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Delivery Methods and Postpartum Depression: A Comparative Study

Hayat Ibrahim Abood*, Sajidah S Oleiwi

Department of Maternity Nursing, College of Nursing, University of Kerbala, Kerbala, Iraq

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Corresponding Information:
Hayat Ibrahim Abood,
Department of Maternity Nursing, College of Nursing, University of Kerbala, Kerbala, Iraq
Email: hayat.i@s.uokerbala.edu.iq

ABSTRACT

Background & Objective: Postpartum depression is a frequent psychological complication that affects a mother's mental status and her ability to adjust to the new changes in her life after giving birth, making the postpartum period a sensitive time for mothers both physically and emotionally. This study was conducted with the aim to find out the relationship between postpartum depression and the delivery method.

Materials & Methods: This descriptive comparative study was conducted among 240 postpartum women at primary health care centers in Babylon city, Iraq. Participants aged 16-45 years at 2-6 weeks after delivery. Data was collected using the validated Edinburg Postpartum Depression scale and analyzed with SPSS (version 23.0). Descriptive and inferential statistics, including Kruskal-Wallis and Mann-Whitney U tests were employed. $P<0.05$ was considered statistically significant.

Results: Among women with normal vaginal delivery, 79.2% had low postpartum depression scores (7.95±5.29). However, among women who underwent C/S delivery, 48.3% had moderate depression scores (17.21±6.63).

Conclusion: The present study found higher rates of postpartum depression among mothers who had caesarean sections compared to those with normal deliveries. Socio demographic factors (marital status, occupation, and residence) influenced depression in normal delivery mothers, while age was significant for caesarean section mothers. Healthcare providers should prioritize mental health support, integrating psychological screening and targeted interventions, especially for at-risk groups like as divorced, unemployed, and rural-resident mothers.

Keywords: Caesarean section, Postpartum depression, Normal delivery

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1. Introduction

Postpartum Depression (PPD) is defined by the American Psychiatric Association (APA) in the Diagnostic and Statistical Manual of Mental Disorders as a chief depressive episode occurring during pregnancy or postpartum, with a peripartum onset **(1)**. However, scientific proof indicates that PPD may be identified at any point in the first year following childbirth **(2)**. PPD is characterized through mental and physiological signs and symptoms, including persistent disappointment, emotional instability, irritability, emotions of guilt and inadequacy, sleep disturbances, appetite adjustments, fatigue, impaired concentration, and suicidal ideation **(3)**. PPD is a common complication affecting 13-19% of mothers, with significant implications for both maternal properly-being and infant development. It is likewise associated with an accelerated chance of recurrent depressive episodes in mothers **(4)**. According to the American College of Obstetricians and Gynecologists (ACOG), one per seven women report PPD **(5)**. Research shows that 13-26% of adolescent mothers are stricken by PPD. In Iraq, research report a PPD occurrence of 22% at 6-8 weeks postpartum, which decreases to 18% at 12-14 weeks postpartum **(6)**. Several hazard factors contribute to the development of PPD. Psychosocial factors including early maternal age, low academic attainment, poor marital and economic fame, loss of social and family guide, and unfavorable existence activities increase susceptibility to PPD. Obstetric and perinatal factors, such as primiparity, gestational diabetes, unintended pregnancies, cesarean delivery, and unfavorable pregnancy or delivery have also been related to a higher likelihood of PPD **(7)**. Additionally, a history of prenatal anxiety and depression is recognized as a strong predictor of postpartum depression onset **(8)**.

Although studies at the direct dating between pregnancy headaches and PPD stays constrained, pregnancy-associated headaches have a huge negative effect on both maternal and infant body and mental health. Mothers with pregnancy or obstetric complications are at an elevated threat of growing

depression at some stage in the postpartum period **(9)**. Understanding the outcomes of PPD is crucial, as it could decrease maternal quality of life, impair mother-infant relation, and make difficulties in fulfilling essential maternal duties **(10)**. Additionally, PPD will increase the likelihood of long-time psychological problems for mother **(11)**. Infants with PPD are at more danger of social, emotional, and cognitive developmental delays. They may also show behavioral troubles, delays in attaining developmental milestones, and insecure attachment patterns, that could increase their risk of psychological problems later in lifestyles **(12)**. In the absence of suitable intervention, PPD can also intervene with physiological self-law mechanisms of babies, mainly cognitive, psychomotor, and behavioral issues **(13)**. Given the severe outcomes of PPD, early screening, well-timed intervention, and comprehensive psychosocial evaluation is essential for mitigating its effect. National healthcare guidelines emphasize the combination of ordinary mental health tests throughout prenatal and postnatal care to facilitate early detection and powerful control of PPD. The present study was conducted with the aim of determining the relationship between delivery methods and PPD.

2. Materials and Methods

This descriptive comparative study was conducted among 240 postpartum women at primary health care centers in Babylon city, Iraq. To ensure a representative and varied sample, participants were chosen from primary healthcare centers according to predetermined inclusion criteria. Participants aged 16-45 years at the 2-6 weeks after delivery. To achieve an accurate evaluation that focused only on the effects of delivery on mental health, women with a history of depression or any other psychiatric illnesses were excluded from the study.

To differentiate between Postpartum Depression (PPD) and postpartum blues, the Edinburgh Postnatal Depression Scale (EPDS) was used. The study focused on the second to sixth week postpartum period to identify actual events of PPD since PPD appears after the first week with more severe and persistent symptoms, while postpartum blues usually go away in a few days to a week without interfering with daily functioning.

The study was conducted at the primary health care centers in Babylon city, Iraq. The sample population included 240 women (120 with normal vaginal delivery and 120 with cesarean section) who were selected through convenience sampling. The Inclusion criteria were mothers within the 2-6 weeks postpartum who attended the selected health care centers. Exclusion criteria were women who declined to take part in the study, mothers with history of chronic diseases, a recent history of psychological trauma (DSM-IV; defines trauma as a direct personal experience of an event that involves actual or threatened death or serious injury), and mothers within the first week of postpartum period.

The data was collected using the Edinburg Postpartum Depression Scale (EDPS) consisting of 10 items. The EDPS was developed to identify women who may have postpartum depression **(14)**. The EPDS consists of 10 questions that explore various aspects of a woman's mood and feelings in the past week. Each question has four possible answers, and the responses are scored to create a total score.re about the scale.

Interpretation: A higher score on the EPDS indicates a higher likelihood of depressive symptoms. A score above the cutoff, typically 10 or 13, suggests that a woman should be referred for further evaluation and potential treatment for depression

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Data was collected after acquiring an official agreement from the department of development and training through using research instruments from 20th December 2024 to 20th January 2025. Postpartum women were interviewed as face to face by the researcher, who provided instructions and answered any questions they had regarding the form and was present to react to any questions.

Data was analyzed by SPSS software (version 23.0) and descriptive and inferential statistics. The participants' demographics characteristics and the prevalence of postpartum depression were summarized using descriptive data, such as frequencies, percentages, mean, and standard deviations. Statistical differences were identified using inferential data, which included the Mann-Whitney U test and Kruskal-Wallis's analysis. $P<0.05$ was considered statistically significant.

3. Results

Table 1 summarizes the distribution of study participants based on socio-demographic variables, comparing those who had normal delivery to those who underwent caesarean sections. Most participants in both groups aged 20-29 years (57.5% for normal delivery and 55.8% for C-section delivery) with similar mean ages of 28 years. Education levels varied, with university graduates comprising the largest subgroup for normal delivery and C-section delivery groups (25.8% and 22.5%, respectively). Most participants were either employed or unemployed, with a higher proportion of unemployed women in the CS group (57.5%). Urban and rural residency were nearly equally distributed in both groups. Married women were the predominant marital status, while economic levels were primarily "somewhat sufficient." Breastfeeding was more common in the normal

delivery group (48.3%), whereas artificial feeding was higher in the C-section group (43.3%). Moreover, male children slightly outnumbered females in normal delivery group (59.2%), while the sex ratio was more balanced in the C-section delivery group.

The distribution of the study sample according to the obstetric history is shown in Table 2. Both normal delivery and C-section delivery groups experienced one to two deliveries (1.66±0.473 for normal delivery and 1.68±0.470 for C-section delivery). With the mean of (2.47±1.571 and 2.50±1.571, respectively), the number of alive children ranged more considerably, ranging from 1 to 9 in normal delivery and 1 to 8 in C-section groups. The mean gestational ages in normal delivery and C-section delivery groups were 37.25±1.411 and 37.59±1.331 weeks, respectively; the range of gestational ages for C-section delivery (33-40 weeks) was somewhat wider than that of normal delivery (35-40 weeks).

The overall assessment of postpartum depression among women with caesarean section and normal delivery is shown in Table 3. It is divided into three levels: low, moderate, and high, depending on the range of total scores. The postpartum depression scores of 79.2% of women who had a normal delivery were low (7.95±5.29). On the other hand, 48.3% of women who had a C-section delivery suffered from significant depression (17.21±6.63).

The Mann-Whitney U test indicates that there were significant differences in postpartum depression between those who had normal delivery and those who had caesarean section delivery (P=0.000). The Critical Z-value (CZ) is a threshold value from the standard normal distribution used in hypothesis testing. It helps determine whether the test statistic is extreme enough to reject the null hypothesis (Table 4).

The statistical analysis of postpartum depression among women who had normal and cesarean section deliveries highlights key socio demographic factors influencing PPD symptoms. The Kruskal-Wallis's test results for normal delivery group show significant differences in PPD based on occupation (χ^2=6.637, P=0.036), residence (χ^2=7.915, P=0.005), and marital status (χ^2=13.184, P=0.004). Women who were employed, resided in rural areas, or were divorced exhibited higher depression levels. However, factors such as age, education, economic status, child feeding methods, and child sex showed no significant impact on PPD (P>0.05). Conversely, for C-section delivery, age (χ^2=13.814, P=0.003) and marital status (χ^2=19.028, P=0.045) significantly influenced PPD. Women aged 30-39 years had the lowest depression rank (18.50), whereas those aged ≥40 years had the highest (73.02) depression. Additionally, divorced women had a higher depression rank (74.30) compared to married women (51.64). Unlike normal delivery, occupation and residence did not significantly affect PPD in C-section delivery (Table 5).

Table 1. Distribution of the study samples by their socio-demographic characteristics

Variables	Classification	Normal delivery		C-section Delivery	
		N	%	N	%
Age/ years	<20	5	4.2	5	4.2
	20-29	69	57.5	67	55.8
	30-39	39	32.5	44	36.7
	≥40	7	5.8	4	3.3
	Mean ± SD	28.14±5.775		28.44±5.447	
Education level	Illiterate	14	11.7	17	14.2
	Read and write	13	10.8	17	14.2
	Primary school	13	10.8	19	15.8
	Preparatory school	12	10.0	6	5.0
	Secondary school	16	13.3	17	14.2
	Institute	21	17.5	17	14.2
	University	31	25.8	27	22.5
Occupation	Employed	55	45.8	48	40.0
	Unemployed	58	48.3	69	57.5
	Student	7	5.8	3	2.5
Residence place	Urban	65	54.2	66	55.0
	Rural	55	45.8	54	45.0
Current marital status	Married	115	95.8	115	95.8
	Divorced	4	3.3	5	4.2
	Widow	1	.8	0	0.0
Economic level	Enough	53	44.2	47	39.2
	Some extent enough	58	48.3	56	46.7
	Not enough	9	7.5	17	14.2
Child feeding	Breastfeeding	58	48.3	38	31.7
	Artificial feeding	40	33.3	52	43.3
	Mix methods feeding	22	18.3	30	25.0
Child's sex	Male	71	59.2	62	51.7
	Female	49	40.8	58	48.3

N= Number; %= Percentage; M= Mean; SD= standard deviation

Table 2. Distribution of the study samples by their obstetric history

Factors	Normal delivery		C-section delivery	
	Min-Max	Mean±SD	Min-Max	Mean±SD
Number of deliveries	1-2	1.66±0.473	1-2	1.68±0.470
Number of alive children	1-9	2.47±1.571	1-8	2.50±1.571
Gestational age (weeks)	35-40	37.59±1.331	33-40	37.25±1.411

Max= Maximum; Min= Minimum

Table 3. Overall evaluation of postpartum depression among normal and C-section delivery groups

Postpartum depression score	Normal delivery			C/s delivery		
	N	%	Mean±SD	N	%	Mean±SD
Low	95	79.2	7.95±5.290	24	20.0	17.21±6.630
Moderate	21	17.5		58	48.3	
High	4	3.3		38	31.7	
Total	120	100.0		120	100.0	

Low=0-10, Moderate=10.1-20, High=20.1-30

Table 4. Statistical variations in postpartum depression between normal and caesarean section delivery groups

Variable	Delivery methods	N	Mean Rank	cz	P-value
Postpartum Depression Questionnaire	Normal	120	76.77	1952.000	0.000
	C-section	120	164.23		

cz= Mann-Whitney Test; N= number; significant level at 0.05.

Table 5. Statistical differences in postpartum depression among normal and C-section delivery groups by socio-demographic characteristics

Variable	Category	Normal delivery (Mean Rank)	χ^2 (P-value)	C-section delivery (Mean Rank)	χ^2 (P-value)
Age	<20	72.00	0.839(0.840)	43.70	13.814(0.003)
	20-29	60.53		56.04	
	30-39	60.23		18.50	
	≥40	53.50		73.02	
Education Level	Illiterate	60.71	11.455(0.075)	55.62	5.321(0.503)
	Read & Write	45.81		66.76	
	Primary	57.54		70.66	
	Preparatory	56.67		40.83	
	Secondary	43.88		58.62	
	Institute	66.55		53.47	
	University	73.77		62.46	
Occupation	Employed	68.21	6.637(0.036)	53.40	4.377(0.112)
	Unemployed	55.87		64.37	
	Student	38.29		85.17	
Residence	Rural	68.68	7.915(0.005)	56.87	1.601(0.206)
	Urban	50.83		64.94	
Marital Status	Married	52.65	13.184(0.004)	51.64	19.028(0.045)
	Divorced	89.38		74.30	
	Widow	53.00		-	
Economic Level	Enough	60.52	0.429(0.807)	54.03	5.979(0.079)
	Partially enough	61.58		60.15	
	Not Enough	53.44		76.00	
Child Feeding	Breastfeeding	51.53	0.378(0.119)	59.63	3.375(0.185)
	Artificial	73.34		55.58	
	Mixed	60.80		70.13	
Child Sex	Male	58.48	0.592(0.442)	63.67	1.136(0.287)
	Female	63.43		57.11	

b= Kruskal Wallis test; N= number; significant level at ≤0.05

4. Discussion

The prevalence and severity of postpartum depression varied significantly between women with normal vaginal delivery and those who had a cesarean section. According to the findings of the present study, 79.2% of mothers with normal vaginal delivery had low depression scores, which suggests that depression symptoms are less common in this population. However, among mothers who underwent cesarean sections, only 20.0% had low depression scores, whereas a large percentage (48.3%) reported moderate depression and 31.7% reported high depression. Given these findings, mothers who give birth by cesarean section may be more susceptible to moderate to severe postpartum depression than mothers who give birth vaginally.

Many factors related to delivery methods can be attributed to the observed variations in postpartum depression levels. Early breastfeeding initiation and skin-to-skin contact are two common benefits of vaginal delivery that have been demonstrated to lower maternal stress and improve emotional health **(15)**. The release of oxytocin and other natural hormonal activities following vaginal delivery is essential for fostering maternal connection and reducing depressive symptoms. The reduced incidence of postpartum depression among those with vaginal delivery is probably due to these psychological and physiological advantages. On the other hand, the difficulties associated with surgery and recuperation following cesarean delivery might postpone bonding and add to the physical and emotional strain on mothers. Research et al., **(16)** has demonstrated a clear correlation between increased incidence of postpartum depression and delayed mother-infant interactions as well as longer healing periods following cesarean delivery. Additionally, the greater incidence of moderate and severe depression in this group may be attributed to the increased physical discomfort and limited mobility following cesarean delivery, which may intensify feelings of mental sadness and helplessness **(17)**. Psychosocial variables might be additional contributing elements. Women who have an emergency or unplanned cesarean section could feel disappointed or out of control, which can exacerbate mental discomfort in the postpartum phase **(18,19)**. Regardless of the delivery method, socioeconomic position, support networks, and past mental health issues are also significant determinants of postpartum depression severity. To address the increased risk of postpartum depression among mothers with cesarean section, our findings highlight the necessity of focused interventions. In this population, the risk of depression can be reduced by employing techniques including structured postpartum care, counseling, and increased psychological support. For better maternal and neonatal health outcomes, early detection and treatment of depression symptoms are essential for postpartum depression screening in both normal delivery and C-section delivery groups. To guide more all-encompassing care practices, future research should examine the mediating roles of social and psychological factors in the association between postpartum depression and method of delivery.

The Mann-Whitney U test showed significant differences in Postpartum Depression (PPD) levels between mothers who had a caesarean section and those who delivered normally (P=0.000). In comparison to mothers who had a normal delivery, mothers with C-section delivery had significantly higher levels of postpartum depression, as evidenced by the mean rank for PPD scores, which was 76.77 for mothers with a normal delivery and 164.23 for mothers with a C-section delivery.

This result is in line with other research that emphasizes the increased risk of PPD linked to C-section delivery. Women with C-section delivery frequently experience higher psychological distress because of factors such as delayed bonding, less autonomy during labor, and surgical recuperation **(20,21)**. These factors, along with the psychological and physical effects of surgery, could account for the higher PPD scores in the C-section group.

On the other hand, a normal delivery is linked to a more natural childbirth process, which encourages the production of oxytocin, a hormone that is linked to maternal bonding and stress reduction. Early breastfeeding initiation and immediate skin-to-skin contact, which are typical during vaginal delivery, also promote maternal health and reduce the risk of PPD **(22)**. Mothers in the normal delivery group had lower PPD scores, which can be attributed to these protective factors. The notable differences in PPD scores between normal delivery and C-section delivery emphasize how crucial customized postpartum care is. In order to improve bonding and reduce depression symptoms, mothers who give birth by caesarean section might benefit from extra psychological care and therapies. Counseling, structured postpartum recovery plans, and early PPD screening can all assist address the difficulties in this group.

As the findings of the present study showed, marital status, occupation, and place of residence all show significant variations, indicating that these factors are important in determining postpartum depression levels; While other socio demographic factors like education level, occupation, residency, economic status, child feeding method, and child sex were not significantly associated with PPD. The analysis of PPD among women who had cesarean delivery showed significant relationships with age and marital status. These results are consistent with more general trends found in earlier studies on postpartum mental health.

In the present study, women who were employed had substantially higher postpartum depression scores than those who were jobless or students. This could be explained by the extra pressures of handling job responsibilities and recuperation after giving birth. This finding is corroborated by some studies **(23-25)**,

which showed that insufficient maternity leave and work-related stress can worsen postpartum mental health issues. Because their employment obligations may prevent them from receiving social and familial care during the postpartum phase, employed women may also have less support relationships. According to the results of the present study, postpartum depression scores of rural women were considerably higher than those of urban women. This was consistent with earlier studies **(26)**, which discovered that women in rural regions are more likely to experience postpartum depression because they have less access to social support networks, mental health services, and healthcare resources. Rural locations' geographic isolation frequently exacerbates stress and loneliness, which has an adverse effect on mental health.

Divorced women in the current research had the greatest postpartum depression levels, followed by widows and married women. Lack of partner support dramatically raises the incidence of postpartum depression, since mother may experience tremendous emotional and financial strains **(27)**. The necessity for focused mental health therapies to address the particular difficulties faced by divorced and widowed women is highlighted by their increased susceptibility.

PPD and age were strongly correlated in this study, with women aged 30-39 years having the lowest mean rank (18.50) and those aged ≥40 years having the highest (73.02). This result is in line with other research showing that postpartum depression is less common in younger mothers, particularly those in their 20s **(28,29)**. Younger women may be less likely to experience depression since they are often in better physical health and are better equipped to handle the responsibilities of parenting. On the other hand, older women might experience more difficulties with physical recovery, social demands, and possible fertility problems, all of which could make them more susceptible to PPD symptoms **(30,31)**. Divorced women had a significantly higher mean rank (74.30) for PPD than married women (51.64), and marital status also was a significant predictor. This result was confirmed by previous studies indicating marital status has a substantial effect on a woman's mental health during the postpartum phase. Mothers who are divorced sometimes do not have the same financial and emotional support as married mothers, which can lead to increased stress and a higher prevalence of postpartum depression **(32)**. Women without a stable partner frequently suffer from more severe depressive symptoms **(33)**.

However, the findings of the present study showed that there was no statistically significant correlation between PPD and education level. Although women with lower educational level reported higher mean ranks, this difference was not statistically significant. Because less educated women may have fewer resources and less access to information about mental health, this finding runs counter to previous research that have suggested that lower educational attainment is a risk factor for PPD **(34)**. Other research, however, has indicated that social support or socioeconomic position may be more important determinants than education in determining postpartum depression **(35)**. The results of the present study demonstrate how age and marital status significantly influence postpartum depression in women who had cesarean delivery. These findings imply that programs designed to assist divorced and older women may help lower the prevalence of postpartum depression. Other possible mediators, like coping strategies and social support, that can affect the association between socio demographic characteristics and postpartum depression require more investigation.

5. Conclusion

The study findings indicate that postpartum depression is significantly higher among mothers who underwent caesarean section compared to those who had normal delivery. Socio demographic factors such as marital status, occupation, and residence significantly influenced postpartum depression among normal delivery mothers, while age played a significant role among caesarean section mothers. Healthcare providers should prioritize mental health support for postpartum mothers, particularly those who undergo caesarean sections. Psychological screening and targeted interventions should be integrated into postpartum care, with special attention to at-risk groups such as divorced, unemployed, and rural-residing mothers.

6. Declarations

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Ethical Considerations

Ethical approval was obtained from the Ethics Committee at the University of Karbala, College of Nursing Data were collected from participants at primary health care centers after they were clearly and thoroughly informed about the study's objectives and procedures.Written informed consent was obtained from all participants prior to data collection.The researchers ensured the confidentiality of participants' data and protected it from unauthorized use, with anonymity maintained throughout all stages of the study.

Participants were informed of their full right to withdraw from the study at any time without any negative impact on their health services or rights.No participant was exposed to any harm because of participation, and the rights and dignity of all

participants were respected throughout the research process

Authors' Contributions

Hayat Ibrahim Abood designed the study, collected the data from primary healthcare centers, and wrote the initial manuscript draft. Sajidah S. Oleiwi supervised the research process and critically reviewed and edited the manuscript. Both authors approved the final version of the manuscript.

Conflict of Interest

The authors declare no conflicts of interest.

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References

1. Abbasi NU, Bilal A, Muhammad K, Riaz S, Altaf S. Relationship between personality traits and postpartum depression in Pakistani fathers. PLoS One. 2024;19(5):e0303474. [DOI:10.1371/journal.pone.0303474]
2. Kaya L, Çiğdem Z. The relationship between mode of delivery and postpartum depression. J Educ Health Promot. 2019;8(1):5. [DOI:10.4103/jehp.jehp_97_18]
3. Hecht HK, Nguyen AM, Harley KG. Association of Maternity Leave Characteristics and Postpartum Depressive Symptoms among Women in New York. Matern Child Health J. 2024;28(11):1990-9. [DOI:10.1007/s10995-024-03997-1]
4. Hussein UA, Aloraibi F, Sahib Sadeq S, Abdalrahman MA, Q Fadhil O, Yousif Jasem A, et al. The prevalence and impact of postpartum depression among lactating women in Erbil, Iraq. J Obstet Gynecol Cancer Res. 2024;9(6):683-90. [DOI:10.30699/jogcr.9.6.683]
5. Ali MM. The prevalence of depression among infertile women in Iraq. Kerbala J Med. 2021;14(2):2528.
6. Shim SH, Lee SY, Jung I, Heo SJ, Han YJ, Kwak DW, et al. Risk factors of postpartum depression among Korean women: an analysis based on the Korean Pregnancy Outcome Study (KPOS). J Korean Med Sci. 2024;39(3). [DOI:10.3346/jkms.2024.39.e31]
7. Swart T, Shandley K, Huynh M, Brown CM, Austin DW, Bhowmik J. Pregnancy complications and their association with postpartum depression symptoms: a retrospective study. Aust J Psychol. 2023;75(1):2247088. [DOI:10.1080/00049530.2023.2247088]
8. Al-Juboori AK. Impact of depression upon quality of life of patients in Holy Kerbala City. Telematique. 2022;21(1):5964-9.
9. APDSD Nawam, Abd Ali AL, Al-Yasari AL, Mamdouh H, Ahmed Z, Hussein H, et al. The Relationship between Parenting Styles and Self-esteem among Students at the University of Kerbala, College of Nursing. Nasaq. 2024;42(1):1405-19.
10. 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]
11. Oleiwi S. Effectiveness of an education program concerning cardiotocography on nurses-midwives practice in maternity hospitals at Baghdad City. Iraqi Natl J Nurs Spec. 2018;31(1):24-34. [DOI:10.58897/injns.v31i1.289]
12. Cafiero PJ, Justich Zabala P. Postpartum depression: Impact on pregnant women and the postnatal physical, emotional, and cognitive development of their children. An ecological perspective. Arch Argent Pediatr. 2024;122(3):e202310217-e202310217. [DOI:10.5546/aap.2023-10217.eng]
13. Mahdi Abd Ali Z, Dakhil Nawam S. Relationships of empathy among nurses working at teaching hospitals with the patterns of parental rearing. Iran Rehabil J. 2024;22(2):195-204. [DOI:10.32598/irj.22.2.1619.6]
14. Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression: development of the 10-

item Edinburgh Postnatal Depression Scale. Br J Psychiatry. 1987;150(6):782-6. [DOI:10.1192/bjp.150.6.782]
15. Widström AM, Brimdyr K, Svensson K, Cadwell K, Nissen E. Skin-to-skin contact the first hour after birth, underlying implications and clinical practice. Acta Paediatr. 2019;108(7):1192-204. [DOI:10.1111/apa.14754]
16. 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. 2019;15:1745506519844044. [DOI:10.1177/1745506519844044]
17. Backe IF, Patil GG, Nes RB, Clench-Aas J. The relationship between physical functional limitations, and psychological distress: Considering a possible mediating role of pain, social support and sense of mastery. SSM Popul Health. 2018;4:153-63. [DOI:10.1016/j.ssmph.2017.12.005]
18. Deninotti J, Denis A, Berdoulat E. Emergency C-section, maternal satisfaction and emotion regulation strategies: effects on PTSD and postpartum depression symptoms. J Reprod Infant Psychol. 2020;38(4):421-35. [DOI:10.1080/02646838.2020.1793308]
19. Al-Abedi GA, Mansoor HI, Faris SH. Older adult self-care and related factors at primary health care centers. Bahrain Med Bull. 2024;46(1):1852-5.
20. Grisbrook MA. An examination of mode of birth, maternal postpartum mental health, and childhood behavioural problems. University of Calgary, 2024. [Available at https://ucalgary.scholaris.ca/server/api/core/bitstreams/dbedf0cd-4acb-4ee3-be3f-9a64aac5e1e7/content]. [DOI:10.11575/PRISM/42959]
21. Hamed IA. Women's psychological well-being in the first year after childbirth and its relationship with postpartum physical health and the quality of the couple's relationship. MS thesis. Lithuanian University of Health Sciences, Lithuania; 2023.
22. Tan A, et al. Pregnant and postpartum women's experiences of the indirect impacts of the COVID-19 pandemic in high-income countries: a qualitative evidence synthesis. BMC Pregnancy Childbirth. 2024;24(1):262. [DOI:10.1186/s12884-024-06439-6]
23. Karl M, Schaber R, Kress V, Kopp M, Martini J, Weidner K, et al. Precarious working conditions and psychosocial work stress act as a risk factor for symptoms of postpartum depression during maternity leave: results from a longitudinal cohort study. BMC Public Health. 2020;20:1-11. [DOI:10.1186/s12889-020-09573-w]
24. Oruh E, Achi A. Wellbeing at work: The difficulties, stress, and adjustment strategies of female junior doctors returning to work after maternity leave in Ghana. Diss. Brunel University London; 2023.
25. Abd Ali AM, Musihb ZS. Mothers' practices in prevention of sudden infant death syndrome in Holy Kerbala City. Iran Rehabil J. 2024;22(1):75–82. [DOI:10.32598/irj.22.1.1619.4]
26. Zarghami M, Abdollahi F, Lye MS. A comparison of the prevalence and related risk factors for post-partum depression in urban and rural areas. Iran J Psychiatry Behav Sci. 2019;13(2):e62558. [DOI:10.5812/ijpbs.62558]
27. Benuyenah V, Tran PB. Postpartum psychological pressure on single mothers: an interpretative phenomenological analysis. J Hum Appl Soc Sci. 2021;3(3):199-216. [DOI:10.1108/JHASS-12-2019-0089]
28. Dinwiddie KJ, Schillerstrom TL, Schillerstrom JE. Postpartum depression in adolescent mothers. J Psychosom Obstet Gynaecol. 2018;39(3):168-75. [DOI:10.1080/0167482X.2017.1334051]
29. Hymas R, Girard LC. Predicting postpartum depression among adolescent mothers: A systematic review of risk. J Affect Disord. 2019;246:873-85. [DOI:10.1016/j.jad.2018.12.041]
30. Merchant KM, Kurz KM. Women's nutrition through the life cycle: social and biological vulnerabilities. Inthe Health of Women 2018 May 4, pp. 63-90.
31. Mohammad Jafari R, Iran Nezhad Deljavan F, Karegarzadeh E, Nikbakht R. Evaluation of surgical site infections after cesarean section and its related factors in women referring to Emam Khomeini Hospital, Ahvaz, Iran 2021-2022. J Obstet Gynecol Cancer Res. 2025;10(5):368-74. [DOI:10.30699/jogcr.10.5.368]
32. Rahman NW, Abdullah H, Darus N, Mansor AA. Key challenges contributing to the survival of single mothers. J Appl Environ Biol Sci. 2017;7(4):105-9.

33. Jennings EA, Ralston M, Schatz E. Support in times of need: How depressive symptoms can impact receipt of social support among aging adults in rural South Africa. SSM Popul Health. 2020;12:100666. [DOI:10.1016/j.ssmph.2020.100666]
34. Hansotte E, Payne SI, Babich SM. Positive postpartum depression screening practices and subsequent mental health treatment for low-income women in Western countries: a systematic literature review. Public Health Rev. 2017;38:3. [DOI:10.1186/s40985-017-0050-y]
35. Matsumura K, et al. Education level and risk of postpartum depression: results from the Japan Environment and Children's Study (JECS). BMC Psychiatry. 2019;19:1-1. [DOI:10.1186/s12888-019-2401-3]

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