

A Survey among Lactating Mothers Regarding COVID-19 Awareness Attending in A Tertiary Level Hospital

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ABSTRACT

Background : Coronavirus Disease 19 (COVID-19) is a novel coronavirus infection that has a wide spectrum of disease severity. The COVID-19 pandemic has posed several challenges to breastfeeding mothers. Prevention of COVID-19 transmission to newborns is one of the basic components of perinatal care in the era of the COVID-19 pandemic. Among many queries during pregnancy, to breastfeed or not is an important question that needs to be answered. This survey was conducted to assess the awareness towards COVID-19 including breastfeeding practices among lactating mothers during the COVID-19 pandemic.

Materials and methods : This cross-sectional survey was conducted among lactating mothers whose baby was admitted in paediatric ward of Southern Medical College Hospital, Chattogram. The survey was conducted from July 2021 to November 2021. A total of 295 participants completed the survey.

Results : Most of the participants (75.6%) reported close personal contact is the main route of COVID-19 transmission and 92.5% reported fever and cough is the common symptoms of COVID-19. Before breastfeeding maximum mothers (91.5%) sanitized their hand, but 57.2% mothers are reluctant to wear face mask. Only 37.3% lactating mothers opined that SARS-CoV-2 cannot be transmitted through breastmilk. More than half of the participants (59.0%) states that they would stop breastfeeding if infected with COVID-19.

Conclusion : This study demonstrates that the lactating mothers are aware of symptoms, mode of transmission and preventive measures of COVID-19. However, they are less aware of any guideline on breastfeeding during the COVID-19 pandemic. More rigorous dissemination of information on breastfeeding practices in COVID-19 case management needs to be adopted.

Key words : Breastfeeding; COVID-19; Pandemic; Perceptions; SARS-CoV-2.

Introduction

The coronavirus Disease 19 (COVID-19) outbreak was first reported in December 2019 when a cluster of pneumonia cases was reported from Wuhan city in China. On January 30th, 2020, World Health Organization (WHO) declared the nCoV-2019 outbreak as a Public Health Emergency of International Concern. Later when the infection could not be controlled and

crossed the boundaries of different countries, the disease was declared a pandemic on 11 March 2020.¹ In Bangladesh, the first confirmed case was reported on 8 March 2020.² Although majority of people are asymptomatic, individuals with confirmed SARS-CoV-2 developed clinical symptoms of fever, cough, and shortness of breath.³ Pregnant and lactating mothers are considered high-risk group and deserve great attention because of the physiological changes during pregnancy and an associated immunocompromised state that make them more susceptible to virus. Good knowledge is a prerequisite for overall practice of preventive measures aimed to reduce the disease burden, forming positive attitude, and promoting positive practice to disease.^{4,5}

Transmission of Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) the virus that causes COVID-19, to neonates is thought to occur through respiratory droplets during the postnatal period when neonates are exposed to infected mothers, other caregivers, visitors, or healthcare personnel with COVID-19 infection. The virus has not been known to pass through the placenta and has not been reported in the breastmilk of affected mothers. Limited reports have

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raised concerns of a possible intrapartum or peripartum transmission, but the extent and clinical significance of vertical transmission of these routes is unclear.⁶ Among the 37 included studies with breast milk samples, nine out of 84 analyzed breast milk sample were reported to be positive for SARS-CoV-2 RNA via RT-PCR analysis.^{7,8,9} Of 18 women who had confirmed SARS-CoV-2 infection, a total of 64 samples collected at varying time points one breastmilk sample had detectable SARS-CoV-2 RNA. Although SARS-CoV-2 RNA was detected in one milk sample from an infected woman, the viral culture for that sample was negative. These data suggest that SARS-CoV-2 RNA does not represent replication-competent virus and that breast milk may not be a source of infection for the infant.¹⁰ Lackey et al. in a systemic review found a lack of rigorous evidence as to whether SARS-CoV-2 could be transmitted in milk and/or during breastfeeding.¹¹ In a similar study, Yang et al. concluded that the current evidence indicated that SARS-CoV-2 viral nucleic acid had not been detected in breast milk.¹²

Secretory IgA (sIgA) have been detected in the breastmilk of mothers with previous COVID-19 infection. However, the strength and durability of sIgA reactive to COVID-19 have not yet been determined. To date, it has not been known that the virus passes into milk, although research is ongoing. Following this, WHO has released guideline regarding breastfeeding practices in suspected or confirmed COVID-19 mothers.^{13,14} The purpose of this survey was to assess awareness towards COVID-19 among lactating mothers attending at a private medical college hospital in Chattogram.

Materials and methods

This was a single center cross sectional survey conducted amongst lactating mothers whose baby was admitted in paediatric ward of Southern Medical College Hospital, Chattogram. The survey was conducted from July to November 2021. A total of 295 participants completed the survey. A semi-structured questionnaire was designed which included demographic characteristics of participants, awareness regarding COVID-19 symptoms and mode of transmission, practice and attitudes towards COVID-19, perception on breast feeding if infected with SARS-CoV-2 and opinion regarding vaccination against COVID-19. The research proposal was approved by the Research Ethical Review Committee of Southern Medical College Hospital. Informed verbal consent was taken from each of the study participants after explaining the aim, benefit, and process of the study. They were informed that contribution in the study is nonobligatory, and they are free to pull out at any time

without any accountability. The interview with the mothers was individually using the study tools during the study period. Collected data were analyzed using Statistical Package for Social Sciences (SPSS) version 21.0 in the form of percentage (Relative frequencies) of variables.

Results

A total of 295 lactating mothers participated in the study. Majority of the participants were from the age group of 23-27 years (n=110). Almost all the respondents were housewife (78.0%) followed by garment workers (12.9%). Maximum participants (n=130) had secondary education level, came from urban area (81.3%) and their monthly family income was 10,000-30,000 BDT (57.9%) Table-I.

Table I Socio-demographic characteristics of participants (n=295)

Variables	(n)	(%)
Age		
18-22 (Years)	95	(32.2)
23-27	110	(37.3)
28-32	69	(23.4)
33-37	14	(4.7)
38-42	7	(2.4)
Education		
Primary	116	(39.3)
Secondary	130	(44.0)
Higher secondary	06	(2.1)
Bachelor/graduate	37	(12.5)
No education	06	(2.1)
Occupation		
Housewife	230	(78.0)
Garment worker	38	(12.9)
Teacher	21	(7.1)
Other	06	(2.0)
Monthly family income		
<10,000	89	(30.2)
10,000-30,000	171	(57.9)
>30,000	35	(11.9)
Residence		
Rural area	55	(18.7)
Urban area	240	(81.3)

All the participants were from joint family and maximum (53.6%) had large family size. Highest (46.4%) participants had 2-3 children with male predominance. A good number of mothers (58.6%) practiced absolute breast feeding (Table-II).

Table II Family related characteristics (n-295)

Characteristics	(n)	(%)
No of family member		
0-5	11	(3.8)
<5	147	(49.8)
>5	137	(46.4)
Number of Children		
1	130	(44.1)
2-3	137	(46.4)
>3	28	(9.5)
Age of Children		
<6 months	180	(61.0)
>6 months	115	(39.0)
Sex of Children		
Male	178	(60.3)
Female	117	(39.7)
Feeding Habit		
Breast milk	173	(58.6)
Breast milk with CF	97	(32.9)
Others	25	(8.5)

In the perception component, Table III depicts our findings.

Table III Perception towards COVID- 19 (n-295)

Quarries	(n)	(%)
How is COVID- 19 spread?		
Through air	212	(71.8)
Personal contact	223	(75.6)
Breast milk	33	(11.2)
Feco-oral route	35	(11.9)
Don't know	10	(3.4)
What are the symptoms of COVID- 19?		
Fever	273	(92.5)
Cough	273	(92.5)
Sore throat	117	(39.7)
Breathing difficulty	168	(56.9)
Diarrhoea	61	(20.7)
Don't know	05	(1.7)
What preventive measures need to take during breastfeeding?		
Wearing mask	41	(14.0)
Hand sanitizing	52	(17.5)
Both	114	(38.5)
Don't know	88	(30.0)
How much time require for proper handwashing to prevent COVID- 19 transmission?		
<20 sec	30	(10.0)
20 sec	137	(46.5)
>20 sec	88	(30.0)
Don't know	40	(13.5)

The majority of lactating mother(88.1%) maintained social distance while outside their home. Before breastfeeding most of the mother (91.5%) sanitized their hand but 57.2% mothers are reluctant to wear face mask (Table IV).

Table IV Distribution of practice related characteristics regarding COVID- 19 (n-295)

Statement	(n)	(%)
Maintain social distance		
Always	110	(37.3)
Often	75	(25.4)
Sometime	75	(25.4)
Not at all	35	(11.9)
Hand sanitizing before breastfeeding		
Always	140	(47.3)
Often	67	(22.8)
Sometime	63	(21.4)
Not at all	25	(8.5)
Wear face mask during breastfeeding		
Always	45	(15.3)
Often	27	(9.2)
Sometime	54	(18.3)
Not at all	169	(57.2)

Amongst the participants, 59.0% lactating mother states that they will stop breast feeding if infected with COVID-19. Almost half (46.4%) of the participants believe that SARS-CoV-2 virus can be transmitted through breastmilk. Maximum (76.0%) participants were interested to take COVID-19 vaccine. Sixty percent of participants believed that COVID-19 will be successfully controlled (Table-V).

Table V Distribution of attitude related characteristics regarding COVID-19 (n-295)

Responses	(n)	(%)
How often do you check for COVID- 19 related news?		
Always	75	(25.4)
Often	62	(21.5)
Sometime	117	(39.6)
Not at all	41	(13.5)
Will you stop breastfeeding if infected by Coronavirus?		
Yes	174	(59.0)
No	99	(33.5)
Don't know	22	(7.5)
Are you vaccinated for COVID- 19?		
Yes	75	(25.4)
No	220	(74.6)

Responses	(n)	(%)
Are you interested to take COVID- 19 Vaccine?		
Yes	226	(76.0)
No	69	(24.0)
Do you think that this new Coronavirus will finally be under control completely?		
Yes	176	(60.0)
No	82	(28.0)
Don't know	37	(12.0)
Whether COVID -19 transmitted by breast milk?		
Yes	137	(46.4)
No	110	(37.3)
Don't know	48	(16.3)

Discussion

Breastmilk is the best source of nutrition for newborn babies. It strengthens the immune system by providing maternal antibodies and other immune factors through milk. Disruption of breast feeding may leave negative impact on newborn's short-term and long-term health. So, adequate knowledge of breastfeeding practices among lactating mothers during the COVID-19 pandemic is crucial for newborn health. WHO recommends that mothers with suspected or confirmed COVID-19 should be encouraged to initiate or continue breastfeed, because the benefits of breastfeeding much outweigh the potential risks for transmission.¹⁵ In the present study, vast majority (92.5%) of the study participants reported some of the commonest symptoms related to COVID-19 with only a very small minority (1.7%) being unaware of any of the symptoms, similar to other studies elsewhere^{16,17} In this study routes of transmission of COVID-19 were reported by most (73.7%) of the participants, with only a minimal (3.4%) participants not being sure or unable of recognizing transmission routes. A study conducted by Adhikari SP et al. found that more than 90% of the mothers had knowledge on clinical features, mode of transmission and preventive measures which is in accordance with present study.¹⁸ Most of the participants of this study opined that wearing face mask, hand sanitizing and both can prevent COVID-19 transmission. Almost half of the respondents believe that proper handwashing for twenty seconds can effectively control COVID-19 transmission. Similar result was found in a study conducted by Amin N et al. where majority of the participants exhibited that hand washing for twenty seconds and wearing a face mask as the first line of the self-hygienic measure.¹⁹ This present study result showed that 88.1% of participants maintain social distance while being outside of home whereas 11.9%

did not maintain social distance at all. Most of the participants of study conducted by Ferdous MZ et al. were found reluctant to maintain social distance when out of the home.²⁰

This study revealed that about half of the respondents (46.4%) believed that SARS-CoV-2 virus can transmit through breast milk and 59.0% lactating mother opined that they would stop breastfeeding if they infected by coronavirus. Most of the participants (81.5%) practiced proper hand hygiene and almost half used face mask during breastfeeding. Similar findings were seen in a study conducted by Adhikari SP.¹⁸ Present study showed that 76.0% lactating mothers wish to take vaccine against COVID-19 and reported vaccine as an option for preventing COVID-19. In accordance with this study, result of a study from Srichan et al. had shown that 31.2% participants were aware of the vaccine as a potential option.²¹ Sixty percent respondents of present study were optimistic that this new corona virus will finally be controlled completely. Similarly, Karim A et al. find in their study that 61.1% participants were confident that corona virus will finally be controlled completely.²²

Conclusion

It is quite noteworthy that the general information and the responses toward COVID-19 are evoked to prevent the threat of this disease. This study demonstrates that the lactating mothers are aware of symptoms, mode of transmission and preventive measures of COVID-19. Most of the participants also practice preventive measures as well and have positive attitude about COVID-19. However, they are less aware regarding features of breastfeeding that should be considered for the transition of COVID-19, as well as preventive measures and practical intervention that should be considered when COVID-19 is suspected or confirmed. Maximum lactating mothers are interested to take vaccine which is a positive sign.

Recommendation

More update communication of practice recommendations on breastfeeding care among COVID-19 suspected and confirmed mother-baby dyads needs to be adopted through proper training and counselling.

Disclosure

All the authors declared no competing interests.

References

1. WHO Timeline- COVID-19. [Accessed cited 15 Jun 15, 2020]. <https://www.who.int/news-room/detail/27-04-2020-who-timeline-covid-19>.

2. World Health Organization. COVID-19 situation report no.#11.2020 [Cited 2020 June02]. https://www.who.int/docs/default-source/searo/bangladesh/covid-19-who-bangladesh-situation-reports/who-ban-covid-19-sitrep-11.pdf?sfvrsn=ee79ca3d_6World.
3. Akalu Y, Ayelign B, Molla MD. Knowledge, Attitude and Practice towards COVID-19 among chronic disease patients at Addis Zemen Hospital, Northwest Ethiopia. *Infect Drug Resist* 2020; 13:1949-1960. <https://doi.org/10.2147/IDR.S258736>.
4. Zhao X, Jiang Y, Zhao Y, Xi H, Liu2C, Qu F, Feng X. Analysis of the susceptibility to COVID-19 in pregnancy and recommendations on potential drug screening. *European Journal of Clinical Microbiology and Infectious Diseases*. 2020; 39: 1209-1220.
5. Anikwe CC, Ogah CO, Anikwe IH, Okorochukwu BC, Ikeoha CC. Coronavirus disease 2019. Knowledge, Attitude, and practice of pregnant women in a tertiary hospital in Abakaliki, Southeast Nigeria. *Int J GynecolObstet*. 2020;1-6.
6. Evaluation and Management Considerations for Neonates at Risk for COVID-19. [Accessed cited Jun16, 2020 Jun 16]. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/caring-for-newborns>.
7. Buonsenso D, Costa S, Sanguinetti M, et al. Neonatal late onset infection with severe acute respiratory syndrome coronavirus 2. *American J. Perinatology*. 2020; 37(08): 869-872.
8. Grob R, Conzelmann C, Müller JA, et al. Detection of SARS-CoV-2 in human breastmilk. *The Lancet*. 2020; 395(10239): 1757–1758.
9. Guan WJ, Ni ZY, Hu Y, et al. Clinical characteristics of coronavirus disease 2019 in China. *N. Engl. J. Med*. 2020; 382: 1708–1720.
10. Chambers C, Krogstad P, Bertrand K, et al. Evaluation for SARS-CoV-2 in breastmilk from 18 infected women. *JAMA*. 2020;324(13):1347-1348. <https://doi.org/10.1101/2020.06.12.20127944>.
11. Lackey KA, Pace RM, Williams JE, et al. SARS-CoV-2 and human milk: What is the evidence? *Matern Child Nutr*. 2020; 16 (4): e 13032.
12. Yang N, Che S, Zhang J, et al. Breastfeeding of infants born to mothers with COVID-19: A rapid review. *Annals of translational medicine*. 2020;8(10).
13. Clinical management of COVID-19: Interim guidance. 2020.[Accessed cited 17 Jun, 2020 Jun17]. <https://apps.who.int/iris/handle/10665/>.
14. Q&A: Breastfeeding and COVID-19: [Accessed cited 11 May 2020 May 11] www.who.int/news-room/q-a-detail/q-a-on-covid-19-and-breastfeeding.
15. World Health Organization. Breastfeeding and COVID-19: Scientific brief, 23 June 2020. <https://apps.who.int/iris/handle/10665/332639>.
16. Janjua NZ, Razaq M, Chandir S, Razi S, Mahmood B. Poor knowledge – predictor of nonadherence to universal precautions for blood borne pathogens at first level care facilities in Pakistan. *BMC Infect Dis*. 2007; 7: 81.
17. Zegarra A, Chino B, Ames R. Knowledge, perception, and attitudes in Regard to COVID-19. Pandemic in Peruvian population. 2020. <https://doi.org/10.31234/osf.io/kr9ya>.
18. Adhikari SP, Pariyar J, Sapkota K, Gurung TK, Adhikari SR. Evaluation of Knowledge, Attitude, Practice and Hospital experience regarding COVID-19 among post-partum mothers at a Tertiary Care Center: A Cross-sectional Study. *Kathmandu Univ Med J*. 2020; COVID-19 Special Issue 70(2): 10-14.
19. Amin N, Amir MA, Amir S. General Perception about COVID-19 in Pakistani Females visiting the Gynaecology Department of a tertiary care hospital: A cross sectional survey. *Pak Armed Forces Med J*. 2020; 70 COVID- 19 (2): S484-88.
20. Ferdous MZ, Islam MS, Sikder MT, Mosaddek ASM, Valdivia JAZ, Gozal D. Knowledge, Attitude and practice regarding COVID-19 outbreak in Bangladesh: An online based cross-sectional study. *PLoS ONE* (15/10): e 0239254. <https://doi.org/10.1371/journal.pone.0239254>.
21. Srichan P, Apidechkul T, Tamornpark R, Yeemard F, Khunthason S, Kitchanapaiboon S et al. Knowledge, Attitude and Preparedness to respond to the 2019 Novel Coronavirus (COVID-19) Among the bordered population of Northern Thailand in the early period of the outbreak: A cross sectional study. *SSRN Electronic Journal*. 2020. <https://doi.org/10.2139/ssrn.3546046>.
22. Karim A, Akter M, Mazid AHMT et al. Knowledge and attitude towards COVID-19 in Bangladesh: Population-level estimation and a comparison of data obtained by phone and online survey methods. *MedRxiv preprint*. 2020. doi: <https://doi.org/10.1101/2020.05.26.20104497>.