

Breastfeeding Self-efficacy is Inversely Associated with Postpartum Depression: Findings from a Tertiary Hospital in Saudi Arabia

Razana Saleh Baeisa, Nashwa Fahed Aldardeir¹, Manar Thamer Alsulami, Ahlam Hamdi Alsulami, Jana Hamed Al-Sharif, Taif Ali Alshahrany, Waleed Ahmed Alghamdi²

Faculty of Medicine, Departments of ¹Obstetrics and Gynecology and ²Psychiatry, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia

Abstract

Background: High breastfeeding self-efficacy is linked with lower rates of postpartum depression. No study from Saudi Arabia has previously assessed the relation between breastfeeding self-efficacy and postpartum depression.

Objective: To determine the correlation between breastfeeding self-efficacy and postpartum depression in a cohort from Saudi Arabia.

Materials and Methods: This cross-sectional study included mothers who had given birth between February to June 2022 at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, and were between 2 weeks and 3 months postpartum. Data were collected using a self-administered questionnaire comprising the following three sections: sociodemographic characteristics, Edinburgh Postpartum Depression Scale (EPDS), and Breastfeeding Self Efficacy Scale-Short Form (BSES-SF).

Results: A total of 257 participants completed the questionnaire, with most aged 25–34 years (59.1%). The prevalence of postpartum depression was 25.3%, and it was significantly associated with lack of support from the husband and family during pregnancy (for both, $P < 0.001$), history of violence ($P < 0.001$), family history of depression ($P = 0.045$), complications during pregnancy ($P = 0.004$), and multiple pregnancies ($P = 0.004$). The mean score on the BSES-SF was 47.4, and participants who scored above the mean had significantly lower rates of postpartum depression ($P = 0.003$). In addition, an inverse relation was noted between BSES-SF and postpartum depression scores ($r = -0.297$): when the scores of BSES-SF increased, the scores of postpartum depression decreased.

Conclusion: The rate of postpartum depression was high in Jeddah, Saudi Arabia; nonetheless, positive breastfeeding self-efficacy was found to be correlated with lower rates of postpartum depression. These findings indicate the need for careful screening of patients at risk of postpartum depression and for providing breastfeeding support/knowledge, both in the antenatal and postpartum periods.

Keywords: Breastfeeding, mood disorders, postpartum depression, pregnancy complications, prevalence, Saudi Arabia, self-efficacy

Address for correspondence: Dr. Razana Saleh Baeisa, Faculty of Medicine, King Abdulaziz University, Jeddah 22254, Saudi Arabia.

E-mail: razanabaeisa@gmail.com

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INTRODUCTION

Mothers can experience a range of physical and psychological disorders and complications following childbirth. Monitoring for such disorders/complications is important, as they can negatively affect the health and wellness of the mother, the newborn, and the entire family.^[1] Postpartum depression (PPD) is the most prevalent psychiatric disorder following childbirth and can last for extended periods.^[2,3] Relevant signs and symptoms include irritability, noticeably lowered interest, changes in appetite, trouble focusing, anguish and crying, a sense of doubt, and thoughts of suicide or death.^[4]

The global prevalence of PPD has been estimated to be 17.22%. However, these rates vastly differ across countries (lowest: 6.48% in Denmark; highest: 60.93% in Afghanistan) and geographical regions (lowest: 11.11% in Oceania; highest: 39.96% in Southern Africa).^[2] In the Gulf Cooperation Council countries, the pooled prevalence have been reported as follows: Saudi Arabia, 20.08%; the United Arab Emirates, 18.31%; Qatar, 18.0%; Oman, 16.38%; Kuwait, 11.72%; and Bahrain, 37.13%.^[2] Another study from Saudi Arabia similarly reported a rate of 20.9% in Jeddah.^[5]

Risk factors that predispose women to PPD must be considered at both the monitoring and management levels. Some of these risk factors are personal or family history of depression, multiple births, challenging or traumatic births and pregnancies, poor socioeconomic status, lack of social support, and history of physical and/or sexual abuse.^[6] Breastfeeding is a factor that has been found to offer protection against depressive symptoms, while its cessation is a stressor that may contribute to the onset of PPD.^[7] As breastfeeding is the ideal source of nutrition for newborns and infants, several professional societies have issued practical recommendations to facilitate its implementation.^[8] In Saudi Arabia, studies have shown that the exclusive breastfeeding levels are low in Saudi Arabia; in fact, a 19% drop off in the breastfeeding rates has been reported after 2 weeks of exclusive breastfeeding.^[9] This is a critical area of concern, as breastfeeding is linked to a lower incidence of PPD.^[10] At the same time, it is important to consider the concept of breastfeeding self-efficacy (BSE), which refers to a mother's self-confidence in her ability to breastfeed her newborn child.^[11]

In 2022, a study in Poland found that the risk of PPD was linked to the specificity of maternal experiences during feeding, rather than the breastfeeding practice itself.^[12] However, a very recent cross-sectional study from Taiwan

showed that higher Edinburgh Postpartum Depression Scale (EPDS) scores were strongly correlated with decreased rates of breastfeeding, reflecting the importance of breastfeeding cessation as a risk factor for PPD.^[13] Similarly, other studies from Taiwan and Turkey have found that lower BSE scores were associated with higher rates of PPD and higher BSE scores with lower rates of PPD.^[14,15] Further, a Brazilian cohort study from 2018 reported that exclusive breastfeeding cessation was significantly less likely to occur in women with high BSE scores.^[16]

To the best of the authors' knowledge, no study from Saudi Arabia has investigated the correlation between PPD and BSE. Such findings would help improve the health-care system, such as providing opportunities for mothers to practice breastfeeding newborns even before delivery. To address this gap in the literature, this study aimed to examine the relationship between BSE, maternal PPD, and the risk factors of PPD among patients at a tertiary care center in Jeddah, Saudi Arabia.

MATERIALS AND METHODS

Study design, setting, and participants

This cross-sectional study included mothers who had given birth between February and June 2022 at King Abdulaziz University Hospital (KAUH), Jeddah, Saudi Arabia. KAUH is one of the main public tertiary care hospitals in Saudi Arabia's Western region, and thus serves both urban and rural populations. The patients at KAUH come from a variety of social backgrounds, including different nationalities, occupations, and socioeconomic levels. The study design was chosen to assess both PPD and BSE at the same time point. The study was conducted after obtaining approval from the Research Ethics Committee at King Abdulaziz University, Jeddah.

Mothers were considered eligible for participation if they were between 2 weeks and 3 months postpartum and could speak and understand Arabic or English. Participants with a history of mental illness, newborns with severe illness, stillbirths, and not breastfeeding were excluded.

The number of deliveries per year at KAUH is about 2000, and it was hypothesized that the prevalence of PPD is 25%. Accordingly, the sample size was calculated to be 252 (95% confidence level), calculated by design effect (for cluster survey).

Data collection

Participants were recruited either directly while attending the Well-Baby clinics during routine vaccinations (the

Well-Baby clinic provides several services such as vaccination, growth and development assessment, developmental disability detection, and caregiver education) or by directly contacting the eligible mothers through WhatsApp (the contact numbers were obtained from the hospital records). All participants provided an informed consent form that included all the basic elements highlighted by the National Committee of Bioethics, Saudi Arabia; no identifying information was collected. Respondents completed a structured self-administered questionnaire hosted on Google Forms in one sitting. Response to all questions were mandatory to submit the questionnaire.

The questionnaire consisted of three parts and was available in both Arabic and English. The first part pertained to the participants' sociodemographic characteristics, including their age, weight, education level, occupation, monthly income, and polygyny marital status of husband.

The second part of the questionnaire evaluated PPD using the EPDS, which contains 10 questions. Participants were able to take either the original English language or the translated Arabic version of the EPDS.^[17,18] The EPDS is the most common screening tool for PPD, and has been translated into 23 languages; in the original English version, Cronbach's α was 0.84.^[18] The Arabic version has been previously validated, and has a correlation coefficient of 0.69 with the Beck Depression Inventory.^[17] For each question, participants were asked to rate the severity of symptoms by assigning a score ranging from 0 to 3. The maximum attainable total score was 30, while a score of ≥ 13 was used as a cutoff value to indicate a high risk of PPD.^[19]

The third part assessed maternal BSE using the Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF), which consists of 14 items pertaining to mothers' breastfeeding confidence. Each item is rated on a 5-point scale ranging from 1 (not at all confident) to 5 (always confident), with total scores ranging from 14 to 70, higher scores indicating greater levels of self-efficacy for breastfeeding.^[11] The Cronbach's α consistency coefficient of BSES-SF was found to be 0.910.^[20] A validated Arabic version of the BSES-SF is currently not available; therefore, we used the blind back-translation method. First, two of the authors translated the scale into Arabic. Second, an independent multilingual translator who was unfamiliar with the questionnaire's original content retranslated it into English. Finally, the back-translated English version's accuracy was contrasted with the original English version, and it was found to be comparable [Supplementary File].

Statistical analysis

All analyses were performed using Microsoft Excel 2021 and SPSS version 21. Association between maternal age and parity with PPD symptoms were assessed. In addition, the mean continuous variables were compared using a one-way analysis of variance. The Chi-square test was used to compare the categorical variables. $P < 0.05$ was considered statistically significant.

RESULTS

A total of 308 mothers were initially screened for eligibility during the study period; however, 46 were excluded as they did not meet the study criteria (not breastfeeding: $n = 39$; history of mental illness = 6; newborns with severe illness or stillbirths = 1). Accordingly, the questionnaire was distributed to 262 mothers, of which 257 responded (98.1%).

The mean age of the participants was 31.6 (± 5.4) years, with the majority being aged 25–34 years (59.1%). In terms of the body mass index, 33.2% were normal weight and 33.6% were overweight. Regarding education and occupation, 64.1% had attained a university degree, and 73.8% were not employed. As for monthly income, 70.3% reported a monthly income of Saudi Riyals ≤ 8000 . Finally, six participants had husbands with at least 1 more wife.

Postpartum depression

The prevalence of PPD was 25.3%, with 65 mothers scoring ≥ 13 . None of the sociodemographic factors were significantly associated with PPD [Table 1]. Lack of support from the husband and family during pregnancy (for both, $P < 0.001$), history of violence (i.e., physical, emotional, and/or sexual) ($P < 0.001$), and family history of depression ($P = 0.045$) were factors significantly associated with PPD [Table 2]. Complications during pregnancy ($P = 0.004$) and multiple pregnancies ($P = 0.004$) were other significant factors. However, neither the use of assisted reproductive technology (ART) nor the mode and time of delivery were associated with an increased risk of PPD [Table 3].

Breastfeeding self-efficacy

The mean BSES-SF score of the respondents was 47.4. Participants who scored above this mean were considered "satisfied." A significant association was found between BSES-SF scores and PPD [Table 4]. In addition, an inverse relationship was noted between the BSES-SF and EPDS scores ($r = -0.297$; r is significant at 0.01), indicating that an increase in BSES-SF scores is associated with a decrease in EPDS scores [Figure 1].

DISCUSSION

The overall prevalence of PPD in this study was 25.3%, which is higher than those reported in developed countries such as the United States (18.6%), United Kingdom (21.5%) and United Arab Emirates (18.3%).^[2] Further, this prevalence is also slightly higher than the pooled prevalence of PPD in Saudi Arabia (20.1%)^[2] and that reported in another study from the same region (i.e., Jeddah) (20.9%).^[5] These variances in prevalence could be attributed to several factors including differences in the targeted populations. Nonetheless, the high prevalence of PPD reported in this

study highlights the need for earlier intervention from health-care professionals.

Among the various known PPD risk factors, we found no association with maternal age, similar to the findings of a Chinese study conducted in 2019.^[21] In contrast to these results, Silverman *et al.*^[22] reported that the risk of PPD increases with an increase in age. Such discrepancies may be explained by different cultural and environmental factors. We found that lack of husband and family support during pregnancy was a significant risk factor in the development of PPD, which has been emphasized in many other studies.^[23,24] Similarly, a meta-analysis of studies conducted in India reported that a lack of support from husband is significantly associated with PPD.^[25] This further highlights the importance of receiving support

Table 1: Sociodemographic characteristics (N=257)

Variables	Negative PPD n (%)	Positive PPD n (%)	P
Age (years)			
≤24	20 (10.5)	9 (13.8)	0.155
25–34	120 (62.8)	32 (49.2)	
≥35	51 (26.7)	24 (36.9)	
t-test, mean (SD)	31.581 (5.33)	31.74 (5.54)	0.350
BMI			
Underweight	6 (3.2)	2 (3.2)	0.396
Normal	66 (34.7)	18 (28.6)	
Overweight	61 (32.1)	24 (38.1)	
Obese	29 (15.3)	14 (22.2)	
Extremely obese	28 (14.7)	5 (7.9)	
Education level			
High school	39 (20.4)	14 (21.5)	0.870
University	124 (64.9)	40 (61.5)	
Other	28 (14.7)	11 (16.9)	
Occupational status			
Employed	32 (16.8)	13 (20)	0.601
Not employed	144 (75.4)	45 (69.2)	
Student	15 (7.9)	7 (17.6)	
Monthly income (Saudi Riyals)			
≤8000	135 (70.7)	45 (69.2)	0.949
>8000	56 (29.3)	20 (30.8)	

P-values were derived from the Chi-square test and independent t-test; significant at P<0.05. PPD – Postpartum depression; SD – Standard deviation; BMI – Body mass index

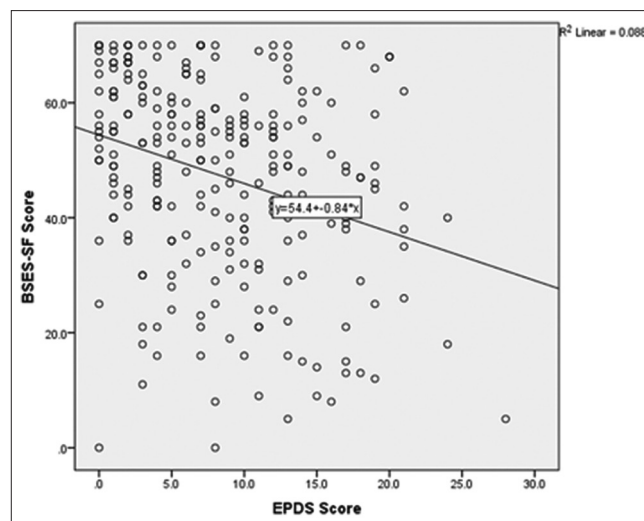


Figure 1: Correlation between scores on the breastfeeding self-efficacy scale short form and Edinburgh postpartum depression scale. BSES-SF – Breastfeeding self-efficacy scale short form, EPDS – Edinburgh postpartum depression scale

Table 2: Health disorders and social risk factors

Variables	Negative PPD n (%)	Positive PPD n (%)	P
Husband support during pregnancy (t-test), mean (SD)	9.084 (1.7117)	7.723 (2.5951)	<0.001
Family support during pregnancy (t-test), mean (SD)	9.230 (1.5826)	7.677 (2.8945)	<0.001
Family history of depression			
No	179 (93.7)	55 (84.6)	0.045
Yes	12 (6.3)	10 (15.4)	
History of violence (physical, emotional, and/or sexual)			
No	191 (100)	55 (84.6)	<0.001
Yes	0 (0)	10 (15.4)	
Anemia			
No	139 (72.8)	40 (61.5)	0.121
Yes	52 (27.2)	25 (38.5)	
Parity			
1	74 (38.7)	29 (44.6)	0.668
2–3	72 (37.7)	21 (32.3)	
+4	45 (23.6)	15 (23.1)	
Polygyny status of husband			
No	186 (97.4)	64 (98.5)	1
Yes	5 (2.6)	1 (1.5)	

Table 3: Pregnancy and delivery-related factors

Pregnancy and delivery-related factors	Negative PPD n (%)	Positive PPD n (%)	P
ART			
No	181 (94.8)	57 (87.7)	0.1
Yes	10 (5.2)	8 (12.3)	
Time of delivery (weeks)			0.870
<37	24 (13.2)	9 (14.5)	
37–41	133 (73.1)	46 (74.2)	
≥42	25 (13.7)	7 (11.3)	
Mode of delivery			0.550
Normal	79 (41.4)	22 (33.8)	
Normal, with the use of instrument	28 (14.7)	10 (15.4)	
Cesarean section	56 (29.3)	19 (29.2)	
Emergency cesarean section	28 (14.7)	14 (21.5)	
Number of fetuses			0.005
Single	190 (99.5)	60 (92.3)	
Twin	1 (0.5)	5 (7.7)	
Planned pregnancy			0.665
No	92 (48.2)	34 (52.3)	
Yes	99 (51.8)	31 (47.7)	
Complications during pregnancy			0.004
No	146 (76.4)	37 (56.9)	
Yes	45 (23.6)	28 (43.1)	
Intrapartum complication			0.281
No	170 (89)	55 (85.9)	
Bleeding	17 (8.9)	5 (7.8)	
Infection	4 (2.1)	4 (6.3)	
Expected gender			0.122
Not matching	10 (5.2)	7 (10.8)	
Matching	181 (94.8)	65 (89.2)	

P-values were derived from the Chi-square test; significant at $P < 0.05$. PPD – Postpartum depression; ART – Assisted reproductive technology

Table 4: Association between Breastfeeding Self Efficacy Scale Short Form, postpartum depression and parity

BSES-SF	Below and equal to average n (%)	Above average n (%)	P
PPD			0.003
Positive PPD	39 (37.9)	26 (16.8)	
Negative PPD	72 (62.1)	120 (83.2)	
Parity			0.137
Primiparous	48 (46.6)	45 (36)	
Multiparous	55 (53.4)	80 (64)	

P-values were derived from the Chi-square test; significant at $P < 0.05$. BSES-SF – Breastfeeding Self Efficacy Scale Short Form; PPD – Postpartum depression

during pregnancy, which is an overwhelming event for many women.

Participants with a history of violence were at significant risk of developing PPD. This finding supports those of a cross-sectional study conducted in Bangladesh, which found that domestic violence was significantly associated with PPD.^[25] Moreover, an increase in PPD may primarily be attributed to a culture of not reporting domestic abuse, which makes it crucial to consider these sensitive topics in relation to the given cultural context.

We found that depression in the family was a significant risk factor for PPD, which supports previous studies showing an association between family history and a possible familial component of PPD.^[6,26] This may be due to genetic risk

factors for depression as well as similar living conditions and lifestyles between individuals of the same family. In some cultures, it is not uncommon for males to have more than one wife. In this study, husband's polygyny marital status was not a significant factor associated with the development of PPD, which was similar to the findings reported in the other study from Jeddah.^[5] As an additional note, there were only few cases of polygyny in our study sample (<2.5%).

Unplanned pregnancy was not a distinguishing factor in PPD, positively or negatively. However, previous international research has reported higher PPD in connection with factors such as unplanned pregnancy and marriage conflict, with implications due to cultural, lifestyle, and/or religious differences.^[27] Further, the use of ART for conception was also not found to be a significant risk factor for PPD. Corresponding to our findings, most studies of adequate quality have reported little or no increased risk of PPD among women who conceive by using ART.^[28,29] However, there is still an overall lack of evidence concerning the extent to which ART and infertility are linked with the risk of clinically significant mental health outcomes, both in general and specifically in relation to PPD.^[30]

We found that PPD was significantly more prevalent in participants with multiple pregnancies (i.e., twins) compared

with those with a single fetus. This result corroborates a study conducted in 2019 among 365 postpartum women, which reported that multiple births dramatically increased the probability of PPD.^[31] Similar results were found in two other studies that found women with multiple pregnancies to be at risk of PPD.^[3,6] This outcome can be explained by several risk factors, including high levels of parenting stress and fatigue among mothers of twins.^[32,33] However, the association between PPD and multiple births has not yet been extensively studied.^[32]

Compared with participants with uncomplicated pregnancies, those who experienced complications during pregnancy had a higher tendency for PPD (47.94%). This supports a narrative review of articles published between 2000 and 2015, wherein high-risk pregnancy was found to be a leading risk factor for PPD.^[10] As for specific issues, preeclampsia is both a significant risk factor for PPD^[24,34,35] and a common complication during pregnancy.^[36] In general, this may be attributed to the fact that complicated pregnancies are known to induce stress.

A significant negative association was noted between BSE and PPD, i.e., poorer BSE was associated with PPD. Similarly, as BSE scores increased, the risk of PPD decreased. Numerous studies have reported similar results in other countries.^[7,36] Given this evidence, it is essential for health-care professionals to regularly evaluate women's nursing competence and self-efficacy, thereby enabling the early identification of breastfeeding issues. Women should also receive routine screenings for depression at primary health-care centers during follow-ups, not only in the postnatal period but also in the antenatal period, with referrals to secondary health-care facilities for psychiatric services, when necessary.^[37]

Limitations

This study has several limitations. First, the cross-sectional approach to assessing both risk factors and outcomes at the same time precludes causal inferences and only reveals the association. Second, our sample contained a relatively small number of individuals who undertook ART, and thus a study with a larger sample size of patients who undertake ART should be conducted to provide statistically robust findings between ART and PPD. Third, our study was conducted at a single medical facility, which may limit its generalizability. Fourth, the reliability and validity of the Arabic version of BSES-SF was not assessed. Finally, we did not examine the causes or risk factors of maternal breastfeeding dissatisfaction, which should be considered in future research.

CONCLUSION

About one-fourth of the study population was found to have PPD, with the most important risk factors being

history of violence, multiple pregnancies, and low BSE scores. An inverse relation was found between PPD and BSE. These findings highlight the need for careful screening of patients at risk of PPD and for providing breastfeeding support/knowledge, both in the antenatal and postpartum periods.

Ethical considerations

The study was approved by the Research Ethics Committee at King Abdulaziz University, (Ref. No.: 81-22; date: 17 February 17, 2022), Jeddah, Saudi Arabia. All study participants provided written consent before inclusion in the study. The study adhered to the principles of the Declaration of Helsinki, 2013.

Peer review

This article was peer-reviewed by two independent and anonymous reviewers.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Author contributions

Conceptualization: R.S.B, N.F.A, M.T.A, A.H.A, J.H.A, T.A.A, W.G.A.; Methodology: R.S.B, W.G.A.; Data analysis: R.S.B; Writing—original draft preparation: R.S.B, M.T.A, A.H.A, J.H.A, T.A.A.; Writing – review and editing: R.S.B, N.F.A, W.G.A.

All authors have read and agreed to the published version of the manuscript.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Meena PS, Soni R, Jain M, Jilowa CS, Omprakash. Cognitive dysfunction and associated behaviour problems in postpartum women: A study from North India. *East Asian Arch Psychiatry* 2016;26:104-8.
2. Wang Z, Liu J, Shuai H, Cai Z, Fu X, Liu Y, *et al.* Mapping global prevalence of depression among postpartum women. *Transl Psychiatry* 2021;11:543.
3. Zhao XH, Zhang ZH. Risk factors for postpartum depression: An evidence-based systematic review of systematic reviews and meta-analyses. *Asian J Psychiatr* 2020;53:102353.
4. Mughal S, Azhar Y, Siddiqui W. Postpartum Depression. *Treasure Island (FL): StatPearls Publishing; 2022.* Available from: <https://www.ncbi.nlm.nih.gov/books/NBK519070/>. [Last accessed on 2022 Aug 29].
5. Alsayed NA, Altayyeb JF, Althuniyan LS, Alzubaidi SK, Farahat F. Prevalence of postpartum depression and associated risk factors among women in Jeddah, Western Saudi Arabia. *Cureus* 2021;13:e14603.

6. Van Niel MS, Payne JL. Perinatal depression: A review. *Cleve Clin J Med* 2020;87:273-7.
7. Borra C, Iacovou M, Sevilla A. New evidence on breastfeeding and postpartum depression: The importance of understanding women's intentions. *Matern Child Health J* 2015;19:897-907.
8. Westerfield KL, Koenig K, Oh R. Breastfeeding: Common questions and answers. *Am Fam Physician* 2018;98:368-73.
9. Al Shahrani A, Hushan H, Binjamaan N, Binhuwaimel W, Alotaibi J, Alrasheed L. Factors associated with early cessation of exclusive breast feeding among Saudi mothers: A prospective observational study. *J Family Med Prim Care* 2021;10:3657.
10. Ghaedrahmati M, Kazemi A, Kheirabadi G, Ebrahimi A, Bahrami M. Postpartum depression risk factors: A narrative review. *J Educ Health Promot* 2017;6:60.
11. Dennis CL. The breastfeeding self-efficacy scale: Psychometric assessment of the short form. *J Obstet Gynecol Neonatal Nurs* 2003;32:734-44.
12. Kossakowska K, Bielawska-Batorowicz E. Postpartum depressive symptoms and their selected psychological predictors in breast-, mixed and formula-feeding mothers. *Front Psychiatry* 2022;13:813469.
13. Chiu HC, Wang HY, Hsiao JC, Tzeng IS, Yiang GT, Wu MY, *et al.* Early breastfeeding is associated with low risk of postpartum depression in Taiwanese women. *J Obstet Gynaecol* 2020;40:160-6.
14. Ngo LT, Chou HF, Gau ML, Liu CY. Breastfeeding self-efficacy and related factors in postpartum Vietnamese women. *Midwifery* 2019;70:84-91.
15. Sahin BM. The relationship between breastfeeding self-efficacy and depression in the early postpartum period in turkey. *Int J Caring Sci* 2019;12:729-36.
16. Vieira ES, Caldeira NT, Eugênio DS, Lucca MM, Silva IA. Breastfeeding self-efficacy and postpartum depression: A cohort study. *Rev Lat Am Enfermagem* 2018;26:e3035.
17. Sehairi Z. Validation of the Arabic version of the Edinburgh postnatal depression scale and prevalence of postnatal depression on an Algerian sample. *Revue EL-Bahith en Sciences Humaines et Sociales* 2020;12:341-51.
18. Tsai AC, Scott JA, Hung KJ, Zhu JQ, Matthews LT, Psaros C, *et al.* Reliability and validity of instruments for assessing perinatal depression in African settings: Systematic review and meta-analysis. *PLoS One* 2013;8:e82521.
19. Levis B, Negeri Z, Sun Y, Benedetti A, Thombs BD, DEPRESSion Screening Data (DEPRESSD) EPDS Group. Accuracy of the Edinburgh postnatal depression scale (EPDS) for screening to detect major depression among pregnant and postpartum women: Systematic review and meta-analysis of individual participant data. *BMJ* 2020;371:m4022.
20. Amini P, Omani-Samani R, Sepidarkish M, Almasi-Hashiani A, Hosseini M, Maroufizadeh S. The breastfeeding self-efficacy scale-short form (BSES-SF): A validation study in Iranian mothers. *BMC Res Notes* 2019;12:622.
21. Xiong R, Deng A. Incidence and risk factors associated with postpartum depression among women of advanced maternal age from Guangzhou, China. *Perspect Psychiatr Care* 2020;56:316-20.
22. Silverman ME, Reichenberg A, Savitz DA, Cnattingius S, Lichtenstein P, Hultman CM, *et al.* The risk factors for postpartum depression: A population-based study. *Depress Anxiety* 2017;34:178-87.
23. Qi W, Liu Y, Lv H, Ge J, Meng Y, Zhao N, *et al.* Effects of family relationship and social support on the mental health of Chinese postpartum women. *BMC Pregnancy Childbirth* 2022;22:65.
24. Mbarak B, Kilewo C, Kuganda S, Sunguya BF. Postpartum depression among women with pre-eclampsia and eclampsia in Tanzania; a call for integrative intervention. *BMC Pregnancy Childbirth* 2019;19:270.
25. Upadhyay RP, Chowdhury R, Aslyeh Salehi, Sarkar K, Singh SK, Sinha B, *et al.* Postpartum depression in India: A systematic review and meta-analysis. *Bull World Health Organ* 2017;95:706-17C.
26. Kimmel M, Hess E, Roy PS, Palmer JT, Meltzer-Brody S, Meuchel JM, *et al.* Family history, not lack of medication use, is associated with the development of postpartum depression in a high-risk sample. *Arch Womens Ment Health* 2015;18:113-21.
27. Gauthreaux C, Negron J, Castellanos D, Ward-Peterson M, Castro G, Rodríguez de la Vega P, *et al.* The association between pregnancy intendedness and experiencing symptoms of postpartum depression among new mothers in the United States, 2009 to 2011: A secondary analysis of PRAMS data. *Medicine (Baltimore)* 2017;96:e5851.
28. Amirchaghmaghi E, Malekzadeh F, Chehrizi M, Ezabadi Z, Sabeti SH. A comparison of postpartum depression in mothers conceived by assisted reproductive technology and those naturally conceived. *Int J Fertil Steril* 2020;13:277-81.
29. Monti F, Agostini F, Paterlini M, Andrei F, De Pascalis L, Palomba S, *et al.* Effects of assisted reproductive technology and of women's quality of life on depressive symptoms in the early postpartum period: A prospective case-control study. *Gynecol Endocrinol* 2015;31:374-8.
30. Yoshimasu K, Sato A, Miyauchi N, Tsuno K, Nishigori H, Nakai K, *et al.* Lack of association between receiving ART treatment and parental psychological distress during pregnancy: Preliminary findings of the Japan environment and children's study. *Reprod Biomed Soc Online* 2018;5:5-16.
31. Shriram V, Badamilal P, Rani AM, Sathiyasekaran BWC. A community-based study of postpartum depression in rural Southern. *Indian J Soc Psychiatry* 2019;35:64-8.
32. Wenzel SJ, Battle CL, Tezanos KM. Raising multiples: Mental health of mothers and fathers in early parenthood. *Arch Womens Ment Health* 2015;18:163-76.
33. Kehoe A, Dempster M, McManus J, Lewis S. Stress and coping in parents of newly born twins. *J Psychosom Obstet Gynaecol* 2016;37:110-8.
34. Caropreso L, de Azevedo Cardoso T, Eltayebani M, Frey BN. Preeclampsia as a risk factor for postpartum depression and psychosis: A systematic review and meta-analysis. *Arch Womens Ment Health* 2020;23:493-505.
35. Ye Y, Chen L, Xu J, Dai Q, Luo X, Shan N, Qi H. Preeclampsia and Its Complications Exacerbate Development of Postpartum Depression: A Retrospective Cohort Study. *Biomed Res Int*. 2021 Apr 22;2021:6641510.
36. Abuchaim ES, Caldeira NT, Lucca MM di, Varela M, Silva IA. Postpartum depression and maternal self-efficacy for breastfeeding: Prevalence and association 2016;29:664-70.
37. Mercan Y, Tari Selcuk K. Association between postpartum depression level, social support level and breastfeeding attitude and breastfeeding self-efficacy in early postpartum women. *PLoS One* 2021;16:e0249538.

SUPPLEMENTARY FILE

فيما يلي عبارات تصف الرضاعة الطبيعية، فضلاً اختاري الرقم الأقرب الذي يعبر عن ثقتك في إرضاع طفلك.
لا توجد إجابة صحيحة أو خاطئة.

٥	٤	٣	٢	١
وثيقة جدا	وثيقة	وثيقة بعض الاحيان	غير وثيقة نوعا ما	غير وثيقة على الإطلاق

رقم	السؤال	غير وثيقة على الإطلاق	غير وثيقة نوعا ما	وثيقة بعض الاحيان	وثيقة	وثيقة جدا
س١	يمكنني دائما التأكد من أن طفلي يحصل على ما يكفي من الحليب.	١	٢	٣	٤	٥
س٢	يمكنني أن أرضع طفلي رضاعة طبيعية، مثلما أفعل المهام الأخرى التي تتطلب مجهود.	١	٢	٣	٤	٥
س٣	يمكنني دائما إرضاع طفلي من الثدي دون الحاجة الى استعمال حليب الأطفال الصناعي.	١	٢	٣	٤	٥
س٤	أثق دائما ان طفلي يرضع بالطريقة الصحيحة خلال فترة الرضاعة.	١	٢	٣	٤	٥
س٥	يمكنني دائما تدبير الرضاعة الطبيعية بما يحقق رضائي.	١	٢	٣	٤	٥
س٦	يمكنني دائما إرضاع طفلي حتى عند بكانه.	١	٢	٣	٤	٥
س٧	أريد دائما إرضاع طفلي.	١	٢	٣	٤	٥
س٨	أشعر بالراحة دائما وقت الرضاعة الطبيعية لطفلي حتى عند وجود افراد العائلة.	١	٢	٣	٤	٥
س٩	أنا راضية دائما عن رضاعتي الطبيعية.	١	٢	٣	٤	٥
س١٠	يمكنني دائما تقبل حقيقة ان عملية الرضاعة الطبيعية ستستغرق وقتا طويلاً.	١	٢	٣	٤	٥
س١١	يمكنني دائما اكمال الرضعة من الثدي نفسه، قبل التبديل الى الثدي الأخر.	١	٢	٣	٤	٥
س١٢	يمكنني دائما الاستمرار في إرضاع طفلي دون مشاكل في كل جلسة رضاعة.	١	٢	٣	٤	٥
س١٣	يمكنني دائما توفير الرضاعة الطبيعية في كل مرة يطلب فيها طفلي الحليب.	١	٢	٣	٤	٥
س١٤	أنا دائما قادرة على معرفة الوقت الذي انتهى فيه طفلي وعن رضاه وقت جلسة الرضاعة الطبيعية.	١	٢	٣	٤	٥

النموذج القصير لمقياس الكفاءة الذاتية للرضاعة الطبيعية.