



Bilaga till rapport

1 (1)

SBU Utvärderar: Förlossningsrädsla,
depression och ångest under
graviditet, rapport nr 322 (2021)

Appendix 4 Table over included studies, identifying fear of childbirth

Bilaga 4: Included studies; identification of fear of childbirth

1.1 Abbreviations

N= number of participants; PPV= positive predictive value; NPV= negative predictive value; AOC= area under the curve (for a receiver operating characteristic curve; ROC curve); Na= not available; WDEQ-A= Wijma Delivery Expectancy Questionnaire; FOBS= Fear of Birth Scale

1.2 Tables

Author	Haines
Year	2015
Country	Australia
Ref #	[1]
Study design	Cohort (secondary analysis of an RCT)
Recruitment	Pregnant women from antenatal clinics
Target condition	Fear of childbirth
Setting	Antenatal clinics in Queensland Australia. Secondary analysis of a RCT designed to test the effectiveness of a midwife led psycho-education intervention to reduce childbirth fear.
Population	1410 unselected pregnant women, age mean (SD)= 28 (5.4)
N in all tests	1383
Exclusions	Lost to follow-up= 27 no exclusions based on psycho-social, medical or obstetric reasons
Clinical presentation	WDEQ-A mean (SD)= 49 (22) nulliparous= 609 (43%) multiparous= 801 (57%) Most recent previous birth for the multiparous women: - normal vaginal birth= 522 (65.4%) - operative vaginal delivery= 131 (16.3%) - emergency caesarean = 78 (9.7%) - elective caesarean= 63 (7.8%)
Index test(s)	FOBS
Reference test	WDEQ-A (cut-off ≥ 85)
Time for testing	during the second trimester
Examiners	Patient reported outcomes
Prevalence	
Sensitivity,	FOBS (cut-off= 54) sensitivity = 89%
Specificity	FOBS (cut-off= 54) specificity= 79%
AUC, correlations	AUC= 0.89; Spearman's rho = 0.66 (p < 0.001)
Results calculated from raw N	FOBS (cut-off= 54) sensitivity (95%CI) = 0.85 (0.75 to 0.93) FOBS (cut-off= 54) specificity (95%CI) = 0.80 (0.78 to 0.82)
Comments	
Risk of bias	Low

Author	Rouhe
Year	2009
Country	Finland
Ref #	[2]
Study design	cohort

SBU-rapport 2021/322. Förlossningsrädsla, depression och ångest under graviditet. Fear of childbirth, depression and anxiety during pregnancy. www.sbu.se/322

Recruitment	Consecutive visiting patients at the maternity outpatient clinics of a university hospital
Target condition	Fear of childbirth
Setting	outpatient maternity clinics of a university central hospital
Population	1400 unselected pregnant women; age mean (range) = 30.5 (16 to 47)
N in all tests	1348
Exclusions	excluding those who - booked for caesarean section (n=44) - not pregnant (n=6) - previous two or more caesarean sections (n=3)
Clinical presentation	W-DEQ mean (SD) = 68.3 (21.1) gestational age mean (range) = 22.2 (7–42) weeks nulliparous = 582 (43.3%) multiparous = 763 (56.7%)
Index test(s)	visual analogue scale (VAS), how afraid they were of childbirth (answer by a mark on VAS line from 0 to 10)
Reference test	WDEQ-A (cut-off ≥ 100)
Time for testing	During pregnancy (no specific week), no delay between tests
Examiners	Patient reported outcomes
Prevalence	W-DEQ (cut-off ≥ 100) = 38 nulliparous + 55 parous = 93 patients
Sensitivity, Specificity	VAS (cut-off= 5) sensitivity = 97.8% VAS (cut-off= 5) specificity = 65.7% VAS (cut-off= 6) sensitivity = 89.2% VAS (cut-off= 6) specificity = 76.3%
PPV, NPV	
AUC, correlations	Pearson's $r = 0.7$ ($p = 0.01$)
Comments	
Risk of bias	Moderate

Author	Storksén
Year	2012
Country	Norway
Ref #	[3]
Study design	cohort
Recruitment	pregnant women in gestational week 17 were approached to be recruited at the routine fetal ultrasound examination at the hospital.
Target condition	Fear of childbirth, anxiety, depression
Setting	Prenatal public healthcare in Norway
Population	Pregnant women (n=1642), mean age (SD) = 31 (4.7) years range 18–45 years)
N in all tests	1642
Exclusions	Women who could not speak Norwegian were excluded
Clinical presentation	W-DEQ mean (SD) = 56.8 (20.1) nulliparous = 49.9% multiparous = 50.1%
Index test(s)	numeric rating scale, "How much do you fear childbirth?" from 0 (not at all) to 10 ('extremely much') (NRS; cut-off ≥ 9)
Reference test	WDEQ (cut-off ≥ 85)
Time for testing	gestational week 17
Examiners	Patient reported outcomes
Prevalence	WDEQ $\geq 85 = 137/1642$ (8%), NRS $\geq 9 = 94/1642$ (6%)
Sensitivity, Specificity	Na, Na
PPV, NPV	Na

AUC, correlations	Spearman's rho = 0.57
Comments	
Risk of bias	Moderate

1.3 References

1. Haines HM, Pallant JF, Fenwick J, Gamble J, Creedy DK, Toohill J, et al. Identifying women who are afraid of giving birth: A comparison of the fear of birth scale with the WDEQ-A in a large Australian cohort. *Sexual & reproductive healthcare : official journal of the Swedish Association of Midwives* 2015;6:204-10.
2. Rouhe H, Salmela-Aro K, Halmesmaki E, Saisto T. Fear of childbirth according to parity, gestational age, and obstetric history. *BJOG: An International Journal of Obstetrics & Gynaecology* 2009;116:67-73.
3. Storksen HT, Eberhard-Gran M, Garthus-Niegel S, Eskild A. Fear of childbirth; the relation to anxiety and depression. *Acta Obstetrica et Gynecologica Scandinavica* 2012;91:237-242.



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Appendix 5 Table over included studies, interventions for fear of childbirth

Bilaga 5: Included studies; interventions for fear of childbirth

Abbreviations

n= number of participants; Na= not available; RCT= randomized controlled trial; I=intervention group; C=control group; CI=confidence interval; p= probability value; ITT= intention to treat; ns= not statistically significant;

W-DEQ= Wijma Delivery Expectancy Questionnaire (33 items from 0=“not at all” to 5=“extremely”, min=0, max= 30, higher score= more depressed); W-DEQ-A= prenatal W-DEQ; W-DEQ-B = postnatal W-DEQ;

EPDS=Edinburgh Postnatal Depression Scale (10 items from 0 to 3, min=0, max= 165, higher score= more fear;

EQ-5D-3L = healthrelated quality of life on a EuroQol 5-dimensional scale (five dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression; 3 levels: no problems, some problems, and extreme problems).

Tables

Author	Saisto
Year	2001
Country	Finland
Ref #	[1]
Study design	RCT
Setting	Between August 1996 and July 1999, Helsinki University Central Hospital
Recruitment	obstetrically low-risk and physically healthy pregnant women referred to the outpatient clinic because of fear of vaginal delivery
Population	n=85+91= 176; mean age (SD): I=31.2 (5.1), C=31.9 (4.8) ; nulliparous: I=51.8%, C=50.5%; gestational age in weeks at enrollment (SD): I=24.9 (1.7), C=24.9 (1.8); fear of childbirth, nr of affirmatives on screening questions, mean (SD): I=6,0 (1.7), C=5.7 (1.8).
Inclusion criteria	The cut-off point for diagnosis of fear of childbirth was five or more affirmative answers on 10 screening questions or request for cesarean. Exclusion criteria: contraindication to vaginal delivery at the time of randomization
Follow up	Patient records postpartum (for outcome caesarian section)
Intervention	intensive therapy (routine obstetric check-ups combined with cognitive therapy regarding previous obstetric experiences, feelings, and misconceptions); 3-4 session with CBT-trained obstetrician.
Participants (n)	Randomized n= 85 analysed n= 85 (for outcome caesarian section)
Drop-outs (n)	n= 0 (for outcome caesarian section)
Comparison	conventional therapy (standard information distribution and routine obstetric check-ups, as well as provision of written information about the pros and cons of vaginal delivery versus cesarean)
Participants (n)	Randomized n= 91, analysed n= 91
Drop-outs (n)	n= 0 (for outcome caesarian section)
Outcomes	<p>Fear of childbirth</p> <p>- available but with high risk of bias</p> <p>Delivery</p> <p>- Cesarean for psychological reasons, n (%): I=20/85= 24%; C=26/91= 29%</p> <p>Mental health</p> <p>- available but with high risk of bias</p> <p>Experience of treatment</p>

	- na Quality of life - na Obstetric complications - na Pain relief and other medications during delivery - na
Comments Risk of bias	High risk of bias for patient reported outcomes. Moderate risk of bias for outcomes from patient records.

Author	Rouhe et al.
Year	2013
Country	Finland
Ref #	[2] see also [3,4]
Study design	RCT
Setting	Maternity unit of Helsinki University Central Hospital 2007 to 2009
Recruitment	Screening of 12 000 consecutive and unselected Finnish- and Swedish-speaking pregnant women who participated in routine ultrasound screening at the gestational age of 11–13 weeks
Population	n= 371; mean age (SD): I=29.3 (4.6); C=29.4 (4.8) ; nulliparous= 100%; gestational age in weeks at intervention start (SD): I=27.6 (3.9); C=not applicable; fear of childbirth, W-DEQ-A mean (SD): I=113 (11); C=113 (12)
Inclusion criteria	W-DEQ-A \geq 100, nulliparous exclusion criteria= manifest psychosis and severe depression
Follow up	- Postpartum (3 months after delivery) - data on the deliveries were derived from the hospital obstetric patient records.
Intervention	psychoeducative group therapy, six sessions during pregnancy and one after childbirth
Participants (n)	Randomized n= 131, analysed n= 131 (ITT analysis)
Drop-outs (n)	Did not participate: n= 41
Comparison	care by community nurses and referral if necessary
Participants (n)	Randomized n= 240, analysed n= 240 (ITT analysis)
Drop-outs (n)	Received special care for fear of childbirth: n= 106
Outcomes	Fear of childbirth - W-DEQ-A, mean (SD)= na - W-DEQ-B (postpartum, answered by I=77 and C=124), mean (SD) I=63.0 (32); C=73.7 (29); p= 0.02 Delivery - spontaneous vaginal delivery, n (%): I=83 (63.4); C=114 (47.5), P = 0.005 - caesarean sections, n (%): I=30 (22.9); C=78 (32.5); p= 0.05 - Elective caesarean sections, n (%): I=14 (10.1); C=31 (12.9); p= 0.62 - Emergency caesarean sections, n (%): I=16 (12.2); C=47 (19.6), p= 0.05 - vacuum extraction, n (%): I=18 (13.7); C=48 (20.0); p= 0.16 - Induction of labour, n (%): I=30 (22.9); C=50 (20.8), p= 0.692 Mental health -na

	<p>Experience of treatment</p> <p>- na</p> <p>Quality of life</p> <p>-na</p> <p>Obstetric complications</p> <p>- Bleeding in ml, mean (SD): I=534 (484); C=589 (538), p= 0.35</p> <p>Gestational age at delivery (weeks), mean (SD): I=39.7 (1.5); C=39.6 (1.6); p >0.99</p> <p>Birthweight (g), mean (SD): I=3532 (550); C=3486 (518); p= 0.44</p> <p>Apgar (1 minute) < 7, n (%): I=14 (10.7); C=25 (10.4); p >0.99</p> <p>Postpartum interventions (suturing of deep lacerations or surgical evacuation of placenta or membranes postpartum), n (%): I=15 (14.9); C=16 (9.9); p= 0.24</p> <p>Pain relief and other medications during delivery</p> <p>- Epidural or spinal analgesia, n (%): I=85 (84.2); C=138 (85.2); p >0.99</p>
Comments	
Risk of bias	Moderate

Author	Rouhe et al.
Year	2015a
Country	Finland
Ref #	[4] see also [2,3]
Study design	RCT
Setting	Finland, data from obstetrical patient records and questionnaires
Recruitment	na, reported elsewhere.
Population	n= 371; mean age (SD)=na (reported elsewhere) ; nulliparous= 100%; gestational age at intervention start= na (reported elsewhere); fear of childbirth= na (reported elsewhere)
Inclusion criteria	W-DEQ-A ≥ 100, nulliparous exclusion criteria= manifest psychosis and severe depression
Follow up	- T1= mean gestational age 20 ± 2 weeks - T2= mean gestational age 36 ± 2 weeks - T3= 3 months postnatally - Data on the deliveries were derived from the hospital obstetric patient records.
Intervention	psychoeducative group therapy, six sessions during pregnancy and one after childbirth
Participants (n)	Randomized n= 131, analysed n= 131 (ITT analysis)
Drop-outs (n)	na (reported elsewhere)
Comparison	care by community nurses and referral if necessary
Participants (n)	Randomized n= 240, analysed n= 240 (ITT analysis)
Drop-outs (n)	Received special care for fear of childbirth: n= 106
Outcomes	<p>Fear of childbirth</p> <p>- na</p> <p>Delivery</p> <p>-Spontaneous vaginal delivery with no complications, n(%): I=78 (63.4); C=112 (47.5); p = 0.005</p> <p>- elective caesarean sections with no complications: I=14 (10.7); C=31 (12.9%) (NS)</p> <p>- complicated caesarean sections, n (%):</p>

	<p>I=16 (12.2); C=49 (20.4); p < 0.05</p> <p>Mental health</p> <p>- emotional well-being in general (VAS; 0 = I am feeling bad; 10= I am feeling perfectly fine), mean: I=7.3; C=7.1; p=ns</p> <p>Experience of treatment</p> <p>- na</p> <p>Quality of life</p> <p>- satisfaction with life scale (SWLS; min= 5; max=30, higher scores= more satisfaction), answered by I=77 and C=124), mean: I=22.7; C=21.9; p= ns</p> <p>Obstetric complications</p> <p>- hemorrhage episodes, medial mL (range): I=400 (150 to 3000); C=450 (10 to 5050); p = 0.024</p> <p>Pain relief and other medications during delivery</p> <p>- na</p>
Comments	
Risk of bias	Moderate

Author	Rouhe et al.
Year	2015b
Country	Finland
Ref #	[3] see also [2,4]
Study design	RCT
Setting	In 2007 to 2009
Recruitment	Screening for fear of childbirth among nulliparous women at the time of routine ultrasonography screening at the gestational age of 11–13 weeks.
Population	n= 371 ; mean age (SD)= ; nulliparous= 100%; gestational age at intervention start= 28th week of pregnancy; fear of childbirth:
Inclusion criteria	W-DEQ-A ≥ 100, nulliparous
Follow up	- T1= mid-pregnancy (at 20±2 gestational weeks), n (I+C) = 107+177 - T2= end of the third trimester (at 36±2 gestational weeks), n (I+C) = 82+121 - T3= 3 months after delivery (at 3 months±2 weeks postpartum), n (I+C) = 77+123
Intervention	psychoeducative group therapy, six sessions during pregnancy and one after childbirth
Participants (n)	Randomized n= 131
Drop-outs (n)	Did not complete intervention: n= 131-90= 41
Comparison	conventional care
Participants (n)	Randomized n= 240
Drop-outs (n)	Received special care for fear of childbirth: n= 106
Outcomes	<p>Fear of childbirth</p> <p>- W-DEQ-A, mean (SD): na</p> <p>- W-DEQ-B (postpartum, n=201), mean (SD): I=63.0 (32); C=73.7 (29); p= 0.016, Cohen's d=0.35</p> <p>Delivery</p> <p>-Spontaneous vaginal delivery n (%): I=na (63.4); C=na (47.5); p = 0.005</p> <p>- caesarean sections, n (%): I=na (22.9); C=na (32.5); p= 0.05</p> <p>Mental health</p> <p>- T1 EPDS, mean (SD):</p>

	<p>I=8.3 (5.8); C=8.9 (5.0) - T2 EPDS, mean (SD): I=7.5 (5.2); C=8.1 (4.7) - T3 EPDS (n=201), mean (SD): I=6.4 (5.4); C=8.0 (5.9); p=0.04, Cohen's d= 0.28</p> <p>Experience of treatment - na</p> <p>Quality of life - na</p> <p>Obstetric complications - na</p> <p>Pain relief and other medications during delivery - na</p>
Comments	
Risk of bias	Moderate

Author	Fenwick et al.
Year	2015
Country	Australia
Ref #	[5] see also [6, 7, 8]
Study design	RCT
Setting	Australia, BELIEF study
Recruitment	recruited by research midwives in antenatal clinics of three metropolitan teaching hospitals in south-east Queensland, Australia between May 2012 and June 2013.
Population	n=339; mean age (SD) = na, reported elsewhere; nulliparous= na, reported elsewhere; gestational age at intervention start= na; fear of childbirth=na.
Inclusion criteria	WDEQ > 66; between 12 to 24 weeks gestation; aged 16 years and older; able to read, write and understand English; capacity to consent
Follow up	6 weeks postpartum
Intervention	telephone psycho-education; two telephone calls of 10 to 104 minutes by a midwife
Participants (n)	Randomized n= 170, analysed n= 91
Drop-outs (n)	n= 79 (Lost to follow-up= 51; withdrew=28)
Comparison	usual maternity care
Participants (n)	Randomized n= 169, analysed n= 93
Drop-outs (n)	n= 76 (Lost to follow-up= 58; withdrew=16; removed < 66 WDEQ= 2)
Outcomes	<p>Secondary outcomes of the BELIEF study.</p> <p>Fear of childbirth - na</p> <p>Delivery - Spontaneous vaginal delivery, n(%) I = 44 (48.4); C = 39 (41.9); 95% CI=0.72 – 2.31; p= 0.38 - Forceps/ vacuum, n (%): I=16 (17.6); C=15 (16.1); 95% CI=0.51 – 2.40; p= 0.79 - Caesarean section, n (%): I=31 (34.1); C=39 (41.9); 95% CI=0.39 – 1.30; p= 0.27 - Elective caesarean section, n (%): I=15 (16.5); C=16 (17.2); 95% CI=0.43 – 2.05; p=0.88 - Emergency caesarean section, n (%); I=16 (17.6); C=23 (24.7); 95% CI=0.31 – 1.32; p= 0.23 - Induction of labour, n (%):</p>

	<p>I=34 (37.4); C=27 (29.1); 95% CI=0.76 – 2.75; p= 0.25</p> <p>Mental health</p> <p>- EPDS Mean (SD), range: I=6.2 (5), 0–22; C=5.5 (4.7), 0–23; 95% CI=-0.67 – 2.14; p= 0.30</p> <p>Experience of treatment</p> <p>- na</p> <p>Quality of life</p> <p>- na</p> <p>Obstetric complications</p> <p>- Preterm birth, n (%), range weeks: I=7 (7.7), 32–36; C=3 (3.2), 28–35</p> <p>- Admit to nursery, n (%): I=16 (17.6); C=18 (19.4); 95% CI=0.42 – 1.87; p= 0.75</p> <p>Pain relief and other medications during delivery</p> <p>-Narcotic in labour, n (%): I=26 (28.6); C=29 (31.2); 95% CI=0.44 – 1.66; p= 0.65</p> <p>- Epidural analgesia, n (%): I=33 (36.3); C=33 (35.5); 95% CI=0.53 – 1.94; p= 1.00</p>
Comments	
Risk of bias	Moderate

Author	Toohill et al.
Year	2017
Country	Australia
Ref #	[6] see also [5,7,8]
Study design	RCT
Setting	Australia, clinics across three maternity hospitals in Queensland, BELIEF Study
Recruitment	Women screened for childbirth fear May 2012 to June 2013 at the maternity hospitals
Population	n=339; age mean (SD): I=28.5 (na), C=28.7 (na); nulliparous= 56%; gestational age at intervention start= 24 weeks ; W-DEQ-A mean (SD): I=80.0 (12.4), C=76.3 (10.6)
Inclusion criteria	W-DEQ A ≥ 66
Follow up	- T1: 36 weeks of gestation, n (I+C)= 170 + 169 - T2: 6 weeks postpartum, n (I+C)= 91+ 93
Intervention	telephone psycho-education; two telephone calls of 10 to 104 minutes by a midwife
Participants (n)	Randomized n= 170
Drop-outs (n)	n=na
Comparison	Usual antenatal care
Participants (n)	Randomized n=169
Drop-outs (n)	n=na
Outcomes	<p>Fear of childbirth</p> <p>- T1 W-DEQ-A, mean (SD), range: I=61.0 (19.7), 12 to 117; C=66.5 (18.2), 22 to 121</p> <p>- W-DEQ-B, mean (SD): na</p> <p>Delivery</p> <p>- Vaginal birth, unassisted, n(%): I=44 (48.4); C=39 (41.9)</p> <p>-Vaginal birth, assisted n(%): I=16 (17.6); C=15 (16.1)</p> <p>- Unplanned caesarean section, n(%): I=16 (17.6); C=23 (24.7)</p>

	<p>- Planned caesarean section, before labour commenced, n(%): I=11 (12.1); C=13 (14.0)</p> <p>- Planned caesarean section, after labour commenced, n(%): I=4 (4.0); C=3 (3.2)</p> <p>- Caesarean section, n(%): I=31 (34.1); C=39 (41.9)</p> <p>- Vaginal delivery, any, n(%): I = 60 (66%); C = 54 (58); OR 2.34</p> <p>Mental health</p> <p>- na</p> <p>Experience of treatment</p> <p>- na</p> <p>Quality of life</p> <p>- na</p> <p>Obstetric complications</p> <p>- na</p> <p>Pain relief and other medications during delivery</p> <p>- na</p>
Comments	
Risk of bias	Moderate

Author	Toohill et al.
Year	2014
Country	Australia
Ref #	[7] see also [5,6,8]
Study design	RCT
Setting	Australia, clinics across three maternity hospitals in Queensland, BELIEF Study
Recruitment	Women screened for childbirth fear May 2012 to June 2013 at the maternity hospitals
Population	n= 339; mean age (SD): I=29 (5.9), C=29.2 (4.98) ; nulliparous, n (%): I=58 (57.4), C=58 (59.8); gestational age at recruitment, mean weeks (SD): I=18.2 (3.17), C=17.9 (2.8) ; W-DEQ-A, mean (SD): I=80.9 (13.1), C=75.7 (9.7).
Inclusion criteria	W-DEQ A \geq 66, second trimester, able to communicate sufficiently in English, aged 16 years or older. Exclusion: women anticipating or experiencing a perinatal death (e.g., congenital abnormality incompatible) or stillbirth
Follow up	36 weeks' gestation.
Intervention	telephone psycho-education; two telephone calls of 10 to 104 minutes by a midwife
Participants (n)	Randomized n= 170, analysed n= 101
Drop-outs (n)	n=170-101= 69
Comparison	usual care offered by public maternity services
Participants (n)	Randomized n= 169, analysed n= 97
Drop-outs (n)	n= 169-97= 72
Outcomes	<p>Fear of childbirth</p> <p>- W-DEQ-A, mean change (SD): I=19.52 (18.59), n= 98; C=96 9.28 (16.32), n=96; mean change difference (95% CI)= 10.24 (5.29 to 15.19), p < 0.001</p> <p>- W-DEQ-A, n that improved > 20 (%): I=48 (47.5), n= 98; C=25 (25.8), n= 96</p> <p>- W-DEQ-B, mean (SD): na</p> <p>Delivery</p> <p>- na</p>

	<p>Mental health</p> <p>- EPDS, mean change (SD): I=1.26 (4.98), n=101; C=0.61 (5.30), n=97; mean change difference (95% CI)= .65 (-0.79 to 2.09), p= 0.38</p> <p>Experience of treatment</p> <p>- na</p> <p>Quality of life</p> <p>- na</p> <p>Obstetric complications</p> <p>- na</p> <p>Pain relief and other medications during delivery</p> <p>- na</p>
Comments	
Risk of bias	Moderate

Author	Turkstra et al.
Year	2017
Country	Australia
Ref #	[8] see also [5-7]
Study design	RCT
Setting	Australia, clinics across three maternity hospitals in Queensland, BELIEF Study
Recruitment	Women screened for childbirth fear at the maternity hospitals
Population	n= 339; mean age (SD): I=30.2 (5.82), C=30.5 (4.98); nulliparous= na; gestational age at recruitment= na ; W-DEQ-A, mean (SD): I=82.4 (13.7), C=75.3 (9.11)
Inclusion criteria	W-DEQ A ≥ 66, second trimester, able to communicate sufficiently in English, aged 16 years or older.
Follow up	6 weeks postpartum
Intervention	telephone psycho-education; two telephone calls of 10 to 104 minutes by a midwife
Participants (n)	Randomized n= 170, analysed n= 89
Drop-outs (n)	n=170- 89= 81
Comparison	usual care offered by public maternity services
Participants (n)	Randomized n= 169, analysed n= 95
Drop-outs (n)	n= 169-97= 74
Outcomes	<p>Fear of childbirth</p> <p>- na</p> <p>Delivery</p> <p>- vaginal, unassisted, n (%): I=42 (47%); C=41 (43%)</p> <p>- vaginal, assisted, n (%): I=16 (18%); C=15 (16%)</p> <p>- caesarean, n (%): I=31 (35%); C=39 (41%)</p> <p>Mental health</p> <p>- na</p> <p>Experience of treatment</p> <p>- na</p> <p>Quality of life (as-treated analysis)</p> <p>- EQ-5D-3L, mean (SD): I=0.86 (0.15); C=0.88 (0.15)</p> <p>- EQ-5D-3L change, mean (SD): I=0.010 (0.16); C=0.016 (0.18)</p>

	<p>- EQ-5D-3L mobility (moderate/severe), n (%): I=8 (9%); C=9 (10%)</p> <p>- EQ-5D-3L self-care (moderate/severe), n (%): I=0 (0%); C=0 (0%)</p> <p>- EQ-5D-3L activities (moderate/severe), n (%): I=24 (27%); C=21 (22%)</p> <p>- EQ-5D-3L pain/discomfort (moderate/severe), n (%): I=30 (34%); C=29 (31%)</p> <p>- EQ-5D-3L anxiety/depression (moderate/severe), n (%): I=27 (30%); C=20 (21%)</p> <p>Obstetric complications</p> <p>-na</p> <p>Pain relief and other medications during delivery</p> <p>-na</p>
Comments	
Risk of bias	Moderate

1.1 References

1. Saisto T, Salmela-Aro K, Nurmi JE, Kononen T, Halmesmaki E. A randomized controlled trial of intervention in fear of childbirth. *Obstet Gynecol* 2001;98:820-6.
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Bilaga till rapport

1 (1)

SBU Utvärderar: Förlossningsrädsla,
depression och ångest under
graviditet, rapport nr 322 (2021)

Appendix 6 Table over included studies, interventions for anxiety and depression during pregnancy

Bilaga 6: Included studies; interventions for depression and anxiety

Abbreviations

n= number of participants; Na= not available; RCT= randomized controlled trial; NRSI= Non-randomized study of interventions; I= intervention group; C= control group; CI= confidence interval; p= probability value; ITT= intention to treat; ns= not statistically significant;

EPDS=Edinburgh Postnatal Depression Scale (10 items from 0 to 3; total score from 0 to 30; higher scores indicating greater frequency of depression symptoms; cut-off ≥ 13 indicative of major depressive disorder)

EQ-5D = healthrelated quality of life on a EuroQol 5-dimensional scale (five dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression; 3 levels: no problems, some problems, and extreme problems; total score from 0 to 1)

CIS-R = Clinical Interview Schedule revised (13 domains rated from 0 to 4 and 1 domain rated from 0 to 5; total symptom score above a threshold of 12 indicates the individual has a diagnosable mental health disorder)

CES-D: Center for Epidemiological Studies Depression Scale (20-items rated from 0 to 3; higher scores indicating greater frequency of depression symptoms; total score from 0 to 60)

STAI: State-Trait Anxiety Inventory (STAI-S= state-version, STAI-T= trait-version;20 items rated from 1 to 4; higher scores indicating greater severity; total score from 20 to 80)

Brief STAI: Brief State Trait Anxiety Inventory (6-item questionnaire assessing acute feelings of distress or anxiety) produces scores similar to those obtained using the full 20-item STAI by multiplying the score by 20/6, i.e 20 to 80)

BDI-II: Beck Depression Inventory second version (21 items from 0 to 3; higher scores indicating greater severity; total score from 0 to 63)

BAI: Beck Anxiety Inventory (21 items from 0 to 3; higher scores indicating more symptoms; total score from 0 to 63)

PHQ-9: Patient Health Questionnaire (9 items from 0="not at all" to 3="nearly every day"; higher scores indicating higher frequency of symptoms; total score from 0 to 27);

GAD-7: Generalised Anxiety Disorder scale (7 items from 0="not at all" to 3="nearly every day"; higher scores indicating higher frequency of symptoms; total score from 0 to 21);

K-10: Kessler 10-item Psychological Distress scale (10 items from 1="none of the time" to 5="all of the time"; higher scores indicating higher frequency of symptoms; total score from 10 to 50)

WHOQOL: World Health Organisation Quality of Life scale (brief version) with four domains: physical health, psychological health, social relationships, and environment (26 items from 1 to 5 converted to 0-100; higher scores indicate higher quality of life; total score from 0 to 100)

MAAS: Maternal Antenatal Attachment Scale Inventory (19 items from 1 to 5; higher scores indicating higher attachment; total score from 19 to 95)

SBU-rapport 2021/322. Förlossningsrädsla, depression och ångest under graviditet. Fear of childbirth, depression and anxiety during pregnancy. www.sbu.se/322

SF12: Short form questionnaire-12 items to assess quality of life (8 domains, 12 items with different gradings)

HDRS17: Hamilton Depression Rating Scale (17-items on a 3 or 5 point scale; higher scores indicating higher severity of depressive symptoms; total score from 0 to 52)

MFAS: Maternal Fetal Attachment Scale (24 items from 1 to 5; 5 subscales; higher scores indicating higher attachment; total score from 24 to 120)

CSQ: Client Satisfaction Questionnaire (CSQ; 8-items from 1 to 4, with higher scores indicating greater satisfaction; total score from 8 to 32)

SCL-20: Hopkins Symptom Checklist Depression Scale (20 items from the SCL-90 that relate specifically to depressive symptoms; total score from 0 to 4)

PSS-10: Perceived Stress Scale (10 items from 0 to 4 with higher scores indicating more perceived stress; total score from 0 to 40)

PSS-14: Perceived Stress Scale (14 items from 0 to 4 with higher scores indicating more perceived stress; total score from 0 to 56)

DASS-21: Perceived Stress Scale (contains 3 subscales depression/anxiety/stress; total of 21 items from 0 to 3 with 7 items each for each subscale; scores are multiplied by 2 with higher scores indicating more perceived depression/anxiety/stress; total score from 0 to 42 on each subscale)

Prenatal Attachment Inventory: used to assess the level, quality and intensity of the bond between a women and her foetus (scores range from 21 to 84 with higher scores indicating increased attachment quality/intensity).

Tables; Psykoeducation

Author	Trevillion
Year	2020
Country	UK
Ref #	(1)
Study design	RCT
Setting	five large National Health Service (NHS) maternity units within South East London; these services serve ethnically and socially diverse populations. The NHS is a publicly-funded healthcare system in the UK, free at the point of use, to every legal resident in the UK.
Recruitment	between 5th January 2015 and 30th June 2016; follow-up data collection ended on 10th April 2017. Women were recruited to the trial in one of three ways: (1) via their participation in a related study on well-being in pregnancy (Howard et al., 2018) (2) via midwives who considered a woman suitable for the trial; (3) through self-referral, via advertised study posters.
Population	n= 53 ; mean age (SD)= na; age 30 to 39, n/N(%)= 36/53(68%); nulliparous, n/N (%)= 27/53 (51%); gestational age at baseline, mean(SD)= 10.6 (2.06); Depression/anxiety: EPDS, median (min; max): I= 15 (5;25), C= 15 (4; 21)
Inclusion criteria	<ul style="list-style-type: none">- women, aged ≥ 16 years,- pregnant (not exceeding 26 weeks gestation)- met criteria for DSM-IV depression on the Structured Clinical Interview (i.e. mild or moderate major depressive disorder, or mixed anxiety and depressive disorder) <p>Exclusion criteria: receiving CBT or any other psychological therapy; taking antidepressants; suffering from psychosis, a current eating disorder, borderline personality disorder or a current</p>

Follow up	<p>post-traumatic stress disorder; reporting current suicidality; receiving care from secondary mental health services; unable to complete questionnaires or follow the trial workbook in English; unable to provide informed consent.</p> <p>- 14 weeks post-randomisation - 3 months post-delivery</p>
Intervention	Guided Self-Help Workbook with homework (including psychoeducation) and 1 to 8 sessions with a Psychological Wellbeing Practitioner.
Participants (n) Drop-outs (n)	Randomized n= 26, analyzed n= 24 (at 14 weeks post-randomization follow-up) n=2
Comparison Participants (n) Drop-outs (n)	Usual care Randomized n= 27, analyzed n= 26 (at 14 weeks post-randomization follow-up) n=1
Outcomes	<p>Degree of symptoms</p> <p>- Depression (EPDS; 0 to 30; higher=more), mean (SD): Pre-treatment: I= na; C= na Post-treatment: I= 9.50 (6.35); C= 12.27 (4.79)</p> <p>Diagnosis based on cut-offs</p> <p>- Depression (PHQ-9 score ≥ 10), n/N(%): Pre-treatment: I= 12/26 (46%); C= 15/26 (58%) Post-treatment: I= 7/23 (30%); C= 11/26 (42%)</p> <p>- Anxiety (GAD-7 score ≥ 8), n/N(%): Pre-treatment: I= 13/25 (52%); C= 16/27 (59%) Post-treatment: I= 6/24 (25%); C= 11/26 (58%)</p> <p>Suicide</p> <p>- na</p> <p>Quality of life</p> <p>- na</p> <p>Antenatal attachment</p> <p>- na</p> <p>Experience of treatment/Side effects/Sick leave</p> <p>- na</p>
Comments Risk of bias	Low

Author	Loughnan
Year	2019
Country	Australia
Ref #	(2)
Study design	RCT
Setting	maternity hospitals in Sydney, Australia
Recruitment	Participants were recruited over approximately 12-months (05 October 2016 to 20 September 2017) by advertisements posted on social media websites, online forums and flyers. They were screened for inclusion criteria with a brief online screening questionnaire.
Population	n= 77 ; mean age (SD)= 31.61 (4.00) ; nulliparous, n (%) = 25 (32%) ; gestational age at intervention start= 21.66 (5.93); Probable diagnosis at baseline, n (%): depression= 10 (13%), anxiety= 14 (18%), comorbid= 41 (53%)
Inclusion criteria	(i) aged over 18 years

	<p>(ii) fluent in written and spoken English (iii) Australian resident (iv) had computer and internet access (v) met criteria for a probable diagnosis of GAD and/or MDD (vi) willing to provide their name, telephone number, address, email address, and the name and contact details of their general practitioner (GP) (v) between 13 and 30 weeks pregnant</p> <p>Exclusion: (i) current substance abuse or dependence; (ii) current use of benzodiazepines; (iii) diagnosis of schizophrenia or bipolar disorder; (iv) they had commenced psychological therapy less than four weeks before intake assessment or had commenced medication for anxiety/depression less than eight weeks before intake assessment. Applicants reporting severe depression or current suicidality were excluded and referred to appropriate services</p>
Follow up	baseline, post-treatment and four-week follow-up
Intervention	Unguided internet delivered CBT Brief, unguided; three lessons over a four-week period; introducing women to core CBT skills to help manage anxiety and depressive symptoms (MUMentum Pregnancy program).
Participants (n)	Randomized n= 43, analyzed n= 36
Drop-outs (n)	n=7
Comparison	treatment as usual usual care from their health services (i.e. continue with any course of treatment already specified at intake) but were withdrawn from the study if they commenced a new treatment during the course of the trial period.
Participants (n)	Randomized n= 44, analyzed n= 41
Drop-outs (n)	n=3
Outcomes	<p>Degree of symptoms</p> <p>- Depression (PHQ-9; 0 to 27; higher=more), mean (SD): Pre-treatment: I= 11.69 (4.56); C= 11.05 (4.48) Post-treatment: I= 7.67 (4.51); C= 8.99 (4.56) 4-week follow-up: I= 6.75 (3.99); C= 8.25 (4.37)*</p> <p>- Depression (EPDS; 0 to 30; higher=more), mean (SD): Pre-treatment: I= 13.41 (4.31); C= 14.50 (4.23) Post-treatment: I= 10.01 (4.64); C= 10.97 (4.78) 4-week follow-up: I= 8.98 (4.43); C= 10.62 (4.67)*</p> <p>- Anxiety (GAD-7; 0 to 21; higher=more), mean (SD): Pre-treatment: I= 12.66 (4.69); C= 11.84 (4.58) Post-treatment: I= 7.49 (4.66); C= 9.43 (4.83) 4-week follow-up: I= 5.76 (4.22); C= 9.17 (4.51)*</p> <p>- Psychological distress (K-10; 10 to 50; higher=more), mean (SD): Pre-treatment: I= 27.00 (6.40); C= 26.37 (6.27) Post-treatment: I= 18.93 (5.03); C= 23.53 (5.21) 4-week follow-up: I= 20.02 (5.45); C= 22.98 (5.74)</p> <p>Diagnosis</p> <p>- na</p> <p>Suicide</p> <p>- na</p> <p>Quality of life</p> <p>- Physical health quality of life (WHOQOL; 0 to 100; higher=more), mean (SD): Pre-treatment: I= 57.81 (17.57); C= 56.58 (17.21) Post-treatment: I= 63.92 (14.04); C= 61.18 (14.61)</p>

	<p>4-week follow-up: I= 62.93 (14.34); C= 60.99 (15.29)</p> <p>- Psychological quality of life (WHOQOL; 0 to 100; higher=more), mean (SD): Pre-treatment: I= 50.39 (15.85); C= 50.44 (15.52) Post-treatment: I= 58.43 (13.55); C= 58.23 (14.47) 4-week follow-up: I= 62.44 (13.56); C= 60.49 (13.90)</p> <p>- Social quality of life (WHOQOL; 0 to 100; higher=more), mean (SD): Pre-treatment: I= 52.87 (22.48); C= 58.99 (22.02) Post-treatment: I= 59.17 (16.45); C= 63.95 (17.45) 4-week follow-up: I= 57.56 (16.95); C= 62.18 (17.89)</p> <p>- Environmental quality of life (WHOQOL; 0 to 100; higher=more), mean (SD): Pre-treatment: I= 69.53 (16.97); C= 71.30 (16.62) Post-treatment: I= 74.97 (11.59); C= 75.85 (12.57) 4-week follow-up: I= 74.84 (13.70); C= 74.86 (15.22)</p> <p>Antenatal attachment</p> <p>- Maternal Antenatal Attachment (MAAS; 19 to 95; higher=more), mean (SD): Pre-treatment: I= 70.44 (11.08); C= 69.92 (10.85) Post-treatment: I= 73.92 (9.37); C= 74.22 (10.10) 4-week follow-up: I= 77.14 (8.49); C= 75.62 (9.6)</p> <p>Experience of treatment/Side effects/Sick leave</p> <p>- na</p>
Comments	
Risk of bias	Low

Author	Lund
Year	2019
Country	South Africa
Ref #	(3)
Study design	RCT
Setting	Participants were enrolled from October 2013 to October 2014, and followed up until May 2016 in the peri-urban settlement of Khayelitsha in Cape Town, South Africa, an area marked by high HIV prevalence, high levels of poverty, and unemployment.
Recruitment	Pregnant women were recruited at two antenatal clinics in community health centres. Women were recruited during their first antenatal visit.
Population	n= 425; median age (Interquartile range): I= 27 (23–32), C= 27 (23–30) ; nulliparous= na; median gestational age at intervention start (Interquartile range): I= 18 (14–22), C= 18 (15–22) ; Depression (MINI diagnosis), n(%): I=91 (43.5), C= 85 (39.3)
Inclusion criteria	<ul style="list-style-type: none"> - aged 18 years or older - spoke isiXhosa - were resident in Khayelitsha - were no more than 28 weeks pregnant - did not require urgent medical or psychiatric attention - were able to give informed consent - scored 13 or more on the EPDS <p>Exclusion criteria: Women with a diagnosis of schizophrenia or bipolar disorder were excluded.</p>
Follow up	- 8 month gestation

	- 3 month postpartum (not reported here) - 12 month postpartum (not reported here)
Intervention	Task-sharing psychological treatment six sessions; delivered by non-specialist community health workers who received five days of training by a clinical social worker
Participants (n)	Randomized n= 209, analyzed n= 133
Drop-outs (n)	n=76
Comparison	Enhanced usual care monthly phone calls for three months, in addition to the routine antenatal health care provided by the clinic.
Participants (n)	Randomized n= 216, analyzed n= 155
Drop-outs (n)	n=61
Outcomes	<p>Degree of symptoms</p> <p>- Depression (HDRS17; 0 to 52; higher=more), mean (SD): Pre-treatment (n: I=184, C= 200): I= 15.7 (4.82); C= 15.5 (4.69) Post-treatment (n: I=133, C=155): I= 12.6 (5.51); C= 12.8 (4.53)</p> <p>- Depression (EPDS; 0 to 30; higher=more), mean (SD): Pre-treatment: I= na, C= na [median (Interquartile range): I= 17 (15–20), C= 17 (14–19)] Post-treatment: I= 9.6 (5.79), C= 11.1 (6.25)</p> <p>Diagnosis</p> <p>- depressed (MINI diagnosis), n/N (%): Pre-treatment: I=91/209 (43.5), C= 85/216 (39.3) Post-treatment: I= 26/133 (19.5), C= 39/155 (25.2)</p> <p>Suicide</p> <p>- High risk for suicide, n/N(%): Pre-treatment: I= 41/209 (19.6), C= 33/216 (15.3) Post-treatment: I= 10/133 (7.5), C= 6/155 (3.9)</p> <p>Quality of life</p> <p>- na</p> <p>Antenatal attachment</p> <p>- na</p> <p>Experience of treatment/Side effects/Sick leave</p> <p>- na</p>
Comments	
Risk of bias	Moderate

Author	Khodakarami
Year	2017
Country	Iran
Ref #	(4)
Study design	RCT
Setting	Fatemieh Teaching Hospital, Hamedan, Iran, during March 2015-July 2015.
Recruitment	This study was conducted in two phases; in phase I of the study, all the healthy pregnant women who enrolled in physiological childbirth preparation classes in Fatemieh Hospital were selected through convenience sampling and were screened for depression, anxiety, and stress (n=182). In phase II of the study, 80 pregnant women were randomly selected from among pregnant women who were screened. Then, they were randomly assigned to groups.
Population	n= 80; mean age (SD): I= 26.94 (4.34), C= 25.89 (5.18); nulliparous= na; gestational age at intervention start= see inclusion criteria; Depression/anxiety: see outcomes

Inclusion criteria	<ul style="list-style-type: none"> - singleton pregnancies - gestation age between 20 to 24 weeks - Pregnant women with depression score between 10 and 20 (DASS-21) - anxiety score between 8 and 14 (DASS-21) - stress score between 15 and 25 (DASS-21) <p>Exclusion criteria: history of gestational complications (physical and mental), medication use during pregnancy, and psychiatric drug use, unable to attend the program due to complications related to pregnancy and unwillingness to continue participation in the study. Pregnant women who had depression, anxiety, and stress scores within the range of severe and very severe were referred to a psychiatrist for evaluation.</p>
Follow up	<ul style="list-style-type: none"> - after intervention (in 24-26 weeks of gestation) - follow-up two months later (in 32-36 weeks of gestation)
Intervention	Group counseling with spiritual approach: 8 sessions for 60 minutes each; including psychoeducation, muscle relaxation and breathing, mental imagination, coping mechanisms, with emphasis on Islamic teachings.
Participants (n)	Randomized n= 40, analyzed n= 38
Drop-outs (n)	n=2
Comparison	Routine prenatal training
Participants (n)	Randomized n=40, analyzed n= 38
Drop-outs (n)	n= 2
Outcomes	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (DASS-21; 0 to 42; higher=more), mean (SD): Pre-treatment: I= 13.25 (4.93); C= 15.17 (3.81) Post-treatment: I= 18.15 (3.2); C= 13.94 (3.06) 2-month follow-up: I= 13.95 (2.32); C= 18.38 (3.10) - Anxiety (DASS-21; 0 to 42; higher=more), mean (SD): Pre-treatment: I= 13.43 (3.98); C= 14.17 (4.03) Post-treatment: I= 18.41 (3.73); C= 14.17 (2.92) 2-month follow-up: I= 14.2 (2.72); C= 18.69 (3.55) - Stress DASS-21; 0 to 42; higher=more), mean (SD): Pre-treatment: I=16.35 (4.75); C= 17.89 (4.11) Post-treatment: I= 19.89 (3.46); C= 16.98 (2.22) 2-month follow-up: I= 17 (2.25); C= 20.15 (3.3) <p>Diagnosis</p> <ul style="list-style-type: none"> - na <p>Suicide</p> <ul style="list-style-type: none"> - na <p>Quality of life</p> <ul style="list-style-type: none"> - na <p>Antenatal attachment</p> <ul style="list-style-type: none"> - na <p>Experience of treatment/Side effects/Sick leave</p> <ul style="list-style-type: none"> - na
Comments	
Risk of bias	Moderate

Author	McGregor
Year	2014

Country	Canada
Ref #	(5)
Study design	NRSI
Setting	Family practice health centre in Toronto, Canada, between December 2006 and October 2007
Recruitment	Women were recruited from a family practice health centre in Toronto, Canada, between December 2006 and October 2007.
Population	n=42 ; mean age (SD)= na; 25–34 years of age, n(%): I=13 (61.9%), C= 14 (66.7%) ; nulliparous, n(%): I= 7 (33.3), C= 6 (28.6) ; gestational age at intervention start= na ; Depression/anxiety: see outcome section
Inclusion criteria	<ul style="list-style-type: none"> - pregnant women between 16 and 28 weeks gestation - at least 16 years of age - able to speak English - scored >9 on the Edinburgh Postnatal Depression Scale (EPDS) <p>Exclusion criteria included current use of antidepressant or antipsychotic medication, multiple pregnancy and high-risk pregnancy.</p>
Follow up	<ul style="list-style-type: none"> - post-treatment: 38 weeks gestation - follow-up: 6 weeks post-partum (not reported here)
Intervention	<p>CBT</p> <p>six sessions of CBT lasting 10 min delivered by the physician providing obstetrical care. The physician underwent a 2-h training session provided by a licensed psychologist who specialized in CBT. Lessons contained: education on antenatal depression and the cognitive behavioural model, cognitive restructuring.</p>
Participants (n)	Randomized n=21, analyzed n= 21
Drop-outs (n)	n=0
Comparison	Care as usual
Participants (n)	Randomized n=21 , analyzed n= 21
Drop-outs (n)	n=0
Outcomes	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (EPDS; 0 to 30; higher=more), mean (SD): Pre-treatment: I= 12.48 (2.84) ; C= 12.38 (3.26) Post-treatment: I= 7.86 (5.15); C= 9.62 (4.95) Time x Group (including the 6v follow-up) p= ns - State Anxiety (STAI; 20 to 80; higher=more), mean (SD): Pre-treatment: I= 45.38 (9.31); C= 45.29 (11.52) Post-treatment: I= 37.62 (11.08); C= 42.0 (12.62) Time x Group (including the 6v follow-up) p= ns <p>Diagnosis based on cut-offs</p> <ul style="list-style-type: none"> - Depression (EPDS >12), n (%) Pre-treatment: I= na; C= na Post-treatment: I= 3 (14.3); C= 3 (14.3) OR (95%CI)=1.0 (0.18 to 5.63); p= 0.10 Depression (EPDS >9), n (%) Pre-treatment: I= na; C= na Post-treatment: I= 5 (23.8); C= 9 (42.3) OR (95%CI)= 0.42 (0.11 to 1.57); p= 0.19 <p>Suicide</p> <ul style="list-style-type: none"> - na <p>Quality of life</p>

	<p>- na</p> <p>Antenatal attachment</p> <p>- na</p> <p>Experience of treatment/Side effects/Sick leave</p> <p>- Treatment satisfaction in the intervention group, n(%)</p> <p>Intervention beneficial:</p> <ul style="list-style-type: none"> - Yes 18 (94.7) - No 1 (5.3) <p>Intervention needs met:</p> <ul style="list-style-type: none"> - Almost all needs met 5 (26.3) - Most needs met 12 (63.2) - Few needs met 1 (5.3) - No needs met 1 (5.3) <p>Would recommend intervention:</p> <ul style="list-style-type: none"> - Yes, definitely 10 (52.6) - Yes, generally 8 (42.1) - No, not really 1 (5.3) - No, definitely not 0 (0.0) <p>General satisfaction:</p> <ul style="list-style-type: none"> - Very satisfied 11 (57.9) - Mostly satisfied 8 (42.1) - Somewhat dissatisfied 0 (0.0) - Very dissatisfied 0 (0.0)
Comments	
Risk of bias	Moderate

1.1 Cognitive behavioral therapy (CBT)

Author	Burger
Year	2019
Country	Netherlands
Ref #	(6)
Study design	RCT
Setting	109 midwifery practices and 9 obstetrics and gynaecology departments of hospitals in The Netherlands, between 1 May 2011 and 1 September 2014.
Recruitment	All women during their booking visit at the collaborating practices between 10 and 12 weeks of pregnancy, which is part of standard care, were screened.
Population	n= 282 ; mean age (SD): I= 33.4 (4.6), C= 32.1 (4.5) ; nulliparous, n (%) : I=140-70= 70 (50%), C= 142-73=69 (49%) ; gestational age at baseline= 12 weeks; Depression (EPDS score ≥ 12), n/N (%): I= 45/135 (33.3%), C= 43/137 (31.4%); Anxiety (STAI score ≥ 42), n/N (%): I= 120/138 (87.0%), C= 119/137 (86.9%)
Inclusion criteria	<ul style="list-style-type: none"> - at least moderate anxiety (score ≥ 42 on the STAI) - at least moderate depression (score ≥ 12 on the EPDS) <p>Exclusion criteria: substantial physical disease, multiple pregnancy, high suicide risk on the MINI International Neuropsychiatric Interview, a history of bipolar disorder, psychoses or manic disorder, had misused substances, were receiving psychotherapy or did not speak Dutch.</p>
Follow up	<ul style="list-style-type: none"> - Baseline (at 12 weeks' gestation) - 24 weeks' gestation - 36 weeks' gestation - postnatally (6 weeks to 18 month)
Intervention	Cognitive-behavioural therapy

Participants (n) Drop-outs (n)	10–14 individual sessions, of which 6–10 were intended to be delivered during pregnancy. Sessions were scheduled from 20 weeks' gestation up to 3 months postpartum; delivered by licensed psychologists with at least 2 years' postdoctoral training including CBT and CBT supervision. Randomized n= 140, analyzed n= 98 n=42
Comparison Participants (n) Drop-outs (n)	care as usual Randomized n=142, analyzed n= 108 n=34
Outcomes	<p>Degree of symptoms</p> <p>- Anxiety (STAI; 20 to 80; higher=more), mean (SD): Pre-treatment: I= 48.6(8.7), C= 48.5 (8.4) 36 weeks' gestation: I=43.2 (10.6), C= 41.5 (12.6)</p> <p>- Depression (EPDS; 0 to 30; higher=more), mean (SD): Pre-treatment: I= 9.8 (4.1), C= 9.7 (4.1) 36 weeks' gestation: I= 9.4 (4.6), C= 8.3 (4.6)</p> <p>Diagnosis -na</p> <p>Suicide - na</p> <p>Quality of life -na</p> <p>Antenatal attachment - na</p> <p>Experience of treatment/Side effects/Sick leave - na</p>
Comments	Post hoc subgroup analyses revealed an indication for adverse effects of CBT on the infant's gestational age at delivery when mothers had anxiety disorder or PTSD.
Risk of bias	Low

Author	Forsell
Year	2017
Country	Sweden
Ref #	(7)
Study design	RCT
Setting	Sweden
Recruitment	Participants were recruited by advertisements on social media websites, in blogs, online forums and newspapers. Information, posters and flyers were also distributed to maternity clinics all over Sweden. The study also featured in an article in the midwives' association's newsletter as well as a popular commercial pregnancy magazine. The study was also promoted on the website of the Internet Psychiatry Clinic in Stockholm.
Population	n=42 ; mean age (SD): I=31.2 (3.7), C= 30.8 (5.3); nulliparous: I= 46%, C= 25% ; gestational age in weeks at screening, mean (SD): I=15.9 (6.5), C=18.6 (6.5) ; Depression/anxiety: see outcomes
Inclusion criteria	<ul style="list-style-type: none"> - 18 years or older - adequate access and ability to use the internet and a mobile phone - adequate ability to speak, read and write Swedish - meet DSM diagnostic criteria for major depression - a screening score on the MADRS-S between 15 and 35. - at least 10 and no more than 28 weeks pregnant

	<p>Exclusion criteria: Women scoring 5 or 6 on MADRS-S item 9 (“I am actually convinced that my only way out is to die, and I think a lot about how to best go about killing myself”), ongoing psychological treatments that could potentially interfere with the current treatment, any current psychiatric or medical condition that was deemed as a significant contraindication for participation (for example psychosis or advanced cancer), a markedly high risk of terminated pregnancy or severe pregnancy related complications (for example preeclampsia). Current antidepressant medication was allowed if the treatment and dose had been stable for at least three weeks.</p>
<p>Follow up</p>	
<p>Intervention</p>	<p>ICBT guided self-help treatment with reading material, assessments, homework and work-sheets. Patients also had a CBT-trained, and regularly supervised, therapist providing regular feedback, encouragements and support in written messages mirroring the interventions</p>
<p>Participants (n)</p>	<p>Randomized n=22, analyzed n= 19</p>
<p>Drop-outs (n)</p>	<p>n=3</p>
<p>Comparison</p>	<p>Treatment as usual continuation of their current maternity care for 10 weeks, followed by optional ICBT, or to be given ICBT immediately as an add-on to maternity care)</p>
<p>Participants (n)</p>	<p>Randomized n=20, analyzed n= 17</p>
<p>Drop-outs (n)</p>	<p>n=3</p>
<p>Outcomes</p>	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (MADRS-S; 0 to 54; higher=more), mean (SD): Pre-treatment: I= 24.2 (5.2); C= 24.4 (5.9) Post-treatment: I= 14.3 (4.6); C= 21.1 (6.4) - Depression (EPDS; 0 to 30; higher=more), mean (SD): Pre-treatment: I= 16.3 (3.9); C= 18.5 (4.5) Post-treatment: I= 12.4 (4.9); C= 15.0 (4.9) - Anxiety (GAD-7; 0 to 21; higher=more), mean (SD): Pre-treatment: I= 11.6 (4.5); C= 13.1 (5.7) Post-treatment: I= 7.2 (4.1); C= 10.1 (5.3) <p>Diagnosis based on cut-offs</p> <ul style="list-style-type: none"> - Depression remission (i.e. MADRS-S score<13), n/N: I= 7/22, C= 2/20 - Depression (calculated from depression remission) I= 22-7/22=15/22, C=20-2/20=18/20 <p>Suicide</p> <ul style="list-style-type: none"> - na <p>Quality of life</p> <ul style="list-style-type: none"> - EQ-5D (0 to 1; higher=more) Pre-treatment: I= 0.4 (0.3); C= 0.4 (0.4) Post-treatment: I= 0.4 (0.4); C= 0.4 (0.3) <p>Antenatal attachment</p> <ul style="list-style-type: none"> - na <p>Experience of treatment/Side effects/Sick leave</p> <ul style="list-style-type: none"> - satisfaction with treatment (Client Satisfaction Questionnaire-8 item version; CSQ-8; 8 to 32; higher=more), mean (SD): - Negative effects (feeling stressed about not keeping up with the treatment program), n/N: I=2/22, C= na

	- Deterioration (i.e. 4 points or more increase on the MADRS-S), n/N: I=1/22, C= 3/20
Comments Risk of bias	Moderate

Author	Milgrom
Year	2015
Country	Australia
Ref #	(8)
Study design	RCT
Setting	Northern Hospital antenatal clinic, Melbourne, and other local health services between March 2008 and February 2010.
Recruitment	Women were recruited via screening programmes at the Northern Hospital and Mercy Hospital for Women, Melbourne, Australia. In addition, the study was advertised widely, and appropriate health professionals/services in both the public sector (e.g., obstetricians, GPs, PaNDA, etc.) and private sector (e.g., NorthPark Private Hospital) were encouraged to refer women with suspected depression.
Population	n= 54 ; mean age in years (SD): I= 32.79 (5.97), C= 30.78 (5.86) ; nulliparous, % : I= 51.9, C= 74; gestational age in weeks at intervention start, mean (SD): I= 19.94 (7.67), C= 20.96 (5.69); Major depression (n/N): I=21/27, C=18/27
Inclusion criteria	<ul style="list-style-type: none"> - ≥ 13 on the EPDS - less than 30 weeks pregnant - meeting DSM-IV criteria for diagnosis of a depressive disorder - aged 18 years or older <p>Exclusion criteria: comorbid axis I disorders or medical conditions likely to interfere with participation in the study, concurrent major psychiatric disorder for which the treatment was not designed (particularly psychotic and bipolar disorders; we did not exclude anxiety disorders), risk requiring crisis management, participation in other psychological programmes, and significant difficulty with English.</p>
Follow up	<ul style="list-style-type: none"> - post-treatment (9 weeks after randomization) - 9 month postpartum
Intervention	CBT (Beating the Blues Before Birth) 8 sessions with each one-to-one session running for approximately an hour; delivered by a psychologists with a background in cognitive behavioral therapy.
Participants (n) Drop-outs (n)	Randomized n= 27, analyzed n= 27 (ITT), post-treatment data= 23 n= 4
Comparison	Usual care case-management by their midwife or GP and referred to other services/agencies as necessary
Participants (n) Drop-outs (n)	Randomized n= 27, analyzed n= 27 (ITT), post-treatment data = 21 n= 6
Outcomes	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (BDI-II; 0 to 63; higher=more), mean (SD): Pre-treatment: I= 30.70 (9.28); C= 30.77 (8.71) Post-treatment: I= 12.81 (9.61); C= 18.42 (9.85) - Anxiety (BAI; 0 to 63; higher=more), mean (SD): Pre-treatment: I= 22.37 (10.05); C= 20.59 (10.67) Post-treatment: I= 10.40 (7.59); C= 17.38 (7.94)

	<p>Diagnosis - na</p> <p>Suicide - na</p> <p>Quality of life - na</p> <p>Antenatal attachment - na</p> <p>Experience of treatment/Side effects/Sick leave - The helpfulness of the intervention, mean/max (SD): I= 8.6/10 (1.4); C= na</p> <p>- Satisfaction with the treatment, mean/max (SD): I= 9/10 (0.9); C= na</p> <p>- Intervention had been sufficient to address the problems they had been facing, n/N I=19/19 ; C= na</p>
Comments	
Risk of bias	Low

Author	Burns
Year	2013
Country	UK
Ref #	(9)
Study design	RCT
Setting	All Midwives in North Bristol, UK, a mainly urban setting with some areas of high deprivation, were approached and invited to refer women to the trial
Recruitment	Women were recruited at their midwife 'booking appointment'. For those consenting to be contacted, and if the midwife indicated on the 3-question screen that the women may be suffering from depression and would like help, she was given a more detailed information sheet about the trial and a leaflet on CBT.
Population	n= 36; mean age (SD): I= 28.2 (5.0), C= 30.1 (6.2) ; nulliparous= na ; gestational age at intervention start, mean weeks (SD): I=13 .1 (3.2), C= 12.7 (2.2); Depression/anxiety, median CIS-R Score (SD): I= 26.5 (7.9), C= 30.5 (7.5).
Inclusion criteria	<ul style="list-style-type: none"> - ICD-10 criteria on the CIS-R for depression (mild, moderate or severe) - women over 16 years of age - between 8 and 18 weeks pregnant - screened positive on a 3-question depression screen <p>Exclusion criteria: currently receiving CBT or any individual or group psychological therapy for depression or if they had a psychotic illness, did not have sufficient command of English to complete the questionnaires or benefit from an individual talking therapy without an interpreter</p>
Follow up	<ul style="list-style-type: none"> - 15 weeks post-randomization. - 33 weeks post-randomization.
Intervention	CBT up to 12 individual sessions of CBT at the woman's home by one of two therapists (one with master's level experience and the other with doctoral experience in CBT)
Participants (n)	Randomized n= 18, analyzed n= 16
Drop-outs (n)	n= 2
Comparison	usual care

Participants (n)	9 to 6 appointments with midwives plus scans (a dating and anomaly scan)
Drop-outs (n)	Randomized n= 18, analyzed n= 13 n= 5
Outcomes	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (CIS-R; higher= more) mean (SD): Pre-treatment: na Post-treatment: I= 12.4 (9.2), C= 22.3 (11.1) - Depression (EPDS; 0 to 30; higher=more), mean (SD): Pre-treatment: na Post-treatment: I= 7.9 (4.7), C= 13.8 (7.5) <p>Diagnosis based on cut-offs</p> <ul style="list-style-type: none"> - Depression (diagnosis on the CIS-R), n (%): Pre-treatment: I= 18 (100%); C= 18 (100%) Post-treatment: I= 18-11=7 (39%); C= 18-5=13 (72%) <p>Suicide</p> <ul style="list-style-type: none"> - na <p>Quality of life</p> <ul style="list-style-type: none"> - Patient Health (PHQ-9; 0 to 27; higher=more), mean (SD): Pre-treatment: na Post-treatment: I= 6.2 (4.2), C=11.8 (7.8) - Physical quality of life (SF12, physical component; higher=more), mean (SD): Pre-treatment: I= 43.7 (6.6), C= 45.3 (6.8) Post-treatment: I= 34.5 (7.8), C= 38.5 (5.8) -Mental quality of life (SF12, mental component; higher=more), mean (SD): Pre-treatment: I= 39.9 (7.6), C= 37.5 (8.2) Post-treatment: I= 52.1 (6.4), C= 42.9 (8.9) - Quality of life (EQ-5D; 0 to 1; higher=more), mean (SD): Pre-treatment: I= 0.6 (0.3), C= 0.6 (0.2) Post-treatment: I= 0.78 (0.16), C= 0.72 (0.17) <p>Antenatal attachment</p> <ul style="list-style-type: none"> - Prenatal Attachment Inventory (21 to 84; higher=more), mean (SD): Pre-treatment: na Post-treatment: I= 60.4 (3.0), C= 47.2 (3.3) <p>Experience of treatment/Side effects/Sick leave</p> <ul style="list-style-type: none"> - na
Comments	
Risk of bias	Low

1.2 Mindfulness

Author	Yang
Year	2019
Country	China
Ref #	(10)
Study design	RCT
Setting	Women's Hospital School of Medicine at Zhejiang University, April to June 2018.

Recruitment	Recruitment was conducted in the obstetrics clinic of the hospital. Women who went to the hospital between 24 and 30 weeks' gestation for regular antepartum examinations were screened for depressive or anxious symptoms
Population	n= 123; mean age (SD): I= 31.31 (4.97), C= 30.38 (3.91) ; nulliparous, n(%): I= 39 (62.9), C= 38 (62.3); gestational age at baseline: I= 25.52 (1.84), C= 26.33 (3.45); Depression/anxiety: see outcomes
Inclusion criteria	<ul style="list-style-type: none"> - women aged more than 18 years - 24 to 30 weeks' gestation - low-risk pregnancy at the start of the intervention - internet access - fluent in Chinese and able to complete the questionnaires, - elevated depressive or anxious symptoms as determined by either a PHQ-9 score of more than 4 or a GAD-7 score of more than 4 <p>The exclusion criteria: history or current diagnosis of a psychosomatic disease (physical symptoms or illness that results from interplay of psychosocial and physiologic processes, such as hypertension, diabetes mellitus, or asthma), current substance abuse, previous participation in psychological therapy or a stress reduction program, history of suicide attempts, current use of any psychoactive drug, and a high level of depression (PHQ-9 score > 14) or anxiety (GAD-7 score > 14), regular mind-body practice (yoga, meditation, or mindfulness practice).</p>
Follow up	
Intervention	Mindfulness 4 sessions of 40 minutes during 8 weeks, adapted for pregnant women, in mobile application with interactive learning between instructors and learners, homework, conducted by 2 nurses and one midwife, supervised by a psychologist.
Participants (n)	Randomized n= 62, analyzed n= 62 (ITT)
Drop-outs (n)	n= 10
Comparison	Routine care antepartum health education related to childbirth, breastfeeding, nutrition, and parenting. Women were referred to receive psychological counselling if necessary. Women in the control group were also enrolled in a Wechat group to interact with each other.
Participants (n)	Randomized n= 61, analyzed n= 61 (ITT)
Drop-outs (n)	n= 11
Outcomes	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (PHQ-9; 0 to 27 ; higher=more), mean (SD): Pre-treatment: I= 5.98 (2.24); C= 5.72 (2.65); p=0.609 Post-treatment: I=3.58 (2.32); C= 6.26 (3.31); p<0.001 - Anxiety, GAD (GAD-7; 0 to 21; higher=more), mean (SD): Pre-treatment: I= 5.52 (2.55); C= 5.19 (2.64); p=0.601 Post-treatment: I= 2.97 (2.34); C= 5.26 (2.88); p<0.001 <p>Diagnosis</p> <ul style="list-style-type: none"> - na <p>Suicide</p> <ul style="list-style-type: none"> - na <p>Quality of life</p> <ul style="list-style-type: none"> - na <p>Antenatal attachment</p> <ul style="list-style-type: none"> - na <p>Experience of treatment/Side effects/Sick leave</p> <ul style="list-style-type: none"> - na

Comments	
Risk of bias	Moderate

Author	Zemestani
Year	2019
Country	Kurdistan
Ref #	(11)
Study design	RCT
Setting	Women were recruited from eight medical and obstetric services in Qorveh city, Kurdistan province, Iran.
Recruitment	Study information was provided to mental health clinicians, gynecologists, and midwives, and they were encouraged to refer potentially eligible women.
Population	n=38 ; mean age (SD)= 28.63 (3.02); nulliparous, n(%): I= 6 (32%), C= 7 (37%) ; gestational age at enrollment, mean (SD): I= 18.27 (6.71), C= 16.85 (5.62); Depression/anxiety: see outcomes
Inclusion criteria	<ul style="list-style-type: none"> - pregnant women - within 1 to 6 months of gestational age - meeting DSM-5 criteria for depression and anxiety disorders - with a score > 20 on the Beck Depression Inventory-II - with a score > 22 on the Beck Anxiety Inventory - aged 18 years or older. <p>Exclusion criteria: diagnostic criteria for other DSM-5 psychiatric disorders, including current psychotic disorders, bipolar disorder, substance abuse or dependence, personality disorders, taking psychotropic drugs, and risk pregnancies.</p>
Follow up	<ul style="list-style-type: none"> - Post-treatment - 1-month post-treatment follow-up
Intervention	Mindfulness (cognitive therapy based) 8 weekly 2-h group sessions; focus on formal and informal mindfulness and meditation practices customized for the perinatal period; delivered by a trained master's level clinical psychologist with 2 years of clinical experience and received supervised training.
Participants (n)	Randomized n= 19, analyzed n= 19 (ITT)
Drop-outs (n)	n= 4
Comparison	Care as usual
Participants (n)	Randomized n= 19, analyzed n= 19 (ITT)
Drop-outs (n)	n= 1
Outcomes	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (BDI-II; 0 to 63; higher=more), mean (SD): Pre-treatment: I= 35.76 (10.97); C= 36.60 (7.23) Post-treatment: I= 15.15 (2.23); C= 38.86 (6.01) 1-month follow-up: I= 15.53 (3.55); C= 37.80 (7.50) - Anxiety (BAI; 0 to 63; higher=more), mean (SD): Pre-treatment: I= 31.92 (5.61); C= 32.66 (4.80) Post-treatment: I= 18.15 (3.91); C= 33.73 (4.93) 1-month follow-up: I= 19.15 (3.41); C= 32.73 (4.87) <p>Diagnosis</p> <ul style="list-style-type: none"> - na <p>Suicide</p> <ul style="list-style-type: none"> - na <p>Quality of life</p>

	- na Antenatal attachment - na Experience of treatment/Side effects/Sick leave - na
Comments Risk of bias	Moderate

Author	Guardino
Year	2014
Country	USA
Ref #	(12)
Study design	RCT
Setting	university clinic that primarily serves privately insured women who receive prenatal care from a large group of physicians and midwives in accordance with American College of Obstetrics & Gynecology standards.
Recruitment	Participants were a volunteer sample of pregnant women from the clinic. During clinic hours, medical staff introduced potentially eligible patients to research staff. Participants were also recruited through fliers describing the study and listing eligibility criteria that were distributed and displayed at the faculty practice and in locations around the UCLA campus.
Population	n= 47; mean age (SD)= 33.13 (4.79); nulliparous= 78%; gestational age in weeks at baseline= 17.78 (5.10); Depression: na; Anxiety: see outcomes
Inclusion criteria	- were pregnant and between 10- and 25-weeks gestation - a singleton pregnancy - could speak and read English fluently - were over the age of 18 - were willing and able to attend the six-week mindfulness course - were willing and able to provide informed consent - elevated levels of perceived stress (total score above 34 on PSS) - elevated levels of pregnancy-specific anxiety (total score above 11 on PSA)
Follow up	- post-intervention - 6 weeks later
Intervention	Mindfulness Mindful Awareness Practices classes with home practice (MAPS); 6-week series of 2-h classes; delivered by trained instructor
Participants (n)	Randomized n= 24, analyzed n= 20
Drop-outs (n)	n= 4
Comparison	Reading control reading a book and learn about important aspects of healthy pregnancy, including stress management.
Participants (n)	Randomized n= 23, analyzed post-intervention n= 20, analyzed 6-week follow-up n= 16
Drop-outs (n)	Post-intervention n= 3; 6-week follow-up n=7
Outcomes	Degree of symptoms - Anxiety state (STAI-S; 20 to 80; higher=more), mean (SD): Pre-treatment: I= 45.69 (7.64); C= 44.37 (10.98) Post-treatment: I= 39.47 (6.27); C= 37.35 (11.51) 6-week follow-up: I= 38.11 (8.78); C= 36.19 (10.84) - Stress (PSS-14; 0 to 56; higher=more), mean (SD): Pre-treatment: I= 41.81 (6.00); C= 39.91 (8.55) Post-treatment: I= 37.30 (5.38); C= 35.80 (8.01)

	6-week follow-up: I= 36.17 (5.90); C= 37.42 (7.27) Diagnosis - na Suicide - na Quality of life - na Antenatal attachment - na Experience of treatment/Side effects/Sick leave - na
Comments	
Risk of bias	Moderate

Author	Vieten
Year	2008
Country	USA
Ref #	(13)
Study design	RCT
Setting	The study took place at a large private non-profit hospital in San Francisco, California.
Recruitment	Participants were recruited through physicians' offices, childbirth education classes, advertisements, and flyers at other locations pregnant women frequent.
Population	n= 31; mean age (SD)= 33.9 (3.8); nulliparous= na; gestational age at baseline=25 (SD, 4.0; range, 18–31); Depression/anxiety: see outcomes section.
Inclusion criteria	<ul style="list-style-type: none"> - women in the second and third trimesters - between 12- and 30-weeks gestation at the start of the intervention - able to speak and read English - affirmative response to the question "Have you had a history of mood concerns for which you sought some form of treatment, such as psychotherapy, counseling, or medication?" <p>Exclusion criteria: (1) a history of mental disorders that had a psychotic, dissociative, hallucinatory, or delusional component or (2) an inability to attend each of the classes or participate in the assessments.</p>
Follow up	postintervention (third trimester)
Intervention	Mindfulness group training; 2 h per week for 8 weeks; facilitated by a licensed clinical psychologist trained in mindfulness-based interventions and a certified prenatal yoga instructor; Group sizes ranged from 12 to 20 women.
Participants (n)	Randomized n= 15, analyzed n= 13
Drop-outs (n)	n=2
Comparison	Wait-list control
Participants (n)	Randomized n= 19, analyzed n= 18
Drop-outs (n)	n=1
Outcomes	Degree of symptoms - Depression (CES-D; 0 to 60; higher=more), mean (SD): Pre-treatment: I= 20.4 (8.4); C= 14.2 (5.4) Post-treatment: I= 16.2 (7.3); C= 17.2 (7.4) Pre-post-change: I= -3.6 (5.2); C= +4.6 (7.3) - State anxiety (STAI-S; 20 to 80; higher=more), mean (SD): Pre-treatment: I= 43.8 (12.4); C= 35.6 (10.9)

	Post-treatment: I= 35.4 (9.1); C= 35.6 (8.4) Pre-post-change: I= -6.9 (7.6); C= 0.35 (7.5) Diagnosis - na Suicide - na Quality of life - na Antenatal attachment - na Experience of treatment/Side effects/Sick leave - na
Comments Risk of bias	Moderate

1.3 Behavioral activation

Author	Dimidjian
Year	2017
Country	US
Ref #	(14)
Study design	RCT
Setting	four sites in different regions of the United States within the National Institute of Mental Health funded Mental Health Research Network in the United States, including Seattle, Washington (Group Health Cooperative), Minneapolis, Minnesota (HealthPartners), Denver, Colorado (Kaiser Permanente Colorado), and Atlanta, Georgia (Kaiser Permanente Georgia). These large integrated healthcare systems provide general medical and mental health care to defined populations, including members enrolled via commercial insurance, Medicaid, and other low-income programs
Recruitment	Enrollment occurred between April 2012 and June 2013 and assessment concluded in October 2014. Recruitment strategies included referral from obstetric care providers, self-referral in response to written information provided during or after obstetric or behavioral health visits, outreach calls to women with elevated scores at obstetric visits or mailed screening with the PHQ-9.
Population	n= 163; mean age (SD)= 28.75 (5.67); nulliparous, n(%)= 64 (39%); gestational age at intervention start= na ; Depression/anxiety: see outcomes
Inclusion criteria	(a) pregnant (b) receiving care at one of the four sites (c) aged 18 or older (d) baseline score of ≥ 10 on the PHQ-9 (e) English speaker (f) no known diagnosis of bipolar or psychotic disorder, active substance dependence, or immediate risk of self-harm or need for hospitalization. Consistent with a pragmatic trial design, prior or current use of medication or psychotherapy was not restricted. In addition, we expanded the eligibility criterion to a baseline score of ≥ 10 on the PHQ-9 (from the initial plan to require ≥ 15 given clinical guidelines in the delivery settings that recommended additional screening and intervention for such patients).
Follow up	- 5 weeks after randomization - 10 weeks after randomization (not reported here) - 3 months postpartum (not reported here)
Intervention	Behavioral Activation

Participants (n) Drop-outs (n)	10-session duration; 2 days of in-person workshops and self-paced reading followed by ongoing weekly group telephonic supervision (90 min) and individual supervision as needed (30 min); held by 8 providers (4 with nursing degree, 3 with master's degree in behavioral health, 1 registered occupational therapist) Randomized n=86, analyzed n= 67 n= 19
Comparison Participants (n) Drop-outs (n)	Treatment as usual Randomized n=77, analyzed n= 64 n=13
Outcomes	<p>Degree of symptoms</p> <p>- Depression (PHQ-9; 0 to 27; higher= more), mean (SD): Pre-treatment: I= 14.83 (3.47); C= 14.60 (3.20) Post-treatment: I= 11.56 (4.77); C= 12.00 (4.56)</p> <p>- Anxiety (GAD-7; 0 to 21; higher=more), mean (SD): Pre-treatment: I= 13.23 (4.30); C= 13.50 (4.01) Post-treatment: I= 10.43 (4.80); C= 11.50 (5.01)</p> <p>- Stress (PSS-10; 0 to 40; higher=more), mean (SD): Pre-treatment: I= 26.40 (5.38); C= 25.73 (4.76) Post-treatment: I= 23.49 (6.16); C= 24.68 (6.70)</p> <p>Diagnosis - na</p> <p>Suicide - na</p> <p>Quality of life - na</p> <p>Antenatal attachment - na</p> <p>Experience of treatment/Side effects/Sick leave - na</p>
Comments Risk of bias	Moderate

1.4 Interpersonal Psychotherapy (IPT)

Author Year Country Ref #	Lenze 2017 US (15)
Study design Setting Recruitment	RCT an urban prenatal clinic, low income perinatal population. Pregnant women were recruited from an urban prenatal clinic by flyers posted in the OB-Gyn clinic, OB-Gyn clinic staff referral, and referrals from community social service agencies.
Population	n= 42 ; mean age (SD): I= 26.90 (5.81), C= 26.38 (5.90) ; nulliparous= na; nr of pregnancies, mean (SD): I= 1.52 (1.47), C= 1.81 (1.88); gestational age at enrollment, mean (SD): I=23.38 (6.58), C= 25.76 (4.57); Depression/anxiety: na
Inclusion criteria	- ages 18 and older - between 12- and 30-weeks gestation - singleton pregnancies

	<p>- EPDS scores ≥ 10 and meeting diagnostic criteria (DSM) for current Major Depression, Dysthymia, or Depression NOS</p> <p>Exclusion criteria: psychotic disorders, current substance abuse, or medically high-risk pregnancies</p> <p>- post treatment at 37–39 weeks gestation</p>
Follow up	
Intervention	Brief Interpersonal Psychotherapy 9 sessions; Therapists included the PI (a clinical psychologist with 15 years of experience) and two master's level clinicians.
Participants (n)	Randomized n= 21 , analyzed n= 21 (ITT), completer n =19
Drop-outs (n)	n= 2
Comparison	Enhanced Treatment as Usual referred to community resources (including specialty mental health). Additionally, brief case management, diapers and other baby supplies were provided.
Participants (n)	Randomized n= 21 , analyzed n= 21 (ITT), completer n =19
Drop-outs (n)	n= 2
Outcomes	<p>Degree of symptoms</p> <p>- Depression (EPDS; 0 to 30; higher=more), mean (SD): Pre-treatment: I= 17.81 (3.71); C= 17.90 (4.60) Post-treatment: I= 12.12 (5.33); C= 11.21 (6.80)</p> <p>- Anxiety (brief STAI; 20 to 80 or 6 to 24 if not converted to STAI-scores; higher=more/less), mean (SD): Pre-treatment: I= 15.57 (4.11); C=15.05 (4.31) Post-treatment: I= 13.67 (4.50); C= 14.16 (4.83)</p> <p>Diagnosis</p> <p>- na</p> <p>Suicide</p> <p>- na</p> <p>Quality of life</p> <p>- na</p> <p>Antenatal attachment</p> <p>- na</p> <p>Experience of treatment/Side effects/Sick leave</p> <p>- Client Satisfaction (CSQ; 8 to 32; higher= more), mean (SD): Post-treatment: I= 30.60 (1.89); C= na</p>
Comments	
Risk of bias	Moderate

Author	Grote
Year	2016
Country	US
Ref #	(16) see also (17)
Study design	RCT
Setting	Seattle-King county Public Health System, July 2009- January 2014
Recruitment	Social workers and nurses were the studies primary referral sources who routinely screened pregnant patients for depression. Patients scoring 10 or above on the PHQ-9
Population	n= 164; mean age (SD)= 27.0 (6.0); nulliparous= na; gestational age at intervention start= na; Depression/anxiety: probable major depressive disorder=100%; probable PTSD = 65%
Inclusion criteria	- age 18 or above

Follow up	<ul style="list-style-type: none"> - diagnosis of probable major depressive disorder - and/or diagnosis of probable dysthymia based on the MINI-International Neuropsychiatric Interview - 12 to 32 weeks gestation - telephone access - English speaking <p>Exclusion criteria: acute suicidal behavior or multiple prior suicidal attempts, schizophrenia, bipolar disorder, recent substance abuse/dependence, severe intimate partner violence necessitating crisis intervention, or currently seeing a psychiatrist or psychotherapist.</p> <ul style="list-style-type: none"> - 3 month (88% still pregnant) - 6 month (not reported here) - 12 month (not reported here) - 18 month (not reported here)
Intervention	Collaborative depression care including brief IPT (8 sessions), pharmacotherapy, or both, telephone plus in-person visits, proactive outreach after missed sessions, case management to meet basic needs (MOMCare)
Participants (n)	Randomized n= 83, analyzed n= 81
Drop-outs (n)	n= 2
Comparison	Enhanced usual care intensive maternity support services; more and longer visits 6 to 8 half-hour visits; multidisciplinary team of public health social workers, nurses, and nutritionists.
Participants (n)	Randomized n= 85, analyzed n= 83
Drop-outs (n)	n= 2
Outcomes	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (SCL-20; 0 to 4; higher=more), mean (SD): Pre-treatment: na Post-treatment (reported for 2 subgroups with/without PTSD): I_PTSD(n=48)= 1.12 (0.55); C_PTSD(n=58)= 1.42 (0.76) I_noPTSD(n=33)= 1.01 (0.63); C_noPTSD(n=25)= 0.99 (0.50) <p>For data over subgroups see (17)</p> <p>Diagnosis</p> <ul style="list-style-type: none"> - na <p>Suicide</p> <ul style="list-style-type: none"> - na <p>Quality of life</p> <ul style="list-style-type: none"> - na <p>Antenatal attachment</p> <ul style="list-style-type: none"> - na <p>Experience of treatment/Side effects/Sick leave</p> <ul style="list-style-type: none"> - na
Comments	
Risk of bias	Low

Author	Grote
Year	2015
Country	US
Ref #	(17) see also (16)
Study design	RCT
Setting	Seattle-King county Public Health System, July 2009- January 2014

Recruitment	Social workers and nurses were the studies primary referral sources who routinely screened pregnant patients for depression. Patients scoring 10 or above on the PHQ-9
Population	n= 168; mean age (SD)= 27.4 (6.1); nulliparous= na; gestational age in weeks at baseline= 22.4 (6.1); Major depressive disorder (PHQ)=162 (96.4%)
Inclusion criteria	<ul style="list-style-type: none"> - age 18 or above - diagnosis of probable major depressive disorder - and/or diagnosis of probable dysthymia based on the MINI-International Neuropsychiatric Interview - 12 to 32 weeks gestation - telephone access - English speaking
Follow up	<p>Exclusion criteria: acute suicidal behavior or multiple prior suicidal attempts, schizophrenia, bipolar disorder, recent substance abuse/dependence, severe intimate partner violence necessitating crisis intervention, or currently seeing a psychiatrist or psychotherapist.</p> <ul style="list-style-type: none"> - 3 month (88% still pregnant) - 6 month (not reported here) - 12 month (not reported here) - 18 month (not reported here)
Intervention	Collaborative depression care including brief IPT (8 sessions), pharmacotherapy, or both, telephone plus in-person visits, proactive outreach after missed sessions, case management to meet basic needs (MOMCare)
Participants (n)	Randomized n= 83, analyzed n= 71
Drop-outs (n)	n= 12
Comparison	Enhanced usual care intensive maternity support services; more and longer visits 6 to 8 half-hour visits; multidisciplinary team of public health social workers, nurses, and nutritionists.
Participants (n)	Randomized n= 85, analyzed n= 80
Drop-outs (n)	n= 5
Outcomes	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (SCL-20; 0 to 4; higher=more), mean (SD): Pre-treatment: I = 1.8 (0.6); C= 1.8 (0.6) Post-treatment: I = 1.08 (0.64); C= 1.26 (0.64) <p>Diagnosis</p> <ul style="list-style-type: none"> - na <p>Suicide</p> <ul style="list-style-type: none"> - na <p>Quality of life</p> <ul style="list-style-type: none"> - na <p>Antenatal attachment</p> <ul style="list-style-type: none"> - na <p>Experience of treatment/Side effects/Sick leave</p> <ul style="list-style-type: none"> - na
Comments	
Risk of bias	Low

Author	Field
Year	2013
Country	US
Ref #	(18)
Study design	RCT

Setting Recruitment	USA, two prenatal ultrasound clinics at a large university medical center. Recruitment at two prenatal ultrasound clinics (recruitment sample = 182) at a large university medical center.
Population	n= 44; mean age (SD)=24.9 (5.4); nulliparous= na; gestational age at intervention start= 22 weeks gestation; Depression/anxiety: all were diagnosed with dysthymia or major depression on the SCID based on DSM IV symptoms. The women were primarily low income and Hispanic or African-American women with a high-school education.
Inclusion criteria	1) depressed, as diagnosed on the Structured Clinical Interview for Depression (SCID) 2) pregnant with one child 3) uncomplicated pregnancy with no medical illness 4) younger than 40-years-old 5) no drug use (i.e., prescribed or illicit)
Follow up	Post treatment at 34 weeks gestation.
Intervention	Interpersonal psychotherapy groups of 8 persons (1h per week for 12 weeks); the therapist was trained in these techniques and received ongoing supervision from another trained therapist. (Control group in the study)
Participants (n) Drop-outs (n)	Randomized n= 24, analyzed n= 22 n= 2
Comparison	Peer support Groups of 8 persons (20-minutes per week for 12 weeks) (Intervention group in the study)
Participants (n) Drop-outs (n)	Randomized n= 24, analyzed n= 22 n= 2
Outcomes	Degree of symptoms - Depression (CES-D; 0 to 60; higher=more), mean (SD): Pre-treatment: I= 20 (10); C= 26.8 (5.7); Post-treatment: I= 17.5 (6.7); C= 21.0 (7.4); - State Anxiety (STAI-S; 20 to 80; higher=more), mean (SD): Pre-treatment: I= 41.3 (10.3); C= 48.5 (6.1); Post-treatment: I= 38.7 (11.3); C= 43.2 (6.2) Diagnosis - NA Suicide - NA Quality of life - NA Antenatal attachment - NA Experience of treatment/Side effects/Sick leave - NA
Comments Risk of bias	Moderate

Author	Spinelli
Year	2013
Country	US
Ref #	(19)
Study design	RCT
Setting	Sept 2005 to May 2011 in New York, US

Recruitment	Prospective research participants were referred to the Maternal Mental Health Program at New York State Psychiatric Institute from the obstetrics departments of New York Presbyterian Hospital at Columbia University College of Physicians and Surgeons (Columbia), New York Presbyterian Hospital at Weill Cornell Medical College (Cornell), and St Luke's Roosevelt Hospital.
Population	n= 142 ; mean age (SD): I= 30.0 (6.9, C= 28.9 (6.6) ; nulliparous, n(%): I= 26 (36), C= 17 (24) ; gestational age at intervention start, mean (SD): I=22.4 (6.0), C= 22.1 (7.0); Depression: see inclusion criteria
Inclusion criteria	- DSN-IV criteria for major depressive disorder - between 12- and 33-weeks gestation - between 18 to 45 years of age
Follow up	Exclusion criteria: psychotic, had abused drugs or alcohol in the past 6 months, acute risks for suicide, psychotropic medication. - visit week 4 - visit week 8 - visit week 12
Intervention	Interpersonal psychotherapy 12 weeks; 6 psychotherapists with with at least 5 years of psychotherapy experience
Participants (n)	Randomized n= 72, analyzed n= na
Drop-outs (n)	n= na
Comparison	Parenting education program 12 weeks 45-min sessions
Participants (n)	Randomized n=70, analyzed n= na
Drop-outs (n)	n= na
Outcomes	<p>Degree of symptoms</p> <p>- Depression (HDRS17; 0 to 52; higher=more): Interaction group x time: $F(3,104)=0.40, p=0.756$ Data extracted from figure, mean (SD): Pre-treatment: I= 17.5 (3.7); C= 18.0 (4.0) Post-treatment: I= 8.2 (5.1); C= 8.8 (5.9)</p> <p>- Depression (EPDS; 0 to 30; higher=more), Interaction group x time: $F(3,104)=0.06, p=0.979$ Data extracted from figure, mean (SD): Pre-treatment: I= 17.7 (3.7); C= 18.1 (4.1) Post-treatment: I= 8.7 (4.8); C= 9.4 (5.5)</p> <p>Diagnosis - na</p> <p>Suicide - na</p> <p>Quality of life -na</p> <p>Antenatal attachment - Maternal fetal attachment (MFAS; 24 to 120; higher=more), mean (SD): Pre-treatment: I= na; C= na Post-treatment: I= na; C= na</p> <p>Experience of treatment/Side effects/Sick leave - na</p>
Comments	
Risk of bias	Moderate

Author	Grote
Year	2009
Country	US
Ref #	(20)
Study design	RCT
Setting	Pittsburgh, USA, from March 2004 through December 2006
Recruitment	participants were recruited from the public care outpatient obstetrics and gynecology clinic of a large women's hospital in Pittsburgh, Pennsylvania. Pregnant women were referred to the study by clinic health care professionals, the research registry, and clinic flyers.
Population	n= 53 ; mean age (SD): I= 24.3 (5.3), C= 24.7 (5.6) ; nulliparous= na; Number of children at home, mean (SD): I= 1.4 (1.7), C= 1.4 (1.3) ; gestational age in weeks at intervention start: I= 22.6 (6.7), C= 20.4 (6.8) ; Depression/anxiety: see outcomes
Inclusion criteria	<ul style="list-style-type: none"> - 18 years or older - 10 to 32 weeks gestation - cutoff score >12 on the Edinburgh Postnatal Depression Scale (EPDS) - English speaking - access to a telephone - living in the Pittsburgh region. <p>Exclusion criteria: substance abuse or dependence within the preceding six months; actively suicidal; bipolar disorder, a psychotic disorder, or an organic mental disorder; an unstable medical condition that could produce symptoms confounding accurate assessment of mood symptoms (for example, untreated thyroid disease); severe intimate partner violence; and current receipt of another form of depression treatment (that is, psychotherapy or pharmacotherapy).</p>
Follow up	baseline, 3 months postbaseline, and 6 months postpartum
Intervention	enhanced brief interpersonal psychotherapy 8 sessions; delivered by one doctoral-level clinician and one master's-level clinician, both of whom had supervised training and experience in enhanced IPT-B,
Participants (n)	Randomized n= 25, analyzed n= 25
Drop-outs (n)	n= na; Overall study attrition rate: N=7, 13%
Comparison	enhanced usual care usual care and written educational material, easy access to depression treatment and more monitoring of their depression severity and diagnostic status
Participants (n)	Randomized n= 28, analyzed n= 28
Drop-outs (n)	n= na; Overall study attrition rate: N=7, 13%
Outcomes	<p>Degree of symptoms</p> <ul style="list-style-type: none"> - Depression (EPDS; 0 to 30; higher=more), mean (SD): Pre-treatment: I= 18.9 (3.4); C= 18.1 (3.8) Post-treatment: I= 5.7 (4.6); C= 13.6 (6.6) -Depression (BDI; 0 to 63; higher=more), mean (SD): Pre-treatment: I= 24.3 (10.2); C= 25.9 (11.1) Post-treatment: I= 10.1 (7.7); C= 21.3 (11.1) - Anxiety (BAI; 0 to 63; higher=more), mean (SD): Pre-treatment: I= 14.4 (11.0); C= 16.3 (10.5) Post-treatment: I= 6.6 (5.1); C= 15.9 (8.8) <p>Diagnosis</p> <ul style="list-style-type: none"> - major depression on the SCID, n/total N (%)

	Pre-treatment: I= 23/25 (92%); C= 22/28 (79%) Post-treatment: I= (22-21)/22=1/22 (5%); C= (26-15)/26=11/26 (42%) Suicide - na Quality of life - na Antenatal attachment - na Experience of treatment/Side effects/Sick leave - na
Comments Risk of bias	Moderate

1.5 Referenser

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Bilaga till rapport

1 (1)

SBU Utvärderar: Förlossningsrädsla,
depression och ångest under
graviditet, rapport nr 322 (2021)

Appendix 7 Table over included studies, health economic assessment

Bilaga 7 – Included health economic studies

Table 1 Economic evaluations comparing psychoeducation with usual care for fear of childbirth.

Author	Rouhe et al
Year	2015
Reference	[1]
Country	Finland
Study design	RCT-based CA Time period: prenatal, delivery and post-natal readmissions
Population	Nulliparous women with severe FOC (W-DEQ ≥ 100), mean age 29 years*
Setting	University hospital
Perspective	Health care perspective
Intervention	Psychoeducative group sessions (6 sessions à 2 hrs during pregnancy and 1 session after birth, incl. discussion and relaxation) (n=131)
vs control	vs Conventional care, incl. information letter (n=240)
Incremental cost	No statistically significant difference in prenatal, delivery and post-natal readmission costs (3 786 Euro vs. 3 830 EUR) Costs reported in EUR year 2009
Incremental effect	Spontaneous vaginal delivery with no complications 63,4% vs. 47,5% (p=0,005) Elective CS with no complications 10,7% vs. 12,9% (n.s.) Complicated CS 12,2% vs. 20,4% (p<0,05) No statistically significant differences in life satisfaction or general well-being
ICER	Not relevant
Study quality and transferability**	Moderate quality High transferability to Sweden
Further information Comments	ITT analysis of resource use based on Rouhe et al 2013*, where 44% of women in the control group (106 out of 240) received specialised care for FOC after randomisation Costs due to sick leave were not included in the analyses, as this did not differ significantly between treatment groups Antenatal inpatient stays, ultrasound screening visits and induction of labour were not included in the costs, as they did not differ significantly between groups or were unrelated to FOC

* Information from Rouhe et al 2013 (1).

** Study quality is a combined assessment of the quality of the study from a clinical as well as an economic perspective

(https://www.sbu.se/globalassets/ebm/metodbok/checklist_trialbased-economic-study.pdf).

Abbreviations: CA = Cost analysis; CS = caesarean section; EUR = Euro; FOC = Fear of childbirth; hrs = hours; ICER = Incremental cost-effectiveness ratio; ITT = Intention-to-treat; n.s. = not statistically significant; W-DEQ = Wijma Delivery Expectancy Questionnaire

Table 2 Economic evaluations comparing psychoeducation with usual care for mild-moderate depression and anxiety.

Author	Trevillion et al
Year	2020
Reference	[20]
Country	United Kingdom
Study design	RCT-based CUA; ITT analysis Time period: prenatal (baseline, 14 weeks post-randomisation) and 3 months post-delivery
Population	Pregnant women (aged ≥ 16 years) with mild or moderate major depressive disorder, or mixed anxiety and depressive disorder
Setting	NHS maternity units in London
Perspective	Health and social care perspective
Intervention vs control	Guided self-help: workbook with homework (incl. psychoeducation) and 1–8 sessions with Psychological Wellbeing Practitioner (n=26) vs Usual care (n=27)
Incremental cost (95% CI)	At 14 weeks post-randomisation: unadjusted mean difference -1 024 GBP (-3 538, 1 489) At 3 months post-delivery: unadjusted mean difference -80 GBP (-2 976, 2 816) Costs reported in GBP year 2015/2016
Incremental effect (95% CI)	At 14 weeks post-randomisation: unadjusted mean difference 0,00 (-0,06; 0,07) At 3 months post-delivery: unadjusted mean difference 0,01 (-0,05; 0,08) Base case SF-6D value set for the UK by Brazier 2002; EQ-5D-5L value set for England (Devlin 2016) used in sensitivity analyses
ICER	At 14 weeks post-randomisation: not reported At 3 months post-delivery: 7 200 GBP Probabilistic sensitivity analyses suggest that intervention has about 50 % probability of being cost-effective over a range of willingness-to-pay per QALY thresholds between 0 GBP and 50 000 GBP.
Study quality and transferability*	High quality Moderate transferability to Sweden
Further information Comments	Phase 2 study with small sample. Study did not reach its recruitment target of 110 patients.

* Study quality is a combined assessment of the quality of the study from a clinical as well as an economic perspective (https://www.sbu.se/globalassets/ebm/metodbok/checklist_trialbased-economic-study.pdf).

Abbreviations: CUA = Cost-utility analysis; GBP = British pounds; ICER = Incremental cost-effectiveness ratio; ITT = Intention-to-treat; NHS = National Health Service; n.s. = not statistically significant; QALY = quality-adjusted life year

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