Original Article

The Underlying Factors for Postpartum Depression Severity in Iran: A Single-Center Study

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Abstract

Objective: Postpartum depression (PPD) is a common mental disorder among women and it can cause negative consequences for them, children, and families; however, accurate statistics and underlying factors on PPD and its severity are not available in Iran.

Materials and methods: In this cross-sectional study, 200 women referred to an academic hospital for normal vaginal delivery, which had a full-term and single pregnancy and had passed between 6 weeks and 6 months of delivery, were selected by convenience sampling methods. The Edinburgh Depression Inventory and the checklist for demographic information of mothers were completed.

Results: The prevalence of postpartum depression was 11.0% and 68.2% of mothers had a mild type. 31.8% had a history of depression. There was a significant relationship between the severity of postpartum depression in women with a previous history of depression (P = 0.012). Between postpartum depression and maternal age (P = 0.115), body mass index at delivery (P = 0.571), number of pregnancies (P = 0.693), number of deliveries (P = 0.446), number of abortions (P = 0.424), willing or unwilling pregnancy (P = 0.451), neonatal sex (P = 0.533), history of neonatal hospitalization (P = 0.725), previous history disease (P = 0.725) was no statistical association.

Conclusion: The prevalence of PPD was approximately 11%, and there was a significant association between postpartum depression severity and a history of depression Physicians and policymakers should consider early screening for PPD, especially among women with previous depression.

Keywords: Postpartum Depression; Mental Health; Women's Health; Pregnancy

Introduction

Pregnancy and the postpartum period are at risk time for the onset or recurrence of mental illness including depression and anxiety as the most common psychiatric disorders in these periods (1–3).

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Depression is one of the most common mental disorders after childbirth and causes serious complications for the mother, the child, and the family. It is also considered the most common and second most debilitating disease among women of reproductive age (4-6). The estimated prevalence of postpartum depression (PPD) is from 7 to 20 percent; while the level of depression in hospitalized patients, which was measured using a self-report questionnaire can be up to 32% (4, 7). Moreover, this disorder has been reported between 16 and 40 percent in Iran (8).

The general symptoms of this disorder include: mood changes, anxiety, discomfort, sadness, irritability, feeling too tired, crying, decreased attention and concentration, appetite changes, sleep disorders, loss of passion and desire for life, and feelings of guilt and inadequacy, thoughts of death and suicide. Specific symptoms of postpartum depression include anxiety and preoccupation with the child's health and nutrition, disturbance in communication with the child, the feeling that the person is not a good mother, and the feeling of harming oneself or the child (9, 10). In addition, postpartum depression can cause poor communication between mother and newborn baby, such as little attachment and dependence on the part of the infant, delay in the child's early development, and the complexity of relationships (11, 12). Therefore, it is important to diagnose and treat postpartum depression so that mothers can fulfill their duties and affairs in taking care of themselves, their children, and their families and prevented the harmful effects and results. However, accurate statistics about the prevalence and factors related to PPD and its severity are not available in our country; also, there is still no defined and appropriate method for screening and checking this important issue during pregnancy and after childbirth in our country despite the strong emphasis on screening this issue in the available resources and the irreparable damage caused by the lack of diagnosis and treatment during PPD. So, this study aimed to investigate the prevalence of PPD, its severity, and underlying factors to clarify the conditions of this disorder in Iran.

Materials and methods

This was a cross-sectional study performed in the academic Hospital, in Tehran, Iran from January 2021 to January 2022 after ethical committee approval. The population included those referred to the hospital for a normal vaginal delivery (NVD) with term and singleton pregnancy between 6 weeks and 6 months after their delivery. Other inclusion criteria of the study were informed consent obtaining and the ability to understand the Persian language. The women with cesarean section, multipara, and preterm pregnancy, any history of previous psychiatric disorders with treatment, acute or chronic physical illness, alcohol, smoking, or drugs and psychotropic substances assumption were excluded.

A checklist containing questions related to clinical demographic information was recorded for each woman. This information included: age, body mass index (BMI), education level, number of pregnancies, number of abortions, previous history of depression, sex of the baby, and history of hospitalization of the baby. Postpartum depression (PPD) is a common mental disorder after childbirth among women (13)

PPD was measured using the Persian version of the Edinburgh Depression Questionnaire (14). This questionnaire consists of 10 questions, in which a four-point Likert scale has been used, including most of the time, sometimes, not so much, and not at all. A score less than 12 indicates the absence of depression and a score equal to or higher than 12 indicates the presence of postpartum depression. It should be mentioned that the questionnaires were completed in two ways, in person or by phone, by a trained medical student under the supervision of an expert psychologist and a gynecologist to evaluate the process. In this study, finally, mothers who had an Edinburgh Depression Questionnaire score equal to or higher than 12 were evaluated after confirmation by an expert psychologist. Also, the severity of the depression among women was evaluated. The severity of depression included mild depression (scored between 12 and 19), moderate depression (scored between 20 and 25), and severe depression (scored more than 26).

In this study, 200 mothers were included in the study based on the convenience sampling method.

The software used for data analysis was Statistical Package for the Social Sciences (SPSS) version 25. The data were analyzed using descriptive statistics. The findings were shown in the form of mean ± standard deviation and median (quartile 25^{th} and 75^{th}) or number and percentage; Then, if the data distribution was normal, the independent t-test was used, otherwise, the non-parametric test was used. Also, Pearson's correlation coefficient and chi-square test were used. A P-value less than 0.05 was considered significant.

Table 1: Pre-treatment patient characteristics in two groups

Population	Number**	Age* (years)	Number of Pregnancy*	Number of births*	Number of abortions*	Sex of neonates**	
						Male	Female
With depression	22 (11%)	30.2±6.43	3.14±1.52	1.82±1.43	1.82±1.43	8(36.36)	14(63.64)
Without depression	178 (89%)	28.50±5.93	2.47±2.92	1.01±0.96	1.22±0.56	94(52.81)	81(47.19)
P-value		0.085	0.505	0.4	0.822	0.124	

*mean± standard deviation, **number (percent)

Results

200 mothers were included in the study. According to the Edinburgh questionnaire, 22 who scored higher than 12 were suspected of having postpartum depression and were referred to a psychiatrist to confirm the diagnosis. Therefore, the prevalence of postpartum depression in the investigated mothers was 22 women (11%).

The mean age, the number of pregnancies, births, abortions, and the sex of neonates were compared between depressed and not depressed patients in Table 1.

The results of the questionnaires among 22 patients with probable depression showed that the mean and standard deviation of people's scores from the Edinburgh questionnaire were 17.5 and 5.27 (lowest: 12, highest: 30, and median: 18.0). 15 (68.18%) patients had mild depression (scored between 12 and 19), 5 (22.72%) patients had moderate depression (scored between 20 and 25), and 2 (9.1%) patients had severe depression (scored more than 26) (Figure 1).

The mean age of these 22 women was 30.2 ± 6.43 (min = 19, max = 41, and the median was 29.5). The mean BMI of the mothers at the time of delivery was 29.13 ± 3.76 (min = 22.85, max = 39.32, and median = 28.35 kg/m2) and in the time of collecting the questionnaires was 25.46 ± 4.74 (min = 17.0, max = 36.0, and median 24.65 kg/m2). In addition, the mean numbers of pregnancies, births, and abortions were 3.14 ± 1.52 (min = 1, max = 7, median = 3), 1.82 ± 1.43 (min = 0, max = 5, median = 1), and 1.82 ± 1.43 (min = 0, max = 5, median = 1). 13 (59.1%) patients had unwilling pregnancies; moreover, 7 (31.82%) patients had previous depression, 7 (31.82%) patients had a history of medical illnesses, 4 (18.18%) patients had domestic violence, and 20 (90.91%) patients had breastfeeding problems. Also, 8 (36.36%) neonates were male and 7 (31.82%) of them had post-natal admission. All these variables were compared statistically in aspects of depression severity in Tables 2 and 3.

Discussion

The importance of postpartum depression and its serious effects on mothers' and children's health cause this cross-sectional study to investigate its prevalence, severity, and underlying factors. First, the prevalence of postpartum depression among the population in the study was 11% which is supported by global reports (between 7% to 20%) (4). Also, in the study by Mahdavy et al. in 2018 and Saei et al. in 2015 the prevalence of PPD was 7.1% and 12.6%, similar to our outcome (15,16). However, Azimi-Lolaty et al. reported that its prevalence in a region (Sari) of Iran is between 16% to 40%, and 22% by using the Edinburgh questionnaire during 6 and 8 weeks after delivery (8); moreover, Afshari and her colleagues reported 38.8% PPD in another region of Iran (Ahvaz). A systematic review in 2013 by Veisani et al. estimated that the prevalence of PPD in Iran is 25.3%(17).

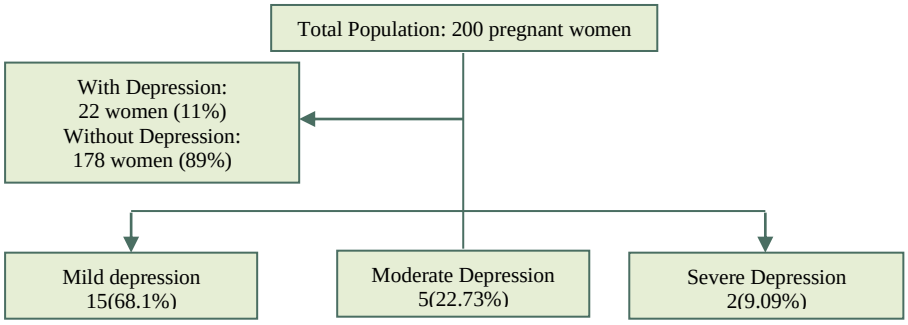

Figure 1: The flow Char of the Population study

Table 2: The association of the severity of the depression and Characteristic factors

Population	Number	Age* (years)	BMI (Kg/m^2)*		Number of pregnancy*	Number of births*	Number of abortions*	Sex of neonates**	
			Time of delivery	Time of interview				Male	Female
Mild depression	15(68.18)	30.0±7.61	29.17±4.17	25.64±4.82	3.27±1.67	1.87±1.55	1.40±0.51	7(46.67)	8(53.33)
Moderate depression	5(22.73)	31.2±3.50	27.84±1.98	23.18±94.3	2.60±0.89	1.40±0.89	1.65±0.49	2(40)	3(60)
Severe depression	2(9.09)	29.0±1.41	32.10±0.42	29.84±4.30	3.50±2.12	2.50±2.12	2.0±0.45	0(0)	2(100)
Total	22	30.2±6.93	29.13±3.76	25.46±4.74	3.14±1.52	1.82±1.43	1.82±1.43	9(40.91)	13(59.09)
P-value		0.115	0.571	0.387	0.693	0.446	0.424	0.451	

*mean± standard deviation, **number (percent)

Table 3: The association of the severity of the depression and Characteristic factors

Population	Depression history N (%)		Medical history N (%)		Domestic violence N (%)		Breastfeeding problem N (%)		Neonates sex N (%)		Neonates admission N (%)	
	Yes	No	Yes	No	Yes	No	Yes	No	Male	Female	Yes	No
Mild depression	3(20)	12(80)	4(26.67)	11(73.33)	5(33.33)	10(66.67)	15(100)	0(0)	6(40)	9(60)	4(26.67)	11(73.33)
Moderate depression	3(60)	2(40)	2(40)	3(60)	1(20)	4(80)	3(60)	2(40)	2(40)	3(60)	2(40)	3(60)
Severe depression	1(50)	1(50)	1(50)	1(50)	0(0)	2(100)	2(100)	0(0)	0(0)	2(100)	1(50)	1(50)
Total	7(31.82)	15(68.18)	7(31.82)	15(68.18)	6(27.27)	16(72.73)	20(90.91)	2(9.09)	8(36.36)	14(63.64)	7(31.82)	15(68.18)
P-value	0.012		0.725		0.560		0.240		0.533		0.725	

All data demonstrated in number (precents)

This difference could be caused by the difference in the type and demographic characteristics of research units in different studies; moreover, in the present study, people who had a history of taking any psychiatric drugs were excluded from the study, which can have an effective role in the lower prevalence of postpartum depression in this study compared to other similar studies.

The results of this study showed that there was a statistically significant relationship between postpartum depression severity and a previous history of depression among the investigated mothers. Several studies showed a strong association between PPD and any previous history of depression (16, 18). Also, it mentioned that women with any history of depression could be more exposed to PPD although they had not used any medication.

This investigation declared no significant association between PPD and age, the number of pregnancies, births, abortions, and the sex of neonates which is in line with the Mahdavy et al. study that showed that age, education, and occupation of the mother, the type of feeding of the baby, stage of delivery, type of delivery, thyroid disease of the mother and hospitalization had no relationship with PPD after delivery (15). In addition, there was no significant association between breastfeeding and the severity of depression. By the way, it should be considered as an alert during prenatal and postnatal visits by doctors. As the rate of breastfeeding in Iran is 70.72% for infants under six months (19).

Khooshemehry and other colleagues showed that There was no significant relationship between postpartum depression and the age difference of the couple, the level of education and employment of the woman, the age and type of recent delivery, the gender of the baby, body mass index at the beginning of pregnancy, how to take folic acid supplements during pregnancy, the history of abortion and male infertility in the north of Tehran, Iran in 2011 (20). However, Saei et al. declared a significant association between PPD and economic situation, delivery type, unwilling pregnancy, and problems related to the partner's family in addition to the history of depression (16). Moreover, Rahmani et al. showed that there was a strong relationship between PPD and economic status, educational position, unwilling pregnancy, stress status, newborn illness, and mother's unwillingness to accept responsibility (21). These contradictory findings with the result of our study could be due to the difference in the size of the statistical samples of the different studies and the demographic differences of the different studies. Whereas Kheirabadi et al. said that various recent studies have not provided reliable evidence to support the existence of common demographic and social risk factors for postpartum depression in different communities; therefore, any kind of health intervention is necessary based on regional risk factors to prevent postpartum depression (22).

This study had some beneficial factors; for example, all questionnaires were filled by a trained medical student under expert supervision and all deliveries were NVD so that the type of delivery did not affect the results; however, it has some limitations. First, it was a single-center study with a small-sized population that was performed in a particular area in Tehran; also, the cross-sectional nature of the study and simultaneous measurement of exposure and outcome were other limitations. Moreover, many known and unknown factors may have influenced the results of this study, and it is certainly not possible to examine all of these things, especially family support, the mother's personality traits, nutrition status, and physical characteristics in one study. It will be necessary to conduct more studies in wider statistical communities.

Conclusion

In conclusion, this study showed that there is a significant association between postpartum depression severity and a history of depression among women who had not had any medication assumption history, while there was no relationship between other factors and PPD severity in this study. Also, there huge number of patients with PPD had breastfeeding problems in this survey. This study could be a clarification for both involved physicians and policymakers because it showed that women with a low risk of depression (because of excluding people with a history of drug and alcohol abuse or medication) could show 11% PPD among them. Planning to identify people at potent risk for more attention and faster treatment, as well as readiness to perform effective preventive especially faster referral to a psychiatric specialist has been necessary. Furthermore, health policies based on screening mothers at higher risk or low risk through effective follow-up of mothers after childbirth and providing appropriate facilities to control their risk factors especially care planning in the matter of emotional attention and the mental health of the mentioned patients is essential and suggested.

Conflict of Interests

Authors declare no conflict of interests.

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