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Research Paper

Mental Health Status of Pregnant Women and Breastfeeding Mothers During COVID-19 Outbreak in Bangladesh

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ABSTRACT

In March 2020, Coronavirus disease (COVID-19) was declared a public health emergency of international concern. Studies have suggested a higher prevalence of mental health problems during this pandemic among the general population in Bangladesh. However, there was no information regarding the mental health problems of pregnant women and breastfeeding mothers. Therefore, the present study aimed to assess pregnant and breastfeeding women's mental health status during the COVID 19 pandemic in Bangladesh. In the present study, data were collected from a sample of 201 pregnant women and 279 breastfeeding mothers via an online survey. The Depression Anxiety Stress Scale -21 (DASS-21) and the Coronavirus Anxiety Scale (CAS) were utilized to assess the mental problems in this study. Results suggested 39.31% had moderate to extremely severe depression symptoms, 43.29% had moderate to extremely severe anxiety symptoms, 28.86% moderate to extremely severe stress symptoms, and 11.42% COVID-19 anxiety symptoms among pregnant women. For the breastfeeding mothers, these ratios were 39.78%, 36.98%, 26.16%, and 12.90%, respectively. Mothers who gave birth for the first time had a higher depression ratio than mothers who had previously delivered babies. These findings suggested the strong need for heightened assessment and treatment of mental health for pregnant women and breastfeeding mothers during the current pandemic.

Keywords: *COVID-19; pregnant women; breastfeeding mothers; mental health; Bangladesh.*

The world becomes stagnant due to the ongoing pandemic caused by an epidemic of a novel coronavirus strain (SARS-CoV-2) which was initially discovered in Wuhan City, Hubei Province in late December 2019 (Nishiura et al., 2020; Mahase; 2020). On account of the scale and speed of transmission, higher morbidity, and mortality globally, COVID-19 was declared a pandemic by the World Health Organization on March 12, 2020.

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(WHO, 2020). Till to November 09, 2020, total 51,253,071 people affected and 1,268,980 people died by this virus (Worldmeter, 2020). The second wave of the epidemic has hit many countries throughout the world. During the first wave of the outbreak, almost all government imposed some sort of measures to prevent the outbreak like lockdown, quarantine, social distancing, etc. Pandemics, in general, pose a threat to psychological well-being and can cause increased levels of stress in people of all ages and demographics. During the current CVID-19 pandemic, studies have found greater incidences of depression,anxiety, stress, and post-traumatic stress disorder symptoms. (Ahmed, Ahmed, Aibao, et al., 2020; Xiong et al., 2020).

COVID-19 pandemic and mental health of pregnant women and breastfeeding mothers

Pregnancy and motherhood both are life changing events for women marked by intense emotions and a high risk of mental health issues. According to National Collaborating Centre for Mental Health UK (2007), around 10-20% pregnant women experience from mental health issues and the ratio is nearly same for the women in the early postpartum period. One out of seven women is affected by depression and anxiety during pregnancy which increasing the chance of preterm birth, reducing mother-child bonding, and delaying the infant's cognitive and emotional development (Carnegie et al., 2014; Glover, 2015; O'Donnell et al., 2013).

Since pregnant women are more vulnerable to infections and are usually considered to be at greater risk because of their naturally suppressed immune system (Kourtis et al., 2014).As a vulnerable population, pregnant women may be of a particular concern, as anxiety, stress and depression are common psychological problems during pregnancy (Cox et al., 1987; Lee et al., 1998).Researchers have raised their concerns regarding the mental health of pregnant women and newly mothers during the current COVID-19 pandemic. (Ceulemans et al., 2020; Saccone et al., 2020). According to Saccone et al. (2020), the COVID-19 outbreak in Italy had a moderate to severe psychological impact on more than half of pregnant women. They also reported higher anxiety among two-third pregnant women. Ceulemans et al. (2020) have conducted a study in Belgium and found that breastfeeding mothers and women's who are pregnant have high anxiety and depression. Davenport et al. (2020) have found similar results, which indicated pregnant women and breastfeeding mothers have increased anxiety (72%) and depressive (40.7%) symptoms during the current COVID-19 outbreak. Liu et al. (2020) have identified some risk factors for the higher anxiety symptoms among pregnant women (i.e. – severity of outbreak in the residence area, household income, subjective symptoms, and attitude toward COVID-19).

Present study

The first confirmed COVID-19 cases were identified in Bangladesh on March 8, 2020, and the first death due to COVID-19 occurred on March 18, 2020. The Bangladesh government implemented the lockdown approach on March 26, 2020, in order to maintain 'social distance' to restricted the spread COVID-19 among the general population via 'home quarantine' (Banik et al., 2020; Bhuiyan et al., 2020). On November 09, 2020, a total of 421921 people had tested positive for the virus and 6092 people died due to COVID-19 (Worldmeter, 2020). Currently, Bangladesh is standing in the 22nd position among the world's most COVID-19 infected countries (Worldmeter, 2020). The government is till now discouraging unnecessary public gathering and instructing to wear mask must when go outside. As like other counties, COVID-19 outbreak has also affected Bangladeshi people's mental health. Ahmed, Ahmed, Alim et al. (2020) have found high anxiety and depressive

symptoms among general people of Bangladesh during this ongoing COVID-19 situation. Pregnant and breastfeeding women in Bangladesh also had to deal with this ongoing COVID-19 pandemic, including the extraordinary quarantine measures which may leave an adverse effect on their personal and professional life.

In Bangladesh, approximately 2.4 million babies are expected to be born, where the number is 116 million globally amidst the first year of the COVID-19 outbreak. However, this vast number of babies are not getting proper care and welcome. Nearly all pandemic preventive measures, i.e., lockdown, social distancing, and the extreme shortage of medical and protection equipment, further complicate the aggregated scenario(Unicef, 2020 May 07). This COVID-19 pandemic reduces the access to psychological and pharmacological treatment which is making the situation worsen. In addition to the fear of being infected, the mental health of these pregnant and newly mothers may have been adversely affected. Several studies were conducted to determined psychological impact of this pandemic on the general population, student sample, first line health services providers in Bangladesh, none of a study focused on mental health of the pregnant women and breastfeeding mothers. Therefore, the present study was conducted to assess the mental health status pregnant and breastfeeding women in Bangladesh.

METHODS

Participants

This study began with the creation of an anonymous survey to examine the target population's mental health. We used an online survey using the Google Form to collect the data for this study. Informed consent was obtained from all individual participants included in the study. The online link of this survey was shared with the participants using email, Facebook, and other social platforms. The inclusion criteria for this study were that women, who were pregnant, have a child up to 0-12 months and currently living in Bangladesh. Those who returned incomplete questionnaires and had a history of psychiatric illnesses, on the other hand, were eliminated from the study. A total of 708 women were invited to participate in this survey. Among them, total 489 people responded to the study invitation and 488 were agreed to participate. Among 488 respondents, a total of 8 were excluded due to missing responses. Detailed data on participation are shown in the *Figure 1*.

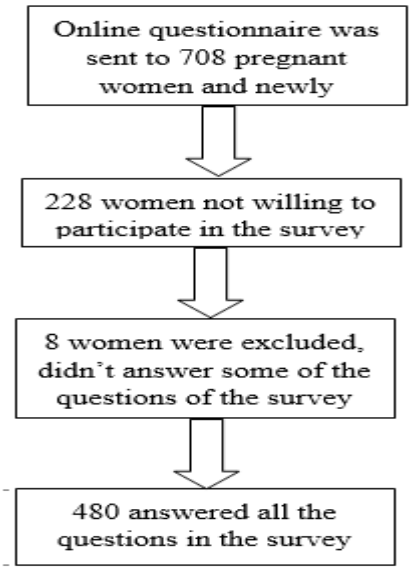

Figure 1: Details of the participants selection of the present study.

The study sample was aged between 18 years and 42 years (*mean* = 26.41, and *SD*= 4.40). Among them, 41.9% were pregnant women and 58.1% were breastfeeding mothers. In terms of educational qualifications, 30.8% were graduated, 33.8% completed the Bachelor or equal degree, 20.2% completed higher secondary, and 11% completed secondary education. Among the participants, 66.8% were housewife, 14.4% were student, and 16.7% were job holder. A total of 55.6% belongs to nuclear family and 44.4% belongs to extended family. Among them, 52.1% were living in city areas, 24.6% were in suburb areas and 23.3% in village areas. A total of 62.69% women were expecting their first baby, and 68.46% breastfeeding mothers gave birth baby for the first time.

Measures

The questionnaire of this online survey comprised the short form of the Depression Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995; Alim et al., 2014 [Bangla version]) and the Coronavirus Anxiety Scale (CAS; Lee, 2020; Ahmed, Faisal, et al., 2020 [Bangla version]). A demographic information sheet was also included in the questionnaire which provides information regarding age, education levels, occupation, residence areas, family types, socio-economic status, number of children, weeks of pregnancy, age of the last child, etc.

- **Short Form of the Depression Anxiety Stress Scale-21:** The DASS-21 is the short form of the Depression Anxiety Stress Scale (DASS-42, Lovibond & Lovibond, 1995) and it has the similar psychometric properties of the DASS-42. The DASS-21 comprised three subscales and seven items in each subscale for assessing depression, anxiety, and stress. Participants rated each item based on their past week experiences on a four-point scale ranged from 0 (*Did not apply to me at all*) to 3 (*Applied to me very much or most of the time*). The total score of each subscale was calculated by the following formula – (sum of the seven items) x2. The total scores ranged between 0 and 42. The Bangla DASS-21 (Alim et al., 2014) also had good psychometric properties for using in the Bangladesh context. In the present study, this scale had good internal consistency reliabilities (ω ranged between .864 and .879 and α ranged between .862 and .871). Confirmatory factor analysis suggested that the DASS-21 Bangla good model fits (χ^2= 210.395, df=186, χ^2/df = 1.131, CFI=.998, TLI=.998, RMSEA=.017, SRMR=.050). In the present study, scorings for mild, moderate, severe, and extremely severe depression, anxiety, and stress symptoms suggested by authors were used. For depression, scores between 5 and 6 denoted mild, scores between 7 to 10 denoted moderate, scores between 11 and 13 denoted severe and scores 14 or above denoted extremely severe symptoms of depression. For anxiety, scores between 4 and 5 denoted mild, scores between 6 and 7 denoted moderate, and scores between 8 and 9 denoted severe, and scores 10 or above denoted extremely severe anxiety symptoms. Scores ranged from 8 to 9 suggest mild, 10 to 12 suggest moderate, 13 to 16 suggest severe, and scores 17 or above suggest extremely severe stress.
- ***Coronavirus Anxiety Scale:*** The Coronavirus Anxiety Scale (Lee, 2020) is a five-item unidimensional valid psychometric assessment tool for assessing dysfunctional anxiety symptoms in response COVID-19 outbreak. Participants responded this tool using afive-point Likert-type scale ranged between 0 (*not at all*) to 4 (*nearly every day over the last two weeks*). The scale has excellent internal consistency, construct, and concurrent validity. Lee (2020) suggested≥ 9 as the cutoff scorewith 85% specificity and 90% sensitivity. The Bangla CAS had good psychometric properties to assess dysfunctional anxiety related to COVID-19 outbreak among Bangladeshi

people. In the present study, this scale had good internal consistency reliabilities (ω = .835 and α = .822). Confirmatory factor analysis suggested that the DASS-21 Bangla good model fits (χ^2= 2.191, df=5, χ^2/df = .438, CFI=1.00, TLI=1.00, RMSEA=.000, SRMR=.025).

Statistical analysis

In the present study, IBM SPSS v26, IBM AMOS v24, and Microsoft office excel 2019 were used for data management and data analysis. Descriptive statistics (*frequency* and *percentages*), oneway *ANOVA*, two independent sample *t*-test etc. were performed in this study.

Ethics

The Ethical Review Committee of the Noakhali University of Science and Technology, Bangladesh, has approved this study. On the first page of the survey link (Google Form), study purpose, nature, potential risks and benefits, confidentiality of data, etc. were explained. After reading these, participants consented to participate in this study by clicking either "Yes" (I agree) or "No" (I don't agree). Only after clinking "Yes", participants took part in the survey. There were no exposed risks (physical, psychological, social, and legal) and they were assured that their responses would be kept confidential. Participants were asked to input their contact number, if they wish to receive psychological supports from professional psychologists.

RESULTS

Table 1: Depression, anxiety, stress and COVID-19 anxiety symptoms among Bangladeshi pregnant women and breastfeeding mothers during the COVID-19 outbreak

	Levels	Percentages	
		Pregnant Women	**Breastfeeding Mother**
Depression symptoms	Moderate	21.89	21.86
	Severe	8.96	9.32
	Extremely severe	8.46	8.60
Anxiety symptoms	Moderate	14.93	12.55
	Severe	10.95	9.32
	Extremely severe	17.41	15.41
Stress	Moderate	15.42	13.26
	Severe	6.47	8.60
	Extremely severe	6.97	4.30
COVID-19 anxiety symptoms	Having symptoms	11.44	12.90

Results in Table 1 demonstrated that 21.89% pregnant women had moderate depressive symptoms, 8.96% had severe and 8.46% had extremely severe symptoms. Regarding anxiety symptoms, 14.93% pregnant women had moderate anxiety symptoms, 10.95% had severe and 17.41% had extremely severe symptoms. Regarding perceived stress levels, 15.42% pregnant women felt moderate level stress, 6.47% felt severe, and 6.97% felt extremely severe level of stress. Regarding COVID-19 related anxiety symptoms, 11.44% pregnant women had these symptoms. Table 1 also demonstrated statistics about depression, anxiety, stress and COVID-19 anxiety symptoms of the breastfeeding mothers.Among breastfeeding mothers, 21.86% had moderate depressive symptoms, 9.3% had severe and 8.60% had

extremely severe depressive symptoms. Regarding anxiety, 12.55% breastfeeding mother had moderate symptoms, 9.32% had severe and 15.41% had extremely severe anxiety symptoms. Among breastfeeding mothers, 13.26% felt a moderate level of stress, 8.60 felt severe and 4.30% felt extremely severe stress. Among them, 12.90 had COVID-19 anxiety symptoms.

Table 2: Mean differences in depression, anxiety, stress, and COVID-19 anxiety symptoms among pregnant women by education, occupation, family types, socio-economic levels and residence areas.

Group	Depression		Anxiety		Stress		COVID-19 Anxiety	
	M (SD)	$F_{(df)}$ (sig., effect size)	M (SD)	$F_{(df)}$ (sig., effect size)	M (SD)	$F_{(df)}$ (sig., effect size)	M (SD)	$F_{(df)}$ (sig., effect size)
Education levels								
Secondary	5.63 (4.36)	$.202_{(4,196)}$	5.32 (5.14)	$.356_{(4,196)}$	7.00 (4.39)	$.256_{(4,196)}$	2.77 (3.52)	$.757_{(4,196)}$
Higher secondary	5.75 (4.86)	(.937, .06)	5.31 (3.67)	(.839, .09)	6.84 (4.50)	(.906, .07)	4.18 (3.74)	(.554, .12)
Undergraduate	5.58 (5.14)		5.77 (4.66)		7.13 (5.07)		3.16 (3.33)	
Graduate	6. 06(5.03)		4.82 (4.34)		7.69 (5.15)		3.68 (4.16)	
Others	4.73 (4.29)		5.50 (4.31)		7.73 (4.45)		3.18 (3.71)	
Occupation								
Housewife	5.95 (4.82)	$.476_{(2,192)}$	5.70 (4.47)	$1.114_{(2,192)}$	7.63 (4.84)	$1.437_{(2,192)}$	3.84 (3.98)	$1.510_{(2,192)}$
Student	5.79 (5.21)	(.622, .07)	4.87 (4.49)	(.330, .11)	7.36 (4.86)	(.240., 12)	3.08 (3.27)	(.224, .13)
Job Holder	5.03 (5.03)		4.63 (3.81)		6.06 (4.87)		2.74 (3.05)	
Family types								
Nuclear	5.60 (4.88)	$.198_{(1,199)}$	4.96 (4.08)	$2.280_{(1,199)}$	7.14 (4.76)	$.174_{(1,199)}$	3.31 (3.75)	$.807_{(1,199)}$
Extended	5.91 (4.92)	(.657, .03)	5.90 (4.70)	(.133, .11)	7.43 (4.98)	(.677, .03)	3.79 (3.69)	(.370, .06)
Socio-economic levels								
Higher	5.92 (4.87)	$.120_{(4,196)}$	5.83 (4.30)	$.806_{(4,196)}$	8.33 (3.17)	$.289_{(4,196)}$	3.00 (3.98)	$.403_{(4,196)}$
Higher middle	5.43 (5.82)	(.975, .05)	5.52 (5.01)	(.523, .13)	6.78 (5.34)	(.885, .08)	3.78 (4.59)	(.806, 09)
Middle	5.90 (4.88)		4.94 (4.20)		7.15 (4.91)		3.30 (3.29)	
Lower Middle	5.48 (4.11)		6.25 (4.17)		7.59 (4.58)		4.05 (4.28)	
Lower	5.00 (7.69)		4.67 (6.38)		6.67 (6.95)		3.33 (4.23)	
Residence								
City	5.63 (4.97)	$.039_{(2,198)}$	5.15 (4.33)	$.532_{(2,198)}$	7.12 (4.88)	$.473_{(2,198)}$	3.17 (3.34)	$.915_{(2,198)}$
Suburb of the city	5.85 (4.36)	(.961, .02)	5.17 (3.99)	(.588, .07)	6.98 (4.92)	(.624, .07)	3.71 (3.82)	(.402, .10)
Village	5.80 (5.28)		5.90 (4.78)		7.84 (4.73)		4.00 (4.38)	

Results in Table 2 and Table 3 demonstrated the mean differences in depression, anxiety, stress, and COVID-19 anxiety symptoms among pregnant women and breastfeeding mothers, respectively, by their socio-demographic classifications (Education levels, occupations, family types, socio-economic levels, and residence areas). Pregnant women' depression, anxiety, stress, and COVID-19 anxiety symptoms had not significantly differed by their demographic classifications. There were significant mean differences in breastfeeding mothers' depression ($F_{(2, 269)} = 4.524$, $p = .012$, effect size = .18), anxiety ($F_{(2, 269)} = 4.271$, $p = .016$, effect size = .18), and stress ($F_{(2, 269)} = 4.741$, $p = .009$, effect size = .19) symptoms in terms of their occupational status. Supplementary Table 1 suggested that students had significantly higher depression (Mean difference = -2.802, $p = .003$, 95% CI = -4.651, -.953), anxiety (Mean difference = -2.486, $p = .004$, 95% CI = -4.173, -.800), and stress (Mean difference = -2.698, $p = .003$, 95% CI = -4.459, -.938) symptoms than housewives. Supplementary Table 1 also suggested that students had significantly higher depression (Mean difference = 2.723, $p = .017$, 95% CI = .490, 4.955), anxiety (Mean difference = 2.396, $p = .021$, 95% CI = .359, 4.432), and stress (Mean difference = 2.698, $p = .003$, 95% CI = .938, 4.459) symptoms compared to job holders. However, there were an absence of significant mean differences in depression, anxiety, stress, and COVID-19 symptoms among breastfeeding mothers.

Table 3: Mean differences in depression, anxiety, stress, and COVID-19 anxiety symptoms among breastfeeding mothers by education, occupation, family types, socio-economic levels and residence areas

Group	Depression		Anxiety		Stress		COVID-19 Anxiety	
	M (SD)	$F_{(df)}$ (sig., effect size)	M (SD)	$F_{(df)}$ (sig., effect size)	M (SD)	$F_{(df)}$ (sig., effect size)	M (SD)	$F_{(5,273)}$ (sig., effect size)
Education levels								
Secondary	6.03 (4.29)	$.619_{(4, 274)}$	5.19 (3.99)	$.478_{(4,274)}$	7.13 (4.26)	$.830_{(4,274)}$	3.81 (4.19)	$.348_{(4,274)}$
Higher secondary	5.08 (4.65)	(.649, .10)	4.72 (4.39)	(.752, .08)	6.09 (4.46)	(.507, .11)	3.72 (4.90)	(.846, .07)
Undergraduate	5.70 (4.97)		5.18 (5.13)		7.22 (4.95)		3.08 (3.75)	
Graduate	6.27 (5.37)		4.45 (3.97)		7.14 (4.73)		3.44 (3.62)	
Others	6.89 (2.09)		5.89 (2.52)		8.56 (2.74)		3.78 (2.82)	
Occupation								
Housewife	5.52 (4.51)	$4.524_{(2, 269)}$	4.64 (3.95)	$4.271_{(2,269)}$	6.59 (4.28)	$4.741_{(2,269)}$	3.27 (3.76)	$.905_{(2,269)}$
Student	8.32 (6.32)	(.012, .18)	7.13 (6.84)	(.016, .18)	9.29 (6.55)	(.009., 19)	4.19 (5.38)	(.406, .08)
Job Holder	5.60 (5.19)		4.73 (4.38)		7.42 (4.54)		3.80 (3.92)	
Family types								
Nuclear	5.76 (4.86)	$.075_{(1, 277)}$	4.67 (3.80)	$.797_{(1, 277)}$	6.86 (4.52)	$.353_{(1, 277)}$	3.31 (3.66)	$.209_{(1, 277)}$
Extended	5.92 (4.95)	(.657, .02)	5.14 (5.09)	(.373, .05)	7.19 (4.82)	(.553, .04)	3.53 (3.29)	(.648, .03)
Socio-economic levels								
Higher	9.80 (2.17)	$1.057_{(4, 274)}$	6.60 (2.30)	$1.224_{(4, 274)}$	9.60 (3.58)	$.614_{(4, 274)}$	3.80 (3.63)	$.375_{(4, 274)}$
Higher middle	6.35 (4.18)	(.378, .12)	6.35 (4.09)	(.301, .13)	7.45 (3.80)	(.653, .09)	2.87 (3.29)	(.827, .07)
Middle	5.79 (4.92)		4.59 (4.26)		7.01 (4.47)		3.61 (3.98)	
Lower Middle	5.47 (5.14)		4.84 (4.79)		6.51 (5.15)		3.20 (4.39)	
Lower	5.14 (5.63)		5.00 (6.32)		7.14 (6.88)		2.86 (3.74)	
Residence								
City	6.16 (5.49)	$.863_{(2, 276)}$	4.92 (4.79)	$.264_{(2, 276)}$	7.47 (5.17)	$2.344_{(2, 276)}$	3.10 (3.88)	$1.763_{(2, 276)}$
Suburb of the city	5.23 (4.65)	(.423, .08)	4.60 (4.40)	(.768, .04)	6.01 (4.29)	(.098, .13)	4.17 (4.43)	(.173, .11)
Village	5.75 (3.49)		5.16 (3.71)		7.06 (3.58)		3.30 (3.96)	

Table 4 demonstrated that women who were being mother for the first time had significantly higher depression symptoms compared to who were not being mother for the first time (t-value$_{(277)}$ = 2.123, p = .035, effect size = .27). However, anxiety, stress and COVID-19 anxiety symptoms between these two groups of breastfeeding mothers were not differed significantly. Table 4 also demonstrated non-significant mean differences between women who being pregnant for the first time and who not being pregnant for the first time in depression, anxiety, stress and COVID-19 anxiety symptoms.

Table 4: Mean differences in depression, anxiety, stress, and COVID-19 anxiety between women who being pregnant for the first time and who not being pregnant for the first time, and between women who being mother for the first time and who not being mother for the first time

Variables	Groups	M (SD)	t-value (df)	sig.	Cohen d
Pregnant women					
Depression	**First-time pregnancy**	5.51 (5.08)	-.821 (199)	.413	-.12
	Not first-time pregnancy	6.09 (4.56)			
Anxiety	**First-time pregnancy**	5.14 (4.49)	-.824 (199)	.411	-.12
	Not first-time pregnancy	5.67 (4.13)			
Stress	**First-time pregnancy**	6.90 (5.05)	-1.347 (199)	.180	-.20
	Not first-time pregnancy	7.85 (4.43)			
COVID-19 anxiety	**First-time pregnancy**	3.16 (3.70)	-1.703 (199)	.090	-.25
	Not first-time pregnancy	4.08 (3.73)			
Breastfeeding women					
Depression	**Mother for the first time**	6.25 (5.19)	2.123 (277)	.035	.27
	Mother not for the first time	4.92 (4.07)			
Anxiety	**Mother for the first time**	4.96 (4.55)	.391 (277)	.696	.05
	Mother not for the first time	4.74 (4.27)			
Stress	**Mother for the first time**	7.36 (4.86)	1.840 (277)	.067	.24
	Mother not for the first time	6.26 (4.11)			
COVID-19 anxiety	**Mother for the first time**	3.42 (4.02)	.052 (277)	.959	.01
	Mother not for the first time	3.40 (3.86)			

DISCUSSION

Getting pregnant and being a mother is a noble blessing for the women. The present study was conducted to assess pregnant women's mental health status and breastfeeding mothers during the current COVID-19 pandemic. A total of 201 pregnant women and 279 breastfeeding mothers participated in this study. Results of this study suggested that pregnant women and breastfeeding mothers had higher level of depression, anxiety, and stress symptoms as well as COVID-19 related anxiety symptoms.

Mental health problems prevail in almost every culture around the world during the antenatal period. Based on the socio-cultural determinants, the global prevalence rate of antenatal depression ranging from 8-30% (Satyanarayana et al., 2011). The prevalence of antenatal depression and anxiety symptoms among Bangladeshi women were comparatively higher than that reported in other studies (i.e., among Belgian women [Ceulemans et al., 2020]). This higher may be attributed to the inadequate healthcare infrastructure and deficiency in access to the medical facility. The prevalence rate of COVID-19 related anxiety symptoms is also higher. The current situation is unusual and pregnant mothers have a higher prevalence rate of anxiety. Therefore, Bangladeshi pregnant women reported higher COVID-19 anxiety symptoms. The COVID-19 related anxiety is inducing extreme mental health vulnerabilities for pregnant individuals. The short-term psychological impact of COVID-19 related anxiety increased the associated mental health problems, i.e., stress, anxiety, depression, for this present study. COVID-19 related anxiety increases the perceived risk of getting infected with the virus for both self and infant (Holmes et al., 2020). Pregnant individuals with COVID-19 anxiety and the fear of getting infected of both baby and mother declining the likelihood of seeking medical help, increasing the number of natural deliveries at home significantly higher amidst the pandemic in Bangladesh (Need assessment working group Bangladesh, 2020).

Breastfeeding is stressful for new mothers on some occasions, and this stress gets acute during a pandemic outbreak (Benedict, 2020). The second category of the respondents for this present study is that breastfeeding mothers have reported a similar prevalence rate of mental health problems. Breastfeeding or the postnatal period also prevails with the higher psychological problems worldwide (Satyanarayana et al., 2011). In a case-control study, Zanardo et al. (2020) found higher prevalence of depression among mothers who gave birth during the pandemic. Frequently, previous stressful experiences and lower social support are positively correlated with breastfeeding mothers' psychological distress (Husain et al., 2006).

Results suggested non-significant mean differences in depression, anxiety, stress, and COVID-19 anxiety symptoms by pregnant women's demographic characteristics. There were similarly non-significant mean differences in mental health problems by demographic characteristics except occupation for breastfeeding mothers. Breastfeeding mothers, who were students, were in a more vulnerable state in this current pandemic. Almost all of them became a mother for the first time. Results about significant differences in depression scores between women who are mothers for the first time and who not being a mother for the first time are rendered support this result. After giving birth to a baby, now they are experiencing the current pandemic. They are uncertain about treatment facilities if they or their newborn baby gets sick or affected by COVID-19. Apart from that, students tend to use social media more than housewives, which might associate with aahigher prevalence of depression, anxiety, and stress symptoms. Unemployed and comparatively young with lower-income

groups tend to report higher psychological problems than the postnatal period (Matsushima &Horiguchi, 2020). Previous studies revealed that first-time mothers have the likelihood to develop higher postnatal depression than other mothers (Boyles, 2006), which is homogeneous with this present study's finding.

Limitations of the Study

This present study has several limitations. In the present study, data were collected utilizing the self-rating scales that might be subjected to social desirability bias. Moreover, data were collected through an online survey as face-to-face interview was impossible to conduct. Therefore, there some risks of judgment or false judgment. For an in-depth understanding of pre and postnatal depression and anxiety, it is imperative to collect information regarding the previous history, but this study lacks it.

Recommendations

During the COVID-19 pandemic, self and fetal well-being are equally crucial for pregnant women, so proper healthcare access must be ascertained. Both physical and mental healthcare should be ensured through professional medical support, which must reduce their COVID-19 related stress to some extent. During the lockdown, continuous support from partners will ease maternal mental health problems. COVID-19 has induced fear and uncertainty, which leads to negative emotional arousal for women in both antenatal and postnatal periods, so that an effective social support mechanism could help the vulnerabilities. Professional psychosocial teletherapy could ensure widespread help for pregnant and breastfeeding women.

CONCLUSION

The prevalence rate of stress, anxiety, and depression among pregnant and breastfeeding mothers in Bangladesh is significantly higher amid the COVID-19 pandemic outbreak. This study has also reported higher COVID-19 related anxiety among the participants at the same level due to the fear of being infected and limited healthcare access. Additionally, students have reported higher mental health problems than housewives and jobholders due to socioeconomic factors and financial independence.

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Conflict of Interest

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