

ASSESSMENT OF KNOWLEDGE AND PRACTICES OF NURSING STUDENTS ABOUT PRECAUTIONS AGAINST COVID-19 INFECTION

Haider Abd AL Ameer Twair AL Hamad *

* Lecturer, PhD. Adults Nursing, College of Nursing, University of Al-Qadisiyah, Iraq. E- mail: haider.alhamad@qu.edu.iq

Fadia Hussein. Ali **

**Lecturer, PhD. Maternal and Neonatal Nursing, College of Nursing, University of Al-Qadisiyah, Iraq. E- mail: Fadia.ali@qu.edu.iq.

Abstract

Background: Nurses must be adequately informed about COVID-19 as well as appropriate practices related to the outbreak, as they will be providing healthcare on the front lines and playing a key role in developing public health practices.

Material/Methods: A descriptive study was conducted on 100 students from Al-Qadisiyah University College of Nursing between 3rd of January and 26th of June 2023, to evaluate nursing students' practices and knowledge regarding precaution measures against COVID-19 infection.

Results: The findings revealed that the that 57% of participants were between the ages of 19 and 21, 75% of them were females, and 83% of participants were urban residents. The students' overall knowledge and practices about precautions against COVID-19 infection were 93% and 70%, respectively.

Conclusions: The findings indicate high knowledge and good practice regarding precautions against COVID-19 infection.

Recommendations: Nursing curricula should be changed to incorporate online modalities with recorded content that are available to all students nationwide in order to satisfy students' needs for COVID-19 education. There should be more required and elective courses on pandemic management in the curriculum.

Keywords: knowledge, practices, nursing students, COVID-19 infection

Introduction

SARS and the common cold are among the illnesses that can be brought on by coronavirus (CoV) infections, which are newly discovered respiratory viruses. A zoonotic pathogen called coronavirus can spread through interactions between humans and animals as well as between humans⁽¹⁾.



On March 12, 2020, the World Health Assembly declared COVID-19 to be a worldwide pandemic. This was due to the virus rapidly spreading throughout the many nations that reported the cluster of cases, including Iraq⁽²⁾.

The COVID-19 virus can cause infection with no symptoms at all, pneumonia, and other potentially fatal outcomes. symptoms like fatigue, fever, coughing, and loss of taste or smell⁽³⁾.

The virus primarily spreads through the mouth, nose, and eyes of people who are close to one another. Additionally, it can come in contact with contaminated objects and people through coughing, sneezing, and talking to infected people's droplets. Precautions to prevent the infection from spreading include frequent hand washing, avoiding contact with unclean hands, quarantine, covering one's mouth when coughing, and not touching one's face⁽⁴⁾.

The Iraqi Ministry of Health emphasized that the key to combating the pandemic was to reduce human contact, isolate those who were infected or suspected of being infected, and use personal protective equipment appropriately and effectively to prevent transmission. Nurses, being medical professionals, have the duty to advise patients, families, and communities about the current pandemic and refer them to health-care authorities for advice⁽⁵⁾.

Nursing students who will treat patients in the future should possess the information and abilities needed to offer the training and guidance required to safeguard and promote public health throughout the pandemic. As a result, nursing programs ought to be created to encourage nurses to adhere to health guidelines⁽⁶⁾.

Analyzing nursing students' knowledge and abilities is crucial, but the current study is significant because of few studies regarding this topic in the relevant literature and based on an assessment of nursing students' knowledge and abilities, this article offers recommendations for career specific training that will help nurses respond to unanticipated catastrophic events like the COVID-19 pandemic.

Material/Methods

From January to June 2023, a descriptive study was carried out among 100 B.Sc. nursing students at the College of Nursing at Al-Diwaniyah governorate. A nonprobability convenience sample of students enrolled in first through fourth grade who gave their permission to participate. A specially designed questionnaire comprising three sections was used to collect the data: Section one regarding socio-demographic data: It consisted of 11 items, with Section 2 regarding knowledge about precautions against COVID-19 infection: It consists of 13 items, which are designed in the form of short questions answered by the student (I know, not sure, I don't know). Section three regarding practice about precautions against the COVID-19 infection: It consists of 5 items, which are designed in the form of short questions answered by the student (always, sometimes, never)⁽⁷⁾⁽⁸⁾.

The knowledge questionnaire's internal consistency was deemed acceptable in this study based on its Cronbach's alpha coefficient of 0.828. The questionnaire was sent to five knowledgeable faculty members to get their opinions on the contents. Interviews were used to collect the data for this investigation. The study's results were analyzed and evaluated using the statistical software program SPSS.



Results Table (1): The study sample's distribution based on its sociodemographic characteristics

Demographic	Rating and Intervals	Freq.	%
Age / years	≤ 18	16	16.0
	19 - 21	57	57.0
	22 - 24	24	24.0
	≥ 25	3	3.0
	Total	100	100
Gender	Male	25	25.0
	Female	75	75.0
	Total	100	100
Residence	Rural	17	17.0
	Urban	83	83.0
	Total	100	100

Table (1) shows that a highly percentage (57%) of participants their age between 19–21 years old (75%) of participants were female students, and a high percentage (83%) of students reside in cities.

Table (2) Distribution Overall Assessment of Knowledge and practices

Items	Level	Frequency	Percent	Mean	Std. Dev.
Overall Knowledge	Low	0	0	2.7308	.22017
	Fair	7	7.0		
	High	93	93.0		
	Total	100	100.0		
Overall Practices	Low	4	4.0	2.4620	.41360
	Fair	26	26.0		
	Good	70	70.0		
	Total	100	100.0		

“MS: Mean of Scores L=Low (1-1.66)M= Moderate:(1.67-2.33) ,H= High (2.34-3)”

Table (2) show the students' overall knowledge and practices about precautions against COVID-19 infection were 93% and 70%, respectively.

DISCUSSION

The international epidemic caused by the COVID-19 infection is a crisis for society and the nation's healthcare systems due to its high rate of transmission and symptoms, which include severe respiratory failure and require specialized care. The understanding and conduct of nurse candidates, who will spearhead public health's defense against COVID-19, must be thoroughly investigated. The initial stage in directing future educational efforts toward illness prevention is assessing the current level of knowledge. Future behavior is influenced by these preventive measures⁽⁹⁾⁽¹⁰⁾.

According to the study, participants knew a great deal about how to prevent getting COVID-19 (Table 2). The fact that nursing students accurately reported the COVID-19 pandemic and took the required precautions at the expected level is encouraging. This finding might be explained by



students' strong problem-awareness and prior exposure to health education. This could have had a significant impact on the outcome.

In their longitudinal study, "Knowledge and Awareness Among Nursing Students Regarding the COVID-19: A Congruence Study," According to Joshi, et al. (2020), study participants had adequate understanding and fundamental understanding of the COVID-19, which is in line with the results of the current investigation⁽¹¹⁾.

According to Khasawneh et al. (2020), assessments of crisis knowledge and human behavior are essential to the overall effort to contain the outbreak. These evaluations have been helpful in informing the public and bringing attention to the most effective procedures from previous viral epidemics⁽¹²⁾. This rate is in line with similar studies where students' knowledge varies between 50% and 92.7% ⁽¹³⁾⁽¹⁵⁾.

Studies abound in the literature demonstrating how students who choose to major in health-related fields are more knowledgeable and experienced than students in other fields⁽¹⁶⁾⁽¹⁷⁾⁽¹⁸⁾.

During the first wave of the pandemic, a study on high school students in Iran regarding their knowledge, attitudes, and safety practices regarding COVID-19 revealed that the knowledge level was higher than 90% ⁽¹⁹⁾.

This study examined the practice of taking precautions against COVID-19 infection and found that they were effective at the expected level in relation to the COVID-19 pandemic (Table 2). This outcome might be the consequence of the students' extensive health education and high degree of awareness of the problem. Additionally, the pandemic guidelines that the Iraqi Ministry of Health informed the public about and requested people to abide by were based on the protective measures that the WHO had implemented after the pandemic first appeared. which might have successfully influenced this outcome.

Similar research reveals that health-related students regularly engage in preventive measures like hand washing, mask wear, and mouth covering when coughing or sneezing ^(15, 20, 21). Another study that involved Bangladeshi university students discovered that the students' awareness of covering their mouths when sneezing or coughing was relatively high⁽¹⁶⁾.

Further research emphasizes how crucial it is to teach students about COVID-19 precautions in a valid, efficient, effective, and ongoing manner in order to prevent the potential creation of new cases brought on by crowds. Every person had to be involved in order to achieve the disease control. The ability to combat the illness was impacted by one's knowledge and experience⁽²²⁾.

Conclusions:

The participants used the appropriate techniques to prevent COVID-19 infection and possessed adequate knowledge about precautions to take. Giving all nursing students the right knowledge and training regarding the pandemic is crucial because they will be the future leaders in healthcare delivery.

Recommendations:

Nursing curricula should be changed to incorporate online modalities with recorded content that are available to all students nationwide in order to satisfy students' needs for COVID-19 education. There should be more required and elective courses on pandemic management in the curriculum.



References

1. Bhagavathula, A. S.; Aldhaleei, W. A.; Rahmani, J.; Mahabadi, M. A.; Bandari, D. K :Novel coronavirus (COVID-19) knowledge and perceptions: a survey on healthcare workers ,JMIR Public Health and Surveillance,2020. doi: 10.2196/19160
2. Khalil, N. S.; Al-Yuzbaki, D. B.; Tawfeeq, R. S : COVID-19 knowledge, attitude and practice among medical undergraduate students in Baghdad City, *Eur Asian Journal of Bio Sciences*, 2020,14(2),P: 4179-4186.
3. Struyf, T.; Deeks, J. J.; Dinnes, J.; Takwoingi, Y.; Davenport, C.; Leeftang, M. M.et.al: Signs and symptoms to determine if a patient presenting in primary care or hospital outpatient settings has COVID-19, *Cochrane Database of Systematic Reviews*, 2022(5).
4. Zhao, B.; Kong, F.; Aung, M. N.; Yuasa, M.; Nam, E. W :Novel coronavirus (COVID-19) knowledge, precaution practice, and associated depression symptoms among university students in Korea, China, and Japan, *International journal of environmental research and public health*, 2020,17(18), 6671.
5. American Nurses Association. Public Health Nursing2020. <https://www.nursingworld.org/practice-policy/workforce/public-healthnursing/>
6. Seah B, Ang ENK, Liaw SY, Lau ST, Wang W. Curriculum changes for pre-registration nursing education in times of COVID-19: for the better or worse? *Nurse Educ Today*. 2021;98:1-4. doi:10.1016/j.nedt. 2020.104743
7. Begum, F. : Knowledge, attitudes, and practices towards COVID-19 among B. Sc. Nursing students in selected nursing institution in Saudi Arabia during COVID-19 outbreak: an online survey,*Saudi Journal of Nursing and Health Care*,2020, 3(7), P:194-8.
8. Al-Rawajfah, O. M.; Al-Mugeed, K. A.; Alaloul, F.; Al-Rajaibi, H. M.; Al Omari, O. : COVID-19 knowledge, attitude, and precautionary practices among health professional students in Oman. *Nurse Education in Practice*,2021, 52, 103041.
9. Vandembroucke JP, Von Elm E, Altman DG, et al. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): explanation and elaboration. *PLoS Med*. 2007;4(10):e297-35. doi:10.1097/EDE.0b013e3181577511
10. Alfahan A, Alhabib S, Abdulmajeed I, Rahman S, Bamuhair S. In the era of coronavirus: healthcare professionals' knowledge, attitudes, and practice of hand hygiene in Saudi primary care centers: a cross sectional study. *J Commun Hosp Intern Med Perspect*. 2016;6:32151. doi:10.3402/Jchimp.V6.32151
11. Joshi K., Leena M., and Deepak J.: Knowledge and awareness among nursing students regarding the COVID-19: a cross sectional study. *International Journal of Community Medicine and Public Health* 2020. Jun.; 7(6): <http://www.ijcmph.com>
12. Khasawneh, A. I.; Humeidan, A. A.; Alsulaiman, J. W.; Bloukh, S.; Ramadan, M.; Al-Shatanawi, T. N.;Kheirallah, K. A.: Medical students and COVID-19: knowledge, attitudes, and precautionary measures. A descriptive study from Jordan. *Frontiers in public health*,2020, 8, 253.
13. Aksu A, Buldum A, G. Emül T, Çelebioğlu A. Nursing students' knowledge and practices about COVID-19: a cross-sectional survey. *Nurs Forum*. 2022; 57:615-623. doi:10.1111/nuf.12720.



14. Modi P, Nair G, Uppe A, et al. COVID-19 awareness among healthcare students and professionals in Mumbai metropolitan region: a questionnaire-based survey. *Cureus*. 2020;12(4):E7514. doi:10.7759/Cureus.7514.
15. Ikhlag A, Bint-E-Riaz H, Bashir I, Ijaz F. Awareness and attitude of undergraduate medical students towards 2019-novel coronavirus. *Pak J Med Sci*. 2020;36(S4):S32-S36. doi:10.12669/pjms.36. COVID19-S4.2636
16. Wadood A, Rafi A, Mamun A, Islam A. Knowledge, attitude, practice and perception regarding COVID-19 among students in Bangladesh: survey in Rajshahi university. *MEDVRIXS*. 2020. doi:10.1101/2020. 04.21.20074757
17. Joshi KP, Jamadar D. Knowledge, attitude and practices regarding COVID-19 among medical students—a cross sectional study. *Int J Adv Commu Med*. 2020;3(2):1-5. doi:10.33545/comed.v.i.142
18. Zhong BL, Luo W, Li HM, 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. doi:10.7150/ijbs.45221
19. Hatami, H.; Abbasi-Kangevari, M.; Malekpour, M. R.; Kolahi, A. A.: Knowledge, attitudes, and safety practices about COVID-19 among high school students in iran during the first wave of the pandemic. *Frontiers in Public Health*,2021, 9, 680514.
20. Cihan E, Pirinçci CS, Gerçek H, Ünüvar SB, Demirdel E. Türkiye'de sağlık öğrencilerinin COVID-19 üzerine bilgi düzeyleri, koruyucu davranışları ve risk algıları [The knowledge levels, preventive behavior and risk perception on COVID-19 of the healthcare students in Turkey]. *SDÜ Sağlık Bilimleri Dergisi [SDU J. Health Sci.]*. 2020;11(3):342-347. doi:10.22312/sdusbed.765212
21. Mena-Tudela D, González-Chordá VM, Andreu-Pejó L, Mouzo- Bellés VM, Cervera-Gasch A. Spanish nursing and medical students' knowledge, confidence and willingness about COVID-19: a cross- sectional study. *Nurse Educ Today*. 2021;103:104957. doi:10.1016/j.nedt.2021.104957
22. Sulistyawati, S.; Rokhmayanti, R.; Aji, B.; Wijayanti, S. P. M.; Hastuti, S. K. W.; Sukesi, T. W.; Mulasari, S. A. : Knowledge, attitudes, practices and information needs during the covid-19 pandemic in indonesia. *Risk Management and Healthcare Policy*,2021, 14, 163,P:1-7.

