REVIEW ARTICLE

Interventions to address baby blues among postpartum mothers: A systematic review of effectiveness and implementation

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Abstract

Peripartum mood disorders encompass a spectrum of severity, ranging from transient and self-resolving "baby blues" to the more incapacitating postpartum depression. This systematic review evaluates non-pharmacological interventions targeting the prevention and management of postpartum blues among pregnant and postpartum women. Literature searches were conducted in ScienceDirect, Cochrane Library, Scopus, and Medline for studies published up to December 2023. Eligible studies included randomized controlled trials (RCTs) and quasi-experimental designs investigating interventions for postpartum blues. Quality and risk of bias were assessed using CASP, JBI, and RoB 2 tools. Out of 306 articles screened, 17 studies met the inclusion criteria. Interventions were categorized into seven areas: mind (e.g., meditation, music therapy), bonding (e.g., mother-infant attachment), massage (e.g., effleurage), psychological support (e.g., thought-stopping therapy), education (e.g., psychoeducation), stimulation (e.g., acupressure), and oral treatments (e.g., herbal supplements). Quantitative findings indicated significant reductions in postpartum blues scores, with effect sizes ranging from moderate to strong depending on the intervention. Progressive muscle relaxation and music therapy demonstrated the most immediate effects, while spousal involvement enhanced long-term outcomes. This review highlights the diverse and culturally adaptable interventions available, though no single approach proved superior. Future research should refine assessment tools and examine longitudinal impacts of these therapies. *(Afr J Reprod Health 2025; 29 [2]: 160-180).*

Keywords: Postpartum blues; non-pharmacological therapy; maternity; Systematic review

Résumé

Les troubles de l'humeur péripartum englobent un spectre de gravité, allant du « baby blues » passager et auto-résolu à la dépression post-partum plus incapacitante. Cette revue systématique évalue les interventions non pharmacologiques ciblant la prévention et la gestion du blues post-partum chez les femmes enceintes et post-partum. Des recherches documentaires ont été menées dans ScienceDirect, Cochrane Library, Scopus et Medline pour les études publiées jusqu'en décembre 2023. Les études éligibles comprenaient des essais contrôlés randomisés (ECR) et des conceptions quasi-expérimentales portant sur les interventions contre le blues post-partum. La qualité et le risque de biais ont été évalués à l'aide des outils CASP, JBI et RoB 2. Sur 306 articles examinés, 17 études répondaient aux critères d'inclusion. Les interventions ont été classées en sept domaines : l'esprit (par exemple, la méditation, la musicothérapie), le lien (par exemple, l'attachement mère-enfant), le massage (par exemple, l'effleurage), le soutien psychologique (par exemple, la thérapie d'arrêt de la pensée), l'éducation (par exemple, la psychoéducation).), la stimulation (par exemple, l'acupression) et les traitements oraux (par exemple, les suppléments à base de plantes). Les résultats quantitatifs ont indiqué des réductions significatives des scores de blues post-partum, avec des tailles d'effet allant de modérées à fortes selon l'intervention. La relaxation musculaire progressive et la musicothérapie ont démontré les effets les plus immédiats, tandis que la participation du conjoint a amélioré les résultats à long terme. Cette revue met en évidence les interventions diverses et culturellement adaptables disponibles, même si aucune approche unique ne s'est avérée supérieure. Les recherches futures devraient affiner les outils d'évaluation et examiner les impacts longitudinaux de ces thérapies. *(Afr J Reprod Health 2025; 29 [2]: 160-180).*

Mots-clés: Blues post-partum ; thérapie non pharmacologique; maternité, Revue systématique

Introduction

In the postpartum period, there is a possibility of encountering complications that can profoundly impact both women and their newborns. Failure to promptly and accurately diagnose and address physical and mental disorders during this critical phase could lead to lasting emotional and cognitive

impairment for mothers and their infants[1]. One such psychological condition is maternity blues[2–4], also known as postpartum blues or early postpartum distress. Maternity blues is a temporary physiological and psychological condition characterized by symptoms such as sadness, frequent crying, emotional instability, insomnia, anxiety, and confusion[5].

Postpartum blues typically emerge within the first week after delivery, with primiparous mothers being particularly vulnerable due to the physical exhaustion of labor, emotional adjustments to new responsibilities, and lack of prior experience[6–12]. The prevalence of postpartum blues is significant, affecting up to 74.4% of new mothers, with 10–15% of cases progressing to postpartum depression if left unaddressed[13]. Such progression is alarming, as postpartum depression is associated with an increased risk of maternal suicide and adverse outcomes for both mother and child[14–17].

Maternity blues have been linked to disruptions in infant care and an increased likelihood of developing symptoms associated with postpartum depression[18]. Additionally, they can hinder maternal-infant interactions[19,20] and potentially impact child development[21,22]. While the precise origins of maternity blues remain uncertain, hormonal fluctuations following childbirth are widely believed to be a primary contributing factor. Consequently, women who are more sensitive to hormonal changes are at a higher risk of experiencing maternity blues compared to those who are less sensitive [23,24].

Peripartum mood disorders encompass a spectrum of severity, ranging from the transient and self-resolving "blues" to the more incapacitating postpartum depression[25,26]. Postpartum blues, as defined by diagnostic criteria, typically resolve spontaneously and do not necessitate active treatment beyond validation, education, reassurance, and psychosocial support[27]. It is crucial to carefully assess patients diagnosed with postpartum blues to rule out criteria for a depressive episode and ensure symptoms do not persist beyond two weeks. Should a diagnosis of postpartum depression or depression with peripartum onset be confirmed, clinicians should initiate a treatment plan involving supportive psychotherapy and potentially antidepressant medication. In cases where psychotic features are present, consideration of antipsychotic treatment may also be warranted alongside other interventions[28].

A previous scoping review analyzed patient-reported outcome measures used in postpartum recovery, specifically focusing on instruments employed to evaluate postpartum anxiety. However, this review did not evaluate the methodological quality, risk of bias, overall psychometric performance, or level of evidence associated with these instruments[29]. Other studies have also investigated non-pharmacological approaches aimed at reducing stress, anxiety, and depression during pregnancy, childbirth, and the postnatal period. For instance, Bastos *et al*.[30] conducted a systematic review to assess the effectiveness of debriefing interventions compared to standard postnatal care in preventing psychological trauma among postpartum women. Additional research has explored various interventions such as family psychosocial and psychological support, hypnosis, enhanced feedback during antenatal ultrasound appointments, and mind-body techniques to promote maternal mental health during the transition to parenthood[31,32].

While postpartum depression has been extensively studied for its detrimental impact on maternal-infant bonding and child development, far less attention has been directed toward postpartum blues. This oversight has left a critical gap in addressing its prevention and management. Existing studies often focus on pharmacological solutions, with limited exploration of non-pharmacological approaches. Furthermore, while some studies investigate specific interventions, their findings have not been systematically synthesized, particularly across diverse cultural contexts.

This systematic review aims to address these gaps by evaluating a range of non-pharmacological interventions for postpartum blues. By categorizing these interventions and examining their preventive and therapeutic potential, this review seeks to provide clinicians and researchers with a structured framework for managing postpartum blues. Unlike previous reviews, this study integrates findings from 17 rigorously assessed studies, offering novel

insights into the effectiveness and implementation of these interventions in varied settings.

Additionally, this review underscores the importance of culturally tailored strategies. For instance, practices such as music therapy or Qur'anic listening may resonate more deeply within specific communities, while universally applicable techniques like progressive muscle relaxation or psychoeducation hold broader appeal. By highlighting such nuances, the review contributes to advancing both clinical practice and research in maternal mental health careIn the postpartum period, there is a possibility of encountering complications that can profoundly impact both women and their newborns. Failure to promptly and accurately diagnose and address physical and mental disorders during this critical phase could lead to lasting emotional and cognitive impairment for mothers and their infants[1]. One such psychological condition is maternity blues[2–4], also known as postpartum blues or early postpartum distress. Maternity blues is a temporary physiological and psychological condition characterized by symptoms such as sadness, frequent crying, emotional instability, insomnia, anxiety, and confusion[5].

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Additionally, this review underscores the importance of culturally tailored strategies. For instance, practices such as music therapy or Qur'anic listening may resonate more deeply within specific communities, while universally applicable techniques like progressive muscle relaxation or psychoeducation hold broader appeal. By highlighting such nuances, the review contributes to advancing both clinical practice and research in maternal mental health care

Methods

Protocol

The research question was prepared following the PICO methodology. The recommendations of the PRISMA Declaration were followed to conduct the literature review (Moher et al., 2009). Present review complies with the Preferred Reporting Items for Systematic review and Meta analysis (PRISMA) guidelines 2020 version[33].

Search strategy

Our investigation encompassed a thorough exploration of diverse databases including ScienceDirect, Cochrane Library, Scopus, and Medline. To optimize search outcomes, we tailored our query terms for each database, employing phrases such as "postpartum," "Baby Blues," "Postpartum Blues," "maternity blues," to align with their respective vocabularies. Integration of these keywords was achieved through the use of Boolean operators such as "AND" and "OR." We limited our search to articles published in English and applied additional filters to enhance the specificity and relevance of the results.

Eligibility criteria

This systematic review included studies that met the following inclusion criteria: (1) participants were postpartum women aged 15 years or older, experiencing or at risk for postpartum blues, including primiparous, multiparous, or nulliparous women; (2) the studies evaluated non-pharmacological interventions such as psychoeducation, aromatherapy, acupressure, massage, music therapy, or bonding activities aimed at preventing or managing postpartum blues; (3) Randomized Controlled Trial; (4) Quasi-experimental; and (5) the studies were published in English.

The exclusion criteria were as follows: (1) studies focusing solely on postpartum depression or other psychiatric conditions without clear differentiation from postpartum blues; (2) studies involving pharmacological interventions or combined pharmacological and non-pharmacological interventions where outcomes were not separately reported; and (3) publications in the form of conference proceedings, reviews, meta-analyses, commentaries, book chapters, reports, case studies, or letters to the editor.

Quasi-experimental studies were included to capture a broader range of evidence on interventions targeting postpartum blues, particularly in real-world settings where randomized controlled trials may not always be feasible. These studies often reflect the practical application of interventions in diverse and less controlled environments, thereby offering valuable insights into implementation challenges and effectiveness in routine care.

However, recognizing the inherent limitations of quasi-experimental designs—such as potential

biases and reduced control over confounding variables—a rigorous quality assessment was conducted using the Joanna Briggs Institute (JBI) tool. This ensured that only studies meeting acceptable methodological standards were included, thereby mitigating risks to the validity of findings. The integration of both RCTs and quasi-experimental studies enriches the evidence base, balancing methodological rigor with practical relevance.

Selection process

Two authors conducted individual and autonomous screenings of the titles or abstracts of the identified studies. If discrepancies arose between the screening authors, the final decision was made by the primary author. This initial screening process entailed evaluating the titles, objectives, and conclusions of the relevant studies. Additional examination of specific studies involved a thorough review of the main text to collect supplementary information when necessary.

Study quality

Reviewers independently evaluated articles to determine their methodological quality for inclusion. While not obligatory in systematic review protocols, reviewers believed this step would aid in identifying the strengths and weaknesses of the selected studies. Given the diverse array of articles, the Critical Appraisal Skills Program (CASP) for randomized studies and Joanna Briggs Institute (JBI) for quasi experimental studies were selected for its capacity to assess study quality. Using CASP, Each RCT was evaluated against 10 checklist items, focusing on aspects such as validity, clarity of outcomes, and relevance. Studies scoring "Yes" on at least 8 out of 10 criteria were included. Studies with unclear responses (“Can’t tell”) for more than 2 items were excluded unless justified by unique contributions. Quasi-experimental studies were evaluated using a 9-item checklist, addressing elements like participant selection, comparability, and outcome measurement. Studies scoring ≥7 were categorized as "High" or "Moderate" quality and included, while those below 7 were excluded unless they provided essential, context-specific insights.

Risk of bias

The evaluation of bias in each study was conducted using the Risk of Bias in Randomized Studies (ROB2-tools). ROB2 comprises five domains designed to evaluate both internal and external validity. Assessment outcomes for these domains are categorized as Low, Some concerns, High, and Very High. The results of the ROB assessment were reviewed and endorsed by all authors, considering input from external reviewers.

Data extraction and synthesis

In order to enhance understanding of the content within the eligible studies, key information has been condensed into a table format. Two authors worked together during this process of gathering data. Any discrepancies in extracted data were resolved through mutual agreement. The criteria for extraction encompassed details such as the primary author, year of publication, country, study design, participants, age, parity, types of delivery, intervention, measurements, and main findings.

Results

The initial database query yielded 306 articles. Following the removal of 241 duplicates and irrelevant articles unrelated to the review's focus, 165 articles were available for screening. In the eligibility evaluation, 36 studies underwent assessment, resulting in the exclusion of 19 articles for diverse reasons. Ultimately, only 17 studies fulfilled the criteria and will advance to the subsequent stage for data extraction and analysis.

Overview of eligible studies

We collected 17 experimental studies from several reputable databases and through hand-searching. The eligible studies were conducted in several countries including Indonesia (n=8) [34–41], Iran (n=6)[42–47], and one study each in Egypt[48], Thailand[49], and Turkey[50].

Table 1: Search string on each database

Database	Terms
Sciencedirect	("postpartum blues" OR "baby blues" OR "maternity blues") AND ("interventions" OR "therapy" OR "treatment") AND ("randomized controlled trial" OR "quasi-experimental")
Cochrane Library	[postpartum blues OR baby blues OR maternity blues] AND [interventions OR therapy OR treatment] IN Cochrane Reviews, Trials
Scopus	TITLE-ABS-KEY("postpartum blues" OR "baby blues" OR "maternity blues") AND ("interventions" OR "therapy" OR "treatment") AND ("randomized controlled trial" OR "quasi-experimental")
Medline	("postpartum blues"[Title/Abstract] OR "baby blues"[Title/Abstract] OR "maternity blues"[Title/Abstract]) AND ("interventions"[MeSH Terms] OR "therapy"[MeSH Terms] OR "treatment"[MeSH Terms]) AND ("randomized controlled trial"[Publication Type] OR "quasi-experimental"[Title/Abstract])

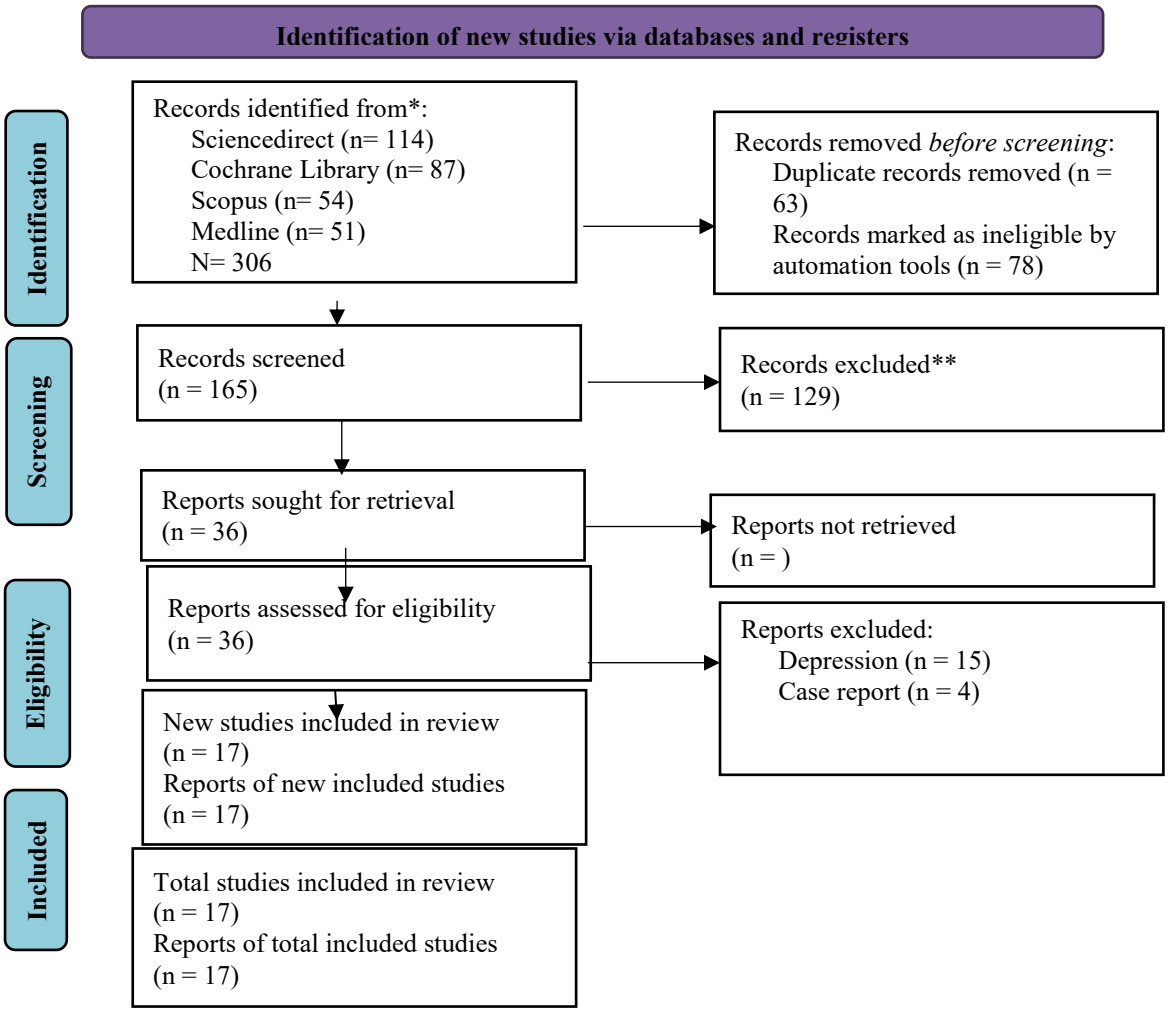

Figure 1: PRISMA flowchart for study selection

Table 2: PICO statement

Item	Statement
Population	Primiparous, Nuliparous, and multiparous with age ≥ 15 years in the postpartum period (≤ 2 years postpartum)
Intervention	non-pharmacological therapy including aromatherapy, plants extracted, music, massage, acupressure. Education including psychoeducation, relaxation training
Comparison	Placebo, or treatment as usual (TAU)
Outcomes	Postpartum blues at postintervention
Type of studies	RCTs, Quasi-experimental

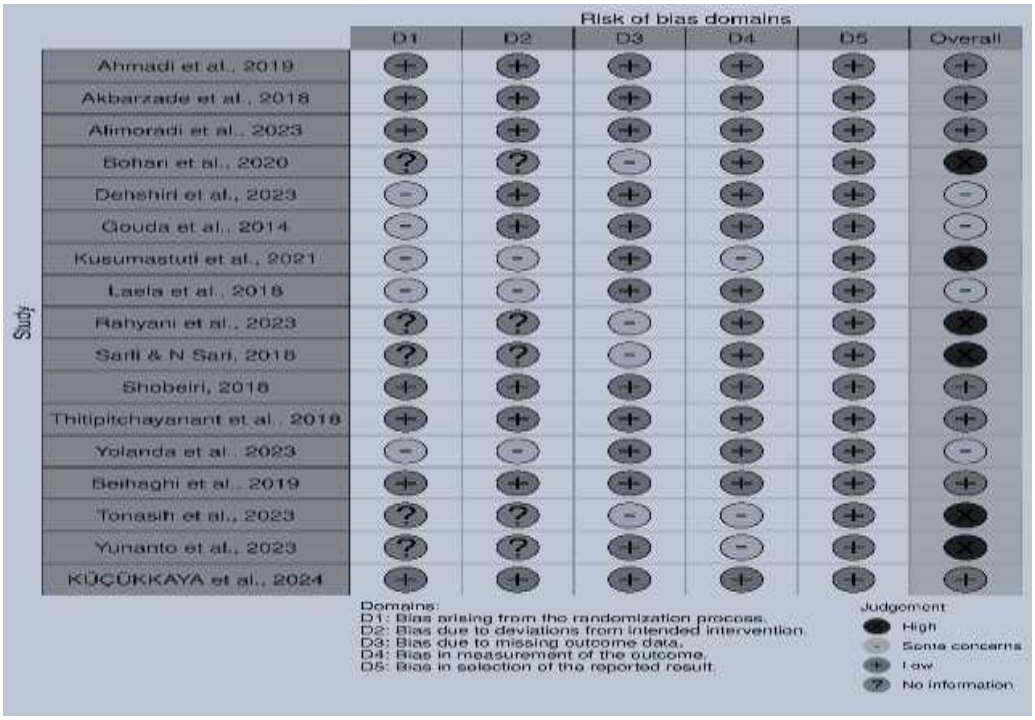

Figure 2: Traffic light plot for RoB Assessment results

The study designs were generally RCTs (n=8)[42–44,46–50]. These studies involved a representative number of participants in the experimental study category with a range of numbers between 30 and 150 postpartum mothers, with the lowest age of 15 to the highest 41 years old.

Parity, which has a conflicting association with the incidence of postpartum blues in some studies, was still mentioned in the participant characteristics. However, most studies did not really state the results of their analysis and explain the association with postpartum blues. Studies that only included participants with multiparous status as much as one study from Iran[42], Nulliparous as much as[43,49], Primiparous[45], mixed[35,38,40,41,44,47], and other studies did not report the parity of the participants involved. In addition, the mode of delivery was also reported in a small proportion of eligible studies. Most were Natural Vaginal Delivery (NVD) and Cesarean section (CS) modes[34,35,40,41,44,45,47].

Tabel 3: General overview of the eligible studies

Author, Country	Design/ Approach	Participants	Age & Parity	Types of Delivery	Intervention	Measurements	Main Findings
Ahmadi M, [34] Iran	RCT	IG=75 CG= 75	<18 - >35y; Multiparous	NR	**IG= PMR + RC** PMR for 4 session, 90 minutes each. **CG= RC**	ZSDS	Significant difference appears in day 3 and 10 (P<0.05)
Akbarzade M, [35] Iran	RCT	TR= 42 MfA= 42 CG= 42	18-35 y; Nulliparous	NR	**MfA=** weekly 60-90 minute training classes **TR=** 4 session	CMfA BDQ SA	Significant reduction of Depression in MfA and TR groups (P=0.001 and P= 0.002 respectively)
Alimoradi Z, [36] Iran	RCT	AA= 26 SC= 27	>18 y; Nulli-multiparous	NVD, CS	AA= 5 points left ear, and 2 points right ear. 2 sessions with 5 Days interval	PBQ EPDS IFS MIAS	a significant decrease of postpartum blues on Days 10 and 15 in AA compared to the SC (P=0.02)
Bohari NH, [37] Indonesia	Quasi-experimental; one group pre-posttest	30	<20 - > 35y; NR	NVD	Visited on the 10th day of postpartum; 3 times a week for 3 weeks	EPDS	The decrease occurs every day until the 9th day (P= 0.000)
Dehshiri M, [38] Iran	Quasi-experimental	IG= 36 CG= 36	15 – 45y; Primiparous	NVD, CS	**IG=** The husbands participate in RC 3 out of 6 Sessions of second-half pregnancy care with their wives; 3 virtual training sessions **CG=** RC, without Husband.	URCS SPBQ	Significant difference between IG and CG of PB incidence (P<0.001); Intimacy (P= 0.01)
Gouda AMI, [39] Egypt	RCT	IG= 92 CG= 92	20 – 35y; NR	NR	**CG=** RD **IG=** RD + 1 session discussion (30-40	BDI	frequency of blues at end of 1st week PP is lower in IG than CG (P<0.001)

Author, Country	Design/ Approach	Participants	Age & Parity	Types of Delivery	Intervention	Measurements	Main Findings
					minutes) and a printed book		
Kusumastuti K, [40] Indonesia	Quasi experimental	IG= 22 CG= 22	ND; Primi-multiparous	NVD	**IG=** Yoga exercise **CG=** Blues education	EPDS	Significant blues reduction in IG than CG (P<0.002)
Laela S, [41] Indonesia	Quasi-experimental	62	NR	NR	**IG=** thought stopping and supportive therapy + RC **CG=** RC	HARS EPDS	Significant difference between IG and CG (P= 0.000)
Rahyani NK, [42] Indonesia	Quasi-experimental	YG= 25 FAG= 25 MG= 25	18 – 41y; NR	NR	1-2 times; 20-30 min per session	EPDS	Significant effect of YG and FAG on blues (p<0.002 and p<0.001).
Sarli D and N Sari F, [43] Indonesia	Pre-experimental	30	20 – 35y; primi-multipara	NR	2 times Effleurage massage	EPDS	Significant effect of EM on postpartum blues (P=0.003)
Shobeiri F, [44] Iran	RCT	IG= 52 CG= 52	18 – 35y; NR	NR	= RC + KMCC; 20-30 minutes up to 10th after delivery	ABSQ	IG 4 times lower distress score (P<0.001)
Thitipitchayanant K, [45] Thailand	RCT	IG= 39 CG= 37	20 – 35y; Nulliparous	NR	= RC = The Self-EAR program, PMR with 10-min audio (3 times a day/4 weeks)	EPDS	Positive effects of the Self-EAR program on postpartum blues scores (p=0.002)
Yolanda D, [46] Indonesia	Pre-experimental	IG= 15 CG= 15	NR; NR	NR	Qur'an Listening	EPDS	PPB is lower in IG than CG (P= 0.018)
Beihaghi M, [47] Iran	RCT	IG= 30 PG= 30	18 – 35y; Primi-multiparous	CS	= lemon balm capsules (500 mg); 3 times a day for 10 days.	EPDS	PPB incidence lower in IG than PG (P< 0.001)

Author, Country	Design/ Approach	Participants	Age & Parity	Types of Delivery	Intervention	Measurements	Main Findings
Tonasih T,[48] Indonesia	Pre-experimental	11	20 – 35y; nulli-multiparous	NVD	= 3 days, for 15 min.	EPDS	Difference of pre-post intervention (P=0.000)
Yunanto E, [49] Indonesia	Quasi-experimental	25	24 – 38y; Nulli-Multiparous	NVD	/choeducation	EPDS	there is an effect of providing psychoeducation on the incidence of postpartum blues (P= 0.000)
Küçükkaya B, [50] Turkey	RCT	IG= 41 CG= 41	25 – 35y; Multiparous	NVD, CS	ısic Played	SBS EPDS	Listening to music can reduce PPB (P<.001)

Tabel 4: Summary of quality assessment for RCT studies using CASP

Studies	CASP Questions										
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
Ahmadi M, [34]	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Akbarzade M, [35]	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Alimoradi Z, [36]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gouda AMI, [39]	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Shobeiri F, [44]	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Thitipitchayanant K, [45]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Beihaghi M, [47]	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Küçükkaya B, [50]	Y	Y	Y	Y	CT	CT	Y	Y	Y	Y	Y

**Q = Questions; Y = Yes; N = No; CT = Can't Tell*

Tabel 5: Summary of Quality assessment for Quasi experimental studies using JBI

Studies	JBI Questions								
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Bohari NH, [37]	Y	Y	Y	N	N	N	NA	Y	Y
Dehshiri M, [38]	Y	Y	Y	Y	Y	N	Y	Y	Y
Kusumastuti K, [40]	Y	Y	Y	Y	N	N	Y	Y	Y
Laela S, [41]	Y	Y	Y	Y	N	N	Y	Y	Y
Rahyani NK, [42]	Y	Y	Y	N	N	N	NA	Y	Y
Sarli D and N Sari F, [43]	Y	Y	Y	N	Y	N	NA	Y	Y
Yolanda D, [46]	Y	Y	Y	Y	N	N	Y	Y	Y
Tonasih T, [48]	Y	Y	Y	N	Y	N	NA	Y	Y
Yunanto E, [49]	Y	Y	Y	N	N	N	NA	Y	Y

Quality and risk of bias assessment results of eligible studies

CASP for RCTs was used for eight studies and is summarized in Table 4. None of the studies received more than one NO response. Therefore, we conclude that all eligible RCT studies are in the GOOD quality category.Furthermore, the results of the quality assessment for studies using a quasi experimental design using JBI are presented in Table 5. In the summary of the quality assessment of quasi experimental studies, it was found that only one study showed GOOD quality [45], three studies were in the MEDIUM category [35,36,39], and the rest were POOR quality [34,37,38,40,41].

In the following we present the results of the risk of bias for all eligible studies. We visualized the assessment results using the Traffic Light Plot as shown in Figure 2. There were seven studies in the LOW risk of bias category, and this number is almost proportional to the number of studies in the HIGH risk of bias category.

Intervention categories and key outcomes

The findings of this review reveal consistent patterns among effective interventions for postpartum blues. Mind-based interventions, such as progressive muscle relaxation[42], meditation, and music therapy[50], were particularly effective in reducing anxiety and stabilizing mood. Techniques integrating cultural or religious elements, such as Qur'anic recitations[39,40], demonstrated enhanced psychological well-being and greater acceptance in specific populations. Spousal involvement emerged as a critical factor in bonding interventions, reducing maternal isolation and fostering emotional resilience[45]. Similarly, massage therapies like effleurage and facial acupressure effectively alleviated both physical tension and emotional distress, especially when applied regularly[37,38].

Educational interventions provided mothers with coping strategies and improved awareness of postpartum blues, leading to reduced symptom intensity.

Psychoeducation was particularly impactful in empowering mothers to manage emotional fluctuations independently[41]. Acupressure and aromatherapy, as stimulation techniques, delivered immediate stress relief, complementing other longer-term therapeutic approaches[37,44,47]. Lastly, herbal supplements like lemon balm were found to moderately reduce anxiety and mood swings, often serving as useful adjuncts to other interventions[47].

A recurring theme across these interventions is their ability to address both the emotional and physical dimensions of postpartum blues. Interventions that combined multiple approaches, such as relaxation techniques paired with psychoeducation or bonding activities integrated with spousal support, tended to show enhanced effectiveness. These findings underscore the importance of tailoring interventions to individual and cultural contexts, ensuring both immediate relief and sustained emotional well-being.

In figure 3, we try to categorize the interventions mentioned in the reviewed studies. This categorization aims to make it easier to understand the reviewed interventions and then it is possible to add similar interventions in the respective categories for future intervention studies. There are seven categories based on our assumptions, including Mind, Massage, Bounding, Psych, Education, Oral treatment, and stimulation.

Effect of the Intervention to the measurement scores

In general, all interventions were able to reduce postpartum Blues assessment scores. Interventions can be given during the period of pregnancy until delivery, and there are also interventions given after delivery. Progressive muscle relaxation given at 32 weeks of gestation, with an intervention duration of 4 weeks, was able to reduce postpartum blues scores when compared to the control group, this change occurred on the 3rd and 10th day after labor[42].

In one study in Iran, mothers in their third trimester of pregnancy were given an intervention on maternal-fetal attachment that included their husbands at the end of the intervention session. In another group, they were taught relaxation techniques for 4 sessions. Both attachment and relaxation significantly reduced depression scores at the week postpartum evaluation, although the attachment intervention was statistically superior to relaxation[43]. In their study, Dehshiri and his team involved pregnant women with a gestational age range of 20 to 36 weeks. In this study, the research team wanted to see how the effects of husband involvement in routine care provided at the health service. The evaluation of the intervention was done on days 3 to 10 after delivery. Although the results showed no statistically significant difference between routine care and husband involvement, it is important to increase intimacy between spouses through spousal involvement in care during pregnancy. This study had delays in its implementation due to the COVID 19 situation, so the intervention could not be maximized[45]. The Indonesian study applied Yoga and facial acupressure exercises to pregnant women with gestational age >36 weeks. The intervention was conducted twice with a duration of 30 minutes each session. Evaluation was conducted 3 to 4 weeks after the intervention was given, the results found a significant effect of both interventions on baby blues, although it was also found that facial acupressure was superior to Yoga[37].

The interventions provided to postpartum mothers were the most common in the studies reviewed. Bohari and colleagues analyzed the effects of acupressure therapy on mothers who were experiencing postpartum blues, where the acupressure intervention was carried out on the 10th day after delivery with a frequency of three times a week, for three weeks. Evaluation was carried out after each intervention session with the results gradually decreasing the EPDS score until the last session of intervention[34]. Meanwhile, in Iran, Alimoradi and colleagues conducted an auricular acupressure intervention using Vacaria seeds and compared it with Sham auricular acupressure.

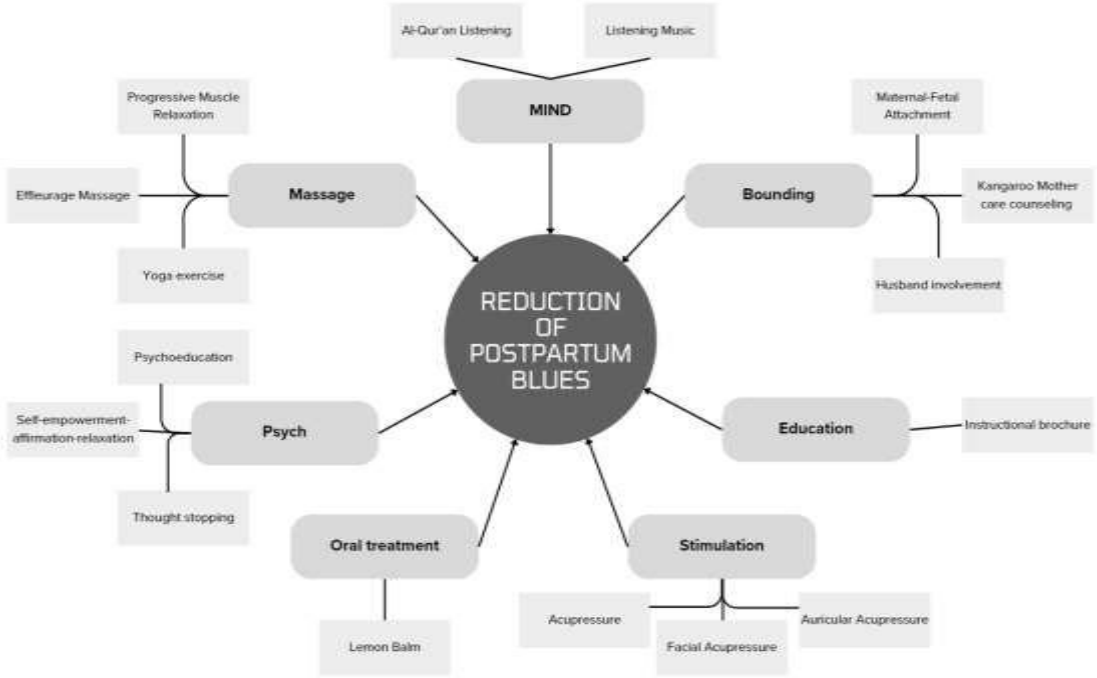

Figure 3: Intervention to Reduce Postpartum Blues from eligible studies

The intervention was performed the day after delivery, with two sessions at five-day intervals was conducted on days 5, 10, and 15 after delivery using the Postpartum Blues Questionnaire (PBQ). Significant effects occurred on postpartum blues assessment scores on days 10 and 15[44]. Instructional brochure given to patients before discharge from the hospital after delivery was able to reduce postpartum blues experienced by mothers one week after delivery. The brochure contains all the information about postpartum blues[48]. Unfortunately, the two Indonesian studies that applied Yoga, relaxation, thought stopping and supportive therapy interventions did not describe the frequency and duration of the interventions, but we still included them in this review because we wanted to provide the available intervention options[35,36]. Effleurage massage performed 2 times a week was also found to reduce postpartum blues scores in Indonesian postpartum mothers[38]. The Iranian study provided Kangaroo Mother Care Counseling to mothers 24 hours to day 10 postpartum with an intervention duration of 20 to 30 minutes per session. Although at day 10 there was no significant difference in intervention outcomes, the KMCC group was superior to routine care in the control group[46].

In Thailand, The self-EAR Program was given to postpartum mothers in the form of MP3 audio files and had to be listened to at a frequency of three times per day for four weeks. Evaluation was conducted at 1 to 3 months with very positive results, where there was a gradual decrease in postpartum blues scores[49]. There are two studies conducted in Indonesia that applied Qur'anic listening to postpartum mothers for three days with a duration of 15 minutes each day. Evaluation was conducted immediately after the intervention on the last day with the results significantly reducing the level of postpartum blues[39,40]. Meanwhile, a study in Turkey applied music therapy to postpartum mothers to prevent baby blues shortly after delivery. Significant effects were seen as early as 12 hours after delivery[50]. We found one study providing lemon balm therapy in capsule form and consumed by participants experiencing postpartum blues after C-section. Lemon balm capsules were provided in a dose of 500 mg to be consumed three times a day over a 10-day period. From day three to day 14 of

the intervention, evaluation results showed a difference in postpartum blues scores with the placebo group of participants[47].

Despite these strengths, several gaps were evident in the literature. Many studies did not adequately report the influence of parity or delivery mode on intervention outcomes, leaving key demographic and clinical factors unexplored. For instance, primiparous mothers may experience postpartum blues differently than multiparous mothers due to varying levels of maternal experience and support, yet these distinctions were seldom analyzed. Similarly, whether interventions varied in effectiveness between vaginal deliveries and cesarean sections was rarely addressed, despite potential physiological and psychological differences associated with these delivery modes. Addressing these gaps in future research would provide a more nuanced understanding of how specific subpopulations respond to different interventions

Discussion

The current review identified seventeen studies that analyzed the effects of various interventions on the prevention and management of postpartum blues. During the literature search, we limited the selection to titles only. We excluded titles that analyzed interventions for postpartum depression as this is clearly different from the baby blues, although it has long been recognized that prolonged postpartum blues can progress to depression[51–53]. A study also mentioned that postpartum blues is a risk factor for postpartum depression[54]. Obviously, this will also have implications for the precision of the selection of instruments for assessing postpartum blues status. Most of the studies reviewed to date have used the EPDS as an assessment instrument for postpartum blues, while this instrument is more suitable for assessing postpartum depression[55–59]. Instruments that fit the theme of postpartum blues in this review include the PBQ[44,45], ABSQ[46], and SBS[50].

This review synthesizes overarching trends observed in effective interventions for postpartum blues. Psychological therapies, such as relaxation techniques and thought-stopping methods, consistently demonstrated improvements in emotional stability, highlighting their potential for mitigating anxiety and mood fluctuations. Physical therapies, including massage and acupressure, were particularly effective in reducing physiological symptoms of stress while simultaneously contributing to emotional relief. These trends suggest that interventions targeting both emotional and physical aspects of postpartum blues are likely to yield the most significant benefits.

Cultural and contextual factors also emerged as critical determinants of intervention success. Strategies incorporating culturally resonant practices, such as Qur'anic listening or tailored psychoeducation, demonstrated higher levels of acceptance and efficacy among participants. This underscores the necessity of designing interventions that align with cultural values and individual preferences to maximize their impact.

Among the studies reviewed to date, we conclude that there is no single superior intervention model among the available interventions. Overall, the significance of the effect of the interventions on postpartum blues assessment scores was robust compared to the comparator interventions analyzed. Even one study that implemented husband involvement, despite delays due to the pandemic in 2020, still showed positive results. It can be interpreted that with maximum implementation, postpartum blues can be prevented and even overcome. The strongest significance in this study was found in the variable spouse intimacy[45]. Previous studies on several married couples in Iran mentioned that marital intimacy is strongly related to the factor of husband involvement in various household activities including the fulfillment of health care needs[60]. In addition to intimacy, other bonds that are intervened are related to the mother-child bond, as applied to the study conducted by Akbarzade and team in Iran [43]. Mother-fetal attachment training aims to improve the emotional connection between the mother and her baby from pregnancy to after delivery [61–63]. Another method to enhance mother-infant bonding is Kangaroo Mother Care (KMC) through skin-to-skin contact, as applied

to postpartum mothers in Iran[46]. This improvement in mother-newborn bonding using the KMC method has also been mentioned in previous studies[64–67].

In addition to bonding methods between husband and/or newborn, another intervention is stimulation in the form of acupressure. Acupressure that we found in the current reviewed studies included Facial and auricular acupressure. This emphasis on certain points of the body has been known for a long time in China where it has been taught for generations and is believed to have health effects on the body[68–71]. Particularly the application in postpartum mothers, acupressure intervention has a significant effect on reducing postpartum blues scores and even depression[34,44]. The mechanism of reducing postpartum blues scores due to acupressure intervention can be explained through the release of endorphin in the central nervous system which then stimulates opioids to further provide a relaxing sensation in the body[34]. However, in practice, there may be problems with acupressure therapists who may not be available in some parts of the world. This intervention cannot be done carelessly because the threat of disability due to nerve damage is very real. A metaanalysis study mentioned that side effects of acupressure include palpitations, soreness, dizziness, nausea and vomiting, headache, and low blood pressure[72]. Another example of stimulation to reduce postpartum blues is massage, as analyzed in two studies under current review including Progressive Muscle Relaxation[42], and Effleurage massage[38]. Both massage therapies were mentioned to have a strong significance on reducing postpartum blues, and can be given as a form of prevention in the peripartum period and management in the postpartum period.

Another intervention is to engage with the thoughts or perceptions of pregnant or postpartum women, through calming the mind by listening to the recitation of holy verses from the Qur'an, and/or listening to soft songs of the mother's preference. As a Muslim-majority country, two studies in Indonesia analyzed the effects of listening to Qur'anic verses digitally[39,40]. This intervention can be provided to overcome postpartum blues that have been faced by postpartum mothers. There have been many studies analyzing the effects of listening to the Qur'an on psychological disorders, where the results shown are of strong significance[73–76]. This also applies to the reading of scriptures such as the gospel, as has been proven in many previous studies[77–80]. However, for most individuals, listening to music that they like may be better for the improvement of their psychological disorders[81–87]. In relation to the problem of postpartum blues, studies in Turkey have proven that there is a strong effect of listening to music during the postpartum period can reduce postpartum blues scores[50].

Providing education to mothers both during pregnancy and after childbirth is considered important enough to change their perspective on the situation. Increasing knowledge about postpartum blues through educational brochures was found to be able to prevent them from the baby blues situation[48]. In preparation for the postpartum situation, especially for new mothers, problem-solving strategies need to be taught to improve their quality of life and the quality of their baby's development[41]. Laela and her team in their research stated that the "Thought stopping" intervention is a therapy given to postpartum mothers that aims to get rid of all negative thoughts, and that can interfere with their minds so that they can focus more on caring for their babies and can improve the health of both themselves and babies[36]. This technique has also been widely used in addressing anxiety and depression in a wide variety of psychological disorders faced by individuals, as reported in previous studies[88–90]. Another study from Thailand in this review also reinforces the statement that by providing determination, and the power of positive thoughts of postpartum mothers, it can overcome the postpartum blues faced by participants[49].

However, this review identified notable gaps in the literature, including insufficient exploration of the influence of parity and delivery mode on intervention outcomes. Addressing these gaps in future research is essential to better understand how demographic and clinical factors shape the effectiveness of postpartum blues interventions. Furthermore, speculative conclusions regarding long-term effects were avoided, as the reviewed studies largely focused on short-term outcomes. Future investigations should aim to assess the

sustained impact of these interventions over time, providing a more comprehensive understanding of their benefits.

Limitation

A key limitation of this review was the heterogeneity in interventions and study designs among the included studies. Interventions ranged from psychological therapies, such as meditation and thought-stopping techniques, to physical interventions like massage and aromatherapy. This diversity, while enriching, posed challenges to synthesizing findings and identifying overarching trends. Other limitations including the involvement of studies with poor quality status and high risk of bias. Therefore, the use of the results of this study should be cautious. It is difficult to select studies with titles or targeting postpartum depression. Quite a number of intervention studies targeted postpartum mothers but it was written depression, so we generalized the terminology as an actual depressive condition without targeting postpartum blues.

Conclusion

This systematic review highlights a range of non-pharmacological interventions effective in reducing postpartum blues, including bonding activities, mind-based approaches, physical therapies, educational initiatives, and oral treatments. While no single intervention emerged as universally superior, combining culturally sensitive strategies with evidence-based methods proved highly effective. Future research should focus on long-term impacts and tailored approaches for diverse populations.

Healthcare providers can play a crucial role by integrating holistic interventions such as progressive muscle relaxation, music therapy, or acupressure into routine postpartum care to address both emotional and physical dimensions of postpartum blues. Encouraging spousal involvement and family-centered bonding activities is equally important, as these foster emotional resilience and reduce maternal isolation. Utilizing culturally resonant practices, such as Qur'anic listening or tailored psychoeducation, can further enhance psychological well-being, particularly in specific communities. Additionally, providing mothers with educational materials and empowering them through psychoeducation equips them with the knowledge and coping strategies necessary to manage postpartum challenges. Ensuring access to simple, cost-effective interventions, such as instructional brochures or massage techniques, is particularly beneficial in low-resource settings, allowing for broader implementation and support for postpartum women.

Contribution of authors

This systematic review was a collaborative effort among all authors. [RAH] conceptualized and designed the study, developed the search strategy, and supervised the review process. [JUN] and [SAI] independently screened articles, extracted data, and performed the quality assessment. [AKI] conducted the data analysis and prepared the first draft of the manuscript. All authors contributed to the interpretation of the findings, critically reviewed the manuscript, and approved the final version for submission.

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