



IJCRR

Section: Healthcare

ISI Impact Factor  
(2019-20): 1.628

IC Value (2019): 90.81

SJIF (2020) = 7.893



Copyright@IJCRR

# A Study to Assess the Knowledge and Perception Regarding COVID 19 Among the Nursing Students of Different Nursing Colleges of Odisha

Das N<sup>1</sup>, Rath K<sup>2</sup>, Mishra A<sup>3</sup>, Lenka A<sup>4</sup>

<sup>1</sup>Professor and HOD, Child Health Nursing, Kalinga Institute of Nursing Sciences, KIIT Deemed to be University, Bhubaneswar, Odisha, India;

<sup>2</sup>Associate Professor, Obstetrics and Gynecological Nursing, Kalinga Institute of Nursing Sciences, KIIT Deemed to be University, Bhubaneswar, Odisha, India;

<sup>3</sup>Assistant Professor, Department of Community Medicine, Kalinga Institute of Nursing Sciences, KIIT Deemed to be University, Bhubaneswar, Odisha, India;

<sup>4</sup>Principal, College of Nursing, Kalinga Institute of Nursing Sciences, KIIT Deemed to be University, Bhubaneswar, Odisha, India,

## ABSTRACT

**Background:** With the unprecedented outbreak of COVID19, there has been a significant rise in patients and deaths all over the world. Nursing professionals play an essential role in providing health services, promoting health and preventing diseases. Favourable knowledge and practice among them regarding the disease are essential to winning this battle of COVID 19.

**Objective:** To assess knowledge, and perception of student nurses of different colleges of Odisha towards COVID19.

**Methods:** An online survey was conducted among nursing students to collect information regarding COVID 19. It was a pre-designed, structured questionnaire prepared by the objectives. Ethical approval from IEC was obtained along with permission from the head of the institutions of the participating institutions.

**Results:** More than 90% of participants had correct knowledge regarding mode of transmission, common symptoms and preventive strategy. They had limited knowledge (79.8%) on people with a high risk of complications or fatal disease whereas knowledge regarding correct incubation period, complications and method of dead bodies disposal was poor (<60%). Most of them had favourable perception regarding sharing travel history with health professionals (94.5%), hand washing (95.3%). There was poor perception regarding the fatality of COVID 19 and quarantine of cases.

**Conclusion:** The nursing students had good knowledge regarding disease and preventive strategy but limited knowledge on predicting complications or fatal disease and method of disposal of dead bodies. The perception of the nursing students was favourable in most of the aspect but had poor perception regarding a few.

**Key Words:** COVID 19, knowledge, Nurse, Perception, Pandemic

## INTRODUCTION

Since December 2019, the COVID-19 outbreak has become the most challenging health emergency and it rapidly spread all over the world. On 30th January 2020, World Health Organization (WHO) declared COVID-19 as a public health emergency of international concern (PHEIC), and lastly, it was declared as a pandemic on 11th March 2020.<sup>1</sup> Death tolls are high due to the unavailability of specific antiviral drugs for COVID-19 and vaccines.<sup>2</sup>

COVID-19 is spread by human-to-human transmission through the droplet, feco-oral, and direct contact and has an incubation period of 2–14 days. To date, no antiviral treatment or vaccine has been explicitly recommended

for COVID-19.<sup>3</sup> Therefore, applying preventive measures to control COVID-19 infection is the most critical intervention.<sup>4</sup> COVID-19 infection is highly contagious and has affected a large population all across the globe, the total number of deaths caused due to this virus has increased sharply. There have been 14,668,105 confirmed cases and 609,511 confirmed deaths globally India death cases rise to 42,585. India reported 3,28,903 new coronavirus cases in the first six days of August.<sup>5</sup> Indian's infection growth rate of 3.1% was higher than the US and Brazil at the 2 million stages.<sup>6</sup>

Nurses are the primary healthcare providers in contact with patients and are an important source of exposure to infected

### Corresponding Author:

Dr. Alpana Mishra, Assistant Professor, Community Medicine, KIMS, KIIT University, Bhubaneswar, Odisha, India.

Mobile: 9437940418; Email: [dr.alpanamishraspm@gmail.com](mailto:dr.alpanamishraspm@gmail.com)

ISSN: 2231-2196 (Print)

ISSN: 0975-5241 (Online)

Received: 24.03.2021

Revised: 21.04.2021

Accepted: 15.05.2021

Published: 11.06.2021

cases in healthcare settings; thus, they are expected to be at high risk of infection.<sup>7</sup> However, along with them, student nurses pursuing General nursing and Midwifery (GNM), B.Sc (N), and M.Sc (N) are also posted in various healthcare facilities and in a community setting as an additional workforce to combat the COVID-19; hence, they are also expected to be at high risk to get infected with the virus without adequate knowledge and poor perception about COVID-19. In many states of India, due to a shortage of workforce, student nurses are being utilized for different tasks, like in a community survey or as a helping hand in COVID-19 units. Therefore, the likelihood of acquiring the infection is higher among them. It is, therefore, of paramount importance that student nurses involved directly or indirectly caring for COVID-19 patients should equip with adequate knowledge about all aspects of the disease, that is, clinical manifestations, diagnosis, proposed treatment, and established preventive strategies.<sup>8</sup> By the end of January, the WHO and the Centers for Disease Control and Prevention (CDC) had published recommendations for the prevention and control of COVID-19 for HCWs.<sup>9,10</sup> The WHO also initiated several online training sessions and materials on COVID-19 in various languages to strengthen preventive strategies, including raising awareness and training HCWs in preparedness activities. In several instances, misunderstandings among HCWs have delayed controlling efforts to provide necessary treatment<sup>11</sup>, led to the rapid spread of infection in hospitals<sup>12,13</sup> and put patients' lives at risk. COVID-19 knowledge helps encourage optimistic attitudes and maintain safe practice<sup>10</sup> also, knowledge can influence the perceptions of student nurses due to their past experiences and beliefs. Indeed, poor knowledge and perception can delay the recognition and handling of potential COVID-19 patients during the pandemic period. However, the level of knowledge and perceptions of student nurses toward COVID-19 remains unclear as very limited studies are conducted on knowledge and perception. In this regard, the COVID-19 pandemic offers a unique opportunity to investigate the level of knowledge and perceptions of student nurses during this global health disaster. Therefore, this questionnaire-based online survey was planned to explore the knowledge and perception of student nurses in Odisha.

Previous studies on COVID-19 Knowledge and Perception among Budding Nurses: A Questionnaire-Based Survey study findings demonstrated that a significant number of participants was aware of the various aspects of COVID-19 disease with mean±SD 6.7 ± 0.87, that is, incubation period, causative factors, mode of transmission, and prevention and supportive treatment of disease, where a considerable number of responders were aware. A significant number of participants were aware of the etiological factor, incubation period, clinical symptoms, transmission, prevention, and treatments of COVID-19<sup>14</sup> The majority (52.89%) budding

nurses had positive perceptions toward COVID-19. The effective vaccines and treatments of COVID 19 are still under processing. therefore, nurses face a potential risk of infection and work-related anxiety and mental health problems.<sup>15</sup> It is important to update themselves with the latest knowledge to protect healthcare professionals and nursing staff who are caring for patients with COVID-19. They must be educated about COVID 19 and its prevention.<sup>16</sup> Nurses being the first point of contact between the families and health care system, it is of utmost importance for them to be updated with the knowledge and good practices regarding COVID 19. Effective communication between the nurses and physicians can help in providing comprehensive care and addressing the common illness.<sup>17</sup>

## MATERIALS AND METHODS

**Study design:** Web-based cross-sectional survey

**Study area:** Different nursing colleges of Odisha, state of India

**Study subjects-:** Nursing students of different colleges of Odisha

**Sampling technique:** A convenience sampling technique was used to collect information from participants.

**Sample size:** A total of 893 students completed the survey .5 out of them were removed from analysis due to missing answers in more than 50% of questions. 888 responses were taken for data analysis.

### Sample criteria

Inclusion criteria

- Nursing students of different colleges of Odisha (only those principals of different colleges who have given permission)
- Those students were responded on google forms

### Exclusion criteria

- Those students were not responded on google forms
- Students were excluded( only those principals of different colleges who have given permission)

### Development of tool

The survey instrument was developed by having 28 closed-ended questions. It was divided into four sections: Participant demographic characteristics and related information (08 items), knowledge-based questionnaire (08 items), myths on COVID19 (05 items), and perception questionnaire (07 items). The online survey tool was emailed to the potential participants and they were asked to read, understand and answer all the questions if they were willing to participate in the study. Questions about Knowledge included etiological

factor, incubation period, clinical symptoms, transmission, prevention, and treatments. Responses were scored from 1 to 8 with 1 for correct response and 0 for incorrect one. Perceptions toward COVID-19 were assessed using 07 items. Questions were adapted from the previous study<sup>18</sup> and CDC and WHO guidelines. The tool was validated by five experts in the institute.

### Method of data collection

Data were collected after approval from institutional ethic committee (IEC) wide letter no. (Ref.No.:KIIT/KIMS/IEC/322/2020). Written permission was obtained from principals of different colleges of Odisha through their mails and WhatsApp. Informed consents were taken from students who are designed on the google form and Individual willingness to participate consecutively enrolled in the study.

First of all, according to the INC and ONC statutory board the lists of recognized nursing colleges updated on the website as of May,2020 were included in the study. Approximately 32 private colleges and 3 government colleges were identified. Data were collected from 20 colleges where the principal allowed to conduct the study. The link of the questionnaire was sent through e-mails, WhatsApp, and other social media to the contacts of different colleges. The participants were encouraged to roll out the survey to as many students as possible. Thus, the link forwarded to students and they were asked to forward it to their friends and pass it forward. The link directed the participants to the consent form and on receiving consent the questionnaire opened. After completion of all four sections, the participants were instructed to submit the forms online. The data collection was initiated on 30 May 2020, at 6 PM IST and closed on May 6, 2020, at 6 PM IST.

Data entered into Excel sheets and Statistical Package for the Social Sciences (SPSS 21.0) was used for statistical analysis. Descriptive and inferential statistics have been used in the study to analyse the findings.

## RESULTS

Total of 893 students completed the survey.5 out of them were removed from analysis due to missing answers in more than 50% of questions. Among 888 study participants, 801 (90.2%) were females and 781(88.0%) aged less than 25 years. Most of them 649 (73.1%) were pursuing BSC nursing education and 777(87.5%) were enrolled in private colleges of Odisha. All of the participants had heard about SARS Covid2 and 94% had attended a webinar or lecture on it (Figure 1).

When enquired about frequency of use of various resources for information regarding Covid19, most of them

377(42.5% )used news media most frequently as depicted in **Figure 2** and **Table 2**. Social media(37.6%) was the 2<sup>nd</sup> most often used resource followed by a conversation with family and friends(29.1%) and govt or official websites (25.1%). **Table 2**. summarises the response of the study participants, 367 (41.3) participants less often used the official websites, which are the most reliable source of information.

**Table 3** shows the knowledge about common myths of nursing students about Covid19. About 94% of participants were aware of the correct fact about Covid19 affecting all not only elderly. More than 80% knew the fact on prevention of disease with regards to drinking alcohol and eating non-vegetarian food items. But less than 80 % of students had correct knowledge about hand dryer and rinsing with saline to reduce the germ.

**Table 4** describes the knowledge of study participants regarding the natural history of the Covid 19 disease. More than 90% of participants had correct knowledge regarding the mode of transmission, common symptoms and preventive strategy. They had limited knowledge(79.8%) of people with a high risk of complications or fatal disease whereas knowledge regarding the correct incubation period, complications and method of disposal of dead bodies were poor (<60%).

**Table 5** illustrates the perception of the nursing students regarding covid 19. Most of them had favourable perception regarding sharing travel history with health professionals(94.5%), handwashing with soap and water(95.3%), eating cooked meat(89.1%). 91.9% had a correct perception regarding the prevention of disease by flu vaccination. There was poor perception regarding the fatality of covid 19 and quarantine of cases.

## DISCUSSION

The present study attempted to study the knowledge and perception of COVID19 among the nursing students of Odisha. Among 888 study participants, 801(90.2%) were females and 781 (88.0%) aged less than 25 years. Most of the 649 (73.1%)were pursuing BSC nursing education and 777(87.5%) were enrolled in private colleges of Odisha (Table 1). All of the participants had heard about SARS Covid2 and 94% had attended a webinar or lecture on it.

On enquiry about the frequency of use of various resources for information regarding Covid19, most of them 377(42.5%) used news media most frequently which was similar to a study conducted on knowledge and Perceptions of COVID-19 among Health Care Workers.<sup>18</sup> Whereas in a study by Nemati et al.on Iranian Nurses' the commonest sources of information were the websites of the World Health Organization and the Ministry of Health (55.29%).<sup>9</sup> This difference

may be due to difference in age and younger generation of students included in the present study. The second most commonly used source by the participants (n=334, 37.6%) was social media to obtain information on COVID-19. Similar findings were obtained by Nemati et al. About 94% of participants were aware of the correct fact about COVID19 affecting all not only the elderly. More than 80% knew the fact on the prevention of disease with regards to drinking alcohol and eating nonvegetarian food items. But less than 80 % of students had correct knowledge about hand dryer and rinsing with saline to reduce the germs.

More than 90% of participants had correct knowledge regarding the mode of transmission, common symptoms, and preventive strategy. They had limited knowledge (79.8%) on people with a high risk of complications or fatal disease whereas knowledge regarding correct incubation period, complications, and method of disposal of dead bodies was poor.

This study is supported by a similar study conducted on knowledge and Perceptions of COVID-19 Among Health Care Workers<sup>18</sup>. A significant proportion of HCWs had poor knowledge of its transmission (n=276, 61.0%) and symptom onset (n=288, 63.6%) and showed positive perceptions of COVID-19.

## CONCLUSIONS AND RECOMMENDATION

Most of the participants had correct knowledge regarding the mode of transmission, common symptoms, and preventive strategy. Most of them had correct perceptions regarding sharing travel history with health professionals and, washing with soap and water eating cooked meat, and regarding the prevention of disease by flu vaccination. There was poor perception regarding the fatality of COVID 19 and quarantine of contacts. As the global threat of COVID-19 is not over yet, improvement in knowledge and perceptions of Nursing students about the disease will be beneficial in combating the disease. Educational interventions and webinars are urgently needed frequently to reach worldwide with special emphasis on infectivity, duration of transmission and quarantine of exposed individuals. The nursing curriculum should also include this emerging disease for a better understanding of the disease by students.

**Ethical approval:** Study protocols were reviewed and approved by the institutional ethical committee, KIMS, KIIT UNIVERSITY. (Ref.No.:KIIT/KIMS/IEC/322/2020)

## ACKNOWLEDGEMENT

Authors acknowledge the principles of participating institution for permitting to conduct the research

**Financial support and sponsorship:**—Authors have not received any funding for the study

The authors declare no conflicts of interest.

## AUTHORS CONTRIBUTION DETAILS

1. Das N: concept, design, literature search, data acquisition, manuscript preparation, manuscript editing and manuscript review
2. Rath K: concept, design, literature search, data acquisition, manuscript editing and manuscript review
3. Mishra A: data acquisition, data analysis, statistical analysis, manuscript preparation, manuscript editing and manuscript review
4. Lenka A: data acquisition, manuscript editing and manuscript review

## REFERENCES

1. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. [cited 2021 May 3]. Available from: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
2. Timeline: WHO's COVID-19 response. [cited 2021 May 3]. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline>
3. Hussain A, Bhowmik B. COVID-19 and diabetes: Knowledge in progress. *Diab Res Clin Pract.* 2020;162:108-112.
4. Lai CC, Shih TP, Ko WC, Tang HJ, Hsueh PR. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. *Int J Antimicrob Agen.* 2020;55:105924.
5. Coronavirus Disease (COVID-19) Situation Reports. [cited 2021 May 3]. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>
6. World Health Organization. Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected: interim guidance, 25 January 2020. World Health Organization. <https://apps.who.int/iris/handle/10665/330674>.
7. HAN Archive - 00427 Health Alert Network (HAN). 2020 [cited 2021 May 3]. Available from: <https://emergency.cdc.gov/han/han00427.asp>
8. Zhong B-L, Luo W, Li H-M, Zhang Q-Q, Liu X-G, Li W-T, et al. Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. *Int J Biol Sci.* 2020;16(10):1745–1752.
9. Nemati M, Ebrahimi B, Nemati F. Assessment of Iranian Nurses' Knowledge and Anxiety Toward COVID-19 During the Current Outbreak in Iran. *Archives of Clinical Infectious Diseases.* 2020 [cited 2021 May 3]. Available from: <https://sites.kowsarpub.com/archid/articles/102848.html#abstract>
10. ePROTECT Respiratory Infections (EN) [Internet]. OpenWHO. [cited 2021 May 3]. Available from: <https://openwho.org/courses/eprotect-acute-respiratory-infections>
11. Hoffman SJ, Silverberg SL. Delays in Global Disease Outbreak Responses: Lessons from H1N1, Ebola, and Zika. *Am J Pub Health.* 2018;108(3):329–33.
12. Patidar K, Sharma M, Gautam A, Sharma D, Jain J. COVID-19 Knowledge and Perception among Budding Nurses: A Questionnaire-Based Survey. *Int J Nurs.* 2020;6:1–7.

13. Khalid I, Khalid TJ, Qabajah MR, Barnard AG, Qushmaq IA. Healthcare Workers Emotions, Perceived Stressors and Coping Strategies During a MERS-CoV Outbreak. Clin Med Res. 2016 Mar 1;14(1):7–14.
14. Aldohyan M, Al-Rawashdeh N, Sakr FM, Rahman S, Alfarhan AI, Salam M. The perceived effectiveness of MERS-CoV educational programs and knowledge transfer among primary healthcare workers: a cross-sectional survey. BMC Infect Dis. 2019;19(1):273.
15. Sharma RP, Pohekar SB, Ankar RS. Role of a Nurse in COVID-19 Pandemic. J Emer Med Surg. 2020;9(35):2550–5.
16. Selvaraj SA, Lee KE, Harrell M, Ivanov I, Allegranzi B. Infection Rates and Risk Factors for Infection Among Health Workers During Ebola and Marburg Virus Outbreaks: A Systematic Review. J Infect Dis. 2018;218(5):S679–89.
17. McCloskey B, Heymann DL. SARS to novel coronavirus – old lessons and new lessons. Epidem Infect. 2020;148:e22
18. Bhagavathula AS, Aldhaleei WA, Rahmani J, Mahabadi MA, Bandari DK. Knowledge and Perceptions of COVID-19 Among Health Care Workers: Cross-Sectional Study. J Med Res Pub Heal Surv. 2020;6(2):e19160.

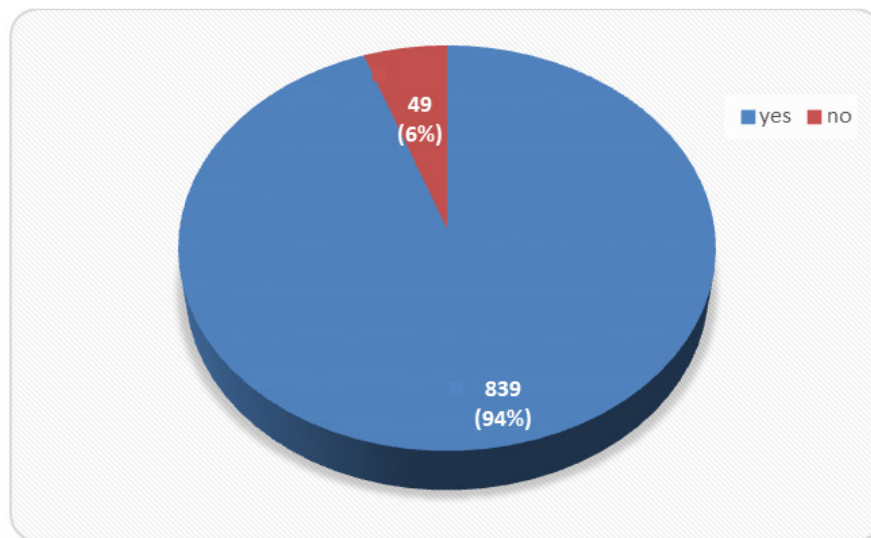


Figure 1: Percentage of study participants attended seminar/webinar on Covid 19 (N=888).

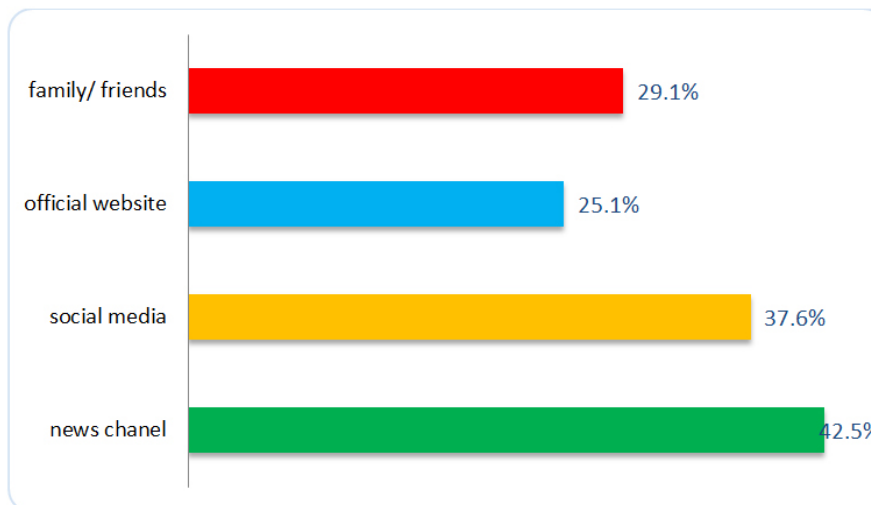


Figure 2: Most often used source by participants (N=888).