Anxiety related to COVID-19 among Pregnant Women Visiting a Tertiary Hospital: A Descriptive Cross-sectional Study

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ABSTRACT

Background: The ongoing COVID-19 pandemic affected nearly all the people around the globe including Nepal. The increasing number of COVID-19 infections and related mortality has caused excessive worries and concerns among pregnant women. The profound stress and anxiety in pregnancy have significant relation with mental disorders, emotional problems as well as obstetric complications including preeclampsia, preterm deliveries, intrauterine growth restriction, low birth weight, caesarean birth, etc. The objective of this study was to find out the anxiety related to COVID-19 among pregnant women.

Methods: A descriptive cross-sectional study was conducted among pregnant women attending a tertiary hospital in Kathmandu, Nepal. A total of 338 pregnant women were face-to-face interviewed using a structured questionnaire. Anxiety related to COVID-19 was measured using a validated Nepali version of the Beck Anxiety Inventory. The data were analyzed using Statistical Package for the Social Sciences (SPSS) version 18.

Results: The anxiety related to COVID-19 was found in 52.1% of pregnant women. The majority of the pregnant women (79.54%) had minimal anxiety whereas none of them had severe form of anxiety. The anxiety was higher (including much, very much) in regards to the health of the fetus and delivery of the baby.

Conclusions: Although the study showed the prevalence of anxiety in majority of the pregnant women, the level of anxiety was not intense as compared to the studies done in other countries.

Keywords: anxiety; COVID-19, pregnant women.

INTRODUCTION

The COVID-19 has affected almost every nation across the globe. While few countries seem to overcome the battle and have managed to lower the infection curve, other countries are experiencing secondary spikes.[1]

Pregnant women are more at risk of psychological disturbance, as pregnancy is physiologically and emotionally challenging. In times of pandemics like COVID-19, pregnancy related anxiety including elevated level of worry, symptoms of panic, fear of childbirth, and excessive worries about the baby has paramount.[2,3]

Adverse maternal mental health is associated with short term and long term impacts on both mother and child.[4] Anxiety in pregnancy results in the loss of fetus, decreased birth weight ,and emotional and behavioral problems in later infant life.[5] Women with high anxiety are less likely to plan prenatally to breastfeed which may affect the health and general well-being of infants born to them.[6] Similarly, antenatal anxiety has been consistently found to predispose postpartum psychosis and postpartum depression.[7] There are limited studies in our setting that address the anxiety in pregnant women related to COVID-19. Hence, it is very important to recognize the mental health status of pregnant women during this period of the pandemic so that necessary psychosocial counselling and support can be initiated to improve the mental wellbeing of pregnant women. The objective of the study was to find out the anxiety related to COVID-19

MATERIALS AND METHODS

A cross-sectional study was conducted in an Antenatal outpatient clinic of Paropakar Maternity and Women's Hospital, a tertiary level referral hospital located in Kathmandu, Nepal. The data was collected from January 3 to February 5, 2021. A total of 338 pregnant women were interviewed face to face. Data collection was started after the approval of ethical clearance from the Institutional Review Committee of Paropakar Maternity and Women's Hospital.

A convenient sampling technique was used to collect the data. Those who were willing to participate and without any obstetric complications and psychiatric disorders were included in the study. Data were collected by maintaining physical distance and using appropriate personal protective equipment. Written informed consent were obtained from each pregnant woman.

The sample size was calculated by using prevalence formula [$n = Z^2 \times (p \times q) / e^2$];
where, n= required sample size; p= prevalence of anxiety among pregnant women (50% unbiased sampling); e= margin of error (taken as 5%) and Z= 1.96 at 95 % CI

Adjusted Sample size is calculated by using another formula [$n = N * n)/ (n + N-1)$]
Therefore, the final sample size for data collection was 338.

The study instrument consisted of three parts. Part I comprised of socio-demographic and obstetric characteristics. Part II contained anxiety related to COVID-19 reflecting different areas of concern like economic damage, being infected with COVID-19, family infected with COVID-19, being in public places, using public transportation, health of fetus and delivery of baby, which was adopted from the previous study.[8] Anxiety related to COVID-19 was measured by standard Nepali version of Beck Anxiety Inventory which was included in Part III of the instrument.[9] The Beck Anxiety Inventory contained 21 items. The pregnant women were asked how much each symptom bothered her. The symptoms were rated on a four-point scale, ranging from ''not at all'' (0) to ''severely'' (3). The total score was categorized as No anxiety for overall score 0, Minimal anxiety for score 1 to 8, Mild anxiety for 9 to 12, Moderate anxiety for 13-20 and severe anxiety for score 21-63.[10] The data were entered and coded in Microsoft Excel and analyzed in SPSS version 18. Descriptive statistics (frequency, percent, mean and standard deviation) were used to analyze the data.

RESULTS

A total of 338 pregnant women were interviewed. The mean age group was 25.48±4.37 years. Among 338 pregnant women, the majority (42.0%) belonged to the age group 20-24 years. More than half of the pregnant women (55.9%)

Table 1. Socio-demographic characteristics of pregnant women. n=338		
Characteristics	Number	Percentage
Age		
15-19	17	5.0
20-24	142	42.0
25-29	114	33.7
30-34	55	16.3
35-39	10	3.0
Ethnicity		
Dalit	29	8.6
Janjati	189	55.9
Madhesi	15	4.4
Muslim	3	0.9
Brahmin/Chhetri	98	29.0
Others	4	1.2
Education Status		
No Education	26	7.7
Primary Education	49	14.5
Secondary Education	45	13.3
College Level	218	64.5
Parity		
Primiparous	177	52.4
Multiparous	161	47.6
Period of Gestation		
First Trimester	5	1.5
Second Trimester	75	22.2
Third Trimester	258	76.3
Type of Family		
Single	178	52.7
Joint	160	47.3

were from Janjati ethnicity. Most of the pregnant women (64.5%) had an educational level of Secondary education examination (SEE) and

above. About 52% of the pregnant women were primigravida and maximum of them (76.3%) were in the third trimester. In regards to the type of family, a greater number of pregnant women (52.7%) belonged to a single family than joint one (Table 1).

According to Beck Anxiety Inventory, the anxiety was prevalent in 52.1% of the pregnant women. The majority of the pregnant women had a minimal level of anxiety (79.54%) whereas only 3.42% of them had a moderate level of anxiety.

None of the pregnant women reported a severe level of anxiety (Table 2).

In regards to various areas of concerns, the pregnant women reported a lower level of anxiety (included very little and little) in all eight's items. The highest cause of anxiety was concerns related to the health of the fetus (28.99%) followed by delivery of the baby (28.73%). The anxiety related to going for pregnancy check-ups, using public vehicles and being in public places accounted one fourth in pregnant women (27.81%, 27.52% and 27.31% respectively). The anxiety related to economic damage caused by COVID-19 was lowest among all the items (21.89%) (Table 3).

Table 2. Anxiety related to COVID-19 as measured by Beck Anxiety Inventory.		
	Number	Percentage
No Anxiety	162	47.9
Anxiety	176	52.1
Minimal	140	79.54
Mild	30	17.04
Moderate	6	3.42

DISCUSSION

This study is a cross-sectional study done in an antenatal outpatient clinic of a tertiary hospital at Kathmandu to find out the anxiety related to COVID-19 among pregnant women using Beck Anxiety Inventory. Majority (52.1%) of the pregnant women had anxiety related to COVID-19. A minimal anxiety was seen in 79.54% whereas mild and moderate level of anxiety was seen in 17.04% and 3.42% respectively. A similar study was conducted in Nepal where 91.57% of the pregnant women reported mild anxiety, 7.69% had mild to moderate anxiety, and moderate to severe anxiety was found in 0.73%.[11]

The findings of the present study are not dramatically high as compared to the studies done in other countries. A study conducted in Iran revealed that 56.1% of participants were normal and 43.9% of them had symptoms of anxiety.[12] In the USA, 35.6% of the pregnant women had mild anxiety which is twice higher than the present study and 21.7% of the women had a severe levels of anxiety which was not reported in any women in the current study.[13]

Table 3: **COVID-19 related anxiety among pregnant women.**

	Very little		Little		Moderately		Much		Very much	
	N	%	N	%	N	%	N	%	N	%
Economic damage	116	34.32	39	11.54	109	32.25	62	18.34	12	3.55
Being infected by COVID-19	91	26.92	41	12.13	116	34.32	78	23.08	12	3.55
Family infected by COVID-19	90	26.92	40	11.83	118	34.91	78	23.08	12	3.55
Being in public place	91	26.63	40	11.83	115	34.02	81	23.96	11	3.25
Using public transportation	89	26.33	41	12.13	115	34.02	83	24.56	10	2.96
Going for pregnancy check ups	88	26.04	40	11.83	116	34.32	84	24.85	10	2.96
Health of fetus	89	26.33	43	12.72	108	31.95	89	26.33	9	2.66
Delivery of baby	89	26.33	42	12.43	110	32.54	87	25.74	10	2.99

Although the anxiety levels were significantly lower among pregnant women in current study in compare to other countries, most of the other studies conducted in general population in Nepal are in line with the findings of the present study.[14,15]

In the present study, the health of the unborn child was one of the major concerns of pregnant women. This is in line with the study done in Ireland where pregnant women had maximum worries about their unborn child.[16] Similarly, more anxiety symptoms related to the life of the baby was also depicted in Canadian pregnant women.[17]

The least area of concern among pregnant women was related to economic damage where only 21.89% of them reported anxiety on the higher side. These findings contradict the study conducted among American pregnant women where more than half 63.7% reported increased stress about losing a household income.[18]

In the current study, 26.63% of the women had greater worries about contracting the infection (including much and very much). A study conducted in India revealed that 40% of the pregnant women had often excessive anxieties about getting the COVID-19 infection.[19] Going for pregnancy check-ups, using public vehicles and going in public places were found to be of least concern in this study accounting nearly 27% in all items. Contradictorily, a study conducted in Israel showed the highest anxiety levels in regards to being in public places and using public transportation which were 87.5% and 70%, respectively[8].

CONCLUSIONS

Although the study showed the prevalence of anxiety in the majority of the pregnant women, the level of the anxiety is not intense. Most of the pregnant women reported minimal anxiety. Very few of them had moderate anxiety whereas severe anxiety was not reported by any pregnant women. As COVID-19 is a public health issue, further research is required to evaluate the mental health of the pregnant women.

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