

Knowledge, attitude and practice towards COVID-19 among pregnant women in a tertiary hospital in Pokhara, Nepal

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ABSTRACT

Introduction: The study was done to find out the knowledge, attitude, and practice of pregnant women towards COVID-19 in tertiary hospital of Pokhara, Nepal. **Methods:** A descriptive cross-sectional study was carried out among 385 pregnant women attending antenatal clinics of Gandaki Medical College starting from May 2021 to July 2021, by using self-administered questionnaire. The data was analyzed using statistical package for the social sciences version 21.0 and descriptive statistics were computed. **Results:** More than four-fifths respondents were aware about COVID-19. Half of them thought it transmits via human touch. One-fourth of them mentioned that delivery at the hospital during COVID-19 pandemic was unsafe. Almost half of them regretted conceiving, among which one quarter thought of aborting their fetus, half of them were against breastfeeding, and three-fourth had regular antenatal care checkups. Majority of them took precautions to stay safe, where half of them responded that they would not breast feed baby if they got infected. **Conclusions:** Majority of the study population have good knowledge, attitude, and practice of COVID-19 disease. However, it is worrisome that some respondents thought of terminating her pregnancy, and some were unable to visit the hospital for routine antenatal care checkups and didn't have proper knowledge about breastfeeding their child. Proper education must be given to the population to avert these negative attitudes while promoting a positive preventive attitude.

Keywords: Attitude, COVID-19, knowledge, practice.

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INTRODUCTION

The coronavirus (COVID-19) infection is a unique, infectious disease caused by novel coronavirus-2 (SARS-CoV-2). The outbreak first occurred in Wuhan, China in December 2019.¹ COVID-19 is still a public health problem of global concern.² The number is expected to increase with lots of consequences if immediate action is not taken. Accordingly, patients infected with COVID-19 would experience conditions ranging from a common cold to severe acute respiratory failure.³ The cure for COVID-19 remains elusive, but tremendous efforts have been made by scientists towards the development of drugs or vaccines for its curtailment.⁴ Currently, therapeutic management is mainly supportive with great emphasis being placed on the prevention of transmission of the virus.² Everybody is at risk of becoming infected; however, an immunocompromised state, as seen in pregnancy with its physiological changes, could predispose a pregnant woman to increased risk of SARS-CoV-2 infection.⁵ The cytokine storm that occurs in COVID-19 infection is likely to predispose a pregnant woman with COVID-19 to increased morbidity and even mortality. Vertical transmission of the virus is yet to be confirmed.⁶ Till date, there is no evidence of fetomaternal transmission of the disease.⁷

During pregnancy, women are extremely apprehensive and anxious about their progress.⁸ Fear and anxiety associated with infection could lead to increased demand for abortion and operative deliveries.⁶ With the above background, it becomes imperative that great efforts should be made to prevent pregnant women and their fetuses from the scourge of COVID-19. WHO has recommended a series of preventive measures to halt the spread of the disease which to some extent has been adopted by the government. These measures' success is mainly dependent on the population having a good knowledge of them.⁶

Adherence to preventive measures by the people is crucial for the control of spread, which is mainly affected by their knowledge, attitudes, and practices (KAP) toward COVID-19.⁹ Moreover, knowledge and attitude can play critical roles in the prevention of infectious diseases.¹⁰ This can only be achieved if a woman is knowledgeable about how to prevent contracting the virus and its transmission to her family and others.² The objective of the study was to find the knowledge, attitude and practice towards COVID-19 among pregnant women in Gandaki Medical College, Pokhara.

METHODS

A descriptive cross-sectional study was conducted in the Department of Obstetrics and Gynecology, Gandaki Medical College and Teaching Hospital, Pokhara, Nepal. The research was conducted at Department of Obstetrics and Gynecology, Gandaki Medical College and Teaching Hospital, Pokhara, Nepal. The duration of data collection was three months. This hospital has maximum number of the tertiary health care services. The department has the facilities and provided the support needed for this research. The principal investigator conducted the study while pursuing her residency in Gandaki Medical College and was involved in all steps from the start till the end. The total numbers of sample size was 385. The sampling method used was convenience sampling. It nearly took three months of time period to complete the data collection procedure. The ethical clearance letter was obtained from GMC Institutional Review Committee (Reference number 93/77/78). Informed consent was obtained from each respondents before data collection. All pregnant women' visiting the outpatient department, giving the consent was taken for the study. Pregnant women who were in labor and those who refused to give consent were excluded. Self-administered questionnaire was prepared. They were interviewed by resident doctors in the Department of Obstetrics and Gynecology who were trained to administer the questionnaires. The answers were filled up in the self-

administered questionnaire form.

The procedure of pretesting was conducted in OPD ward of Obstetrics and gynecology department at Western Regional hospital among 10 respondents which is almost 2%. After pretesting, the necessary modifications were done in the tool. Validity: a) Questionnaire translation into nepali was made to avoid wrong interpretation. b) Same day verification of questionnaire was done for completeness and consistency.

Reliability: Participants were clearly informed about the purpose of the study to minimize information bias.

Dependent variables included age, occupation, religion, gestational age, number of children, trimester. Independent variables included modes of transmission, clinical symptoms, treatment, risk groups, isolation, prevention and control. Variables were age, occupation, religion, and gestational age, number of children, modes of transmission, clinical symptoms, treatment, risk groups, isolation, prevention, and control. Face masks were provided to the study population during the process of data collection, and each of the researchers wore a face mask. Total 30 questions were provided with multiple options. Participants were allowed to choose multiple options and if they chose multiple options analysis of data was done with consideration of response frequency. Microsoft excel was used to enter data and statistical package for the social sciences (SPSS) version 21.0 was used for analysis. Descriptive statistics, especially frequency and percentage were used to find the status of the knowledge, attitude and practices.

RESULTS

Total 385 participants were enrolled in the study. The distribution of age group comprised reproductive aged women ranging between 16 to 40 years. Maximum respondents were between the age group of 30 to 35 years. Total of 328(85%) participants studied higher secondary and above higher secondary. The occupation of mothers comprised 271(70%) housewife. Total of 303(79%) follow hinduism. Almost 40% were on their first trimester, like the same percentage on the second trimester and the remaining 20% on the third trimester (Table 1).

Table 1: Socio-demographic characteristics of the study population

Variables	Frequency(N=385)	Percentage (%)
Level of Education		
Literate	21	5.5
Lower Secondary	36	9.4
Higher Secondary	170	44.2

Above Higher Secondary	158	41.0
Religion		
Hinduism	303	78.7
Buddhism	45	11.7
Christianity	28	11.9
Others	10	2.6
Occupation		
Housewife	271	70.4
Civil Servant	34	8.8
Public Servant	31	8.1
Businesswoman	49	12.7

Total of 313(81.3%) were aware of what COVID-19 was, 10.6 are somewhat familiar, and the rest 8.1% were still unaware of what COVID-19 was. Around 65% heard from television (TV), radio, 35.3% heard from newspaper, internet, 13% heard via friends and 11.4% heard from health personnel. Almost 72.5% thought it transmits via human touch, 4.7% thought it transmits via animals, 32.5% thought it transmits via air, and only 2.6% thought it transmits via water. Almost 78.4% thought that symptoms can be common cold and fever, while 9.9% and 33% think that symptoms can be diarrhea and headache respectively. Likewise, 72.2% were somewhat aware of the treatment of COVID-19, 16.1% were clear on the treatment, and 11.7% were still unaware of how it's treated (Table 2).

Table 2: Knowledge of pregnant women regarding COVID-19

Variables	Frequency(N=385)	Percentage (%)
Heard about COVID-19		
Yes	313	81.3
Somewhat	41	10.6
No	31	8.1
Sources of Information		
TV, radio	251	65.2
Newspaper, internet	136	35.3
Friends	50	13
Health personnels	44	11.4
Mode of transmission		
Air	125	32.5
Water	10	2.6
Human touch	279	72.5
Animals	18	4.7
Symptoms of COVID-19		
Common Cold/Flu	302	78.4
Cough/fever	244	63.4
Headache	127	33.0
Diarrhoea	38	9.9
Treatment of COVID-19		
Somewhat	278	72.2
Clear	62	16.1
No idea	45	11.7

About 43% had no idea that COVID-19 can transmit from mother to fetus while 31% thought that it could transmit to fetus also and 24% said that there was no transmission to the fetus. About 57.9% participants did not regret at all,

32.2% were the participants who somehow regretted, and 9.9% extremely regretted to have conceived at this period of the pandemic. 17.4% thought about aborting during this pandemic. Almost 82.6% never had a thought about it. 86.8% expressed they wouldn't be safe if exposed in the crowd, 9.4% still thought it was safer to be in the crowd and remaining 3.9% didn't know if it was safe or not. In total, 62.6% didn't think it was safer for pregnant women to be treated at home, 20.6% thought it was safer for them to be treated at home, and 17.1% were still unaware. Almost 46.5% participants are somewhat satisfied, 45.5% were satisfied, 4.9% were not satisfied and 3.1% were not at all satisfied. About 88.8% said it was necessary to provide health education to mothers, 8.8% did not think it was necessary and 2.3% didn't know what to do. Likewise, 40% participants thought delivery in the hospital was safer, whereas 26.5% didn't think it was safe and rest 33.5% didn't know if it was safer or not (Table 3).

Table 3: Attitude of pregnant women regarding COVID-19

Variables	Frequency (N=385)	Percentage (%)
Regret of Conceiving during Pandemic		
Somewhat	124	32.2
More	38	9.9
No	223	57.9
Intuition of abortion during pandemic		
Yes	67	17.4
No	318	82.6
Pregnant women safer when exposed to crowd		
Yes	36	9.4
No	334	86.8
Don't Know	15	15
Treating pregnant women at home		
Yes	78	20.3
No	241	62.6
Don't Know	66	17.1
Necessity of Health education to women		
Yes	342	88.8
No	34	8.8
Don't Know	9	2.3
Satisfied with the precautions taken		
Somewhat	179	46.5
Satisfied	175	45.5
No	19	4.9
Not at all	12	3.1
Is Delivery in the hospital safe		
Yes	154	40.0
No	102	26.5
Don't Know	129	33.5

Around 47.5% said she won't breastfeed if she got infected, 20% said she would and 31.9% were still unaware of it. Almost 86.5% washed their hands regularly, 8.3% washed their hands sometimes, and 5.2% didn't wash hand frequently. In total, 38.7% did not have to go to crowd. Around 51.9% had to be in the crowd sometimes. 9.4%

had been regularly exposed to crowd.

Around 72.7% said their different behavior in people for conceiving during the COVID-19 pandemic, while 18.7% said there was somewhat difference in people’s behavior and 8.6% said there was totally different behavior after she conceived. About 53.2% always maintained the social distance during corona pandemic, 41.8% couldn’t maintain social distance and 4.9% did not maintain at all. Altogether, 81.6% regularly visited whereas 18.4% weren’t regular for the antenatal visit. 89.9% were consuming additional balanced diet where as 10.1% didn’t (Table 4).

Table 4: Practice of pregnant women regarding COVID-19

Variables	Frequency (N=385)	Percentage (%)
Precautions taken to stay safe		
Wearing mask	102	26.5
Wash hand frequently by soap	130	33.8
Maintaining social distance	116	30.1
Don't go to crowd	151	39.2
Breastfeed child after being infected with COVID-19		
Yes	79	20.5
No	183	47.5
Don't Know	123	32
Use of masks		
No	20	5.2
Sometimes	32	8.3
Regularly	333	86.5
Maintenance of social distance		
Yes, Always	205	53.2
Sometimes	161	41.8
No	19	4.9
Frequent handwashing		
No	20	5.2
Sometimes	32	8.3
Regularly	333	86.5
Exposed in crowd		
No	149	38.7
Sometimes	200	51.9
Regularly	36	9.4
Regular Antenatal Check up		
Yes	314	81.6
No	71	18.4
Additional balanced diet to fight COVID-19		
Yes	346	89.9
No	39	10.1

DISCUSSION

COVID-19 infection is still a public health problem in Nepal, adequate knowledge among the population is essential for its effective management. It has been demonstrated that adequate knowledge is a prerequisite for the establishment of preventive belief, forming a positive attitude, and promoting of positive practice to disease.¹¹ Although the influence of COVID-19 infection in pregnancy is yet to be fully established, the distinctive immunological

suppression during pregnancy may cause a detrimental effect on maternal and perinatal outcomes. Little is known regarding the current awareness for COVID-19 among pregnant women.¹² Like few KAP surveys conducted in India and other parts of the globe, our survey also revealed adequate levels of KAP, and good practices to prevent the spread of COVID-19 infection,¹³ except few concepts where awareness is required.

In two studies done in China and Europe, participants were more apprehensive regarding the transmission of the infection to the fetus (feto–maternal transmission) and its effect on the newborn, the safety of breastfeeding practices if infected with COVID-19, and the increased risk of abortion during this COVID-19 pandemic^{14 15} which is similar in this study. In this study, 41% of participants were qualified above the higher secondary level which is satisfactory for better maternal and child health. Most of the participants are housewives; very few are engaged in civil, public jobs, and business. About 18% of participants were still unaware of COVID-19 which requires immediate concern for the reason lagging behind. Almost 65% were aware about COVID-19 via television and radio. Likewise, the health personnel and friends also played a vital role in awareness of two-third participants which is acknowledgeable.

From this study, it showed that the participants were clear of how corona virus transmits. Most of the participants thought coronavirus transmits via air and human touch. However some of them still thought transmits via water and animals along with the minority being unaware of any of the symptoms.¹⁶ According to some studies, virus could be transmitted from human to human by droplets and contact.¹⁷ Several reports have suggested that symptomatic people are the most frequent source of COVID-19 spread. It primarily spreads between people through respiratory droplets by coughing or sneezing from an infected individual.⁷ Moreover, there are suggestions that individuals who remain asymptomatic could transmit the virus.⁵ The concerned authority should be focused on giving adequate knowledge about transmission so that people can take proper of participants were still unaware that COVID-19 can be asymptomatic, which prioritizes the need for the lacking awareness. But participants were aware of the symptoms of COVID-19. Around 78% of them said common cold and fever as main symptoms. In this study, 32% participants somewhat regretted to have conceived at this period of the pandemic, 9.9% completely regretted conceiving. About 17% of the participants had their intuition about abortion. There are findings that mothers are worried about catching the virus, transmitting it to their newborn and keeping

their child safe during infancy. It seems unlikely, however, that a developing fetus can get COVID-19 from its infected mother.¹⁸ COVID-19 needs a receptor molecule to cause infection. A recent study suggests the placenta contains very low levels of the molecules needed to create the receptor. This finding may explain why the virus is rarely found in newborns with COVID-19-positive mothers.¹⁸ To make stress tolerable, adequate social support, access to supportive resources and economic stability and knowledge about feto-maternal transmission are necessary. The level of awareness and health services delivered. Health propaganda equally plays a role in misconception and the way participants were feeling regarding conceiving and aborting.

Few participants were unaware if it's okay to be in a crowd likewise 9.4% were completely okay being in the crowd, 86% were clear on social distancing. Guidelines recommend at least six feet away from others outside your household.¹⁹ Half of the participants were socially distancing strictly and the remaining were not. They should have been educated about social distancing also. One-fourth wanted their services to be delivered at home whereas more than half wanted to visit on their own for services, few were still unaware. Around 40% of participants were okay delivering at a hospital, 26% wanted to deliver at home if the provision provided. Delivering a baby is always safest under the care of trained healthcare professionals.¹⁹ Therefore, local authorities should take responsibility to promote about the safety of both mother and child and provide the access towards safe Delivery under the supervision of healthcare professionals during their antenatal care (ANC) checkup on advance. About one-tenth of the population still think health education is not important for women. Almost 45.5% of the participants were satisfied with the precautions taken by them, whereas half of them were somewhat satisfied except a few who were not satisfied at all.

Around one-fourth (26%) of participants were treated with different behavior after conceiving during the COVID-19 pandemic. Prenatal anxiety, which may affect pregnancy outcomes, should be considered carefully.²⁰ Social stigma also should be reduced at the community level for the betterment of both maternal and fetal health.

Total of 47.5% said they won't breastfed their child if she gets infected with COVID-19, 31.9% were not aware of the role of breast milk in the transmission of COVID-19. Probably, this might be due to inadequate information circulated through various sources as seen in similar study.²¹ Current evidence suggests that breast milk is not likely to spread the virus to babies.¹⁹ They should be made

aware that Breast milk provides protection against many illnesses and is the best source of nutrition for most babies. Although four-fifth were aware of COVID-19, only one-third were taking precautions to stay safe, and one-seventh still don't use any precaution on a regular basis. This also highlights carelessness from the participants. Besides the hand washing, wearing a mask is practiced regularly by almost six-seventh participants like similar study.²² They should be taught to wash their hands with soap and water for at least 20 seconds. If soap and water are not available, use a hand sanitizer with at least 60% alcohol.¹⁹ Total of 18.5% participants were not able to visit for regular ANC checkups. Almost nine-tenth of the participants was able to afford additional diets whereas one-tenth was not able to afford additional diets during this period of the pandemic.

CONCLUSIONS

Majority of the study population has good knowledge, attitude, and practice of COVID-19 disease. However, it is worrisome that some respondents thought of terminating her pregnancy, and some were unable to visit the hospital for routine ANC checkup and didn't have knowledge about breastfeeding their child. Proper education must be given to the population to avert these negative attitudes while promoting a positive preventive attitude.

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