



Table 1 Description of the participants, interventions, outcome measures and timing of outcome assessment, in universal antenatal interventions

1 st Author, date	Participants, selection criteria and participation	Intervention, outcome measures and their timing
Gordon 1960	<p>One family physician-obstetrician practice, USA Women having a first child enrolled in childbirth education (antenatal classes); classes rather than individuals assigned to intervention or control, with checks for similarity of the grouped individuals Participation rate: all Participants: 85 (I) +76 (C) = 161</p> <p>Cluster-randomised trial, with randomisation of classes, stratified by whether the classes were for women only or women and partners.</p>	<p>Group intervention, two additional antenatal classes on social and psychological aspects of being a new mother with 12 key messages.</p> <p>Outcome assessment performed independently by 2 obstetricians, masked as to group allocation, and asked not to ascertain class attendance: Attrition: 15/85 (18%) missed one of the classes Sub-group of participants followed-up at 6 months: 82/171 (56%)</p> <p>Measures: 'Emotionally distressed' on a 4 point scale 6 to 8 weeks after birth 'Having problems' 6 months after birth. ▪ Analysis not adjusted for cluster-randomisation</p>
Hayes 2001	<p>Three study sites, major public hospitals, Australia Women having a first child, high school level literacy, no depressive episode in previous 12 months, fluent in English and non-indigenous. Participation rate: not reported Participants: 103 (I)+103 (C) = 206</p> <p>Centre-stratified, balanced randomisation, with allocation concealment</p>	<p>Education package developed for the study: information booklet for pregnant women, their partners and extended family; studio quality audiotape of one woman's journey through postnatal clinical depression and back again, delivered by an experienced midwife to guide women through the package, within the antenatal clinic or in their own home. Attrition: none reported Loss to follow-up=18/206 (8.7%) Outcome assessment: interview by the midwife Profile of Mood State (POMS) questionnaire 8 to 12 weeks after birth Profile of Mood State (POMS) questionnaire 16 to 24 weeks after birth Median scores compared</p>
Shields 1997	<p>One city hospital, Scotland UK Disadvantaged community, high-density housing Selection criteria : women booking for antenatal care before 16 weeks gestation, no known medical or obstetric problems, living within the hospital's catchment area. Participation rate: 1299/1584 (82%) Participants: 648 (I) + 651 (C) = 1299</p> <p>Randomisation by remote telephone</p>	<p>Introduction of midwife-managed care teams to increase continuity of care, responsible for antenatal, intrapartum and postnatal care, compared with standard maternity hospital care. Loss to follow-up= 203/648 (31%) vs 380/651 (58%), overall 34%</p> <p>Outcome assessment by questionnaires mailed at 7 weeks and 7 months after birth EPDS $\geq 13^*$, and EPDS mean score * Item 10 excluded, giving a slightly conservative 'caseness' score</p>

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<p>Waldenström 1999, 2000</p>	<p>One major public hospital, Australia All women booking for public clinic care (no health insurance) were informed about the trial. Those who spoke English, had a 1st antenatal visit before 25 weeks and expressed interest in team care were assessed by a midwife and seen by an obstetrician to confirm eligibility for participation.</p> <p>Participants: 495 (I) + 505 (C) = 1000 (recruitment proportion of those eligible not known) Randomisation: team midwives telephoned clerical officer who opened an opaque, numbered envelope and informed the midwife of the allocation.</p>	<p>Introduction of Team Midwife Care from a team of eight midwives, recruited from midwifery staff (volunteers) who provided antenatal and intrapartum care in collaboration with medical staff. The aim was to improve satisfaction with care and increase continuity of carer.</p> <p>Pregnancy losses: 20/495 (I), 25/505 (C); attrition from the allocated model of care 31/464 (I) vs 27/471 (C), women were excluded from follow-up if the baby died, mother or baby were severely ill (including severe psychiatric illness).</p> <p>Did not return outcome questionnaire: 95/456 (21%) vs 138/461 (30%) Outcome assessment by questionnaires mailed at 8 weeks after birth EPDS \geq 13</p>
<p>Biro 1999</p>	<p>One major public hospital, Australia All women booking for public clinic care (no health insurance) who spoke English or Vietnamese were eligible, with a maximum of 25/month recruited. There were no exclusions on the basis of risk. During the recruitment period 20% of all women booking took part in the trial. Participants: 502 (I) + 498 (C) = 1000</p> <p>Randomisation: computer-generated random allocation, with allocations in individual opaque envelopes; team midwives telephoned medical record staff who drew an envelope from a locked box</p>	<p>Introduction of Collaborative Pregnancy Care/Team Midwifery from a team of seven midwives providing antenatal, intrapartum and postpartum care in consultation and collaboration with medical staff and other members of the health team. The aim was to increase continuity of midwifery care and satisfaction with care.</p> <p>Pregnancy losses: 30/502 (6%) (I), 36/498 (7%) (C); not traced, recruited in a subsequent pregnancy and excluded, 23 (I), 23 (C); women were excluded from follow-up if the baby died (5 (I), 4 (C), and 6 were missed; 1 (I), 5 (C).</p> <p>Did not return outcome questionnaire: 102/443 (23%) (I), 142/430 (33%) (C) Outcome assessment by questionnaires mailed four months after birth EPDS \geq 13</p>

Table 2 Description of the participants, interventions, outcome measures and timing of outcome assessment, in selected and indicated antenatal interventions

1st Author, date	Participants, selection criteria and participation	Intervention, outcome measures and their timing
Elliott 1988, 2000	<p>One hospital, England, UK Women having a 1st or 2nd child, excluding those <18 or >40, or no partner, or planning to move; screened as ‘vulnerable’ by study-specific questionnaire Participation rate: 99/117 (85%) Participants: 48 (I)+51 (C) = 99</p> <p>Allocation to groups by baby’s expected date of birth not randomised, allocation concealment not possible</p>	<p>Group intervention; 11 sessions (6 after birth) in one of two programs (Preparation for Parenthood, 1st time mothers, Surviving Parenthood, 2nd time mothers), starting at 24 weeks gestation, led by a psychologist and health visitor, with partners invited to the 2nd session; focus on ‘normalising and empowering’ and on group transition into a support group. Early sessions included material from audio tapes and video tapes e.g. returning from hospital, sibling rivalry, depression, abilities of the newborn, crying. Attendance at groups: 18/21 1st time mothers, mean 7/11 sessions; 15/26 2nd time mothers, mean 4.11 sessions. Loss to follow-up: none</p> <p>Outcome assessment by trained interviewer 3 months after birth. Present State Examination: borderline or case depression in 1st three months EPDS median and range</p> <ul style="list-style-type: none"> Data not adjusted for within-group effects
Stamp 1995	<p>One major public hospital, Adelaide, Australia Women having a first or a subsequent child, singleton pregnancy <24 weeks, English-speaking, living in the metropolitan area, public patients, screened as vulnerable using the questionnaire of Leverton & Elliott [above] with minor modifications Participation rate: 144/249 (58%) Participants: 73 (I) +71(C) = 144 [-5 unavoidable exclusions]</p> <p>Randomisation by remote telephone access to a researcher who opened the next in a series of sequentially numbered envelopes; stratification by parity.</p>	<p>Group intervention modelled on that of Leverton & Elliott but with only three sessions (32 weeks, 36 weeks, and 6 months after birth), with partners invited to all sessions. Attendance at groups: 38% at 32 weeks, 32% at 36 weeks, 21% after birth; partners’ attendance: 2 at antenatal groups, 1 at all 3 groups Loss to follow-up: 11/139 (7.9%) at 6 weeks, and 12 weeks, 18/139 (12.9%) at 6 months.</p> <p>Outcome assessed by postal questionnaire 6 weeks, 12 weeks and 6 months after birth EPDS ≥ 13, EPDS mean score EPDS >9 [minor depression]</p> <ul style="list-style-type: none"> Data not adjusted for within-group effects

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Buist 1998	<p>One major public hospital, Melbourne, Australia Women having a 1st child, English-speaking, attending for antenatal care between 12 and 24 weeks gestation, screened by study-specific questionnaire as at risk of developing postnatal depression. Participation rate 43/66 (65%) Participants: 23 (I)+21 (C) = 44 Randomised [no details of procedures]</p>	<p>Group intervention with 10 sessions, eight antenatal and two postnatal, replacing the hospital's childbirth education classes, led by midwife/childbirth educator and a psychologist/nurse (2 sets), both with experience in a mother and baby unit for postnatal depression. The focus of the groups was emotional issues and the reality of parenting; didactic teaching, interactive group work, films and experiential exercises. Attendance at groups: not reported Loss to follow-up: 6/44 (14%) at 6 weeks, 16/44 (36%) at 6 months.</p> <p>Outcome assessed by postal questionnaire at 6 weeks and 6 months EPDS ≥ 13, EPDS mean score BDI (Beck Depression Inventory) mean score</p> <ul style="list-style-type: none">▪ Data not adjusted for within-group effects
Brugha 2000	<p>One large city hospital, England, UK Women >16, attending for antenatal care in a first pregnancy, planning to continue the pregnancy, living within reasonable travelling distance of the hospital, capable of understanding and completing screening questionnaires in English and of giving written informed consent, screened as at increased risk of depression Participation rate 209/272 (72%) Participants: 103 (I) and 106 (C) = 209</p> <p>Randomisation: computerised, stratified, using minimisation on three prognostic factors, level of social support, current depressive symptoms on GHQ-D, ethnic group</p>	<p>Group intervention, documented, with manual, six structured, 2 hour, weekly antenatal classes, (<i>Preparing for Parenthood</i>), preceded by initial meeting with women and partner, ending with a reunion eight weeks after birth; key elements: (i) acknowledgement of social and emotional problems of pregnancy, (ii) information about postnatal depression (iii) learning to develop, use and maintain support skills, (iv) learning and practising problem solving skills (v) exploration of unhelpful thoughts and beliefs about pregnancy and motherhood. Preceded by an initial introductory meeting including the woman's partner, ending with a postnatal reunion class 8 weeks after birth. Attendance ≥ 2 sessions + session 3 on postnatal depression: 42/94 (45%) Loss to follow-up: 19/209 (9.1%)</p> <p>Outcome assessed by self-completed questionnaires and a semi-structured clinical interview, 'caseness' measures GHQ-D ≥ 2, EPDS ≥ 11, SCAN ICD-10 F32/F33</p> <ul style="list-style-type: none">▪ Data not adjusted for within-group effects

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Zlotnick 2000	<p>One general hospital, NorthEast USA Women receiving public assistance, screened at 20-32 weeks for prior depression or postpartum depression, mild to moderate current depressive symptoms, poor social support, or life stressor in the last eight months, but excluding those with current major depression. Participation rate 37/82 (45%) after 4 exclusions for major depression. Participants: 18 (I) +19 (C) = 37</p> <p>Randomisation [no further details]</p>	<p>Group intervention, four one-hourly antenatal sessions over a four week period (<i>Survival Skills for New Moms</i>) with an intervention basis in interpersonal therapy: psycho-education on 'baby blues' and depression; role transitions and goals; setting goals, developing supports, identifying potential conflicts; skills for resolving interpersonal conflicts. Attrition: $1/18 + 1/19 = 2/37$ (5%) No loss to follow-up. Outcome assessed by interview 3 months after birth and self-report questionnaire Structured Clinical Interview for DSM-IV for the 3 month period after birth Beck Depression Inventory, mean score and pre-post intervention change in score</p> <ul style="list-style-type: none"> Data not adjusted for within-group effects
Webster2 003	<p>One major obstetric hospital, Australia Women were screened during their booking visit by the Maternity Social Support Scale and by personal and family psychiatric history, and if defined as 'at risk', and consenting, were recruited. Exclusion factors: unable to read or write English or >36 weeks gestation. Participation rate 600/691 (87%) eligible Participants 299 (I) + 301 (C)</p> <p>Randomisation: computer-generated list of random numbers, assignment contained in opaque, sequentially numbered envelopes.</p>	<p>Intervention: educational materials about postnatal depression, discussion with women of their risk of developing postnatal depression, completion of the EPDS, letter sent to the referring GP and Child Health Nurse [with the woman's consent], offer of referral to psychiatrist or social worker, case-management team review of her medical record. Attrition: $19 + 17$ (miscarriage, $21 + 34$ (delivered elsewhere) = $91/600$ (15%) Loss to follow-up $138/509$ (27%) Assessment by postal questionnaire at 16 weeks EPDS ≥ 13, EPDS mean score</p>
Marks 2003	<p>One major general hospital, England ,UK Women were eligible if they had history of major depressive disorder or a current depressive illness (defined according to DSM-III-R), and were offered participation after screening at the antenatal booking visit. Two years of screening; 98/210 eligible (47%) participated Participants 51 (I), 47 (C) = 98</p> <p>Randomisation 'was determined independently of the research worker and computer generated', complete randomisation of the first 70 women was changed to allocation using minimisation for the last 28, the variables being primiparous/multiparous, social class manual/non-manual, and marital status single/married or cohabiting</p>	<p>Intervention: specialist team of 6 midwives providing continuity of care, social support, enhanced likelihood of detection of early symptoms and rapid referral for assessment and treatment of mental health problems. Each woman had a named midwife who aimed to see the women throughout pregnancy, birth and postnatally. No additional training was provided Standard care involved a choice of all antenatal care options with the hospital's maternity service (hospital, GP, GP/midwife, or community clinics).</p> <p>Attrition (did not receive allocated intervention): $2/47 + 6/51 = 8/98$ (8%) Became ineligible: 1 stillbirth (I), 2 miscarriages (C) Loss to follow-up: 3 (I), 5 (C) Analysed: 43 (I) + 44 (C) , $87/98$ (89%)</p> <p>Assessment by interview {SCID} at 3 months EPDS mean score at 4 weeks and 3 months</p>

	Indicated antenatal interventions	
Spinelli 2003	<p>Single major psychiatric institute in metropolitan New York, USA</p> <p>Women were referred from outpatient clinics of the institute as well as from other institutions in the area. Referrals came from professionals, community outreach programs, staff of prenatal clinics and former patients. Women also referred themselves as the program was advertised through newspapers, magazines and radio.</p> <p>From 200 potential participants 50 women with major depression, defined by DSM-IV criteria and a Hamilton Depression Rating Scale ≥ 12 entered the study; all were English or Spanish-speaking, physically healthy and between 18 and 45 years.</p> <p>Exclusion criteria: drug or alcohol abuse in the past six months, acute risk for suicide, co-morbid Axis I disorders, medical conditions likely to interfere with participation in the study, current users of antidepressant medication.</p> <p>High levels of social risk factors</p> <p>Participants 25 (I) + 25 (C)=50</p> <p>Randomisation: “using a table of random numbers”</p>	<p>Intervention: 16 weekly sessions of interpersonal psychotherapy provided by two experienced therapists to a uniform high standard, with supervision by the 1st author during the intervention including regular meetings</p> <p>Comparison: 16 weekly sessions of didactic parenting education covering developmental stages of pregnancy childbirth and early parenting; with avoidance of any psychological intervention.</p> <p>Attrition: 4/25 (I) and 8/25 (C), 12/50 (24%) did not attend any of the sessions.</p> <p>Loss to follow-up after 16 weeks: 8/21 (I), 2/17 (C), 10/38 (26%)</p> <p>Outcome assessment after 16 weeks: EPDS, Hamilton Depression Rating Scale, Beck Depression Inventory, using change in scores</p> <p>Assessment postpartum: timing not clear</p> <p>Follow-up after birth: 8 (I), 3 (C), 11/50 (22%) of those randomised; clinical assessment of depression.</p>

Table 3 Description of the participants, interventions, outcome measures and timing of outcome assessment, in interventions during labour

1st Author, date	Participants, selection criteria and participation	Intervention, outcome measures and their timing
Hoffman 1992	One city hospital, Ohio, USA Women of lower and middle level socio-economic status, having a first baby, recruited in 3 rd trimester of pregnancy. Participants: 94 (I) + 94 © = 188 Randomised [no further details]	Additional support through labour and birth from a 'doula' (a lay companion, trained through the project) vs routine obstetric care. Loss to follow-up: not reported Assessment at 8 to 10 weeks postpartum (no further details)
Wolman 1993 Nikodem 1998	One city hospital in Johannesburg, South Africa Women having a 1 st baby were recruited at a community hospital serving those unable to access private care. If they had no significant obstetric complications and were in established labour with cervical dilatation <6 cm, they were offered randomisation to having a lay companion from the community to be with them through labour. Participation rate 99% Participants: 92 (I) + 97 © = 189 Randomised on arrival in labour by randomly ordered cards with allocation concealed in sealed opaque envelope	Additional support through labour and birth from a lay companion (no special training), vs routine obstetric care, in a setting where there was limited availability of nursing staff. Attrition: none Assessment at the postnatal visit, by interview and questionnaire, Loss to follow-up 18/92 (I) 20/97 © Outcome assessed with Pitt Depression Inventory at 6 weeks Outcome assessed with EPDS, at 16 weeks
Gordon 1999	Three medical centres of a large Health Maintenance Organisation in Northern California Women having their 1 st child, were recruited in pregnancy, if expected to have an uncomplicated vaginal birth; those in early spontaneous labour on admission to the hospital, were confirmed as eligible Participants: 232 (I) + 246 © = 478 at randomisation Randomisation in labour within 30 minutes of admission, by drawing a sealed envelope containing the allocation	Additional support through labour and birth from a 'doula' (lay companion, who had attended a community-based training program), vs usual care. Women excluded post-randomisation (69+73) for failure to meet dilatation criteria 37 (I), 57 ©, age<18 14 (I), 12 ©, or lack of available on-call doula 14 (I), leaving 149 (I) + 165 © = .314 Loss to follow-up: 6/143 (4%) vs 20/165 (12%) Independent assessment by telephone interview at 4 to 6 weeks postpartum SF-36 Mental Health Index score
Hodnett 2002	13 US and Canadian hospitals with ≥ 15% of women receiving a caesarean delivery, and an epidural analgesia. Women >33 weeks gestation, live singleton or twin fetus, not at very high risk, no contraindications to labour, in established but not late 1 st stage labour. [Participation rate estimated as 12%] Participants: 3454 (I) + 3461 © = 6915 Randomisation on admission in labour, centrally controlled, computerised, with stratification by centre and parity accessed by touchtone telephone,	Continuous support through labour by a trained labour support nurse compared with usual care by a nurse not trained in labour support Attrition: none Received the allocated form of care: 94.9% (I), 98.6% © Loss to follow-up by 6 to 8 weeks: 17.9% (I), 20.1% © Outcome assessment: EPDS ≥ 13 at 6 to eight weeks

Table 4 Description of the participants, interventions, outcome measures and timing of outcome assessment in universal postnatal interventions

1st Author, date	Participants, selection criteria and participation	Intervention, outcome measures and their timing
Gunn 1998	One city and one town, general hospitals, Victoria, Australia Women who were public patients, had a live-born child after 37 weeks gestation, not requiring admission to special care or intensive care, able to read and write English, willing to visit GP for postnatal check-up, able to nominate the GP, leaving hospital the same day as the baby, not planning an early visit to the GP. [Exclusions: patients of GPs on the study Reference Group, those attending the teenage antenatal clinic (rural town), and women delivered by emergency caesarean (city)]. Participation rate 683/1017 (67%) Participants: 342 (I) + 341 © = 683 Randomisation: remote telephone randomisation, with variable blocks, stratified by hospital	Referral for an en early postnatal check-up with a GP one week after leaving hospital, compared with the standard six-week check-up. Received postnatal check at scheduled time: 76.4% (I) vs 88.4% © Attrition: 17 withdrawals (included in loss to follow-up) Loss to follow-up: 207/683 (30.3%) at three months, 33.3% at the city hospital, 27.9% at the rural hospital; 237/683 (34.7%) at six months, 41.3% at the city hospital, 29.5% at the rural hospital Outcome assessed by postal questionnaire 3 and 6 months after birth. SF-36 domains EPDS ≥ 13, EPDS mean score
Lavender 1998	One major city hospital, UK Women having their 1 st birth, singleton pregnancy, spontaneous term labour, normal vaginal birth; exclusions: 3 rd degree perineal tear, manual removal of the placenta, baby admitted to special care nursery, mother admitted to high-dependency unit Participation rate 114/120 (95%) Participants = 58 (I) +56 © = 114 Randomisation: computer-generated random number sequence, in consecutively numbered opaque envelopes.	‘Listening and discussion’ visits in the postnatal ward on the 2 nd postnatal day, by a midwife; interactive interview lasting 30-120 minutes, with hospital notes available for clarification, no formal interview schedule: compared with standard postnatal ward care Loss to follow-up: none Outcome assessed by postal questionnaire 3 weeks after birth. Hospital Anxiety and Depression Scale: anxiety scale ≥11, depression scale ≥ 11
Priest 2003	Two major maternity hospitals, one public, one private, Perth, Australia Eligibility: women who spoke English and gave birth to healthy term infants. Exclusion criteria: insufficient English to complete questionnaires, <18 years, infant needing neonatal intensive care, being under psychological care at the time of birth. Recruitment: in hospital , 24 to 72 hours after birth, 2824 invited Participation rate 278 excluded; 801 refused. Participation rate: 1745/2546 (69%) Participants: 875 (I) + 870 © = 1745 Randomisation within strata: primiparity/multiparity, spontaneous vaginal birth/assisted vaginal birth/ elective caesarean, other caesarean section; selection of sealed opaque envelope	A single, structured, stress debriefing interview, conducted by a trained research midwife, within 96 hours of birth, using the seven key stages from the critical stress debriefing model of Mitchell; duration 15 minutes to one hour Loss to follow-up: 15/1745 (0.9%) Outcome assessment: maternal questionnaires after birth, and at 2, 6 and 12 months (EPDS, BDI, GHQ-28); depression assessed by research clinical psychologist, blind to intervention, at structured interview using Research Diagnostic Criteria, in all women scoring EPDS>12, and a random stratified sample of those scoring <13 on EPDS.

Morrell 2000	<p>One major general hospital, Sheffield, UK Women >16 years who delivered a live infant and lived in the area served by the community midwives of the recruiting hospital, excluding those who did not speak English or whose baby was admitted to a special care baby unit for >48 hours. Participation rate 623/1673 (37%) Participants: 311 (I) +312 © = 623</p> <p>Randomisation: allocation schedule prepared in advance with random digit tables, placed in sequentially numbered sealed opaque envelopes, concealed allocation until after recruitment.</p>	<p>10 home visits in the 1st month, up to 3 hours duration, offering effective practical and emotional support, including helping the mother to gain confidence and reinforcing midwifery advice on infant feeding, by a community postnatal support worker, in addition to standard community midwifery care. 15% received 10 visits; most women received six. Attrition: 38/311 (12%) declined visits Loss to follow-up: 72/623 (13%) at 6 weeks (11% (I), 16% ©); 142/623 (23%) at 6 months, (19% (I), 27% ©) Outcome assessed by postal questionnaires at 6 weeks, and 16-24 weeks EPDS ≥13, and EPDS mean score SF-36.</p>
Reid 1999	<p>Two community centres in Ayrshire and Grampian, Scotland All women having their first child and living in Ayrshire, all women attending one Grampian maternity hospital and living within a 30 mile radius of Aberdeen were eligible; recruited between 34 and 37 weeks gestation. Subsequent exclusions: baby death or admitted to special care nursery for >2 weeks. Participation rate: 1004/1173 (86%)</p> <p>Randomisation: computer generated, randomised permuted blocks, stratified by centre</p>	<p>Two interventions – a self-help manual ('pack') and an invitation to a support group – were provided by mail two weeks after birth: women received either one, or both, or neither: 2 x 2 factorial design with 4 groups of 250 women Attrition: only 92/503 (18%) attended support groups; 313/503 (62%) reported receiving the pack. Loss to follow-up: 170/1004 (17%) at baseline 268/1004 (27%) at 3 months, 387/1001 (39%) at 6 months.</p> <p>Outcome assessed by postal questionnaires at 3 months and 6 months EPDS ≥13, and EPDS mean score SF-36.</p>
MacArthur 2002	<p>General practices, West Midlands Region, England, UK Women were informed about the study between 34 weeks gestation and the first home visit, were eligible if they had postnatal care in the recruited practices during the study period and gave written consent. Participation rate: 37/83 eligible practices (45%) Participants: obstetric data for 1027 (I) + 977 © = 2004 Cluster-randomised trial of general practices, randomly assigned using a customised computer program, with minimisation for deprivation score (Townsend) and estimated maternity caseload; analysis used multilevel modelling to take clustering into account</p>	<p>Midwife-led community postnatal care for 3 months after birth, following training in the use of symptom checklists and the EPDS to identify health needs, with evidence-based guidelines for the management of identified issues, compared with routine postnatal care.</p> <p>Loss to follow-up, adjusted for women known to have moved out of the area 33% of both groups at 4 months, 34 (I), 32 © at 12 months.</p> <p>Outcome assessed by postal questionnaires at 4 months and 12 months EPDS ≥13, and EPDS mean score SF-36 summary mental and physical component scores</p>

Table 5 Description of the participants, interventions, outcome measures and timing of outcome assessment in selected postnatal interventions

1st Author, date	Participants, selection criteria and participation	Intervention, outcome measures and their timing
Armstrong 1999, 2000	One maternity hospital, Queensland, Australia 'Vulnerable' women, with social and emotional risk factors, were identified by screening questionnaire offered to public patients in hospital after the birth of their first child; excluding those with twins, infant death, non-English speaking or poor literacy. 'Willingness to take part in longitudinal study: 463/1008 (46%) of whom 181 were 'vulnerable' and recruited. Participants: 90 (I) + 91 (C) = 181 Randomisation by computer-generated number sequence applied independently of selection for eligibility	Structured program of child health nurse home visits, following specific training and following a manual, weekly for 6 weeks, 2-weekly until 12 weeks, monthly to 6 months; brief social work intervention at home if required. Program focus was to establish a relationship of trust with the infant's family, enhance parenting self-esteem and confidence by positive reinforcement, provide anticipatory guidance for normal child development problems, promote preventive child health care, and facilitate access to appropriate community services. Loss to follow-up 4% at 6 weeks, 16% at 4 months Outcome assessed by questionnaires administered by home interviewer masked as to allocation, 6 and 17 weeks after birth. EPDS \geq 13, and EPDS mean score
Small 2000	One maternity hospital, Victoria, Australia Women who had an operative birth, including both public and private patients, excluding those with insufficient English, those who had a stillbirth or a baby <1500 g, those with a sick baby, those who were themselves too sick for interview, and those whose obstetrician refused permission for participation Participation rate: 77% of those invited Randomisation by remote telephone access to computer-generated sequence, stratified by midwife.	Offer of 'debriefing' by one of two skilled and experienced midwives during the postnatal hospital stay compared with routine postoperative postnatal care; leaflet about practical sources of help after giving birth provided to women in both arms of the trial. Loss to follow-up: 53/520 (10%) (I), 71/521 (14%) (C) Outcome assessed by postal questionnaire 6 months after birth. EPDS \geq 13, and EPDS mean score SF-36 mean domain scores
Chabrol (A) 2002	Three obstetric units in Toulouse and Narbonne, France. All women admitted over 4 months, excluding those with inadequate French, premature or sick infant, or receiving psychiatric treatment screened in the 2 nd and 5 th postnatal days and offered participation if EPDS score \geq 9. Participation offered to 130 (I) + 128 (C) = 258 17/130 (13%) refused the intervention Quasi-randomised with alternate allocation.	Preventive intervention, with a single counselling session integrating supportive, educational and cognitive-behavioural components provided by one of five female Masters level psychology students, who were given didactic and clinical training, as well as weekly supervision. Loss to follow-up at 4 to 6 weeks: 14% (I), and 11% (C) Outcome assessment by postal questionnaire EPDS score \geq 11, EPDS mean score

Dennis 2003	<p>One health region , British Columbia, Canada Eligible women were those attending immunization clinics 8 weeks after a singleton term birth, > 18 years, English-speaking, scored >9 on the EPDS, and were accessible by a local telephone call.</p> <p>Exclusion criteria: current use of antidepressant medication, history of psychotherapy in the past year, or a history of chronic depression, psychiatric clinical disorder or postpartum psychosis.</p> <p>501 women were screened, 96 eligible by EPDS score, 33 had exclusion factor, refused 29/63 (46%). Participation rate 42/63 (67%) Participants 20 (I) + 22 (C)=42</p> <p>Randomisation: sealed opaque numbered envelopes containing allocation, prepared by an independent research assistant</p>	<p>Intervention: lay peer volunteer providing social support incorporating informational appraisal, (feedback) and emotional assistance. Peers had a history of postnatal depression, had recovered from postnatal depression, desire to help new mothers and had attended a 4-hour training session. They were paired with new mothers based on residency and availability, contacted mothers within 48 hours and as frequently as the individual mother deemed necessary. Women had access to standard community postpartum services. Comparison: access to standard community postpartum services.</p> <p>Loss to follow-up 1/42 (2%)</p> <p>Outcome assessment: telephone interview by research assistants masked to allocation, at 4 and 8 weeks. Measures EPDS, Maternal Self-esteem, Child Care stress, Maternal loneliness, perceptions of peer support.</p>
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Table 6 Description of the participants, interventions, outcome measures and timing of outcome assessment in indicated postnatal interventions

1st Author, date	Participants, selection criteria and participation	Intervention, outcome measures and their timing
Holden 1989	Five health centres in two towns in Scotland Consecutive women attending child health clinics (n=734) were screened at 6 weeks after birth by Health Visitors using the EPDS, those who scored >12 were assessed by a psychiatrist at home at about 12 weeks, using Research Diagnostic Criteria for depression. Participation rate 55/60 (92%) of those identified as depressed Participants: 26 (I) +24 (C) = 50 Randomisation: no details	Individual counselling in their own homes for 8 weekly, 1 hour sessions by Health Visitors who had received brief training in Rogerian (non-directive) counselling, compared with routine primary care from the same group of Health Visitors, not informed of the depression diagnosis. No loss to follow-up Independent outcome assessment of depression by psychiatric interview, masked to allocation, 13 weeks after the intervention began, and EPDS mean score
Fleming 1992	Large suburban general hospital, Ontario, Canada Women who had recently given birth vaginally at term to their 1 st child, were living with a partner, English-speaking, with no known past serious gynaecological or psychiatric history, who completed mood scales at home 2 weeks after birth, scoring above the depression cut-off on the Current Experience Scale (CES) and at least one other (Multiple Adjective Check list or EPDS). Participation rate 48% of those screening as depressed, and 12% of respondents who were not depressed (76 x 2= 152). Participants: 44 (I)+ 83 (C)+15 (Mail) = 142 Quasi-randomised to begin with, blocks of 8 women allocated to intervention or control; with a third intervention block recruited subsequently who received a mailed package of material.	Groups of 6 to 8 mothers, with 6 to 8 week old infants, met for two hours weekly for 8 weeks led by two psychologists. The goal being to bring women into contact with other women having similar experiences, to share problems and conflicts and talk about solutions; unstructured format, with a different theme for each session. In the mail-only intervention a short script or scene was sent each week for 8 weeks, adapted from verbatim transcripts of the sessions above, about discussion of the themes and solutions within a supportive group, together with a set of questions. Loss to follow-up: unclear, only 142 women assigned; women in 'mail' group not included in analyses of mood Outcome assessment by mailed questionnaires at 6 weeks and 5 months CES, MAACL, EPDS ▪ Data not adjusted for within group effects
Wickberg 1996	Child health clinics in two towns in Sweden Consecutive women in a population series who scored >12 on the EPDS at 2 and 3 months after birth, and were Swedish-speaking were assessed at home by a clinical psychologist, masked to their EPDS score, with the Montgomery-Asberg Depression Rating Scale modified to give a DSM-III-R diagnosis of depression. Participation rate 41/57 (72%), 9 were excluded, 3 dropped out post-randomisation and 4 (2 I + 2 C) were referred to mental health services. Participants: 20 (I) +21 (C) = 41 Quasi-randomised, with alternate allocation	Individual non-directive counselling for six weekly, 1 hour sessions from Child Health Nurses who had received four half-day training sessions, compared with routine care with no scheduled check-ups but the offer of visiting the clinic whenever needed. No other loss to follow-up Independent outcome assessments by a clinical psychologist, masked as to allocation.

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Field 1996	<p>One inner-city public hospital, Florida, USA</p> <p>Young women identified as depressed in the maternity ward by a diagnosis of dysthymia on the Diagnostic Interview Scale and a score >16 on the Beck Depression Inventory, not currently on medication or other treatment for depression or related disorders.</p> <p>Participation rate not reported</p> <p>Participants: 16 (Massage) + 16 (Relaxation) = 32</p> <p>Randomisation: no further details</p>	<p>Massage: 30 minutes massage/day on two consecutive days of the week for five consecutive weeks, administered by trained massage therapists, at the same time of day.</p> <p>Relaxation: same amount of time spent in relaxation therapy, including yoga and progressive muscle relaxation, same frequency and timing.</p> <p>There was no non-treatment group.</p> <p>Attrition: none. No loss to follow-up</p> <p>Assessment using the Profile of Mood States and the State-Trait Anxiety Inventory for Children (STAIC) pre- and post- therapy on the first day of week 1 and the last day of week five.</p>
Appleby 1997	<p>Two large hospitals in one urban health district in England</p> <p>Women recruited in postnatal wards, screened at home 6 to 8 weeks after birth (EPDS ≥10), were assessed as meeting Research Diagnostic Criteria for major (51) or minor (36) depression; excluding those with chronic or resistant depression, current drug or alcohol drug abuse, severe illness, and women who were breastfeeding.</p> <p>Participation rate in screening 80%; 87/188 (46%) of those with depression agreed to participation, largely because of unwillingness to be allocated to medication</p> <p>N: 22+21+23+21 [factorial design] = 87</p> <p>Randomisation by computer generated random numbers</p>	<p>Factorial design in which women were allocated to fluoxetine or placebo and simultaneously to 1 or 6 sessions of cognitive-behavioural counselling, CREST (Childcare advice, Reassurance, Enjoyment, Support from others and Targets), delivered by psychologists over 3 months. There was no non-treatment group.</p> <p>Attrition: 26/87 (30%), 16 in first week, 1 in next 3 weeks, 9 before final assessment</p> <p>No other loss to follow-up</p> <p>Independent assessment at 1, 4 and 12 weeks by a psychiatrist masked to allocation, using the Revised Clinical Interview Schedule.</p>
Cooper 1997	<p>One large town in England</p> <p>Community sample of 3222 1st time mothers, screened for mood disturbance in the early postpartum period, with further assessment for those suspected to be depressed; those meeting DSM-III-R criteria for current major depressive disorder were invited to participate.</p> <p>Participation rate 194/207 (94%)</p> <p>N=49 (non-directive counselling) +42 (cognitive-behavioural therapy) +48 (dynamic psychotherapy) + 52 (routine primary care)</p> <p>Randomisation: no further details</p>	<p>Interventions carried out at home with a weekly visit from 8 to 18 weeks by one of six therapists, three specialists – one in each of the three treatments (non-directive counselling, cognitive-behavioural therapy, dynamic psychotherapy) – and two generalists, each trained in two of the treatments, including two Health Visitors.</p> <p>Attrition: 7/49 + 1/42+ 8/48+ 4/52, pooled 20/194 (10%)</p> <p>No other loss to follow-up</p> <p>Independent outcome assessment using the Structured Clinical Interview for Depression (SCID) and the EPDS, masked to treatment allocation at 4.5 months, with subsequent follow-up at 9, 18 and 60 months postpartum.</p>

O'Hara 2000	<p>Four communities in Iowa, USA Women who had recently given birth, screened for a major depressive episode (n=345/20,620), excluding those with a lifetime history of bipolar disorder, schizophrenia, organic brain syndrome, mental retardation, antisocial personality disorder or a current history of alcohol or substance abuse, panic disorder, somatisation disorder, or =3 schizotypal features, psychotic depression, serious eating disorders or obsessive-compulsive disorders (n=77). Participation rate 120/252 (48%), 60 (I) + 60 © Randomisation, stratified for a history of major depression, used a random number table, concealment of allocation was unclear.</p>	<p>Individual interpersonal therapy offered by ten highly trained therapists in 12 weekly one-hour sessions, using a standard manual with monitoring for adherence to it, or to a waiting list control group. Common IPT problem areas included conflict with partner or extended family, loss of work/social roles, losses associated with birth or death of significant others.</p> <p>Attrition: 12/60 (IPT) vs 9/60(WL)</p> <p>Independent assessment pre and post treatment by an experienced clinician who was not masked as to the allocation.</p>
Misri 2000	<p>Two university hospitals in British Columbia, Canada Women referred to tertiary care with a postpartum mental illness, who met DSM-IV criteria for major depression, + postpartum onset, EPDS>12, married or cohabiting, and their partners Participation rate not reported Participants: 16 (I) and 13 © = 29 Randomisation: no further details</p>	<p>Six, weekly psychoeducational visits, each including a review of medication, with a follow-up visit 1 month later. In the experimental arm the woman's partner was invited to the 2nd and 4th visits, and positive practically supportive interactions around childcare and housework were encouraged, compared with the weekly visits and no partner involvement.</p> <p>Attrition: none.</p> <p>Assessment by the treating psychiatrist at the follow-up 7th visit using the MINI (Mini Neuropsychiatric Interview), EPDS, GHQ. Partners attended this visit and completed the GHQ in the support group: those in the control group completed the GHQ by mail.</p>
Chen 2000	<p>Two urban hospitals in Taiwan Women over 18 years, surviving infant, at least junior high school education, who scored >9 on the Beck Depression Inventory 3 weeks after birth, in a questionnaire handed out in the postnatal ward, and returned by mail. Participation rate: 941/1107 (85%) agreed to screening, and 414/941 (47%) returned the screening questionnaire, 115 met the inclusion criteria. Participants: 60/64 invited, 4 assigned to support group declined. Participants: 30 (I) + 30 © =60 Randomisation: no further details</p>	<p>Postnatal support group of 5 to 6 mothers (and infants) with a registered nurse researcher as group leader; 4 weekly sessions of 1.5 to 2 hrs, focusing on transitions to motherhood, postnatal stress management, communication skills and life planning, but flexible if other issues became important. Two groups met for an additional session. Aim: to bring women into contact with other women having similar experiences, share problems and conflicts, talk about solutions.</p> <p>Average attendance at the session was 92%</p> <p>Outcome assessment of depression with the BDI score change and categorical BDI ≥10 vs BDI < 10</p> <ul style="list-style-type: none"> Data not adjusted for within group effects

Chabrol (B) 2002	<p>See Table 5 for details of initial study, Chabrol (A). Women with probable depression (EPDS ≥ 11) at 4 to 6 weeks were assessed at home by the MINI, the Structured Interview Guide for the Hamilton Depression Rating Scale, & the Beck Depression Inventory and the EPDS. Moderate depression was confirmed.</p> <p>Participation by 78% of those who had been allocated to the earlier intervention prevention arm (22/29), and 69% (38/55) of those who had been allocated to standard care. All eligible from both groups were offered the second-phase intervention</p>	<p>The second-phase program was five to eight weekly home visits integrating supportive, educational, cognitive behavioural and psychodynamic components centred on the mother-infant relationship in terms of the mother's personal history. The therapists received training and supervision as described in Chabrol (A), Table 5.</p> <p>Outcome assessment at 10 to 12 weeks postpartum at home by the MINI, the Structured Interview Guide for the Hamilton Depression Rating Scale, the Beck Depression Inventory and the EPDS, for major depression and HDRS, BDI and EPDS mean score changes.</p>
Honey 2002	<p>Region in Wales, UK</p> <p>Women referred by their Health Visitor if they screened positive on the EPDS (>12), had a child under 12 months, and did not have psychotic symptoms.</p> <p>45 were referred and all agreed to participate. Participation: 23 (I) + 22 (C)=45</p> <p>Randomisation: "using a block randomisation procedure".</p>	<p>Intervention: Brief psycho-educational group; 8 weekly two-hour meetings run by 2 female Health Visitors., including 3 components: (i) information on postnatal depression, strategies for dealing with difficult child-care situations, and for eliciting social support; (ii) cognitive-behavioural techniques to tackle "women's erroneous cognitions about motherhood" and strategies for coping with anxiety; (iii) teaching the use of relaxation. A crèche was provided.</p> <p>Comparison: routine primary care.</p> <p>Attrition: 4/23 (I), 0/22 (C) =10%</p> <p>Outcome assessment: 8 weeks and 6 months; EODS, Duke-UNC social Support questionnaire, Dyadic Marital Adjustment Scale, Ways of Coping Checklist (revised)</p>

Table 7 Description of the participants, interventions, outcome measures and timing of outcome assessment in interventions with mothers and babies

1st Author, date	Participants, selection criteria and participation	Intervention, outcome measures and their timing
Heinike 1999	<p>Continuity Care clinics, California, USA Women 17 or older, having their 1st child, no family member with a serious health complication, not currently using drugs, who spoke English, were in prenatal care, and lived within a 20 minute drive of the hospital, identified as at risk by social history interview. Women needing immediate psychiatric services were excluded. Participation rate 70/74 (95%) Participants: 35 (I) + 35 (C) = 70</p> <p>Randomisation: after 2 families were recruited someone not involved with either family tossed a coin.</p>	<p>Weekly home-visiting, relationship-based intervention from late pregnancy to 12 months after birth, as well as a mother-infant group, with a focus on enhancing the mother's communication and personal adaptation, alternate approaches to her relationship with the child, and providing affirmation and support to promote self-efficacy compared with paediatric follow-up offering development evaluation, feedback on the evaluation and referral to other services as needed.</p> <p>Attrition after 1st assessment: 4 (I), 2 (C) = 6/70 (9%) No other loss to follow-up by 12 months</p> <p>Outcome assessment: BDI & Spielberger Anxiety Inventory, converted into combined mean factor score and standard deviation Before birth, 1 month, 6 months, 12 months</p>
Horowitz 2001	<p>One large city hospital, Massachusetts, USA Women who spoke English, with healthy babies, were recruited prior to discharge, telephoned, with their permission, 2 to 4 weeks later, and screened for mild to severe depressive symptoms (EPDS>10). Those who's EPDS score ≥13 were also referred to their primary care provider.</p> <p>Planned sample size 116. Participation rate 122/1215 (10%)</p> <p>Randomisation: 'sealed envelope technique'</p>	<p>Home visits by advanced practice nurses at 4-8 weeks, 10-14 weeks and 14-18 weeks where mother-infant interaction was video-taped (I and C). The intervention group also received a coached behavioural intervention designed to promote maternal-infant responsiveness at each visit. The videotapes were scored blind to the woman's allocation to I or C. At each visit the nurse assessed the woman's score on BDI and assisted her in contacting her primary care provider if she had a moderate or severe score.</p> <p>Loss to follow-up by 18 weeks 5/122 (4%) Participation retention was enhanced by giving a small gift after the 1st two visits and a small financial incentive at the completion of the 3rd visit.</p> <p>Outcome assessment: BDI mean scores (standard deviation), 4-8 weeks, 10-14 weeks, 14-18 weeks</p>

Onaazawa 2001	<p>One large city obstetric hospital, London, England</p> <p>Women aged 18-45, having a 1st birth, singleton, born at 37-42 weeks, no birth defects, not admitted to special care baby unit, completed the EPDS by mail 4 weeks after birth, completion rate 70%, with 15.7% scoring ≥ 13 eligible for the study.</p> <p>Agreed to participate 59/91 (65%), with 21 (37%) dropping out prior to study beginning</p> <p>Participants: 19 (I) + 15 (C) = 34</p> <p>Randomisation: no further details</p>	<p>Five one-hourly infant massage classes, with a trained instructor encouraging parents to observe and respond to their babies' body language and cues and adjust their touch accordingly, plus a weekly support group including 30 mins of informal discussions about practical problems and coping strategies, vs the support group meetings only.</p> <p>Attrition: 7/19 + 2/15 (26%)</p> <p>No other loss to follow-up</p> <p>Outcome assessment EPDS median scores at baseline, first session and final session, change in median score from 6 to 14 weeks</p> <ul style="list-style-type: none"> Data not adjusted for within-group effects
Hiscock 2002	<p>Maternal and child health centres (well child care) in 3 local government areas in one city, Victoria, Australia</p> <p>Mothers attending free infant hearing screening that were surveyed about sleep problems and met criteria for an infant sleep problem.</p> <p>Participation rate 155/232 eligible (67%)</p> <p>Participants: 78(I) + 78 (C) = 156</p> <p>Randomisation: pre-generated sequences in block sizes of 2 to 10, with allocation concealed from researchers and participants.</p>	<p>Three fortnightly consultations with a senior paediatric trainee held at the maternal and child health centre, development of tailored sleep management plans, education of parents and teaching of 'controlled crying'. The comparison group received a single sheet describing normal sleep patterns in infants aged 6 to 12 months. This did not include advice on managing sleep problems.</p> <p>Attrition: 2/78 (I), 2/78 (C) by 2 months (3%), 1/76 (I), 5/76 (C) by 4 months (6%); no other loss to follow-up.</p> <p>Outcome assessment: EPDS mean and median scores at baseline, 2 months and four months</p>