



## **Antepartum Depression between Working and Non-Working Pregnant Women in Dhaka, Bangladesh**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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### **ABSTRACT**

A comparative cross-sectional study was conducted at Dhaka for one year from January to December 2019, among working and non-working pregnant women. Data were collected by face-to-face interview and checklist, and all the statistical analyses were done by SPSS. Chi-square estimation was performed to investigate the bivariate association between depression levels and characteristics of pregnant women in this study. This study aimed to assess and compare the level of antepartum depression and its association with different background characteristics. From this study, it has been found that in non-working pregnant women there 57 % were normal or not depressed, 12.3 % mildly depressed, and 31.1 % significantly depressed. On the other hand, 67.3 % of working pregnant women were normal or not depressed, 13 % were mildly depressed, and 19.6 % were significantly depressed. The mean ( $\pm$ SD) age for non-working and working respondents were 25.63( $\pm$ 4.65) and 31.26( $\pm$ 5.29) years respectively. Working pregnant participants who didn't get privileged by their colleagues from workplaces showed a significant depression status and the relationship was statistically significant ( $p=0.028$ ). There was another significant association between unplanned pregnancy and depression levels of working participants ( $p=0.029$ ). But no other

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association was found in the bivariate analysis. Non-working pregnant women were comparatively more depressed than the selected working pregnant respondents. So women's empowerment is required by expanding educational and job opportunities for a healthy mental state.

*Keywords: Antepartum depression; working and non-working pregnant women.*

## 1. INTRODUCTION

During pregnancy, the mother undergoes profound physiological and emotional changes. A systemic review of depressive symptoms worldwide reported a mean prevalence of depression 12 percent (range 8-51 percent) during the third trimester of pregnancy [1] and in Bangladesh, the prevalence of depression at 34-35 weeks pregnancy was 33 percent. Women from socio-economically disadvantaged backgrounds appear to suffer from even higher rates of depression. A community-based study in South Asia found 25 percent of pregnant women suffer from depression [2]. Work and family are the two major domains from which most women derive satisfaction in life; equally, they are the common sources of stressful experiences.

The risk factors recognized in the rural areas of Bangladesh were low economic status, nutritional status, physical violence, and domestic quarrels with husband and in laws, stress, past mental and depressive symptoms during pregnancy, perinatal death, poor relationship between husband and in laws, morbidity during pregnancy, and current health condition. Comparing rural area, PPD was less explored in urban slum area [3]. We found only one qualitative study explored the cultural attitude towards PPD in urban slum. Of the 36 women interviewed, 17 women were suffering from PPD. In this study women reported that financial crises, adverse life events, intimate partner violence, health problems, and lack of practical social support were causes of daily emotional distress and sadness at postpartum period [4].

The working environment continues to change with the globalization of the world economy and economic rationalization driving job restructuring, greater part-time and contract work, and greater workload demand that commonly occur in a context of higher job insecurity [5]. On the other hand, unemployed women tend to come from more economically deprived social backgrounds than employed women so non-working pregnant women have higher levels of anxiety due to

depression both during and shortly after the birth of their babies [6]. Many socio-demographic risk factors have been identified for depression during pregnancy, including young age, lack of education, being unmarried, and being unemployed [7]. Increased parity and lack of support, particularly poor support from partner/husband have also been associated with depression in both developed and developing countries [8]. Considering the adverse effect of antepartum depression, this study aims to estimate the level of antepartum depression to manage them appropriately for avoiding its adverse outcome by proper screening and treatment. Also create awareness, the importance of mental health in pregnancy to the family level, workplace, and society as a whole for better support and bring happy safe motherhood.

## 2. METHODOLOGY

A cross-sectional study was carried out in obstetric OPD in BSMMU and Surjer hasi clinic which started from January to December 2020. In this study of two sample situation, pregnant women of any trimester who are resides in Dhaka city from the two study group attending the above mentioned facilities for antenatal care (ANC) visit were selected as the study population. Convenient sampling method was used. Total sample size was 213. Data were collected by face to face interview of the pregnant women who came to attend the ANC clinics of the above mentioned places in both the working and non-working pregnant women.

### 2.1 Edinburgh Postnatal Depression Scale

After that, for measuring depression status among pregnant women, a questionnaire from item 10 of the Bangla version of the Edinburgh Postnatal Depression Scale (EPDS-B) in current pregnancy and through open ended description (Kaniz Gausia et al., 2009) was used. Women who endorsed this particular item of the EPDS-B scale were asked to elaborate further about their response.

## 2.2 Data Analysis

Statistical analysis of the results was obtained by using Statistical Packages for Social Sciences (SPSS-23). The results were presented in tables. Data on qualitative characteristics were expressed as percent values, means, or absolute numbers as indicated. Comparisons among groups were made using a one-way analysis of variance (ANOVA) test. For all tests, a value of  $P \leq 0.05$  was considered statistically significant.

## 3. RESULTS

About 57% non-working pregnant women were younger, i.e. 17 to 26 years old. On the other hand, about 45% working women were middle aged (27 to 34 years old). Again, in total, most of the respondents were in middle aged women with mean age 28.46. However, the mean age for non-working and working respondents were 25.63 and 31.26 years respectively (Table-1). Non-working pregnant women 101 (95.3%) had no experience of mental violence and 5 (4.7%) had experience of mental violence. In working pregnant women 55 (51.4%) had no experience of mental violence and 52 (48.6%) had experience of mental violence (Table 2).

According to their level of Depression, non-working pregnant women 60 (56.%) is Normal or Not Depressed, 13 (12.3%) is Mild Depressed and 33 (31.1 %) is Significant Depressed. In Working pregnant women 72 (67.3%) is Normal or Not Depressed, 14 (13%) is Mild Depressed, 21 (19.6%) is Significant Depressed. Again, the bivariate relationship between depression status and occupation of respondents was insignificant ( $p$ -value: 0.150) (Table 4).

It can be seen that, there was a significant association between planned pregnancy and depression level of working participants. About 40% working pregnant women who didn't planned for pregnancy had been suffered from

significant depression ( $p < 0.05$ ). 67% working women who hadn't any infertility issues, had not suffered from any depression. But, among 67%, 71% and 70% working pregnant women, who had no previous pregnancy complications, had no proper preparation for delivery, and whose previous child was boy, respectively, had not suffered from any depression at all. But, when there was any abortion history, about 29% working women was suffering from significant depression. However, more than one-third of the working women who didn't have any child death history, didn't feel any depression (Table 4).

The bivariate association (chi-square) between depression status among working pregnant women and their different background characteristics have been tabulated. About 26% participants who were working but didn't got privileged by their colleagues from workplaces showed the significant depression status ( $p=0.028$ ). Again, about 70% working pregnant women who had family support for their work had no or normal depression level. Only about 19% women who can expenditure their salaries by their own choice had suffered from significant depression. About 32% working women who didn't have any personal income source had suffered from significant depression status. More than 66% working women who were neglected by their family members were suffered from significant depression level. But, about 65% women had no or normal depression who got expenses from their husbands.

## 4. DISCUSSION

In this present study, it has been tried to investigate the present scenario of depression level among some randomly selected working and non-working pregnant women with some background characteristics. To find out any existing association among these determinants with depression level, a bivariate association had been conducted.

**Table 1. Age distribution of the respondents according to their level of depression (n=213)**

Age category (in years)	Non-working Frequency (%)	Working Frequency (%)	Total Frequency (%)
17 - 26	60 (56.6)	23 (21.5)	83 (39.0)
27 – 34	42 (39.6)	48 (44.9)	90 (42.3)
35 and above	4 (3.8)	36 (33.6)	40 (18.8)
Mean ( $\pm$ SD)	25.63 (4.65)	31.26 ( $\pm$ 5.29)	28.46 ( $\pm$ 5.71)
Total	106 (100)	107 (100)	213 (100)

**Table 2. Distribution of the respondents according to their experience of mental violence (n=213)**

Experience of mental violence	Non-working Frequency (%)	Working Frequency (%)	Total Frequency (%)
Yes	101 (95.3)	55 (51.4)	156 (46.7)
No	5 (4.7)	52 (48.6)	57 (53.3)
Total	106 (100.0)	107 (100.0)	213 (100.0)

**Table 3. Distribution of the respondents according to their level of Depression (n=213)**

Depression status	Non-working Frequency (%)	Working Frequency (%)	Total Frequency (%)	$\chi^2$	Df	P - value
Normal or No Depression	60 (56.6)	72 (67.4)	132 (62.0)	3.79	2	0.150
Mild Depression	13 (12.3)	14 (13)	27 (12.7)			
Significant Depression	33 (31.1)	21 (19.6)	54 (25.4)			
Total	106 (100)	107 (100)	213 (100)			

**Table 4. Association of different background characteristics (planned pregnancy, infertility issue, pregnancy complications, delivery preparation, gender of child, abortion, child death) of participants with their status of Depression in working pregnant women (n=107)**

Background Characteristics		Status of Depression, n (%)			Total (n)	$\chi^2$	Df	P-Value
		Normal	Mild	Significant				
Pregnancy planned	Yes	60 (71.4)	12 (14.3)	12 (14.3)	84	7.11	2	<b>0.029</b>
	No	12 (71.4)	2 (8.7)	9 (39.1)	23			
Any infertility issue	Yes	5 (71.4)	0	2 (28.6)	7	1.30	2	0.521
	No	67 (67.0)	14 (14.0)	19 (19.0)	100			
Pregnancy complications	Yes	10 (71.4)	2 (14.3)	2 (14.3)	14	0.29	2	0.864
	No	62 (66.7)	12 (12.9)	19 (20.4)	93			
Preparation for delivery	Yes	30 (62.5)	4 (8.3)	14 (29.2)	48	5.84	2	0.054
	No	42 (71.2)	10 (16.9)	7 (11.9)	59			
Previous child gender	Girl	18 (64.3)	2 (7.1)	8 (28.6)	28	0.40	2	0.818
	Boy	22 (68.8)	3 (9.4)	7 (21.9)	32			
Any abortion	Yes	5 (71.4)	0	2 (28.6)	7	1.30	2	0.521
	No	67 (67.0)	14 (14.0)	19 (19.0)	100			
Any child death	Yes	1 (50.0)	0	1 (50.0)	2	1.32	2	0.518
	No	71 (67.6)	14 (13.3)	20 (19.0)	105			

**Table 5. Association of different background characteristics (privileged by colleague, family support for working, expenditure salary, personal income source, negligence, monthly expenditure from husband, physical and mental violence, forced sex) of participants with their status of Depression in working pregnant women (n=107)**

Background Characteristics		Status of Depression, n (%)			Total (n)	$\chi^2$	Df	P-Value
		Normal	Mild	Significant				
Get privilege by colleague	Yes	27 (71.1)	8 (21.1)	3 (7.9)	38	7.12	2	<b>0.028</b>
	No	45 (65.2)	6 (8.7)	18 (26.1)	69			
Family support for working	Yes	62 (69.7)	9 (10.1)	18 (20.2)	89	4.11	2	0.128
	No	10 (55.6)	5 (27.8)	3 (16.7)	18			
Expenditure of salary by own choice	Yes	61 (69.3)	10 (11.4)	17 (19.3)	88	1.45	2	0.485
	No	11 (57.9)	4 (21.1)	4 (21.1)	19			
Physical violence	Yes	14 (66.7)	1 (4.8)	2 (66.7)	21	2.45	2	0.294
	No	58 (67.4)	13 (15.1)	31 (30.1)	86			
Mental violence	Yes	33 (63.5)	9 (17.3)	3 (60.0)	52	1.61	2	0.448
	No	39 (70.9)	5 (9.1)	30 (29.7)	55			
Forced sex by husband	Yes	6 (60.0)	0	2 (100.0)	10	3.86	2	0.145
	No	66 (68.0)	14 (14.4)	31 (29.8)	97			

*n (%) = number of observation with percentage; Df = degrees of freedom*

In case of frequency and percentage distribution, there were 60 (56.6%) non-working pregnant women who were normal or not depressed, 13 (12.3 %) were mildly depressed and 33 (31.1 %) were significantly depressed. On the other hand, 72 (67.3 %) working pregnant women were normal or not depressed, 14 (13 %) were mildly depressed, 21 (19.6 %) were significantly depressed. Like our study findings, several studies also found that non-working women are suffering more depressed than working women. Because, working women works outside, get mental support, and are privileged from their colleagues at workplaces. That is why their mental burden got reduced and lightened. But, non-working women have to face many mental obstacles because of family negligence, household workloads, and child-rearing. That is why, non-working women are more exposed to extreme depression levels than working pregnant women [9,10].

In non-working pregnant women, almost none of them had any experience of physical violence and just 3 % had the experience of physical violence. But, in working pregnant women about 80.4 % had no experience of physical violence and 20 % had an experience of physical violence. In Bangladesh and other developing countries, different studies found that women with higher education and working status are more prone to physical violence by their family members and their partners [11]. In non-working pregnant women, about 95 % had no experience of mental violence and only 5 % had the experience of mental violence. In working pregnant women, more than half of them had no experience of mental violence and about 49 % had an experience of mental violence. When working outside, women are frequently abused or tortured emotionally by their family members and their neighbors. That is why, studies from developing countries have found that mental or emotional violence is more prevalent among working pregnant women [12,13].

From the bivariate association, our study found that about 26 % of participants who were working but didn't get privileged by their colleagues from workplaces showed a significant depression status ( $p < 0.05$ ). The association might get strong in point estimation with larger sample size. While working, at the office, mental support and warm working environment among colleagues are necessary for maintaining healthy mental status for each pregnant working woman but when they don't get any privilege from their colleagues, they

feel nervous and depressed at their workplaces. However, not only in Bangladesh but also from China and other parts of the world showed similar results regarding these findings [14]. Again, seven out of ten working pregnant women who had family support for their work had no or normal depression levels. Only about 19 % of women who can expenditure their salaries by their own choice had suffered from significant depression. About 32 % of working women who didn't have any personal income source had suffered from significant depression status. More than two-thirds of the working women who were neglected by their family members were suffered from significant depression levels. But, about 65 % of women had no or normal depression who got expenses from their husbands. Because they didn't have to make extra effort to make money. Like this way, they become free from any financial anxiousness. Similar findings conducted in Brazil had supported these findings [15].

There was a significant association between planned pregnancy and depression levels of working participants. About 40 % of working pregnant women who didn't plan for pregnancy had been suffered from significant depression ( $p < 0.05$ ). Studies from Brazil, the USA, UK, and other western and Asian countries like Bangladesh found that unplanned pregnancy increases the risk of spousal depression level; because of sudden and unwanted pregnancy, familial happiness got distorted most of the time [16-18].

This study found that half of the elder aged non-working pregnant women (35 years and above) had experienced significant depression, but the association was not statistically significant. On the other hand, most non-working pregnant women who had a lower educational level had no depression. Results of our study indicated that working women usually get busy with their daily life. So, they don't have a familial problem to get depressed significantly but as non-working women have to stay with family members, that is why the first 10 years of their marital life is a crucial one. And, for this reason, mothers with less than 10 years of married life had been suffered from mental depression.

## 5. CONCLUSION

This study has found that significant depression level was mostly observed among non-working pregnant women of this survey. The bivariate relationship between depression status and the

occupation of respondents was insignificant. Lastly, this study found that half of the elder aged non-working pregnant women had experienced significant depression, but the association was not statistically significant. On the other hand, most non-working pregnant women who had lower educational levels had no depression. So, planned pregnancy and work-life balance among working women can reduce depression.

## CONSENT AND ETHICAL APPROVAL

Ethical clearance was taken from the IRB of NIPSOM. The verbal and written informed consent was taken from the patients and the hospital authority. Neither participant's names nor any identifying information was revealed in the reports of the study. And all of your information will be used for this research purpose only.

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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