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Psychological Stress among the Pregnant Women and Mothers of Infants during COVID-19 Pandemic in Bangladesh

BACKGROUND

The 2019 coronavirus disease (COVID-19) pandemic is a global health threat and is one of the largest outbreaks in recorded human history. Within weeks of the initial outbreak, the total number of cases and deaths exceeded those of SARS. The outbreak was first revealed in late December 2019 in China and since then, the number of cases has continued to escalate exponentially, spreading to 210 countries and 2 international conveyances. Till 18th April 2020, almost 2.5 million people were affected by COVID-19 and 152,978 people died worldwide (<https://www.worldometers.info/coronavirus/>). In Bangladesh, the total detected cases are 1838 with 75 deaths, according to the Institute of Epidemiology, Disease Control and Research (IEDCR).

Director-General of the World Health Organization, Dr. Tedros Adhanom Ghebreyesus mentioned that “The impact of the ongoing pandemic on people’s mental health is already extremely concerning.” So, a timely understanding of mental health status is urgently needed for public health policymakers and practitioners. Previous research revealed a profound and wide range of psychosocial impacts on people at the individual, community, and international levels during outbreaks of infection in 2003[1]. To avoid the transmission of the coronavirus, a worldwide lockdown has been declared at different times. With the closure of schools and

HIGHLIGHTS

- The terms “social distancing”, “quarantine”, and “isolation” were not well known by many respondents.
- The lockdown or a “general closure” policy had an economic impact on the households. Almost half of the respondents (49%) reported a loss in household income which affected their mental health.
- Almost 84% and 74% of pregnant women and mothers of infants respectively were found to be suffering from the severe psychosocial impact of stress.
- Almost 30% of the pregnant women reported that they can’t go for antenatal care while about 14% reported that they seek treatment over the phone.
- The scarcity of infant formula food in the market during the pandemic is a serious concern for mothers of infants. About 82% of mothers reported that they face problems in purchasing baby food, while 74% of mothers reported that they face problems in getting their children vaccinated due to pandemic.

business, negative emotions experienced by individuals worsened. Specific population groups, particularly those who are pregnant, are at a greater risk of COVID-related psychological stress. Pregnant and new mothers are more likely to be anxious due to difficulties in accessing health care services and social support, and the fear of getting infected by COVID-19. Pregnancy is already a stressful condition for women, their partners, and families. In addition to the common concerns about becoming a parent, many expectant mothers worry about their health during pregnancy and the health of their babies. Additional responsibilities like home-schooling and taking care of other family members also increase the burden of pregnant mothers [2]. Mothers of infants also face difficulties getting regular immunization for their child or going to the market to buy baby food and other essential products. Thus, for pregnant women and mothers of infants, managing stress is an important concern.

At present, there is no known information about the mental health impact, psychological burden/stress of COVID-19 pandemic on pregnant women and mothers with infants and this is especially relevant to the uncertainty surrounding an outbreak of such unparalleled magnitude. Though it's a physical health crisis, this pandemic now also influences mental health. Therefore, this study aims to identify the prevalence of psychological stress among pregnant women and mothers of infants.

METHODS

This study adopts a cross-sectional survey design to assess the immediate psychological stress of pregnant women during the epidemic of COVID-19 by using an online questionnaire. The convenience sampling strategy was followed to recruit pregnant women living in Bangladesh. There is a group in social media named “Pregnancy, Birth & Motherhood; BANGLADESH” with 81,291 female members. Among them, approximately 2500 women were found to be pregnant at the time of initiating the study. Initially, we informed all the group members about our survey with consent from the group administration. Then we circulated this questionnaire 2 times in 10 days targeting those 2500 pregnant women. Respondents had to complete the questionnaires in an online survey platform. We also collected data from pregnant women who seek health care from the Developing Midwives Project (DMP) of James P Grant School of Public Health, BRAC University at their Dhaka and Sylhet stations during March and April 2020. According to the DMP, almost 120 pregnant women seek health care services from Dhaka and Sylhet stations, thus we approached those mothers to participate in our study over mobile phones. Data was collected from them between 1st June-14th June 2020 over the phone maintaining proper ethical standards and respect for the interviewees. The online questionnaire circulated to the group of pregnant women and mothers were self-administered to include questions on socio-demographic data, knowledge, and concern about COVID-19 and psychological state of the respondents.

The psychological stress of pregnant mothers was measured by using the Pregnancy Stress Rating Scale (PSRS36) revised by Chen et al. in 2015. The 2015 revised version of the PRPS36 is a comprehensive measurement of prenatal stress that captures how deeply individuals felt stress in their daily lives in the past few weeks. It consisted of five dimensions, which contained 36 items in total. The response options for each item indicate various degrees of stress, from 0 (none) to 4 (very severe).

The psychological impact of the COVID-19 pandemic among mothers and pregnant women is measured by using the Impact of Event Scale-Revised (IES-R) which has been well-validated.

This 22-item questionnaire is composed of three subscales and aims to measure the mean avoidance, disturbance, and hyperarousal. The total IES-R score was grouped into 0–23 (normal), 24–32 (mild psychological impact), 33–36 (moderate psychological impact), and >37 (severe psychological impact).

FINDINGS

In total, 304 pregnant women and mothers of infants were contacted to complete 206 interviews yielding about a 68% response rate. Some respondents declined to participate in the study because they said that they are still in a crisis with no income whereas some pregnant women were not interested to share their information. Among 206 respondents, 137 are pregnant women and 69 are the mother of infants.

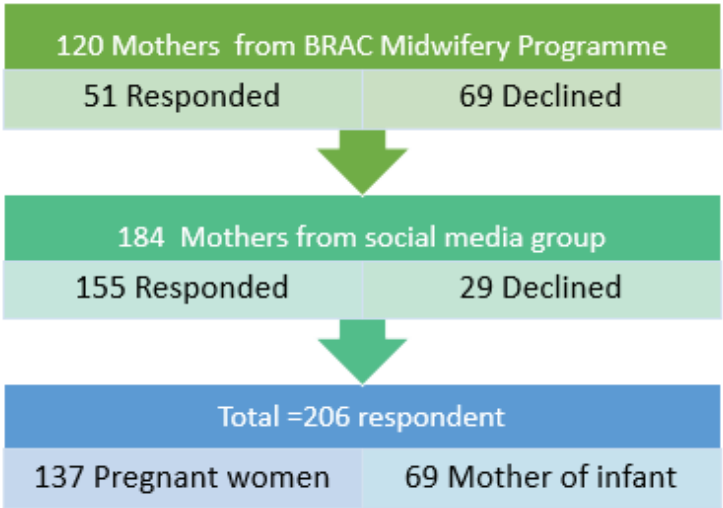


Figure -1: Details of response

SOCIO-ECONOMIC CHARACTERISTICS:

- The average age of the respondents was 24.49 years.
- 7% of respondents had no education while 38% completed graduation.
- Most of the respondents were housewives (74%) and a few were working mothers (15%). Some of the respondents (9%) were students.
- The type of family of the respondents was similar to the country's current transition family life, the highest percentage of mothers (62%) belong to nuclear families whereas 38% of mothers belong to extended families.
- Among the respondents, 66% were currently pregnant or have given birth within the last 30 days. Among the pregnant mothers, 45% were in the 3rd trimester, 19% were in the 2nd trimester, 2% were in the 1st trimester
- The pregnant mothers require frequent visits to doctors and minimum 4 antenatal check-ups. The study found 30% of the respondents faced difficulties in consulting with the doctor about their pregnancy issues since the starting of this pandemic, and only 17% reported that they sought consultation through mobile phone and social media.

KNOWLEDGE OF INFECTION, SYMPTOMS, AND PREVENTIVE MEASURES

Since knowing the COVID-19 symptoms and prevention of the infection is an important factor to be taken care in this pandemic,

this study found that 83% of the respondents knew that fever was a symptom of coronavirus infection, 68% agreed that dry cough was one of the symptoms, 51% knew about the shortness of breath, 56% thought that sore throat was the symptom of coronavirus infection, 45% thought that runny nose was also a symptom, while 31% knew about diarrhea being a symptom of this disease (Figure-2).

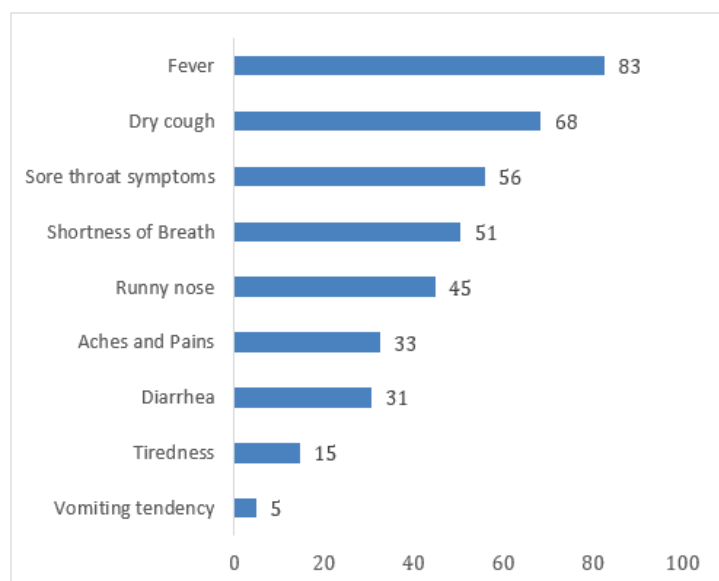


Figure 2: Respondents knowledge on the Symptoms of Coronavirus

Knowledge about social distance, quarantine, and isolation reflected a significant result whether the respondents had clear knowledge about these terms. Among the mothers, 23% of them did not know anything about social distancing and 63% of them had no clear understanding of quarantine. The ignorance is even higher in case of understanding the term isolation, 54% of the mothers had no clear idea about what it is.

However, regarding the prevention of COVID-19, 92% of the respondents knew that washing hands help to prevent getting infected, 79% of them knew that wearing face masks help to prevent catching the infection, 51% understood that not touching eyes, nose, and face with unwashed hands help to avoid getting infected by the novel coronavirus, and 44% of the mothers thought that drinking hot water helped to prevent from the infection. Alarmingly, 12% of mothers thought that taking antibiotics helped to prevent getting ill from COVID-19 (Figure-3).

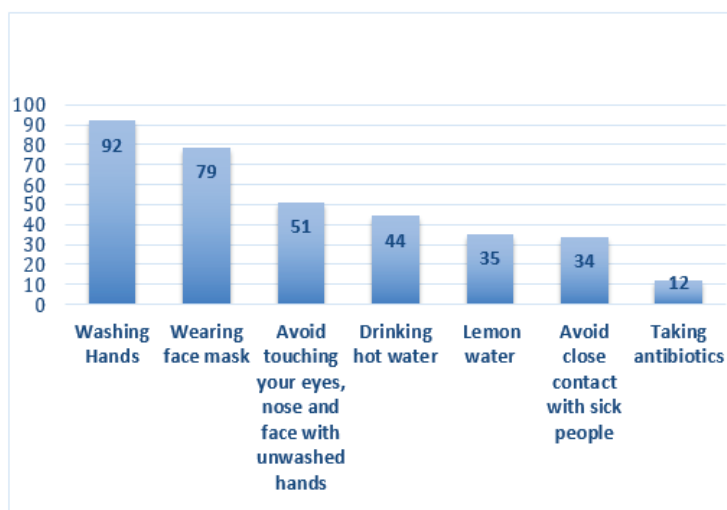


Figure - 3 Respondents Knowledge on COVID-19 prevention

PSYCHOLOGICAL STRESS OF PREGNANT WOMEN:

Mothers have been facing severe stress regarding taking care of baby properly during this pandemic with limited family support. In case of delivery related issues, i.e. availability of doctors, nurses as well as hospitals, 20% of the mothers feel extremely worried, while 42% of them were quite a bit stressed (Figure-4). While on the overall scale, about 80% of the pregnant women reported that they were suffering from severe psychological stress

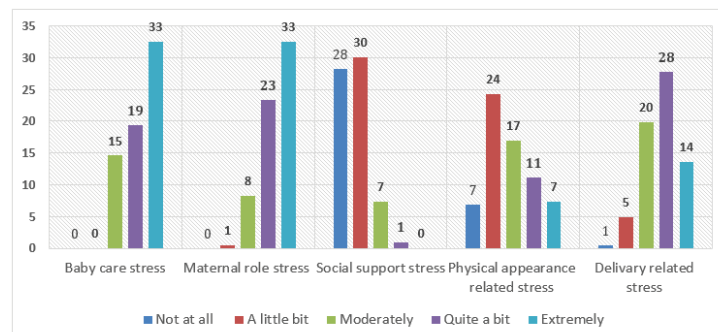


Figure 4: Psychological stress of pregnant mother by PSRS domain

Figure 5 shows that the PSRS score increases with the loss of income due to COVID-19. It depicts that the highest stress level was among the pregnant women whose family income has become almost half and the stress level was slightly lower for the mothers whose household income has decreased a little bit due to the COVID-19 crisis.

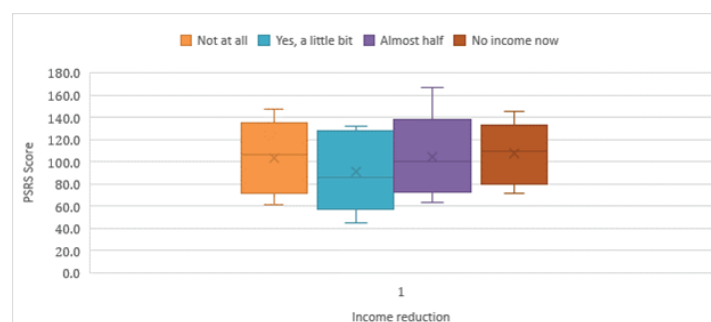


Figure 5 : PSRS score by income reduction

THE PSYCHOLOGICAL IMPACT OF COVID-19 ON MOTHER

Mothers of infants also struggle with their babies since pandemic has increased the scarcity of food and 82% of mothers reported that they face problems in purchasing baby food, while 74% of

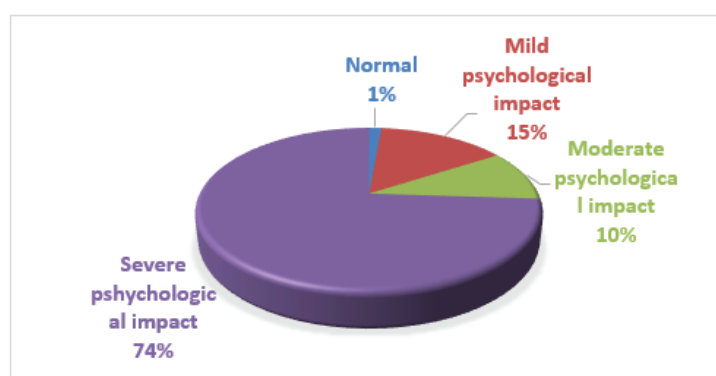


Figure 6: Psychological stress of mother of infants

mothers reported that they face problems in getting their child vaccinated due to the pandemic. The psychological impact of COVID-19 on mothers of infants was measured by IES-R and it was found that alarmingly, 74% of respondents reported for severe psychological impact, while 10% reported for moderate psychological impact (Figure-6).

DISCUSSION:

The COVID-19 pandemic affects almost every aspect of life and plausibly adds further stress and may cause more anxiety among pregnant women and new mothers. It is already reported in many studies that prenatal stress has a negative effect on child health [3]. This study also found that the rate is high at this period. More than half of the pregnant respondents reported having a severe psychological impact on their life because of this pandemic. This includes the stress of being unable to consult with the doctors, not getting treatment during the emergency, delivery stress, social support, maternal role in this pandemic, decreased household income, child health, and child care after birth. Likewise, knowing the COVID-19 symptoms and prevention of the infection is also another major focus of this study.

Prenatal, antenatal, and postnatal check-ups are important for the survival and well-being of both the mother and the neonate during and after pregnancy, which is why mothers seek doctor's consultancy frequently. Due to the transmission of COVID-19, most of the women and mothers are not able to consult with the doctors during emergencies, which puts an extra burden on them. Our study found that 30% of the women cannot access the doctors for their regular check-ups while only 17% are familiar with the treatment over mobile phones. Improved telemedicine care might help in the betterment of this situation soon.

This pandemic has an adverse impact on our socio-economic status as people are losing their source of income and the decline in the income level directly affects the mental health of pregnant women. Our study finds the highest level of stress among pregnant women whose family income has become around half during this pandemic. Also, a huge number of mothers are facing problems in purchasing baby food and vaccinating (respectively 82% and 74%) their newborn children on time for this lockdown and pandemic.

The most effective and available option to prevent getting infected is to have proper knowledge about the symptoms and ways to prevent this disease while practicing accordingly. Our study finds that most of the pregnant women are aware of fever being one of the common symptoms of Covid-19. However, a significant number of the respondents are not familiar with the term quarantine which is an alarming issue. Mass media awareness with a clear explanation of this term might help in improving this situation.

RECOMMENDATION

- From the findings of the study, it is clearly shown that a large number of mothers did not have an idea about social distancing, quarantine, and isolation, and also about symptoms of COVID-19. The government should deliver clear messages about COVID-19 symptoms and preventive measures through mass media. At the same time, a comprehensive guideline is necessary for pregnant women since they suffer most.

- Telemedicine services should expand to reach pregnant mothers and separate wings for pregnant women in hospitals should be considered. Besides, the midwives can also provide door to door services after proper training and taking appropriate safety measures. Also, the government can initiate a safety-net program for pregnant women whose income has significantly decreased.
- Moreover, traders seized the opportunity of the baby food scarcity during this pandemic and hiked the prices, which made it difficult for many mothers to buy them. The government should intervene to ensure the supply of baby foods at affordable prices.
- Door-to-door provision of immunization services may be introduced during this pandemic to ensure the proper vaccine dosage of the children.
- Mental health services should be provided remotely with special focus on pregnant women and mothers of infants.

REFERENCE:

- Hall, R.C.W., R.C.W. Hall, and M.J. Chapman, The 1995 Kikwit Ebola outbreak: lessons hospitals and physicians can apply to future viral epidemics. *General Hospital Psychiatry*, 2008. 30(5): p.446-452.
- World Health Organization, 2020.
- Lobel M. Conceptualizations, measurement, and effects of prenatal maternal stress on birth outcomes. *J Behav Med* 1994; 17: 225–72

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