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KNOWLEDGE; ATTITUDE AND PRACTICE OF POSTPARTUM DEPRESSION AMONG PRIMIPAROUS PREGNANT WOMEN IN PRIMARY HEALTH CARE CENTER AT BAGHDAD DURING 2024

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ABSTRACT

Background: Postpartum depression is critical mental health issue affecting new mothers impacting maternal well-being, infant development, and family dynamics. In low- and middle-income countries like Iraq, PPD remains underdiagnosed due to stigma, lack of awareness, and limited healthcare access. Objectives: This study aims to assess the knowledge, attitudes, and practices regarding postpartum depression among primiparous pregnant women attending primary healthcare centers in Baghdad, identifying gaps in awareness, perceptions, and healthcare-seeking behaviors to improve maternal mental health services. Methods: A cross-sectional study was conducted in 2024 among 400 primiparous pregnant women attending four primary healthcare centers in Baghdad. Data were collected through structured interviews using a questionnaire on sociodemographic characteristics, knowledge, attitudes, and practices related to PPD. Statistical analysis was performed using SPSS version 25. Results: Among participants, 49% had fair knowledge about postpartum depression, 28.7% good and 22.3% poor. Misconceptions were common, with 70% believing PPD does not require treatment. Attitudes were 48.8% neutral, 24.3% negative, and 27% positive. In practice, 54.3% exhibited positive behaviors, 38.3% neutral, and 7.5% negative. Significant associations were found between age, marital status, education, and attitudes, but not with knowledge or practice. Conclusion: Despite general awareness, misconceptions and stigma hinder early recognition and intervention. Targeted education, integration of mental health services, and community support programs are essential for improving postpartum depression detection and treatment in Iraq.

KEYWORDS: Knowledge; Attitude, Practice, Postpartum, Depression, Primiparous, Pregnant Women.

INTRODUCTION

Postpartum depression (PPD) is a significant public health issue that affects new mothers worldwide, impacting maternal well-being, infant development, and family dynamics. It is a mood disorder characterized by persistent sadness, anxiety, sleep disturbances, and emotional distress occurring within the first year after childbirth.[1] Symptoms include social withdrawal, suicidal thoughts, insomnia or hypersomnia, and appetite changes, leading to impaired mother-infant bonding, marital conflicts, and reduced quality of life.[2] Early recognition and intervention are crucial for mitigating the long-term effects of PPD. However, stigma, misconceptions, and limited healthcare access contribute to underdiagnosis and inadequate treatment.[3] In Iraq, studies indicate that 20–30% of new mother's experience PPD, with symptoms such as anxiety, fatigue, and sleep disturbances.[3,4] The burden of PPD is particularly high in low- and middle-income countries (LMICs) due to economic stressors, cultural beliefs, and inadequate mental health services.[5] Despite its high prevalence, research on knowledge, attitudes, and practices (KAP) related to PPD in Iraq remains limited, highlighting the need for further investigation.[6] Globally, the prevalence of PPD is estimated at 17.22% (95% CI: 16.00–18.51), with significant regional variations. Studies report prevalence rates of 2 3.1% in Turkey, 22.8% in Iran, 46.7% in South Africa, and 56% in Pakistan.[7,8] In Erbil, Iraq, a study found that 48% of participants reported depressive symptoms.[9] PPD affects maternal health by increasing the risk of chronic depression, fatigue, and sleep disturbances, while also contributing to marital strain and social withdrawal.[10] Infants of mothers with PPD may experience cognitive delays, emotional dysregulation, feeding difficulties, and weakened immunity due to maternal stress.[11] Risk factors for PPD

include a history of depression, lack of social support, financial difficulties, and cultural pressures, with Middle Eastern countries often reporting higher prevalence rates (25–40%) due to traditional gender roles and limited mental health awareness.[12] While data on PPD in Iraq remain scarce, studies in neighboring countries, such as Oman, indicate a high burden of postpartum depression.[13] Knowledge and attitudes toward PPD remain inconsistent. Cultural beliefs and stigma contribute to underreporting, with many women attributing depressive symptoms to postpartum adjustments rather than recognizing them as a medical condition.[14] Studies show that mental health stigma discourages women from seeking professional help, emphasizing the need for targeted awareness campaigns, education, and healthcare provider training.[15,16] Despite available mental health services, barriers such as a lack of trained healthcare providers, cultural stigma, and limited integration of mental health into maternal care hinder effective management.[17] Evidence suggests that structured community awareness programs, routine screening, and healthcare system improvements can significantly improve PPD detection and treatment.[18] Effective interventions for PPD include psychological therapies such as Cognitive Behavioral Therapy (CBT) and Interpersonal Therapy (IPT), pharmacological treatments like selective serotonin reuptake inhibitors (SSRIs), and community-based support programs.[6,11] Routine screening during prenatal and postnatal visits is essential for early detection and intervention.[19] The aim of study is to assess pregnant women's knowledge, attitude, and practice regarding postpartum depression, and to examine the association between sociodemographic and related variables with their level of knowledge, attitude, and practice toward postpartum depression.

METHOD

This study utilized a cross-sectional design with analytic elements to assess the knowledge, attitude, and practice of pregnant women regarding postpartum depression (PPD). Data were collected from February to December 2024, three days per week, for four hours per session, during which the researcher interviewed approximately ten patients per day.

Study Setting and Population

The study was conducted in four primary healthcare centers in Baghdad/Al-Karkh (Alsaidia, Alshabab, Albiaa', and Alamel), selected conveniently. A total of 400 pregnant women attending these centers were included using a convenience sampling method. Verbal consent was obtained from each participant before enrollment to ensure ethical compliance and voluntary participation.

Data Collection Tool

Data were collected using a structured questionnaire adapted from previous studies on postpartum depression.[20,21] The questionnaire was initially written in English and translated into Arabic for better comprehension. It comprised four sections

1. **Sociodemographic and obstetric history** (age, marital status, education, occupation, monthly income, history of chronic disease, gestational weeks, history of abortion, family history of PPD, and history of stillbirth).
2. **Knowledge assessment** (10 dichotomous questions, scored 0-10, categorized as poor, fair, or good knowledge).
3. **Attitude assessment** (5 questions using a five-point Likert scale, scored 5-25, categorized as negative, neutral, or positive attitude).
4. **Practice assessment** (5 questions using a five-point Likert scale, scored 5-25, categorized as negative, neutral, or positive practice).

Each interview took approximately 15 minutes per participant.

Inclusion and Exclusion Criteria

The study included primiparous pregnant women aged 18-45 in their first or second trimester. Women with psychological disorders, those unwilling to participate, those in their third trimester, or non-pregnant women were excluded.

Pilot Study

A pilot study was conducted on 30 pregnant women to assess the questionnaire's clarity, feasibility, and time requirements. Minor modifications were made based on participant feedback, and these cases were excluded from the final analysis.

Ethical Considerations

The study protocol was approved by the Scientific and Ethical Committee of the Iraqi Board of Medical Specialization for Family Medicine. Official permissions were obtained from the Baghdad Al-Karkh health directorate and healthcare center managers. Participants were assured of confidentiality, and data were anonymized using serial codes.

Statistical Analysis

Data were analyzed using SPSS version 25. Quantitative data were presented as mean, standard deviation, and range, while qualitative data were displayed as frequencies and percentages. Associations between sociodemographic variables and knowledge, attitude, and practice levels were evaluated using the Chi-square test (or likelihood ratio where applicable), with a significance level of $p \leq 0.05$.

RESULTS

The study included 400 pregnant women, with 46.0% aged 25-30 and 52.0% divorced, highlighting key demographic risk factors for PPD. Education levels were low, with 53.5% having only primary education, and income was generally modest, with 50.5% earning between 500,000 and 1,000,000 IQD. More than half

(55.3%) had chronic diseases, and 59.3% were in their first trimester. A significant proportion had a history of abortion (52.5%), family history of PPD (54.8%), and stillbirth (50.5%), emphasizing potential risk factors for postpartum depression. As in table 1.

Table 1: Sociodemographic Characteristics of Studied Pregnant Women. Medical and Obstetric History of Studied Pregnant Women (n=400).

Variables		Number	Percentage
Age (years)	< 24	136	34.0
	25-30	**184**	**46.0**
	31-35	70	17.5
	>35	10	2.5
Marital status	Married	192	48.0
	Divorced	208	52.0
Education	No formal education	141	35.3
	Primary	**214**	**53.5**
	Secondary	29	7.3
	Bachelor's degree	16	4.0
Occupation	Employed	207	51.7
	Unemployed	193	48.3
Monthly Income	>500 000 IQD	194	48.5
	500 000-1000 000 IQD	202	50.5
	>1000 000 IQD	4	1.0
	History of chronic diseases **Yes**	221	55.3
	No	179	44.8
	Weeks of gestation **<12 w (1st trimester)**	237	59.3
	12-28 w (2nd trimester)	163	40.8
	History of abortion Yes	210	52.5
	No	190	47.5
	Family history of postpartum depression Yes	219	54.8
	No	181	45.3
	History of stillbirth Yes	202	50.0
	No	198	49.5

The study categorized knowledge levels into good (28.7%), fair (49.0%), and poor (22.3%), highlighting gaps in understanding of PPD. Attitude assessment showed that 48.8% had a neutral attitude, 27.0% a positive attitude, and 24.3% a negative attitude, indicating limited awareness and acceptance. The mean attitude score was 19.8 ± 2.3, while the mean practice score was 21.3 ± 2.6. Positive practices were observed in 54.3% of women, 38.3% had neutral practices, and 7.5% exhibited negative practices. These findings emphasize the need for improved education and awareness on PPD. As in table 2.

Table 2: Knowledge, attitude and practice of Postpartum Depression.

Knowledge categories	Frequency	Percentage
Poor (0-4)	89	22.3
Fair (5-6)	196	49.0
Good (7-10)	115	28.7
Attitude categories	Number	Percentage
Negative attitude (5-14)	97	24.3
Neutral (15-19)	195	48.8
Positive attitude (20-25)	108	27.0
Practice categories	Number	Percentage
Negative practice (5-14)	30	7.5
Neutral (15-19)	153	38.3

Positive practice (20-25)	217	54.3

The comparison of women's sociodemographic characteristics with their knowledge level about PPD showed no statistically significant differences across age, marital status, education, employment, or income (P > 0.05). Most women with poor (47.2%), fair (48.0%), and good (41.7%) knowledge were aged 25-30 (P = 0.5), and primary education was the most common level across groups (P = 0.1). However, significant associations were found in obstetric history. Women in the fair and good knowledge groups were more likely to be in their first trimester (P = 0.04). A family history of PPD was significantly associated with knowledge (P = 0.01), and a history of stillbirth was strongly linked to higher knowledge levels (P = 0.001). as in table 3.

Table 3: Association between knowledge of women and study variables.

Variables	Poor Knowledge (n=89)	Fair Knowledge (n=196)	Good Knowledge (n=115)	P-Value
Age (years)				0.5
< 24	28	65	43	
25-30	42	94	48	
31-35	17	30	23	
>35	2	7	1	
Marital Status				0.6
Married	39	95	58	
Divorced	50	101	57	
Education				0.1
No formal education	27	71	43	
Primary	47	103	64	
Secondary	7	17	5	
Bachelor's degree	8	5	3	
Occupation				0.4
Employed	48	95	64	
Unemployed	41	101	51	
Monthly Income (IQD)				0.3
< 500 000	35	97	62	
500 000 -1000 000	53	97	52	
>1000 000	1	2	1	
History of Chronic Diseases				0.2
Yes	47	103	71	
No	42	93	44	
Weeks of Gestation				0.04
1st trimester	45	114	78	
2nd trimester	44	82	37	
History of Abortion				0.7
Yes	49	99	62	
No	40	97	53	
Family History of PPD				0.01
Yes	53	93	73	
No	36	103	42	
History of Stillbirth				0.001
Yes	35	88	79	
No	54	108	36	

The comparison of sociodemographic characteristics with attitudes toward PPD revealed significant associations with age (P = 0.008), marital status (P = 0.02), and education (P = 0.018), but not with occupation (P = 0.28) or income (P = 0.27). Women aged 25-30 (60.2%) and those with primary education (58.3%) had more positive attitudes. No significant associations were found between obstetric history and attitudes, including chronic diseases (P = 0.1), gestational age (P = 0.1), history of abortion (P = 0.2), or family history of PPD (P = 0.3). Stillbirth history also did not significantly impact attitudes (P = 0.5). as in table 4.

Table 4: association between attitude of women and study variables.

Variables	Negative Attitude (n=97)	Neutral Attitude (n=195)	Positive Attitude (n=108)	P-Value
Age (years)				
< 24	29	77	30	0.008
25-30	42	77	65	
31-35	21	37	12	
>35	5	4	1	
Marital status				
Married	58	86	48	0.02
Divorced	39	109	60	
Education				
No formal education	29	73	39	0.018
Primary	47	104	63	
Secondary	14	11	4	
Bachelor's degree	7	7	2	
Occupation				
Employed	45	100	62	0.28
Unemployed	52	95	46	
Monthly Income (IQD)				
< 500 000	45	102	47	0.27
500 000 -1000 000	52	90	60	
>1000 000	0	3	1	
History of Chronic Diseases				
Yes	46	117	58	0.1
No	51	78	50	
Weeks of Gestation				
1st trimester	59	122	56	0.1
2nd trimester	38	73	52	
History of Abortion				
Yes	58	97	55	0.2
No	39	98	53	
Family History of PPD				
Yes	58	100	61	0.3
No	39	95	47	
History of Stillbirth				
Yes	45	99	58	0.5
No	52	96	50	

The comparison of sociodemographic characteristics with practice levels toward PPD revealed no significant associations across variables ($P > 0.05$). Age ($P = 0.2$), marital status ($P = 0.06$), education ($P = 0.2$), occupation ($P = 0.9$), and income ($P = 0.7$) did not significantly impact practices. Similarly, obstetric history showed no significant associations, including chronic diseases ($P = 0.1$), gestational age ($P = 0.3$), and abortion history ($P = 0.4$). Family history of PPD ($P = 0.9$) and history of stillbirth ($P = 0.4$) also did not influence practice levels. These findings suggest that other factors may shape postpartum depression practices. as in table 5.

Table 5: Association between practice of women and study variables.

Variables	Negative Practice (n=30)	Neutral Practice (n=153)	Positive Practice (n=217)	P-Value
Age (years)				0.2
< 24	14	53	69	
25-30	9	65	110	
31-35	6	29	35	
>35	1	6	3	
Marital status				0.06
Married	10	83	99	
Divorced	20	70	118	
Education				0.2
No formal education	10	52	79	
Primary	14	79	121	
Secondary	3	14	12	
Bachelor's degree	3	8	5	
Occupation				0.9
Employed	15	81	111	
Unemployed	15	72	106	
Monthly Income (IQD)				0.7
< 500 000	16	77	101	
500 000 -1000 000	14	75	113	
>1000 000	0	1	3	
History of Chronic Diseases				0.1
Yes	12	83	126	
No	18	70	91	
Weeks of Gestation				0.3
1st trimester	14	94	129	
2nd trimester	16	59	88	
History of Abortion				0.4
Yes	16	86	108	
No	14	67	109	
Family History of PPD				0.9
Yes	16	84	119	
No	14	69	98	
History of Stillbirth				0.4
Yes	16	71	115	
No	14	82	102	

DISCUSSION

Pregnancy and childbirth are significant life events that can profoundly impact a woman's social, psychological, and physical well-being, increasing the risk of postpartum depression (PPD).[22] This study provides important insights into the sociodemographic characteristics, knowledge, attitudes, and practices of pregnant women in Iraq regarding PPD, highlighting critical gaps that require public health interventions. The findings indicate that 49.0% of women had fair knowledge, 28.7% had good knowledge, and 22.3% had poor knowledge. While 81% recognized PPD as a common condition, only 46.5% understood the role of hormonal changes, lower than the 65% reported by Wisner et al. (2013).[23] Furthermore, 70% of women mistakenly believed that PPD requires no treatment, contrasting with findings from Dennis and Hodnett (2007)[24], where most women acknowledged the need for psychotherapy or medication. These misconceptions may be due to limited mental health education and cultural stigma. Additionally, the lack of significant associations between sociodemographic factors and knowledge suggests that PPD awareness remains low across all groups, likely due to insufficient public health campaigns.[25] Younger women (25-30 years) demonstrated higher knowledge levels, possibly due to increased access to health information via social media. Attitudes toward PPD were largely neutral (48.8%) or negative (24.3%), with only 27.0% exhibiting a positive attitude. The misconception that PPD does not require

treatment (70.0%) is particularly concerning, as it may prevent women from seeking care.[26] The results align with Ghaedrahmati et al. (2017)[27], who found similar neutral or negative attitudes among Iranian women due to cultural stigma. Younger women (25-30 years) had more positive attitudes, consistent with Robertson et al. (2004)[28], who noted that younger populations are more open to discussing mental health. Interestingly, divorced women showed more positive attitudes, possibly due to greater personal challenges increasing mental health awareness. The association between education and attitudes (p=0.018) suggests that women with primary education may rely more on community-based mental health discussions, fostering acceptance.[14] Conversely, older women (≥35 years) exhibited more negative attitudes, reflecting traditional perspectives on mental health. Over half (54.3%) of participants demonstrated positive practices toward PPD, but 38.3% remained neutral, and 7.5% had negative practices. Unlike previous studies[29,30], this study found no significant associations between education, income, and practice levels, suggesting that cultural beliefs and healthcare accessibility may play a more significant role. Younger women (25-30 years) were more proactive in seeking help, possibly due to social media and internet access. Women in their first trimester exhibited better practices, consistent with Nakamura et al. (2020)[31], who emphasized the importance of early intervention. A significant finding was that 53.3% of women with negative practices had a history of abortion, contrasting with Wisner et al. (2013)[23], who reported no such association. This may reflect the emotional burden associated with pregnancy loss in this population. More than half of the participants (55.3%) had a history of chronic diseases, which is a known risk factor for PPD.[32] Additionally, 52.5% had a history of abortion, and 50.5% had experienced stillbirth, both of which are associated with increased psychological stress and higher PPD risk.[33] A family history of PPD was significantly associated with knowledge levels, suggesting that personal exposure to the condition improves awareness. However, obstetric history did not significantly influence attitudes or practices, indicating that other social and cultural factors may be more impactful.

CONCLUSION

Most women (71.3%) had poor to fair knowledge about PPD, with widespread misconceptions about its causes and treatment. A majority (73.1%) exhibited neutral or negative attitudes, reflecting stigma and lack of acceptance. Age, marital status, and education significantly influenced attitudes but not knowledge or practice. Over half (54.3%) demonstrated positive practices, while a high prevalence of abortion (52.5%), past PPD (54.8%), and stillbirth (50.5%) highlighted key risk factors.

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