

Prevalence and Associated Factors of Postpartum Depression among Women in Central Region of Saudi Arabia

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ABSTRACT

Introduction: Postpartum depression is one of the most common psychological problems in women worldwide. Globally, it was estimated that 10% of women have a mental illness, mainly depression, during pregnancy, whereas 13% after giving birth. This study aims to identify the prevalence and associated factors of postpartum depression among married women in the central region of Saudi Arabia.

Material and Methods: A community-based cross-sectional study was conducted from October 2020 to June 2021 in Ar-Riyadh province, located in the center part of the country. The information in this study was collected using online web media, which incorporated Edinburgh postnatal depression scale to assess postpartum depression. This study followed a simple random sampling method where the sample was selected based on the response that meets the required age group and has at least one pregnancy experience in their lifetime. A total of 1067 sample was taken for the study, among which 907 were reached. The collected information was entered and analyzed using SPSS version 21, where the required analysis was performed to present the information.

Results: In this study, among 907 respondents, most (34%) of the respondents were from the age group 31-40, and the majority of them were married, 90%. Likewise, Two-third of the respondent (66.6%) reported that they got a lot of social support from the child's father, while one-third (33.4%) did not receive much support. The study also indicated that more than 50% reported being on postpartum depression and that which majority of respondents (92.6%) did not have a history of depression. In comparison, 7.4% reported a history of depression. Here, a significant association was seen between the number of children and PPD ($P < 0.001$). Also, a significant association was seen between mothers' history of depression and the occurrence of postpartum depression ($P < 0.001$).

Conclusion: The study concluded that there is a high prevalence of PPD among women in the Central region of Saudi Arabia, which is an alarming issue. Therefore, there is an increased need of often screening and preventive treatment as the support for managing the mental issues of the mothers.

Keywords: Postpartum depression, Prevalence, Saudi Arabia

INTRODUCTION

The postpartum period is generally known as a difficult transition phase for women, putting them at greater risk for various mental illnesses. Postpartum depression is one of the most common psychological problems in women worldwide. PPD is a non-psychotic depressive disease defined by the Mental Disorders Diagnosis and Statistical Manual as an episode of significant depression that begins within four weeks of birth. (1)

Although the etiology of PPD is undefined, some psychological and obstetric factors have been linked to an increased risk of postpartum depression. It can be caused by several factors, including a lack of social support and marital strife, depression or other emotional disorders in the past, as well as psychiatric history in the family as well as pregnancy and newborn issues such as past losses, a lack of breast milk, or birth abnormalities. In addition, stressful life events have also been reported as risk factors. Some studies have found that unemployment, low education, and unwanted pregnancy are associated with an increased risk of PPD.(2)

Globally it was estimated that 10% of women have mental illness, mainly depression, during pregnancy, whereas 13% after giving birth. The number is significantly greater in developing countries, at 15.6 percent during pregnancy and 19.8 percent after birth. Mothers' anguish might be so unbearable that they commit suicide in extreme circumstances. In addition, mothers who are impacted may be unable to function adequately. As a result, children's growth and development may be significantly impacted. (3)

In 12 Middle Eastern nations, the prevalence rate of PPD among Middle Eastern / Arab women ranged from 10% to 51.8 percent in the first several months after birth. (4) Postpartum depression (PPD) affects women worldwide, and its prevalence is estimated to be around 10-15 %. (5) According to certain research, PPD can affect up to 30% of all mothers following childbirth. (5)

In Saudi Arabia, where the Prevalence of PPD is considered high, about 14% of Saudi women suffer from this condition. (6) In Saudi Arabia, low income and socioeconomic status, obstetric complications during pregnancy, unwanted pregnancy, sick infant, formula feeding, low social and husband support, marital and in-laws conflicts, stressful life events during pregnancy, and personal or family history of depression are all significant risk factors for PPH. (6) It is important to acknowledge the reality of postpartum depression. It isn't a result of the physiological or hormonal changes that women experience after delivery. (7) This study aims to identify the prevalence and associated factors of postpartum depression among married women in the central region of Saudi Arabia

MATERIAL AND METHODS

A community-based cross-sectional study was conducted from October 2020 to June 2021 in Ar-Riyadh province, located in the center part of the country. This region covers about 55 lakhs making the region the second largest in the Kingdom in terms of the population comprising 75% of the population. Among the total population, more than 14 lakh are the female population. The target population for the study is those females of reproductive age who live in the central part of the Kingdom, be it Saudi residents or non-Saudi females. The information in this study was collected using online web media, which incorporated Edinburgh postnatal depression scale to assess postpartum depression. The pretesting was done before data collection, where the response rate and completeness of the questionnaire were noted. This study followed a simple random sampling method where the sample was selected based on the response that meets the required age group and has at least one pregnancy experience in their lifetime. For the sample calculation taking the prevalence of postpartum depression as 60% the sample size was calculated as: $P = 0.6$ (60%), $Q = 0.4$ (40%), Z at 95% confidence interval ($Z = 1.96$) and the sample error of 3%

(d=0.03). Using the formula $n=4pq/d^2$ total sample calculated is as 1067, among which 907 were reached, where 15% of the total sampled population didn't send back their responses. The collected information was entered and analyzed using SPSS version 21, where required inferential and descriptive analysis was performed, and required tables, charts, and graphs were used to present the information.

RESULTS

Socio-demographic Detail: In this study, among 907 respondents majority (34%) of the respondents were from age group 31-40, followed by age group more than 40(33.4%) and age group 21-30(31%). The majority of the respondents were married (94%). Almost three-fourths of the respondents had university level(71.5%) education, followed by 15% who had secondary level education, 8% had a postgraduate level, 4% had intermediate, and 1.2% had elementary-level education. Among the respondents working, 92.8% of them continued their work during pregnancy, while 7.2% stopped working during pregnancy. Half of the respondents (49%) have a family income of >10000 SR, 35% have 5000 - 10000 SR, and 16% have less than 5000 SR.

Table 1 Socio-demographic status of women in the central region of Saudi Arabia 2020-2021.

Socio-demographics variable	Frequency(N=907)	Percentage%
1) Age		
a. <20	10	1.6%
b. 21-30	283	31%
c. 31-40	309	34%
d. >40	305	33.4%
2) Marital status		
a. Married	856	94%
b. Separated	44	4.8%
c. Widowed	7	1.2%
3) Educational level		
a. Elementary	11	1.2%
b. Intermediate	36	4%
c. Secondary	139	15.3%
d. University	649	71.5%
e. Post-graduate	72	8%
4) Occupational status		
a. Worked during pregnancy	841	92.8%
b. Stopped working during pregnancy	66	7.2%
5) Family income		
a. < 5000 SR	146	16%
b. 5000 - 10000 SR	313	35%
c. > 10000 SR	448	49%

Table 2 Risk factors associated with family and social support having an impact on PPD in women living in the central region of Saudi Arabia 2020-2022

Family and social support related variables	Frequency (N= 907)	Percentage %
1: Housing		
a: With father house	109	12%
b: With mother house	32	3.5%
c: Separated house	766	84.5%
2 : Occupation status of the father		
a: Unemployed	30	3.3%
b: Retired	39	4.3%
c: Passed away	6	0.6%
d: Employed	807	88.9%
3 : Social support from the child's father		
a: Little support	303	33.4%
b: Much support	604	66.6%
4 : Support from the family		
a: Little support	211	23.3%
b: Much support	696	76.7%
5 : Past history of diagnosed depression		
a. No	840	92.6%
b. Yes	67	7.4%

The respondents were asked about their housing situation where 84% of the women lived in a nuclear setting separate from their family. In comparison, 12% of the respondents lived with the child's father's family, and only 3.5% lived with the child's maternal family. 89% of the respondents reported that the child's father was employed. In comparison, 4% reported that the father had retired, 3.3% reported the father was unemployed, and less than 1% reported that the father had passed away. Two third of the respondent (66.6%) reported that they got a lot of social support from the child's father, while one-third (33.4%) did not receive much support. Similarly, three fourth of respondents reported a lot of social support from the family, while 23.3% reported only little support. The majority of respondents (92.6%) did not have a past history of depression, while 7.4% reported a past history of depression.

Pregnancy and deliveries related detail: Approximately 57% of the respondents had more than two children, while 38% had 1-2 children, and 4.5% did not have a child prior. Among the respondents who had children, 64% had both sons and daughters, while 18.7% had sons and 17.3 had daughters. 88% of women gave birth after the full term of pregnancy, while 11% had preterm babies. 74% of the respondents had a normal vaginal delivery, while 26% had a caesarian section for delivery. The birth weights of 67% of the babies were more than 2.500 grams, while 33% of the babies weighed less than 2.499 grams. When asked about their preference of child's sex, 61% of the respondents reported they didn't have any preference while 21% preferred girl and 17% preferred boy child. The majority of the respondents (96%) reported that they did not have any experience child with congenital anomalies, while 4% reported that they had experienced a child with congenital anomalies. The respondents were asked if they tried to interrupt their last pregnancy, where 94% of respondents replied that they did not, while 6% of respondents tried to interrupt pregnancy. 78% of the respondents started breastfeeding directly after delivery, and 22% did not.

Table 3 Pregnancy and related delivery detail

Number of children	Frequency(N=907)	Percentage %
a. none	41	4.5
b. 1-2	346	38.1
c. More than 2	520	57.3
Gender of children		
a. Girl	157	17.3
b. Boy	170	18.7
c. Both	580	63.9
Pregnancy term		
a. Preterm	104	11.5
b. Full-term	803	88.5
Delivery type		
a. Vaginal	670	73.9
b. C-section	237	26.1
Birthweight (grams)		
a. Less than 2.499	298	32.9
b. More than 2.500	609	67.1
Preference as to the child's sex		
a. Girl	192	21.2
b. Boy	160	17.6
c. No preference	555	61.2
Have you experienced a child with congenital anomalies?		
a. No	872	96.1
b. Yes	35	3.9
Tried to interrupt pregnancy		
a. No	856	94.4
b. Yes	51	5.6
Breastfeeding directly after delivery		
a. No	200	22.1
b. Yes	707	77.9

Prevalence and level of postpartum depression: Almost half of the respondents (45.64%) have severe to moderate postpartum depression (PPD), while 54% reported no depression.

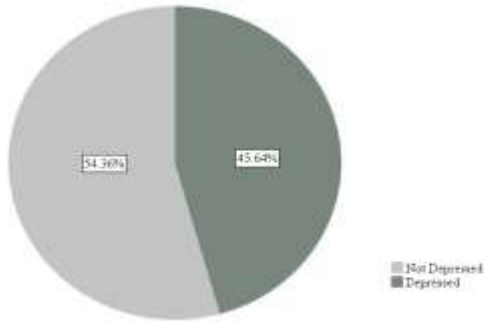


Figure 1: Prevalence of PPD among women in the central region in KSA

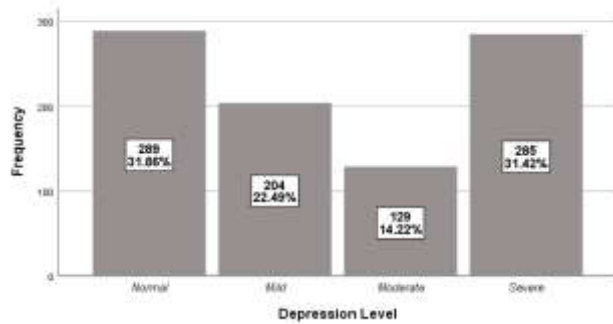


Figure 2 Prevalence Level of postpartum depression among women in the central region of KSA 2020-2021.

Among the respondent, 31% reported suffering from severe PPD, while 22% reported mild and 14% reported moderate depression. Almost 32% of respondents did not suffer from depression during postpartum.

Factors associated with Postpartum Depression: The Association between some risk factors and PPD in women living in the central region of Saudi Arabia from 2020-to 2021 was tested. A significant association was seen between the number of children and PPD ($P < 0.001$). Women who had more than two children were seen to have more odds of depression. Risk factors like breastfeeding directly after delivery ($P < 0.001$) and type of delivery of a child ($p = 0.022$) also showed Association with PPD. A significant association was seen between mothers' history of depression and the occurrence of postpartum depression ($P < 0.001$).

Table 4 Association between some risk factors and PPD

Variable	Normal PPD N =289 (31.9%)	Mild PPD N =204 (22.5%)	Moderate PPD N=129(14.2%)	Severe PPD N=285 (31.4%)	p-value p=0.05
The number of children :					
None	11 (1.2%)	5 (0.6%)	6 (0.7%)	19 (2.1%)	p= <0.001
1-2	80 (8.8%)	91 (10%)	47 (8.4%)	128 (14.1)	
>2	198 (21.8%)	108 (11.9%)	76 (8.4%)	138 (15.2%)	
Breastfeeding directly after delivery:					
Yes	245 (27%)	166 (18.3%)	93 (10.3)	203(22.4%)	P=<0.001
No	44(4.9%)	38 (4.2%)	36 (4%)	82 (9%)	
Delivery type:					
Vaginal	226(24.9%)	155(17.1%)	97(10.7%)	192 (21.2%)	P=0.022
C-section	63 (6.9%)	49 (5.4%)	32 (3.5%)	93 (10.3%)	
History of depression:					
Yes	11(1.2%)	11(1.2%)	10(1.1%)	35(3.9%)	P=<0.001
No	278 (30.7%)	193(21.3%)	119(13.1%)	250(27.6%)	

DISCUSSION

During the survey, most respondents (43 percent) were between the ages of 31 and 40, with the majority of them being married. A university degree was obtained by 71% of respondents, accounting for over a third of all respondents, which is consistent with other studies undertaken. (8) While the majority of women continue to work throughout pregnancy and have a family income of more than 10,000 SR, other studies suggest that there is a low-income population who suffer from PPD.(9)(10)

Our research found a 45.64 percent of women experience severe to moderate PPD. Still, a study conducted during the pandemic found that PPD was higher during the pandemic than during the non-pandemic period. (11)

Our research found that women in Saudi Arabia have varying levels of PPD, where 31% of respondents experience severe symptoms, which is the highest among other levels, whereas 32% experience none at all. PPD prevalence among women is also significant in most countries, according to several research. (10) (12)

Most of our respondents are multigravida; they have both a son and a girl. Nulla gravida has a smaller number of participants.

The majority of the ladies had full-term babies by vaginal delivery. In comparison to another study, more individuals are primigravida, and cesarean birth is more common than vaginal delivery. (13) Most mothers give birth to a healthy baby with proper weight. According to the preference of boy or girl babies majority of them are happy to have anyone. And the majority of respondents did not interrupt their last pregnancy. The majority of participants started breastfeeding after the delivery. In terms of PPD, the results of the researcher's investigation are mixed. Some studies demonstrate no link between delivery modalities and PPD, while others reveal a higher risk of PPD during cesarean delivery than regular vaginal delivery. Premature birth, low birth weight babies, and first-time nursing initiation can all be indirect causes of PPD in women. (13)(14)(15)

Relationships between family members and partners are depicted in a recent study. The majority of the participants were members of a nuclear family, with most of their partners working. (66.6 percent) of respondents were content with their partner, who provided them with a lot of social support and family members who backed them up. And there is no present or history of depression in most participants. Similarly, several researchers have found a

link between PPD and the quality of relationships with partners and family members. Women who have a supportive husband and other family members are less likely to suffer from PPD than those who do not. (16)(17)

This study examines the link between risk variables and PPD in women living in central Saudi Arabia 2020-2021. Our findings indicate a link between the number of children and PPD. Women with more than two children are more likely to be depressed than other women. Other factors, like nursing after birth and the mode of delivery, are also linked to PPD in Saudi Arabian women. Similarly, Other studies also have found that women who had an instrument-assisted delivery, such as a cesarean or a contemporary mild preterm delivery, have a higher risk of PPD. (14)(18) Furthermore, there is a link between a mother's depressive history and the occurrence of postpartum depression.

CONCLUSION

The study concluded that there is a high prevalence of PPD among women in the Central region of Saudi Arabia, which is an alarming issue. There is a high need of often screening and a preventive treatment. Established protocols for treatment, referrals, and follow-up of that patients also need to be maintained properly. Supporting women and families with PPD and raising public awareness of postpartum depression and its symptoms, and available community resources for women with postpartum depression need to be looked forward to and ensure the possibility for those having postpartum depression.

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