

## Postnatal depression

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
### ABSTRACT

**INTRODUCTION:** The differentiation between postnatal depression and other types of depression is often unclear, but there are treatment issues in nursing mothers that do not apply in other situations. Overall, the prevalence of depression in postpartum women is the same as the prevalence in women generally, at about 12–13%. Suicide is a major cause of maternal mortality in resource-rich countries, but rates are lower in women postpartum than in women who have not had a baby. **METHODS AND OUTCOMES:** We conducted a systematic review and aimed to answer the following clinical questions: What are the effects of drug treatments, and of non-drug treatments, for postnatal depression? We searched: Medline, Embase, The Cochrane Library, and other important databases up to May 2008 (Clinical Evidence reviews are updated periodically, please check our website for the most up-to-date version of this review). We included harms alerts from relevant organisations such as the US Food and Drug Administration (FDA) and the UK Medicines and Healthcare products Regulatory Agency (MHRA). **RESULTS:** We found 34 systematic reviews, RCTs, or observational studies that met our inclusion criteria. We performed a GRADE evaluation of the quality of evidence for interventions. **CONCLUSIONS:** In this systematic review we present information relating to the effectiveness and safety of the following interventions: group cognitive behavioural therapy, hormones, individual cognitive behavioural therapy (CBT), infant massage by mother, interpersonal psychotherapy, light therapy, mother–infant interaction coaching, non-directive counselling, other antidepressants, physical exercise, psychodynamic therapy, psychoeducation with partner, selective serotonin reuptake inhibitors (SSRIs), St John's Wort, telephone-based peer support.

### QUESTIONS

What are the effects of drug treatments for postnatal depression? . . . . .	3
What are the effects of non-drug treatments for postnatal depression? . . . . .	6

### INTERVENTIONS

<b>DRUG TREATMENTS</b>		Physical exercise . . . . .	12
 <b>Likely to be beneficial</b>		Psychodynamic therapy . . . . .	12
SSRI antidepressants (fluoxetine, paroxetine, and sertraline)* . . . . .	3	Psychoeducation with partner . . . . .	13
Antidepressants other than SSRIs* . . . . .	4	Telephone-based peer support (mother to mother) . . . . .	1
			4
 <b>Unknown effectiveness</b>		 <b>Unlikely to be beneficial</b>	
Hormones . . . . .	5	Mother–infant interaction coaching (improved maternal responsiveness but no significant difference in depression scores) . . . . .	11
St John's Wort ( <i>Hypericum perforatum</i> ) . . . . .	5		
<b>NON-DRUG TREATMENTS</b>		<b>Covered elsewhere in Clinical Evidence</b>	
 <b>Likely to be beneficial</b>		Depression in adults: drug and other physical treatments.	
CBT (individual) . . . . .	6	<b>To be covered in future updates</b>	
Interpersonal psychotherapy . . . . .	8	Bibliotherapy	
Non-directive counselling (effective in the short term although may not have long-term beneficial effects) . . . . .	8	Electroconvulsive therapy (ECT)	
 <b>Unknown effectiveness</b>		<b>Footnote</b>	
CBT (group) . . . . .	7	*Antidepressants are categorised on the evidence of their effectiveness in the treatment of depression in general.	
Infant massage by mother . . . . .	11		
Light therapy . . . . .	11		

### Key points

- The differentiation between postnatal depression and other types of depression is often unclear, but there are treatment issues in nursing mothers that do not apply in other situations.
  - Overall, the prevalence of depression in postpartum women is the same as the prevalence in women generally, at about 12–13%.
  - Suicide is a major cause of maternal mortality in resource-rich countries, but rates are lower in women postpartum than in women who have not had a baby.
  - Most episodes resolve spontaneously within 3–6 months, but a quarter of depressed mothers still have symptoms at 1 year. Depression can interfere with the mother–infant relationship.

- **SSRIs** may improve symptoms of postnatal depression, but we found few studies evaluating their effect specifically in postpartum women.

We don't know whether **other types of antidepressant** are effective compared with placebo or psychological treatments.

We don't know whether **oestrogen treatment** or **St John's Wort** improve symptoms compared with placebo.

- Psychological treatments such as **individual CBT**, **non-directive counselling**, **interpersonal psychotherapy**, and **psychodynamic therapy** are likely to improve symptoms compared with routine care, but long-term benefits are unclear.

We don't know whether **light therapy**, **group CBT**, **psychoeducation with the partner**, **mother–infant interaction coaching**, **telephone-based peer support**, **infant massage**, or **physical exercise** improve symptoms of postnatal depression as we found few studies.

**DEFINITION** Postnatal depression (PND) has been variously defined as non-psychotic depression occurring during the first 6 months, the first 4 weeks, and the first 3 months postpartum; but recently 3 months postpartum was suggested in the UK as a useful clinical definition.<sup>[1]</sup> Puerperal mental disorders have only recently been categorised separately in psychiatric classifications, but both the ICD-10<sup>[2]</sup> and the DSM-IV (see table 1, p 18 ) require certain qualifications to be met that limit their use: ICD-10 categorises mental disorders that occur postpartum as puerperal, but only if they cannot otherwise be classified, and DSM-IV allows “postpartum onset” to be specified for mood disorders starting within 4 weeks postpartum.<sup>[3]</sup> In clinical practice and research, the broader definition above is often used, because whether or not PND is truly distinct from depression in general, depression in the postpartum period raises treatment issues for the nursing mother and has implications for the developing infant (see prognosis below). However, there is increased recognition that the depression often starts during pregnancy.<sup>[4]</sup><sup>[5]</sup> The symptoms are similar to symptoms of depression at other times of life, but in addition to low mood, sleep disturbance, change in appetite, diurnal variation in mood, poor concentration, and irritability, women with PND also experience guilt about their inability to look after their new baby. In many countries, health visitors screen for PND using the Edinburgh Postnatal Depression Scale,<sup>[6]</sup><sup>[7]</sup> which identifies depressive symptoms, but does not include somatic symptoms such as appetite changes, which can be difficult to assess in most women in the postnatal period.

**INCIDENCE/ PREVALENCE** The prevalence of depression in women postpartum is similar to that found in women generally. However, the incidence of depression in the first month after childbirth is three times the average monthly incidence in non-childbearing women.<sup>[8]</sup> A meta-analysis of studies mainly based in resource-rich countries found the incidence of PND to be 12–13%,<sup>[9]</sup> with higher incidence in resource-poor countries.<sup>[10]</sup><sup>[11]</sup>

**AETIOLOGY/ RISK FACTORS** Four systematic reviews have identified the following risk factors for PND: history of any psychopathology (including history of previous PND), low social support, poor marital relationship, and recent life events.<sup>[9]</sup><sup>[12]</sup><sup>[13]</sup><sup>[14]</sup> There is also an increased risk of PND amongst immigrant populations.<sup>[15]</sup> Recent studies from India also suggest that spousal disappointment with the sex of the newborn child, particularly if the child is a girl, is associated with the development of PND.<sup>[10]</sup><sup>[16]</sup>

**PROGNOSIS** Most episodes of PND resolve spontaneously within 3–6 months,<sup>[17]</sup> but about one in four affected mothers are still depressed at the child's first birthday.<sup>[18]</sup> In resource-rich countries, suicide remains a leading cause of maternal deaths in the first year postpartum, although the postpartum suicide rate is lower than the rate in age-matched, non-postpartum women.<sup>[19]</sup><sup>[20]</sup> PND is also associated with negative effects in the infant, including reduced likelihood of secure attachment,<sup>[21]</sup> deficits in maternal–infant interactions,<sup>[22]</sup> and impaired cognitive and emotional development of the child, particularly in boys living in areas of socioeconomic deprivation.<sup>[23]</sup><sup>[24]</sup> These associations remain significant even after controlling for subsequent episodes of depression in the mother. However, there is also evidence to suggest that later effects on the child are related to chronic or recurrent maternal depression, rather than postpartum depression *per se*.<sup>[25]</sup> Women whose depression persists beyond 6 months postpartum have been found to have fewer positive interactions with their infants than women who were depressed but whose depressive symptoms ended before 6 months,<sup>[26]</sup> suggesting that the timing of depression is an important factor in determining its effect on the mother–infant relationship.

**AIMS OF INTERVENTION** To improve symptoms, quality of life, mother–infant interaction, with minimal adverse effects on mother and child.

**OUTCOMES** Symptom scores (e.g. the Edinburgh Postnatal Depression Scale<sup>[6]</sup><sup>[7]</sup>) and other scales used in studies of depression at other times in life (e.g. the Hamilton Depression Rating Scale<sup>[27]</sup>) (see

review on depression in adults: drug and other physical treatments), quality of life, mother–infant interaction (rated using questionnaires or observer rated videos), effect on marital/family relationship (rated using questionnaires), rates of suicide, and adverse effects.

**METHODS** *Clinical Evidence* search and appraisal May 2008. The following databases were used to identify studies for this review: Medline 1966 to May 2008, Embase 1980 to May 2008, and The Cochrane Database of Systematic Reviews and Cochrane Central Register of Controlled Clinical Trials 2008, Issue 2. Additional searches were carried out using these websites: NHS Centre for Reviews and Dissemination (CRD) — for Database of Abstracts of Reviews of Effects (DARE) and Health Technology Assessment (HTA), Turning Research into Practice (TRIP), and NICE. Abstracts of the studies retrieved were assessed independently by two information specialists using pre-determined criteria to identify relevant studies. Study design criteria for inclusion in this review were: published systematic reviews and RCTs in any language, at least single blinded, and containing more than 20 individuals of whom more than 80% were followed up. The minimum length of follow-up required to include studies was 6 weeks. We excluded all studies described as “open”, “open label”, or not blinded unless blinding was impossible: for example, for psychological interventions. We use a regular surveillance protocol to capture harms alerts from organisations such as the FDA and the UK Medicines and Healthcare products Regulatory Agency (MHRA), which are added to the review as required. We have performed a GRADE evaluation of the quality of evidence for interventions included in this review (see table, p 19). To aid readability of the numerical data in our reviews, we round many percentages to the nearest whole number. Readers should be aware of this when relating percentages to summary statistics such as RRs and ORs.

**QUESTION** What are the effects of drug treatments for postnatal depression?

**OPTION** SELECTIVE SEROTONIN REUPTAKE INHIBITOR (SSRI) ANTIDEPRESSANTS (FLUOXETINE, PAROXETINE, AND SERTRALINE)

### Depression scores

*Fluoxetine compared with placebo* Fluoxetine plus one or six sessions of CBT may be more effective than placebo plus one or six sessions of CBT at improving postnatal depression (PND) at 4 and 12 weeks (very low-quality evidence).

*Sertraline compared with nortriptyline* Sertraline may be as effective at improving depression scores at 8 weeks (very low-quality evidence).

*Paroxetine plus CBT compared with paroxetine alone* The addition of CBT may not improve depression scores in women with PND (low-quality evidence).

### Note

Despite limited evidence in PND, SSRIs are known to be effective in treating depression in the general population, and are therefore considered likely to be beneficial for the treatment of PND.

For GRADE evaluation of interventions for postnatal depression, see table, p 19.

### Benefits:

#### Fluoxetine versus placebo:

We found no systematic reviews or RCTs.

#### Fluoxetine plus CBT versus CBT alone:

We found three systematic reviews (search dates 2006,<sup>[28]</sup> <sup>[29]</sup> and 2004 with two update searches, times not reported<sup>[30]</sup>) which all identified the same single RCT.<sup>[31]</sup> The RCT identified by the reviews (87 women recruited by community-based screening, 51 with major depression, 36 with minor depression diagnosed using standardised criteria,<sup>[32]</sup> breastfeeding women were excluded) evaluated four treatments: fluoxetine 20 mg plus 1 session of CBT; fluoxetine 20 mg plus 6 sessions of CBT; placebo plus 1 session of CBT; and placebo plus 6 sessions of CBT. The CBT was delivered by non-specialists after brief training.<sup>[31]</sup> Significance was assessed together for both fluoxetine groups versus both placebo groups.<sup>[33]</sup> The RCT found that fluoxetine (plus either 1 or 6 sessions of CBT), significantly improved depression severity scores compared with placebo (plus either 1 or 6 sessions of CBT) at both 4 and 12 weeks (geometric mean difference in *Clinical Interview Schedule [CIS]-Revised* scores; 4 weeks: 37%, 95% CI 6% to 58%; 12 weeks: 39%, 95% CI 10% to 61%).<sup>[31]</sup> The RCT gave no information on infant outcomes (see also benefits of prescription antidepressant drugs in the review on depression in adults: drug and other physical treatments).

#### Sertraline versus nortriptyline:

We found one systematic review (search date 2003) which identified a single RCT.<sup>[34]</sup> <sup>[35]</sup> The RCT (109 women aged 15–45 years meeting DSM-IV criteria for major depression identified within

3 months of delivery, some breastfeeding [proportion not reported]) compared sertraline (50–200 mg) versus nortriptyline (75–150 mg).<sup>[35]</sup> The study found no significant difference in depression severity at 8 weeks between groups, measured using the [Hamilton Depression Rating Scale \(HAM-D\)](#), the [Clinical Global Impression Scale \(CGI\)](#), the Global Assessment Scale (GAS), or the Social Problems Questionnaire (SPQ) (proportion of women with at least 50% reduction in HAM-D score: 31/55 [56%] with sertraline v 37/54 [69%] with nortriptyline, P = 0.19).

## Harms:

### Effects on the mother:

#### Fluoxetine versus placebo:

We found no systematic reviews or RCTs.

#### Fluoxetine plus CBT (CBT) versus CBT alone:

The RCT gave no information on harms.<sup>[31]</sup>

#### Sertraline versus nortriptyline:

The RCT found no significant difference in the proportion of people who had adverse effects between sertraline and nortriptyline (proportion affected not reported; reported as not significant).<sup>[35]</sup> People who used nortriptyline most commonly reported thirst, painful dry mouth, and constipation as adverse effects. People who used sertraline most commonly reported headaches, perspiration, and hot flushes.<sup>[35]</sup>

See harms of antidepressants in review on depression in adults: drug and other physical treatments.

### Effects on the infant:

The RCTs gave no information about harms in the infants.<sup>[31]</sup> <sup>[35]</sup> All antidepressants are excreted into breast milk to a greater or lesser extent.<sup>[36]</sup> A meta-analysis of antidepressant levels in breastfed infants of mothers taking antidepressants found that nortriptyline, paroxetine, and sertraline usually produced undetectable levels in nursing infants. The largest proportion of high antidepressant levels in infants (above 10% of the average maternal level) occurred with fluoxetine (22%) and citalopram (17%).<sup>[36]</sup> We found a lack of research on long-term risks to the developing child from maternal use of antidepressants.

## Comment:

The RCTs had several weaknesses.<sup>[31]</sup> <sup>[35]</sup> In the RCT comparing fluoxetine plus CBT versus CBT alone, most women approached refused to participate (101/188 [54%]), most commonly because of reluctance to take antidepressants.<sup>[31]</sup> A further 26/87 (30%) of the participants withdrew after randomisation (14 gave no reason for withdrawal, 5 disliked the drug, 4 withdrew because of adverse effects, and 3 because of lack of improvement). The authors performed an appropriate intention-to-treat analysis. The design of the RCT does not allow comparison between fluoxetine and CBT, as all the women received one session of CBT. This RCT was underpowered to assess whether there were additional benefits from combining the two treatment modalities. In the RCT comparing sertraline versus nortriptyline, almost half the eligible participants (97/206) did not sign consent or provide at least 1 week of data. Of the 109 women randomised, 14 were lost to follow-up, withdrew, or did not take the medication for at least 1 week. Significantly more women taking sertraline withdrew from the study in the first 8 weeks compared with nortriptyline (23/55 [42%] with sertraline v 13/54 [24%] with nortriptyline; P = 0.03).<sup>[35]</sup>

### Clinical guide:

Despite the lack of good-quality evidence comparing SSRIs with placebo directly, SSRIs are likely to be beneficial for the treatment of postnatal depression based on evidence of their effectiveness in treating depressive disorders in general, and also the treatment of premenstrual dysphoria.<sup>[37]</sup>

## OPTION

## ANTIDEPRESSANTS OTHER THAN SSRIS

### Depression scores

*Nortriptyline compared with sertraline* Nortriptyline may be as effective at improving depression scores at 8 weeks (*very low-quality evidence*).

### Note

Despite limited evidence in postnatal depression, other antidepressants are known to be effective in treating depression in the general population, and are therefore considered likely to be beneficial for the treatment of postnatal depression.

For GRADE evaluation of interventions for postnatal depression, see table, p 19 .

## Benefits:

### Nortriptyline versus sertraline:

See benefits of SSRIs, p 3 .

**Harms:** **Nortriptyline versus sertraline:**  
See harms of SSRIs, p 3 . See also antidepressants in the review on depression in adults: drug and other physical treatments.

**Comment:** See comment on SSRIs, p 3 .

**Clinical guide:**

Despite limited evidence in postnatal depression, other antidepressants are known to be effective in treating depression in the general population, and are therefore considered likely to be beneficial for the treatment of postnatal depression.

**OPTION HORMONES**

**Depression score**

Compared with placebo Oestrogen treatment may be more effective at improving postnatal depression (PND) at 3 and 6 months in women with severe PND (low-quality evidence).

**Note**

We found no clinically important results about the effects of other hormones in women with PND.

For GRADE evaluation of interventions for postnatal depression, see table, p 19 .

**Benefits:**

**Oestrogen versus placebo:**

We found one systematic review (search date 2004) which identified a single RCT.<sup>[38] [39]</sup> The RCT (61 women with major depression, 3–18 months postpartum at enrolment, recruited from outpatient clinics, general practitioners, and self-referrals) compared oestrogen treatment (oestradiol skin patches for 6 months plus additional dydrogesterone tablets for 12 days each month) versus placebo (patches and tablets).<sup>[38]</sup> Women were excluded if they were breastfeeding, had a medical history that would contraindicate oestrogen treatment, or had changed psychotropic medication in the previous 6 weeks. The RCT found a significantly larger reduction in Edinburgh Postnatal Depression Scale (EPDS) scores with oestrogen compared with placebo, both at 3 and 6 months (WMD at 3 months –3.2, 95% CI –6.0 to –0.4; at 6 months –4.4, 95% CI –6.9 to –1.9).<sup>[38]</sup> The RCT gave no information on infant outcomes.

**Other hormone treatments versus placebo:**

We found no systematic review or RCTs.

**Harms:**

**Effects on the mother:**

Endometrial curettage was performed at 6 months on all women in the RCT, and three women who received oestrogen had endometrial changes.<sup>[39]</sup> These changes had resolved by follow-up at 9 months in all three women.<sup>[39]</sup> One woman in the oestrogen group, who had been admitted to a psychiatric ward soon after the start of the study because of her worsening mental state, committed suicide. However, her clinical consultant had stopped the oestrogen treatment soon after admission. For harms of oestrogen treatment see also reviews of menopausal symptoms and secondary prevention of ischaemic cardiac events.

**Effects on the infant:**

The RCT gave no information on harms to the infant.<sup>[39]</sup>

**Comment:**

**Clinical guide:**

At present there is insufficient evidence available to justify the use of hormone treatment for postnatal depression in clinical practice.

**OPTION ST JOHN'S WORT (HYPERICUM PERFORATUM)**

We found no clinically important results about the effects of St John's Wort in postnatal depression.

For GRADE evaluation of interventions for postnatal depression, see table, p 19 .

**Benefits:** We found no systematic reviews or RCTs.

**Harms:** We found no systematic reviews or RCTs.

**Comment:** A systematic review, which reported the results of observational studies, found weak evidence that St. John's Wort use during lactation did not affect maternal milk production or infant weight. However, in a few cases, it may cause infant colic, drowsiness, or lethargy. Although we found no RCTs evaluating the effects of St John's Wort in postnatal depression, there have been several RCTs of

St John's Wort in the treatment of depression outside of the perinatal period. These have been analysed in a recent systematic review.<sup>[40]</sup>

**QUESTION** What are the effects of non-drug treatments for postnatal depression?

**OPTION** CBT (INDIVIDUAL)

### Depression score

*Compared with ideal standard care* Individual CBT may be no more effective at improving depressive symptoms immediately and at 6 months (low-quality evidence).

*Compared with routine primary care* Individual CBT may be more effective at improving postnatal depression (PND) in the short term (immediately after treatment), but not in the longer term (low-quality evidence).

*Compared with non-directive counselling* Individual CBT may be as effective at improving depression scores (very low-quality evidence).

*CBT plus paroxetine compared with paroxetine alone* The addition of CBT may not improve depression scores in women with PND (low-quality evidence).

### Proportion free of depression

*Compared with psychodynamic therapy* Individual CBT may be as effective at reducing the proportion of women who still have depression after 18 months (very low-quality evidence).

### Note

We found no clinically important results about the effects of individual CBT compared with antidepressants.

**For GRADE evaluation of interventions for postnatal depression, see table, p 19 .**

### Benefits:

#### Individual CBT versus ideal standard care:

We found three systematic reviews (search dates 2006,<sup>[28]</sup> <sup>[29]</sup> and 2004 with two update searches, times not reported)<sup>[30]</sup> which all identified the same single RCT.<sup>[41]</sup> The RCT (37 women, 32% major depression, 68% minor depression, recruited from the community) compared modified CBT delivered by specifically trained early-childhood nurses, once a week for 6 weeks, versus ideal standard care (weekly 20- to 60-minute appointments for mothercraft advice and non-specific support delivered by early-childhood nurses who had not received specific training).<sup>[41]</sup> It found no significant difference in [Edinburgh Postnatal Depression Scale \(EPDS\)](#) scores between CBT and ideal standard care at the end of treatment at 6 weeks, or at 6 months' follow-up (mean EPDS score after treatment: 8.1 with CBT v 6.5 with ideal standard care; P value not reported, reported as not significant; at 6 months: 6.2 with CBT v 7.7 with ideal standard care; P value not reported, reported as not significant). See comment below.<sup>[41]</sup>

#### Individual CBT versus routine primary care:

We found three systematic reviews (search dates 2006,<sup>[28]</sup> <sup>[29]</sup> and 2004 with two update searches, times not reported)<sup>[30]</sup> which all identified the same single RCT, reported in two papers.<sup>[42]</sup> <sup>[43]</sup> One of the reviews identified an additional large, unpublished RCT (The PoNDER trial), which we have not reported further.<sup>[28]</sup> The RCT (193 women with major depression [DSM-III-R criteria]<sup>[44]</sup> recruited by community screening within 8 weeks postpartum) compared four interventions: individual CBT, non-directive counselling, and psychodynamic therapy, all versus routine primary care.<sup>[42]</sup> For a full description of the RCT and a comment on its methods, see [non-directive counselling, p 8](#) . The RCT found no significant difference in rates of depression with individual CBT compared with routine care after treatment, at 4.5 months postpartum (freedom from depression on the [Structured Clinical Interview for DSM-III-R Diagnoses \[SCID\]](#):<sup>[44]</sup> AR 24/42 [57%] with CBT v 20/50 [40%] with routine care; RR 1.50, 95% CI 0.92 to 1.98).<sup>[42]</sup> However, it did find that individual CBT significantly reduced depression severity compared with routine care (mean EPDS score: 9 with CBT v 11 with routine care; corrected difference -2.7, 95% CI -4.5 to -0.9; P = 0.003).<sup>[42]</sup> It also found that CBT significantly reduced the proportion of women who reported mother-infant relationship difficulties (assessed using a checklist) at 4.5 months compared with routine primary care (AR 39% with CBT v 74% with routine care; RR adjusted for baseline differences between groups 0.46, 95% CI 0.20 to 0.81; absolute numbers not reported).<sup>[43]</sup> The RCT found no significant difference in the proportion of mothers reporting behaviour management problems at 4.5 months between CBT and routine care (AR 32% with CBT v 37% with primary care; RR adjusted for baseline differences between groups 0.83, 95% CI 0.37 to 1.50; P = 0.77; absolute numbers not reported)<sup>[43]</sup> In the medium to longer term (at 9 months, 18 months, and 5 years postpartum), the RCT found no significant differences between CBT and routine care for any outcome (see [comment on non-directive counselling, p 8](#) ).<sup>[42]</sup> <sup>[43]</sup>

## Individual CBT versus non-directive counselling:

See [benefits of non-directive counselling](#), p 8 .

## Individual CBT versus psychodynamic therapy:

We found three systematic reviews (search dates 2006, <sup>[28]</sup> <sup>[29]</sup> and 2004 with two update searches, times not reported) <sup>[30]</sup> which all identified the same single RCT, reported in two papers. <sup>[42]</sup> <sup>[43]</sup> The RCT (193 women with major depression [DSM-III-R criteria] <sup>[44]</sup> recruited by community screening within 8 weeks postpartum) compared four interventions: individual CBT, non-directive counselling, and psychodynamic therapy, all versus routine primary care. <sup>[42]</sup> For a full description of the RCT and a comment on its methods, see [non-directive counselling](#), p 8 . The RCT (193 women with major depression [DSM-III-R criteria], <sup>[44]</sup> recruited by community screening within 8 weeks postpartum) found a lower rate of depression with psychodynamic therapy compared with CBT at 4.5 months, but did not report the significance of the difference between groups (57% with CBT v 71% with psychodynamic therapy; absolute numbers not reported; significance not reported). <sup>[42]</sup> It found that the proportion of women who had recovered at 18 months was similar between groups (71% with CBT v 71% with psychodynamic therapy; significance not reported; absolute numbers not reported). <sup>[42]</sup>

## Individual CBT versus antidepressants:

We found no systematic reviews or RCTs.

## Individual CBT plus antidepressants versus antidepressants alone:

We found three systematic reviews (search dates 2006, <sup>[28]</sup> <sup>[29]</sup> and 2004 with two update searches, times not reported) <sup>[30]</sup> which all identified the same single RCT. <sup>[45]</sup> The RCT (35 women aged 18–49 years meeting DSM-IV depression criteria with or without anxiety, obsessions, or obsessive compulsive disorder within 6 months postpartum, at least 50% breast feeding) compared 12 sessions of individual CBT plus paroxetine (up to 50 mg) versus paroxetine alone. <sup>[45]</sup> The RCT had some methodological weaknesses (see comment below). The study found no significant difference in depression scores at 12 weeks between the two groups, measured using the [Hamilton Depression Scale](#) (HAM-D) and the [Clinical Global Impressions Scale](#) (CGI), although scores were slightly better with paroxetine alone (mean change in HAM-D baseline score: –15.2 with CBT plus paroxetine v –17.6 with paroxetine alone P = 0.47; proportion of women with at least 50% HAM-D score reduction: 15/19 [79%] with CBT plus paroxetine v 14/16 [88%] with paroxetine alone; P = 0.50; proportion of women considered “not at all ill” using CGI [depression]: 12/19 [63%] with CBT plus paroxetine v 12/16 [75%] with paroxetine alone; P = 0.23; mean time of remission: 9.5 weeks with CBT plus paroxetine v 11.2 weeks with paroxetine alone; reported as not significant).

See [benefits of SSRIs](#), p 3 .

**Harms:** The systematic reviews and RCTs gave no information on harms. <sup>[28]</sup> <sup>[29]</sup> <sup>[30]</sup> <sup>[41]</sup> <sup>[42]</sup> <sup>[43]</sup>

The RCT comparing CBT plus paroxetine versus paroxetine alone reported common adverse effects, including sedation and nausea, although no major adverse effects were reported (absolute numbers not reported; significance of difference between groups not reported). <sup>[45]</sup>

**Comment:** The small RCT was probably underpowered to compare modified CBT versus ideal standard care effectively. There was a trend towards CBT being more effective. Adjusting for baseline EPDS (which was higher in the CBT group) in a multivariate analysis had no impact on results at any time point. <sup>[46]</sup> The RCT that evaluated giving CBT in addition to paroxetine was very small (32/35 [91%] completed the study) and excluded women who were suicidal or misusing substances. <sup>[45]</sup> It was underpowered to test whether there were additional benefits from combining the two treatment modalities.

## Clinical guide:

Individual CBT may be helpful in treating postnatal depression in the short term, although it may not have long-term beneficial effects compared with usual care.

OPTION	CBT (GROUP)
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### Depression scores

Compared with routine primary care Group CBT may be more effective at improving symptoms at 6 months ([low-quality evidence](#)).

For GRADE evaluation of interventions for postnatal depression, see [table](#) , p 19 .

- Benefits:** **Group CBT versus routine primary care:**  
 We found two systematic reviews (search date 2006, [29] and search date 2004 with two update searches, times not reported) [30] which both identified the same single RCT. [46] The RCT (45 women, less than 1 year postpartum, recruited from the community, [Edinburgh Postnatal Depression score \[EPDS\]](#) greater than 12 at baseline, and suspected postnatal depression) compared [group CBT](#), including education and relaxation, lead by two health visitors for 2 hours each week for 8 weeks, versus routine primary care administered by other health visitors. [46] It found that group CBT significantly improved depression scores at 6 months compared with routine primary care (proportion of women scoring less than 13 on the EPDS: 15/23 [65%] with group CBT v 8/22 [36%] with routine primary care; P = 0.05). [46] The RCT did not report on outcomes in infants.
- Harms:** The RCT gave no information on harms. [46]
- Comment:** The criteria for inclusion into the RCT (EPDS greater than 12) and response to treatment (EPDS less than 13) meant that a small change in EPDS could count as a response to treatment.
- Clinical guide:**  
 There is insufficient evidence on group CBT for postnatal depression currently to justify its use in routine clinical practice.

## OPTION INTERPERSONAL PSYCHOTHERAPY

**Proportion free of depression**  
*Compared with waiting list control* Interpersonal psychotherapy may be more effective at improving postnatal depression at 12 weeks ([low-quality evidence](#)).

**For GRADE evaluation of interventions for postnatal depression, see table, p 19 .**

- Benefits:** **Interpersonal psychotherapy versus waiting list:**  
 We found three systematic reviews (search dates 2006, [28] [29] and 2004 with two update searches, times not reported) [30] which all identified the same single RCT. [47] The RCT (120 postpartum women with major depression according to DSM-IV criteria, greater than 11 on [Hamilton Depression Rating Scale; HAM-D](#)) [27] compared [interpersonal psychotherapy](#), performed by experienced psychotherapists for 1 hour once weekly for 12 weeks, versus a waiting list control. All outcomes were assessed by the therapists, who were not blinded to the participants' groups. The RCT found that interpersonal psychotherapy significantly increased the proportion of women who recovered compared with the waiting-list control at 12 weeks (defined as HAM-D less than 7: AR 19/60 [31%] with interpersonal psychotherapy v 9/60 [15%] with waiting list control; RR 2.11, 95% CI 1.04 to 4.28). It found that interpersonal psychotherapy significantly improved scores assessing quality of relationships and functioning at home at 12 weeks compared with waiting list (mean [Social Adjustment Scale-Self Report \[SAS-SR\]](#) [48] score 1.9 with interpersonal psychotherapy v 2.4 with waiting list; P less than 0.001; mean [Postpartum Adjustment Questionnaire](#) [49] score 2.3 with interpersonal psychotherapy v 2.6 with waiting list; P less than 0.001). The RCT also found that interpersonal psychotherapy significantly improved the quality of the mother's relationship with her partner at 12 weeks (mean [Dyadic Adjustment Scale](#) score 101 with interpersonal psychotherapy v 89 with waiting list; P = 0.01).
- Harms:** The RCT gave no information on harms. [47]
- Comment:** The RCT had high refusal rates (132 women declined to participate), but achieved 80% follow-up (withdrawal rate: 20% with interpersonal psychotherapy v 15% with waiting list control; P = 0.47). There were no significant clinical or demographic differences between women who withdrew and women who stayed in the study.

## OPTION NON-DIRECTIVE COUNSELLING

**Depression scores**  
*Compared with routine primary care* Non-directive counselling may be more effective at reducing depression scores ([very low-quality evidence](#)).

*Compared with individual CBT* Non-directive counselling may be as effective at improving depression scores ([very low-quality evidence](#)).

*Compared with group CBT* Non-directive counselling may be as effective at improving depression scores ([low-quality evidence](#)).



*Compared with group counselling* Individual non-directive counselling may be as effective at reducing depression scores at 12 weeks ([low-quality evidence](#)).

### Proportion free of depression

*Compared with routine primary care* Non-directive counselling may be no more effective at reducing the proportion of women free of depression after 4.5–18 months (very low-quality evidence).

*Compared with psychodynamic therapy* Non-directive counselling may be as effective in the long term (very low-quality evidence).

### Note

We found no clinically important results about the effects of individual non-directive counselling compared with antidepressants.

**For GRADE evaluation of interventions for postnatal depression, see table, p 19 .**

### Benefits:

#### Non-directive counselling versus routine primary care:

We found one systematic review (search date 2006, 3 RCTs, 279 people).<sup>[28]</sup> The review did not perform a meta-analysis; we have therefore reported each RCT separately.<sup>[50] [51] [42]</sup> The review identified an additional large, unpublished RCT (The PoNDER trial), which we have not reported further.<sup>[28]</sup> The first RCT identified by the reviews (55 women with depression defined by research diagnostic criteria recruited from the community up to 13 weeks postpartum) compared [non-directive counselling](#) delivered by trained health visitors (termed “active listening visits”) for 8 weeks versus routine primary care provided by general practitioners and health visitors.<sup>[50]</sup> The RCT found that, after a mean of 5 weeks' treatment, counselling significantly reduced the proportion of women categorised as depressed compared with routine primary care (AR for proportion categorised as depressed: 8/26 [31%] with non-directive counselling v 15/24 [63%] with routine primary care; RR 0.49, 95% CI 0.26 to 0.95).<sup>[50]</sup>

The second RCT identified by the review (31 women at 2–3 months postpartum, identified by community screening, with major depression diagnosed by DSM-III-R)<sup>[44]</sup> compared non-directive counselling over 6 weeks compared with usual care.<sup>[51]</sup> It found that a significantly greater proportion of women had fully recovered at 8 weeks with counselling compared with usual care (proportion with no evidence of major depression on the Montgomery–Asberg Depression Rating Scale [MADRS] AR 12/15 [80%] with counselling v 4/16 [25%] with usual care; P less than 0.01).<sup>[51]</sup>

The third RCT identified by the review (193 women with major depression by DSM-III-R)<sup>[44]</sup> recruited by community screening within 8 weeks postpartum) compared four interventions: individual CBT, non-directive counselling, and psychodynamic therapy, all versus routine primary care.<sup>[42]</sup> Trained therapists conducted the counselling, [psychodynamic therapy](#) and CBT in women's homes, weekly from 8–18 weeks postpartum. The RCT had several methodological flaws (see comment, below). There were baseline differences in depression severity among groups; the RCT corrected for these when analysing the significance of results. It found no significant difference in rates of depression between counselling and routine care at 4.5 months postpartum (freedom from depression on the [Structured Clinical Interview for DSM-III-R Diagnoses \[SCID\]](#):<sup>[44]</sup> AR 26/48 [54%] with non-directive counselling v 20/50 [40%] with routine primary care; RR 1.38, 95% CI 0.82 to 1.89).<sup>[42]</sup> However, it did find that non-directive counselling significantly reduced depression severity compared with routine primary care (mean [Edinburgh Postnatal Depression Scale \[EPDS\]](#) score: 9.9 with non-directive counselling v 11.3 with routine primary care; corrected difference: –2.1, 95% CI –3.8 to –0.3; P = 0.02).<sup>[42]</sup> It also found that counselling significantly reduced the proportion of women who reported mother–infant relationship difficulties (assessed using a checklist) compared with routine primary care at 4.5 months (AR 53% with counselling v 74% with routine care; RR adjusted for baseline differences between groups 0.63, 95% CI 0.32 to 0.97; absolute numbers not reported).<sup>[43]</sup> The RCT found no significant difference in the proportion of mothers reporting behaviour management problems at 4.5 months between counselling and routine care (AR 35% with counselling v 37% with primary care; RR adjusted for baseline differences between groups 0.91, 95% CI 0.42 to 1.58; P = 0.77).<sup>[43]</sup> In the longer term (at 9 months, 18 months, and 5 years postpartum), there were no significant differences in any outcomes except for some evidence that non-directive counselling, assessed using a modified [Behavioural Screening Questionnaire](#), improved infant emotional and behavioural problems compared with routine primary care at 18 months postpartum. However, this outcome relied solely on maternal reports (see comment below). Other outcomes measured were: infant attachment, using [Ainsworth Strange Situation Procedure](#); infant cognitive development, using the [Mental Development Index of the Bayley Scales of Infant Development](#); at 5 years: child emotional and behavioural difficulties, using maternal reports on the [Rutter A2 Scale](#); teacher reports, using the [Preschool Behaviour Checklist](#); and child cognitive development, using the [McCarthy Scales of Children's Abilities](#). The RCT found no significant difference between counselling and routine care for any of these outcomes.

**Non-directive counselling versus individual CBT:**

We found two systematic reviews (search dates 2006, <sup>[29]</sup> and 2004 with two update searches, times not reported) <sup>[30]</sup> which both identified the same RCT, reported in two papers. <sup>[42]</sup> <sup>[43]</sup> For a full description of the first RCT, see non-directive counselling versus routine primary care above. The RCT (193 women with major depression [DSM-III-R criteria] <sup>[44]</sup>, recruited by community screening within 8 weeks postpartum) found a lower rate of depression with non-directive counselling and CBT at 4.5 months, but did not report the significance of the difference between groups (AR for freedom from depression on SCID: 54% with non-directive counselling v 57% with CBT; P value not reported). <sup>[42]</sup> There was some evidence that non-directive counselling improved infant emotional and behavioural problems assessed using a modified Behavioural Screening Questionnaire compared with CBT at 18 months postpartum. However, this outcome relied solely on maternal reports (see comment below).

**Non-directive counselling versus group CBT:**

We found two systematic reviews (search dates 2006, <sup>[29]</sup> and 2004 with two update searches, times not reported) <sup>[30]</sup> which both identified the same RCT. <sup>[52]</sup> The RCT (192 women fulfilling DSM-IV criteria for depression, recruited by community screening at routine 6- to 18-week postnatal consultations) <sup>[52]</sup> compared individual, non-directive counselling versus group CBT, delivered by trained nurses and psychologists over 12 weeks. <sup>[52]</sup> The RCT found no significant difference in the size of improvement in depression or anxiety scores, between counselling and CBT at 12 weeks (difference in Beck Depression Inventory [BDI] for CBT v counselling: -0.75; P = 0.68; difference in Beck Anxiety Inventory [BAI] scores for CBT v counselling: -0.25; P = 0.89). There was a high withdrawal rate from the trial (37%).

**Non-directive counselling versus psychodynamic therapy:**

We found two systematic reviews (search dates 2006, <sup>[29]</sup> and 2004 with two update searches, times not reported) <sup>[30]</sup> which both identified the same single RCT, reported in two papers. <sup>[42]</sup> <sup>[43]</sup> For a full description of the RCT, see non-directive counselling versus routine primary care, above. The RCT (193 women with major depression [DSM-III-R criteria] <sup>[44]</sup> recruited by community screening within 8 weeks postpartum) found a lower rate of depression with psychodynamic therapy than with counselling at 4.5 months postpartum; the significance of the difference between groups was not reported (freedom from depression on SCID: AR 54% with non-directive counselling v 71% with psychodynamic therapy; significance not reported; absolute numbers not reported). <sup>[42]</sup> The RCT found a similar proportion of women no longer depressed at 18 months between groups (69% with non-directive counselling v 71% with psychodynamic therapy; significance not reported; absolute numbers not reported). <sup>[42]</sup> <sup>[43]</sup>

**Non-directive counselling versus antidepressants:**

We found no systematic review or RCTs comparing non-directive counselling versus antidepressants.

**Individual non-directive counselling versus group counselling:**

We found one RCT (192 women fulfilling DSM-IV criteria for depression, recruited by a community screening programme for women attending 6- to 18-week postnatal consultations), comparing individual non-directive counselling versus group counselling delivered by therapists (with psychology or nursing backgrounds) over 12 weeks. <sup>[52]</sup> The RCT had a high withdrawal rate (37%). The RCT found no significant difference at 12 weeks between individual non-directive counselling and group counselling (difference in BDI scores: 2.94; P = 0.14; difference in BAI scores: 1.52; P = 0.46).

**Harms:** The RCTs gave no information on harms. <sup>[42]</sup> <sup>[43]</sup> <sup>[50]</sup> <sup>[52]</sup>

**Comment:** The second RCT (reported in 2 papers) <sup>[42]</sup> <sup>[43]</sup> identified by the review <sup>[53]</sup> had several methodological flaws. It was underpowered to detect differences between treatment groups, and there was no adjustment for multiple comparisons. More women in the routine primary-care group had experienced social adversity compared with the treatment groups (35% with routine primary care v 30% with non-directive counselling v 24% with CBT v 10% with psychodynamic therapy), and this was not controlled for in some analyses. Of the women randomised, 10% did not complete the trial. More women withdrew from the non-directive counselling and psychodynamic therapy groups (6 from the non-directive counselling group v 8 from the psychodynamic therapy group v 1 from the cognitive therapy group v 4 from the routine primary-care group). Reasons for non-completion were not investigated, and the authors did not perform an intention-to-treat analysis. Women who did not complete treatment were younger (P = 0.004) and more likely to be single or separated (P = 0.05). The infant outcomes that showed a beneficial effect of treatment (i.e. fewer mother-infant relationship problems at 4.5 months and fewer emotional and behavioural problems at 18 months) relied solely on maternal reports. The RCT comparing non-directive counselling with group counselling and CBT was also underpowered to detect differences between treatment groups, and only 121/192 (63%) allocated participants completed the post-intervention measures. <sup>[52]</sup> Non-attendance was recorded for 52/159 (33%) women allocated to psychological therapy, and was not explained

by treatment, conditions, partner's employment status, marital status, housing status, mother's or partner's age, mother's educational level, number of children, and income, although older age of partner was significant in reducing attendance ( $P = 0.005$ ). Infant outcomes were not examined in this RCT.

**Clinical guide:**

Non-directive counselling may be helpful in treating postnatal depression in the short term, although it may not have long-term beneficial effects compared with usual care.

**OPTION      INFANT MASSAGE BY MOTHER**

**We found no clinically important results about the effects of infant massage by the mother on treating postnatal depression.**

**For GRADE evaluation of interventions for postnatal depression, see table, p 19 .**

**Benefits:** We found no systematic reviews or RCTs.

**Harms:** We found no systematic reviews or RCTs.

**Comment:** A systematic review mainly assessing mothers without postnatal depression suggested that massage may have beneficial effects on infant cortisol and melatonin concentrations, and positive effects on infant sleep, crying, and mother–infant interaction.<sup>[54]</sup> However, these findings are based on a small number of studies, and meta-analysis was not performed due to the heterogeneity of studies. One RCT identified by the review (34 mothers and their infants aged 9 weeks) did evaluate mothers with postnatal depression, but had short-term follow-up of less than 6 weeks, and a high withdrawal rate. It found a significantly greater improvement in [Edinburgh Postnatal Depression Scale \(EPDS\)](#) score with massage plus a support group compared with the support group alone at 4 weeks (median change in EPDS 12 with massage v 6 with control;  $P = 0.03$ ).<sup>[55]</sup>

**OPTION      LIGHT THERAPY**

**We found no clinically important results about the effects of light therapy in postnatal depression.**

**For GRADE evaluation of interventions for postnatal depression, see table, p 19 .**

**Benefits:** We found one systematic review (search date not reported), which found no RCTs on the effects of light therapy in postnatal depression.<sup>[56]</sup>

**Harms:** We found no RCTs.

**Comment:** Case studies of two women with postnatal depression found a drop in depression scores after 4 weeks of daily light therapy.<sup>[56]</sup>

**Clinical guide:**

RCTs are needed to investigate light therapy for postnatal depression; there is insufficient evidence currently to justify its use in clinical practice.

**OPTION      MOTHER–INFANT INTERACTION COACHING**

**Depression score**

*Compared with usual care* Mother–infant interaction coaching is no more effective at reducing maternal depression scores ([moderate-quality evidence](#)).

**For GRADE evaluation of interventions for postnatal depression, see table, p 19 .**

**Benefits:** **Mother–infant interaction coaching versus usual treatment:** We found one systematic review (with two update searches, times not reported) which identified a single RCT.<sup>[30] [57]</sup> The RCT (122 women recruited from the community with [Edinburgh Postnatal Depression Scale](#) greater than 10 at 4–8 weeks postpartum) compared [interaction coaching](#) (using a variable number of 15-minute sessions depending on the needs of the mother and infant) versus treatment as usual (consisting of standard postpartum primary care and additional psychiatric treatment for depression if needed). Blinded researchers scored maternal responsiveness using the [Dyadic Mutuality Code](#) scale, based on videotaped mother–infant interactions. The RCT found a significant improvement in maternal responsiveness with interaction coaching compared with usual care at both 6 and 10 weeks (mean Dyadic Mutuality Code score: 9.7 with interaction coaching v 8.8 with usual treatment;  $P = 0.02$ ; at 10 weeks: 9.6 with interaction coaching v 8.8 with

usual treatment;  $P = 0.03$ ). Baseline scores were not significantly different in the two groups. However, the RCT found no significant difference in depression severity between interaction coaching and usual care at 6 or 10 weeks (depression scores not reported; reported as not significant;  $P$  value not reported). The RCT gave no information on infant outcomes.

**Harms:** The RCT gave no information on harms. <sup>[57]</sup>

**Comment:** Women in the RCT received additional psychiatric treatment for depression if required. <sup>[57]</sup>

**Clinical guide:**

There is insufficient evidence to justify mother–infant coaching in clinical practice.

## OPTION PHYSICAL EXERCISE

**Depression severity**

*Different physical exercise programmes compared with each other* A pram-pushing exercise programme with social support may be more effective at improving depression severity at 12 weeks compared with two sessions of exercise and some telephone support (*very low-quality evidence*).

For GRADE evaluation of interventions for postnatal depression, see table, p 19 .

**Benefits:** **Physical exercise versus standard care:**  
We found no systematic reviews or RCTs.

**Different physical exercise programmes versus each other:**

We found two systematic reviews (search dates 2006, <sup>[58]</sup> and 2004 with two update searches, times not reported) <sup>[30]</sup> which both identified the same single RCT. <sup>[59]</sup> The RCT (20 women, 6 weeks to 12 months postpartum, *Edinburgh Postnatal Depression Scale [EPDS]* score greater than 12, either self-referred or referred by health professionals) compared a multi-intervention exercise programme (3 pram-pushing exercise sessions and 1 social support session a week for 12 weeks) versus a control group offered an alternative programme of two exercise sessions and telephone support at 6 weeks. <sup>[59]</sup> It found that the exercise and social support programme was significantly more effective at reducing depressive symptoms (reduction in EPDS mean score at week 12: 13 with exercise programme v 4 with control;  $P$  less than 0.01; reduction in Depression Anxiety Stress Scale (DASS) at week 12: 1.8 with exercise programme v 0.6 with control;  $P$  less than 0.05; reduction in General Health Questionnaire [GHQ] score: 4.3 with exercise programme v 2.9 with control;  $P$  less than 0.05). There was no significant difference in social support levels between groups at week 12 (mean Social Support Interview score before treatment: 97 with exercise programme v 90 with control; after treatment: 102 with exercise programme v 89 with control;  $P$  greater than 0.05).

**Harms:** None reported.

**Comment:** This small pilot RCT testing a complex multifaceted intervention could not determine whether the exercise, social support alone, or exercise plus social support were effective in reducing depression symptoms. Women did not attend all sessions offered (66% attendance rate at exercise sessions reported). Over half the women were taking medication for postnatal depression and some were receiving counselling; information on these numbers by group was not reported and this was not corrected for in the analysis.

**Clinical guide:**

There is insufficient evidence to justify using this multifaceted intervention in routine clinical practice. However, exercise is generally believed to be of benefit in depressive disorders, and so it may be beneficial to women with postnatal depression.

## OPTION PSYCHODYNAMIC THERAPY

**Depression score**

*Compared with routine primary care* Psychodynamic therapy may be more effective at improving postnatal depression in the short term (immediately after treatment), but not in the longer term (*very low-quality evidence*).

**Proportion free of depression**

*Compared with non-directive counselling* Psychodynamic therapy may be as effective in the long term (*very low-quality evidence*).

*Compared with individual CBT* Psychodynamic therapy may be as effective at reducing the proportion of women who still have depression after 18 months (*very low-quality evidence*).

## Note

We found no clinically important results about the effects of psychodynamic therapy compared with antidepressants.

For GRADE evaluation of interventions for postnatal depression, see table, p 19 .

## Benefits:

### Psychodynamic therapy versus routine primary care:

We found three systematic reviews (search dates 2006,<sup>[28]</sup> <sup>[29]</sup> and 2004 with two update searches, times not reported<sup>[30]</sup> ) which all identified the same single RCT, reported in two papers.<sup>[42]</sup> <sup>[43]</sup>

The RCT (193 women within 8 weeks postpartum, who scored at least 12 on the [Edinburgh Postnatal Depression Scale \[EPDS\]](#) on a screening questionnaire) compared four interventions: individual CBT, non-directive counselling, and psychodynamic therapy, all versus routine primary care (delivered by general practitioners and health visitors).<sup>[42]</sup>

For a full description of the RCT and a comment on its methods, see [non-directive counselling, p 8](#) .

It found that [psychodynamic therapy](#) significantly reduced the rate of depression compared with routine care after therapy had finished at 4.5 months postpartum (proportion without depression: 32/45 [71%] with psychodynamic therapy v 20/50 [40%] with routine primary care; RR 1.89, 95% CI 1.33 to 2.33).<sup>[42]</sup> It also found that psychodynamic therapy significantly reduced depression severity compared with routine care at 4.5 months (mean EPDS: 9 with psychodynamic therapy v 11 with routine primary care; corrected difference -2.6, 95% CI -4.4 to -0.9; P = 0.003).

It also found that psychodynamic therapy significantly reduced the proportion of women who reported mother–infant relationship difficulties (assessed using a checklist) at 4.5 months compared with routine primary care (AR 47% with psychodynamic therapy v 74% with routine care; RR adjusted for baseline differences between groups 0.57, 95% CI 0.28 to 0.92; absolute numbers not reported).<sup>[43]</sup>

The RCT found no significant difference in the proportion of mothers reporting behaviour management problems between psychodynamic therapy and routine care at 4.5 months (AR 44% with psychodynamic therapy v 37% with primary care; RR adjusted for baseline differences between groups 1.21, 95% CI 0.62 to 1.87).<sup>[43]</sup>

In the longer term (at 9 months, 18 months, and 5 years postpartum), there were no significant differences for any outcomes except for infant emotional and behavioural problems, for which psychodynamic therapy achieved significant improvement at 18 months postpartum compared with routine primary care (P = 0.03). However, this outcome relied solely on maternal reports (see [comment on non-directive counselling, p 8](#) ).

### Psychodynamic therapy versus non-directive counselling:

See [benefits of non-directive counselling, p 8](#) .

### Psychodynamic therapy versus CBT:

See [benefits of CBT \(individual\), p 6](#) .

### Psychodynamic therapy versus antidepressants:

We found no systematic review or RCTs comparing psychodynamic therapy versus antidepressants.

## Harms:

The RCT gave no information on harms.<sup>[42]</sup> <sup>[43]</sup>

## Comment:

For comments on the methods of the RCT see [comment on non-directive counselling, p 8](#) .<sup>[42]</sup>  
<sup>[43]</sup>

## OPTION

## PSYCHOEDUCATION WITH PARTNER

### Depression score

*Compared with psychoeducation without partner* Psychoeducation with partner may be more effective at reducing depression scores at 10 weeks ([low-quality evidence](#)).

For GRADE evaluation of interventions for postnatal depression, see table, p 19 .

## Benefits:

### Psychoeducation with partner versus psychoeducation without partner:

We found one systematic review (2004 with two update searches, times not reported<sup>[30]</sup> ) which identified 1 RCT.<sup>[60]</sup>

The participants in the RCT (29 women less than 12 months postpartum, referred to hospital with major depression of postpartum onset) attended seven clinic visits for assessment of mood, adjustment of medication, and psychoeducation.<sup>[60]</sup> The women in the intervention group brought their partners to four of the visits. The RCT found significantly lower depression scores at 10 weeks' follow-up in the group attending with their partners compared with the control group who did not attend with their partners (mean [Edinburgh Postnatal Depression Scale \[EPDS\]](#): 8.6 with partner v 14.7 without partner; P = 0.01).<sup>[60]</sup> It also found significantly lower psychological morbidity in partners who attended clinics (mean General Health Questionnaire score: 18.4 in partners who attended v 43.0 in the partners who did not attend; P = 0.01). The RCT did not report on outcomes in infants.

**Harms:** The RCT gave no information on harms.<sup>[60]</sup>

**Comment:** In the RCT, women taking psychotropic medication were included and no adjustment was made for any potential confounding effect of medication.

**Clinical guide:**

There is insufficient evidence to justify using the psychoeducational package with the mother's partner in routine clinical practice.

**OPTION TELEPHONE-BASED PEER SUPPORT (MOTHER TO MOTHER)**

**Depression score**

*Compared with usual care* Telephone-based peer support may be more effective at reducing depression scores at 4 months ([low-quality evidence](#)).

For GRADE evaluation of interventions for postnatal depression, [see table, p 19](#).

**Benefits:** **Telephone-based peer support versus treatment as usual:**  
We found three systematic reviews (search dates 2006,<sup>[28]</sup> <sup>[29]</sup> and 2004 with two update searches, times not reported)<sup>[30]</sup> which all identified the same single RCT.<sup>[61]</sup> The RCT (42 women recruited from the community identified as high risk for postnatal depression [PND] with [Edinburgh Postnatal Depression Scale \[EPDS\]](#) greater than 9 at 8 weeks postpartum, mainly 25–34 years old) compared individually tailored mother-to-mother telephone-based support, using trained lay volunteers with a personal history of PND, versus treatment as usual (access to the standard community postpartum services). It found that telephone support significantly reduced depression scores compared with usual care at 4 months postpartum (proportion of women with EPDS greater than 12: 3/20 [15%] with telephone support v 11/21 [52%] with usual care; RR 0.29, 95% CI 0.09 to 0.88).<sup>[61]</sup> The RCT did not investigate outcomes in infants.

**Harms:** The RCT gave no information on harms.<sup>[61]</sup>

**Comment:** The acceptance rate for enrolment into the trial was 67%. Over a third of peer volunteers (38%) referred a mother to a professional health service, and this was not controlled for in the analysis. The sample size was very small, and duration of trial, including follow-up, was short.<sup>[61]</sup>

**GLOSSARY**

**Ainsworth Strange Situation Procedure** is a laboratory procedure used to assess infant attachment style. The procedure consists of prespecified episodes of parental separation and return. The infant's behaviour upon the parent's return is the basis for classifying the infant into attachment categories (e.g. secure and insecure).

**Behavioural Screening Questionnaire** is a maternal interview that examines infant difficulties, such as sleep disturbance, feeding problems, separation problems, and excessive temper tantrums. It has been found to distinguish between infants of mothers with and without depression.

**Clinical Global Impressions Scale** is a clinician rated scale of severity of illness.

**Clinical Interview Schedule-Revised (CIS-R)** is a semistructured interview covering non-psychotic symptoms particularly those associated with depression and anxiety.

**Group cognitive behavioural therapy** In the trial described here it consisted of weekly meetings run by health visitors in primary care. It included education, provision of information on postnatal depression, strategies for coping with difficult childcare situations and eliciting social support, use of cognitive behavioural techniques to tackle women's erroneous cognitions about motherhood, and strategies for coping with anxiety, such as the use of relaxation.

**Hamilton Depression Rating Scale** a measure of depressive symptoms using 17 items, with total scores from 0 to 54 (higher scores indicate increased severity of depression).

**Interpersonal psychotherapy** places the depression in an interpersonal context, reviews the person's current and past interpersonal relationships, and relates problematic aspects of these relationships to the person's depression.

**McCarthy Scales of Children's Abilities** is a general measure of children's cognitive development.

**Mental Development Index of the Bayley Scales of Infant Development** provides information about the child's language development and problem solving skills.

**Non-directive counselling** provides women with the opportunity to air their feelings about any current concerns, such as marital problems or financial difficulties, as well as problems they might raise about their infant.

**Preschool Behaviour Checklist** is a questionnaire completed by preschool and reception class teachers to identify significant child behaviour problems.

**Psychodynamic therapy** is therapy in which an understanding of the mother's representation of her infant and her relationship with her infant is promoted by exploring aspects of the mother's own early attachment history.

**Psychoeducation** consists of education about the psychological disorder the person is suffering from, in addition to monitoring and treatment of the person's mental disorder.

**Rutter A2 Scale** is a reliable and well validated questionnaire completed by the mother, which identifies clinically significant child behaviour problems at 5 years.

**Social Adjustment Scale-Self Report (SAS-SR)** is a questionnaire with subscales measuring work in the home, work outside of the home, relationship with spouse, relationship with children older than 2 years, relationship with immediate family, and relationships with friends.

**Structured Clinical Interview for Diagnostic and Statistical Manual (DSM)-III-R (SCID)** is a structured interview to generate an operationalised diagnosis that would fulfil DSM-III-R criteria.

**Beck Depression Inventory** Standardised scale to assess depression. This instrument consists of 21 items to assess the intensity of depression. Each item is a list of 4 statements (rated 0, 1, 2, or 3), arranged in increasing severity, about a particular symptom of depression. The range of scores possible are 0 = least severe depression to 63 = most severe depression. It is recommended for people aged 13 to 80 years. Scores of more than 12 or 13 indicate the presence of depression.

**Clinical Global Impression Scale** A one-item, observer-rated scale for measuring the severity of a condition. It has been investigated for validity and reliability. The scale is scored from 0 (not ill at all) to 7 (severely ill).

**Cognitive behavioural therapy (CBT)** A form of psychological therapy that uses a range of techniques including examination and challenging of unhelpful thoughts, help with changing behaviours, and examination of underlying dysfunctional assumptions.

**Dyadic Adjustment Scale** is a specific self-report measure of adjustment in relationship with partner. The four subscales are Dyadic Satisfaction, Dyadic Consensus, Dyadic Cohesion, and Affectional Expression.

**Dyadic Mutuality Code (DMC) Scores** are based on live or videotaped observations of face-to-face interactions between mother and infant. The DMC shows the level of responsiveness in the maternal–infant relationship where responsiveness is defined as the mother's ability to accommodate to her infant's behaviour and to give it meaning through regulation of her own behavioural responses. The DMC contains six key components of responsive interactions: mutual attention, positive affect, turn-taking, maternal pauses, infant clarity of cues, and maternal sensitivity.

**Edinburgh Postnatal Depression Scale (EPDS)** was designed as a screening questionnaire to identify possible depression in a clinical or research setting. The EPDS has a high sensitivity (95%) and specificity (93%) for postnatal depression, and is used by many health visitors and in many clinical research studies of postnatal depression. The EPDS consists of 10 questions, with responses scored on a 4-point scale according to increased severity of the symptom. Total scores range from 0 to 30 with a score 12 or greater indicating probable depression.

**Interaction coaching** for at-risk parents and their infants is a six-key-element intervention strategy designed to strengthen the early parent–infant relationship. This includes teaching the mother to identify the infant's behavioural cues and to tailor responses to match the infant's preferences by showing ways to modulate the use of pauses; imitation; sequences; and combinations of facial expressions, voice, and touch.

**Low-quality evidence** Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

**Moderate-quality evidence** Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

**Postpartum Adjustment Questionnaire** is a specific self-report measure of postpartum adjustment, with subscales measuring work in the home, relationship with spouse, relationships with children other than the baby, relationships with friends, work outside of the home, relationships with other family members, and relationship with the new baby.

**Very low-quality evidence** Any estimate of effect is very uncertain.

## SUBSTANTIVE CHANGES

**CBT (group)** Two systematic reviews added, which did not perform a meta-analysis. <sup>[29] [30]</sup> They identified no additional RCTs. Categorisation unchanged (Unknown effectiveness).

**Interpersonal psychotherapy** 3 systematic reviews added, which did not perform a meta-analysis. <sup>[28] [29] [30]</sup> They identified no additional RCTs. Categorisation unchanged (Likely to be beneficial).

**Mother-infant interaction coaching** One systematic review added, which did not perform a meta-analysis. <sup>[30]</sup> It identified no additional RCTs. Categorisation unchanged (Unlikely to be beneficial).

**Non-directive counselling** One systematic review added, which did not perform a meta-analysis. <sup>[28]</sup> It identified one additional RCT which found that non-directive counselling increased the proportion of women who had recovered at 8 weeks compared with usual care. <sup>[51]</sup> Categorisation unchanged (Likely to be beneficial).

**Physical exercise** Two systematic reviews added, which did not perform a meta-analysis. <sup>[30] [58]</sup> The reviews identified no additional RCTs. Categorisation unchanged (Unknown effectiveness).

**SSRIs** 3 systematic reviews added, which did not perform a meta-analysis. <sup>[28] [29] [30]</sup> They identified no additional RCTs. Categorisation unchanged (Likely to be beneficial).

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**TABLE 1** Diagnostic criteria for postnatal depression.

Psychiatric classification	Criteria for postnatal depression
ICD-10, WHO	Depressed mood for most of the day Loss of interest or pleasure in normally pleasurable activities such as playing with the baby Tiredness, decreased energy, and fatigue Additionally, any four of the following should be present: Loss of confidence and self-esteem Feelings of guilt and blaming oneself Recurrent thoughts of suicide or death, including that of the child Difficulty in concentration Agitation or lethargy Sleep disturbance Appetite disturbance
DSM-IV – Postpartum onset specifier	<i>Onset of depressive episode must be within 4 weeks postpartum</i> Symptoms do not differ from symptoms in non-postpartum mood episodes and may include: Fluctuations in mood Preoccupation with infant wellbeing Severe anxiety Panic attacks Fearfulness of being alone with infant

**TABLE** GRADE evaluation of interventions for postnatal depression

Important outcomes	Depression score, quality of life, suicide, adverse effects									
	Number of studies (participants)	Outcome	Comparison	Type of evidence	Quality	Consistency	Directness	Effect size	GRADE	Comment
What are the effects of drug treatments for postnatal depression?										
	1 (87) <sup>[31]</sup>	Depression scores	Fluoxetine plus CBT v placebo plus CBT	4	-2	0	-1	0	Very low	Quality points deducted for sparse data and poor follow-up. Directness point deducted for recruitment issues
	1 (109) <sup>[35]</sup>	Depression score	Sertraline v nortriptyline	4	-2	0	-1	0	Very low	Quality points deducted for sparse data and poor follow-up. Directness point deducted for recruitment issues
	1 (61) <sup>[39]</sup>	Depression score	Oestrogen v placebo	4	-1	0	-1	0	Low	Quality point deducted for sparse data. Directness point deducted for narrow inclusion criteria
What are the effects of non-drug treatments for postnatal depression?										
	1 (37) <sup>[41]</sup>	Depression score	Individual CBT v ideal standard care	4	-2	0	0	0	Low	Quality points deducted for sparse data and incomplete reporting of results
	1 (92) <sup>[42]</sup>	Depression score	Individual CBT v routine primary care	4	-1	-1	0	0	Low	Quality point deducted for sparse data. Consistency point deducted for conflicting results at different end points
	1 (84) <sup>[42]</sup>	Depression score	Individual CBT v non-directive counselling	4	-4	0	0	0	Very low	Quality points deducted for poor follow-up, incomplete reporting of results, sparse data, and other methodological flaws
	1 (192) <sup>[52]</sup>	Depression score	Group CBT v non-directive counselling	4	-2	0	0	0	Low	Quality points deducted for sparse data and poor follow-up
	1 (193) <sup>[43]</sup>	Proportion free of depression	Individual CBT v psychodynamic therapy	4	-2	-1	0	0	Very low	Quality points deducted for sparse data and incomplete reporting of results. Consistency point deducted for conflicting results at different end points
	1 (35) <sup>[45]</sup>	Depression score	Paroxetine plus CBT v paroxetine alone	4	-1	0	-1	0	Low	Quality points deducted for sparse data. Directness point deducted for exclusion of suicidal women
	1 (120) <sup>[47]</sup>	Proportion free of depression	Interpersonal therapy v waiting list	4	-1	0	-1	0	Low	Quality point deducted for sparse data. Directness point deducted for recruitment issues
	3 (293) <sup>[50] [51] [42]</sup>	Proportion free of depression	Non-directive counselling v routine primary care	4	-2	-1	0	0	Very low	Quality points deducted for baseline differences and statistical flaws. Consistency point deducted for conflicting results
	1 (193) <sup>[43]</sup>	Depression score	Non-directive counselling v routine primary care	4	-3	0	0	0	Very low	Quality points deducted for sparse data, baseline differences, and statistical flaws.
	1 (193) <sup>[43]</sup>	Proportion free of depression	Non-directive counselling v psychodynamic therapy	4	-3	0	0	0	Very low	Quality points deducted for sparse data, baseline differences, statistical flaws, and incomplete reporting of results
	1 (192) <sup>[52]</sup>	Depression score	Individual non-directive counselling v group counselling	4	-2	0	0	0	Low	Quality points deducted for sparse data and poor follow-up

Important outcomes			Depression score, quality of life, suicide, adverse effects							
Number of studies (participants)	Outcome	Comparison	Type of evidence	Quality	Consistency	Directness	Effect size	GRADE	Comment	
			4		0	0	0			
1 (45) <sup>[46]</sup>	Depression score	Group CBT v routine primary care	4	-2	0	0	0	Low	Quality point deducted for sparse data and issues about definition of response	
1 (1220) <sup>[57]</sup>	Depression score	Interaction coaching v usual care	4	-1	0	0	0	Moderate	Quality point deducted for sparse data	
1 (20) <sup>[59]</sup>	Depression score	Exercise plus social support v control	4	-2	0	-1	0	Very low	Quality point deducted for sparse data and issues about baseline differences. Directness point deducted for use of combined social and exercise interventions	
1 (193) <sup>[43]</sup>	Depression score	Psychodynamic therapy v routine primary care	4	-3	0	0	0	Very low	Quality points deducted for sparse data, baseline differences, and statistical flaws	
1 (29) <sup>[60]</sup>	Depression score	Psychoeducation with partner v psychoeducation without partner	4	-2	0	0	0	Low	Quality points deducted for sparse data and uncertainty about baseline differences	
1 (42) <sup>[61]</sup>	Depression score	Telephone-based peer support v usual care	4	-1	0	-1	0	Low	Quality point deducted for sparse data. Directness point deducted for recruitment issues	

Type of evidence: 4 = RCT; 2 = Observational; 1 = Non-analytical/expert opinion. Consistency: similarity of results across studies.  
 Directness: generalisability of population or outcomes.  
 Effect size: based on relative risk or odds ratio.