

Original Research Article

A descriptive study to assess the knowledge of coronavirus among nursing students, Sirmaur, Himachal Pradesh

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ABSTRACT

Background: The coronavirus disease 2019 (COVID-19) is an emerging infectious disease caused by novel coronavirus and hence this pandemic has a great impact on the education system. Nursing students as part of the health team should know the coronavirus like other communicable diseases.

Methods: A quantitative approach and cross-sectional survey research design used to assess the knowledge of Coronavirus among 145 nursing students of district Sirmaur selected through the convenient sampling technique. An online self-structured questionnaire used as a tool for data collection. Descriptive data analysis was done with SPSS (version 23).

Results: The result of the study revealed that only 31.7% of students had good knowledge about COVID-19, and 68.3% had average knowledge.

Conclusions: There is a need for intervention such as educational programs or pieces of training to educate about the pandemic and its prevention practices to undergraduate students to make our society more secure.

Keywords: Knowledge, Coronavirus, Nursing, Students

INTRODUCTION

The first case of novel coronavirus disease (COVID-19) was reported in China and later on this disease has rapidly crossed borders, infecting people throughout the world. All these things are creating a lot of concern for people leading to an extreme level of anxiety.¹ The emerging outbreak of coronavirus disease 2019 (COVID-19) is necessitating social distancing and also other measures to protect the health.² Coronaviruses are medium-sized viruses, 100-150 nm in diameter. It contains an un-segmented single-stranded positive-sense RNA. Transmission of the virus is by inhalation of droplets or aerosol. By using the enzyme-linked immunosorbent assay (ELISA) test, the viral antigens were detected in the respiratory secretions and antibodies in the serum.³

The coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome corona virus 2 that has significant implications for the cardiovascular care of patients. First, those with COVID-19 and pre-existing cardiovascular disease have an increased risk of severe disease and death. Second, the infection has been associated with multiple direct and indirect cardiovascular complications including acute myocardial injury, myocarditis, arrhythmias, and venous thromboembolism. Third, therapies under investigation for COVID-19 may have cardiovascular side effects. Fourth, the response to COVID-19 can compromise the rapid triage of non-COVID-19 patients with cardiovascular conditions. Finally, the provision of cardiovascular care may place health care workers in a position of vulnerability, as they become hosts or vectors of virus transmission. We hereby review the peer-reviewed and pre-print reports pertaining to cardiovascular considerations related to COVID-19 and

highlight gaps in knowledge that require further study pertinent to patients, health care workers, and health systems.⁴

The Indian ministry of health and family welfare (MOHFW) along with health departments of all the states have been providing pieces of information on COVID-19 through using different channels of communication and mobile app, Aarogya-Setu. India faces a threat of a serious outbreak due to deep challenges in practicing social distancing and access to water and soap for hand washing, with densely populated urban areas and a highly mobile population in states.⁵

Coronavirus disease 2019 (COVID-19) has rapidly spread worldwide, and it was officially declared a pandemic by the WHO on March 11, 2020. The symptoms of COVID-19 illnesses range from very mild (fever and respiratory symptoms such as cough and shortness of breath) to severe (pneumonia, severe acute respiratory syndrome and a kidney failure).⁶

The COVID-19 is an emerging disease, which needs to be briefly understood by all individuals. Whereas preventive aspects need to be grossly understood by all individuals. A study was conducted on knowledge, attitude, anxiety and perceived mental health care need in the Indian population during COVID-19 pandemic results in a moderate level of knowledge about the COVID-19 infection and adequate knowledge about its preventive aspects. The anxiety level is high and more than half of the population that is 80% of the people was preoccupied with the thoughts of COVID-19. There are many other issues like sleep difficulties, paranoia about acquiring COVID-19 infection and distress related social media. There is a need to intensify the awareness and address the mental health issues of people during this COVID-19 pandemic.⁷

The source of information about COVID-19 is different for health care professionals and the public. As health care professionals are acquiring information from authenticated websites of the world health organization (WHO), centre for disease control and prevention (CDC), Indian council of medical research (ICMR). While the general public rely on television. Both health care professional and the general public are worried to get infected by this virus and taking precautionary measures against COVID-19.⁸

A study done in Pakistani university concludes the major source of information among students is social media and half of the students had good knowledge related to COVID-19. Only 36.5% of participants had good preventive practices.⁹ There are few myths related to corona virus, which need to be clarified. A study of Nepal reported 18% of the respondents perceived corona virus infects only older people, 11% opined that the infection is fatal with no chances of survival and 70% considered that limiting consumptions of poultry and meat would prevent

the spread of COVID-19.¹⁰ The world health organisation is performing the vital role to resolve all these myths and to provide accurate current information to the public. Therefore, the current study was done to certain whether the nursing students have knowledge related to corona virus.

Objectives of the study were to assess the knowledge of nursing students regarding the coronavirus.

METHODS

A cross-sectional descriptive online survey was planned to assess the knowledge of coronavirus among nursing students. A self-structured, online google form was used to collect data during the month of May 2020. The study population included graduate nursing students of Akal college of nursing. We enrolled all the (One hundred and forty five) students as per their willingness for participation through convenient sampling techniques. Ethical clearance was taken from the institutional review board of Akal college of nursing, Baru Sahib, Himachal Pradesh, India. Informed electronic consent was taken from all the participants to participate in the study. A self-structured multiple-choice questionnaire (online google form) was used for the data collection procedure. Twenty-four multiple-choice questions were added in the tool. The overall content validity of the tool was assessed before administering the survey, by sending the tool for five experts and found valid. The reliability of the tool was collected by using Cronbach's alpha (i.e. 0.83). The data were analysed by using descriptive statistics with Statistical product and service solutions (SPSS version 23).

RESULTS

The Knowledge-based questionnaires on corona virus were presented in the form of positive statements using frequency and percentage distribution. There was a total of twenty-four questions, which were categorized into three-level: Adequate level having score between 17-24; average level having a score between 9-16; Poor level having a score between 0-8. The most common correct answer was hand washing duration (i.e. 100%) and the least commonly known question was on the type of additional infection control precautions required specifically when performing an aerosol-generating procedure, such as bronchoscopy, on a patient with suspected or confirmed illness (i.e. 3.4%). The minimum and maximum score achieved by the nursing students was 9 and 23 respectively. The average score was 14.42 with ± 3.4 standard deviation as shown in the Table 1.

The level of knowledge regarding corona virus among nursing students was presented in Figure 1. The average knowledge was found in 99 (68.3%) of the students and only 46 (31.7%) had a good level of knowledge as shown in the Figure 1.

Table 1: Knowledge-based questionnaire on corona virus (n=145).

Variables	Frequency	Percentage (%)
Coronavirus belongs to nidovirus large family of virus	141	97.2
The first case of novel coronavirus was identified in Wuhan (Hubei)	83	57.2
MERS and SARS both diseases are related to coronavirus	27	18.6
RT-PCR is the diagnostic tool used to detect COVID-19	35	24.1
Coronavirus got its name due to crown like projection	124	85.5
SARS is described as a zoonotic virus-means they emerge from animal to cross the species barrier infrequently	104	71.4
The coronavirus causes respiratory infection	143	98.6
Cover your nose while sneezing, by adding more garlic in diet and washing hands frequently are the precautions that need to be taken to protect from coronavirus	46	31.7
According to the global response plans of WHO the SPRP (strategic preparedness and response plan), PHEICB (public health emergency of international concern) and CMT (crisis management team) are the most appropriate plans of WHO team to combat COVID-19	25	17.2
Zoonotic diseases are those diseases which are naturally transmitted between vertebrate animals and humans	29	20
A spill over event is when a pathogen that is circulating in an animal species is found to be transmitted to humans.	124	85.5
Coronavirus can be transmitted from person to person	144	99.3
Actively searching for cases in healthcare facilities where infected patients were cared for is an example of active case finding	13	9
Outbreak investigations require a multidisciplinary team	144	99.3
If a negative test result is obtained from a patient with a high index of suspicion for infection, new specimens should be collected and tested	140	96.6
A negative test result could be obtained even if an individual is infected if the specimen is collected very late or early in the illness, is of poor quality, if not handle or shipped appropriately.	32	22.1
When triaging patients at health care facilities, masks are required only for patients with a confirmed infection-is a false statement.	35	24.1
Airborne precautions are required specifically when performing an aerosol-generating procedure, such as bronchoscopy, on a patient with suspected or confirmed illness	5	3.4
Coronavirus is a microorganism responsible for causing COVID-19	137	94.5
Fever cough and shortness of breath are the symptoms of corona virus	63	43.4
Bat was affected by corona virus before its transmission to humans	59	40.7
The first country affected by corona virus was China	79	54.5
Pneumonia, kidney problems, and death are complications of corona virus	25	17.2
Average time for hand washing is with soap and water is 40-60 seconds	145	100

*Range (Min. score of students-max. score of students) = (9-23) mean score \pm SD:14.42 \pm 3.4

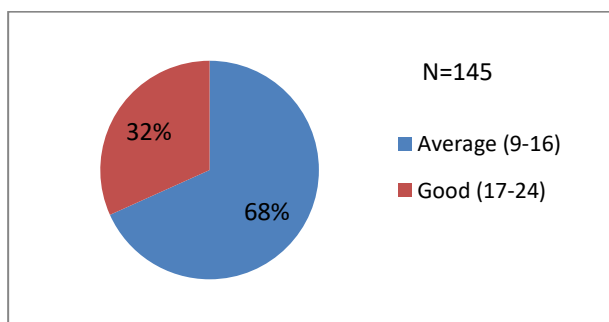


Figure 1: Level of knowledge among nursing students regarding coronavirus.

DISCUSSION

In this study among 145 students, there was no one with poor knowledge, 68.3% were with average knowledge and 31.7% with good knowledge whereas in a similar study which was done to assess knowledge of medical students towards coronavirus disease 2019. The findings revealed that among 354 participants 86.7% had good knowledge about the COVID-19 symptoms 92.4% of the participants were aware that early treatment could help patients to recover from the disease.¹¹

A similar study was done in Mumbai among health care professionals and students results that the participants had an adequate level of knowledge (71.2% reported correct answers). More than three-fourths of the responders were aware of the various infection control measures like rapid triage, respiratory hygiene, and cough etiquette and having a separate, well ventilated waiting area for suspected COVID-19 patients.¹² While in the present study, 43.4% of the participants were aware regarding the symptoms of COVID-19.

The current findings of the study suggest a need to initiate an educational program for nursing students so that she provides health education and can spread awareness about the prevention of COVID-19. There is a need to disseminate research findings through webinars and in online educational programs about COVID-19.

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