Depression Among Postnatal Mothers in Bangladesh

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Abstract:
Introduction:*Postpartum depression is acknowledged to be an urgent global concern that needs to be addressed early to prevent or minimize its harmful consequences. The costs of untreated postpartum depression can be harmful for the mother, the infant, the family and society.****Objectives:*** *The aim of this current study was to examine the level of depression among postnatal mothers in Bangladesh.****Methods:*** *A descriptive cross-sectional design was utilized with the participation of 120 postnatal mothers using convenient sampling. The Edinburgh Postnatal depression scale was used to identify mothers at risk for postnatal depression symptoms (score >12). Descriptive statistics- mean, standard deviation, frequency, percentage for socio-demographic characteristics and inferential statistics- ANOVA, t-test and correlation were used to examine the relationship between socio-demographic characteristics and postnatal depression.****Results:*** *The prevalence of overall post-natal depression was 115 (95.8%) and highest number of mother had moderate level of depression 75(65.22%). Factors like age, multigravida, having girl child, congenital anomalies were significantly associated with the prevalence of postnatal depression.* ***Conclusion:*** *Early screening of the pregnant women and proper counseling of mother and their family could reduce the maternal morbidity-like depression and adverse child outcomes. This study would provide useful information for postnatal mothers including knowledge regarding factors that directly or indirectly contribute for depressive symptoms. Thereby, a prevention strategy could be developed to minimize the depressive symptoms.*
Keywords:*Depression, Postnatal mothers, Edinburgh postnatal depression scale.*

I.   Introduction

Postpartum mental-illness is an urgent global concern[19]. Depression as the most onerous of all mental health illnesses[10]. The incidence of postnatal depression is about 10-20% and women who have suffered from postnatal depression are much more likely to have depression again in subsequent frequencies i.e. 50-100%[4].

Depression, the common psychological disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poorconcentration. The effects of postnatal depression on the mother, her marital relationship, and her children make it an important condition to diagnose, treat and prevent [14].

Depression is a foremost cause of disability for all ages worldwide. The public health significance of depression in woman is undeniable, with life time rates between 10 -25%[20]. By 2020 depression is projected to carry the highest disease burden of all health conditions in women, accounting for 5.7%. In Bangladesh evidence reported the prevalence of antepartum depression to be 33% of postpartum depression to be 22%, and the incidence of postpartum depression at 3 months to be 9.8%[7].

Common risk factors include a previous history of depression, antenatal depression/anxiety, major stressful life events, lack of support, social isolation, low partner support, poor relationships with husband and/or extended family, young age of mother, personality characteristics, unplanned pregnancy and the baby's temperament[11].

Postpartum depression needs to be addressed early to prevent or minimize its harmful consequences. The costs of untreated postpartum depression can be harmful for the mother, the infant, the family, and society[12]. Consequently, early screening, identification, and intervention are essential to the wellbeing of the

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mother, infant, and family. Postpartum depression has continued to have an impact on the health and wellbeing of mothers and their families [2].

Even though many studies have identified the level of postnatal depression among women in western countries, the result may not be applicable in Bangladeshi culture. Therefore still there is a need to identify the level of postnatal depression among women in Bangladesh. Hence the researcher has interested to conduct a study on identify the level of postnatal depression among women in Bangladesh.

General Objective
The aim of the study is to examine the level of depression among postnatal mothers in Bangladesh.

Specific Objectives
1. To describe the socio-demographic characteristics among postnatal mothers in Bangladesh.
2. To determine the prevalence of depression among postnatal mothers in Bangladesh.
3. To examine the relationship between socio-demographic characteristics and depression among postnatal mothers in Bangladesh.

II.   Materials and Methods

This descriptive correlational study was carried out on all Bangladeshi postnatal mothers who were attending in Shaheed Suhrawardy Medical College Hospital Dhaka, Bangladesh at postnatal indoor and outdoor departmentfrom December 2018 to January 2019. A total 120 participants were inthis study.

Study design: A descriptive correlation study was conducted.
Study Location: This is a tertiary level hospital in Dhaka city which offers outpatients and inpatients services for all category people come from all over the country. Thus this hospital is a representative setting for getting eligible samples of the target population for this study.
Study Duration: December 2018 to January 2019
Sample Size: 120 postnatal mother.
Sample size calculation: The estimated sample size was 120 calculated by using G power software with an accepted minimum level of significant (α) of 0.05, an expected power of 0.80 (1-β), and an estimated population effect size of 0.30 (γ) as the medium effect size. The estimated sample was 88 [13]. In consideration of the possible loss of subjects, deliberate (32), additional (40%) sample was added [3].

Subject and selection method: Convenient sampling technique was used to recruit the sample, postnatal mothers who were attending in Shaheed Suhrawardy Medical College Hospital Dhaka, Bangladesh at postnatal indoor and outdoor department from December 2018 to January 2019 who met the inclusion criteria.
Inclusion criteria:
Age from 20- 40 years.
At six weeks since delivery.
Live baby at the time of study.
Ability and acceptance to consent to participate in the study.
Exclusion criteria:
Mothers who were mentally retarded.

Procedure methodology:
The researcher highly considered about the human rights of the participants of this study. The approval was obtaining from Institutional Review Board (IRB) of National Institute of Advanced Nursing Education and Research (NIANER), Mugda Dhaka (IRB No. Exp. NIA-S-2018-38) and Bangabandhu Sheikh Mujib Medical University (BSMMU).Permission was taken from the director of selected hospital.

The researcher was introduced herself to the participant's and explained to the participant's about the study objectives, their rights and benefits of the study and asked them to participate in the study. The researcher obtained written informs consent from each subject after she agrees to participate in the study. Data was collected from the subjects through face- to- face interview. Confidentiality and anonymity was maintained strictly.

Research process was completed in encouraging atmosphere. Participants were thanked for their participation in the study. Data were collected throughout December 2018 to January 2019 following the instrument:

The structured questionnaire was used for this study. Data collection tnemurtsni was consisted of following 2 parts:

Part-I: The Socio-demographic characteristics: includes patient's information related to age, marital status, religion, education, occupation etc. (16 items).

Part-II: Postpartum depression was measured by Edinburgh Postnatal Depression (EPDS) Scale which consists of 10-item. Each item was scored on a 4-point scale (from 0 - 3), with a total score ranging from 0 to 30. Using the EPDS women who exceed a threshold score of 10 (within family practices) and 12 (within research studies) have a greater likelihood of being depressed [5]. Questions 1, 2 and 4 are scored 0, 1, 2 or 3 with top box scored as 0 and the bottom box scored as 3.Questions 3, 5-10 are reverse scored, with the top box scored as a 3 and the bottom box scored as 0. Maximum score: 30.In order to interpret the score, the total score was computed by summing all item scores divided the total number of items. The Edinburgh Postnatal Depression (EPDS) Scale has been utilized and validated to measure depression in several earlier studies Cronbach's coefficient of 0.84 [9]. In the current study, the Cronbach's coefficient of the EPDS was 0.89.

Statistical analysis:

Data was analyzed in computer by using Statistical Package for Social Science (SPSS) version 23.Descriptive statistics such as frequencies, percentages, means, and standard deviation was used to describe the sample characteristics. Inferential statistics was used to examine the relationship between socio-demographic characteristics and depression among postnatal mothers by using Pearson Product-Moment Correlation test/ANOVA/t-test, a significance level of $p < 0.05$ was considered as statically significance.

III. Results

1. Socio-demographic characteristics of the participants.

Table 1 showed the socio-demographic characteristics of the study participants. A total of 120 respondents were enrolled in this study and the mean age was 26.61 with ranged from 20 to 40 years. Among the participants, most of them (79.2%) were Islam and around one-third (35.8%) participant's education level was higher than HSC. More than half (55.8%) participant's occupation was housewife. The participants monthly family income was ranged 6000-60000 taka with the mean income of 25283.33 Taka. The average distance of participant's residence to hospital mean 8 km. Above (50.8%) half of the participants were lived in urban area and most of the participants 75.8% living with spouse. 42.5% of the participants were received antenatal check-up for more than four times. Majority (85%) of the participant's mode of delivery was cesarean section and most of participants (72.5%) delivered place in hospital, most of the delivery 85% was conducted by doctors and birth weight of the baby mean 2.6 gram. Nearly half (48.3%) of the number of birth was 1st time and more than two – third (65%) baby were female. More than two- third (64.2%) baby's had no congenital deformity.

Table 1. Distribution of socio demographic characteristics of study participants (N =120)

Variables	Frequency (n)	Percentage (%)
Age (years)　　　　　(M=26.61,SD=4.23) Range 20-40		
Religion		
Islam	95	(79.2)
Hindu	21	(17.5)
Christian	3	(2.5)
Buddhist	1	(.8)
Level of education		
No formal education	10	(8.3)
Primary	26	(21.7)
Secondary	41	(34.2)
Higher secondary and above	43	(35.8)
Occupation		
Housewife	67	(55.8)
Private employee	29	(24.2)
Government employee	24	(20.0)
Monthly income (taka)　 M =25283.33, SD = 11681.475		
Distance hospital to residence (km) M = 8.6,SD = 16.20		
Place of living		
Urban area	61	(50.8)
Semi-urban area	11	(9.2)
Slum area	34	(28.3)
Rural area	14	(11.7)
Living with		
Alone	4	(3.3)
Spouse	91	(75.8)
Relative	25	(20.8)

Received antenatal Checkup		
Once	6	(5.0)
Twice	13	(10.8)
Three times	20	(16.7)
Four times	30	(25.0)
More than four times	51	(42.5)
Mode of delivery		
Normal	18	(15.0)
Cesarean section	102	(85.0)
Place of delivered		
Hospital	87	(72.5)
Clinic	30	(25.0)
Home	3	(2.5)
Birth weight of the baby (gm.) M=2.6 ,SD=.42		
Conducted delivery		
Doctor	102	(85.0)
Nurse/Midwife	13	(10.8)
Trained birth attendant	4	(3.3)
FWV	1	(.8)
Number of birth		
1st	58	(48.3)
2nd	51	(42.5)
More	11	(9.2)
Sex of the baby		
Male	42	(35.0)
Female	78	(65.0)
Any deformity of the baby during birth		
Yes	43	(35.8)
No	77	(64.2)

2. Prevalence of postnatal depression:

Table 2.1- showed the distribution of Edinburg postnatal depression scale of the participants. The mean score was 20.96 (SD = 4.30) on EPDS among postnatal mothers. More than half (54.2%) of the participants were unable to laugh and see the funny side of things. More than two-third (63.3%) of the participants was definitely less than they used to looked forward with enjoyment to things. Among the participants, most (75%) of the participants were blamed unnecessarily. Most (73.3%) of the participants were anxious or worried. Most (72.5%) of the participants were sometimes things have been getting on top of them. Majority (80.8%) of the participants had difficulty in sleeping. More than two-third (69.2%) was felt sad sometimes. More than half (51.7%) of the participants were often crying. EPDS holds special significance as it inquires of any suicidal thoughts that might have occurred to these women. Nearly half of the women (46.7%) gave it a thought sometimes but only (9.2%) contemplated it often.

Table 2.1: Distribution of each item of postnatal depression scale of the participants (N=120)

Variables	n (%)	M(SD)
Able to laugh and see the funny side of things		2.24(.658)
As much as I always could	1(.8)	
Not quite so much now	12(10.0)	
Definitely not so much now	65(54.2)	
Not at all	42(35.0)	
Looked forward with enjoyment to things		2.06(.626)
As much as I ever did	1(.8)	
Rather less than I used	17(14.2)	
Definitely less than I used to	76(63.3)	
Hardly at all	26(21.7)	
Blamed myself unnecessarily when things went wrong		2.00(.594)
Yes, most of the time	17(14.2)	
Yes, some of the time	90(75.0)	
Not very often	9(7.5)	
No, never	4(3.3)	
Anxious or worried for no good reason		1.93(.582)
No, not at all	3(2.5)	
Hardly ever	16(13.3)	
Yes, sometimes	88(73.3)	
Yes, very often	13(10.8)	
Scared or panicky for no good reason		1.89(.562)
Yes, quite a lot	11(9.2)	
Yes, sometimes	87(72.5)	
No, not much	20(16.7)	

No, not at all	2(1.7)	
Things have been getting on top of me		
Yes, most of the time	23(19.2)	
Yes, sometimes	87(72.5)	2.09(.565)
No, most of the time	8(6.7)	
No	2(1.7)	
Had difficulty sleeping		2.81(.395)
Yes, most of the time	97(80.8)	
Yes, sometimes	23(19.2)	
Felt sad or miserable		2.18(.550)
Yes, most of the time	30(25.0)	
Yes, sometimes	83(69.2)	
Not very often	6(5.0)	
No, not at all	1(.8)	
Have been crying		2.18(.745)
Yes, most of the time	42(35.0)	
Yes, quite often	62(51.7)	
Only occasionally	12(10.0)	
No , never	4(3.3)	
Thought of harming myself has occurred to me		1.58(.751)
Yes, quite often	11(9.2)	
Sometimes	56(46.7)	
Hardly ever	45(37.5)	
Never	8(6.7)	
Total		**20.96(4.30)**

Table 2.2 showed the prevalence of postnatal depression. Among the participants, most (95.8%) of the participants were depressed.

Variable	n (%)	M(SD)
No depression (0-12)	5(4.2)	8(2.55)
Depression (>12-30)	115(95.8)	21.52(3.37)

Table 3-showed the relationship between socio-demographic characteristics and postnatal depression scale. Among sixteen socio-demographic characteristics, three variables showed significant differences. In the present study there was a statistically significant ($p<0.05$) association between the age of the participants and the prevalence of post-natal depression ($r = .205$, $p=.028$). Multi parity participants showed significantly higher depressed compared to the 1st and 2nd time parity (F=3.071, $p=.050$). Participants whose babies had any deformity showed significantly higher depressed than whose babies had no deformity (t=6.435, $p=000$).

Table 3: Relationship between socio- demographic characteristics and postnatal depression (N=115)

Variables	M(SD)	t/F/r(p)
Age (years)		.205(.028)
Religion		
Muslim	2.16 (.330)	.372 (.709)
Non -Muslim	2.13 (.372)	
Level of education		
Primary	2.12 (.334)	.302 (.740)
Secondary	2.16 (.318)	
Higher secondary and above	2.18 (.364)	
Occupation		
Housewife	2.12 (.325)	-1.055 (.294)
Service holder	2.19 (.353)	
Monthly income		
Low income	2.14 (.307)	.169 (.844)
Medium income	2.16 (.371)	
High income	2.20 (.351)	
Distance from hospital to residence		-.079 (.404)
Place of living		
Urban area	2.18 (.358)	.745 (.477)
Slum area	2.13 (.328)	
Rural area	2.06 (.240)	

Living with		
Alone	2.40 (.374)	1.617 (.203)
Spouse	2.16 (.337)	
Relative	2.08 (.324)	
Antenatal check up		
Never	2.26 (.300)	1.579 (.117)
Frequently visited	2.13 (.342)	
Mode of delivery		
Normal	2.22 (.354)	.865 (.389)
Cesarean section	2.14 (.335)	
Place of delivered		
Hospital	2.15 (.336)	-.594 (.554)
Home	2.27 (.473)	
Birth weight of baby		-.059 (.532)
Conducted delivery		
Doctor	2.14 (.335)	.387 (.680)
Nurse	2.21 (.375)	
Others	2.24 (.336)	
Number of birth		
One	2.11(.372)	3.071 (.050)
Two	2.15 (.278)	
More	2.38 (.334)	
Sex of the baby		
Male	2.13 (.302)	-.567 (.572)
Female	2.17 (.358)	
Any deformity of the baby during birth		
Yes	2.36 (.229)	6.435 (.000)
No	2.03 (.330)	

IV. Discussion

1. Characteristics of the study participants

The Socio-demographic characteristics of the study participants were presented in Table 1. A total of 120 participants recruited in the study. The average mean age was 26.61 years with ranged from 20 to 40 years. This finding is consistent with several previous studies found that the mean age was 23.84 and 24.19 [6&8]. Most (79.2%) of the study participants were Muslim because in Bangladesh 90% people are Muslim. The recent study found that educational status was influenced the mother of developing depression. Around one-third (35.8%) participant's education level was higher than HSC. The similar study found that 9–17 times more in higher education when compared to lower education [1]. Nearly half (42.5%) of the participants were received antenatal check-up more than four times. This present study was found that majority (85%) of women giving birth by cesarean section. Now a day's caesarian section was increasing due to complications during labor. More than two –third (65%) babies were female and 64.2% babies had no congenital deformity.

2. Prevalence of postnatal depression:

The prevalence of the study showed that participants who scored above threshold 95.8% were likely to be suffering from a depressive illness of varying severity. This prevalence of postpartum depression observed in this study was not similar with findings in other studies as shown in study conducted at immunization clinics at rural health training centers in rural Bangalore showed a prevalence of PPD using EPDS scale as 11.47% [17]. In another prospective cohort study conducted at Chhainsa, Haryana among 200 pregnant women in 3rd trimester and followed up till 6 weeks postpartum period, the prevalence of PPD using EPDS scale was found to be 12 % [16]. A study in a tertiary care hospital in rural Mandya district of Karnataka, was conducted among 102 postpartum women revealed the prevalence of PPD was 31.4% [15]. In another study prevalence of PPD was 21.5[1]. The prevalence was high in the present study compared to the above studies. This may be due to good and proper postnatal care was not given to the women in the study area. Bangladesh continues to have a limited health care capacity and infrastructure. Bangladesh did not reach its target indicators in child and maternal health, which could be because of issues not addressed by the Bangladeshi health system, such as maternal mental health. Efforts to develop evidence-based policies to address maternal mental health in Bangladesh are highly needed, since there is global evidence of the long-term economic costs to neglect maternal mental health.

3. Relationship between socio-demographic characteristics and postnatal depression:

The age wise analysis of studied subjects with PPD shows the mean age to be higher, while subjects without postpartum depression had a mean age; thus, mean age was higher in PPD subjects and it was statistically significant (p <0.05). Risk of postpartum depression increases with the increasing age of the subjects, probably because older women have higher rates of pregnancy complications such as multiple births,

hypertension and diabetes and their increasing social and family responsibilities made them irritable and anxious. This finding is consistent with some previous studies [8].

Depression was higher in women with two or more children. In this study multigravida were seen to be more likely to develop depression than the primigravida. The reason for depression among multipara could be because of the increased level of maternal stress in terms of care and responsibility for their previous children. It was also estimated that percentage of the women with unplanned pregnancy was much higher in the depressed group than the non-depressed one. It could be due to stress regarding the unwanted responsibility of child on the women especially when they are not getting the paramount support from their near ones. Proper counseling should be done to all the pregnant women and the family members for the birth preparedness. This result was statistically significant (p <0.05). On the other hand, it is possible that the higher rates of depression among older mothers are a biological phenomenon involving age and childbearing. This findings was consistent with a study done [6].

Congenital anomalies are a significant risk factor for PND. The magnitude of the relationship between congenital anomalies and postnatal depression. This result was statistically significant (p <0.000). This was consistent with previous study [18]. Despite the high risk of recurrence of congenital malformations, there are no well accepted preventive measures in developing countries like Bangladesh. It indicates that strong preventive measures for congenital anomalies in this region are needed. Increasing awareness about maternal care during pregnancy, educational programs on congenital malformations and the consequences of consanguineous marriages need to be highlighted to decrease the incidence of congenital anomalies and their comorbidity.

V. Conclusion and Recommendations

Conclusion:

This study found some important factors like older age, multigravida, and baby's congenital deformity were considered as reasons for postpartum depression. All of these potential risk factors can be ascertained during routine pregnancy care; therefore, it is important that antenatal healthcare providers and women themselves are educated about these risk factors so that early identification of high risk women for closer follow-up and intervention is possible.

This study as a co-relational study, limited number of sample was collected from single center and hospital set-up and this study was unable to prove generalization of the country postnatal depression in mothers.

Recommendations

The findings of this study imply that routine screening of postnatal mothers especially those with high risk factors, training of Obstetricians to aid timely recognition of the symptoms of depression, formulating policies integrating mental and reproductive health. Further large scale study is necessary for the development and integration of a holistic approach that includes screening and treatment of PPD in postpartum care to improve maternal mental health and well-being.

Acknowledgements

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