ACCSCIENCE PUBLISHING

Eurasian Journal of Medicine and Oncology

ORIGINAL RESEARCH ARTICLE

# Prevalence of postpartum depression and associated factors among women attending primary health care centers in Baghdad

**Mayasah Sadiq, Alaa A. Salih*, Najlaa F. Jamil, Ali T. Khalifa, Mustafa K. Lafta, and Mohammed S. Abd**

Department of Family and Community Medicine, College of Medicine, Al-Mustansiriyah University, Baghdad, Iraq

## Abstract

Although it usually appears in the first 4 weeks after delivery, postpartum depression (PPD) is a form of depression that can strike at any time within a year after childbirth. Generally, the symptoms of PPD subside after 3 months of giving birth. The risk factors should be identified to determine the prevalence of PPD. In this study, we conducted a cross-sectional survey in which women ($n$ = 400) attending four main healthcare facilities in Baghdad, Iraq, who were in 6 – 8 weeks postpartum, were recruited from January 18 to February 25, 2024. Systematic random sampling was used to select the participants. The Edinburg Postpartum Depression Scale (EPDS) was employed to assess the symptoms of PPD, with a cutoff score of ≥ 12. Among the 400 participants in the study, 202 (50.5%) of the participants complained of having PPD. Approximately 216 (54%) of the participants were between the ages of 20 and 29, and 320 (80%) of them were housewives. This analysis found a significant association of PPD occurrence with the level of education ($p$ = 0.018), complications that happened to the mothers during or after delivery ($p$ = 0.0001), preference of the sex of the last baby ($p$ = 0.014), family support after delivery ($p$ = 0.001), quality of relationship with their partners ($p$ = 0.006), and previous symptoms of depression before or during the past pregnancy ($p$ = 0.0001). Nearly half of the women suffer from PPD during their puerperium, and it is substantially linked to the child's sex, postpartum difficulties, history of depressive disorders, and lack of parental assistance. Half of the participants suffered from PPD, significantly associated with a lack of education, family support, maternal complications, and undesirable newborn sex.

***Keywords:*** Prevalence; Women; Depression; Postpartum

***Corresponding author:**
Alaa Ali Salih
(alaa.ali@uomustansiriyah.edu.iq)

**Citation:** Sadiq M, Salih AA, Jamil NF, Khalifa AT, Lafta MK, Abd MS. Prevalence of postpartum depression and associated factors among women attending primary health care centers in Baghdad. *Eurasian J Med Oncol*. 2025;9(2):181-189. doi: 10.36922/ejmo.8528

**Received:** January 14, 2025

**Revised:** February 19, 2025

**Accepted:** March 13, 2025

**Published online:** April 7, 2025

**Copyright:** © 2025 Author(s). This is an Open-Access article distributed under the terms of the Creative Commons Attribution License, permitting distribution, and reproduction in any medium, provided the original work is properly cited.

**Publisher's Note:** AccScience Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

## 1. Introduction

Depression is a prevalent mental disorder, characterized by a chronically low mood or a loss of interest and enjoyment of engaging with activities. Regular emotions and mood swings, which are a part of our everyday life, manifest differently in depression. Depression can impact various facets of life and relationships with friends, family, and the community. Based on statistics, approximately 280 million (3.8%) of people worldwide suffer from depression.[1]

Postpartum depression (PPD) is a type of depression that may manifest at any point of time within a year following childbirth; however, it predominantly occurs within the initial 4 weeks post-delivery and may diminish after 3 months.[2] Characterized by a high prevalence rate, PPD affects 10 – 15% of women post-delivery, with a higher incidence in low- and middle-income countries compared to affluent nations. In Asian countries, the prevalence of this illness varies from 7% to 33%.[3,4] It is crucial to differentiate between PPD and baby blues. Postpartum blues are commonly reported by women as a transient phase of melancholy and apprehension following childbirth, generally persisting for only a few days and commencing immediately after delivery. Conversely, PPD occurs when a woman exhibits severe symptoms, such as intense melancholy, anxiety, lethargy, irritability, episodes of sobbing, and alterations in sleep or appetite. These symptoms often manifest for 1 week to 1 month post-childbirth and may last for duration of 2 weeks to even 1 year.[5]

It is believed that a mix of mental and physical factors contribute to PPD. Changes in hormones, sleep inadequacy, a previous history of PPD or bipolar disorder, a family history of depression, mental stress, problems encountered during labor, not having enough support, and substance use disorder are all possible causes of PPD, but the exact cause remains to be determined.[6] Diagnosing PPD is a challenging endeavor due to the prevalence of alterations in sleep habits, appetite, and pronounced exhaustion in women following childbirth.[7] Given that PPD is a prevalent problem impacting the standard of living for both moms and their infants, it is advisable to do a PPD screening during postpartum evaluations.[8]

Numerous self-report instruments, such as the Edinburgh Postnatal Depression Scale (EPDS), can be used to assess PPD, and this straightforward scoring test can be completed in five minutes and demonstrates adequate specificity as well as sensitivity.[9] The adverse effects of postnatal depressive illness include both immediate and long-term complications for mother and infant. Immediate complications include physical health issues, suicide or infanticide, prolonged psychiatric problems, weakened emotional bonding with the infant, and disrupted emotional development of the baby. Prolonged consequences may encompass social and cognitive repercussions for the child, psychiatric disorders in the youngster, marital dissolution, and subsequent mental health issues.[10]

PPD is largely avoidable, and most therapies are effective in patients who have been identified in the early stage of PPD. The key to preventing PPD is identifying the associated risk factors. Furthermore, as women with depression are less inclined to seek professional assistance, recognizing the risk factors for PPD allows healthcare providers to execute early preventive measures for vulnerable women.[11]

This study aims to evaluate the incidence of PPD in mothers; to ascertain the risk variables that contribute to the onset of PPD; to assess the impact of PPD on child-rearing and aspirations for further pregnancies; and to examine the correlation between social factors and PPD.

## 2. Methods

### 2.1. Study participants

A study was conducted at four basic health care centers in Baghdad, Iraq, over the course of 2 months, from January 18 to February 25, 2024. An equal number of study participants were recruited from each of the healthcare facilities. Women who were in their $6^{th}$ – $8^{th}$ weeks postpartum were selected randomly using systematic random sampling from a group of women who were recruited for this study.

The sample size was determined by using the Cochran formula, with an error margin of 0.05 and a confidence range of 95%:[12]

$$n = [(z)^2 \times P(1\text{-}P)]/\alpha^2,$$

where $n$ is sample size; $z$ is Z score; $P$ is population size; and $\alpha$ is margin of error.

The sample size recommended by the Cochran formula is 384, which was subsequently increased to 400. The data were acquired through direct interviews conducted using a standardized questionnaire, which was revised based on the study's objectives after analyzing the pertinent existing research.[13,14] Women with chronic illnesses and pre-existing psychological disorders were excluded from the study. The survey comprised two segments: The initial portion of the survey collected the sociodemographic and historical obstetric data of the participants including their age, educational attainment, employment position, residential location, parity, and number of abortions. The second section of the survey focused on the present obstetric history of the participants including maternal health, gestational duration, delivery complications, pregnancy planning, the infant's sex and parental preferences regarding sex, relevant variables, historical psychosocial data, familial mental health history, family support, spousal relationships, and inquiries about future pregnancy intentions or desires.

### 2.2. EPDS assessment of PPD

To examine the signs of postnatal depression, a standard Arabic version of EPDS was used, with a cutoff point

of ≥ 12. The EPDS is a 10-item self-report test, which is widely regarded as effective, and is a common tool used by the public to evaluate PPD development. The highest score for an EPDS score is 30 points, and each question is scored between 0 and 3 points. There are seven items with negative scoring.[13-15]

### 2.3. Statistical analysis

Data collection and analysis were performed using the Statistical Program for the Sciences in Society (version 21). The chi-square test was used to examine the relationships between PPD and the risk factors, with a *p*-value of 0.05 set as a threshold of significance.

### 2.4. Ethical considerations

All participants provided their verbal consent for joining the survey. By guaranteeing the anonymity of the questionnaire, the confidentiality of their data was preserved. The information gathered was kept private and utilized only for this study (Ethic Code: [528]).

## 3. Results

There were 400 mothers participated in this study, with the age range of 12 – 45 years and a mean age of 28 ± 6.7 years, and 216 (54%) of them were in the age range of 20 – 29 years. Among the 400 participants, 320 (80%) were housewives, constituting the highest proportion of the participants in terms of employment or occupation. About 307 (77%) of the mothers were from Baghdad city while the rest were from Baghdad's outskirts. In addition, 270 (67%) of the participants were mothers of 1 – 3 children, 206 (51.5%) were mothers of male newborns, and about 59 (15%) of them had newborn children suffering from neonatal complications or obvious deformities. Concerning the mode of delivery, 238 (59%) of the participants chose to deliver by Cesarean sectioning. Tables 1 and 2 show that PPD exhibited a significant correlation with educational attainment ($p = 0.018$), maternal complication ($p = 0.0001$), and sex preference ($p = 0.014$).

Having received family support was reported by 371 (92.7%) of the participants while good marital relationship was reported by 373 (93%) of the participants, with each of them linked significantly to PPD ($p = 0.001$, 0.006, respectively). In addition, previous depression or anxiety is also significantly associated to PPD ($p = 0.0001$) in 173 (43%) of the participants (Table 3).

Table 4 illustrates the participants' responses regarding their desire for future pregnancies and the impact of their symptoms on the ability to care for their children. Among 400 participants, 140 (70%) of them did not desire or expect further pregnancy, and 65 (32%) of them claimed that they cannot care for their babies; both of these factors are strongly linked to PPD ($p = 0.0001$, 0.0001, respectively). Table 5 shows that PPD is strongly associated with a lack of family support (odds ratio [OR] 5), poor relationship with husband (OR 3.7), previous depression (OR 4.8), and ability to care for the baby (OR 6.2).

## 4. Discussion

PPD is a serious mental health issue. Although most of PPD's risk factors are preventable, the repercussions of this mental issue are still significant since they affect both the mothers and their newborns, as well as the family, specifically by diminishing the mothers' ability to care for their infants and even an older child, thus jeopardizing the marital relationship with their spouses.[16]

The prevalence of PPD was approximately 50%, as assessed by the Edinburgh Postnatal Depression Scale (EPDS) using a cutoff score of 12 points.[13-15] Such prevalence is considered high in comparison to studies in neighboring countries such as Saudi Arabia and Kuwait (33.2% and 21.03%, respectively).[17,18] The prevalence of this study is consistent with the studies in India, which has a prevalence rate of 48.5%, and this can be justified by using a lower cutoff score of 10 points, resulting in a higher prevalence of diagnosis.[19]

In a study conducted in Kuwait, a higher cutoff value was used for PPD diagnosis, possibly reflecting a lower prevalence of PPD, while a study conducted in Saudi Arabia adopted a cutoff value lower than that used in our study, but the PPD prevalence estimated was still lower in comparison to our study. This may be due to Iraqi women were grappling with the stress of past exposure to the previous national war and subsequent violence against civilians as witnessed by our study's participants. Furthermore, the economic difficulties faced by those women make them more vulnerable to depression.[20]

In a study conducted in China, the PPD prevalence was 27.3%.[21] Although they used the same scale as in our study, a higher cutoff score used in this study may contribute to the differences in the results obtained. In our study, although age has no significant effect on the prevalence of PPD, PPD was observed in two-thirds of the mothers in the teenage group (12 – 19), while two-thirds of the mothers in the older age group (40 – 49) did not have PPD. This finding points to a contradiction with a study demonstrating a connection between a significantly increased risk of PPD and maternal age above 35,[22] and another study showing a decreased risk of PPD in the age group of below 40.[23] Such discrepancy is possibly attributed to the increase in maternal age in Iraq associated with increased parity, which is a protective factor against the development

**Table 1. The correlation between PPD and participant characteristics**

| Variable | PPD | | Total (100%) (n = 400) (%) | *p*-value |
|---|---|---|---|---|
| | Yes (50.5%) (*n* = 202) (%) | No (49.5%) (*n* = 198) (%) | | |
| Age group (years) | | | | |
| 12 – 19 | 15 (60) | 10 (40) | 25 (6.25) | 0.11 |
| 20 – 29 | 105 (49) | 111 (51) | 216 (54) | |
| 30 – 39 | 71 (56) | 56 (44) | 127 (31.75) | |
| 40 – 49 | 11 (34) | 21 (66) | 32 (8) | |
| Education level | | | | |
| Illiterate | 9 (47) | 10 (53) | 19 (4.75) | 0.018 |
| Able to read and write | 23 (66) | 12 (34) | 35 (8.75) | |
| Primary school graduate | 43 (38) | 70 (62) | 113 (28.25) | |
| Secondary school graduate | 72 (55) | 58 (45) | 130 (32.5) | |
| College graduate | 55 (53) | 48 (47) | 103 (25.75) | |
| Occupation | | | | |
| Employer | 44 (55) | 36 (45) | 80 (20) | 0.37 |
| Housewife | 158 (49) | 162 (51) | 320 (80) | |
| Residential area | | | | |
| Baghdad city | 156 (51) | 151 (49) | 307 (76.75) | 0.8 |
| Baghdad outskirts | 46 (49) | 47 (51) | 93 (23.25) | |
| Number of children | | | | |
| 1 – 3 | 138 (51) | 132 (49) | 270 (67.5) | 0.68 |
| 4 – 6 | 52 (48) | 57 (52) | 109 (27.25 | |
| 7 – 9 | 12 (57) | 9 (43) | 21 (5.25) | |
| Number of abortions | | | | |
| No abortion | 141 (51) | 137 (49 | 278 (69.5) | 0.25 |
| 1 – 3 | 58 (52) | 54 (48) | 112 (28) | |
| 4 – 6 | 1 (14) | 6 (86) | 7 (1.75) | |
| 7 – 9 | 2 (67) | 1 (33) | 3 (0.75) | |

Abbreviation: PPD: Postpartum depression.

of PPD. In countries, such as the United States of America and Canada, the increase in maternal age may be due to primiparous women who are considered belonging to a high-risk group, while the increase in maternal age of Iraqi women is associated with increased parity and thus a reducing in the PPD risk.[24,25]

A high PPD prevalence (66%) was observed in the participants with low educational attainment (limited to reading and writing), indicating a strong correlation between PPD and participants' education levels ($p = 0.018 < 0.05$), as illustrated in Table 1. This finding is in agreement with a study conducted in Greece, which reported a significant association between the maternal low educational level and PPD was found ($p = 0.0001$), with a possible attribution to lower income, which therefore amplifies the stress on women.[26]

In this study, the statistic shows that there is no association between PPD and the sex of the baby, similar to the findings of a previous study conducted in Iraq, while the preferred sex of the baby is significantly associated with PPD ($p = 0.014$, OR = 2). Similarly, a study conducted in Ethiopia also shows a significant association between PPD and the preferred sex of the baby. Among Iraqi women, the unpreferred sex of the baby (especially female) may be linked to cultural conflict with the husband and the threaten of second marriage or even divorce, which might increase the risk of PPD.[27-29]

Maternal complications such as pyrexia and bleeding are significantly associated with PPD and show a three-fold risk ($p < 0.003$, OR = 3), and this finding is consistent with previous study in Iraq. In contrast, neonatal complications does not show any significant association with PPD.[30]

**Table 2. The correlation between specific obstetric variables and the incidence of PPD**

| Variable | PPD | | Total (100%) ($n$ = 400) (%) | $p$-value |
|---|---|---|---|---|
| | Yes (50.5%) ($n$ = 202) (%) | No (49.5%) ($n$ = 198) (%) | | |
| Maternal illnesses during pregnancy | | | | |
| Hypertension | 36 (54.5) | 30 (45.5) | 66 (16.5) | 0.5 |
| Diabetes mellitus | 18 (56) | 14 (44) | 32 (8) | |
| Other | 87 (46) | 81 (54) | 168 (42) | |
| No illnesses | 61 (45.5) | 73 (55.5) | 134 (33.5) | |
| Complications after or during delivery | | | | |
| Pyrexia | 31 (62) | 19 (38) | 50 (12.5) | < 0.0001 |
| Hemorrhage | 22 (85) | 4 (15) | 26 (6.5) | |
| Other | 22 (67) | 11 (33) | 33 (8.25) | |
| No complications | 127 (44) | 164 (56) | 291 (72.75) | |
| Neonatal illness | | | | |
| Yes | 34 (58) | 25 (42) | 59 (15) | 0.23 |
| No | 168 (49) | 173 (51) | 341 (85) | |
| Planning of pregnancy | | | | |
| Yes | 102 (47) | 115 (53) | 217 (54.25) | 0.128 |
| No | 100 (55) | 83 (45) | 183 (45.75) | |
| Sex of the last baby | | | | |
| Male | 104 (50.4) | 102 (49.6) | 206 (51.5) | 0.5 |
| Female | 98 (50.5) | 96 (49.5) | 194 (48.5) | |
| Sex of the last baby preferred | | | | |
| Yes | 159 (48) | 174 (52) | 333 (82.25) | 0.014 |
| No | 43 (64) | 24 (36) | 67 (16.75) | |
| Pregnancy period | | | | |
| Full term (more than 37 weeks) | 174 (50.4) | 171 (49.6) | 345 (86.25) | 0.64 |
| Early (before 37 weeks of pregnancy) | 28 (51) | 27 (49) | 55 (13.75) | |
| Mode of delivery | | | | |
| Vaginal | 80 (49) | 82 (51) | 162 (40.5) | 0.94 |
| Cesarean section | 122 (51) | 116 (49) | 238 (59.5) | |
| Modality of feeding | | | | |
| Breastfeeding | 44 (45) | 53 (55) | 97 (24.25) | 0.116 |
| Bottle feeding | 64 (59) | 45 (41) | 109 (27.25) | |
| Mixed modalities | 94 (48) | 100 (52) | 194 (48.5) | |

Abbreviation: PPD: Postpartum depression.

In various studies, the absence of family assistance and poor marital relationships demonstrate a strong correlation with the occurrence of PPD in women. In this study, women lacking family support are five times at risk to PPD, while those who have poor marital relationships are at nearly four-fold risk to PPD. This is because women who lack social support are more susceptible to stress, loneliness, and despair. In addition, as demonstrated by a study in India, a partner's support – which is a sign of a healthy marriage – enables women to manage household duties and take care of their newborn child, particularly during the postpartum phase ($p$ = 0.006).[30-32]

PPD has been linked to enduring pain during delivery; however, more than half of the participants had Cesarean section during delivery, where the pain is minimized through the use of anesthesia. Thus, the mode of delivery does not significantly contribute to PPD, and this finding aligns with the previous studies in Iran and Türkiye.[33,34]

**Table 3. PPD association with family characteristics**

| Variable | PPD | | Total (100%) ($n$ = 400) (%) | $p$-value |
|---|---|---|---|---|
| | Yes (50.5%) ($n$ = 202) (%) | No (49.5%) ($n$ = 198) (%) | | |
| Family history of mental disorders | | | | |
| Yes | 9 (64) | 5 (36) | 14 (3.5) | 0.3 |
| No | 193 (50) | 193 (50) | 386 (96.5) | |
| Family support after delivery | | | | |
| Yes | 178 (48) | 193 (52) | 371 (92.75) | 0.001 |
| No | 24 (83) | 5 (17) | 29 (7.25) | |
| The relationship with the husband | | | | |
| Good | 181 (49) | 192 (51) | 373 (93.25) | 0.006 |
| Bad | 21 (78) | 6 (22) | 27 (6.75) | |
| Prior manifestations of depression or anxiety preceding or during the most recent pregnancy | | | | |
| Yes | 124 (72) | 49 (28) | 173 (43.25) | < 0.0001 |
| No | 78 (34) | 149 (66) | 227 (56.75) | |

Abbreviation: PPD: Postpartum depression.

**Table 4. Participants' ability to care for their child and desire for future pregnancy**

| Question | PPD (%) | No PPD (%) | Total (%) | $p$-value |
|---|---|---|---|---|
| Do you want to be pregnant again in the future? | | | | |
| Yes | 62 (38) | 100 (62) | 162 (40) | 0.0001 |
| No | 140 (59) | 98 (41) | 238 (60) | |
| Is the care for your baby affected by your symptoms? | | | | |
| Yes | 65 (82) | 14 (18) | 79 (20) | < 0.0001 |
| No | 137 (43) | 184 (57) | 321 (80) | |

Abbreviation: PPD: Postpartum depression.

**Table 5. Logistic regression analysis of PPD and related factors**

| Factors | OR (95% CI) | $p$-value |
|---|---|---|
| Complications after or during delivery | 3 (1.8 – 4.5) | < 0.0001 |
| Preference of sex of the last baby | 2 (1.1 – 3.4) | 0.014 |
| Family support after delivery | 5 (2 – 13.9) | 0.001 |
| The quality of the relationship | 3.7 (1.5 – 9.4) | 0.006 |
| Previous symptoms of depression | 4.8 (3.1 – 7.4) | < 0.0001 |
| Planning for pregnancy in the future | 2.3 (1.5 – 3.5) | 0.0001 |
| The care for participant's children being influenced by their symptoms | 6.2 (3.4 – 11.6) | < 0.0001 |

Abbreviations: CI: Confidence interval; OR: odds ratio; PPD: Postpartum depression.

The prevalence of PPD also does not significantly correlate with the participant's career, place of residence, or number of children ($p > 0.05$). However, this finding contradicts to the studies conducted in Canada and Iran.[35,36] The feeding modalities among the mothers, including breastfeeding, bottle feeding, and mixed feeding, exhibit a comparable frequency across the groups, resulting in an insignificant association with PPD. This finding aligns with the findings of the studies carried out in Saudi Arabia and Iran, which reported no correlation between PPD and the type of infant feeding.[37,38]

According to a meta-analysis, a family history of mental health problems doubles the risk of PPD, but our results show no significant correlation. On the other hand, women who had previously experienced depressive symptoms were 4.8 times more likely to experience depression than women who did not, indicating a strong correlation between the prevalence of PPD and the history of depression, which is supported by additional research.[38,39]. PPD exerts significant repercussions on mothers and infants, including a maternal perception of incapacity to care for their newborn child and inadequate maternal-infant bonding. The present study observed a greater than six-fold increase in the risk of impaired childcare ($p < 0.0001$), which may have long-term detrimental effects on the child's physical, cognitive, and psychological well-being in the future. PPD also has a prolonged drawback on women, evident by the reduced desire for future pregnancy, statistically represented by an odds ratio of more than two ($p < 0.0001$).[40]

## 5. Conclusion

This study found that nearly half of the participants suffered from PPD, with the riskiest groups being the women who are uneducated, unsupported by their families and partners, having depressive symptoms before or during pregnancy, having maternal complications, and having babies not

of the preferred sex. Since PPD affects not only the care of women for their newborns but also influences their decision to grow their families in the future, addressing this depression problem is an urgent matter for the better well-being of mothers and their families.

## Acknowledgments

None.

## Funding

None.

## Conflict of interest

The authors declare they have no conflict of interest.

## Author contributions

*Conceptualization:* Mayasah Sadiq, Alaa A. Salih, Najlaa F. Jamil

*Data curation:* Ali T. Khalifa, Mustafa K. Lafta, Mohammed S. Abd

*Formal analysis:* Mayasah Sadiq, Alaa A. Salih

*Methodology:* Mayasah Sadiq, Alaa A. Salih, Najlaa F. Jamil

*Writing – original draft:* Mayasah Sadiq, Alaa A. Salih, Najlaa F. Jamil

*Writing – review & editing:* Mayasah Sadiq, Alaa A. Salih, Najlaa F. Jamil

## Ethics approval and consent to participate

This study was approved by the ethical and scientific committee of the family and community medicine department ID 528, number 202 in 11-1-2024. All participants provided their verbal consent to join the survey.

## Consent for publication

Direct verbal consent was obtained from all patients.

## Availability of data

Data are available from the corresponding author upon reasonable request.

## References

1. World Health Organization. *Depressive Disorder* (*Depression*). World Health Organization. Available from: https://www.who.int/news-room/fact-sheets/detail/depression [Last accessed on 2025 Mar 26].
2. Slomian J, Honvo G, Emonts P, Reginster JY, Bruyère O. Consequences of maternal postpartum depression: A systematic review of maternal and infant outcomes. *Womens Health* (Lond) 2019;15(15):174550651984404.

   doi: 10.1177/1745506519844044
3. Fan Q, Long Q, De Silva V, *et al*. Prevalence and risk factors for postpartum depression in Sri Lanka: A population-based study. *Asian J Psychiatr*. 2020;47:101855.

   doi: 10.1016/j.ajp.2019.101855
4. Hahn-Holbrook J, Cornwell-Hinrichs T, Anaya I. Economic and health predictors of national postpartum depression prevalence: A systematic review, meta-analysis, and meta-regression of 291 studies from 56 countries. *Front Psychiatry*. 2018;8:248.

   doi: 10.3389/fpsyt.2017.00248
5. Pearlstein T, Howard M, Salisbury A, Zlotnick C. Postpartum depression. *Am J Obstet Gynecol*. 2009;200(4):357-364.

   doi: 10.1016/j.ajog.2008.11.033
6. Tefera TB, Erena AN, Kuti KA, Hussen MA. Perinatal depression and associated factors among reproductive aged group women at Goba and Robe Town of Bale Zone, Oromia Region, South East Ethiopia. *Matern Health Neonatol Perinatol*. 2015;1:12.

   doi: 10.1186/s40748-015-0013-6
7. Boyd RC, Le HN, Somberg R. Review of screening instruments for postpartum depression. *Arch Womens Ment Health*. 2005;8(3):141-153.

   doi: 10.1007/s00737-005-0096-6
8. Sadat Z, Abedzadeh Kalahroudi M, Kafaei Atrian M, Karimian Z, Sooki Z. The impact of postpartum depression on quality of life in women after child's birth. *Iran Red Crescent Med J*. 2014;16(2):e14995.

   doi: 10.5812/ircmj.14995
9. Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *Br J Psychiatry*. 1987;150:782-786.

   doi: 10.1192/bjp.150.6.782
10. Kenny LC, Myers JE. *Obstetrics by Ten Teachers*. United States: CRC Press; 2017.
11. Werner E, Miller M, Osborne LM, Kuzava S, Monk C. Preventing postpartum depression: Review and recommendations. *Arch Womens Ment Health*. 2015;18(1):41-60.

    doi: 10.1007/s00737-014-0475-y
12. Nanjundeswaraswamy TS, Divakar S. Determination of sample size and sampling methods in applied research. *Proc Eng Sci*. 2021;3(1):25-32.

    doi: 10.24874/pes03.01.003
13. Ekeroma AJ, Ikenasio-Thorpe B, Weeks S, *et al*. Validation of the Edinburgh Postnatal Depression Scale (EPDS) as a screening tool for postnatal depression in Samoan and Tongan women living in New Zealand. *N Z Med J*. 2012;125(1355):41-49.

14. Sehairi Z. Validation of the Arabic version of the Edinburgh postnatal depression scale and prevalence of postnatal depression on an Algerian sample. *Res J Humanit Soc Sci*. 2020;12:341-351.

doi: 10.35156/1869-012-001-056

15. Khalifa D, Glavin K, Bjertness E, Lien L. Postnatal depression among Sudanese women: Prevalence and validation of the Edinburgh Postnatal Depression Scale at 3 months postpartum. *Int J Womens Health*. 2015;7:677-684.

doi: 10.2147/ijwh.s81401

16. Amer SA, Zaitoun NA, Abdelsalam HA, *et al*. Exploring predictors and prevalence of postpartum depression among mothers: Multinational study. *BMC Public Health*. 2024;24(1):1308.

doi: 10.1186/s12889-024-18502-0

17. Alharbi AA, Abdulghani HM. Risk factors associated with postpartum depression in the Saudi population. *Neuropsychiatr Dis Treat*. 2014;10:311-316.

doi: 10.2147/NDT.S57556

18. Al-Sabah R, Al-Taiar A, Ziyab AH, Akhtar S, Hammoud MS. Antenatal depression and its associated factors: Findings from Kuwait birth cohort study. *J Epidemiol Glob Health*. 2024;14:847-859.

doi: 10.1007/s44197-024-00223-7

19. Patel HL, Ganjiwale JD, Nimbalkar AS, Vani SN, Vasa R, Nimbalkar SM. Characteristics of postpartum depression in Anand District, Gujarat, India. *J Trop Pediatr*. 2015;61(5):364-369.

doi: 10.1093/tropej/fmv046

20. *The National Strategy to Combat Violence against Women and Girls 2018-2030 Iraq*. Available from: https://iraq.unfpa.org/sites/default/files/pub-pdf/the_national_strategy_to_combat_violence_against_women_and_girls_2018-2030.pdf [Last accessed on 2024 Mar 26].

21. Deng AW, Xiong RB, Jiang TT, Luo YP, Chen WZ. Prevalence and risk factors of postpartum depression in a population-based sample of women in Tangxia Community, Guangzhou. *Asian Pac J Trop Med*. 2014;7(3):244-249.

doi: 10.1016/S1995-7645(14)60030-4

22. Silverman ME, Reichenberg A, Savitz DA, *et al*. The risk factors for postpartum depression: A population-based study. *Depress Anxiety*. 2017;34(2):178-187.

doi: 10.1002/da.22597

23. Bradshaw H, Riddle JN, Salimgaraev R, Zhaunova L, Payne JL. Risk factors associated with postpartum depressive symptoms: A multinational study. *J Affect Disord*. 2022;301:345-351.

doi: 10.1016/j.jad.2021.12.121

24. Smithson S, Mirocha J, Kilpatrick S, *et al*. 1225: Grand multiparity is protective against risk for postpartum depression. *Am J Obstetr Gynecol*. 2019;222(1):S753-S753.

doi: 10.1016/j.ajog.2019.11.1236

25. Tahir AI, Ramadhan DS, Salih JF, Piro SS, Abdulah DM. Desired family size and its associated factors among mothers attending primary healthcare centers. *Med J Babylon*. 2024;21(3):633-640.

doi: 10.4103/mjbl.mjbl_212_23

26. Papadopoulou SK, Pavlidou E, Dakanalis A, *et al*. Postpartum depression is associated with maternal sociodemographic and anthropometric characteristics, perinatal outcomes, breastfeeding practices, and Mediterranean diet adherence. *Nutrients*. 2023;15:3853.

doi: 10.3390/nu15173853

27. Al-Sattam ZMJ, Nayel RS, Hasan ZWA, Al-Attar Z. Postpartum depression among mothers attending primary health care centers, Iraq 2019. *Azerbaijan Med J*. 2022;62(4):1145-1158.

28. Shitu S, Geda B, Dheresa M. Postpartum depression and associated factors among mothers who gave birth in the last twelve months in Ankesha district, Awi zone, North West Ethiopia. *BMC Pregnancy Childbirth*. 2019;19(1):435.

doi: 10.1186/s12884-019-2594-y

29. Ye Z, Wang L, Yang T, *et al*. Gender of infant and risk of postpartum depression: A meta-analysis based on cohort and case-control studies. *J Matern Fetal Neonatal Med*. 2022;35(13):2581-2590.

doi: 10.1080/14767058.2020.1786809

30. Qi W, Liu Y, Lv H, *et al*. Effects of family relationship and social support on the mental health of Chinese postpartum women. *BMC Pregnancy Childbirth*. 2022;22(1):65.

doi: 10.1186/s12884-022-04392-w

31. Keles E, Bilge Y, Kumru P, Celik Z, Cokeliler I. Association between perceived social support, marital satisfaction, differentiation of self and perinatal depression. *North Clin Istanb*. 2023;10(2):181-188.

doi: 10.14744/nci.2023.79923

32. Gupta S, Kishore J, Mala YM, Ramji S, Aggarwal R. Postpartum depression in North Indian women: Prevalence and risk factors. *J Obstet Gynaecol India*. 2013;63(4):223-229.

doi: 10.1007/s13224-013-0399-x

33. Fatemeh A, Zain AM. The mode of delivery and some selected obstetric factors as predictors of post-partum depression. *Caspian J Reprod Med*. 2015;1(2):13-21.

34. Goker A, Yanikkerem E, Demet MM, Dikayak S, Yildirim Y, Koyuncu FM. Postpartum depression: Is mode of delivery a risk factor? *ISRN Obstet Gynecol*. 2012;2012:616759.

doi: 10.5402/2012/616759

35. Davey HL, Tough SC, Adair CE, Benzies KM. Risk factors for sub-clinical and major postpartum depression among a community cohort of Canadian women. *Matern Child Health J*. 2011;15(7):866-875.

    doi: 10.1007/s10995-008-0314-8

36. Kheirabadi GR, Maracy MR, Barekatain M, *et al*. Risk factors of postpartum depression in rural areas of Isfahan Province, Iran. *Arch Iran Med*. 2009;12(5):461-467.

37. Alasoom LI, Koura MR. Predictors of postpartum depression in the Eastern province capital of Saudi Arabia. *J Family Med Prim Care*. 2014;3(2):146-150.

    doi: 10.4103/2249-4863.137654

38. Zacher Kjeldsen MM, Bricca A, Liu X, Frokjaer VG, Madsen KB, Munk-Olsen T. Family history of psychiatric disorders as a risk factor for maternal postpartum depression: A systematic review and meta-analysis. *JAMA Psychiatry*. 2022;79(10):1004-1013.

    doi: 10.1001/jamapsychiatry.2022.2400

39. Van der Zee-van den Berg AI, Boere-Boonekamp MM, Groothuis-Oudshoorn CGM, Reijneveld SA. Postpartum depression and anxiety: A community-based study on risk factors before, during and after pregnancy. *J Affect Disord*. 2021;286:158-165.

    doi: 10.1016/j.jad.2021.02.062

40. Saharoy R, Potdukhe A, Wanjari M, Taksande AB. Postpartum depression and maternal care: Exploring the complex effects on mothers and infants. *Cureus*. 2023;15(7):e41381.

    doi: 10.7759/cureus.41381