

Original Research Article

Knowledge and awareness among nursing students regarding the COVID-19: a cross sectional study

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ABSTRACT

Background: The health care providers are at the front line of the outbreak response of current pandemic of COVID-19 and exposed to hazards that put them at risk of infection. Rapid spread of the COVID-19 pandemic has become a major cause of concern for the healthcare profession in all over the world. All health care professional must stay aware of the latest information on the COVID-19 outbreak. This research paper deals with the knowledge and awareness about COVID-19 among nursing students.

Methods: By non-probability snowball sampling method the sample size was 407. Predesigned and pretested questionnaire was used in this study. Questions were related to knowledge and awareness about current COVID-19. The participant was directed to complete the self-report survey by online. The data was tabulated and analysed statistically. MS-Excel and Statistical Package for Social Sciences version 22.0 used for all statistical analysis.

Results: A total of 407 nursing students participated in this study. Over all 75.58 ± 3.21 participants showed good knowledge and awareness about COVID-19. Around 87.47% respondents were aware about high risk age group for COVID-19. 83.54% participants were aware about concept of hand hygiene and 83.37% were well aware of PPE for suspected or confirmed COVID-19 cases.

Conclusions: The study participants showed adequate basic knowledge and awareness of COVID-19. There is a strong need to implement periodic educational interventions and training programs on infection control practices and other updates of COVID-19 across all healthcare professions including nursing students.

Keywords: Corona virus, Lockdown, WHO, Nursing students, COVID-19

INTRODUCTION

India is fighting the battle against the corona virus (COVID-19) pandemic and healthcare workers on the frontlines are particularly vulnerable to this infection. COVID-19 is an infectious disease caused by a newly discovered coronavirus. COVID-19 is transmitted by human-to-human through droplet, feco-oral, and direct contact and has an incubation period of 2-14 days.¹ Corona virus infections are emerging respiratory virus that are known to cause illness ranging from the common

cold to severe acute respiratory syndrome (SARS).² The previous outbreaks of corona viruses such as severe acute respiratory syndrom- coronavirus (SARS-CoV) and Middle East respiratory syndrome-coronavirus (MERS-CoV) in 2003 and 2015 show similarities to the novel corona virus, which was first reported in December 2019, and is currently the disease in questions resulting in the worldwide coronavirus disease-2019 outbreak, COVID-19.³ It was first reported by Chinese authorities in Wuhan city, the capital of Hubei province in China at the end of December 2019.⁴ Empirical clinical data have shown that

the overall case fatality rate of COVID-19 is 2.3% in China, much lower than those of SARS (9.5%), MERS (34.4%), and H7N9 (39.0%).⁵⁻⁷

Nurses play a vital role in health care system and health team. All health care providers specially nurses are on the frontline battling against this pandemic and providing services to patients which is helpful to prevent and control COVID-19 pandemic.

Today everyone is grateful to all corona warriors, specially nurses because they are working round the clock, staying away from family, putting them self at risk, to fight against this pandemic. We have seen unprecedented of over work by nurses directly involved in the response to the COVID-19 pandemic. India has 1.7 nurses per 1000 population, 43% less than the world health organization norm (3 per 1000). This includes nurses, midwives, woman health visitors and auxiliary nurse, midwives, overall, India has 3.07 million registered nursing personnel.⁸

Nursing students are the future health care providers, their quality training and teaching will definitely affect the outcomes. The objective of this study was to assess the knowledge and awareness of COVID-19 among nursing students of SVS Nursing College. This was an online survey-based study, in which questionnaire was prepared from current interim guidelines and information for healthcare personnel provided by Indian Council of Medical Research (ICMR) and World Health Organization (WHO).

METHODS

This was a cross-sectional study was carried out by department of Community Medicine, SVS Medical College with collaboration of SVS Nursing College, Mahabubnagar, Telangana state, India. This study was conducted in the month of April 2020 when all students were at their home due to the lock down period. The non-probability snowball sampling method was used and the sample size was 407. Out of 450 students, 407 students participated voluntarily in study, some students were excluded due to participation confirmation was not received. All undergraduate nursing students from first year to final year were involved in this study. A predesigned and pretested questionnaire was used in this study. No personal information of students was asked in the questionnaire. Total 25 questions were included in questionnaire, related to basic knowledge and awareness about current COVID-19. The questionnaire was prepared from current interim guidelines and information for healthcare personnel provided by ICMR and WHO.

After approval of ethics committee, consent was taken from all the participants before starting the online survey. All participants were explained about purpose of the study and directed to complete the online survey. The obtained data were coded, validated, and analyzed using

SPSS version 22.0. Descriptive analysis was applied to calculate frequencies, proportions and statistical test of significance was tested at $p < 0.05$.

RESULTS

A total of 407 respondents completed the study questionnaire. 25 questions were asked about the knowledge and awareness towards COVID-19. Total 75.58 ± 3.21 showed good knowledge and awareness about COVID-19. The main mode of transmission of the virus is via respiratory droplets which were answered correctly by 86.24% of the respondents. More than 75% of the respondents were aware of the various infection control measures of COVID-19. Only 47.67% of respondents were aware about correct concept of quarantine and isolation. 69.84% respondents had knowledge about the mode of transmission of COVID-19. Whereas 83.54% of respondents were aware of practice of preventive measures. Around 96.56% of respondents were aware of benefits of social distancing. Around 95.58% were having knowledge about the face mask usage while going out in current pandemic. However, 87.96% respondents knew how to dispose a used mask and 87.47% respondents were aware that, old age group people were most vulnerable to COVID-19. So far as we know through many researches that COVID-19 usually does not show its symptoms as soon as it enters the human body, symptoms usually occur within 2-14 days duration, in this research 79.36% were aware of this. Around 82.06% of the responders were aware of the various personal protective equipment (PPE) recommended for use in dealing with suspected COVID-19 patients in a healthcare setting. 74.20% respondents were having very good knowledge about correct usage of PPE. Around 83.54% were aware about concept of hand hygiene. 65.60% of respondents had knowledge regarding myths buster questions related to mode of transmission and prevention (Table 1).

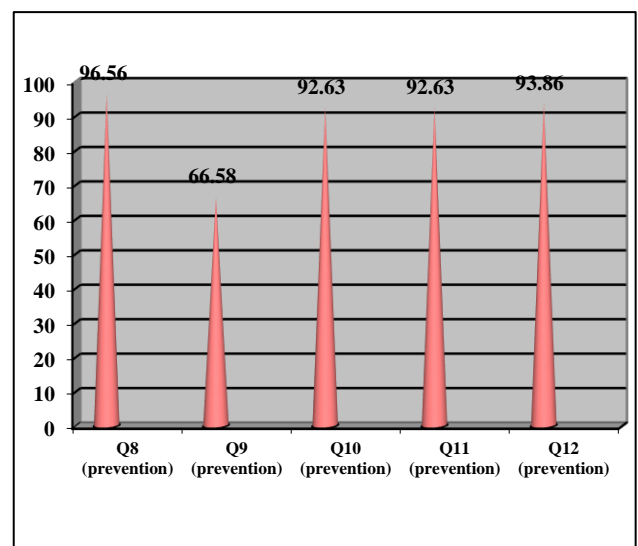
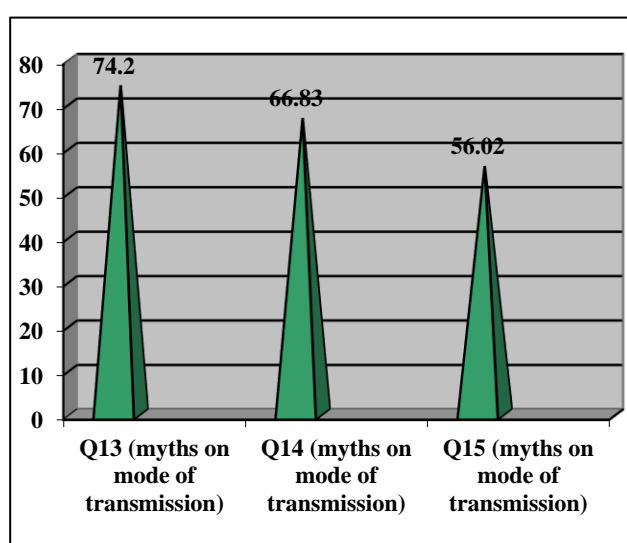
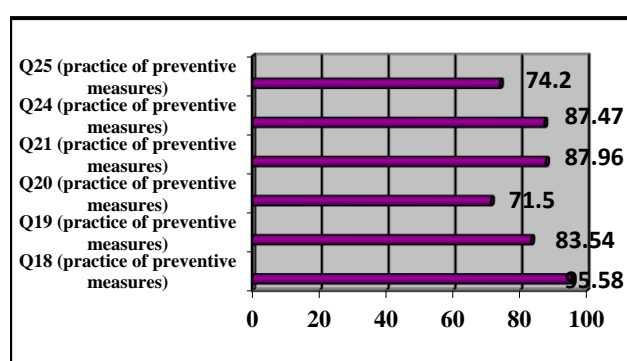


Figure 1: Knowledge and awareness of prevention.

Table 1: Knowledge and awareness about COVID-19 among nursing students (n=407).

Statement	Response- yes	%	Response- no	%
Q1 (clinical symptoms)	351	86.24	56	13.76
Q2 (myths on mode of transmission)	168	41.27	239	58.72
Q3 (incubation period)	323	79.36	84	20.64
Q4 (concept of quarantine and isolation)	194	47.67	213	52.33
Q5 (awareness)	301	74.00	106	26.04
Q6 (vulnerable age group)	356	87.47	51	12.53
Q7 (myths on mode of transmission)	290	71.25	117	28.75
Q16 (PPE usage)	334	82.06	73	17.94
Q17 (PPE usage)	235	57.74	172	42.26
Q22 (vaccine/treatment)	300	73.71	107	26.29
Q23 (myths on mode of transmission)	243	59.71	163	40.05

**Figure 2: Knowledge and awareness about mode of transmission.****Figure 3: Knowledge and awareness about practice of preventive measures.**

DISCUSSION

As per ICMR, SARS-CoV-2 (COVID-19) testing status (25/05/2020 9:00 AM IST), around 30,33,591 samples were tested in India. As per Government of India,

1,38,845 people were positive shown in COVID-19 Dashboard as on 25 May 2020, 08:00 IST (GMT+5:30).⁹

India is having lockdown measures since 25th March 2020, and currently is in 4.0 lockdown phase. During this period all students were at their home, and we did not give any formal training or orientation to them regarding COVID-19 recently. Whatever level of knowledge and awareness they were having during this survey, possibly it might have been gained through previous orientation and training during the course study and presently by social media, internet, news channels, official websites etc.

In this cross-sectional study with 407 study participants, the overall responses to the survey was satisfactory because, overall correct responses of knowledge and awareness were recorded as 75.58%. In another recent study conducted by Modi et al on similar topic COVID-19 awareness among healthcare students and professionals in Mumbai metropolitan region, the overall correct responses on knowledge was 67.6%, this difference could be due to different settings of both studies.¹⁰

Around 86.24% of respondents knew that, the most common symptoms of COVID-19 were fever, cough, headache, fatigue, etc. A similar finding from the Xu et al, 83.54% participants were correct knowledge about hand hygiene.¹¹ As described by the WHO and ABHR, 74.20% were well aware with usage PPE for suspected/confirmed COVID-19 cases, quite similar result were observed by Modi et al.¹²⁻¹⁴

The centers for disease control has provided interim infection prevention and control recommendations for patients with suspected or confirmed coronavirus disease 2019 (COVID-19) in healthcare settings for PPE. 87.47% respondents were believed that, above 60 years age group people were most vulnerable to COVID-19. A similar study also showed that majority of participants believed that the disease is more dangerous for the elderly. This

has been proven from multiple studies published about the COVID 19 disease in China.¹⁵⁻¹⁷

One of the drawbacks of this study is that all respondents are from one nursing college of Telangana state of south India region, which do not truly represent the all nursing students of the entire state and country.

CONCLUSION

The study participants showed adequate basic knowledge and awareness of COVID-19. There is a strong need to implement periodic educational interventions and training programs on infection control practices and other updates of COVID-19 across all healthcare professions including nursing students. Additional online education interventions and campaigns are also required. This would definitely improve the knowledge and confidence of nursing students to provide the right care to their patients and protect them self from COVID-19.

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