# Knowledge, Attitude and Preventive Practice Regarding the COVID-19 among the Mothers Attending in Shree Birendra Hospital

**Rajya Laxmi Bhele, Sumitra Mulepati**

Nursing Officer, Department of Nursing, Shree Birendra Hospital, Chhauni, Kathmandu, Nepal

**Corresponding Author**

Rajya Laxmi Bhele,
Department of Nursing,
Shree Birendra Hospital,
Chhauni,
Kathmandu,
Nepal
Email: rajyabhele@gmail.com

**Keywords**

COVID-19 infection, golden 1000 days, lactating mother, pregnant mothers, preventive measures

**Online Access**

**DOI:** 10.3126/mjsbh.v23i1.75741

*Date of submission - 2024 Feb 09*
*Date of acceptance - 2025 Jan 06*

## Abstract

**Introduction:** COVID-19 is an infectious disease caused by the SARS-CoV-2 virus. The virus might spread through respiratory droplets or close contact. Compared to the general population, mothers have a higher chance of developing serious illnesses from COVID-19. The study aims to identify knowledge, attitudes, and preventive practices regarding COVID-19 among mothers.

**Methods:** A descriptive, cross-sectional study was conducted at Shree Birendra Hospital. Nonprobability convenience sampling technique was used. The sample size was 385. A structured, self-administered questionnaire was developed. Ethical approval was received and written, informed consent was obtained from each respondent. Microsoft Excel and SPSS Version 22 were used for data entry and analysis. The statistics used were frequency, percentage, Pearson's correlation coefficient, and Fisher's exact test.

**Results:** Of the total 385 respondents, 50.9% had good knowledge, 57.7% had positive attitudes, and 72.2% had good preventive practices. There was significant positive correlationbetween knowledge, attitudes, and practices. Pregnant mothers had higher levels of knowledge compared to lactating mothers. Mothers with higher education levels demonstrated better knowledge. Mothers without a disease tended to have more positive attitudes.

**Conclusions:** The study concludes thatmore than half of the mothers had good knowledge, a positive attitude, and good preventive practices about COVID-19. Significant positive correlation was found between the knowledge, attitudes, and preventive practices of mothers.



## INTRODUCTION

COVID-19, an infectious disease caused by the SARS-CoV-2 virus, was first identified in Wuhan, China, in December 2019, leading to a global pandemic declaration by the WHO on January 30, 2020. On September 19, 2020, the virus had spread to 188 nations and territories, resulting in over 30.3 million documented cases and more than 949,000 fatalities. The Ministry of Health and Population confirmed 61,593 cases, 43,820 recoveries, and 390 fatalities nationally as of September 18, 2020.[1,2]

The virus can potentially spread through respiratory droplets or close contact. There is an equal chance for mothers to get the infection, according to the rising number of infections across the nation. Compared to the general population, mothers have a higher chance of developing serious illnesses from COVID-19. The COVID-19 infection could heighten the likelihood of adverse outcomes for maternal and child health. Mothers must have good knowledge, attitude and take the necessary preventive practices to protect themselves and improve maternal and child health outcomes.[3-12]

The study aimed to identify knowledge, attitude, and preventive practices regarding COVID-19 among mothers. The study was structured to research the knowledge level, attitude level, and practice level of mothers, to determine associations between maternal knowledge, attitudes, and preventive practice regarding COVID-19, and to

determine the relationship between socio-demographic characteristics and knowledge, attitudes, and preventive practices among the mothers.

## METHODS

The study was conducted between April 15, 2021, and November 15, 2021, at Shree Birendra Army Hospital, Chhauni, Kathmandu, Nepal. A descriptive, cross-sectional study design was used. The nonprobability convenience sampling technique was used. The study population consisted of lactating mothers and pregnant mothers still within the golden 1000 days. Infected mothers with COVID-19 at the time of data collection were excluded. Sample size was calculated to be 385 using a single population proportion calculation, considering a 50% prevalence, a 95% confidence interval, a 5% marginal error, and a 5% non-response rate. Ethical approval for the study was obtained from the Institutional Review Committee of NAIHS (Letter Registration No. 359). The researcher developed a structured self-administered questionnaire was based on the extremely reviewed literature, WHO recommendations, and WHO questions. The questionnaire consisted of four sections - Section I (Questions were related to the socio-demographic characteristics of respondents), Section II (Questions were related to knowledge. The respondent was assessed to respond to knowledge as either true or false. A false answer was given a score of zero, and a true answer was assigned a score of one. The total score for knowledge ranges from zero to 24. More than the median score showed good knowledge of COVID-19) Section III (Questions were related to attitude. The attitude scores were calculated based on the respondents' answers to each attitude statement. 1: strongly disagree, 2: disagree, 3: undecided, 4: agree, and 5: strongly agree. The respondent's answer calculated the score to the ten statements. The total score ranged from 10 to 50. More than the median score showed positive attitudes), Section IV (The respondent was asked to respond yes or no to each practice-related question. A score of one was given for answers that reflect correct practice, and a score of zero was given for answers that reflect wrong practice. The total score ranges from zero to 18. More than a median score shows good practice). The questionnaire was developed in English, translated into Nepali, and back translated into English for validity assurance. Data were collected with mothers attending in the antenatal, postnatal, paediatric ward, and outpatient departments. Safety precautions were implemented during the interaction period, including the use of masks, hand sanitizers, and maintaining a safe distance. The privacy and confidentiality of respondents were ensured. Data were verified for accuracy, coded, and entered Microsoft Excel sheet. Statistical Package for the Social Sciences (SPSS) version 22 was used for analysis. Descriptive statistics, frequency, and percentage were utilized, and inferential statistics, the Pearson correlation coefficient, and Fisher's exact tests were use

## RESULTS

**Table 1:** Knowledge level of respondents

| Score | | Frequency | % | Valid % | Cumulative % |
|---|---|---|---|---|---|
| Valid | Poor | 189 | 49.1 | 49.1 | 49.1 |
| | Good | 196 | 50.9 | 50.9 | 100.0 |
| | Total | 385 | 100.0 | 100.0 | |

**Table 2:** Attitude level of respondents

| Score | | Frequency | % | Valid % | Cumulative % |
|---|---|---|---|---|---|
| Valid | Negative | 163 | 42.3 | 42.3 | 42.3 |
| | Positive | 222 | 57.7 | 57.7 | 100.0 |
| | Total | 385 | 100 | 100.0 | |

**Table 3**: Preventive practice level of respondents

| Score | | Frequency | % | Valid % | Cumulative % |
|---|---|---|---|---|---|
| Valid | Poor | 107 | 27.8 | 27.8 | 27.8 |
| | Good | 278 | 72.2 | 72.2 | 100.0 |
| | Total | 385 | 100.0 | 100.0 | |

**Table 4:** Association between knowledge, attitude and preventive practice of respondents

| Variables | | Knowledge | Attitude | Practice |
|---|---|---|---|---|
| Knowledge | Pearson correlation | 1 | .194** | .166** |
| | Sig. (2-tailed) | | .000 | .001 |
| Attitude | Pearson correlation | .194** | 1 | .191** |
| | Sig. (2-tailed) | .000 | | .000 |
| Practice | Pearson correlation | .166** | .191** | 1 |
| | Sig. (2-tailed) | .001 | .000 | |

Note: ** Correlation is significant at the 0.01 level (2-tailed).

**Table 5:** Association between knowledge and socio-demographic variables of respondents

| Variables (Poor) | | Knowledge level | | Total | P - value |
|---|---|---|---|---|---|
| | | Good | Poor | | |
| Age | ≤ 30.00 | 142 | 131 | 273 | 0.073 |
| | ≥ 31.00 | 47 | 65 | 112 | |
| Residence | Rural | 91 | 81 | 172 | 0.178 |
| | Urban | 98 | 115 | 213 | |
| Education | Primary | 3 | 11 | 14 | 0.040 |
| | Second-aryss | 151 | 139 | 290 | |
| | Bachelor or above | 35 | 46 | 81 | |
| Occupation | Farmer | 24 | 17 | 41 | 0.270 |
| | Business | 11 | 10 | 21 | |
| | Service | 64 | 57 | 121 | |
| | house Wife | 90 | 112 | 202 | |
| Number of children | .00 | 54 | 64 | 118 | 0.510 |
| | 1.00 | 92 | 95 | 187 | |
| | 2.00 and above | 43 | 37 | 80 | |
| Pre-existing Disease | No | 175 | 180 | 355 | 0.782 |
| | Yes | 14 | 16 | 30 | |
| Past infection with covid -19 | No | 187 | 190 | 377 | .285 # |
| | Yes | 2 | 6 | 8 | |
| Type of mother | Pregnant mother | 112 | 150 | 262 | < 0.001 |
| | Lactating mother | 77 | 46 | 123 | |

Note: # Fisher exact test, P value < 0.05

**Table 6:** Association between attitude and sociodemographic variables of respondents

| Variables (Negative) | | Attitude level | | Total | P - value |
|---|---|---|---|---|---|
| | | Positive | Negative | | |
| Age | ≤ 30.00 | 119 | 154 | 273 | 0.438 |
| | ≥ 31.00 | 44 | 68 | 112 | |
| Residence | Rural | 76 | 96 | 172 | 0.510 |
| | Urban | 87 | 126 | 213 | |
| Education | Primary | 5 | 9 | 14 | 0.143 |
| | Secondary | 131 | 159 | 290 | |
| | Bachelor or above | 27 | 54 | 81 | |
| Occupation | Farmer | 18 | 23 | 41 | 0.799 |
| | Business | 10 | 11 | 21 | |
| | Service | 47 | 74 | 121 | |
| | House wife | 88 | 114 | 202 | |
| Number of children | .00 | 45 | 73 | 118 | 0.342 |
| | 1.00 | 84 | 103 | 187 | |
| | 2.00 and above | 34 | 46 | 80 | |
| Mother withdisease | No | 145 | 210 | 355 | 0.041 |
| | Yes | 18 | 12 | 30 | |
| Past infection withcovid -19 | No | 161 | 216 | 377 | 0.476 # |
| | Yes | 2 | 6 | 8 | |
| Type of mother | Pregnant mother | 97 | 165 | 262 | 0.002 |
| | Lactating mother | 66 | 57 | 123 | |

Note: # Fisher exact test, P value < 0.05

**Table 7:** Association between preventive practice and sociodemographic variables of the respondents

| Variables (Poor)ss | | Preventive practice level | | Total | P - value |
|---|---|---|---|---|---|
| | | Good | Poor | | |
| Age | ≤ 30.00 | 78 | 195 | 273 | 0.594 |
| | ≥ 31.00 | 29 | 83 | 112 | |
| Residence | Rural | 46 | 126 | 172 | 0.684 |
| | Urban | 61 | 152 | 213 | |
| Education | Primary | 4 | 10 | 14 | 0.190 |
| | Secondary | 87 | 203 | 290 | |
| | Bachelor or above | 16 | 65 | 81 | |
| Occupation | Farmer | 10 | 31 | 41 | 0.333 |
| | Business | 6 | 15 | 21 | |
| | Service | 41 | 80 | 121 | |
| | house Wife | 50 | 152 | 202 | |
| Number of children | .00 | 41 | 77 | 118 | 0.184 |
| | 1.00 | 49 | 138 | 187 | |
| | 2.00 and above | 17 | 63 | 80 | |
| Disease | No | 99 | 256 | 355 | 0.886 |
| | Yes | 8 | 22 | 30 | |
| Past infection withCOVID -19 | No | 106 | 271 | 377 | 0.452 # |
| | Yes | 1 | 7 | 8 | |
| Type of mother | Pregnant mother | 73 | 189 | 262 | 0.964 |
| | Lactating mother | 34 | 89 | 123 | |

Note: # Fisher exact test, P value < 0.05

## DISCUSSION

The study assessed knowledge, attitude, and preventive practices among 385 mothers. Knowledge refers to the information and understanding that the mothers have about COVID-19. Attitude represents the feelings, perceptions, and beliefs of the mothers toward COVID-19 and willingness to follow preventive measures. Practice involves the actual behaviors and actions taken by the mothers to prevent the spread of COVID-19. Our findings were not consistent with a community-based study conducted by Goshiye et al[13] in Dessie Town, Ethiopia. In that study, respondents had good knowledge (72.5%), a favorable attitude (58%), and good preventive practices (55.4%) regarding COVID-19. In our study 50.9% mothers had good knowledge, 57.7% mothers had positive attitude and 72.2% mothers had good practices. Therefore, the knowledge scores in our study were lower, but the preventive practice scores were higher. The discrepancy between the findings of the two studies might be attributed to the studies being conducted in different settings and among different populations. This study was a hospital-based study among both pregnant and lactating mothers, but that study was a community-based study among pregnant mothers.

Our findings differed from study conducted by Naz et al[14] at Aga Khan University Hospital, Karachi, Pakistan. In that study, 24% of participants had excellent to good knowledge, while 63.9% had poor knowledge; however, attitude and practices were reported to be above 90%. In contrast, our study found that 50.9% of mothers had good knowledge, 57.7% had positive attitudes, and 72.2% had good practices. This discrepancy may be because of the differing study population as the study focused solely on pregnant mothers.

Our findings contrast with an institution-based cross-sectional study conducted by Besho et al[15] at public hospitals in three Wollega zones of Ethiopia. In this study, over two-thirds of mothers had adequate knowledge (75.4%) and good practices (43.6%) about COVID-19. In comparison, our study found 50.9% of mothers had good knowledge and 72.2% had good practices. This discrepancy may be due to our study including both pregnant and lactating mothers, whereas Besho et al.'s study focused solely on pregnant mothers.

Our finding that 72.2% of mothers had good preventive practices is notably higher than the results of a hospital-based cross-sectional study conducted by Thapa et al.[17] at Chitwan Medical College and Teaching Hospital, Bharatpur, Nepal. In this study, 52.8% of mothers showed good precautionary practices during the COVID-19 pandemic. This discrepancy may be because of our study included both pregnant and lactating mothers, whereas Thapa et al's study focused solely on pregnant mothers.

The study concluded significant positive correlation among knowledge, attitude, and practices. This suggests that higher knowledge levels are associated with more positive attitude and better preventive practices. These findings were consistent with a study conducted by KUNO et al.[16] In that study, a significant positive correlation was noted between knowledge and practice scores and a positive relationship between a positive attitude and better preventive practices.

This study aligns with a previous institution-based cross-sectional study conducted by Besho et al.[15] at public hospitals in three Wollega zones of Ethiopia. This study reported that mothers who had completed secondary school education or higher were more likely to possess good knowledge. In this study the association between knowledge and socio-demographic factors showed a significant link with education status (P = 0.040), indicating that the level of education influenced mothers' knowledge levels.

The present study has few limitations. The study focused specifically on pregnant and lactating mothers within the first 1000 days of attending the hospital. Hence generalization of present findings would not be feasible. The study measured information, attitude to pregnant mothers and lactating mothers to prevent COVID-19 transmission from mother to baby and its cross-transmission. The study might be helpful to upgrade the health status of mothers and babies by preventing COVID-19, and the study might be useful for further study on COVID-19 and other infectious diseases.

## CONCLUSIONS

The study concludes that more than half of the mothers had good knowledge, a positive attitude, and good preventive practices about COVID-19. There was a significant association between the knowledge, attitude, and preventive practices of mothers. Knowledge was higher among more educated and pregnant mothers. Positive attitudes were more common in mothers without disease and pregnant mother. This emphasizes the need for education and awareness among mothers regarding COVID-19. The education, awareness, and support are more needed for less educated, diseased, and lactating mothers.

## ACKNOWLEDGEMENT

The authors would like express gratitude to the Institutional Review Committee and to the nurses, doctors, and other staff at Ward OPD of Shree Birendra Hospital for their cooperation. We want to thank Assoc. Prof. Baibhav Adhikari for statistical assistance and participants for contributing valuable information to the study.

**FUNDING SOURCES:** None

**CONFLICT OF INTEREST:** None

## REFERENCE

1. Wikipedia. COVID-19 pandemic [Internet]. Wikipedia. 2020. Available from: https://en.wikipedia.org/wiki/COVID-19pandemic
2. COVID-19 pandemic in Nepal - Wikipedia [Internet]. en.wikipedia.org. Available from: https://en.wikipedia.org/wiki/COVID-19pandemicinNepal
3. Pitale DL. Antenatal care during the COVID-19 pandemic. Int J Reprod Contracept Obstet Gynecol [Internet]. 2020 Oct 1;9(10):4052-7
DOI: 10.18203/2320-1770.ijrcog20204286
4. Lubbe W, Botha E, Niela-Vilen H, Reimers P. Breastfeeding during the COVID-19 pandemic-a literature review for clinical practice. Int Breastfeed J. 2020 Dec;15(1):1-9
DOI: 10.1186/s13006-020-00319-3
PMID: 32928250 PMCID: PMC7487446
5. Salvatore CM, Han JY, Acker KP, Tiwari P, Jin J, Brandler M,et al. Neonatal management and outcomes during the COVID-19 pandemic: an observation cohort study. Lancet Child Adolesc Health. 2020 Oct 1;4(10):721-7
DOI: 10.1016/S2352-4642(20)30235-2
PMID:32711687
6. CDC. Coronavirus Disease 2019 (COVID-19) [Internet]. Centers for Disease Control and Prevention. 2020. Available from: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/pregnancy-breastfeeding.html
7. World Health Organization. Q&A on coronaviruses (COVID-19) [Internet]. www.who.int. 2020. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/q-a-coronaviruses
8. Knight M, Bunch K, Vousden N, Morris E, Simpson N, Gale C, et al. Characteristics and outcomes of pregnant women admitted to hospital with confirmed SARS-CoV-2 infection in UK: national population based cohort study. British Med J. 2020 Jun 8;369:m2107
DOI: 10.1136/bmj.m2107
PMID: 32513659 PMCID: PMC7277610
9. Husband of newborn mother who died of Covid-19 says they had to wait for seven hours to get an ambulance [Internet]. kathmandupost.com. [cited 2023 Jul 29] Available from: https://kathmandupost.com/national/2020/05/19/husband-of-newborn-mother-who-died-of-covid-19-says-they-had-to-wait-for-seven-hours-to-get-an-ambulance
10. Elsaddig M, Khalil A. Effects of the COVID pandemic on pregnancy outcomes.Best Pract Res Clin ObstetGynaecol. 2021 Jun 1;73:125-36
DOI: 10.1016/j.bpobgyn.2021.03.004
PMID: 33832868 PMCID: PMC7969862
11. Pereira A, Cruz-Melguizo S, Adrien M, Fuentes L, Marin E, Forti A, et al. Breastfeeding mothers with COVID-19 infection: a case series. Int Breastfeed J. 2020 Aug 8;15(1)
DOI: 10.1186/s13006-020-00314-8
PMID: 32770999 PMCID: PMC7414278

12. Zeng L, Xia S, Yuan W, Yan K, Xiao F, Shao J, et al. Neonatal early-onset infection with SARS-CoV-2 in 33 neonates born to mothers with COVID-19 in Wuhan, China. JAMA Pediatr. 2020 Jul 1;174(7):722-5
DOI: 10.1001/jamapediatrics.2020.0878
PMID:32215598 PMCID: PMC7099530

13. Goshiye D, Abegaz Z, Gedamu S. Knowledge, Attitude, and Practice towards COVID-19 among Mothers in Dessie Town, Northeast Ethiopia, 2020. InterdiscipPerspect Infect Dis.2022 Oct 19;2022:4377460
DOI: 10.1155/2022/4377460
PMID: 36313383 PMCID: PMC9605845

14. Naz S, Dur e Shawar S, Saleem S, Malik A, Raza A. Knowledge, attitudes, and practices (KAP) towards COVID-19 pandemic among pregnant women in a tertiary hospital in Karachi, Pakistan. Plos one. 2022 Nov 30;17(11):e0274252
DOI: 10.1371/journal.pone.0274252
PMID: 36449555 PMCID:9710773

15. Besho M, Tsegaye R, Yilma MT, Kasaye HK, Tolossa T, Hiko N, et al. Knowledge, attitude and practice toward corona virus infection among pregnant women attending antenatal care at public hospitals in three wollega zones, ethiopia. Int J of Gen Med. 2021 Jul 15:3563-73
DOI: 10.2147/IJGM.S295490
PMID: 34290526 PMCID: PMC8289464

16. Kunno J, Yubonpunt P, Supawattanabodee B, Sumanasrethakul C, Wiriyasirivaj B. Knowledge, attitudes, and practices related to the COVID-19 pandemic among pregnant women in Bangkok, Thailand. BMC Pregnancy Childbirth. 2022 Apr 23;22(1):357
DOI: 10.1186/s12884-022-04612-3
PMID: 35461236 PMCID: PMC9034254

17. Thapa T, Neupane S, Ghimire A, Joshi A, Thapa S. Precautionary practices towards COVID-19 among pregnant women attending antenatal care in Nepal: A cross-sectional study. Popul Med. 2022 Mar 28;4(March):1-6
DOI: 10.18332/popmed/147442