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PREDICTORS OF POSTPARTUM DEPRESSION IN PATIENTS AT SHEIKH ZAYED HOSPITAL

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Abstract

Introduction: Postpartum depression (PPD) is a common psychiatric disorder. It is usually manifested during the first 90 days of the delivery and several various predictors are associated with it including marital status, occupational status, educational status socioeconomic status, etc.

Objective: To determine the associations of various factors with postpartum depression.

Materials and Methods: This study was designed as a case-control investigation conducted in the Department of Gynecology at Sheikh Zayed Hospital in Rahim Yar Khan. The study spanned from December 9, 2019, to June 9, 2020, allowing for a comprehensive assessment of the selected cases and controls. A non-probability consecutive sampling technique was employed to recruit participants, ensuring that cases were identified and matched with appropriate controls based on specific criteria relevant to the research objectives

Methodology: In this study the cases of age 20-40 years with singleton pregnancy delivered at the Department of Gynecology & Obstetrics, SZH, RYK were included. The females with postpartum depression were labeled as cases and those with no postpartum depression (healthy females) as controls. Then these cases and controls were assessed to look for educational status (university/ illiterate), socioeconomic status (good/poor), occupational status (employed/ housewife), and marital status (married/ divorced) and looked for their association with postpartum depression.

Results: In this study, there were a total of 60 cases (30 in each group). The mean age of the subjects in cases was 28.20±3.89 and in controls was 28.57+4.13 years. There were 18 (51.43%) vs 17 (48.57%) illiterate in cases and controls and a similar number having poor socioeconomic status in both groups. There was no significant association between postpartum depression (PPD) and educational status with an odd ratio of 1.14 (95% CI, 0.41-3.20) with p= 0.79. There was no significant association between PPD and socioeconomic status with an odd ratio of 1.14 (95% CI, 0.41-3.20) with p= 0.79. Similarly, no significant association was seen with marital status with an odd ratio of 0.82 (95% CI, 0.23-2.81) with p= 0.75. The occupational status also didn't reveal a significant association with PPD with an odd ratio of 1.14 (95% CI, 0.41-3.14) with p=0.79.

Conclusion: Postpartum depression is common in illiterate, those having poor socioeconomic status, di forced and employed women but this didn't show any significant association with any variable of the study or any particular confounder of the study.

Keywords: Postpartum Depression, Socioeconomic, Occupational, Educational, Marital Status

Introduction:

Although delivering a baby is typically a happy event, many postpartum women Develop depressive symptoms and disorders [1]. Patients may manifest postpartum Blues consisting of mild depressive symptoms that are generally self-limited, or more Severe syndromes of minor or major depression. Untreated postpartum depression Can result in adverse consequences for the mother and infant [1-4]. Consistent with many reviews and studies, we define the postpartum period as the First 12 months after birth [5,6]. However, there is no consensus on What time frame constitutes the postpartum period [7,8]. Definitions of the puerperium include the following: According to the American Psychiatric Association's Diagnostic and Statistical Manual, Fifth Edition (DSM-5), the onset of postpartum major Depression can occur before or after parturition [9]. The DSM-5 specifier "with Per partum onset" is used when the onset of major depression occurs either during Pregnancy or in the four weeks following delivery for depressive "episodes that are associated with the puerperium," the World Health Organization's International Classification of Diseases-10 th Revision Requires onset of the episode within six weeks of delivery [10]. Other definitions of the puerperium range from the first 3 to 12 months following a live birth [7,11-13]. The estimated prevalence of postpartum unipolar major depression is uncertain [8]. Estimates vary widely among different studies, depending upon which country was studied (the rate appears to be higher in low and middle-income countries), the length of time after delivery for which prevalence is determined, whether depression was identified through self-report measures or clinical interviews, whether estimates included patients with minor depression, and whether postpartum depression was assessed in the community or clinical settings [14,15). A nationally representative survey in the United States used face-to-face interviews and found that among postpartum women (n = 994), the 12-month prevalence of unipolar major depression was approximately 9 percent, which was similar to the rate in non-postpartum women (8 percent) [16). Studies from Europe also estimate that the prevalence of postpartum depression is approximately 9 percent; one study reported a prevalence of 10 percent and another study reported a rate of 9 percent [15]. However, both studies included women with minor depression as well as major depression. In addition, one study estimated the prevalence for one year after delivery, whereas the other study examined the prevalence for six weeks after delivery. Studies in clinical settings estimate that the prevalence of depression among postpartum women is approximately 10 to 16 percent [17]: In a prospective study of postpartum women conducted by a perinatal depression program, the prevalence of major and minor depression was 10 percent [18).

The pathogenesis of postpartum depression is unknown. It is also not known to what degree the underpinnings of postpartum depression differ from those of no perinatal depression [19], and whether postpartum depression represents a distinct (reproductive) subtype of depression [15,20]. Factors involved in postpartum depression may include genetic susceptibility [21,22], epigenetic phenomena (eg, DNA methylation) [23,24], hormonal changes [8,25], as well as psychological and social problems and stressful life events [8,26]. Vulnerability to postpartum depression may involve genetic factors [15,19]: A national registry study of sisters found that the relative contribution of genetic factors (heritability) to postnatal depression was 40 percent, and the remaining contribution was attributable to no shared (unique) environmental factors [27]. Other analyses in the study suggested that the genetic overlap for perinatal depression (both antenatal and postnatal depression) and for no perinatal depression was only partial. A study (n=328) found that if one sibling had an episode of postpartum major depression, the risk of an episode in the other sibling was increased fourfold [28]. Another study (n = 90) found that in women with a family history of narrowly defined postpartum major depression (onset within four weeks of delivery), 42 percent suffered depression after their first delivery [29]. By contrast, among women with no such history, only 15 percent suffered major depression within four weeks of their first delivery. At least one comorbid disorder was present in 66 percent [30] The large majority of the comorbid disorders were anxiety disorders (eg, generalized anxiety disorder other comorbidities included eating disorders, obsessive-

compulsive disorder, posttraumatic stress disorder, and substance use disorders. The finding that comorbid psychopathology is present in two-thirds of patients with postpartum depression is comparable to the rate of comorbidity that is observed in the general population of patients with unipolar major depression [31].

Untreated postpartum depression may resolve spontaneously or with treatment, or develop into a persistent (chronic) depressive disorder [1]. A review of clinical and community samples of treated and untreated patients concluded that episodes of postpartum major depression last at least one year in 30 to 50 percent of patients [32]. This appears to be roughly comparable to what is observed for episodes of major depression that occur outside of the puerperium. Patients who recover from an episode of postpartum depression are at risk for recurrences [19. 33]. Reviews estimate that among women with postnatal depression, recurrence of postpartum or non-postpartum depression occurs in approximately 40 to 50 percent [1, 34]. However, the risk of recurrence in women with an episode of postnatal major depression and women with an episode of non-puerperal major depression appears to be comparable [35]. The recurrence of unipolar major depression in the general population of patients who have suffered one or more episodes is discussed separately—perinatal depression (n >1300; primarily postpartum depression) [11]. Remission was greater in patients who received psychotherapy than in patients treated as usual (relative risk 2.1, 95 % CI 1.7-2.6). The pooled analysis showed that remission with psychotherapy or usual care occurred in approximately 70 and 35 percent of patients. A meta-analysis of 17 trials (1200 postpartum patients) compared psychotherapy with control conditions (eg, usual care or waiting list) [36]. Improvement was greater with psychotherapy, and the clinical benefit was moderate to large; however, heterogeneity across studies was moderate to large. A meta-analysis of six trials (600 postnatal patients) compared psychotherapy (6 to 12 weekly sessions) with control conditions (eg, standard primary care) [37]. Improvement was more likely to occur with psychotherapy (relative risk 1.3, 95% CI 1.1- 1.6). The benefit of psychotherapy for patients with postpartum depression appears to persist beyond the end of treatment, A meta-analysis of six randomized trials (n =516 primary care patients) compared psychotherapy with usual care at follow-up assessments that occurred a median of six months after study completion [38]. Improvement was superior among patients treated with psychotherapy, but the advantage was clinically small. Using psychotherapy in mothers with postpartum depression can also benefit the offspring. Randomized trials have found a small to moderate positive effect on temperament and development in the infants of mothers treated with psychotherapy (eg, CBT or interpersonal psychotherapy), compared with infants of mothers (39).

Objective

To determine the associations of various factors with postpartum depression.

Hypothesis

There is a significant association between these factors with postpartum depression.

Methodology

The current study was a case-control design conducted at the Department of Gynecology, Sheikh Zayed Hospital, Rahim Yar Khan, from December 9, 2019, to June 9, 2020. A sample size of 60 participants was calculated, with 30 in each group, using a 95% confidence interval and 80% power. The exposed and unexposed groups were matched in a 1:1 ratio, with a 27.47% prevalence of depression in the non-exposed group and 66.67% in the exposed group. A non-probability consecutive sampling technique was used for participant selection. Inclusion criteria involved women aged 20-40 years with a singleton pregnancy who delivered at the Department of Gynecology and Obstetrics, SZH, RYK. Cases were defined as females experiencing postpartum depression, while controls were healthy females without postpartum depression. Exclusion criteria included patients with end-stage liver or renal disease, a known history of hypertension or diabetes, or a previous history of anxiety and depression.

After approval from the CPSP and the ethical committee of Sheikh Zayed Hospital, informed consent was obtained from all participants. Socio-demographic and clinical data, including age, gravidity, parity, gestational duration at delivery, and mode of delivery, were collected. Cases and controls were assessed retrospectively for educational status, socioeconomic status, occupational status, and marital status. Data analysis was performed using SPSS version 21. Quantitative variables such as age, parity, gravida, and gestation duration were presented as mean ± standard deviation (SD). Categorical variables, including educational status, socioeconomic status, occupational status, marital status, and mode of delivery, were expressed as frequencies and percentages. Chi-square tests were used to compare both groups, with a p-value of <0.05 considered statistically significant. Odds ratios were calculated to assess associations, and stratification for potential effect modifiers such as age, parity, gravida, gestational duration, and mode of delivery was performed. Post-stratification chi-square tests were also applied, with p-values of <0.05 indicating significance.

Results

In this study, there were a total of 60 cases (30 in each group). The mean age of the subjects in cases was 28.2013. and in controls was 28.57±4.13 years and the mean duration of gestation was 38.32+3.37 vs 38.11±3.03 weeks in cases and controls as shown in table1. There were 18 (51.43%) vs 17 (48.57%) illiterate in cases and controls and a similar number having poor socioeconomic status in both groups in Table 2. There was no significant association between postpartum depression (PPD) and Educational status with an odd ratio of 1.14 (95% CI, 0.41-3.20) with p= 0.79 As in Table 3 and also no significant association was seen with this variable and their confounding variables of this study as in table 3. There was no significant association between PPD and socioeconomic status with an odd ratio of 1.14 (95% CI, 0.41-3.20) with p=0.79 as in Table 4, and also no significant Association was any confounding variables of the study as in Table 4. Similarly, no significant association was seen with marital status with an odd ratio Of 0.82 (95% CI, 0.23-2.81) with p= 0.75 (table 17), and also no significant Association was any confounding variables of the study as in Table 5. The occupational status also didn't reveal a significant association with PPD with an Odd ratio of 1.14 (95% CI, 0.41-3.14) with p= 0.79 and no association with other variables of the study as in Table 6.

Table 1

Variables	Case		Control		*P*
	M	*SD*	*M*	*SD*	
Age	28.20	3.89	28.57	4.13	0.57
Gestational Duration	38.32	3.37	38.11	3.03	0.95
No. of Parity	1.57	0.67	1.61	0.57	0.95

Table 2

Group	Educational status		Socioeconomic status		Marital status		Occupational status	
	Illiterate	University	Poor	Good	Married	Divorced	Employed	Housewife
Case	18 (51.4%)	12 (48%)	18 (51.4%)	12 (48%)	23 (48.94%)	7 (53.8%)	16 (51.61%)	14 (48.28%)
Control	17 (48.57%)	13 (52%)	17 (48.57%)	13 (52%)	24 (51.06%)	6 (46.1%)	15 (48.39%)	15 (51.72%)
P	0.79		0.79		0.75		0.79	
Odd ratio 95% CI	1.14 (0.41-3.20)		1.14 (0.41-3.20)		0.82 (.23-2.81)		1.14 (0.41-3.20)	

Table 3

	Educational status				Odd ratio 95% CI	*P*
	Illiterate		University			
Group	Case	Control	Case	Control		
Age						
20-29	12 (54.4%)	10(45.5%)	06(42.86%)	08(57.14%)	1.60 (0.41-6.17	0.49
30-40	06(46.15%)	07(53.8%)	06 (54.4%)	05 (45.5%)	1.71 (0.14-3.57)	0.68
Gestational Duration						
Upto 37 weeks	4 (66.67%)	2(33.34%)	1(50%)	1(50%)	2.00 (0.07-51.59)	0.67
>37 weeks	14(48.82%)	15(51.72%)	11(47.8%)	12(52.17%)	1.01 (0.34-3.04)	0.97
No. of Parity						
Nulliparous	9 (52.94%)	8(47.06%)	6 (46.15%)	7 (53.8%)	1.31 (0. 3-5.58)	0.71
Multiparous	9 (50%)	9 (50%)	6 (50%)	6 (50%)	1.00 (0.23-4. 30)	1.00
Mode of Delivery						
Vaginal	12(52.17%)	11(47.83)	12(52.17%)	11(47.83)	1.00 (0. 31-3.18)	1.00
C-section	6(50%)	6(50%)	12 (48%)	13(52%)	1.08 (0.27-4.29)	0.90

Table 4

	Socioeconomic status				Odd ratio 95% CI	*P*
	Poor		Good			
Group	Case	Control	Case	Control		
Age						
20-29	12 (54.4%)	10(45.5%)	06(42.86%)	07(57.14%)	1.60 (0.41-6.17	0.49
30-40	06(42.86%)	07(53.14%)	06 (54.4%)	05 (45.5%)	1.71 (0.14-3.57)	0.68
Gestational Duration						
Upto 37 weeks	4 (66.67%)	2(33.34%)	1(50%)	1(50%)	2.00 (0.07-51.59)	0.67
>37 weeks	14(48.82%)	15(51.72%)	11(47.8%)	12(52.17%)	1.01 (0.34-3.04)	0.97
No. of Parity						
Nulliparous	9 (52.94%)	8(47.06%)	6 (46.15%)	7 (53.8%)	1.31 (0. 3-5.58)	0.71
Multiparous	9 (50%)	9 (50%)	6 (50%)	6 (50%)	1.00 (0.23-4. 30)	1.00
Mode of Delivery						
Vaginal	12(52.17%)	11(47.83)	12(52.17%)	11(47.83)	1.00 (0. 31-3.18)	1.00
C-section	6(50%)	6(50%)	12 (48%)	13(52%)	1.08 (0.27-4.29)	0.90

Table 5

	Marital status				Odd ratio 95% CI	*P*
	Married		Divorced			
Group	Case	Control	Case	Control		
Age						
20-29	14 (48.28%)	15(51.72%)	9(50%)	9(50%)	0.70 (0.13-3.69)	0.67
30-40	4(57.14%)	3 (42.86%)	3 (50%)	3 (50%)	1.00 (0.15-6. 34)	1.00
Gestational Duration						
Upto 37 weeks	4 (66.67%)	2(33.34%)	1(50%)	1(50%)	2.00 (0.07-51.59)	0.67
>37 weeks	19(46.34%)	22(53.66%)	6(54.55%)	5(45.45%)	0.71 (0.34-3.04)	0.62
No. of Parity						
Nulliparous	12(50%)	12(50%)	3 (50%)	3 (50%)	1.00 (0. 16-5.98)	1.00
Multiparous	11 (47.8%)	12 (52.1%)	4(57.14%)	3 (42.86%)	0.68 (0.12-3.78)	0.66
Mode of Delivery						
Vaginal	12(52.17%)	11(47.83)	0(%%)	0(0%)	1.08 (0. 01-59.40)	0.96
C-section	11(50%)	13(54.17%)	7 (53.85%)	6(46.15%)	0.72 (0.18-2.80)	0.64

Table 6

	Occupational status				Odd ratio 95% CI	*P*
	Employed		Housewife			
Group	Case	Control	Case	Control		
Age						
20-29	11(57.90%)	8(42.10%)	7(41.17%)	10(58.83%)	1.96 (0.52-7.40	0.31
30-40	5(41.67%)	7(58.83%)	7 (58.33%)	05(41.67%)	0.51 (0.10-2.58)	0.41
Gestational Duration						
Upto 37 weeks	4 (80%)	1 (20%)	1(33.33%)	2(66.67%)	8.00 (.31-206.38)	0.20
>37 weeks	12(46.15%)	14(53.85%)	13 (50%)	13 (50%)	0.85 (0.28-2.54)	0.78
No. of Parity						
Nulliparous	7 ((50%)	7(50%)	8 (50%)	8 (50%)	1.00 (0.23-4.30)	1.00
Multiparous	9 (50.95%)	8 (50%)	6 (46.15%)	7 (53.85%)	1.31 (0.3-5.58)	0.71
Mode of Delivery						
Vaginal	11(52.17%)	10(47.16%)	1(50%)	1(50%)	1.10 (0.06-20.01)	0.94
C-section	5(50%)	5(50%)	13(48.14%)	14(51.86%)	1.07 (0.25-4.59)	0.92

Discussion

The current study aimed to find the relationship between different demographic variables along with the postpartum depressive state (PPD) among 60 subjects, equally distributed into control and cases. Results: The study showed no statistically significant associations between PPD with educational, socioeconomic status, marital, and occupational status. These results are consistent with the general research literature that has often yielded conflicting results regarding the association between these demographic variables and PPD. Educational status did not have any association with PPD, OR 1.14 (95 % CI 0.41–3.20) P = 0. This result was by another study that supports similar suggestions, thus suggesting that schooling level might not be a sturdy predictor of PPD (40). Nevertheless, some studies suggested that lower education levels could be a risk factor for PPD (41), especially in low-income settings. The unpredictability of findings might have some bearing on the multifaceted relationship between educational attainment, and other socio-demographic variables like social support, employment chances, and mental health knowledge. Also, the socioeconomic state (SES) has no relationship with PPD in our group, (OR 144; 95%CI:041–320 – p=0.79). This is consistent with multiple researches in developed and developing countries Patel et al. Although SES is frequently viewed as a primary predictor of health, the absence of a parental association in this paper points to a greater contribution of other factors beyond financial means and material services such as emotional support or access to healthcare in the incidence of PPD (42).

The homogeneity of the sample in terms of SES could have played a pertinent role too and therefore should be considered as an important reason for this non-significant result. Consistent with previous findings (43), there was a lack of any significant association between marital status and PPD (OR=0.82, 95% CI = 0.23–2.81, p=.75) in this current study. However, the results of studies examining whether single or divorced women are at greater risk for PPD have varied substantially (44). Consequently, rather than marital status per se, relational and contextual factors including quality of the relationship, spousal support, and marital satisfaction may be more pertinent. This point highlights the linked idea which is unmarried status has no significant effect when compared with relationships and the possibility of PPD. Similarly occupational status did not have a significant association with PPD in this study (OR=1.14, 95 % CI, 0.41–3.14, p=0.79). The relationship between employment and maternal mental health is complex, work for pay is associated with better maternal mental health perhaps due to income or social contact while others suggest sliding down the corporate ladder could interfere with caregiving and may aggravate PPD symptoms (45). The non-significance of employment status in this study could represent an equilibrium between these opposing forces or may suggest that other factors related to work satisfaction and support contribute more than just being employed or unemployed (46).

Limitations and Implications

A major drawback of our study is the relatively small sample size which may have limited the ability to identify significant associations between PPD and variables we assessed. In addition, the cross-sectional design precludes drawing causal inferences and the study may have been affected by residual confounding from unmeasured variables (e.g., social support networks and previous mental health history). Larger, more diverse cohorts are necessary to confirm these associations in future studies. A qualitative study could uncover the personal and social circumstances that foster PPD.

Conclusion: Our study concludes that educational status, economic class, marital or occupational status are not associated with PPD severity. These results add to the mounting evidence suggesting that PPD risk is multifactorial and not easily predicted based on sociodemographic data alone. A nuanced and more thorough understanding of the multifaceted relationship between risk factors, such as psychosocial, social, or personal aspects, should be achieved to develop a program that will improve the state-of-the-art knowledge on PPD prevention and treatment strategies.

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