

KNOWLEDGE AND PERCEIVED BARRIERS FOR CARE PROVISION REGARDING COVID-19 AMONG HOSPITAL NURSES IN NEPAL

Bijaya Adhikari,¹ Anju Mahato,² Tara Acharya,¹ Bhagawaty Kalikote³

¹Assistant professor, Lalitpur Nursing Campus, School of Nursing and Midwifery, Patan Academy of Health Sciences, Lalitpur, ²Lecturer, Biratnagar Nursing Campus, Institute of Medicine, Biratnagar, ³Lecturer, Maharajgunj Nursing Campus, Institute of Medicine, Maharajgunj, Nepal.

ABSTRACT

COVID-19 pandemic is significantly affecting the overall health and healthcare system globally. It has not shown mercy to Nepal either. All the health facilities are full of COVID-19 patients. Almost all death from COVID-19, has occurred in hospital. Adequate knowledge of nurses regarding the source, transmission, symptoms, and preventive measures of COVID-19 helps to provide effective care and prevent spreading infections from patients to patients, and nurses to patients. Therefore, this study aimed to identify the knowledge regarding COVID-19 and perceived barriers for care provision regarding COVID-19 patients among hospital nurses in Nepal. A cross-sectional descriptive study was conducted in different COVID-19 care designated hospitals of Nepal. Data were collected by using self-administered validated questionnaire through online survey. Descriptive analysis was done by using SPSS-16. More than 80% of nurses had adequate knowledge regarding symptoms, route of transmission, vulnerable population and preventive measures of COVID-19 and only 15.0% had got training related to COVID-19 pandemic. Nurses perceived negligence of the patients and community people on COVID-19 prevention (84.6%), fear of being infected and carrier to family and community while contacting with patients (80.0%), long duty hour (75.0%), inadequately supply of personal protective equipment and insufficient institutional preparedness (74.0%) were the major barriers for providing care of COVID-19 patients. Thus, hospital authority, nursing administration and nursing professionals' organizations should play an important role in organizing training to nurses and awareness program to community people. It is also essential in providing required supplies, and facilitates the motivating environment for effective care and prevention of COVID-19.

KEYWORDS

COVID-19, hospital nurses, knowledge, perceived barriers, Nepal

Received on: July 06, 2023

Accepted for publication: October 06, 2023

CORRESPONDING AUTHOR

Ms. Bijaya Adhikari,
Assistant Professor
Lalitpur Nursing Campus, School of Nursing and
Midwifery, Patan Academy of Health Sciences,
Lalitpur, Nepal
Email: siddubidushi@gmail.com
Orcid No: <https://orcid.org/0009-0007-2361-9200>
DOI: <https://doi.org/10.3126/nmcj.v25i4.60921>

INTRODUCTION

Global pandemic coronavirus disease 2019,¹ named COVID-19 was spread globally in a rapid rate. There were 102,139,771 COVID-19 confirmed cases globally. In Nepal, a total of 271,117 COVID confirmed cases were reported. Of them, 2029 (0.75%) died and all most all deaths (97.0%) occurred in hospital.² Healthcare professionals (HCPs) are frontline worker to be exposed with this highly contagious pathogen (SARS-COV-2 virus). Among the HCPs, nurses are the one who remains in direct and prolong contact with COVID patients in providing the care. And at least 90,000 healthcare workers have been infected, and more than 260 nurses have died globally.³

To provide effective care, not be infected by patient and not to transmit the infection to other, nurses must have updated knowledge regarding source, transmission, symptoms and preventive measures of COVID-19 (SARS-COV-2 virus infection).⁴ Literatures shows HCP including nurses have good knowledge about COVID-19.^{4,5} However, in Nepalese context it has not been known about knowledge of Nepalese nurses. There are limited published article concerning knowledge about COVID-19 and no articles found on perceived barriers for care provision among nursing personnel.⁶ Therefore, this study aimed to find out the knowledge regarding COVID-19 and perceived barriers regarding the care of patients of COVID-19 among hospital nurses in Nepal. The findings will be helpful to prepare nurses for pandemic preparedness strategies in upcoming days.

MATERIALS AND METHODS

A cross-sectional descriptive study was conducted among 231 nurses in different COVID care designated hospitals of Nepal. Data were collected by using self-constructed structured questionnaire through online in the month of December 2020. Simple random sampling technique was used to select samples. Sample size was 249. It was calculated by Raosoft assuming a response rate of 50.0%, confidence interval (CI) 95.0%, z as 1.96 and margin of error d as 5.0%. Nurses, who were currently working in hospitals where COVID patients were being treated, were included in the study. The data collection instrument had three parts. Part I: Socio demographic information consisted of level of education, nursing job experience, and training. Part II: Knowledge related information consisted of causative organism, mode of transmission, incubation period, frequent

sign and symptoms, preventive measures and treatment regarding COVID-19. It consisted of 26 questions. Part III: Perceived barriers on care provision to the COVID-19 positive patients. Data were collected by using four point Likert scale and later on it was modified as two point (agree and disagree) to describe perceived barriers. It consisted of 14 statements as question. Descriptive analysis was done by using SPSS-16. The study was approved by the Institutional Review Committee (IRC) of Patan Academy of Health Sciences (PAHS), Lalitpur, Nepal.

RESULTS

Table 1 shows that out of 231 respondents, 155 (67.1%) had completed bachelor level of nursing education. Regarding job experience, nearly half 105 (45.0%) had more than five years of nursing job experience. The respondents, who involved in care of COVID-19 infected patients, had got any related training were only 35 (15.2%).

Table 1: Socio-demographic characteristics of respondents (n=231)

Characteristics	n	%
Level of education		
PCL nursing	57	24.7
Bachelor in nursing	155	67.1
Master in nursing	18	7.8
PhD in nursing	1	0.4
Nursing job experience		
≤1 year	7	3
1-3 years (not completed)	81	35.1
3-5 years	39	16.9
>5 years	104	45
Got training		
Yes	35	15.2
No	193	83.5

Table 2 depicts that out of 231 respondents, majority of the respondents, provided correct response for the route of transmission (97.0%), standard test for COVID-19 (93.9%), immediate isolation for the person with symptoms of COVID-19 is mandatory (97.4%). More than half (58.4%) of the respondents answered correctly regarding causative agent of COVID-19. Additionally 78.4% correctly identified that antibiotics are not first line treatment and 86.6% respondents were also aware of that influenza vaccine will not give protection from COVID-19. Similarly, 97.0% respondents were

Table 2: Knowledge regarding COVID-19 among hospital nurses (n=231)

Statement	Right responses	%
Causative organism of COVID- 19	135	58.4
Common route of transmission of COVID-19 from person to person	224	97
The incubation period for coronavirus	81	35.1
Influenza vaccine gives protection from COVID-19*	200	86.6
Polymerase chain reaction (PCR) is considered the gold standard test for COVID-19 infection	217	93.9
Antibiotics are the first-line treatment for coronavirus*	181	78.4
Immediate isolation is mandatory if a person presents symptoms of COVID-19	224	97.4
COVID-19 patients cannot transmit the virus unless the fever is present*	224	97

*negative statement

Table 3: Knowledge regarding symptoms, vulnerable group and preventive measures of COVID-19 (n=231)

Statement ^a	n	%
Most frequent symptoms		
Fever	228	98.7
Smell disturbance	199	86.1
Headache	196	84.8
Fatigue	196	84.8
Dry cough	193	83.5
Myalgia	180	77.9
Dyspnea	170	73.6
Diarrhea	147	63.6
More vulnerable to develop severity of infection		
Person having immune-deficiency conditions	227	98.3
Elderly people	202	87.4
Diabetic person	170	73.6
Hypertensive person	148	64.1
Obese person	66	28.6
Common preventive measures of transmission		
Washing hands with soap and water	228	98.7
Wearing mask	223	96.5
Maintaining physical distance with others	222	96.1
Covering nose and mouth while coughing and sneezing	218	94.4
Use of alcohol based sanitizer for frequent hand washing	214	92.6

Note: ^amultiple response

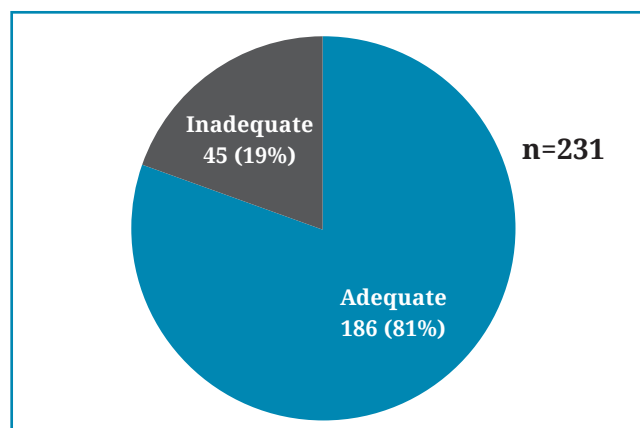


Fig. 1: Level of knowledge regarding COVID-19 among nurses

aware COVID-19 patients can transmit the virus unless the fever is present. However, the correct answer given for the incubation period of COVID-19 was only 35.1%.

Table 3 depicts the sign and symptoms of COVID-19, the respondents responded most frequent symptoms are fever (98.7%), loss of smell (86.1%), headache and fatigue (84.8%). Similarly, more vulnerable people to develop severity of infection were the person with immune-deficiency conditions (98.3%), elderly (87.4%), patients with diabetes (73.6%), and hypertension (64.1%). The common preventive measures of transmission of COVID-19 responded was washing hands with soap/water (98.7%) followed by wearing mask (96.5%), maintaining physical distance with others (96.1%), covering nose and mouth while coughing and sneezing (94.4%), use of alcohol based sanitizer for washing hands (92.6%).

The above figure illustrates the level of knowledge regarding COVID-19 among

Table 4: Perceived barriers regarding care of COVID-19 patients among nurses (n= 231)

Statements	Disagree n (%)	Agree n (%)
Lack of procedure guidelines regarding patient care in an institution.	66 (28.5)	165 (71.5%)
Less commitment to the policies and procedures of an institution.	80 (34.4)	151 (65.3)
Lack of knowledge on COVID -19 among nurses.	139 (60.1)	92 (39.8)
Inadequate supply of hand washing gadgets (soap, water, Space)	119 (51.4)	112 (48.4)
Insufficiency of Personal Protective Equipment (PPE) (mask, gloves, gown, face shield).	60 (25.9)	171 (74.0)
Insufficient organizational preparedness to manage COVID-19 outbreak.	60 (25.9)	171(74.0)
Lack of awareness among COVID patients and community people on COVID 19.	59 (25.4)	172 (74.4)
Lack of confidence to handle COVID-19 patients among nurses.	96 (41.4)	135(58.4)
Community perception toward nurses might affect the nurses to work in hospital.	53 (22.8)	178 (77)
Patient's negligence to follow the rules and direction to prevent COVID-19 even they know (especially for negligence in wearing mask, maintaining physical distance).	36 (15.4)	195 (84.6)
Long duty hour (12 hour or more per day) of nurses might hinder in patient care.	57 (24.6)	174 (75.3)
Discrimination on providing facilities between nurses and other health care workers	83 (35.8)	148 (64)
Accommodation and transportation facilities provided by the institution to the nurses.	88 (38)	143 (61.9)
Fear of being infected and carrier to family and community while contacting with patients.	46 (19.8)	185 (80.0)

the respondents. Majority (81.0%) of the respondents have had adequate knowledge.

Table 4 depicts the barriers perceived by the nurses for the care of COVID-19 patients. The study findings showed more than 70.0% respondents agree the following as the barriers to provide care to the COVID-19 patients. Lack of procedure guidelines regarding patient care in an institution, insufficiency of personal protective equipment (PPE) (74.0%), insufficient organizational preparedness to manage COVID-19 outbreak (74.0%), lack of awareness among COVID patients and community people on COVID 19 (74.4%), community perception toward nurses (77.0%) might affect the nurses

to work in hospital, patient's negligence in wearing mask, maintaining physical distance (84.6%), long duty hour (75.3%) (12 hour or more per day of nurses), fear of being infected and carrier to family and community while contacting with patients (80.0%).

DISCUSSION

The study showed that only 15.2% of the participants had got COVID 19 related training. This finding was inconsistent with other studies conducted in China (64.6%)¹ and Nepal (89.4%),⁷ respectively. It might be due to the difference in the study population; this study was conducted

in different hospitals of Nepal representing all seven provinces. This study revealed that 81.0% of the respondents had adequate knowledge regarding COVID-19. The result was stable with study conducted across the globe 92.7%⁸ and in Indonesia 85.6%.⁹ The similar result was seen globally because the people especially health personnel were more concerned about the COVID-19 pandemic situation.

All most all respondents (97.0%) in this study provided correct response for the mode of transmission. This finding was consistent with the study result in Indonesia⁹ (95.8%) and nearly consistent with another study findings 81%, in Nepal⁷ but contradicted with the study findings of Iran (56.5%).⁴ The gold standard test for COVID-19 is PCR. Right response was given by 93.9% respondents. This finding was minimally supported by the study conducted in Pakistan among 414 nurses (76.8%) on March 2020.⁶ It might be due to the time difference of the study. Likewise, immediate isolation is mandatory if a person presents symptoms of COVID-19, (97.4%). This study finding was supported by another study done in Indonesia (98.0%).⁹

More than half (58.4%) of the respondents answered correctly regarding the causative organism of COVID-19. Additionally, 78.4% correctly identified that antibiotics are not first line treatment and 86.6% respondents were also aware of that influenza vaccine will not give protection from COVID-19. These findings were consistent with the findings of the study conducted in Pakistan in 2020.⁶ Similarly, 97.0% respondents were aware that COVID-19 patients can transmit the corona virus unless he/she has fever. Data showed more than 90.0% of the respondents were aware of different preventive measures of COVID-19. More than 80.0% had the knowledge that fever, loss of smell, headache, fatigue and dry cough are most common symptoms of COVID-19. And the result is steady (79.6%) globally.¹⁰ However the study findings regarding symptoms were contradicted to the study conducted in Iran.⁴ Present findings showed the confidence in terms nurses' knowledge regarding COVID-19 transmission, signs and symptoms, and its preventive measures. This is more significant when there is no vaccine available. Thus, nurses and other health persons take precautions in treating and preventing the SARS-COV-2 infection. However, the correct answer given by the nurses with regard to the incubation period of COVID-19 is only 35.1%.

Regarding barriers, multiple factors are perceived as barriers for providing care to COVID-19 patients. Patients' negligence especially in wearing mask and maintaining physical distance accounted 84.6% that barred the providing effective care. This finding was differed to the finding of the study carried out in Pakistan where 48.8% respondents agreed on not wearing mask as a barrier.⁶ Another major barrier was nurses' fear of being infected and/or becoming a carrier to family was 80.0%. A 77.0% of nurses agreed with community's perception that the nurse, who works in hospital, might carry the infection from hospital and spread in community. A qualitative study conducted in Iran also found that nurses themselves worried that they may transmit the virus to their family.¹¹ Long duty hour of nurses was also agreed as barrier factors (75.3%). Seventy four percent of the respondents reported that there was insufficiency of PPE. In a study done in Saudi Arabia, the majority (45.2%) healthcare providers opined that providing PPE would be helpful.¹² Insufficient organizational preparedness to manage COVID-19 outbreak, lack of awareness among COVID patients and community people on COVID-19. Besides these barriers, lack of procedure guideline was also reported by the respondents (71.5%). It was also agreed that there is lack of commitment regarding policy and procedure guideline (65.3%). Despite the findings, 60.0% participants were not agreed the lack of knowledge as barrier factor. Another important finding was that 64.0% respondents agreed that discrimination on providing facilities between nurses and other health care workers. Similar experience was faced by the nurses in Tukey that lack of sufficient support from hospitals and the healthcare system, shortage in PPE were the barriers.¹³

The findings of the study provide confidence that the nurses had adequate knowledge regarding COVID-19 despite having minimal training. Additionally, the major barriers for providing care to patients were lack of awareness on COVID-19 infection among the patients, insufficient organizational preparedness and inadequate material supplies, long duty hour, support from community people. Thus, the study recommends the hospital authority, nursing administration and nursing professionals' organizations to play an important role in organizing training to nurses and awareness program to community people. It is also essential in providing required supplies, and facilitates the motivating environment for effective care and prevention of COVID-19.

ACKNOWLEDGEMENT

We would like to thank the COVID care hospitals who participated in the study and the participants for providing their valuable time.

At last we would like to thank all the helping hands for making the study successful.

Source of research fund: None

Conflict of interest: None

REFERENCES

- Shi Y, Wang J, Yang Y *et al.* Knowledge and attitudes of medical staff in Chinese psychiatric hospitals regarding COVID-19. *Brain Behav Immun Health* 2020; 4: 100064.
- World Health Organization. Situation update. Available at: https://cdn.who.int/media/docs/default-source/nepal-documents/novel-coronavirus/who-nepal-sitrep/-42_weekly (Accessed on: Feb. 2021)
- Kenny P. 90,000 healthcare workers infected with COVID-19: ICN. Available at: www.aa.com.tr/europe Accessed on 6/3/2020
- Nemati M, Ebrahimi B, Nemati F. Assessment of Iranian nurses' knowledge and anxiety toward COVID-19 during the current outbreak in Iran. *Arch Clin Infect Dis* 2020; In Press. <https://doi.org/10.5812/archcid.102848>.
- Nepal R, Sapkota K, Adhikari K *et al.* Knowledge, attitude, practice regarding COVID-19 among healthcare workers in Chitwan, Nepal. *BMC Infect Dis* 2020. DOI:10.21203/rs.3.rs-26774/v1
- Saqlain M, Munir M, Rehman S, Ahmed Z, Tahir A, Mashhood M. Knowledge, attitude, practice and perceived barriers among healthcare professionals regarding COVID-19: A Cross-sectional survey from Pakistan. *J Hosp Infect* 2020. DOI:<https://doi.org/10.1016/j.jhin.2020.05.007>
- Paudel R, Shrestha S, Gurung L. Knowledge, attitude and practice regarding prevention and control of Covid-19 among nurses of tertiary care hospital. *J Coll Med Sci (Nepal)* 2021; 17: 136-44. DOI: 10.3126/jcmsn.v17i2.34328,2
- Kamate SK, Sharma S, Thakar S *et al.* Assessing knowledge, attitudes and practices of dental practitioners regarding the Covid-19 pandemic: a multinational study. *Dent Med Problems* 2020; 57: 11-7.
- Marthoenis M, Maskur M. Knowledge, attitude, and practice of nurses toward COVID-19: a cross-sectional study in a referral hospital of Indonesia. *Iran J Nurs Midwifery Res* 2021; 26: 569-72. doi: 10.4103/ijnmr.IJNMR_362_20.
- Bhagavathula AS, Aldhalei WA, Rahmani J, Mahabadi MA, Bandari DK. Knowledge and perceptions of COVID-19 among health care workers: cross-sectional study. *JMIR Public Health Surveill* 2020; 6: e19160
- Sadati AK, Zarei L, Shahabi S *et al.* Nursing experiences of COVID-19 outbreak in Iran: A qualitative study. *Nurs Open* 2021; 8: 72-9. doi: 10.1002/nop2.604.
- Almaghrabi RH, Alfaraidi HA, Al Hebshi WA, Albaadani MM: Healthcare workers experience in dealing with coronavirus (COVID-19) pandemic. *Saudi Med J* 2020, 41:657-60. 10.15537/smj.2020.6.25101
- Kackin O, Ciydem E, Aci OS, Kutlu FY. Experiences and psychosocial problems of nurses caring for patients diagnosed with COVID-19 in Turkey: a qualitative study. *Int'l J Soc Psychiatr* 2020. DOI: 10.1016/j.jen.2020.07.008.