evidence statement(s)	**Co-parenting intervention versus enhanced treatment as usual** • Co-parenting interventions appear to have no effect on depression diagnosis (**very low certainty evidence**) or depression mean scores (**very low certainty evidence**) at endpoint or first measurement compared with enhanced treatment as usual (monitoring) in postpartum women with a diagnosis of MDD.	Technical Report Part C, Table C3-17
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: MDD, major depressive disorder; N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 23 New evidence identified in the literature search update – Co-parenting interventions

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.2 Treatment with psychological interventions

4.2.1 Structured psychological interventions

Table App. 24 Evidence included in 2017 Guideline – Structured psychological interventions (CBT or IPT)

		Location in 2017 Guideline
Included studies	NICE 2015: 17 RCTs • Pinheiro 2014, Ammerman 2013[19], Burns 2013, Field 2013, O'Mahen 2013a, Hayden 2012, Milgrom 2011b[20], Mulcahy 2010, Wiklund 2010, Grote 2009[21], Morrell 2009a/2009b[21], Cho 2008, Rahman 2008[21], Milgrom 2005, Cooper 2003[22], Prendergast 2001, O'Hara 2000	Appendix to Technical Report Part C, Table AppC2-18
Evidence statement(s)	**Structured psychological interventions versus treatment as usual or enhanced treatment as usual** **CBT or IPT** • Structured psychological interventions (individual CBT or IPT) improve depression diagnosis at endpoint or first measurement (**high certainty evidence**) compared with treatment as usual or enhanced treatment as usual in pregnant or postpartum women with a diagnosis of depression. • Structured psychological interventions (individual CBT or IPT) appear to have no effect on depression diagnosis at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in pregnant or postpartum women with a diagnosis of MDD or depression. • Structured psychological interventions (individual or group CBT or IPT) may improve depression symptomatology at endpoint or first measurement (**low certainty evidence**) compared with treatment as usual or enhanced treatment as usual in pregnant or postpartum women with a diagnosis of depression or symptoms of depression. • Structured psychological interventions (individual CBT or IPT) improve depression mean scores at endpoint or first measurement (**moderate certainty evidence**) compared with treatment as usual or enhanced treatment as usual in pregnant and postpartum women with a diagnosis of depression or symptoms of depression.	Technical Report Part C, Table C3-19

[19] The intervention was individual CBT and home visits.
[20] The intervention was CBT (nurse-led and psychologist-led combined) plus GP training.
[21] This study was classified as an 'indicated prevention' trial in the Morrell 2016 HTA
[22] The intervention in the relevant study arm of this four-armed RCT was IPT (psychodynamic therapy).

	Location in 2017 Guideline

- Structured psychological interventions (individual CBT or IPT) appear to have no effect on depression mean scores at intermediate follow-up (17-24 weeks post intervention) (**very low certainty evidence**) compared with treatment as usual in pregnant or postpartum women with a diagnosis of MDD or depression.
- Structured psychological interventions (individual or group CBT or IPT) appear to have no effect on depression mean scores at long follow-up (>24 weeks post intervention) (**low certainty evidence**) compared with treatment as usual or enhanced treatment as usual in postpartum women with a diagnosis of MDD or depression.
- Structured psychological interventions (individual or group CBT or IPT) appear to have no effect on mother-infant attachment mean scores at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in pregnant or postpartum women with a diagnosis of depression or MDD.

CBT

- Structured psychological interventions (individual CBT and home visits) may improve depression diagnosis at short follow-up (9-16 weeks post intervention) (**low certainty evidence**) compared with home visits alone in postpartum women with a diagnosis of MDD.
- Structured psychological interventions (individual CBT) appear to have no effect on depression symptomatology at short follow-up (9-16 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in pregnant or postpartum women with a diagnosis of MDD.
- Structured psychological interventions (individual CBT) appear to have no effect on depression symptomatology at long follow-up (>24 weeks post intervention) (**very low certainty evidence**) compared with enhanced treatment as usual non-specific emotional support and mothercraft advice) in postpartum women with a diagnosis of MDD.
- Structured psychological interventions (individual CBT with or without home visits) appear to have no effect on depression mean scores at short follow-up (9-16 weeks post intervention) (**very low certainty evidence**) compared with treatment as usual or home visits alone in pregnant or postpartum women with a diagnosis of MDD.
- Structured psychological interventions (individual CBT) may improve negative thoughts/mood mean score at endpoint or first measurement (**very low certainty evidence**) compared with enhanced treatment as usual (single session psychoeducation) in pregnant women with a diagnosis of depressive disorder.
- Structured psychological interventions (individual CBT) may reduce risk of self-harm mean scores at endpoint or first measurement (low quality evidence) compared with treatment as usual in postpartum women with symptoms of depression; however, the magnitude of the benefit may not be clinically significant.[23]
- Structured psychological interventions (individual CBT) improves mother–infant play frequency at endpoint or first measurement (high quality evidence) compared with enhanced treatment as usual (home visits) in pregnant or postpartum women with a diagnosis of major depressive episode.[23]

IPT

- Structured psychological interventions (individual IPT) may improve anxiety mean scores at endpoint or first measurement (**low certainty evidence**) compared with enhanced treatment as usual (psychoeducation booklet, monitoring and improved access to

[23] Evidence statement taken directly from the 2017 Guidelines. Not included in the Technical Report Part C.

		Location in 2017 Guideline
	support) in pregnant or postpartum women with a diagnosis of depression; however, the magnitude of the benefit may not be clinically significant. • Structured psychological interventions (individual and group IPT) appear to have no effect on mother-infant attachment mean scores at short follow-up (9-16 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of MDD. • Structured psychological interventions (individual IPT) may improve anxiety mean scores at endpoint or first measurement (low quality evidence) compared with enhanced treatment as usual (psychoeducation booklet, monitoring and improved access to support) in pregnant or postpartum women with a diagnosis of depression; however, the magnitude of the benefit may not be clinically significant.[23] **IPT – psychodynamic therapy** • Structured psychological interventions (individual IPT [psychodynamic therapy]) appear to be less effective at improving depression diagnosis at long follow-up (>24 weeks post intervention) (**low certainty evidence**) and at very long follow-up (>104 weeks post intervention) (**low certainty evidence**) than treatment as usual in postpartum women with a diagnosis of MDD. • Structured psychological interventions (individual IPT [psychodynamic therapy]) appear to have no effect on depression mean scores at very long follow-up (>104 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of MDD. • Structured psychological interventions (individual IPT [psychodynamic therapy]) may improve mother-infant attachment problems at endpoint or first measurement (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of MDD. • Structured psychological interventions (individual IPT [psychodynamic therapy]) appear to have no effect on (and may be harmful to) mother-infant attachment problems at long follow-up (>24 weeks) (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of MDD.	
	CBT versus listening visits • Individual CBT appears to have no effect on depression means scores at endpoint or first measurement (**low certainty evidence**) compared with listening visits in pregnant or postpartum women with a diagnosis of MDD or symptoms of depression.	Technical Report Part C, Table C3-20
	IPT versus support group • Group IPT appears to have no effect on depression mean scores (**very low certainty evidence**) or on anxiety mean scores (**very low certainty evidence**) at endpoint or first measurement compared with a support group in pregnant women with a diagnosis of MDD or dysthymia.	Technical Report Part C, Table C3-21
Relevant recommendation(s)	**EBR 6:** Recommend individual structured psychological interventions (cognitive behavioural therapy or interpersonal psychotherapy) to women with mild to moderate depression in the perinatal period.	2017 Guideline, Part C and Appendix C

Abbreviations: CBR, consensus-based recommendation; CBT, cognitive behavioural therapy; EBR, evidence-based recommendation; IPT, interpersonal psychotherapy; MDD, major depressive disorder; NICE, National Institute of Health and Care Excellence; RCT, randomised controlled trial

Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS. Evidence Statements underpinning recommendations are shaded the same colour.

Note: *studies of structured psychological interventions that are delivered* ***online*** *are listed in Table App. 44 under Section 4.3 (Treatment with online interventions). They are not replicated in Table App. 25. This includes Van Lieshout 2021, Pugh 2016, Forsell 2017, Milgrom 2016, Milgrom 2021[24], Loughnan 2019a, Loughnan 2019b, Vigod 2021, Heller 2020, Yang 2019.*

Table App. 25 New evidence identified in the literature search update – Structured psychological interventions (CBT or IPT)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			CBT				
			Individual CBT - face-to-face by CBT therapist/psychologist	**vs.**	**treatment as usual**		
159	Netsi 2015	UK	N=36 (N=25 available data) pregnant women who screened positive on Whooley questions and were diagnosed with depression (CIS-Revised version), enrolment years NR	Antenatal	**Individual** CBT (12 sessions) held at the participant's home by a CBT therapist (Master's level or doctoral experience) N=14 (available data)	Treatment as usual N=11 (available data)	EPDS, infant outcomes to 2 months postpartum
483	Burger 2020	Netherlands	N=282 pregnant women with at least moderate anxiety or depression (STAI ≥42 or EPDS ≥12), enrolled 2011-2014	Antenatal & postnatal	Structured prenatally-initiated CBT (10-14 **individual** sessions, of which 6-10 intended to be delivered during pregnancy) delivered by licensed psychologists from 20 weeks' gestation to up to 3 months postpartum ('Pregnancy Outcomes after a Maternity Intervention for Stressful EmotionS [PROMISES]' trial) N=140	Usual care N=142	Child Behavior Checklist (CBCL), STAI, EPDS, Postpartum Bonding Questionnaire (PBQ), Bayley Scales of Infant and Toddler Development (BSID-III) to 18 months postpartum
688	Milgrom 2021[24]	Australia	N=116 postpartum (6 weeks to 1 year) women with EPDS 11-25 and diagnosis of major or minor depressive episodes (SCID-IV), enrolled 2014-2017	Postnatal	Validated **face-to-face** CBT program for PND delivered by an experienced psychologist N=39	Treatment as usual N=38	Depression diagnosis (SCID-IV), DASS-21, BDI-II, PHQ-9 to 21 weeks follow-up
370	Milgrom 2015 (see related Milgrom 2019)	Australia	N=54 pregnant women up to 30 weeks' gestation with diagnosed depressive disorder on SCID	Antenatal	Pregnancy-specific CBT program ('Beating the Blues Before Birth') delivered by psychologists (7 **individual** sessions designed to assist mothers to	Usual care (case management by midwife or GP, with referral as necessary)	BDI-II, BAI, infant outcomes to 9 months postpartum

[24] Three-arm study comparing face-to-face CBT vs. guided web-based CBT vs. treatment as usual

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			(DSM-IV) and EPDS ≥13, enrolment years NR		develop effective coping skills and one couple session) plus detailed manual N=27	N=27	
231	Milgrom 2019 (see related Milgrom 2015)	Australia	N=54 pregnant women up to 30 weeks' gestation with diagnosed depressive disorder on SCID (DSM-IV) and EPDS ≥13, enrolment years NR	Antenatal	Pregnancy-specific CBT program ('Beating the Blues Before Birth') delivered by psychologists (7 **individual** sessions designed to assist mothers to develop effective coping skills and one couple session) plus detailed manual N=27	Usual care (case management by midwife or GP, with referral as necessary) N=27	BDI-II, BAI, child outcomes in subsample to 5 years postpartum
			Individual CBT - face-to-face by midwife	**vs.**	**treatment as usual**		
1062	Bayat 2021	Iran	N=92 pregnant women 11-15 weeks' gestation with **positive screening for chromosomal disorders** and STAI state score 31-75 and trait score 31-72, enrolled in 2020	Antenatal	**Individual** CBT delivered in 4 sessions held twice a week by certified midwife N=46	Routine prenatal classes N=46	STAI at post-intervention
			Individual CBT – telephone by trained midwife	**vs.**	**treatment as usual**		
331	Ngai 2015 (see related Ngai 2016 & 2017)	Hong Kong	N=397 women 2-3 days postpartum with EPDS >9, enrolled 2012-2014	Postnatal	**Telephone-based** CBT (5 sessions over 5 weeks) conducted by a midwife trained in CBT N=197	Routine care N=200	EPDS at 6 months postpartum
889	Ngai 2016 (see related Ngai 2015 & 2017)	Hong Kong	N=397 women 2-3 days postpartum with EPDS >9, enrolled 2012-2014	Postnatal	**Telephone-based** CBT (5 sessions over 5 weeks) conducted by a midwife trained in CBT N=197	Routine care N=200	Parenting Stress Index-Short Form (PSI-SF) to 6 months postpartum
			Individual CBT – video and book, facilitated	**vs.**	**treatment as usual**		
749	Fathi-Ashtiani 2015	Iran	N=135 at-risk pregnant women with BDI >13 (mean pretest BDI 21 vs. 17), enrolled 2012-2013. [Nb. mean pretest EPDS 17 vs. 14]	Antenatal	Enhancing cognitive behavioural skills program (ECBSP) delivered **individually** by recorded film and interactive workbook (8 sessions) facilitated by a trained psychologist, and considering the religious and cultural context of Iran N=64	Usual care N=71	EPDS, BDI at 2 weeks postpartum

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
680	Wozney 2017	Canada	N=62 postpartum (1-12 months) women with criteria for MDD (DSM-IV by SCID) with peripartum onset, enrolled 2006-2009	Postnatal	**Distance-delivered** cognitive behavioural-based intervention ('Managing Our Mood [MOM]') with a **handbook and video** (12 weekly sessions plus a booster session 1-month after completion) plus weekly telephone calls from a personal coach (trained paraprofessional) who adhered to a manualised script N=32	Control (information brochure on PPD) N=30	Depression (SCID-1), BDI-II, EPDS to 12 months
			Individual CBT – face-to-face by Master's level social workers plus home visiting	**vs.**	**standard home visiting**		
127	Ammerman 2015	US	N=93 postpartum (2-10 months) women, socially-isolated low-income, with DSM-IV diagnosis of MDD (SCID-1), enrolment years NR	Postnatal	**In-home** CBT (15 weekly sessions + a booster 1 month post-treatment) delivered by Master's level social workers plus regular home visiting N=47	Standard regular home visiting N=46	HAM-D, PSI-SF at 3 months follow-up
			Individual trauma-focused CBT – face-to-face by trained therapist	**vs.**	**treatment as usual**		
138	Madigan 2015	Canada	N=43 pregnant **adolescents at 12-23 weeks' gestation with diagnosis of PTSD** (according to CPTSDI) or met criteria for unresolved state mind (assessed on the Adult attachment Interview), enrolment years NR	Antenatal	Trauma-Focused CBT (TF-CBT) provided by trained therapists (12 weekly sessions) held at teaching hospital **or residential home** N=21	Treatment as usual (12 parenting classes) N=22	BDI-II, Children's PTSD Inventory (CPTSDI) to 12 months postpartum
			Individual perinatally-enhanced CBT – face-to-face by junior mental health workers	**vs.**	**directive counselling**		
500	Evans 2021	UK	N=52 pregnant women at 10-24 weeks' gestation with mild or moderate depression determined on CIS-R (ICD-10) and EPDS ≥10, enrolled 2019	Antenatal	Perinatally-enhanced CBT (6 individual sessions) delivered by junior metal health workers (Nb. This is recommended usual NHS care) N=26	Interpersonal Counselling (IPC) delivered by supervised junior mental health workers (6 individual sessions with option of inviting partner to one)	EPDS, EQ-5D-5L at 12 weeks

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
						N=26	
			Group CBT- provider unclear	**vs.**	**treatment as usual or waitlist**		
861	Leung 2016	Hong Kong	N=164 Chinese postpartum (6-8 weeks) women with EPDS ≥10 and depression on SCID (DSM-IV), enrolled 2011-2012	Postnatal	**Group** CBT (brief 6 weekly sessions) N=82	Control (booklet with comprehensive information and education material about PND and community resources) N=82	EPDS, HADS, PSS to 6 months post-intervention
			Group CBT – led by trained midwife and psychiatrist	**vs.**	**treatment as usual or waitlist**		
601	Salehi 2016[25]	Iran	N=114 pregnant women in 2nd trimester with mild to moderate anxiety (STAI <75), enrolled 2015	Antenatal	**Group** CBT (4 counselling sessions over 2 weeks) led by a trained midwife and a psychiatrist N=38	Standard care N=38	STAI at 4 weeks post-intervention
			Group CBT – led by clinical social worker and family nurse practitioner	**vs.**	**treatment as usual or waitlist**		
173	Alhusen 2021	US	N=60 pregnant women <12 weeks' gestation of low socioeconomic status with EPDS >12, enrolment years NR	Antenatal	**Group**-based manualised CBT intervention ('Mothers and Babies Course') developed on theoretical perspectives derived from attachment theory and delivered by a clinical social worker and family nurse practitioner (6 weekly sessions including didactic instruction as well as activities and group discussion) N=30	Usual care N=30	EPDS, maternal sensitivity, Maternal-Fetal Attachment Scale (MFAS) to 12 weeks postpartum
			Group CBT – led by clinical psychologist	**vs.**	**treatment as usual or waitlist**		
790	Bittner 2014	Germany	N=160 pregnant women at 10-15 weeks' gestation with elevated symptoms of anxiety and depression (PDQ >14, STAI >36 or BDI-V >20) but not a severe	Antenatal	**Group**-based structured CBT program consisting of psychoeducation, introduction to cognitive behavioural strategies, performance of exercises/role playing and progressive muscle relaxation (8 sessions) led by a trained clinical psychologist	Usual care N=80	STAI, EPDS to 3 months postpartum

[25] Three-arm study comparing group CBT vs. psychoeducation (interactive lectures relating to anxiety) vs. standard care

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			mental disorder on CIDI, enrolled 2008-2010		N=80		
556	Green 2020	Canada	N=96 pregnant or postpartum (<6 months) women with anxiety disorder by SCID (DSM-IV) with or without comorbid depression, enrolled 2016-2019	Antenatal or postnatal	Cognitive behavioural **group** therapy (CBGT) tailored to address perinatal anxiety and depression (6 weekly sessions) in a small group format led by clinical psychologist and psychology trainee N=51	Waitlist N=45	State-Trait Inventory for Cogntive and Somatic Anxiety, Trait Version (STICSA), HAM-A, PSS, EPDS, MADRS to 3 months post-intervention
			Group CBT plus child-development education led by community health workers	**vs.**	**treatment as usual or waitlist**		
250	Husain 2021	Pakistan	N=120 clusters (villages), 774 postpartum women (up to 30 months) with DSM-IV diagnosis of MDE and EPDS >12, enrolled 2014-2017	Postnatal	Manualised **group** intervention that integrates parental information about child development and CBT ('Learning through Play Plus [LTP+]') delivered by trained community health workers (10 sessions) N=408	Routine care N=403	EPDS, PHQ-9, GAD-7, EQ-5D to 6 months' follow-up
			Group CBT – led by peers	**vs.**	**waitlist**		
920	Amani 2021	Canada	N=73 postpartum women (up to 1 year) with EPDS ≥10, enrolled 2018-2020	Postnatal	Trained **peer-delivered** CBT, involving instruction and practice of core CBT skills plus unstructured discussion on topics relevant to PPD (9 weekly sessions) held at a community centre N=37	Waitlist N=36	Depression diagnosis, EPDS, GAD-7, Postpartum Bonding Questionnaire (PBQ) to 6 months
			Group CBT – led by trained midwife and psychiatrist	**vs.**	**psychoeducation**		
601	Salehi 2016[26]	Iran	N=114 pregnant women in 2nd trimester with mild to moderate anxiety (STAI <75), enrolled 2015	Antenatal	**Group** CBT (4 counselling sessions over 2 weeks) led by a trained midwife and a psychiatrist N=38	Interactive lectures relating to anxiety (4 lectures over 2 weeks) held by a trained midwife N=38	STAI at 4 weeks post-intervention

[26] Three-arm RCT comparing group CBT vs. psychoeducation (interactive lectures relating to anxiety) vs. standard care

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Group CBT – provider unclear	**vs.**	**antidepressant**		
330	Milgrom 2015[27]	Australia	N=45 postpartum (>2 months and <8 months) women with EPDS ≥13 and DSM-IV diagnosis of a depressive disorder with postnatal onset, enrolment years NR	Postnatal	Group CBT (12 weekly sessions, 9 for women plus 3 couple sessions) N=15	SSRI (sertraline 50-200 mg/day at discretion of prescribing psychiatry registrars) N=14	BDI-II, BAI, PSI at 24 weeks
330	Milgrom 2015[28]	Australia	N=45 postpartum (>2 months and <8 months) women with EPDS ≥13 and DSM-IV diagnosis of a depressive disorder with postnatal onset, enrolment years NR	Postnatal	Group CBT (12 weekly sessions, 9 for women plus 3 couple sessions) + SSRI (sertraline 50-200 mg/day at discretion of prescribing psychiatry registrars) N=16	SSRI (sertraline 50-200 mg/day at discretion of prescribing psychiatry registrars) N=14	BDI-II, BAI, PSI at 24 weeks
			Mindfulness-based CBT – face-to-face	**vs.**	**treatment as usual**		
1041	Yazdanimehr 2016	Iran	N=80 pregnant women at 1-6 months' gestation with EPDS >13 and BAI >16, enrolment years NR	Antenatal	Mindfulness-integrated CBT (8 sessions) held at a health centre and performed by a trained MSc in clinical psychology N=40	Routine care N=40	EPDS, BAI to 1-month post-intervention
553	Zemestani 2020	Iran	N=38 pregnant women at 1-6 months' gestation meeting DSM-5 criteria for depression and anxiety disorders and BDI-II >20 and BAI total score >22, enrolment years NR	Antenatal	Mindfulness-based cognitive therapy (8 weekly group sessions) modified for perinatal period and led by trained clinical psychologist[29] N=19	No intervention N=19	BDI-II, BAI, SPWB to 1-month follow-up

[27] Three-arm RCT comparing group CBT vs. SSRI vs. group CBT + SSRI

[28] Three-arm RCT comparing group CBT vs. SSRI vs. group CBT + SSRI

[29] Each session had a central theme and included didactic presentations, group exercises aimed at cognitive skill development, formal meditation practices, and leader-facilitated group inquiry and discussion. The overarching theme of momentary awareness and acceptance of negative emotions and affect during pregnancy (e.g., depression, anxiety, rumination, worry) was introduced and reinforced in complementary ways throughout the training.

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			IPT				
			Individual IPT – face-to-face by clinical psychologist/supervised clinicians	**vs.**	**treatment as usual or enhanced treatment as usual**		
725	Lenze 2017 (see related Lenze 2020 for postnatal results)	US	N=42 pregnant women at 12-30 weeks' gestation with low-income, EPDS ≥10 and current Major Depression, Dysthymia or Depression NOS on SCID (DSM-IV), enrolment years NR	**Antenatal (phase of study))**	Brief antenatal IPT consisting of brief ethnographic engagement session followed by individual IPT (8 sessions) conducted in **location desired by participant** by a clinical psychologist and supervised clinicians N=21	Enhanced treatment as usual, with referral and brief case management N=21	EPDS, Brief-STAI at 37-39 weeks' gestation
			Individual IPT – telephone by trained nurse	**vs.**	**treatment as usual or enhanced treatment as usual**		
704	Dennis 2020	Canada	N=710 women 2-24 weeks postpartum with clinical depression (DSM-IV) on SCID-I, enrolled 2009-2012	Postnatal	**Telephone** IPT with psychoeducation (12 weekly sessions) delivered by a trained nurse N=120	Standard care N=121	Dyadic Adjustment Scale (DAS), Experiences in Close Relationships (ECR) scale, SCID depression, EPDS, STAI to 36 weeks
			Postpartum dyadic IPT – face-to-face by clinical psychologist or licensed professional counsellor	**vs.**	**treatment as usual or enhanced treatment as usual**		
633	Lenze 2020 (see related Lenze 2017 for antenatal results)	US	N=42 mother-infant dyads, who participated in brief IPT study during pregnancy (initial session followed by 8 sessions in pregnant women recruited at 12-30 weeks' gestation who met DSM-IV criteria for MDD), enrolled 2012-2015	**Postnatal (phase of study)**	Postpartum dyadic IPT with focus on mother's IPT problem area and mother-infant dyad (postpartum phase involved 10 weekly sessions in the first postpartum year delivered by a clinical psychologist or licensed professional counsellor at **location of participant's choice**) N=21	Enhanced treatment as usual, with regular contact to 9 months postpartum N=21	EPDS, Brief State-Trait Anxiety Inventory, mother-infant interactions to 12 months postpartum

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Individual IPT –by trained therapists	**vs.**	**psychoeducation**		
891	O'Hara 2019[30]	US	N=162 postpartum women (up to 1 year) with primary DSM-IV (SCID) diagnosis of MDE and HAM-D ≥15, enrolled 2008-2013	Postnatal	**Individual** IPT (12 sessions over 12 weeks) delivered by trained therapists N=53	Pill placebo plus clinical management (infant-focused psychoeducation, 9 sessions over 12 weeks) N=53	HAM-D, BDI, CGI, IDAS-GD to 12 weeks
			Other (not CBT or IPT)				
			Structured behavioural activation – Individual face-to-face by trained providers	**vs.**	**treatment as usual or enhanced treatment as usual**		
122	Dimidjian 2017	US	N=163 pregnant women with PHQ-9 ≥10, enrolled 2012-2013	Antenatal	Structured Behavioral Activation (BA) delivered by trained providers (10 sessions with location and timing to **accommodate women's preferences)** N=86	Treatment as usual N=77	PHQ-9, GAD-7, PSS-10 to 3 months postpartum
			Structured psychological counselling – face-to-face by community health workers	**vs.**	**treatment as usual or enhanced treatment as usual**		
715	Lund 2020	South Africa	N=425 pregnant women up to 28 weeks' gestation living in a **peri-urban area marked by high HIV prevalence, poverty and unemployment**, with EPDS ≥13, enrolled 2013-2014	Antenatal	Structured psychological treatment (6 weekly counselling sessions) delivered by non-specialist community health workers **at a location based on participant preference** N=209	Enhanced treatment as usual with monthly telephone calls for 3 months N=216	HAM-D, EPDS, birth and child outcomes to 12 months postpartum

[30] Three-arm RCT comparing individual IPT vs. placebo + clinical management (infant-focused psychoeducation) vs. SSRI (sertraline, dosed flexibly 50-200 mg/day) +clinical management (infant-focused psychoeducation, 9 sessions over 12 weeks – combined group excluded)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Parenting intervention – Individual face-to-face by accredited practitioner	**vs.**	**treatment as usual or enhanced treatment as usual**		
922	Tsivos 2015	UK	N= 27 postpartum women (up to 1 year) with EPDS ≥10 and primary diagnosis of PND based on confirmation of major depression on SCID, enrolled 2010-2012	Postnatal	Strengths-based parenting intervention that aims to promote healthy infant development, reducing of family risk factors and parental psychopathology ('Baby Triple P') delivered **at the participant's home** by a Triple P-accredited practitioner (8 weekly sessions) N=14	Treatment as usual N=13	BDI-II, CARE Index, PBQ at 3 months follow-up
			Cognitive behavioural stress management – face-to-face, provider unclear	**vs.**	**treatment as usual**		
99	Karamoozian 2015	Iran	N=30 pregnant women at 4-5 months' gestation with EPDS ≥12 and anxiety (highest score on Pregnancy-Related Anxiety Questionnaire [PRAQ]), enrolment years NR	Antenatal	Cognitive-behavioural stress management (CBSM) training (12 weekly sessions), administration conditions not described N=15	Usual care N=15	EPDS, PRAQ at post-intervention

Abbreviations: BAI, Beck Anxiety Inventory; BDI, Beck Depression Inventory; CBT, cognitive behavioural therapy; CGI, Clinical Global Impressions-Severity of Illness and Improvement scales; CIS-R, Clinical Interview Schedule – Revised; CPTSDI, Children's Post-traumatic Stress Disorder Inventory; DASS-21, Depression Anxiety Stress Scales; DSM, Diagnostic and Statistical Manual of Mental Disorders; EPDS, Edinburgh Postnatal Depression Scale; EQ-5D-5L, EuroQol 5 Dimension 5 Level Questionnaire; GP, General Practitioner; GAD-7, Generalized Anxiety Disorder 7-item scale; HADS, Hospital Anxiety and Depression Scale; HAM-D, Hamilton Depression Rating Scale; HIV, human immunodeficiency virus; ICD, International Statistical Classification of Diseases and Related Health Problems; IDAS-GD, Inventory of Depression and Anxiety Symptoms, General Depression scale ; IPT, interpersonal psychotherapy; MDD, major depressive disorder; NHS, National Health Service; NR, not reported; PDQ, Personality Diagnostic Questionnaire ; PBQ, Postpartum Bonding Questionnaire; PHQ-9, Patient Health Questionnaire – 9; PND, postnatal depression; PPD, postpartum depression; PRAQ, Pregnancy-Related Anxiety Questionnaire; PSI, Parenting Stress Index; PSI-SF, Parenting Stress Index – Short Form; PSS, Perceived Stress Scale; PTSD, post-traumatic stress disorder; SSRI, selective serotonin reuptake inhibitor; SCID, Structured Clinical Interview for DSM Disorders; SPWB, Scales of Psychological Well-being; STAI, State Trait Anxiety Inventory; UK, United Kingdom; US, United States

At the EWG meeting on the 17 June 2022, the EWG members requested that the studies listed in Table App. 25 be recategorised with greater emphasis on the intervention type. Table App. 25 presented in this report reflects the revised categories. The EWG also advised that studies of home visits should be removed from further assessment as they are not relevant to the Australian context.

On review of the recategorised studies, it was decided that the following studies <u>would not</u> proceed to full evidence appraisal for the reasons outlined below:

1. *There was only one study per category, which was deemed insufficient to inform the development of a recommendation: Dennis 2020, Dimidjian 2017, Tsivos 2015, Karamoozian 2015.*
2. *The context was not considered applicable to the general Australian perinatal population: Husain 2021, Lund 2020*
3. *The study population was very specific and not considered generalisable to the general Australian perinatal population: Bayat 2021*
4. *The intervention (trauma-focused CBT) was very specific: Madigan 2015*
5. *The comparator was psychoeducation: Salehi 2016[31], O'Hara 2019*
6. *The single study was insufficient to make definitive conclusions about dyadic IPT: Lenze 2020*
7. *The single study was insufficient to make definitive conclusions about individual face to face IPT versus enhanced treatment as usual: Lenze 2017*
8. *The single study was insufficient to make definitive conclusions about group CBT versus antidepressants: Milgrom 2015 (Ref ID 330)*
9. *The single study was insufficient to make definitive conclusions regarding CBT versus interpersonal counselling: Evans 2021*
10. *Mindfulness based interventions will be included in the guideline narrative as emerging interventions: Yazdanimehr 2016, Zemestani 2020*
11. *Sufficient detail was not provided to replicate the intervention: Fathi-Ashtiani 2015, Wozney 2017*
12. *The study authors acknowledged that the studies were pilot RCTs with a limited sample size. These studies were insufficiently powered to draw definitive conclusions regarding effectiveness: Netsi 2015, Milgrom 2015 (Ref ID 370), Milgrom (2019) and Alhusen 2021*

4.2.2 Directive counselling

Table App. 26 Evidence included in 2017 Guideline – Directive counselling

		Location in 2017 Guideline
Included studies	NICE 2015: 1 RCT • Milgrom 2005	Appendix to Technical Report Part C, Table AppC2-20
Evidence statement(s)	**Directive counselling versus treatment as usual** • Directive counselling may improve depression symptomatology (**low certainty evidence**) at endpoint or first measurement compared with treatment as usual in postpartum women with a diagnosis of minor depression or MDD. • Directive counselling appears to have no effect on depression mean scores at endpoint or first measurement (**low certainty evidence**) but may improve depression mean scores at long follow-up (25-103 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of minor depression or MDD.	Technical Report Part C, Table C3-22

[31] Salehi (2016) is a three-arm study. The comparison not taken through full evidence review was group CBT versus interactive lectures. Group CBT versus standard care did proceed through full evidence review.

		Location in 2017 Guideline
	• Directive counselling may improve anxiety mean scores at endpoint or first measurement (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of minor depression or MDD.	
Relevant recommendation(s)	**EBR7:** Advise women with depression or anxiety disorder in the postnatal period of the possible benefits of directive counselling.	2017 Guideline, Part C and Appendix C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; MDD, major depressive disorder; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS. Evidence Statements underpinning recommendations are shaded the same colour.

Table App. 27 New evidence identified in the literature search update – Directive counselling

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Directive counselling	**vs.**	**treatment as usual**		
611	Jiang 2014	China	N=771 women at 4-6 weeks' postpartum with EPDS ≥10, enrolled 2009-2010	Postnatal	Psychological intervention' that involved health education (mailed), weekly face-to-face outpatient psychological counselling, telephone counselling and referral N=257	Usual care N=514	EPDS at 6 months postpartum
			Directive counselling	**vs.**	**structured psychological intervention (CBT)**		
500	Evans 2021	UK	N=52 pregnant women at 10-24 weeks' gestation with mild or moderate depression determined on CIS-R (ICD-10) and EPDS ≥10, enrolled 2019	Antenatal	Interpersonal Counselling (IPC) delivered by supervised junior mental health workers (6 individual sessions with option of inviting partner to one session) N=26	Perinatally-enhanced CBT (6 individual sessions) delivered by junior metal health workers (Nb. This is recommended usual NHS care) N=26	EPDS, EQ-5D-5L at 12 weeks

Abbreviations: CBT, cognitive behavioural therapy; CIS-R, Clinical Interview Schedule - Revised; EPDS, Edinburgh Postnatal Depression Scale; EQ-5D-5L, EuroQol 5 Dimension 5 Level Questionnaire; ICD, International Statistical Classification of Diseases and Related Health Problems; IPC, interpersonal counselling; NHS, National Health Service; UK, United Kingdom.

The EWG members agreed that the studies listed in Table App. 27 may not be applicable to the Australian context and therefore did not proceed through the full evidence review process.

4.2.3 Non-directive counselling

Table App. 28 Evidence included in 2017 Guideline – Non-directive counselling

		Location in 2017 Guideline
Included studies	NICE 2015: 5 RCTs • Morrell 2009a/2009b, Wiggins 2005, Cooper 2003, Holden 1989, Wickberg 1996	Appendix to Technical Report Part C, Table AppC2-22
Evidence statement(s)	**Listening visits/non-directive counselling versus treatment as usual** • Non-directive counselling in the home appears to have no effect on depression diagnosis at endpoint or first measurement (**low certainty evidence**) or at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**) or at long follow-up (25-103 weeks post intervention) (**low certainty evidence**), and may be less effective on depression diagnosis at very long follow-up (>104 weeks post intervention) (**low certainty evidence**) than treatment as usual in postpartum women with a diagnosis of MDD. • Listening visits in the home have no effect on depression symptomatology at endpoint or first measurement (**moderate certainty evidence**), or at long follow-up (25-103 weeks post intervention) (**moderate certainty evidence**), compared with treatment as usual in postpartum women with symptoms (or subthreshold symptoms) of depression. • Non-directive counselling/listening visits in the home improve depression mean scores at endpoint or first measurement (**moderate certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of depression or symptoms of depression; however, the magnitude of the benefit is not clinically significant. • Non-directive counselling in the home appears to have no effect on depression mean scores at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**), long follow-up (>24 weeks post intervention) (**low certainty evidence**) and very long follow-up (>104 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of MDD. • Non-directive counselling in the home may improve state anxiety mean scores (**low certainty evidence**) at endpoint or first measurement compared with treatment as usual in postpartum women with symptoms of depression; however, the magnitude of the benefits may not be clinically significant. • Non-directive counselling in the home may improve mother-infant attachment problems at endpoint or first measurement (**low certainty evidence**), but appears to have no effect on mother-infant attachment problems at long follow-up (25-103 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of MDD.	Technical Report Part C, Table C3-23
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: MDD, major depressive disorder; N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 29 New evidence identified in the literature search update – Non-directive counselling

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.2.4 Case management/individual treatment

Table App. 30 Evidence included in 2017 Guideline – Case management/individual treatment

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Appendix to Technical Report Part C, AppC2.2.4.1
Evidence statement(s)	• There is no RCT evidence for case management or individualised treatment in women who have mental health problems in the perinatal period.	Technical Report Part C, Table C3-24
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review

Table App. 31 New evidence identified in the literature search update – Case management/individual treatment

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.2.5 Self-help or facilitated self-help

Table App. 32 Evidence included in 2017 Guideline – Self-help or facilitated self-help

		Location in 2017 Guideline
Included studies	NICE 2015: 3 RCTs[a] • O'Mahen 2013b, O'Mahen 2013c, Milgrom 2011a	Appendix to Technical Report Part C, Table AppC2-24
Evidence statement(s)	**Facilitated self-help versus treatment as usual** • Facilitated self-help (internet delivery with online or telephone support) improves depression mean scores at endpoint or first measurement (**high certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of MDD or symptoms of depression. • Facilitated self-help (workbook or internet delivery with online or telephone support) may improve depression symptomatology at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in pregnant or postpartum women with a diagnosis of MDD or symptoms (or subthreshold symptoms) of depression. • Facilitated self-help (workbook delivery with telephone support) may improve anxiety symptomatology at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in pregnant women with subthreshold symptoms of depression.	Technical Report Part C, Table C3-25

		Location in 2017 Guideline
	• Facilitated self-help (internet delivery with telephone support) appears to have no effect on anxiety mean scores at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of MDD.	
Relevant recommendation(s)	**CBR xvi:** Advise women with symptoms of depression in the perinatal period of the potential benefits of facilitated self-help.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; MDD, major depressive disorder; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

Table App. 33 New evidence identified in the literature search update – Self-help or facilitated self-help

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Self-help or facilitated self-help	**vs.**	**treatment as usual or enhanced treatment as usual**		
281	Gureje 2019	Nigeria	N=29 Maternal Care Clinics (cluster randomised) enrolling 686 pregnant women at 16-28 weeks' gestation with major depression on CIDI (DSM-IV) and EPDS ≥12, enrolled 2013-2014	Antenatal & postnatal	Stepped-care treatment using a manualised psychological intervention package (high-intensity) with locally-adapted Problem Solving Treatment (PST) delivered by trained primary maternal care provider (8 weekly sessions antenatally and 4-8 sessions commencing 6 weeks postpartum) N=452	Enhanced care as usual - Psychosocial intervention (low-intensity) at discretion of primary maternal care provider N=234	EPDS remission at 6 months
564	Trevillion 2020	UK	N=53 pregnant women up to 26 weeks' gestation with DSM-IV criteria for depression on SCID, enrolled 2015-2016	Antenatal & postnatal	Guided self-help (GSH) delivered by psychological wellbeing practitioners (initial face-to-face session followed by up to 8 face-to-face or telephone sessions depending on participant's preference) with additional check-in session at 6-8 weeks postpartum N=26	Treatment as usual N=27	EPDS, PHQ-9, GAD-7, PBQ to 3 months postpartum
640	Vanobberghen 2020	India & Pakistan	N=850 pregnant women in LMIC with moderate to severe depression (PHQ-9 ≥10), enrolled 2014-2017	Antenatal & postnatal	Thinking Healthy Programme' using CBT techniques adapted for delivery by trained peers (THPP) over the prenatal period to 6 months postpartum (delivered as 6-14 individual sessions in India, or 10 individual plus 4 group sessions in Pakistan) N=396?	Enhanced usual care N=?	PHQ-9 to 6 months postpartum

Abbreviations: CBT, cognitive behavioural therapy; CIDI, Composite International Diagnostic Interview; DSM, Diagnostic and Statistical Manual of Mental Disorders; EPDS, Edinburgh Postnatal Depression Scale; GAD-7, Generalized Anxiety Disorder 7-item scale; GSH, guided self-help; LMIC, low middle income countries; PBQ, Postpartum Bonding Questionnaire; PHQ-9, Patient Health Questionnaire - 9; PST, problem solving treatment; SCID, Structured Clinical Interview for DSM Disorders; UK, United Kingdom

The EWG members agreed that the studies listed in Table App. 33 may not be applicable to the Australian context and therefore did not proceed through the full evidence review process.

4.2.6 Post-traumatic birth counselling

This topic is addressed in the new section on birth trauma (see Technical Report Part E).

Table App. 34 Evidence included in 2017 Guideline – Post-traumatic birth counselling

		Location in 2017 Guideline
Included studies	NICE 2015: 1 RCT • Gamble 2005	Appendix to Technical Report Part C, Table AppC2-26
Evidence statement(s)	**Post-traumatic birth counselling versus treatment as usual** • Individual post-traumatic birth counselling may improve depression symptomatology at endpoint or first measurement (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of PTSD. • Individual post-traumatic birth counselling appears to have no effect on anxiety symptomatology at endpoint or first measurement (**low certainty evidence**) compared with treatment as usual in postpartum women with a diagnosis of PTSD. • Individual post-traumatic birth counselling may improve PTSD mean scores (**low certainty evidence**), but appears to have no effect on PTSD diagnosis (**low certainty evidence**) at endpoint or first measurement compared with treatment as usual in postpartum women with a diagnosis of PTSD.	Technical Report Part C, Table C3-26
Relevant recommendation(s)	**CBR xvii:** Advise women with diagnosed post-traumatic stress disorder of the potential benefits of post-traumatic birth counselling if they are experiencing depressive symptoms.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; NICE, National Institute for Health and Care Excellence; PTSD, post-traumatic stress disorder; RCT, randomised controlled trial
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

4.2.7 Post-miscarriage counselling

Table App. 35 Evidence included in 2017 Guideline – Post-miscarriage counselling

		Location in 2017 Guideline
Included studies	NICE 2015: 3 RCTs • Swanson 2009, Nikcevic 2007, Neugebauer 2006	Appendix to Technical Report Part C, Table AppC2-28

		Location in 2017 Guideline
Evidence statement(s)	**Post-miscarriage counselling versus treatment as usual** • There is that individual post-miscarriage counselling (telephone or face-to-face at home) appears to have no effect on depression mean scores at endpoint or first measurement (**low certainty evidence**), or on depression mean scores at long follow-up (25-103 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in women with symptoms of depression. • Individual post-miscarriage counselling (face-to-face clinic-based psychological counselling plus medical investigations into causes of miscarriage) appears to have no effect on depression mean scores at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**) or on anxiety mean scores at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**) compared with enhanced treatment as usual (medical investigations into causes of miscarriage without counselling) in women with symptoms of anxiety.	Technical Report Part C, Table C3-27
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 36 New evidence identified in the literature search update – Post-miscarriage counselling

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.2.8 Mother-infant relationship interventions

This intervention was classified as a **psychosocial** intervention in the 2017 Technical Reports.

Table App. 37 Evidence included in 2017 Guideline – Mother-infant relationship interventions

		Location in 2017 Guideline
Included studies	NICE 2015: 8 RCTs • Sleed 2013, Bilszta 2012, Salomonsson 2011, van Doesum 2008, Zelkowitz 2008, Stein 2006, Cooper 2003, Horowitz 2001	Appendix to Technical Report Part C, Table AppC2-12
Evidence statement(s)	**Mother-infant relationship interventions versus treatment as usual or enhanced treatment as usual** **Individual mother-infant relationship interventions** • Mother-infant relationship interventions (individual) may improve mother-infant attachment problems (**very low certainty evidence**) at endpoint or first measurement compared with treatment as usual in women with a diagnosis of MDD or symptoms of depression. • Mother-infant relationship interventions (individual) appear to have no effect on (or may be harmful to) mother-infant attachment problems at long follow-up (25-103 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in women with a diagnosis of MDD.	Technical Report Part C, Table C3-14

		Location in 2017 Guideline
	• Mother-infant relationship interventions (individual) appear to have no effect on mother-infant positive interaction mean scores at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**) compared with enhanced treatment as usual (a booklet about infant care) in women with symptoms of depression. • Mother-infant relationship interventions (individual) appear to be harmful to mother-infant positive interaction mean scores at very long follow-up (>104 weeks post intervention) (**low certainty evidence**) compared with enhanced treatment as usual (telephone support) in women with a diagnosis of a major depressive episode or dysthymia. • Mother-infant relationship interventions (individual mother-infant psychotherapy) appear to have no effect on maternal sensitivity treatment response at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in women with symptoms of depression. • Mother-infant relationship interventions (individual) may have an effect[32] on depression diagnosis at endpoint or first measurement (**low certainty evidence**), but appear to have no effect on depression diagnosis at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**), at long follow-up (25-103 weeks post intervention) (**low certainty evidence**), or at very long follow-up (>103 weeks post intervention) (**low certainty evidence**) compared with treatment as usual in women with a diagnosis of MDD. • Mother-infant relationship interventions (individual) appear to have no effect on depression mean scores (**low certainty evidence**) at intermediate (17-24 weeks post intervention), long (25-103 weeks post intervention), or very long (>103 weeks post-treatment) follow-up compared with treatment as usual or enhanced treatment as usual in women with a diagnosis of depression. • Mother-infant relationship interventions (individual) appear to have no effect on depression symptomatology (**low certainty evidence**) at intermediate follow-up (17-24 weeks post intervention) than enhanced treatment as usual (a booklet about infant care) in women with symptoms of depression.	
	Mother-infant relationship intervention with video feedback versus mother-infant relationship intervention with verbal feedback • Mother-infant relationship intervention (individual) with video feedback appears to have no effect on depression mean scores at endpoint or first measurement (**low certainty evidence**) compared with a mother-infant relationship intervention (individual) with verbal feedback in women with a diagnosis of MDD.	Technical Report Part C, Table C3-15
	Mother-infant relationship intervention (and facilitated self-help for eating disorders) versus listening visits (and facilitated self-help for eating disorders • There is no RCT evidence for any pre-defined important outcomes for mother-infant relationship interventions relative to listening visits for women with eating disorders.	Technical Report Part C, Table C3-16
Relevant recommendation(s)	**CBR xviii:** For women who have or are recovering from postnatal depression and are experiencing mother–infant relationship difficulties, consider provision of or referral for individual mother–infant relationship interventions.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; MDD, major depressive disorder; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

[32] RR 0.72 (95% CI 0.48, 1.07); P=0.10

Table App. 38 New evidence identified in the literature search update – Mother-infant relationship interventions

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Mother-infant relationship interventions	**vs.**	**treatment as usual or enhanced treatment as usual**		
540	Akbarzadeh 2016	Iran	N=199 pregnant women 28-34 weeks' gestation with mild or average anxiety on Speilberger's questionnaire, enrolled 2014	Antenatal	Educational program on attachment skills held as lectures, question and response, open discussion, watching films and role-playing (4 weekly sessions) N=98	Routine care (public lectures about prenatal care and breastfeeding) N=98	STAI at 3 months
391	Goodman 2015	US	N=42 mother-infant dyads, 6 weeks postpartum with EPDS >9 and <20, enrolment years NR	Postnatal	Perinatal dyadic psychotherapy mother-infant intervention (8 home visits over 3 months) N=21	Usual care plus depression monitoring by phone N=21	Depression, EPDS, STAI to 3 months' follow-up
110	Husain 2017	Pakistan	N=247 women up to 30 months postpartum living in urban slums, with depression confirmed by CIS-R and EPDS ≥12, enrolled 2009-2011	Postnatal	Integrated maternal psychological and early child development intervention ('Learning through Play Plus program [LTP Plus]'), a parenting program integrated with CBT (10 weekly group sessions over 12 weeks) delivered by supervised graduate psychologists N=123	Treatment as usual N=124	EPDS, HAM-D, PSI, BDQ, IDQ to 6 months follow-up
298	Tryphonopoulos 2020	Canada	N=12 postpartum women with diagnosis of PPD and active psychiatric treatment and EPDS ≥12, enrolled 2012-2014	Postnatal	Nurse-delivered video-feedback interaction guidance intervention for improving maternal-infant interaction quality (3 sessions at 3-week intervals) N=6	Standard care with 3 home visits on same schedule N=6	Maternal-infant interaction (NCATS), maternal sensitivity (CARE-Index), EPDS at post-intervention (10 weeks)

Abbreviations: BDQ, Brief Disability Questionnaire; CBT, cognitive behavioural therapy; CIS-R, Clinical Interview Schedule - Revised; EPDS, Edinburgh Postnatal Depression Scale; HAM-D, Hamilton Depression Rating Scale; IDQ, Infant Development Questionnaite; NCATS, Nursing Child Assessment Teaching Scale; NR, not reported; PPD, postpartum depression; PSI, Parenting Stress Index; STAI, State Trait Anxiety Inventory; US, United States

The EWG agreed that the mother-infant relationship interventions outlined in Table App. 38 were specialised and resource intensive and therefore not applicable to the Australian context. As such, these studies did not proceed through the full evidence review process.

4.2.9 Eye movement desensitisation and reprocessing (EMDR)

This is a new intervention type that was not explicitly covered in the 2017 Technical Reports.

Table App. 39 New evidence identified in the literature search update – Eye movement desensitisation and reprocessing (EMDR)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.2.10 Acceptance and Commitment Therapy (ACT)

This is a new intervention type that was not explicitly covered in the 2017 Technical Reports.

Table App. 40 New evidence identified in the literature search update – Acceptance and Commitment Therapy (ACT)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.2.11 Mindfulness

This intervention was classified as a **psychosocial** intervention in the 2017 Technical Reports.

Table App. 41 Evidence included in 2017 Guideline – Mindfulness

		Location in 2017 Guideline
Included studies	NICE 2015: 2 RCTs • Guardino 2014, Vieten 2008[33]	Appendix to Technical Report Part C, Table AppC2-16
Evidence statement(s)	**Mindfulness training versus treatment as usual or enhanced treatment as usual** • Group mindfulness training appears to have no effect on depression mean scores at endpoint or first measurement (**very low certainty evidence**) compared with waitlist in pregnant women with mood concerns. • Group mindfulness training appears to have no effect on anxiety mean scores at endpoint or first measurement (**low certainty evidence**) compared with enhanced treatment as usual (non-mental health-focused education and support booklet) in pregnant women with elevated levels of perceived stress or pregnancy-specific anxiety.	Technical Report Part C, Table C3-18
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

[33] Study participants were pregnant women who had previously sought treatment for 'mood concerns'.

Table App. 42 New evidence identified in the literature search update – Mindfulness

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Internet/technology-delivered	**vs.**	**enhanced treatment as usual**		
1022	Yang 2019	China	N=123 pregnant women 24-30 weeks gestation with GAD-7 >4 or PHQ-9 >4, enrolled 2018	Antenatal	Mindfulness on Wechat platform (4 sessions over 8 weeks) N=62	Routine care including Wechat group N=61	PHQ-9, GAD-7 at post-intervention
194	Sun 2021	China	N=168 pregnant women at 12-20 weeks' gestation with EPDS >9 or PHQ-9 >4, enrolled 2018-2019	Antenatal	Self-guided **smartphone-based** mindfulness training (8 weekly sessions composed of thematic curriculum as well as formal and informal mindfulness training) delivered through a custom-built mobile app, with weekly reminder messages through WeChat N=84	Attention control (weekly consultations by a clinically trained nursing assistant using the WeChat app for 8 weeks) N=84	EPDS, PHQ-9, GAD-7, PSS to 6 weeks postpartum

Abbreviations: GAD-7, Generalized Anxiety Disorder – 7 item scale; EPDS, Edinburgh Postnatal Depression Scale; PHQ-9, Patient Health Questionnaire - 9; PSS, Perceived Stress Scale.

The EWG agreed that the interventions in Ref ID 1022 and 194 were not applicable to the Australian context due to the platform used (WeChat) and as such did not proceed through the full evidence review process. Mindfulness may be included as an emerging intervention in the guideline narrative or as a consensus-based recommendation.

4.3 Treatment with online interventions

Table App. 43 Evidence included in 2017 Guideline – Online interventions

		Location in 2017 Guideline
Included studies	Ashford 2016: 5 RCTs, 2 single group studies • RCTs: O'Mahen 2014, Pugh 2014, Kersting 2013, O'Mahen 2013b, Kersting 2011 • Single group studies: Kim 2014, Danaher 2013	Appendix to Technical Report Part C, Table AppC2-30
Evidence statement(s)	• There is no RCT evidence for online interventions compared with offline versions of the same intervention in women who have mental health problems in the perinatal period.	Technical Report Part C, Table C3-28
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial

Table App. 44 New evidence identified in the literature search update – Online interventions

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Online with Health Professional				
			Health Professional led				
411	Van Lieshout 2021	Canada	N=403 postpartum women with EPDS ≥10, enrolled in 2020	Postnatal	**Online** interactive 1-day CBT-based workshops consisting of didactic teaching, group exercises/discussion, and role playing in 4 modules delivered by a registered psychotherapist, psychiatrist or clinical psychology graduate student N=201	Usual care/waitlist N=202	EPDS, GAD-7 at 12 weeks
			Health professional assisted				
751	Forsell 2017	Sweden	N=42 pregnant women at 12-28 weeks' gestation with MDD on SCID-I and MADRS-S score 15-35, enrolment years NR	Antenatal	**Internet-delivered** CBT (ICBT) with brief therapist guidance (guided self-help) adapted for pregnancy (10-week program) plus TAU N=22	Treatment as usual, followed by optional ICBT N=21	MADRS-S, EPDS, GAD-7, EQ-5D-3L at post-intervention
319	Heller 2020	Nether-lands	N=159 pregnant women up to 30 weeks' gestation with CES-D ≥16 or HADS-A ≥8, enrolment years NR	Antenatal	MamaKits online' guided **internet-based** problem-solving treatment (PST; 5 weekly modules) plus usual care, with trained coaches (Masters in Psychology students) providing feedback on assignments N=79	Usual care N=80	CES-D, HADS-A, EPDS at 6 weeks postpartum
95	Pugh 2016	Canada	N=50 postpartum women (up to 1 year) with EPDS ≥10, enrolled 2012-2013	Postnatal	Therapist-assisted **internet-delivered** CBT ('Maternal Depression Online') consisting 7 modules (1 per week), with private messaging to therapists (supervised doctoral students in Clinical Psychology) N=25	Waitlist (information pamphlet with psychoeducation on PPD and support service websites) N=25	EPDS, DASS-21, PSI-SF, WHOQOL-BREF to 10 weeks' follow-up
883	Vigod 2021	Canada	N=98 mothers (inclusive of all genders, adoptive and birth parents) up to 12 months postpartum with EPDS ≥10, enrolled 2016	Postnatal	Online **therapist-facilitated** discussion board and support group ('Mother Matters'), based on IPT framework (10 weekly topics covering psychoeducation, social support, interpersonal problems) plus weekly optional live chat N=50	Usual care/waitlist N=48	EPDS, EPDS remission post-intervention

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
896	Milgrom 2016	Australia	N=43 postpartum women (up to 12 months) with EPDS score 11-23, no current treatment for depression and EPDS <3 on item #10 (self harm), enrolled 2013-2014	Postnatal	Interactive **internet-delivered** CBT ('MumMoodBooster') (6 sessions over 6 weeks) including a monitored peer-based Web forum and a partner website, supported by low intensity telephone coaching in using the program N=21	Treatment as usual, with 5 safety calls and referrals as necessary N=22	SCID-IV diagnosis, BDI-II, PHQ-9 to 12 weeks
688	Milgrom 2021[34]	Australia	N=116 postpartum (6 weeks to 1 year) women with EPDS 11-25 and diagnosis of major or minor depressive episodes (SCID-IV), enrolled 2014-2017	Postnatal	Guided **web-based** CBT intervention (internet CBT+coach calls) for PND ('MumMoodBooster [MMB]') N=39	Treatment as usual N=38	Depression diagnosis (SCID-IV), DASS-21, BDI-II, PHQ-9 to 21 weeks follow-up
688	Milgrom 2021[35]	Australia	N=116 postpartum (6 weeks to 1 year) women with EPDS 11-25 and diagnosis of major or minor depressive episodes (SCID-IV), enrolled 2014-2017	Postnatal	Guided **web-based** CBT intervention (internet CBT+coach calls) for PND ('MumMoodBooster [MMB]') N=39	Validated **face-to-face** CBT program for PND N=39	Depression diagnosis (SCID-IV), DASS-21, BDI-II, PHQ-9 to 21 weeks follow-up
			Online self-guided				
737	Loughnan 2019a	Australia	N=87 pregnant women at 13-30 weeks' gestation with a probable diagnosis of GAD and/or MDD, enrolled 2016-2017	Antenatal	Brief **unguided internet-delivered** CBT ('MUMentum Pregnancy' program via online Virtual Clinic system) with 3 lessons plus revision required to be completed within 4 weeks N=43	Treatment as usual N=44	PHQ-9, GAD-7, Kessler-10, EPDS, WHOQOL-BREF, BDI-II, Maternal Antenatal Attachment Scale (MAAS) to 4 weeks post-intervention
385	Loughnan 2019b	Australia	N=131 postpartum women (within 12 months) with self-reported symptoms of anxiety or depression (GAD-7 or PHQ-9 total score ≥10), enrolment years NR	Postnatal	Brief **unguided** internet-delivered CBT ('MUMentum Postnatal' program via online Virtual Clinic system) with 3 lessons to be completed within 6 weeks N=69	Treatment as usual N=62	PHQ-9, GAD-7, Kessler-10, EPDS, WHOQOL-BREF, Maternal Postnatal Attachment Scale (MPAS) to 4 weeks post-intervention
1022	Yang 2019	China	N=123 pregnant women 24-30 weeks gestation with GAD-7 >4 or PHQ-9 >4, enrolled 2018	Antenatal	Mindfulness on Wechat platform (4 sessions over 8 weeks) N=62	Routine care including Wechat group	PHQ-9, GAD-7 at post-intervention

[34] Three-arm study comparing face-to-face CBT vs. guided web-based CBT vs. treatment as usual
[35] Three-arm study comparing face-to-face CBT vs. guided web-based CBT vs. treatment as usual

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
						N=61	
194	Sun 2021	China	N=168 pregnant women at 12-20 weeks' gestation with EPDS >9 or PHQ-9 >4, enrolled 2018-2019	Antenatal	Self-guided **smartphone-based** mindfulness training (8 weekly sessions composed of thematic curriculum as well as formal and informal mindfulness training) delivered through a custom-built mobile app, with weekly reminder messages through WeChat N=84	Attention control (weekly consultations by a clinically trained nursing assistant using the WeCHat app for 8 weeks) N=84	EPDS, PHQ-9, GAD-7, PSS to 6 weeks postpartum
Telehealth							
693	Yang 2019	Canada	N=38 postpartum women (<9 months) referred to psychotherapy for mood and/or anxiety symptoms, enrolled 2016-2017	Postnatal	**Optional** web-based videoconferencing (via a secure platform) added to office-based psychotherapy N=19	Treatment as usual (office-based psychotherapy) N=19	EPDS, GAD-7, PSS at 3 months follow-up

Abbreviations: BDI, Beck Depression Inventory; CBT, cognitive behavioural therapy; CES-D, Center for Epidemiological Studies Depression Scale; DASS-21, Depression Anxiety Stress Scales; EPDS, Edinburgh Postnatal Depression Scale; EQ-5D-3L, EuroQol 5 Dimension 3 Level Questionnaire; GAD, generalised anxiety disorder; GAD-7, Generalized Anxiety Disorder 7-item scale; HADS-A, Hospital Anxiety and Depression Scale – Anxiety Subscale; ICBT, internet delivered cognitive behavioural therapy; MADRS-S, Montgomery-ASberg Depression Rating Scale – self reported; MDD, major depressive disorder; NR, not reported; PHQ-9, Patient Health Questionnaire – 9; PND, postnatal depression; PPD, postpartum depression; PSI-SF, Parenting Stress Index – Short Form; PSS, Perceived Stress Scale; SCID, Structured Clinical Interview for DSM Disorders; TAU, treatment as usual; WHOQOL-BREF, World Health Organization Quality of Life abbreviated assessment.

The EWG requested that online interventions be categorised based on whether they were self-guided, clinician-assisted, or telehealth. Table App. 44 presented in this report reflects the revised categories.

Following recategorisation, the following studies did not proceed through the full evidence review process for the reasons outlined below:

1. *Only one study of telehealth was considered insufficient for the development of a recommendation: Yang 2019 (Ref ID 693)*
2. *The intervention platform (Wechat) was not considered applicable to the Australian context: Yang 2019 (Ref ID 1022), Sun 2021*
3. *There was only one study of online self-guided interventions in the antenatal period and one in the postnatal period (after excluding Yang 2019 and Sun 2021): Loughnan 2019a, Loughnan 2019b*
4. *There was only one study where the comparator is psychoeducation, and the study is pilot study to assess protocol feasibility: Vigod 2021*

The EWG advised that online interventions led or assisted by a health professional should proceed through the full evidence review process unless they were of insufficient size to make definitive conclusions. Following further review, the following studies did not proceed through the full evidence review process for the reasons outlined below:

1. *Small sample size and no power calculation provided: Forsell 2017*
2. *Small sample size and insufficiently powered: Milgrom 2016*
3. *Lack of clarity in results reported: Pugh 2016*

4.4 Treatment with pharmacological interventions

4.4.1 Antidepressants

Table App. 45 Evidence included in 2017 Guideline – Antidepressants

		Location in 2017 Guideline
Included studies	NICE 2015 and Molyneaux 2014: 6 RCTs (both SRs were included because they grouped the same 6 RCTs in different ways) • Hantsoo 2014, Bloch 2012, Sharp 2010, Yonkers 2008, Wisner 2006, Appleby 1997	Appendix to Technical Report Part C, AppC2.4.1.1 and Table AppC2-32
Evidence statement(s)	**Antidepressants versus general supportive care** • Treatment with antidepressants may improve remission rate at 4 weeks post-treatment compared with general supportive care, in women with postnatal depression, from a rate of 18% to 37% (**very low certainty evidence**). • Treatment with antidepressants may improve depression symptomatology at 4 weeks post-treatment compared with general supportive care, in women with postnatal depression, from a rate of 82% to 55% (**very low certainty evidence**). • Treatment with antidepressants may improve depression mean score at 4 weeks post-treatment compared with general supportive care, in women with postnatal depression (**very low certainty evidence**).	Technical Report Part C, Table C3-29
	Antidepressants versus listening visits • Treatment with antidepressants appears to have no effect on remission rate at 4 weeks post-treatment compared with treatment with listening visits, in women with postnatal depression (**very low certainty evidence**).	Technical Report Part C, Table C3-30
	SSRIs versus placebo • Treatment with an SSRI may improve response rate at 6-8 weeks post-treatment compared with placebo, in women with postnatal depression, from a rate of 37% to 52% (**very low certainty evidence**). • Treatment with an SSRI may improve remission rate at 6-8 weeks post-treatment compared with placebo, in women with postnatal depression, from a rate of 26% to 46% (**very low certainty evidence**). • Treatment with an SSRI appears to have no effect on depression mean score at 6 weeks post-treatment compared with placebo, in women with postnatal depression (**very low certainty evidence**). • Treatment with an SSRI may improve global severity mean score at 6 weeks post-treatment compared with placebo, in women with postnatal depression (**very low certainty evidence**).	Technical Report Part C, Table C3-31

		Location in 2017 Guideline
	• Treatment with an SSRI does not appear to be associated with an increased risk of maternal adverse events at 6-8 weeks post-treatment compared with placebo, in women with postnatal depression (**very low certainty evidence**).	
	SSRIs + psychological interventions versus placebo + psychological interventions • Treatment with an SSRI plus a psychological intervention appears to have no effect on response rate at 8 weeks post-treatment compared with placebo plus a psychological intervention, in women with postnatal depression (**low certainty evidence**). • Treatment with an SSRI plus a psychological intervention appears to have no effect on remission rate at 8 weeks post-treatment compared with placebo plus a psychological intervention, in women with postnatal depression (**low certainty evidence**). • Treatment with an SSRI plus a psychological intervention for postnatal depression may improve depression mean score at 8-12 weeks post-treatment compared with placebo plus a psychological intervention, in women with postnatal depression (**low certainty evidence**). • Treatment with an SSRI plus a psychological intervention improves global severity mean score at 8 weeks post-treatment compared with placebo plus a psychological intervention, in women with postnatal depression (**moderate certainty evidence**). • Treatment with an SSRI plus a psychological intervention appears to have no effect on distress mean score at 8 weeks post-treatment compared with placebo plus a psychological intervention, in women with postnatal depression (**low certainty evidence**).	Technical Report Part C, Table C3-32
	SSRIs versus TCAs • Treatment with a SSRI appears to have no effect on response rate at 8 weeks or up to 22 weeks post-treatment compared with treatment with TCAs, in women with postnatal depression (**very low certainty evidence**). • Treatment with an SSRI appears to have no effect on remission rate at 8 weeks or up to 22 weeks post-treatment compared with treatment with TCAs, in women with postnatal depression (**very low certainty evidence**). • Treatment with an SSRI appears to have no effect on depression means at 8 weeks or up to 22 weeks post-treatment compared with treatment with TCAs, in women with postnatal depression (**low certainty evidence**). • Treatment with an SSRI appears to have no effect on global assessment of functioning means score at 8 weeks or up to 22 weeks post-treatment compared with treatment with TCAs, in women with postnatal depression (**low certainty evidence**). • Treatment with an SSRI appears to have no effect on social problems at 8 weeks or up to 22 weeks post-treatment compared with treatment with TCAs, in women with postnatal depression (**low certainty evidence**). • Treatment with an SSRI appears to have no effect on global severity and improvement symptomatology at 8 weeks post-treatment compared with treatment with TCAs, in women with postnatal depression (**low certainty evidence**).	Technical Report Part C, Table C3-33
Relevant recommendation(s)	**EBR 9:** Consider the use of SSRIs as first-line treatment for moderate to severe depression and/or anxiety in pregnant women.	2017 Guideline, Part C and Appendix C
	EBR 10: Use SSRIs as first-line treatment for moderate to severe depression in postnatal women.	2017 Guideline, Part C and Appendix C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; NICE, National Institute of Health and Care Excellence; RCT, randomised controlled trial; SSRI, selective serotonin reuptake inhibitor; SR, systematic review; TCA, tricyclic antidepressants.
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

Table App. 46 New evidence identified in the literature search update – Antidepressants

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Antidepressant	**vs.**	**structured psychological intervention (CBT)**		
330	Milgrom 2015[36]	Australia	N=45 postpartum (>2 months and <8 months) women with EPDS ≥13 and DSM-IV diagnosis of a depressive disorder with postnatal onset, enrolment years NR	Postnatal	SSRI (sertraline 50-200 mg/day at discretion of prescribing psychiatry registrars) N=14	Group CBT (12 weekly sessions, 9 for women plus 3 couple sessions) N=15	BDI-II, BAI, PSI at 24 weeks

Abbreviations: BAI, Beck Anxiety Inventory; BDI, Beck Depression Inventory ; CBT, cognitive behavioural therapy; DSM, Diagnostic and Statistical Manual of Mental Disorders; EPDS, Edinburgh Postnatal Depression Scale; NR, not reported; PSI, Parenting Stress Index; SSRI, selective serotonin reuptake inhibitors.

The EWG agreed that the study listed in Table App. 46 did not have the power to change the strength or direction of the 2017 recommendation, and as such did not proceed through to full evidence review.

4.4.2 Antipsychotics

Table App. 47 Evidence included in 2017 Guideline – Antipsychotics

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified from the SR or updated searches that assessed the effect of antipsychotics on the treatment of mental health disorders during pregnancy or postnatally.	Appendix to Technical Report Part C, AppC2.4.2
Evidence statement(s)	• There is no RCT evidence for antipsychotics as an intervention for women with mental health problems in the perinatal period.	Technical Report Part C, Table C3-34
Relevant recommendation(s)	**EBR 11:** Consider the use of antipsychotics for treating psychotic symptoms in pregnant women.	2017 Guideline, Part C and Appendix C
	CBR xxiii: Use caution when prescribing any antipsychotic to pregnant women, particularly for women with a propensity for weight gain and metabolic syndrome.	2017 Guideline, Part C
	CBR xxiv: If women commence or continue antipsychotic treatment during pregnancy, monitor them for excessive weight gain and the development of gestational diabetes and refer them for advice on weight management as required.	2017 Guideline, Part C
	CBR xxv: Do not initiate use of clozapine in pregnant women.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation RCT, randomised controlled trial; SR, systematic review.
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

[36] Three-arm RCT comparing group CBT vs. SSRI vs. group CBT + SSRI (combined group excluded)

Table App. 48 New evidence identified in the literature search update – Antipsychotics

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.4.3 Anticonvulsants

Table App. 49 Evidence included in 2017 Guideline – Anticonvulsants

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified from the SR or updated searches that assessed the effect of anticonvulsants on the treatment of mental health disorders during pregnancy or postnatally.	Appendix to Technical Report Part C, AppC2.4.3
Evidence statement(s)	• There is no RCT evidence for anticonvulsants as an intervention for women with mental health problems in the perinatal period.	Technical Report Part C, Table C3-35
Relevant recommendation(s)	**EBR 12:** Do not prescribe sodium valproate to women of childbearing age.	2017 Guideline, Part C and Appendix C
	CBR xxvi: Use great caution in prescribing anticonvulsants as mood stabilisers for pregnant women and seek specialist psychiatric consultation when doing so.	2017 Guideline, Part C
	CBR xxvii: If anticonvulsants are prescribed to a woman who is breastfeeding, arrange close monitoring of the infant and specialist neonatologist consultation where possible.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; RCT, randomised controlled trial; SR, systematic review.
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

Table App. 50 New evidence identified in the literature search update – Anticonvulsants

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.4.4 Benzodiazepines or z-drugs

Table App. 51 Evidence included in 2017 Guideline – Benzodiazepines or z-drugs

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effect of benzodiazepines and z-drugs on the treatment of antenatal or postnatal mental health problems or maternal side effects.	Technical Report Part C, C3.4.4

		Location in 2017 Guideline
Evidence statement(s)	• There is no RCT evidence for benzodiazepines and z-drugs as an intervention for women with mental health problems in the perinatal period.	Technical Report Part C, Table C3-36
Relevant recommendation(s)	**CBR xxi:** Consider the short-term use of benzodiazepines for treating moderate to severe symptoms of anxiety while awaiting onset of action of an SSRI or TCA in pregnant or postnatal women.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; RCT, randomised controlled trial; SR, systematic review
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

Table App. 52 New evidence identified in the literature search update – Benzodiazepines or z-drugs

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.4.5 Lithium

Table App. 53 Evidence included in 2017 Guideline – Lithium

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effect of lithium on the treatment of antenatal or postnatal mental health problems or maternal side effects.	Technical Report Part C, C3.4.5
Evidence statement(s)	• There is no RCT evidence for lithium as an intervention for women with mental health problems in the perinatal period.	Technical Report Part C, Table C3-37
Relevant recommendation(s)	**CBR xxviii:** If lithium is prescribed to pregnant women, ensure that maternal blood levels are closely monitored and that there is specialist psychiatric consultation.	2017 Guideline, Part C
	CBR xxix: Where possible, avoid the use of lithium in women who are breastfeeding.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; RCT, randomised controlled trial; SR, systematic review
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

Table App. 54 New evidence identified in the literature search update – Lithium

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.4.6 Dexamphetamine

This is a new intervention type that was not included in the 2017 Technical Reports.

Table App. 55 New evidence identified in the literature search update – Dexamphetamine

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.5 Treatment with complementary interventions

4.5.1 Omega-3 fatty acids

Table App. 56 Evidence included in 2017 Guideline – Omega-3 fatty acids

		Location in 2017 Guideline
Included studies	NICE 2015: 4 RCTs • Mozurkewich 2013, Freeman 2008, Rees 2008, Su 2008	Appendix to Technical Report Part C, Table AppC2-34
Evidence statement(s)	**Omega-3 fatty acids versus placebo** • Treatment with omega-3 fatty acids appears to have no effect on response rate at 8 weeks post-treatment compared with placebo, in women with antenatal or postnatal depression (**very low certainty evidence**). • Treatment with omega-3 fatty acids appears to have no effect on remission rate at 8 weeks post-treatment compared with placebo, in women with antenatal or postnatal depression (**very low certainty evidence**). • Treatment with omega-3 fatty acids appears to have no effect on depression mean score at 6-36 weeks post-treatment compared with placebo, in women with antenatal or postnatal depression (**very low certainty evidence**). • Treatment with omega-3 fatty acids does not appear to be associated with an increased risk of mild/transient side effects at 6-8 weeks post-treatment compared with placebo, in antenatal or postnatal depression (**very low certainty evidence**).	Technical Report Part C, Table C3-38
Relevant recommendation(s)	**EBR 8**: Advise women that omega-3 fatty acid supplementation does not appear to improve depression symptoms but is not harmful to the fetus or infant when taken during pregnancy or while breastfeeding.	2017 Guideline, Part C and Appendix C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS. Evidence Statements underpinning recommendations are shaded the same colour.

Table App. 57 New evidence identified in the literature search update – Omega-3 fatty acids

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Omega-3 fatty acid capsules/gels	**vs.**	**placebo**		
941	Nishi 2020	Japan & Taiwan	N=108 pregnant women 12-24 weeks' gestation with EPDS ≥9, enrolment years NR	Antenatal	Omega-3 PUFA capsules (134 mg EPA + 67.7 mg DHA), nine daily (1206 mg EPA + 609 mg DHA) for 12 weeks N=49	Placebo capsules (320 mg olive oil + 9.9 mg omega-3 PUFAs with trace fish oil) N=51	HAM-D at 12 weeks post-intervention
1096	Opiyo 2018	Kenya	N=282 **HIV-positive** pregnant women at 14-27 weeks' gestation with BDI-II ≥14, enrolled 2012-2013	Antenatal	Omega-3 FA soft gels (2.15 g EPA + 1.02 g DHA per day) for 8 weeks N=109	Placebo soybean oil soft gels N=107	BDI-II at post-intervention

Abbreviations: BDI, Beck Depression Inventory; EPA, eicosapentaenoic acid; EPDS, Edinburgh Postnatal Depression Scale; DHA, docosahexaenoic acid; FA, fatty acids; HAM-D, Hamilton Depression Rating Scale; HIV, human immunodeficiency virus; PUFA, polyunsaturated fatty acids; NR, not reported;

The EWG agreed that the studies listed in Table App. 57 should not proceed through the full evidence review process because the study population included women both at risk of depression and with existing depression (EPDS ≥9, Ref ID 941) or the study population was not generalisable to the general Australian perinatal population (HIV-positive women, Ref ID 1096). As such, these studies did not proceed through the full evidence review process.

4.5.2 St John's wort

Table App. 58 Evidence included in 2017 Guideline – St John's wort

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effect of St John's wort on the treatment of mental health disorders during pregnancy, or maternal side effects.	Appendix to Technical Report Part C, AppC2.5.2
Evidence statement(s)	• There is no RCT evidence for St John's wort as an intervention for women with mental health problems in the perinatal period.	Technical Report Part C, Table C3-39
Relevant recommendation(s)	**CBR xix:** Advise pregnant women that the evidence on potential harms to the fetus from St John's Wort is limited and uncertain and that use of this treatment during pregnancy is not recommended.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; RCT, randomised controlled trial; SR, systematic review
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

Table App. 59 New evidence identified in the literature search update – St John's wort

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.5.3 Ginkgo biloba

Table App. 60 Evidence included in 2017 Guideline – Ginkgo biloba

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effect of ginkgo biloba on the treatment of mental health disorders during pregnancy, or maternal side effects.	Appendix to Technical Report Part C, AppC2.5.3
Evidence statement(s)	• There is no RCT evidence for ginkgo biloba as an intervention for women with mental health problems in the perinatal period.	Technical Report Part C, Table C3-40
Relevant recommendation(s)	**CBR xx:** Advise pregnant women that potential harms to the fetus from Gingko biloba have not been researched, and that use of this treatment during pregnancy is not recommended.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; RCT, randomised controlled trial; SR, systematic review.
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

Table App. 61 New evidence identified in the literature search update – Ginkgo biloba

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.6 Treatment with physical interventions

4.6.1 Exercise

Table App. 62 Evidence included in 2017 Guideline – Exercise

		Location in 2017 Guideline
Included studies	NICE 2015: 4 RCTs • Daley 2014, Field 2013b, Daley 2008, Armstrong 2004	Appendix to Technical Report Part C, Table AppC2-36

		Location in 2017 Guideline
Evidence statement(s)	**Physical activity versus treatment as usual** • Physical activity (individual and group exercise consultations or Tai Chi/yoga) appears to have no effect on depression mean scores at endpoint or first measurement (**low certainty evidence**) compared with treatment as usual in pregnant or postpartum women who have a diagnosis of depression or symptoms of depression. • Group physical activity (Tai Chi/yoga) appears to have no effect on anxiety mean scores at endpoint or first measurement (**very low certainty evidence**) compared with waitlist control in pregnant women who met diagnostic criteria for depression.	Technical Report Part C, Table C3-41
	Physical activity versus mutual support • Physical activity (pram walking exercise program) may improve depression mean scores at endpoint or first measurement (**very low certainty evidence**), and at short follow-up (9-16 weeks post intervention) (**very low certainty evidence**) compared with mutual support group in postpartum women with symptoms of depression.	Technical Report Part C, Table C3-42
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 63 New evidence identified in the literature search update – Exercise

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Supervised group exercise	**vs.**	**treatment as usual**		
798	Broberg 2021	Denmark	N=282 pregnant women at 10-12 weeks' gestation with current, or a history of, depression or anxiety requiring treatment, or used antidepressants in 3 months before or during pregnancy, enrolled 2016-2018	Antenatal	Supervised group exercise twice weekly for 12 weeks from 17-22 weeks' gestation N=143	Usual care with general guidance on physical exercise N=139	WHO-5 (psychological wellbeing), EPDS, GHQ-12, STAI to 8 weeks postpartum
415	Boath 2015	UK	N=24 women at 6 weeks postpartum with EPDS ≥12 and living in a city with high levels of social deprivation, enrolment years NR	Postnatal	Exercise group received face-to-face consultation to motivate them to undertake 150 mins/week moderate-intensity exercise for 3 months (structured group sessions and/or self-initiated exercise) N=12	Control (continued usual healthcare program) N=12	SCID-PN diagnosis, EPDS at 3 months post-intervention (6 months)

Abbreviations: EPDS, Edinburgh Postnatal Depression Scale; GHQ-12, General Health Questionnaire – 12 item; NR, not reported; SCID, Structured Clinical Interview for DSM Disorders ; STAI, State Trait Anxiety Inventory; UK, United Kingdom; WHO-5, World Health Organization-5 Well-Being Index.

The EWG agreed that the study populations listed in Table App. 63 were not generalisable to the general Australian perinatal population, and as such did not proceed through the full evidence review process.

4.6.2 Yoga

Table App. 64 Evidence included in 2017 Guideline – Yoga

		Location in 2017 Guideline
Included studies	Gong 2015: 4 RCTs • Field 2013a, Field 2013b, Field 2012, Mitchell 2012	Appendix to Technical Report Part C, Table AppC2-38
Evidence statement(s)	**Yoga versus control group** • Exercise-based yoga appears to have no effect on depression mean scores at endpoint or first measurement (**very low certainty evidence**) compared with a control group (massage and standard prenatal care, parenting education sessions, or a social support group) in pregnant women with a diagnosis of depression. • Integrated yoga (with Tai Chi) may improve depression mean scores at endpoint or first measurement (**very low certainty evidence**) compared with a social support group in pregnant women with a diagnosis of depression.	Technical Report Part C, Table C3-43
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial.

Table App. 65 New evidence identified in the literature search update – Yoga

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Group Ashtanga Vinyasa yoga	**vs.**	**treatment as usual**		
1044	Davis 2015	US	N=46 pregnant women up to 28 weeks' gestation with EPDS ≥9 or STAI state subscale ≥25 or STAI trait subscale ≥35, enrolled 2011-2012	Antenatal	Ashtanga Vinyasa yoga weekly group classes for 8 weeks N=23	Treatment as usual N=23	EPDS, STAI to post-intervention

Abbreviations: EPDS, Edinburgh Postnatal Depression Scale; STAI, State Trait Anxiety Inventory; US, United States.

Abbreviations: N/A, not applicable; RCT, randomised controlled trial.

could inform the guideline narrative, but that the study would not have the power to support a recommendation and as such did not proceed through the full evidence review process.

4.6.3 Acupuncture

Table App. 66 Evidence included in 2017 Guideline – Acupuncture

		Location in 2017 Guideline
Included studies	NICE 2015: 3 RCTs • Chung 2012, Manber 2010, Manber 2004	Appendix to Technical Report Part C, Table AppC2-40
Evidence statement(s)	**Acupuncture versus massage** • Acupuncture appears to have no effect on response to treatment (measured using the HRSD) at endpoint or first measurement (**very low certainty evidence**), compared with massage in pregnant women with a diagnosis of MDD. • Acupuncture appears to have no effect on depression diagnosis at short follow-up (9-16 weeks post intervention) (**very low certainty evidence**), and appears to have no effect on depression mean scores at endpoint or first measurement (**very low certainty evidence**), or at short follow-up (9-16 weeks post intervention) (**very low certainty evidence**), compared with massage in pregnant women with a diagnosis of MDD.	Technical Report Part C, Table C3-44
	Depression-specific acupuncture versus non-depression-specific acupuncture • Depression-specific acupuncture may improve response to treatment (measured using the HRSD) at endpoint or first measurement (**very low certainty evidence**) compared with non-depression-specific acupuncture in pregnant women with a diagnosis of MDD. • Depression-specific acupuncture appears to have no effect on depression diagnosis (**very low certainty evidence**) or depression mean scores (**very low certainty evidence**) at endpoint or first measurement, or at short follow-up (9-16 weeks post intervention) compared with non-depression-specific acupuncture in pregnant women with a diagnosis of MDD.	Technical Report Part C, Table C3-45
	Electro-acupuncture versus non-invasive sham acupuncture • Electro-acupuncture appears to have no effect on depression mean scores at endpoint or first measurement (**very low certainty evidence**) compared with non-invasive sham acupuncture in postpartum women with a diagnosis of MDD.	Technical Report Part C, Table C3-46
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: HRSD, Hamilton Rating Scale for Depression; MDD, major depressive disorder; N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial.

Table App. 67 New evidence identified in the literature search update – Acupuncture

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Acupuncture + treatment as usual	**vs.**	**treatment as usual**		
695	Ormsby 2020	Australia	N=57 pregnant women at 24 weeks' gestation with a mood disorder and EPDS ≥13, enrolled 2015-2016	Antenatal	Acupuncture weekly for 8 weeks (from 24-31 weeks' gestation) plus TAU N=19	Treatment as usual (TAU) N=19	EPDS, K6, DASS-21, WHO-QOL-26 to 6 weeks postpartum

Abbreviations: DASS-21, Depression Anxiety Stress Scales; EPDS, Edinburgh Postnatal Depression Scale; K6, Kessler Psychological Distress Scale – 6-item; TAU, treatment as usual; WHO-QOL-26, World Health Organization Quality of Life abbreviated 26 item assessment.

Abbreviations: HRSD, Hamilton Rating Scale for Depression; MDD, major depressive disorder; N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial.

The EWG agreed that the single feasibility study identified in Table App. 67 would not have the power to support a recommendation and as such did not proceed through the full evidence review process.

4.6.4 Electroconvulsive therapy

Table App. 68 Evidence included in 2017 Guideline – Electroconvulsive therapy (ECT)

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified from the scoping or updated searches that assessed the effect of ECT on the treatment of mental health disorders during pregnancy or maternal side effects.	Appendix to Technical Report Part C, AppC2.6.4.1
Evidence statement(s)	There is no RCT evidence for ECT as an intervention for women with mental health problems in the perinatal period.	Technical Report Part C, Table C3-47
Relevant recommendation(s)	**CBR xxxii:** Consider ECT when a postnatal woman with severe depression has not responded to one or more trials of antidepressants of adequate dose and duration.	2017 Guideline, Part C
	CBR xxxiii: Consider ECT as first-line treatment for postnatal women with severe depression especially where there is a high risk of suicide or high level of distress; when food or fluid intake is poor; and in the presence of psychotic or melancholic symptoms.	2017 Guideline, Part C

Abbreviations: CBR, consensus-based recommendation; EBR, evidence-based recommendation; RCT, randomised controlled trial; SR, systematic review
Key to recommendations type and strength: STRONG, CONDITIONAL, CONSENSUS

Table App. 69 New evidence identified in the literature search update – Electroconvulsive therapy (ECT)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

4.6.5 Transcranial magnetic stimulation

Table App. 70 Evidence included in 2017 Guideline – Transcranial magnetic stimulation (TMS)

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified from the scoping or updated searches that assessed the effect of transcranial magnetic stimulation (TMS) on the treatment of mental health disorders during pregnancy or maternal side effects.	Appendix to Technical Report Part C, AppC2.6.5.1

		Location in 2017 Guideline
	One abstract describing an upcoming RCT of the use of TMS for depression during pregnancy was identified (Kim et al., 2013); however, no results have been published to date. In addition, one RCT was identified by the search. However, it included only 14 subjects (eight in one arm and six in the other) and was excluded from consideration for being too small (Myczkowski 2012).	
Evidence statement(s)	There is no RCT evidence for TMS as an intervention for women with mental health problems in the perinatal period.	Technical Report Part C, Table C3-48
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review

Table App. 71 New evidence identified in the literature search update – Transcranial magnetic stimulation (TMS)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			TMS	**vs.**	**sham control**		
233	Kim 2019	US	N=26 pregnant women at 14-34 weeks' gestation with DSM-IV (SCID-I) diagnosis of MDD, HAM-D ≥18 and CGI-S ≥3, enrolment years NR	Antenatal	TMS, 20 daily sessions (15 minutes each, 5 days per week) administered at 1 Hz as a single train of 900 pulses per session at 100% motor threshold) N=14	Sham control (eSham system used to replicate facial twitching and noise generated by TMS, with very low electrical stimulation 2-7 mA) N=12	HAM-D, EPDS, BDI, BAI, CGI-S, infant outcomes at 6 months postpartum

Abbreviations: BAI, Beck Anxiety Inventory; BDI, Beck Depression Inventory; CGI-S, Clinical Global Impression Scale - Severity; DSM, Diagnostic and Statistical Manual of Mental Disorders; EPDS, Edinburgh Postnatal Depression Scale; HAM-D, Hamilton Depression Rating Scale; Hz, hertz; mA, milliamp; MDD, major depressive disorder; NR, not reported; SCID, Structured Clinical Interview for DSM Disorders; US, United States.

The EWG noted that TMS is an emerging therapy, and while Australian practice guidelines exist for its use in the general population, there is little safety data on its use in pregnant women. As such the study listed in Table App. 71 did not proceed through the full evidence review process but will be included in the guideline narrative.

4.6.6 Meditation

This is a new intervention type that was not explicitly covered in the 2017 Technical Reports.

Table App. 72 New evidence identified in the literature search update – Meditation

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

Appendix 5 Evidence base – Prevention

For each intervention type included in this appendix, two tables are provided. The first table summarises the evidence-base and recommendations included in the 2017 Australian Guideline. The second table summarises the new evidence for consideration in the guideline update (study characteristics but not results). Where evidence-based and consensus-based recommendations were made in the 2017 Guideline for a specific intervention, these are included in this document. General recommendations not linked to a specific intervention are not included in this document, nor are practice points.

5.1 Prevention with psychosocial interventions

5.1.1 Psychoeducation

Table App. 73 Evidence included in 2017 Guideline – Psychoeducation

		Location in 2017 Guideline
Included studies	NICE 2015: 3 RCTs[a] • Phipps 2013, Brugha 2000, Gorman 1997	Appendix to Technical Report Part C, Table AppC3-2
Evidence statement(s)	**Psychologically (CBT/IPT) informed psychoeducation versus treatment as usual or enhanced treatment as usual** **CBT/IPT-informed psychoeducation** • Psychologically (CBT/IPT) informed psychoeducation (individual, face-to-face) may have an effect[37] on depression diagnosis (**low certainty evidence**) but does not change depression symptomatology (**low certainty evidence**) at endpoint or first measurement compared with treatment as usual or enhanced treatment as usual in women who are considered to be 'at risk' of developing mental health problems in the perinatal period. **IPT-informed psychoeducation** • IPT-informed psychoeducation (individual, face-to-face) appears to have no effect on depression diagnosis (**low certainty evidence**) or depression symptomatology (**low certainty evidence**) at intermediate follow-up (17-24 weeks post intervention) compared with treatment as usual in women who are considered to be 'at risk' of developing mental health problems in the perinatal period. • IPT-informed psychoeducation (individual, face-to-face) appears to have no effect on depression mean scores at endpoint or first measurement (**low certainty evidence**), or at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**), compared with treatment as usual in women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-1
Relevant recommendation(s)	*No recommendations made*	*N/A*

[37] RR 0.69 (95% CI 0.45, 1.05); P=0.08

Abbreviations: CBT, cognitive behavioural therapy; IPT, interpersonal psychotherapy; N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial
a NICE 2015 SR focused on psychologically (CBT/IPT)-informed psychoeducation

Table App. 74 New evidence identified in the literature search update – Psychoeducation

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Psychoeducation (psychologically-informed)	**vs.**	**enhanced treatment as usual**		
721	Sapkota 2020	Nepal	N=140 pregnant women at 28-34 weeks' gestation with **history of domestic and family violence (DFV)** according to Abuse Assessment Screen, enrolled 2018-2019	Antenatal	Single face-to-face counselling session based on social cognitive theory, plus information booklet on DFV including contact details for DFV support services N=70	Usual care plus booklet including contact details for DFV support services N=70	HADS, WHOQOL-BREF to 6 weeks postpartum
			Psychoeducation	**vs.**	**treatment as usual**		
959	Khan 2017	Pakistan	N=81 pregnant women living in an area **affected by armed conflict**, with psychological distress according to Self-Reporting Questionnaire (SRQ) ≥9 (mean 11 at baseline), enrolled 2012	Antenatal	Culturally-adapted psychoeducation ('Happy Mother, Healthy Child in Ten Steps') to raise awareness about perinatal mental health (content covered empathetic listening, availability of social support, domestic peace, balanced diet and rest, engagement in pleasurable activities, routine check-up during pregnancy), delivered at home by a local community health worker (2 sessions) N=42	Routine care (which involved visits) N=39	WHO's Self-Reporting Questionnaire (SRQ, current psychological distress), help-seeking at 2 months post-intervention

Abbreviations: DFV, domestic and family violence; HADS, Hospital Anxiety and Depression Scale ; SRQ, World Health Organization Self-Reporting Questionnaire; WHOQOL-BREF, World Health Organization Quality of Life abbreviated assessment.

The EWG agreed that the study populations listed in Table App. 74 are very specific and not generalisable to the general Australian perinatal population. As such, these studies did not proceed through the full evidence review process.

5.1.2 Psychoeducational booklet

Table App. 75 Evidence included in 2017 Guideline – Psychoeducational booklet

		Location in 2017 Guideline
Included studies	NICE 2015: 2 RCTs	Appendix to Technical Report Part C, Table AppC3-4

		Location in 2017 Guideline
	• Howell 2012, Webster 2003	
Evidence statement(s)	**Psychoeducational booklet versus treatment as usual or enhanced treatment as usual** • A psychoeducational booklet has no effect on depression symptomatology at endpoint or first measurement (**moderate certainty evidence**) compared with treatment as usual or enhanced treatment as usual in pregnant or postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period (psychosocial risk factors and/or a history of mental health problems). • A psychoeducational booklet and telephone support appears to have no effect on depression symptomatology at short follow-up (9-16 weeks post intervention) (**low certainty evidence**), or at intermediate follow-up (17-24 weeks post intervention) (**low certainty evidence**), compared with enhanced treatment as usual (non-mental-health-focused education and support booklet) in postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period (psychosocial risk factors).	Technical Report Part C, Table C4-2
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 76 New evidence identified in the literature search update – Psychoeducational booklet

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.1.3 Social/peer support

Table App. 77 Evidence included in 2017 Guideline – Social/peer support

		Location in 2017 Guideline
Included studies	NICE 2015: 1 RCT • Harris 2006/Dennis 2013	Appendix to Technical Report Part C, Table AppC3-6
Evidence statement(s)	**Social/peer support versus treatment as usual** • Peer-mediated social support (one-to-one befriending and psychoeducational group meetings) appears to have no effect on depression diagnosis at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-3
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 78 New evidence identified in the literature search update – Social/peer support

Ref ID	Author & year	Country	Population	Timing	Intervention(s)	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.1.4 Online peer-to-peer support

This is a new intervention type that was not explicitly covered in the 2017 Technical Reports.

Table App. 79 New evidence identified in the literature search update – Online peer-to-peer support

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.1.5 Home visits

Table App. 80 Evidence included in 2017 Guideline – Home visits

		Location in 2017 Guideline
Included studies	NICE 2015: 5 RCTs • Easterbrooks 2013, Spittle 2010/2009/Spencer Smith 2012, Aracena 2009, Barlow 2007, Barnet 2007	Appendix to Technical Report Part C, Table AppC3-8
Evidence statement(s)	**Home visits versus treatment as usual** • Home visits appear to have no effect on depression symptomatology (**very low certainty evidence**) at endpoint or first measurement compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period (adolescence and psychosocial risk factors or preterm delivery) • Home visits appear to have no effect on depression symptomatology at very long follow-up (>104 weeks) (**very low certainty evidence**) compared with treatment as usual in postpartum women who are considered to be 'at risk' of developing mental health problems due to preterm delivery. • Home visits may improve depression mean scores at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period (adolescence and psychosocial risk factors or preterm delivery); however, the magnitude of the benefit may not be clinically significant.	Technical Report Part C, Table C4-4

		Location in 2017 Guideline
	• Home visits may improve depression mean scores at very long follow-up (>104 weeks) (**very low certainty evidence**) compared with treatment as usual in postpartum women who are considered to be 'at risk' of developing mental health problems due to preterm delivery; however, the magnitude of the benefit may not be clinically significant. • Home visits may improve anxiety mean scores at endpoint or first measurement (**very low certainty evidence**), and at long follow-up (25-103 weeks post intervention) (**very low certainty evidence**), compared with treatment as usual in postpartum women who are considered to be 'at risk' of developing mental health problems due to preterm delivery. • Home visits may improve anxiety symptomatology at endpoint or first measurement (**very low certainty evidence**), and at long follow-up (25-103 weeks post intervention) (**very low certainty evidence**), compared with treatment as usual in postpartum women who are considered to be 'at risk' of developing mental health problems due to preterm delivery; however, the magnitude of the benefit may not be clinically significant. • Home visits may improve maternal sensitivity mean scores at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period (multiple psychosocial risk factors); however, the magnitude of the benefit may not be clinically significant.	
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 81 New evidence identified in the literature search update – Home visits

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Home visits	**vs.**	**treatment as usual or enhanced treatment as usual**		
359	Barlow 2015	US	N=322 Indian **teens** up to 32 weeks' gestation, enrolment years NR	Antenatal & postnatal	Paraprofessional 'Family Spirit' home visiting 3rd trimester to 36 months postpartum N=159	Optimised standard care N=163	CES-D at 36 months postpartum
177	Goldfeld 2021	Australia	N=724 pregnant women <37 weeks' gestation with ≥2 risk factors at screening, enrolled 2013-2014	Antenatal & postnatal	Nurse home visiting (NHV) program ('right@home') from pregnancy to child age 2 years N=363	Usual care N=359	DASS total and subscales at child age 3 years

Abbreviations: CES-D, Center for Epidemiological Studies Depression Scale; DASS, Depression Anxiety Stress Scale; NR, not reported; US, United States;

The EWG agreed that home visits are not applicable to the current Australian context. As such, the studies outlined in Table App. 81 did not proceed through the full evidence review process. Ref ID 177 outlines a mixed intervention for a high-risk group and may inform the guideline narrative.

5.1.6 Non-mental health-focused education/support

Table App. 82 Evidence included in 2017 Guideline – Non-mental health-focused education/support

		Location in 2017 Guideline
Included studies	NICE 2015: 4 RCTs • Kieffer 2013, Melnyk 2006, Sen 2006, Stamp 1995	Appendix to Technical Report Part C, Table AppC3-10
Evidence statement(s)	**Non-mental-health-focused education/support versus treatment as usual or enhanced treatment as usual** • Non-mental-health-focused education and support (individual and group, face-to-face, with or without home visits) appears to have no effect on depression symptomatology at endpoint or first measurement (**low certainty evidence**), or at short follow-up (9-16 weeks post intervention) (**low certainty evidence**), or at intermediate follow-up (17-24 weeks post intervention) (**very low certainty evidence**), compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period. • Non-mental-health-focused education and support (individual and group, face-to-face, with home visits) appears to have no effect on depression symptomatology (**low certainty evidence**) at long follow-up (25-103 weeks post intervention) compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems due to multiple (twin) pregnancy • Non-mental-health-focused education and support (individual and group, face-to-face, with home visits) appears to have no effect on depression mean scores (**low certainty evidence**) at endpoint or first measurement compared with enhanced treatment as usual (non-mental-health-focused education and support without the focus on healthy eating and exercise) in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period (psychosocial risk factors). • Non-mental-health-focused education and support (individual and group, face-to-face, with home visits) appears to have no effect on depression mean scores (**low certainty evidence**) at short (9-16 weeks post intervention), intermediate (17-24 weeks post intervention), or long (25-103 weeks post intervention) follow-up compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems due to multiple (twin) pregnancy • Non-mental-health-focused education and support (individual and group, face-to-face, with home visits) appears to have no effect on anxiety symptomatology (**very low certainty evidence**) at endpoint or first measurement, or at short follow-up (9-16 weeks post intervention), or at intermediate follow-up (17-24 weeks post intervention) compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems due to multiple (twin) pregnancy. • Non-mental-health-focused education and support (individual and group, with or without home visits) has no effect on anxiety mean scores at endpoint or first measurement (**moderate certainty evidence**), and appears to have no effect on anxiety mean scores at short follow-up (9-16 weeks post intervention) (**very low certainty evidence**), or at intermediate follow-up (17-24 weeks post intervention) (**very low certainty evidence**) compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems due to preterm delivery and low birthweight or multiple (twin) pregnancy.	Technical Report Part C, Table C4-5

		Location in 2017 Guideline
	• Non-mental-health-focused education and support (individual and group, with or without home visits) appears to have no effect on mother-infant attachment problems (**very low certainty evidence**) at endpoint or first measurement, at short follow-up (9-16 weeks post intervention), or at intermediate follow-up (17-24 weeks post intervention), compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems due to multiple (twin) pregnancy • Non-mental-health-focused education and support (individual, written and audiotaped) appears to have no effect on positive mother-infant interaction mean scores (**low certainty evidence**) at endpoint or first measurement compared with enhanced treatment as usual (non-mental-health-focused information) in postpartum women who are considered to be 'at risk' of developing mental health problems due to preterm delivery and low birthweight.	
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 83 New evidence identified in the literature search update – Non-mental health-focused education/support

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.1.7 Pre-delivery discussion

Table App. 84 Evidence included in 2017 Guideline – Pre-delivery discussion

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Appendix to Technical Report Part C, AppC3.1.6.1
Evidence statement(s)	• There is no RCT evidence for pre-delivery discussion in pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-6
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review

Table App. 85 New evidence identified in the literature search update – Pre-delivery discussion

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.1.8 Post-delivery discussion

Table App. 86 Evidence included in 2017 Guideline – Post-delivery discussion

		Location in 2017 Guideline
Included studies	NICE 2015: 1 RCT • Small 2000/2006	Appendix to Technical Report Part C, Table AppC3-12
Evidence statement(s)	**Post-delivery discussion versus enhanced treatment as usual** • Individual, midwife-led post-delivery discussion has no effect on depression symptomatology at endpoint or first measurement (**moderate certainty evidence**) or at very long follow-up (>104 weeks post intervention) (**high certainty evidence**) compared with a non-mental health-focused information booklet in women who are considered to be 'at risk' of developing mental health problems in the postnatal period due to an operative delivery. • Individual, midwife-led post-delivery discussion has no effect on depression mean scores at endpoint or first measurement (**high certainty evidence**), or at very long follow-up (>104 weeks post intervention) (**high certainty evidence**), compared with a non-mental health-focused information booklet in women who are considered to be 'at risk' of developing mental health problems in the postnatal period due to an operative delivery	Technical Report Part C, Table C4-7
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 87 New evidence identified in the literature search update – Post-delivery discussion

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.1.9 Post-miscarriage self-help

Table App. 88 Evidence included in 2017 Guideline – Post-miscarriage self-help

		Location in 2017 Guideline
Included studies	NICE 2015: 1 RCT • Kersting 2013	Appendix to Technical Report Part C, Table AppC3-14
Evidence statement(s)	**Post-miscarriage self-help versus treatment as usual** • Internet-based cognitive behaviour self-help therapy appears to improve PTSD symptomatology (**very low certainty evidence**), PTSD mean scores (**very low certainty evidence**), depression mean symptoms (**low certainty evidence**), and anxiety mean scores (**low certainty evidence**), at endpoint or first measurement compared with waitlist control in women who are considered to be 'at risk' of developing mental health problems due to the loss of a child during pregnancy.	Technical Report Part C, Table C4-8
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; PTSD, post-traumatic stress disorder; RCT, randomised controlled trial

Table App. 89 New evidence identified in the literature search update – Post-miscarriage self-help

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.1.10 Seeing and/or holding stillborn infant

Table App. 90 Evidence included in 2017 Guideline – Seeing and/or holding stillborn infant

		Location in 2017 Guideline
Included studies	NICE 2015: 3 cohort studies, 1 nested cohort study within a case-control study • Cohort studies: Gravensteen 2013, Radestad 2009a/Surkan 2008, Cacciattore 2008 • Nested cohort study: Hughes 2002/Turton 2009	Appendix to Technical Report Part C, Table AppC3-16
Evidence statement(s)	**Seeing and/or holding stillborn infant versus not seeing and/or holding stillborn infant** • There is no RCT evidence for seeing and/or holding the stillborn infant versus not seeing and/or holding the stillborn infant in women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-9
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 91 New evidence identified in the literature search update – Seeing and/or holding stillborn infant

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.1.11 Co-parenting interventions

Table App. 92 Evidence included in 2017 Guideline – Co-parenting interventions

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Appendix to Technical Report Part C, AppC3.1.11.1
Evidence statement(s)	• There is no RCT evidence for co-parenting interventions in women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-11
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: RCT, randomised controlled trial; SR, systematic review

Table App. 93 New evidence identified in the literature search update – Co-parenting interventions

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.2 Prevention with psychological interventions

5.2.1 Structured psychological interventions

Table App. 94 Evidence included in 2017 Guideline – Structured psychological interventions (CBT or IPT)

		Location in 2017 Guideline
Included studies	Morrell 2016: 18 RCTs • CBT: Ginsburg 2012[38,39], Le 2011[40,38], Silverstein 2011[40], Morrell 2009a/2009b[38,41], Austin 2008[40,38], El-Mohandes 2008[38,40], Rahman 2008[38,41], Munoz 2007[38,40], McKee 2006[38,42], Hagan 2004[40], Chabrol 2002 • IPT: Phipps 2013[43], Zlotnick 2011, Grote 2009, Crockett 2008, Zlotnick 2006, Zlotnick 2001, Gorman 1997	Appendix to Technical Report Part C, Table AppC3-22
Evidence statement(s)	**Structured psychological interventions (CBT and IPT) versus usual care** **Therapies delivered to an individual** • A single cognitive behaviour prevention session (individual) during hospitalisation appears to have no effect on depression symptomatology (**very low certainty evidence**) and appears to have no effect on depression mean scores (**very low certainty evidence**) at follow-up (6 weeks postnatally) compared with usual care, in pregnant women with significantly higher than average risk of PND due to one or more social risk factors. • A CBT-based intervention (individual with home visits) may have an effect on depression symptomatology (**moderate certainty evidence**) but has no effect on depression mean scores (**moderate certainty evidence**) at follow-up (6 months postnatally) compared with usual care, in postpartum women who scored 12 or more on the EPDS. • An IPT-based intervention (individual) for low income pregnant women with intimate partner violence appears to have no effect on depression mean scores at follow-up (3 months postnatally) (**very low certainty evidence**) compared with usual care, in women with significantly higher than average risk of PND due to one or more social risk factors. • An IPT-based intervention (individual) appears to have no effect on depression mean scores at follow-up (6 months postnatally) (**very low certainty evidence**) compared with usual care, in pregnant and postpartum women at high risk of developing PND on the basis of psychological risk factors, above average scores on psychological measures or other indications of a predisposition to PND. **Therapies delivered to a group** • A CBT-based intervention (group) appears to have no effect on depression mean scores) at follow-up (3 months postnatally) (**very low certainty evidence**) compared with usual care, in low income predominantly Latina women who screened positive for a major depressive episode and/or who scored 16 or more on the CES-D. **Therapies delivered to a group or individual** • A CBT-based intervention (group or individual) appears to have no effect on depression mean scores at follow-up (12 months postnatally) (**low certainty evidence**) compared with usual care, in pregnant and postpartum women at high risk of developing PND on the basis of psychological risk factors, above average scores on psychological measures or other indications of a predisposition to PND.	Technical Report Part C, Table C4-13
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: CBT, cognitive behavioural therapy; CES-D, Center for Epidemiological Studies Depression Scale; EPDS, Edinburgh Postnatal Depression Scale; IPT, interpersonal psychotherapy; N/A, not applicable; PND, postnatal depression; RCT, randomised controlled trial

Note: *studies of structured psychological interventions that are delivered* ***online*** *are listed in Table App. 114 under section 5.3 (Prevention with online interventions). They are not replicated in Table App. 95. This includes Fonseca 2020.*

Table App. 95 New evidence identified in the literature search update – Structured psychological interventions (CBT or IPT)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Individual CBT	**vs.**	**treatment as usual**		
712	Liu 2021	China	N=260 postpartum women with propensity for PPD (EPDS ≥9 but <13), enrolment years NR	Postnatal	Cognitive behavioural intervention, described as a psychological nursing intervention (6 weekly sessions) N=130	Routine care N=130	EPDS, HAM-A, HAM-D at post-intervention
			Group CBT – face-to-face and telephone	**vs.**	**treatment as usual**		
882	Golshani 2021	Iran	N=56 pregnant women with a **history of primary infertility** and PSS >21.8, enrolled 2018-2019	Antenatal	Group CBT-based counselling (6 in-person sessions plus 2 telephone sessions) N=28	Routine care N=28	PSS, EPDS, PRAQ to 4 weeks post-intervention
			Group Mindfulness CBT – led by Clinical Psychologist	**vs.**	**treatment as usual**		
938	Dimidjian 2016	US	N=86 pregnant women up to 32 weeks' gestation with history of MDD and risk of relapse/recurrence, enrolled 2010-2013	Antenatal	Mindfulness-based cognitive therapy adapted for perinatal depression (MBCT-PD), group-based and led by clinical psychologists (8 weekly sessions) N=43	Treatment as usual N=43	EPDS to 6 months postpartum

[38] Classified in the Morrell 2016 SR as an indicated preventive intervention study (i.e. women at high risk of developing PND on the basis of psychological risk factors, above average scores on psychological measures or other indications of a predisposition to PND but who did not meet diagnostic criteria for PND at that time). Other studies were classified as selective preventive intervention studies (i.e. women with significantly higher than average risk of PND because they had one or more social risk factors).

[39] NICE 2015 excluded this study for not being culturally relevant.

[40] Classified in NICE 2015 as a psychologically (CBT/IPT)-informed psychoeducation intervention for treatment rather than prevention.

[41] Classified in NICE 2015 as a structured psychological intervention (CBT/IPT) for treatment rather than prevention.

[42] Excluded from NICE 2015 because data could not be extracted.

[43] Classified in NICE 2015 as a psychologically (CBT/IPT)-informed psychoeducational intervention for prevention

Abbreviations: CBT, cognitive behavioural therapy; EPDS, Edinburgh Postnatal Depression Scale; HAM-A, Hamilton Anxiety Rating Scale; HAM-D, Hamilton Depression Rating Scale; IPT, interpersonal psychotherapy; MDD, major depressive disorder; NR, not reported; PPD, postpartum depression; PRAQ, Pregnancy-Related Anxiety Questionnaire; PSS, Perceived Stress Scale; US, United States

The EWG agreed that Ref ID 712 does not adequately describe the intervention and that the population in Ref ID 882 is very specific and not generalisable to the general Australian perinatal population. Ref ID 938 will be considered in the guideline narrative. Therefore, none of the studies listed in Table App. 95 proceeded through the full evidence review process.

5.2.2 Directive counselling

Table App. 96 Evidence included in 2017 Guideline – Directive counselling

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Appendix to Technical Report Part C, AppC3.2.2.1
Evidence statement(s)	• There is no RCT evidence for directive counselling in women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-14
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 97 New evidence identified in the literature search update – Directive counselling

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Directive counselling – Group	**vs.**	**treatment as usual**		
1016	Ekrami 2019	Iran	N=80 pregnant women 18-24 weeks' gestation with **unwanted or mistimed pregnancy**, enrolled 2017	Antenatal	Individual (1-3 sessions) plus group counselling (6 weekly sessions) N=40	Routine care N=40	EPDS, STAI at 4 weeks post-intervention

Abbreviations: EPDS, Edinburgh Postnatal Depression Scale; STAI, State Trait Anxiety Inventory.

The EWG agreed that the study population in Table App. 97 is very specific and not generalisable to the general Australian perinatal population. As such, the study did not proceed through the full evidence review process.

5.2.3 Non-directive counselling

Table App. 98 Evidence included in 2017 Guideline – Non-directive counselling

		Location in 2017 Guideline
Included studies	The literature search identified no SRs with RCTs that relate to non-directive counselling for the prevention of mental health problems in the perinatal period.	Technical Report Part C, C4.2.3
Evidence statement(s)	• There is no RCT evidence for non-directive counselling in women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-15
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: RCT, randomised controlled trial; SR, systematic review.

Table App. 99 New evidence identified in the literature search update – Non-directive counselling

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			No new RCTs identified				

Abbreviations: RCT, randomised controlled trial

5.2.4 Case management/individual treatment

Table App. 100 Evidence included in 2017 Guideline – Case management/individual treatment

		Location in 2017 Guideline
Included studies	NICE 2015: 1 RCT • Meyer 1994	Appendix to Technical Report Part C, Table AppC3-24
Evidence statement(s)	**Case management and individualised treatment versus treatment as usual** • In-hospital case management and individualised treatment may have an effect[44] on depression symptomatology at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in women who are considered to be 'at risk' of developing mental health problems due to preterm delivery. • In-hospital case management and individualised treatment appears to have no effect on maternal sensitivity at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in women who are considered to be 'at risk' of developing mental health problems due to preterm delivery.	Technical Report Part C, Table C4-16

[44] RR 0.25 (95% CI 0.06, 1.05); P=0.06

		Location in 2017 Guideline
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 101 New evidence identified in the literature search update – Case management/individual treatment

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.2.5 Self-help or facilitated self-help

Table App. 102 Evidence included in 2017 Guideline – Self-help or facilitated self-help

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Appendix to Technical Report Part C, AppC3.2.5.1
Evidence statement(s)	• There is no RCT evidence for self-help and facilitated self-help in women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-17
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 103 New evidence identified in the literature search update – Self-help or facilitated self-help

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Facilitated self-help	**vs.**	**waitlist**		
837	Lowndes 2019	Australia	N=60 pregnant women at least 28 weeks' gestation with **high levels of perfectionism** on Frost Multidimensional Perfectionism Scale, enrolled 2015-2016	Antenatal	Brief guided self-help CBT (booklet) for perfectionism N=30	Waitlist N=30	EPDS at 3 months

Abbreviations: CBT, cognitive behavioural therapy; EPDS, Edinburgh Postnatal Depression Scale.

The EWG agreed that the study population listed in Table App. 103 is very specific and not generalisable to the general Australian perinatal population. As such, this study did not proceed through the full evidence review process.

5.2.6 Post-traumatic birth counselling

This topic is addressed in the new section on birth trauma (see Technical Report Part E).

Table App. 104 Evidence included in 2017 Guideline – Post-traumatic birth counselling

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Appendix to Technical Report Part C, AppC3.2.6.1
Evidence statement(s)	• There is no RCT evidence for post-traumatic birth counselling in women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-18
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review .

5.2.7 Post-miscarriage counselling

Table App. 105 Evidence included in 2017 Guideline – Post-miscarriage counselling

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that relate to this intervention.	Appendix to Technical Report Part C, AppC3.2.7.1
Evidence statement(s)	• There is no RCT evidence for post-miscarriage counselling in women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-19
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, Not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 106 New evidence identified in the literature search update – Post-miscarriage counselling

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Individualised post-miscarriage counselling	**vs.**	**enhanced treatment as usual**		
1071	Palas Karaca 2021	Turkey	N=104 women who had miscarriage before 23 weeks' gestation and did not have a severe mental health disorder, enrolled 2016	Postnatal	Individualised supportive care and counselling based on Swanson's Caring Theory (3 home visits and 2 telephone calls by a researcher within 6 weeks) N=52	Routine care, including one home visit N=52	DASS at post-intervention
			Group post-miscarriage counselling		**no intervention**		
851	Elsharkawy 2021	Egypt	N=60 pregnant women with **history of recurrent miscarriage**, enrolled 2019	Antenatal	Happiness counselling program held in a conference hall (10 sessions) N=30	No intervention N=30	DASS-21 at 1 month post-intervention

Abbreviations: DASS, Depression Anxiety Stress Scales

The EWG agreed that the study interventions listed in Table App. 106 may not be applicable to the Australian context. As such, these studies did not proceed through the full evidence review process.

5.2.8 Mother-infant relationship interventions

This intervention was classified as a **psychosocial** intervention in the 2017 Technical Reports.

Table App. 107 Evidence included in 2017 Guideline – Mother-infant relationship interventions

		Location in 2017 Guideline
Included studies	NICE 2015: 4 RCTs • Ravn 2012, Meijssen 2010a/2010b/2011, Cooper 2009, Newnham 2009	Appendix to Technical Report Part C, Table AppC3-18
Evidence statement(s)	**Mother-infant relationship interventions versus treatment as usual** • An individual, face-to-face mother-infant relationship intervention appears to have no effect on mother-infant attachment problems at endpoint or first measurement (**low certainty evidence**) compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period due to psychosocial risk factors. • Individual, face-to-face mother-infant relationship interventions may improve positive mother-infant interaction mean scores at endpoint or first measurement (**low certainty evidence**) compared with treatment as usual in postpartum women who are considered to be 'at risk' of developing mental health problems due to preterm delivery and/or low birthweight; however, the magnitude of the benefit is not clinically significant.	Technical Report Part C, Table C4-10

		Location in 2017 Guideline
	• Individual, face-to-face mother-infant relationship interventions appear to have no effect on maternal sensitivity mean scores at endpoint or first measurement (**very low certainty evidence**) compared with treatment as usual in postpartum women who are considered to be 'at risk' of developing mental health problems due to preterm delivery and/or low birthweight. • An individual, face-to-face mother-infant relationship intervention improves depression mean scores at endpoint or first measurement (**high certainty evidence**) compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period due to psychosocial risk factors or preterm delivery and/or low birthweight; however, the magnitude on the benefit is not clinically significant. • An individual, face-to-face mother-infant relationship intervention has no effect on depression mean scores at long follow-up (25-103 weeks post intervention) (**moderate certainty evidence**), and appears to have no effect on depression diagnosis at endpoint or first measurement (**low certainty evidence**), or at long follow-up (25-103 weeks post intervention) (**low certainty evidence**), compared with treatment as usual in pregnant and postpartum women who are considered to be 'at risk' of developing mental health problems in the perinatal period due to psychosocial risk factors. • An individual, face-to-face mother-infant relationship intervention appears to have no effect on depression mean scores at short follow-up (9-16 weeks post intervention) (**low certainty evidence**), and appears to have no effect (and may be harmful) on depression symptomatology at endpoint or first measurement (**very low certainty evidence**), or at long follow-up (25-103 weeks post intervention) (**very low certainty evidence**), compared with treatment as usual in postpartum women who are considered to be 'at risk' of developing mental health problems due to preterm delivery and/or low birthweight.	
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial

Table App. 108 New evidence identified in the literature search update – Mother-infant relationship interventions

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Mother-infant relationship intervention – Individualised	**vs.**	**treatment as usual**		
123	Berkule 2014[45]	US	N=675 mother-child dyads, low-income, primarily immigrant, enrolled 2005-2008. *Nb. 31% had "social risks" (1 or more of physical abuse, homeless, child protection, late prenatal care, financial hardship, food insecurity).*	Postnatal	Individualised relationship-based intervention ('Video Interaction Project [VIP]') using video-recordings of mother-child dyads to reinforce interactional strengths (up to 4 visits by infant age 6 months) delivered by an interventionist N=225	Standard care N=225	PHQ-9, StimQ-I at 6 months

[45] This three armed RCT compared individualised mother-infant relationship intervention vs. written learning materials vs. standard care

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Mother-infant relationship intervention – Individualised	**vs.**	**written learning materials**		
123	Berkule 2014[46]	US	N=675 mother-child dyads, low-income, primarily immigrant, enrolled 2005-2008. *Nb. 31% had "social risks" (1 or more of physical abuse, homeless, child protection, late prenatal care, financial hardship, food insecurity).*	Postnatal	Individualised relationship-based intervention ('Video Interaction Project [VIP]') using video-recordings of mother-child dyads to reinforce interactional strengths (up to 4 visits by infant age 6 months) delivered by an interventionist N=225	Curriculum focused on boosting parental self-efficacy and supporting interactions ('Building Blocks [BB]') delivered through monthly mailed written pamphlets and learning materials (5 mailings prior to infant age 6 months) N=225	PHQ-9, StimQ-I at 6 months
			Mother-infant relationship intervention	**vs.**	**enhanced treatment as usual**		
87	Werner 2016	US	N=54 mother-infant dyads, with Predictive Index of Postnatal Depression >24 (mean 30 at baseline) at 28-38 weeks' gestation, enrolled 2011-2013	Antenatal & postnatal	Practical Resources for Effective Postpartum Parenting (PREPP) promoting maternally-mediated behavioural changes in infants, delivered in 3 sessions by psychologist (34-38 weeks' gestation, 18-36 hours postpartum, 6 weeks postpartum), with phone check-in at 2 weeks postpartum N=27	Enhanced treatment as usual, receiving clinical psychologist visit on 2 occasions N=27	HAM-D, HAM-A, PHQ-9 to 16 weeks postpartum

Abbreviations: HAM-A, Hamilton Anxiety Rating Scale; HAM-D, Hamilton Depression Rating Scale; PHQ-9, Patient Health Questionnaire-9; StimQ-I, StimQ-Infant; US, United States

The EWG agreed that the study population in Ref ID 123 is very specific and not generalisable to the general Australian perinatal population. Ref ID 87 was described by the authors as a pilot study with preliminary results. As such, the studies listed in Table App. 108 did not proceed through the full evidence review process.

5.2.9 Eye movement desensitisation and reprocessing (EMDR)

This is a <u>new</u> intervention type that may not have been explicitly covered in the 2017 Technical Reports.

[46] This three armed RCT compared individualised mother-infant relationship intervention vs. written learning materials vs. standard care

Table App. 109 New evidence identified in the literature search update – Eye movement desensitisation and reprocessing (EMDR)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.2.10 Acceptance and Commitment Therapy (ACT)

This is a new intervention type that may not have been explicitly covered in the 2017 Technical Reports.

Table App. 110 New evidence identified in the literature search update – Acceptance and Commitment Therapy (ACT)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.2.11 Mindfulness

This intervention was classified as a **psychosocial** intervention in the 2017 Technical Reports.

Table App. 111 Evidence included in 2017 Guideline – Mindfulness

		Location in 2017 Guideline
Included studies	1 RCT (identified in Taylor 2016 SR) • Dimidjian 2016	Appendix to Technical Report Part C, Table AppC3-20
Evidence statement(s)	• There is limited RCT evidence for mindfulness interventions in women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-12
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 112 New evidence identified in the literature search update – Mindfulness

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Mindfulness	**vs.**	**treatment as usual**		
419	Nejad 2021	Iran	N=60 pregnant women up to 32 weeks' gestation with **unwanted pregnancy**, enrolled 2018-2019		Mindfulness-based stress reduction for 8 weeks by a mental health midwife N=30	Routine care N=30	DASS-21 at post-intervention

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Mindfulness – Group	**vs.**	**active control (Lamaze childbirth classes)**		
154	Lönnberg 2020	Sweden	N=193 pregnant women at 15-22 weeks' gestation with PSS ≥6, previously sought health care for mental health problems, previous depression/anxiety, or Childhood Trauma Questionnaire (3 items) ≥6, enrolled 2014-2016	Antenatal	Mindfulness-Based Childbirth and Parenting Program (MBCP) in groups of 8-14 persons (8 weekly sessions and a reunion) N=96	Active control - Lamaze childbirth class (3 sessions) N=97	EPDD, PSS at 10-12 weeks (27-34 weeks' gestation)

Abbreviations: DASS-21, Depression Anxiety Stress Scales; EPDS, Edinburgh Postnatal Depression Scale; PSS, Perceived Stress Scale; RCT, randomised controlled trial

The EWG agreed that the population in Ref ID 419 was very specific and not generalisable to the general Australian perinatal population. Ref ID 154 could potentially inform the guideline narrative. The studies listed in Table App. 112 did not proceed through the full evidence review process.

5.3 Prevention with online interventions

Table App. 113 Evidence included in 2017 Guideline – Online interventions

		Location in 2017 Guideline
Included studies	1 RCT (identified via Ashford 2016 SR) • King 2009 [doctoral dissertation]	Appendix to Technical Report Part C, Table AppC3-26
Evidence statement(s)	**Online intervention versus offline (face-to-face) intervention** • A web-based postpartum stress management intervention appears to have no effect on depression mean scores (**very low certainty evidence**), anxiety mean scores (**very low certainty evidence**), or perceived stress mean scores (**very low certainty evidence**), at one week post intervention compared with a face-to-face version of the program in postpartum women (with no specific risk factors for developing mental health problems in the perinatal period).	Technical Report Part C, Table C4-20
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 114 New evidence identified in the literature search update – Online interventions

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Structured psychological – Web-based self-guided	**vs.**	**waitlist**		
981	Fonseca 2020	Portugal	N=194 women up to 3 months' postpartum at risk for PPD (PDPI-R ≥5.5), enrolled 2017	Postnatal	Be a Mom' self-guided web-based CBT intervention (5 modules) N=98	Waitlist N=96	EPDS, HADS at 8 weeks

Abbreviations: CBT, cognitive behavioural therapy; EPDS, Edinburgh Postnatal Depression Scale; HADS, Hospital Anxiety and Depression Scale; PDPI-R, Postpartum Depression Predictors Inventory-Revised ; PPD, postpartum depression; RCT, randomised controlled trial

The EWG agreed that a recommendation would not be developed for a self-guided CBT intervention based on the one pilot study listed in Table App. 114. As such, this study did not proceed through the full evidence review process.

5.4 Prevention with pharmacological interventions

5.4.1 Antidepressants

Table App. 115 Evidence included in 2017 Guideline – Antidepressants

		Location in 2017 Guideline
Included studies	NICE 2015: 2 RCTs • Wisner 2001, Wisner 2004	Appendix to Technical Report Part C, Table AppC3-28
Evidence statement(s)	**SSRIs (sertraline) versus placebo** • Prophylaxis with sertraline appears to have no effect on (but may reduce) the risk of recurrence of depression at 17 weeks post-treatment compared with placebo, in women with one or more psychological risk factors for the development of postnatal depression (**very low certainty evidence**). • Prophylaxis with sertraline appears to have no effect on the risk of dizziness at 17 weeks post-treatment compared with placebo, in women with one or more psychological risk factors for the development of postnatal depression (**very low certainty evidence**). • Prophylaxis with sertraline may increase the risk of drowsiness at 17 weeks post-treatment compared with placebo, in women with one or more psychological risk factors for the development of postnatal depression, from an absolute risk of 50% to 97% (**very low certainty evidence**).	Technical Report Part C, Table C4-21
	TCAs (nortriptyline) versus placebo • Prophylaxis with nortriptyline appears to have no effect on the risk of recurrence of depression at 22 weeks post-treatment, or 26 weeks post intervention, compared with placebo, in women with one or more psychological risk factors for the development of postnatal depression (**low certainty evidence**).	Technical Report Part C, Table C4-22

		Location in 2017 Guideline
	• Prophylaxis with nortriptyline increases the risk of constipation at 22 weeks post-treatment compared with placebo, in women with one or more psychological risk factors for the development of postnatal depression, from an absolute risk of 24% to 77% (**moderate certainty evidence**).	
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: NICE, National Institute of Health and Care Excellence; RCT, randomised controlled trial; SSRI, selective serotonin reuptake inhibitor, TCA, tricyclic antidepressant

Table App. 116 New evidence identified in the literature search update – Antidepressants

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.4.2 Antipsychotics

Table App. 117 Evidence included in 2017 Guideline – Antipsychotics

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effect of antipsychotics on the prevention of antenatal or postnatal mental health problems in women who are considered to be 'at risk', or maternal side effects.	Technical Report Part C, C4.4.2
Evidence statement(s)	• There is no RCT evidence for antipsychotics as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-23
Relevant recommendation(s)	*See consensus-based recommendations for treatment (Table App. 47)*	2017 Guideline, Part C

Abbreviations: RCT, randomised controlled trial; SR, systematic review.

Table App. 118 New evidence identified in the literature search update – Antipsychotics

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.4.3 Anticonvulsants

Table App. 119 Evidence included in 2017 Guideline – Anticonvulsants

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effectiveness of anticonvulsants on the prevention of antenatal or postnatal mental health problems in women who are considered to be 'at risk', or maternal side effects.	Technical Report Part C, C4.4.3
Evidence statement(s)	• There is no RCT evidence for anticonvulsants as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C2-24
Relevant recommendation(s)	*See recommendations for treatment (Table App. 49)*	2017 Guideline, Part C

Abbreviations: RCT, randomised controlled trial; SR, systematic review.

Table App. 120 New evidence identified in the literature search update – Anticonvulsants

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.4.4 Benzodiazepines or z-drugs

Table App. 121 Evidence included in 2017 Guideline – Benzodiazepines or z-drugs

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effectiveness of benzodiazepines and z-drugs on the prevention of antenatal or postnatal mental health problems in women who are considered to be 'at risk', or maternal side effects.	Technical Report Part C, C4.4.4
Evidence statement(s)	• There is no RCT evidence for benzodiazepines and z-drugs as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-25
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 122 New evidence identified in the literature search update – Benzodiazepines or z-drugs

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.4.5 Lithium

Table App. 123 Evidence included in 2017 Guideline – Lithium

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effectiveness of lithium on the prevention of antenatal or postnatal mental health problems in women who are considered to be 'at risk', or maternal side effects.	Technical Report Part C, C4.4.5
Evidence statement(s)	• There is no RCT evidence for lithium as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-26
Relevant recommendation(s)	*See recommendations for treatment (Table App. 53)*	2017 Guideline, Part C

Abbreviations: RCT, randomised controlled trial; SR, systematic review.

Table App. 124 New evidence identified in the literature search update – Lithium

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.4.6 Dexamphetamine

This is a new intervention type that was not included in the 2017 Technical Reports.

Table App. 125 New evidence identified in the literature search update – Dexamphetamine

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.5 Prevention with complementary interventions

5.5.1 Omega-3 fatty acids

Table App. 126 Evidence included in 2017 Guideline – Omega-3 fatty acids

		Location in 2017 Guideline
Included studies	Miller 2013: 1 RCT • Mozurkewich 2013[47]	Appendix to Technical Report Part C, Table AppC3-30
Evidence statement(s)	**Omega-3 fatty acids (Eicosapentaenoic acid (EPA)) versus placebo** • Prophylaxis with EPA has no effect on the risk of being diagnosed with major depressive disorder at 6-8 weeks postpartum compared with placebo, in women at risk of developing postnatal depression (**moderate certainty evidence**). • Prophylaxis with EPA has no effect on depression mean score at 6-8 weeks postpartum compared with placebo, in women at risk of developing postnatal depression (**moderate certainty evidence**).	Technical Report Part C, Table C4-27
	Omega-3 fatty acid (Docosahexaenoic acid (DHA)) versus placebo • Prophylaxis with DHA has no effect on the risk of being diagnosed with major depressive disorder at 6-8 weeks postpartum compared with placebo, in women at risk of developing postnatal depression (**moderate certainty evidence**). • Prophylaxis with DHA has no effect on depression mean score at 6-8 weeks postpartum compared with placebo, in women at risk of developing postnatal depression (**moderate certainty evidence**).	Technical Report Part C, Table C4-28
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: DHA, docosahexaenoic acid; EPA, eicosapentaenoic acid; N/A, not applicable; RCT, randomised controlled trial

Table App. 127 New evidence identified in the literature search update – Omega-3 fatty acids

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

[47] Results from this study were included in the NICE 2015 assessment of omega-3 fatty acids for treatment.

5.5.2 St John's wort

Table App. 128 Evidence included in 2017 Guideline – St John's wort

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effect of St John's wort on the prevention of mental health disorders during pregnancy, or maternal side effects.	Appendix to Technical Report Part C, AppC3.5.2.1
Evidence statement(s)	• There is no RCT evidence for St John's wort as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-29
Relevant recommendation(s)	*See recommendation for treatment (Table App. 58)*	2017 Guideline, Part C

Abbreviations: RCT, randomised controlled trial; SR, systematic review.

Table App. 129 New evidence identified in the literature search update – St John's wort

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.5.3 Ginkgo biloba

Table App. 130 Evidence included in 2017 Guideline – Ginkgo biloba

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified that assessed the effect of ginkgo biloba on the prevention of mental health disorders during pregnancy, or maternal side effects.	Appendix to Technical Report Part C, AppC3.5.3.1
Evidence statement(s)	• There is no RCT evidence for ginkgo biloba as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-30
Relevant recommendation(s)	*See recommendation for treatment (Table App. 60)*	2017 Guideline, Part C

Abbreviations: RCT, randomised controlled trial; SR, systematic review.

Table App. 131 New evidence identified in the literature search update – Ginkgo biloba

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.6 Prevention with physical interventions

5.6.1 Exercise

Table App. 132 Evidence included in 2017 Guideline – Exercise

		Location in 2017 Guideline
Included studies	Only one SR of prevention using physical interventions (Daley 2015) was identified in the literature search. The SR identified one RCT (N=34) that assessed experiential exercise as part of a mindfulness intervention in women at risk of antenatal depression. However, on the basis of participant baseline symptoms, the RCT was considered to have recruited depressed women and the intervention was therefore classified as a treatment rather than preventive intervention.	Technical Report Part C, C4.6.1
Evidence statement(s)	• There is no RCT evidence for exercise as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-31
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 133 New evidence identified in the literature search update – Exercise

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
			Telephone-based exercise	**vs.**	**telephone-based wellness support**		
559	Lewis 2014	US	N=130 postpartum women (up to 8 weeks) with history of depression, enrolled 2010-2011	Postnatal	Home-based physical activity with motivational strategies delivered by telephone N=66	Telephone-based wellness support contact control N=64	SCID-1, PHQ-9, PSS at 6 months
901	Lewis 2021[48]	US	N=450 postpartum women (mean 4.3 weeks) with history of depression, enrolled 2013-2016	Postnatal	Telephone-based exercise for 6 months (11 sessions) by trained health educators N=150	Telephone-based wellness/support by trained health educators N=150	Depression, EPDS, PSS to 9 months
			Telephone-based exercise	**vs.**	**treatment as usual**		
901	Lewis 2021[49]	US	N=450 postpartum women (mean 4.3 weeks) with history of depression, enrolled 2013-2016	Postnatal	Telephone-based exercise for 6 months (11 sessions) by trained health educators N=150	Usual care N=150	Depression, EPDS, PSS to 9 months

[48] This three-arm RCT compared telephone-based exercise vs. telephone-based wellness support vs. usual care
[49] This three-arm RCT compared telephone-based exercise vs. telephone-based wellness support vs. usual care

Abbreviations: EPDS, Edinburgh Postnatal Depression Scale; PHQ-9, Patient Health Questionnaire-9; PSS, Perceived Stress Scale; SCID, Structured Clinical Interview for DSM Disorders; US, United States.

The EWG agreed that the studies listed in Table App. 133 will inform the guideline narrative but did not proceed through to the full evidence review process.

5.6.2 Yoga

Table App. 134 Evidence included in 2017 Guideline – Yoga

		Location in 2017 Guideline
Included studies	The literature search identified no SRs that specifically relate to this intervention.	Appendix to Technical Report Part C, AppC3.6.2.1
Evidence statement(s)	• There is no RCT evidence for yoga as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-32
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 135 New evidence identified in the literature search update – Yoga

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.6.3 Acupuncture

Table App. 136 Evidence included in 2017 Guideline – Acupuncture

		Location in 2017 Guideline
Included studies	NICE 2015: 1 RCT • Haddad-Rodrigues 2013	Appendix to Technical Report Part C, Table AppC3-34
Evidence statement(s)	**Acupuncture versus placebo acupuncture** • Acupuncture (delivered over 12 weeks) appears to have no effect on anxiety mean scores at endpoint or first measurement (**very low certainty evidence**) compared to placebo acupuncture, in women who are considered to be 'at risk' of developing mental health problems due to preterm delivery and low birthweight.	Technical Report Part C, Table C4-33

		Location in 2017 Guideline
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; NICE, National Institute for Health and Care Excellence; RCT, randomised controlled trial.

Table App. 137 New evidence identified in the literature search update – Acupuncture

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.6.4 Electroconvulsive therapy

Table App. 138 Evidence included in 2017 Guideline – Electroconvulsive therapy (ECT)

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified from the SR or updated searches that assessed the effect of electroconvulsive therapy (ECT) on the prevention of mental health disorders during pregnancy or maternal side effects.	Appendix to Technical Report Part C, AppC3.6.4.1
Evidence statement(s)	• There is no RCT evidence for ECT as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-34
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 139 New evidence identified in the literature search update – Electroconvulsive therapy (ECT)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.6.5 Transcranial magnetic stimulation

Table App. 140 Evidence included in 2017 Guideline – Transcranial magnetic stimulation (TMS)

		Location in 2017 Guideline
Included studies	No SRs or individual RCTs were identified from the SR or updated searches that assessed the effect of TMS on the prevention of mental health disorders during pregnancy or maternal side effects.	Appendix to Technical Report Part C, AppC3.6.5.1
Evidence statement(s)	There is no RCT evidence for TMS as an intervention for pregnant women who are considered to be 'at risk' of developing mental health problems in the perinatal period.	Technical Report Part C, Table C4-35
Relevant recommendation(s)	*No recommendations made*	*N/A*

Abbreviations: N/A, not applicable; RCT, randomised controlled trial; SR, systematic review.

Table App. 141 New evidence identified in the literature search update – Transcranial magnetic stimulation (TMS)

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

5.6.6 Meditation

This is a new intervention type that was not explicitly covered in the 2017 Technical Reports.

Table App. 142 New evidence identified in the literature search update – Meditation

Ref ID	Author & year	Country	Population	Timing	Intervention	Comparator	Relevant outcomes
-			*No new RCTs identified*				

Abbreviations: RCT, randomised controlled trial

Appendix 6 Evidence Profile Tables

6.1 Treatment with structured psychological interventions (CBT, IPT)

The Evidence Profile Table below contains the original evidence from the NICE 2015 clinical profile (shaded in grey), together with evidence identified in the Evidence Review Update.

Of note, NICE 2015 did not separately consider CBT and IPT interventions in their analyses. Furthermore, NICE 2015 did not consider the timing of the intervention, format, setting or mode of delivery in their analyses. NICE analyses were grouped in NICE Evidence Profile Tables on the basis of outcomes, measurement timepoints and type of analysis (ITT or available case analysis).

In adding the newly identified evidence to the Evidence Profile Table, the following was noted by the evidence review team:

- Study interventions were heterogeneous in terms of timing, format, setting and mode. As such, meta-analysis was not considered appropriate.
- It is unclear how the NICE evidence reviewers handled studies that reported timepoints 'post-baseline' instead of post-intervention. Where newly identified studies reported post-baseline outcomes, these were converted into post-intervention timepoints. Outcomes measured during the treatment period (e.g. outcomes in Burger 2020 reported at 24 weeks' gestation) were not included in the Evidence Profile Tables below.
- Quality assessment of the new evidence differed from NICE in two main ways:
    - New evidence was assessed for risk of bias using the revised Cochrane RoB 2 tool, which is 'results-based' rather than assessing the RCT as a whole. This tool uses different approaches for some domains compared with the previous Cochrane RoB tool, and this could potentially result in differences in the overall assessment, depending on the tool used.
    - Single study bodies of evidence were downgraded for unknown consistency.
- Two of the included studies did not provide sufficient information about some outcomes for them to be incorporated into the Evidence Profile and Summary of Findings tables.
    - Milgrom (2021) used the PHQ-9 to measure the trajectory of depressive symptoms over time, however, there was insufficient information to allow calculation of an estimate of effect for this outcome.
    - Amani (2021) reported that those in the experimental group had 9 times the odds of no longer meeting the diagnostic criteria for current MDD post-treatment relative to control participants (OR=9.00 CI, 1.14 to 71.04), however the paper did not state which tool was used to determine this and did not provide any further information to allow calculation of an estimate of effect.

Table App. 143 Evidence Profile Table – Structured psychological interventions (CBT or IPT) versus TAU or enhanced TAU: depression

	Quality assessment							No of patients		Effect		
Guideline version	**No of studies**	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Structured psychological interventions (CBT or IPT) versus TAU/enhanced TAU**	**Control**	**Relative (95% CI)**	**Absolute**	**Quality**
Depression diagnosis post-treatment – ITT analysis (assessed with: SCID, CIS-R)												
2017 GL	6	RCTs	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	220/663 (33.2%)	420/644 (65.2%) 68.7%	RR 0.48 (0.39 to 0.6)	339 fewer per 1000 (from 261 fewer to 398 fewer) 357 fewer per 1000 (from 275 fewer to 419 fewer)	⊕⊕⊕⊕ HIGH
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression diagnosis post-treatment – available case analysis (assessed with: SCID or CIS-R)												
2017 GL	5	RCTs	no serious risk of bias	very serious[1]	no serious indirectness	no serious imprecision	none	135/543 (24.9%)	315/523 (60.2%) 61.5%	RR 0.38 (0.24 to 0.58)	373 fewer per 1000 (from 253 fewer to 458 fewer) 381 fewer per 1000 (from 258 fewer to 467 fewer)	⊕⊕OO LOW
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression symptomatology post-treatment – ITT analysis (assessed with: EPDS ≥10/EPDS ≥12/Treatment non-response (baseline-endpoint decrease<4 points and EPDS >13)/Treatment non-response (<50% improvement) or BDI ≥16 or BDI-II ≥14)												
2017 GL	10	RCTs	no serious risk of bias	serious[2]	no serious indirectness	no serious imprecision	reporting bias[3]	251/512 (49%)	294/457 (64.3%)	RR 0.69 (0.56 to 0.85) 62.6%	199 fewer per 1000 (from 96 fewer to 283 fewer) 194 fewer per 1000 (from 94	⊕⊕OO LOW

	Quality assessment							No of patients		Effect		
											fewer to 275 fewer)	
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression symptomatology post-treatment – available case analysis (assessed with: EPDS ≥10/EPDS ≥12/Treatment non-response (baseline-endpoint decrease<4 points and EPDS >13)/Treatment non-response (<50% improvement) or BDI ≥16 or BDI-II ≥14)												
2017 GL	9	RCTs	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	121/357 (33.9%)	193/345 (55.9%)	RR 0.62 (0.53 to 0.73)	213 fewer per 1000 (from 151 fewer to 263 fewer)	⊕⊕⊕⊕ HIGH
									58.8%		223 fewer per 1000 (from 159 fewer to 276 fewer)	
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression mean scores post-treatment – ITT analysis (measured with: EPDS, BDI-II or MADRS)												
2017 GL	5	RCTs	no serious risk of bias	very serious[1]	no serious indirectness	serious[4]	none	164	142	-	SMD 1.31 lower (2.36 to 0.26 lower)	⊕OOO VERY LOW
Update[c,d,e,f,g,h]	1 (Milgrom 2021)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	39	38	-	[l,m]MD 2.51 higher in CBT group (2.58 lower to 7.60 higher)	⊕OOO VERY LOW
	1 (Ngai 2015)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	197	200	-	[m]MD 1.90 lower in CBT group (0.72 to 3.08 lower) *minor depression*	⊕OOO VERY LOW
											[m]MD 5.00 lower in CBT group (3.12 to 6.88 lower) *major depression*	
	1	RCT					none	44	42		[l,m]MD 4.49 lower in CBT group	⊕OOO

	Quality assessment							No of patients		Effect		
	(Green 2020)		very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]					(6.35 to 2.63 lower) *EPDS* [l,m]MD 4.51 lower in CBT group (7.01 to 2.01 lower) *MADRS*	VERY LOW
Depression mean scores post-treatment – available case analysis (measured with: EPDS or BDI or BDI-II or HRSD)												
2017 GL	10	RCTs	no serious risk of bias	serious[2]	no serious indirectness	no serious imprecision	none	763	745	-	SMD 0.6 lower (0.8 to 0.4 lower)	⊕⊕⊕O MODERATE
Update[c,d,f,g,h]	1 (Bittner 2014)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	36	57	-	[l,m]MD 0.5 lower in CBT group (2.18 lower to 1.18 higher)	⊕OOO VERY LOW
	1 (Amani 2021)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	22	16	-	[l,m]MD 6.20 lower in CBT group (9.29 to 3.11 lower)	⊕OOO VERY LOW
	1 (Burger 2020)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	74	88	-	[m]MD 0.3 higher in CBT group (1.0 lower to 1.5 higher)	⊕OOO VERY LOW
Depression diagnosis short follow-up (9-16 weeks post-intervention) – ITT analysis (assessed with: SCID or SCID-IV)												
2017 GL	1	RCT	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[5]	none	8/47 (17%)	20/46 (43.5%) 43.5%	RR 0.39 (0.19 to 0.8)	265 fewer per 1000 (from 87 fewer to 352 fewer) 265 fewer per 1000 (from 87 fewer to 352 fewer)	⊕⊕OO LOW
Update	1 (Milgrom 2021)	RCT	serious risk of bias	serious inconsistency[a]	no serious indirectness	very serious imprecision[k,l]	none	5/39 (13%) *Major depression*	12/38 (32%) *Major depression*	[i]RR 0.41 (0.16 to 1.04) *Major depression*	[i]188 more per 1000 (from 266 more to 13 fewer) *Major depression*	⊕OOO VERY LOW

	Quality assessment							No of patients		Effect		
								1/39 (3%) *Minor depression*	1/38 (3%) *Minor depression*	[i]RR 0.97 (0.06 to 15.02) *Minor depression*	[i]0 fewer per 1000 (from 25 more to 369 fewer) *Minor depression*	
								6/39 (15%) [j]*Any depression*	13/38 (34%) [j]*Any depression*	[i]RR 0.45 (0.19 to 1.06) [j]*Any depression*	[i]188 more per 1000 (from 277 more to 21 fewer) [j]*Any depression*	
Depression diagnosis short follow-up (9-16 weeks post-intervention) - available case analysis (assessed with: SCID)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-
Update	1 (Milgrom 2021)	RCT	serious risk of bias	serious inconsistency[a]	no serious indirectness	very serious imprecision[k,l]	none	5/33 (15%) *Major depression*	12/31 (39%) *Major depression*	[i]RR 0.39 (0.16 to 0.98) *Major depression*	[i]236 more per 1000 (from 327 more to 7 more) *Major depression*	⊕OOO VERY LOW
								1/33 (3%) *Minor depression*	1/31 (3%) *Minor depression*	[i]RR 0.94 (0.06 to 14.38) *Minor depression*	[i]2 more per 1000 (from 30 more to 432 fewer) *Minor depression*	
								6/33 (18%) [j]*Any depression*	13/31 (42%) [j]*Any depression*	[i]RR 0.43 (0.19 to 1.00) [j]*Any depression*	[i]0 fewer per 1000 (from 340 more to 17 more) [j]*Any depression*	
Depression symptomatology short follow-up (9-16 weeks post-intervention) – ITT analysis (assessed with: BDI-II ≥14)												
2017 GL	1	RCT	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[5,6]	none	15/30 (50%)	14/25 (56%)	RR 0.89 (0.54 to 1.47)	62 fewer per 1000 (from 258 fewer to 263 more)	⊕⊕OO LOW
									56%		62 fewer per 1000 (from 258	

	Quality assessment							No of patients		Effect		
											fewer to 263 more)	
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression symptomatology short follow-up (9-16 weeks post-intervention) – available case analysis (assessed with: BDI-II ≥14)												
2017 GL	1	RCT	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[5]	none	8/21 (38.1%)	14/21 (66.7%) 66.7%	RR 0.57 (0.31 to 1.07)	287 fewer per 1000 (from 460 fewer to 47 more) 287 fewer per 1000 (from 460 fewer to 47 more)	⊕⊕OO LOW
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression mean scores short follow-up (9-16 weeks post-intervention) – ITT analysis (measured with: EPDS or BDI-II)												
2017 GL	2	RCTs	no serious risk of bias	very serious[1]	no serious indirectness	very serious[4,6]	none	77	71	-	SMD 1.84 lower (4.31 lower to 0.64 higher)	⊕OOO VERY LOW
Update[c,f,g]	1 (Milgrom 2021)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	39	38	-	[l,m]MD 2.41 lower in CBT group (7.46 lower to 2.64 higher)	⊕OOO VERY LOW
	1 (Leung 2016)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	82	82	-	[l,m]MD 0.85 lower in CBT group (1.88 lower to 0.18 higher)	⊕OOO VERY LOW
Depression mean scores short follow-up (9-16 weeks post-intervention) – available case analysis (measured with: EPDS or BDI-II)												
2017 GL	2	RCTs	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[4]	none	43	46	-	SMD 0.66 lower (1.14 to 0.18 lower)	⊕⊕OO LOW
Update[c,d]	1 (Bittner 2014)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	36	62	-	[l,m]MD 0.5 lower in CBT group (1.97 lower to 0.97 higher)	⊕OOO VERY LOW

	Quality assessment							No of patients		Effect		
	1 (Burger 2020)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious **imprecision**[k]	none	87	95	-	[m]MD 0.3 lower in CBT group (1.6 lower to 1.0 higher)	⊕OOO VERY LOW
Depression diagnosis Intermediate follow-up (17-24 weeks post-intervention) – ITT analysis (assessed with: CIS-R or SCID)												
2017 GL	2	RCTs	no serious risk of bias	serious[7]	no serious indirectness	very serious[5,6]	none	21/68 (30.9%)	33/70 (47.1%)	RR 0.59 (0.24 to 1.41)	193 fewer per 1000 (from 358 fewer to 193 more)	⊕OOO VERY LOW
									57.2%		235 fewer per 1000 (from 435 fewer to 235 more)	
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression diagnosis intermediate follow-up (17-24 weeks post-intervention) – available case analysis (assessed with: CIS-R or SCID)												
2017 GL	2	RCTs	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[5,6]	none	12/59 (20.3%)	22/59 (37.3%)	RR 0.5 (0.23 to 1.08)	186 fewer per 1000 (from 287 fewer to 30 more)	⊕⊕OO LOW
									47.4%		237 fewer per 1000 (from 365 fewer to 38 more)	
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression mean scores intermediate follow-up (17-24 weeks post-intervention) – ITT analysis (measured with: EPDS)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-
Update[c,e]	1 (Ngai 2015)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	197	200	-	[m]MD 1.20 lower in CBT group (0.09 to 2.32 lower) *minor depression* [m]MD 1.69 lower in CBT group (3.47 lower to 0.10 higher) *major depression*	⊕OOO VERY LOW

	Quality assessment							No of patients		Effect		
	1 (Leung 2016)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	82	82	-	[l,m]MD 0.60 lower in CBT group (1.53 lower to 0.33 higher)	⊕OOO VERY LOW
Depression mean scores intermediate follow-up (17-24 weeks post-intervention) – available case analysis (measured with: EPDS)												
2017 GL	2	RCTs	no serious risk of bias	very serious[1]	no serious indirectness	very serious[4,6]	none	59	59	-	SMD 0.51 lower (1.72 lower to 0.7 higher)	⊕OOO VERY LOW
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression diagnosis long follow-up (25-103 weeks post-intervention) – ITT analysis (assessed with: SCID)												
2017 GL	1	RCT	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[5,6]	none	21/50 (42%)	13/52 (25%) 25%	RR 1.68 (0.95 to 2.98)	170 more per 1000 (from 13 fewer to 495 more) 170 more per 1000 (from 13 fewer to 495 more)	⊕⊕OO LOW
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression diagnosis long follow-up (25-103 weeks post-intervention) – available case analysis (assessed with: SCID)												
2017 GL	1	RCTs	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[5,6]	none	12/41 (29.3%)	9/48 (18.8%) 18.8%	RR 1.56 (0.73 to 3.33)	105 more per 1000 (from 51 fewer to 437 more) 105 more per 1000 (from 51 fewer to 438 more)	⊕⊕OO LOW
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression symptomatology long follow-up (25-103 weeks post-intervention) – ITT analysis (assessed with: EPDS) ≥10)												
2017 GL	1	RCTs	serious[8]	no serious inconsistency	no serious indirectness		none	3/17 (17.6%)	5/20 (25%)	RR 0.71 (0.2 to	73 fewer per 1000 (from 200	⊕OOO

	Quality assessment							No of patients		Effect		
						very serious[5,6]				2.53)	fewer to 382 more)	VERY LOW
									25%		73 fewer per 1000 (from 200 fewer to 382 more)	
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression symptomatology long follow-up (25-103 weeks post-intervention) – available case analysis (assessed with: EPDS ≥10)												
2017 GL	1	RCTs	serious[8]	no serious inconsistency	no serious indirectness	very serious[5,6]	none	1/15 (6.7%)	3/18 (16.7%)	RR 0.4 (0.05 to 3.46)	100 fewer per 1000 (from 158	⊕OOO VERY LOW
									16.7%		100 fewer per 1000 (from 159 fewer to 411 more)	
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression mean scores long follow-up (25-103 weeks post-intervention) – ITT analysis (measured with: Edinburgh postnatal Depression Scale (EPDS)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression mean scores long follow-up (25-103 weeks post-intervention) – available case analysis (measured with: Edinburgh postnatal Depression Scale (EPDS) or Beck Depression Inventory (BDI); better indicated by lower values)												
2017 GL	3	RCTs	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[4,6]	none	68	74	-	SMD 0.28 lower (0.8 lower to 0.23 higher)	⊕⊕OO LOW
Update	1 **(**Burger 2020**)**	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	75	77	-	[m]MD 0.5 higher in the CBT group (1.0 lower to 1.9 higher) *9-months post intervention*	⊕OOO VERY LOW

	Quality assessment							No of patients		Effect		
								74	63		[m]MD 0.9 higher in the CBT group (0.7 lower to 2.6 higher) *15-months post intervention*	
Depression diagnosis Very long follow-up (>104 weeks post-intervention) – ITT analysis (assessed with: structured Clinical Interview (SCID))												
2017 GL	1	RCT	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[5]	none	24/50 (48%)	13/52 (25%) 25%	RR 1.92 (1.11 to 3.33)	230 more per 1000 (from 28 more to 582 more) 230 more per 1000 (from 28 more to 582 more)	⊕⊕OO LOW
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression diagnosis Very long follow-up (>104 weeks post-intervention) – available case analysis (assessed with: structured Clinical Interview (SCID))												
2017 GL	1	RCTs	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[5,6]	none	7/33 (21.2%)	9/37 (24.3%) 24.3%	RR 0.87 (0.37 to 2.08)	32 fewer per 1000 (from 153 fewer to 263 more) 32 fewer per 1000 (from 153 fewer to 262 more)	⊕⊕OO LOW
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Depression mean scores Very long follow-up (>104 weeks post-intervention) – available case analysis (measured with: Edinburgh postnatal Depression Scale (EPDS); better indicated by lower values)												
2017 GL	1	RCTs	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[4,6]	none	28	34	-	SMD 0.17 lower (0.67 lower to 0.33 higher)	⊕⊕OO LOW
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Anxiety mean scores post-treatment – ITT analysis (measured with: DASS-21, HAM-A, or STICSA)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-

	Quality assessment							No of patients		Effect		
Update[c,d,g]	1 (Milgrom 2021)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	39	38	-	[l,m]MD 3.38 higher in CBT group (0.32 to 6.44 higher)	⊕OOO VERY LOW
	1 (Green 2020)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	44	42	-	[l,m]MD 5.60 lower in CBT group (10.26 to 0.94 lower) *STICSA* [l,m]MD 5.17 lower in CBT group (8.01 to 2.33 lower) *HAM-A*	⊕OOO VERY LOW
Anxiety mean scores post-treatment – available case analysis (measured with: GAD-7 or STAI)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-
Update[c,d,g]	1 (Bittner 2014)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	36	57	-	[l,m]MD 4.60 lower in CBT group (7.75 to 1.45 lower)	⊕OOO VERY LOW
	1 (Amani 2021)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	22	16	-	[l,m]MD 5.50 lower in CBT group (8.59 to 2.41 lower)	⊕OOO VERY LOW
	1 (Burger 2020)	RCT	serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	76	87	-	[m]MD 2.2 higher in CBT group (0.9 lower to 5.4 higher)	⊕OOO VERY LOW
	1 (Salehi 2016)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	very serious imprecision[k,l]	none	31	30	-	[m]MD 5.78 lower in CBT group (1.44 to 10.10 lower) *state anxiety score* [m]MD 5.77 lower in CBT group (1.19 to 10.35 lower) *trait anxiety score*	⊕OOO VERY LOW
Anxiety mean scores short follow-up (9-16 weeks post-intervention) – ITT analysis (measured with: DASS-21 or STAI)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-

	Quality assessment							No of patients		Effect		
Update	1 (Milgrom 2021)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	39	38	-	[l,m]MD 0.74 lower in CBT group (3.23 lower to 1.75 higher)	⊕OOO VERY LOW
Anxiety mean scores short follow-up (9-16 weeks post-intervention) – available case analysis (measured with STAI)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-
Update[c,d]	1 (Bittner 2014)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	36	62	-	[l,m]MD 1.30 lower in CBT group (4.48 lower to 1.88 higher)	⊕OOO VERY LOW
	1 (Burger 2020)	RCT	serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	91	97	-	[m]MD 0.9 higher in CBT group (2.2 lower to 4.1 higher)	⊕OOO VERY LOW
Anxiety mean scores long follow-up (25-103 weeks post-intervention) – available case analysis (measured with: STAI)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-
	1 (Burger 2020)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	79	75	-	[m]MD 0.7 higher in the CBT group (2.9 lower to 4.3 higher) *9-months post intervention*	⊕OOO VERY LOW
								72	66		[m]MD 1.5 higher in the CBT group (2.4 lower to 5.4 higher) *15-months post intervention*	
Negative thoughts/mood mean scores – available case analysis (measured with: (ATQ); better indicated by lower values)												
2017 GL	1	RCT	serious[8]	no serious inconsistency	no serious indirectness	very serious[4]	none	10	12	-	SMD 0.94 lower (1.83 to 0.04 lower)	⊕OOO VERY LOW
Update	*No new studies*	-	-	-	-	-	-	-	-	-	-	-
Mother-infant attachment problems mean scores post-treatment - available case analysis (measured with: PBQ; *higher score indicates a more problematic mother-infant bond*)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-

	Quality assessment							No of patients		Effect		
Update	1 (Amani 2021)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	22	16	-	[l,m]MD 2.60 lower in CBT group (7.19 lower to 1.99 higher) *impaired bonding subscale* [l,m]MD 1.50 lower in CBT group (4.35 lower to 1.35 higher) *rejection and pathological anger subscale* [l,m]MD 0.30 lower in CBT group (4.49 lower to 3.89 higher) *infant-focused anxiety subscale*	⊕OOO VERY LOW
Mother-infant attachment problems mean scores short to long term (3 to 15 months post-intervention) – available case analysis (measured with: PBQ; *higher score indicates a more problematic mother-infant bond*)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-
Update	1 (Burger 2020)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	89	95		[m]MD 0.30 lower in CBT group (1.8 lower to 1.2 higher) *3 to 15 months post-intervention*	⊕OOO VERY LOW
Maternal sensitivity mean scores post-treatment – ITT analysis (measured with: PSI, PSS, PSWQ; *higher score indicates higher parental stress*)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-
Update[c,d,e,f,h]	1 (Ngai 2016)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	197	200	-	[m]MD 9.42 lower in CBT group (5.85 to 12.99 lower)	⊕OOO VERY LOW
	1 (Green 2020)	RCT	very serious risk of bias[n]	serious inconsistency[a]	no serious indirectness	serious imprecision[k]	none	44	42	-	[l,m]MD 12.16 lower in CBT group (16.20 to 8.12 lower) *PSWQ*	⊕OOO VERY LOW

	Quality assessment							No of patients		Effect		
											[l,m]MD 8.42 lower in CBT group (11.62 to 5.22 lower) *PSS*	
Maternal sensitivity mean scores intermediate follow-up (17-24 weeks post-intervention) – ITT analysis (measured with: PSI; *higher score indicates higher parental stress*)												
2017 GL	-	-	-	-	-	-	-	-	-	-	-	-
Update	1 (Ngai 2016)	RCT	very serious risk of bias[n]	serious inconsistency[a]	serious indirectness[b]	serious imprecision[k]	none	197	200	-	[m]MD 3.58 lower in CBT group (0.07 to 7.09 lower)	⊕OOO VERY LOW

Source: NICE 2015, Appendix 22 , Section 1.3.1, *with modifications for clarity and addition of new evidence identified in Evidence Review Update*.

Abbreviations: ATQ, Automatic Thought Questionnaire; BDI; Beck Depression Inventory; BDI-II, revised Beck Depression Inventory; CBT, cognitive behavioural therapy; CI, confidence interval; CIS-R, Clinical Interview Schedule-Revised; DASS-21, Depression Anxiety Stress Scales; EPDS, Edinburgh postnatal depression scale; GAD-7, General Anxiety Disorder-7; GL, guideline; HAM-A, Hamilton anxiety rating scale; HRSD, Hamilton Depression Rating Scale; IPT, interpersonal psychotherapy; ITT, intention-to-treat; MADRS, Montgomery-Asberg depression rating scale; PBQ, postpartum bonding questionnaire; PND, postnatal depression; PSI, parenting stress index; PSS, perceived stress scale; PSWQ, Penn state worry questionnaire; RCT, randomized controlled trial; RR, relative risk; SCID-IV, Structured clinical interview for DSM-IV disorders; SMD, standardized mean difference; STAI, State-Trait Anxiety Inventory; STICSA, State-trait inventory of cognitive and somatic anxiety; TAU, treatment as usual.

NICE footnotes

[1] There was evidence of considerable heterogeneity between effect sizes

[2] There was evidence of moderate to substantial heterogeneity between effect sizes

[3] Papers omit data

[4] Total population size is less than 400 (a threshold rule-of-thumb)

[5] Total number of events is less than 300 (a threshold rule-of-thumb)

[6] 95% CI crosses both line of no effect and measure of appreciable benefit or harm (SMD – 0.5/0.5 or RR 0.75/1.25)

[7] There was evidence of substantial heterogeneity between effect sizes

[8] Risk of bias due to statistically significant group differences at baseline

Update footnotes

[a] Categories with only one study will be downgraded one level for inconsistency to ensure quality is not overestimated due to a lack of comparable studies to assess consistency

[b] Participants were included based on depression and/or anxiety symptoms, not a depression and/or anxiety diagnosis. Some participants therefore may have been 'at risk' of depression and/or anxiety, but did not have depression and/or anxiety at the time of enrolment.

[c] the identified studies could not be meta-analysed due to inconsistency between the studies in the format (group or individual) of the intervention

[d] the identified studies could not be meta-analysed due to inconsistency between the studies in the timing of the intervention

[e] the identified studies could not be meta-analysed due to inconsistency between the studies in the mode of delivery of the intervention

[f] the identified studies could not be meta-analysed due to inconsistency between the studies in the type of facilitator of the intervention

[g] the identified studies could not be meta-analysed due to inconsistency between the studies in the intensity of the intervention

[h] the identified studies could not be meta-analysed due to inconsistency between the studies in the setting of the intervention

[i] these statistics were not reported and have been calculated from information available in the paper

[j] this study reported minor depression and major depression, these two categories were combined to create the any depression category

[k] total population size less than 400 (thresshold rule of thumb, as in NICE 2015)

[l] wide 95% confidence interval

[m] MD is based on outcomes at follow-up, baseline scores were not taken into consideration

[n] due to unblinded, subjective outcome assessment

6.2 Treatment with online interventions

The Evidence Profile Table below contains evidence identified in the Evidence Review Update. In adding the evidence to the Evidence Profile Table, the evidence review team identified that the studies were heterogeneous in terms of mode and timing of intervention delivery, intervention type, facilitator, baseline diagnostic status of participants, and type and timing of assessments. As such, meta-analysis was not considered appropriate.

Data for some of the reported outcomes were not presented by the authors in a format that enabled reporting of relative and absolute effect in Table App. 144. This included mother-infant bonding outcomes (Van Lieshout 2021) and depression symptomatology measured using PHQ-9 (Milgrom 2021). Van Lieshout (2021) reported statistically significant group x time interactions for PBQ infant bonding (B=-1.23 [10.84]; P=0.03) and PBQ infant-focused anxiety (B=-1.10 [5.03]; P<0.001). There was no significant difference between groups for PBQ rejection and pathological anger. Milgrom (2021) reported that the online intervention was statistically superior to both treatment as usual and face-to-face CBT at reducing symptoms of depression (as measured by PHQ-9) from baseline to the 21 week follow-up.

Mean differences reported in the Evidence Profile Tables do not take into account differences between the groups at baseline.

Table App. 144 Evidence Profile Table – Online interventions: depression outcomes

Quality assessment							No of patients		Effect		
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Online intervention**	**Control**	**Relative (95% CI)**	**Absolute**	**Quality**
Online interventions versus TAU/waitlist											
Depression symptomatology post-treatment – ITT[50] analysis (assessed with EPDS (clinically significant change of ≥ 4 points))											
1 (Van Lieshout 2021)	RCT	serious risk of bias[a]	serious inconsistency[b]	serious indirectness[c]	No serious imprecision	none	NR[51]	NR[51]	OR 4.15 (2.66 to 6.46)	NNT 2.9	⊕OOO VERY LOW
Depression mean scores post-treatment – available case analysis (assessed with EPDS)											
1 (Heller 2020)	RCT	very serious risk of bias[d]	serious inconsistency[b]	serious indirectness[c]	serious imprecission[e]	none	54	65	-	MD 0.60 higher in intervention group (2.62 higher to 1.42 lower)[52,53]	⊕OOO VERY LOW

[50] Authors report using an intention-to-treat approach but it is not clear whether all randomised participants were included in the analyses
[51] The number of participants with a clinically significant change in EPDS score was not reported.
[52] Calculated by hereco based on data available in the publication
[53] Mean difference does not take into account differences between the groups at baseline

Quality assessment							No of patients		Effect		
Depression mean scores post-treatment – available case analysis (assessed with CES-D)											
1 (Heller 2020)	RCT	very serious risk of bias[d]	serious inconsistency[b]	serious indirectness[c]	serious imprecission[e]	none	54	65	-	MD 0.90 higher in intervention group (4.46 higher to 2.66 lower) [55,54]	⊕OOO VERY LOW
Depression mean scores post-treatment – available case analysis (assessed with BDI-II)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecission[e]	none	32	33	-	MD 7.22 lower in intervention group (2.47 lower to 11.97 lower)[55,54]	⊕OOO VERY LOW
Depression mean scores short-term follow-up (12 weeks post intervention) – available case analysis (assessed with BDI-II)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecission[e]	none	32	33	-	MD 8.71 lower in intervention group (3.98 lower to 13.44 lower)[55,54]	⊕OOO VERY LOW
Depression mean scores short to long-term follow-up 36 weeks pregnancy – available case analysis (assessed with EPDS)											
1 (Heller 2020)	RCT	very serious risk of bias[d]	serious inconsistency[b]	serious indirectness[c]	serious imprecission[e]	none	41	52	-	MD 0.80 higher in intervention group (3.01 higher to 1.41 lower) [55,54]	⊕OOO VERY LOW
Depression mean scores short to long-term follow-up 36 weeks pregnancy – available case analysis (assessed with CES-D)											
1 (Heller 2020)	RCT	very serious risk of bias[d]	serious inconsistency[b]	serious indirectness[c]	serious imprecission[e]	none	41	52	-	MD 1.10 higher in intervention group (5.46 higher to 3.26 lower) [55,54]	⊕OOO VERY LOW

[54] Calculated by hereco based on data available in the publication
[55] Mean difference does not take into account differences between the groups at baseline

Quality assessment							No of patients		Effect		
Depression mean scores intermediate to long-term follow-up 6 weeks after childbirth – available case analysis (assessed with EPDS)											
1 (Heller 2020)	RCT	very serious risk of bias[d]	serious inconsistency[b]	serious indirectness[c]	serious imprecision[e]	none	54	65	-	MD 0.70 lower in intervention group (1.34 higher to 2.74 lower)[57, 56]	⊕OOO VERY LOW
Depression mean scores intermediate to long-term follow-up 6 weeks after childbirth – available case analysis (assessed with CES-D)											
1 (Heller 2020)	RCT	very serious risk of bias[d]	serious inconsistency[b]	serious indirectness[c]	serious imprecision[e]	none	54	65	-	MD 3.00 lower in intervention group (1.09 higher to 7.09 lower)[57,56]	⊕OOO VERY LOW
Depression diagnosis (remission) short-term follow-up (12 weeks post intervention) – available case analysis excluding participants lost to follow-up (assessed with SCID-IV)											
1 (Milgrom 2021)	RCT	serious risk of bias[f]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	25/32	18/31	RR=1.35 (0.95 to 1.91)[57,56]	203 more per 1000 (29 fewer to 528 more)[57,56]	⊕OOO VERY LOW
Depression diagnosis (remission) short-term follow-up (12 weeks post intervention) – ITT analysis assuming participants lost to follow-up did not experience remission (assessed with SCID-IV)											
1 (Milgrom 2021)	RCT	serious risk of bias[f]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	25/39	18/38	RR=1.35 (0.90 to 2.04)[57,56]	166 more per 1000 (47 fewer to 493 more)[57,56]	⊕OOO VERY LOW
Depression diagnosis (ongoing depression) short-term follow-up (12 weeks post intervention) – available case analysis excluding participants lost to follow-up (assessed with SCID-IV)											
1 (Milgrom 2021)	RCT	serious risk of bias[f]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	7/32	13/31	RR=0.52 (0.24 to 1.13)[57,56]	201 fewer per 1000 (319 fewer to 55 more)[57,56]	⊕OOO VERY LOW

[56] Mean difference does not take into account differences between the groups at baseline
[57] Calculated by hereco based on data available in the publication

Quality assessment							No of patients		Effect		
Depression diagnosis (ongoing depression) short-term follow-up (12 weeks post intervention) – ITT analysis assuming participants lost to follow-up had ongoing depression (assessed with SCID-IV)											
1 (Milgrom 2021)	RCT	serious risk of bias[f]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	14/39	20/38	RR=0.68 (0.41 to 1.14)[57,56]	168 fewer per 1000 (311 fewer to 74 more)[58,59]	⊕OOO VERY LOW
Negative thoughts/mood mean scores post-treatment– available case analysis (assessed with ATQ)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	32	33	-	MD 12.71 lower in intervention group (1.26 lower to 24.16 lower)[59,58]	⊕OOO VERY LOW
Negative thoughts/mood mean scores short-term follow-up (12 weeks post intervention)– available case analysis (assessed with ATQ)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	29	32	-	MD 16.14 lower in intervention group (4.22 lower to 28.06 lower)[59,58]	⊕OOO VERY LOW
Online interventions versus face-to-face CBT											
Depression mean scores post-treatment – available case analysis (assessed with BDI-II)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	32	36	-	MD 9.73 lower in intervention group (4.51 lower to 14.95 lower)[59,58]	⊕OOO VERY LOW
Depression mean scores short-term follow-up (12 weeks post intervention) – available case analysis (assessed with BDI-II)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	29	31	-	MD 6.30 lower in intervention group (1.60 lower to 11.00 lower)[59,58]	⊕OOO VERY LOW

[58] Calculated by hereco based on data available in the publication
[59] Mean difference does not take into account differences between the groups at baseline

Quality assessment							No of patients		Effect		
Depression diagnosis (remission) short-term follow-up (12 weeks post intervention) – available case analysis excluding participants lost to follow-up (assessed with SCID-IV)											
1 (Milgrom 2021)	RCT	serious risk of bias[f]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	25/32	27/33	RR=0.95 (0.75 to 1.22)[58]	41 fewer per 1000 (205 fewer to 180 more)[60]	⊕OOO VERY LOW
Depression diagnosis (remission) short-term follow-up (12 weeks post intervention) – ITT analysis assuming participants lost to follow-up did not experience remission (assessed with SCID-IV)											
1 (Milgrom 2021)	RCT	serious risk of bias[f]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	25/39	27/39	RR=0.93 (0.68 to 1.27)[60]	48 fewer per 1000 (222 fewer to 187 more)[60]	⊕OOO VERY LOW
Depression diagnosis (ongoing depression) short-term follow-up (12 weeks post intervention) – available case analysis excluding participants lost to follow-up (assessed with SCID-IV)											
1 (Milgrom 2021)	RCT	serious risk of bias[f]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	7/32	6/33	RR=1.20 (0.45 to 3.19)[60]	36 more per 1000 (100 fewer to 398 more)[60]	⊕OOO VERY LOW
Depression diagnosis (ongoing depression) short-term follow-up (12 weeks post intervention) – ITT analysis assuming participants lost to follow-up had ongoing depression (assessed with SCID-IV)											
1 (Milgrom 2021)	RCT	serious risk of bias[f]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	14/39	12/39	RR=1.17 (0.62 to 2.19)[60]	52 more per 1000 (117 fewer to 366 more)[60]	⊕OOO VERY LOW
Negative thoughts/mood mean scores post-treatment– available case analysis (assessed with ATQ)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	32	36	-	MD 14.81 lower in intervention group (2.70 lower to 26.92 lower)[61,60]	⊕OOO VERY LOW

[60] Calculated by hereco based on data available in the publication
[61] Mean difference does not take into account differences between the groups at baseline

Quality assessment							No of patients		Effect		
Negative thoughts/mood mean scores short-term follow-up (12 weeks post intervention) – available case analysis (assessed with ATQ)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	29	31	-	MD 8.03 lower in intervention group (2.88 higher to 18.94 lower) [62,63]	⊕OOO VERY LOW

Abbreviations: ATQ, Automatic Thought Questionnaire; BDI-II, revised Beck Depression Inventory; CBT, cognitive behavioural therapy; CES-D, Center for Epidemiological Studies Depression Scale; CI, confidence interval; EPDS, Edinburgh postnatal depression scale; ITT, intention-to-treat; MD, mean difference; NNT, number needed to treat; NR, not reported; OR, odds ratio; RCT, randomised controlled trial; RR, relative risk; SCID-IV, Structured clinical interview for DSM-IV disorders; TAU, treatment as usual.

[a] Downgraded one level due to high risk of bias; risk of bias due to missing outcome data and risk of bias in measurement of the outcome

[b] Categories with only one study will be downgraded one level for inconsistency to ensure quality is not overestimated due to a lack of comparable studies to assess consistency

[c] Participants were included based on depression and/or anxiety symptoms, not a depression and/or anxiety diagnosis. Some participants therefore may have been 'at risk' of depression and/or anxiety but did not have depression and/or anxiety at the time of enrolment.

[d] Downgraded two levels due to high risk of bias; risk of bias due to missing outcome data, risk of bias in measurement of the outcome and risk of bias related to adherence to the intervention

[e] Total population size less than 400 (threshold rule of thumb, as in NICE 2015)

[f] Downgraded one level due to high risk of bias; risk of bias due to missing outcome data and risk of bias related to adherence to the intervention

Table App. 145 Evidence Profile Table – Online interventions: anxiety outcomes

Quality assessment							No of patients		Effect		
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Online intervention**	**Control**	**Relative (95% CI)**	**Absolute**	**Quality**
Online interventions versus TAU/waitlist											
Anxiety symptomatology post-treatment – ITT analysis[64] (assessed with: GAD-7 (a clinically significant change, defined as a difference of 4 points))											
1 (Van Lieshout 2021)	RCT	serious risk of bias[a]	serious inconsistency[b]	serious indirectness[c]	no serious imprecision	none	NR[65]	NR[65]	OR 3.09 (1.99 to 4.81)	NNT 3.8	⊕OOO VERY LOW
Anxiety mean scores post-treatment – available case analysis (assessed with: HADS-A)											
1 (Heller 2020)	RCT	very serious risk of bias[d]	serious inconsistency[b]	serious indirectness[c]	serious imprecision[e]	none	54	65	-	MD 0.20 lower in intervention group (1.23	⊕OOO VERY LOW

[62] Calculated by hereco based on data available in the publication

[63] Mean difference does not take into account differences between the groups at baseline

[64] Authors report using an intention-to-treat approach but it is not clear whether all randomised participants were included in the analyses

[65] The number of participants with a clinically significant change in GAD-7 scores was not reported

Quality assessment							No of patients		Effect		
										higher to 1.63 lower)[66,67]	
Anxiety mean scores anxiety symptoms post-treatment – available case analysis (assessed with the 7-item anxiety scale of the DASS-21)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	32	33	-	MD 2.92 lower in intervention group (0.86 lower to 4.98 lower)[66,67]	⊕OOO VERY LOW
Anxiety mean scores perceived stress post-treatment – available case analysis (assessed with DASS-21)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	32	33	-	MD 3.79 lower in intervention group (0.44 lower to 7.14 lower) [66,67]	⊕OOO VERY LOW
Anxiety mean scores anxiety symptoms short-term follow-up (12 weeks post intervention) – available case analysis (assessed with the 7-item anxiety scale of the DASS-21)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	29	32	-	MD 2.50 lower in intervention group (0.05 higher to 5.05 lower) [66,67]	⊕OOO VERY LOW
Anxiety mean scores perceived stress short-term follow-up (12 weeks post intervention) – available case analysis (assessed with DASS-21)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	29	32	-	MD 4.70 lower in intervention group (0.83 lower to 8.57 lower)[66,67]	⊕OOO VERY LOW
Anxiety mean scores short to long-term follow-up 36 weeks pregnancy – available case analysis (assessed with the HADS-A)											
1 (Heller 2020)	RCT	very serious risk of bias[d]	serious inconsistency[b]	serious indirectness[c]	serious imprecision[e]	none	41	52	-	MD 0.00 (1.76 higher to 1.76 lower) [66,67]	⊕OOO VERY LOW
Anxiety mean scores intermediate to long-term follow-up 6 weeks after childbirth – available case analysis (assessed with the HADS-A)											

[66] Mean difference does not take into account differences between the groups at baseline
[67] Calculated by hereco based on data available in the publication

Quality assessment							No of patients		Effect		
1 (Heller 2020)	RCT	very serious risk of bias[d]	serious inconsistency[b]	serious indirectness[c]	serious imprecision[e]	none	54	65	-	MD 0.80 lower in intervention group (0.82 higher to 2.42 lower) [68,69]	⊕OOO VERY LOW
Online interventions versus face-to-face CBT											
Anxiety mean scores anxiety symptoms post-treatment - available case analysis (assessed with the 7-item anxiety scale of the DASS-21)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	32	36	-	MD 6.30 lower in intervention group (3.34 lower to 9.26 lower)[69,68]	⊕OOO VERY LOW
Anxiety mean scores perceived stress post-treatment – available case analysis (assessed with DASS-21)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	32	36	-	MD 6.06 lower in intervention group (2.03 lower to 10.09 lower)[69,68]	⊕OOO VERY LOW
Anxiety mean scores anxiety symptoms short-term follow-up (12 weeks post intervention) - available case analysis (assessed with the 7-item anxiety scale of the DASS-21)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	29	31	-	MD 1.76 lower in intervention group (0.79 higher to 4.31 lower)[69,68]	⊕OOO VERY LOW

[68] Calculated by hereco based on data available in the publication
[69] Mean difference does not take into account differences between the groups at baseline

Quality assessment							No of patients		Effect		
Anxiety mean scores perceived stress short-term follow-up (12 weeks post intervention) – available case analysis (assessed with DASS-21)											
1 (Milgrom 2021)	RCT	very serious risk of bias[d]	serious inconsistency[b]	no serious indirectness	serious imprecision[e]	none	29	31	-	MD 3.84 lower in intervention group (0.02 higher to 7.70 lower)[70,71]	⊕OOO VERY LOW

Abbreviations: CBT, cognitive behavioural therapy; CI, confidence interval; DASS-21, Depression Anxiety Stress Scales; GAD-7, Generalized Anxiety Disorder Questionnaire; HADS-A, Hospital Anxiety and Depression Scale-Anxiety subscale; ITT, intention-to-treat; MD, mean difference; NNT, number needed to treat; NR, not reported; OR, odds ratio; RCT, randomised controlled trial; TAU, treatment as usual.

[a] Downgraded one level due to high risk of bias; risk of bias due to missing outcome data and risk of bias in measurement of the outcome

[b] Categories with only one study will be downgraded one level for inconsistency to ensure quality is not overestimated due to a lack of comparable studies to assess consistency

[c] Participants were included based on depression and/or anxiety symptoms, not a depression and/or anxiety diagnosis. Some participants therefore may have been 'at risk' of depression and/or anxiety, but did not have depression and/or anxiety at the time of enrolment.

[d] Downgraded two levels due to high risk of bias; risk of bias due to missing outcome data, risk of bias in measurement of the outcome and risk of bias related to adherence to the intervention

[e] Total population size less than 400 (threshold rule of thumb, as in NICE 2015)

[70] Calculated by hereco based on data available in the publication

[71] Mean difference does not take into account differences between the groups at baseline

Appendix 7 Risk of bias

The tables below summarise risk of bias assessment using the revised Cochrane risk of bias tool for randomised trials (RoB 2). Risk of bias was only assessed for studies included in the Evidence Review Update that could potentially result in new or changed guidance, as determined by the EWG.

7.1 Structured psychological interventions

	Domains						
	1	2a	2b	3	4	5	**overall**
Amani (2021) RefID: 920	Some concerns	Low	Low	High	High	Some concerns	High
Bittner (2014) RefID: 790	Low	High	High	Low	Some concerns	Some concerns	High
Burger (2020) RefID: 483	Some concerns	Some concerns	Low	Low	High	Low	High
Green (2020) RefID: 556	Low	Some concerns	Low	High	High	Some concerns	High
Leung (2016) RefID: 861	Some concerns	Some concerns	High	High	High	Some concerns	High
Milgrom (2021) RefID: 688	Low	Low	High	High	Low	Low	High
Ngai (2015) RefID: 331	Low	Some concerns	Low	Low	High	Some concerns	High
Ngai (2016) RefID: 889	Low	Some concerns	Low	Low	High	Some concerns	High
Salehi (2016) RefID: 601	High	High	High	High	High	Some concerns	High

Cochrane RoB 2, domains:

1. Risk of bias arising from the randomization process
2a. Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)
2b. Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)
3. Risk of bias due to missing outcome data
4. Risk of bias in measurement of the outcome
5. Risk of bias in selection of the reported result

7.2 Online interventions

	Domains						
	1	2a	2b	3	4	5	**overall**
Heller (2020) RefID: 319	Low	Low	High	High	High	Low	High
Milgrom (2021) RefID: 688	Low	Low	High	High	Low	Low	High
Pugh (2016) RefID: 95	Low	Low	High	High	High	Some concerns	High
Van Lieshout (2021) RefID: 411	Low	Low	Low	High	High	Low	High

Cochrane RoB 2, domains:

1. Risk of bias arising from the randomization process
2a. Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)
2b. Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)
3. Risk of bias due to missing outcome data
4. Risk of bias in measurement of the outcome
5. Risk of bias in selection of the reported result