General

Prevalence of Postpartum Depression among Women in Childbearing Age Attending Primary Health Care Centres, Qassim Region.

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Background and Objectives

Postpartum Depression (PPD) is a significant threat to mothering and has negative impact on both mothers and children. There is limited information about PPD prevalence and associated factors in Saudi Arabia particularly in Qassim region. This study aimed to determine the prevalence of PPD and factors associated with PPD among women of childbearing age in Buraidah, Qassim region, Saudi Arabia.

Methods

This was a cross sectional study including 204 mothers aged 18-45 years in postpartum period attending primary health care centres in Buraidah during April to August 2021. A self-administered questionnaire was used to gather data regarding socio-demographic characteristics, newborn related factors, marital and family relationship factors, and social support factors of the participants. Edinburgh Postnatal Depression Scale (EPDS) was used to determine PPD among the participants.

Results

Out of 229 invited women, 204 willingly participated (response rate: 89.1%). More than half of the participants (58.3%) belonged to 18-30 years age group; 62.3% participants had university or above education; 82.4% were housewives; and household income level was considered 'moderate' by 65.7% of the participants. According to EPDS, the prevalence of PPD was 13.7% while 17.6% had 'possible Post-Partum Depression', and 12.3% had 'fairly high possibility of Depression'. PPD was significantly associated with friend support (*p*=0.03) husband support (*p*=0.01) and absence of conflict with the husband (*p*=0.02).

Conclusion

More than a quarter of women were likely to have PPD needing monitoring, diagnostic assessment and possible treatment by primary health care physicians or specialists. Comprehensive post-natal care including screening for PPD in primary health care centers is recommended.

INTRODUCTION

Mothering, especially following birth, is imperative for raising healthy children who turn into productive and healthy adults in society. Postpartum Depression (PPD) is a signifi-cant threat to mothering and has serious consequences affecting families.[1] Maternal depression following delivery is a vexing problem for public health with possibly severe outcomes for both children and mothers. Major or minor depression is reported in 7-16% of women in the first 2- 3 postpartum months.[2] Postpartum mood disorders can neg-

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atively impact the family following childbirth.[3] It can include tiredness, irritability, sadness, anxiety, and changes in sleeping or eating patterns.[4] Early intervention is required to prevent the negative outcomes of postpartum mood disorders.[5]

During pregnancy and the postpartum period, females face changes physically, mentally, and socially, which make them vulnerable to developing mental health problems.[6] The most crucial mental disorder that could happen in the postpartum period is PPD, which is regarded as a middle state between puerperal psychosis and puerperal dysphoria. A meta-analysis of research, mainly conducted in selected regions in the developed and developing world, reported that the occurrence of PPD is very common among the majority of women after giving birth, and is associated with various risk factors.[7]

A recent literature review in Saudi Arabia reported that the following factors of risks are the strongest indicators of PPD: Self-esteem, prenatal depression, childcare stress, marital relationship, prenatal anxiety, marital status, socioeconomic status, low social support, and unwanted/unplanned pregnancy.[8,9] Many studies have shown that during the screening of selected women, the majority of health care facilities do not report this issue.[10,11] The disturbances of PPD can range from a two-week period of mild depression to a period of psychosis; a life-threatening condition for both the mother and her child. It is common for females to experience the baby blues, which are the feelings of stress, anxiousness, sadness, anger following the birth of their child. Many women experience more crucial disorders of mood. Symptoms might appear in days or months after delivering a child and could last for several weeks if left untreated. Some studies report that PPD could be diagnosed even after a year after giving birth.[4,12]

A 2014 research from Saudi Arabia showed PPD prevalence as 18.5% in Dammam province; while another study in the same year in Riyadh showed a prevalence of PPD of 35%.[7,13] For women aged 15-44 years, depression is the main cause of disease burden in low, middle, and high-income families globally. The onset of PPD is particularly important in this age group around the world that regarded as a major problem for public health care, which affects the family in general, and mothers in particular.[14]

In the above context, this study was designed to determine the prevalence of PPD and factors associated with PPD among women of childbearing age in the Buraidah, Qassim region. The results of the study will be helpful in designing interventions to address this important public health problem.

METHODS

The cross-sectional survey was conducted in selected Primary Health Care (PHC) centres of the Qassim region. The region is located at the centre of Saudi Arabia with an estimated population of 1.5 million in 2020.[15] The study included 18-45-year-old mothers in postpartum period visiting the PHC centres for the purpose of postpartum follow-up or vaccination of their new-borns. The women undergoing medical treatment for psychological issues or mothers whose babies were diagnosed with certain health issues or had experienced intrauterine fetal death were excluded from the study.

A self-administered questionnaire was used to gather data regarding socio-demographic characteristics, newborn-related factors, marital and family relationship factors, and social support factors of the participants. The survey inquired about the age, level of education, employment status, income level, mode of delivery, and history of PPD. The Edinburgh Postnatal Depression Scale (EPDS) was used to collect data from the selected mothers. This scale is a 10 item self-report questionnaire specifically developed for depression detection in the postpartum period.[16] In addition, the scale has been accepted and translated into many languages including Arabic.[17] Edinburgh Postnatal Depression Scale is composed of 10 items to assess the mother's emotional experience over the past 7 days. Responses are scored from 0- 3 indicating the severity of manifestations, with a minimum of 0 and a maximum score of 30. The interpretation of EDPS scores is: 'Depression not likely' (< 8 score); 'Possible Depression' (9-11); 'fairly high possibility of Depression' (12-13); and 'Probable Depression' (14 and higher). For inferential analysis, 'Depression not likely' and 'Possible Depression' were grouped as 'Unlikely Depression' while 'fairly high possibility of Depression' and 'Probable Depression' were grouped as 'Likely Post-Partum Depression'.

The marital and family relationship factors were assessed by 5 statements regarding relations with the husband, mother-in-law, and other family members. The assessment of satisfaction with the relationships was done by using five-point Likert scale, leading to a total score of 25 with a minimum of 5 and a maximum of 25.

The data was analysed by using the Statistical Package for Social Science (SPSS) version 26. The descriptive statistics included means, frequencies, and proportions. Chi-square, t-test, and ANOVA were used for inferential statistics. The statistically significant level was set at 0.05.

ETHICAL CONSIDERATIONS

Ethical clearance was taken from Regional Research Ethics Committee (H-04-Q-001). The study was conducted in accordance with the principles of the Declaration of Helsinki. Informed consent was taken from all mothers after the purpose and objectives of the study were explained to them. The name and any identifiers for the study participants were not included in the study. The participant had the right to withdraw at any time of the study period. The data was kept confidential.

RESULTS

A total of 229 women were contacted to participate in the survey; out of these 204 willingly participated in the study resulting in a response rate of 89.1%. Table 1 displays the socio-demographic characteristics of the study participants. More than half of the participants (58.3%) belonged to 18-30 years age group; 185 (90.7%) got married between the age of 18 to 30 years; and 127 (62.3%) participants had university or above education. Housewives comprised

Table 1. Descriptive statistics of Socio- demographic characteristics of study participants (n=204)

Variables	Group	Number	Percentage
Age Group	18-30y	119	58.3
	31-45y	85	41.7
Age at Marriage	18-30y	185	90.7
	31-45y	19	9.3
Educational Level	Illiterate	3	1.5
	Primary school	6	2.9
	Secondary and Intermediate school	68	33.3
	University and above	127	62.3
Employment status	Housewife	168	82.4
	Employee	36	17.6
Household Income level	Low	11	5.4
	Moderate	134	65.7
	High	59	28.9

Table 2. Distribution of study participants according to Edinburgh Perinatal/Postnatal Depression Scale Depression categories (N=204)

Variables	Number	Percentage
No Post-Partum Depression	115	56.4 %
Possible Post-Partum Depression	36	17.6%
Fairly high possibility of Post-Partum Depression	25	12.3%
Probable Post-Partum Depression	28	13.7%
Total	**204**	**100.0%**

82.4% and the income level was considered 'moderate' by 65.7% of the participants while 28.9% perceived their household income as 'high'.

According to Edinburgh Perinatal /Postnatal Depression Scale (EPDS), 56.4% of the participants fell into 'No post-partum depression' category, 17.6% had 'possible Post-Partum Depression', 12.3% had 'fairly high possibility of Depression' and 13.7% of the participants were in the category of 'probable Post-Partum Depression' which require diagnostic assessment and treatment. Thus, according to EPDS, the prevalence of the PPD in the study sample was 13.7% (Table 2).

For further analysis, the categories, 'Fairly high possibility of Post-Partum Depression' and 'Probable Post-Partum Depression' were merged as 'Likely Post-Partum Depression' while rest of the categories were combined and labeled as 'Unlikely Post-Partum Depression'. Table 3 shows the association between sociodemographic factors and postpartum depression. Among the 18-30 years age group, 33 women were screened as having unlikely depression and 86 women had depression while in women in the age group 31 to 45 years 20 reported unlikely PPD and 65 had likely Post-Partum Depression. However, this difference was not statistically significant (p=0.498). All the sociodemographic vari-

ables of the participants were not statistically significantly associated with 'Likely PPD' among the participants (Table 3).

On exploring the association of the PPD with newborn-related factors, no statistically significant association was found between PPD and mode of delivery. Other newborn-related factors such as child gender, neonatal disease, admission to nursery, and type of newborn feeding were also not significantly associated with PPD.

The overall mean scores of marital and family relationship factors were calculated for both groups. The mean score for the group with unlikely PPD was 21.37 (±2.9) while 20.15 (±3.1) for the group with likely PPD. This difference was statistically significant at p=0.011. The maternal and family relationship means scores for PPD categories (no post-partum depression, possible post-partum depression, high possible postpartum depression, and probable post-partum depression) were compared. The mean scores progressively decreased from the group with no PPD to the group with 'Probable PPD', and the difference between the mean scores was statistically significant (p=0.038).

Table 4 provides information about the association between the PDD and Maternal social support factors. Among the support factors, no support from friends (p=0.03), not receiving help from husband (p=0.01), and having conflicts with husband (p=0.02), were statistically significantly associated with PPD.

DISCUSSION

The purpose of this study was to identify the prevalence of postpartum depression (PPD) and associated risk factors among women of childbearing age in the Qassim region using the Edinburgh Postnatal Depression Scale (EPDS). Our study found that 17.6% had possible postpartum depression, 12.3% had highly possible PPD, and 13.7% were depressed. This prevalence (13.7%) is lower than the PPD prevalence reported by studies from other Arab countries. A study of 1,379 postpartum women in primary care centers investigating the prevalence of PPD in Qatar reported a

Table 3. Association of participants' socio- demographic characteristic with PPD (n=204)

Variables	Unlikely PP Depression	Likely PP Depression	P value
Age Group (Years)			**0.498**
18-30	33	86	
31-45	20	65	
Age at Marriage (Years)			**0.607**
18-30	49	136	
31-45	4	15	
Educational Level			**0.177**
Illiterate	0	3	
Primary school	3	3	
Secondary and Intermediate school	14	54	
University and above	36	91	
Employment status			**0.068**
Housewife	48	120	
Employee	5	31	
Perceived Income level			**0.193**
Low	1	10	
Moderate	33	101	
High	19	40	

Table 4. Association between the Maternal Social Support factors and post-partum Depression

Variables	Unlikely PP Depression (n=151)	Likely PP Depression (n=53)	P value
Support from friends			**0.03**
No	14	11	
Yes	137	42	
Support from family			**0.11**
No	2	3	
Yes	149	50	
Husband helps			**0.01**
No	11	12	
Yes	140	41	
There is a conflict with my husband			**0.02**
No	19	1	
Yes	132	52	
I feel controlled by my husband			**0.23**
No	28	6	
Yes	123	47	
I feel loved by my husband			**0.45**
No	10	2	
Yes	141	51	

prevalence of 17.6%. In a systematic review examining the prevalence of PPD in Arab countries, a prevalence ranging from 15-25% was reported. Another study showed that PPD in Bahrain is estimated to be 37% among 237 mothers included in the study. Results of previous studies from Morocco[18] and Lebanon[19] using EPDS reported a prevalence of 20.1% and 21.1% at two weeks and four-month postpartum, respectively. However, our PPD prevalence was higher than the prevalence (9.9%) reported in Iranian women.[20] The difference in the reported prevalence of PPD in different countries can be due to differences in beliefs about PPD and social and economic factors.[21]

The results of our study have shown no significant associations between PPD and participants' age, age at marriage, education level, employment status, and income level. This finding is supported by a systematic review among African women which reported that maternal age, educational level, and socioeconomic status were not associated with PPD in many studies.[22] However, our result is inconsistent with results from a study conducted among 1,950 pregnant women attending primary health centers in Iran which found that women married at a younger age were more likely to develop PPD.[20] Also, the study in Qatar reported a significant association between mothers of age above 35years, low education level, housewives, and low monthly income.[11]

Our study results showed no significant association between the newborn-related factors and PPD. This result agrees with a systematic review that reported no significant association between the cesarean section and PPD.[23] However, another study found that mode of delivery was significantly associated with PPD; women who had vaginal delivery were less likely to have PPD than women delivered by cesarean section.[24] Moreover, preterm birth was found to be associated with PPD risk among women in Qatar.[25]

The current study found a significant association between the husband's support and PPD. This result is in line with a study conducted among Japanese mothers investigating the association between partner support and PPD. The study found that women with no support from their husbands were more likely to develop PPD.[26]

Our study found that maternal social support plays important role in PPD. This finding highlights the importance of creating awareness regarding social support to the women during pregnancy and post-natal period. A study among Jordanian women showed a significant association between PPD and maternal social support.[27] Another study found that the women who perceived a high level of social support had lower PPD symptoms, and lack of social support is common among depressed women.[28] In addition, a study among Syrian women found that low maternal social support was associated with PPD symptoms.[29]

LIMITATIONS OF THE STUDY

Our study has certain limitations. We used a self-administered questionnaire, so participants might have misunderstood some questions. However, the questionnaire was pretested for clarity and understandability. Moreover, the data collectors used to be present at the time of the survey to respond to the queries of the participants. Because of the nature of questions related to family relationships and maternal social support, the element of social desirability bias cannot be ruled out. The participants might have been reluctant to express the feelings regarding their family relationships, leading to misinformation bias. However, the participants were assured of anonymity of data by taking an informed consent from them. Data were collected in primary health care centers in different neighborhoods to represent a diverse population; however, this study covers only one city. Thus, the study has limited generalizability. Nevertheless, having similar culture and social support system in various parts of the country makes the study findings generalizable to some extent.

CONCLUSION

Our study showed that more than a quarter of women were likely to have PPD who needed monitoring, support, health education, diagnostic assessment and possible treatment by primary health care physicians or specialists. Socio-demographic and newborn related factors were not significantly associated with PPD; however, maternal support especially help from husband and having good relations with him had significant role in good mental health in the postpartum period. Based on the findings of our study, we recommend comprehensive post-natal care especially screening for post-partum depression in primary health care centers. The healthcare staff at primary health care centers need to be trained for post-partum depression screening. Referral system for specialized care for PPD patients must be in place with clear guidelines and instructions. Social workers need to be involved in resolving social issues of the women who suffer PPD because of social factors and family conflicts. Moreover, creating awareness regarding appropriate care of women during antenatal and postnatal periods is also recommended.

AUTHORS' CONTRIBUTION

HGA designed the study, collected the data, performed data analysis, and drafted the manuscript. SJ participated in the design of the study, data analysis, and critically revised the manuscript for its intellectual content. HGA had the final responsibility to submit for publication. Both authors approved the final version of the manuscript for publication.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

CONFERENCE PRESENTATION

None

DATA AVAILABILITY

The data used to support the findings of this study are included within the research article and are available from the corresponding author upon request.

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