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Original Article

Knowledge and Attitudes about Precautionary Measures of COVID-19 among Undergraduate Students: A Comparative Study

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ABSTRACT

Background and objective: The pandemic caused by novel Coronavirus Disease 2019 (COVID-19) is an infectious respiratory illness caused by a new coronavirus that first appeared in China at the end of December 2019 and quickly spread worldwide. The aims of this study are to assess undergraduate students' knowledge and attitudes of the precautionary measures toward COVID-19.

Methods: A descriptive comparative study design was used from 2nd January to 1st March 2022. A purposive sampling technique was used to collect the data. All students (240 students) in second grade from the nursing department and the English department at Gasha Technical Institute, Kurdistan Region/Iraq, were recruited and completed a self-reported questionnaire.

Result: Around 70% of nursing students and 69% of students in the English department were males, and most students in both fields were aged between 18 and 22 years old. A total of 83.3 % of students in nursing and 77.5% of students in the English department were single. However, the rate of married students (21.7%) was higher in the English department. More than half of the nursing students (63.3%) showed good knowledge, 31.7% showed medium knowledge, and 5.0% showed poor knowledge. Nursing students' good attitude was 15.8%. In contrast, 30.0% of students in the English department had good knowledge, 50.8% had medium knowledge, and 19.2% had poor knowledge. Good attitude of students in the English department was 5%.

Conclusion: Overall, a higher level of knowledge was observed in nursing students than students in the English department. Also, positive attitude toward COVID-19 was higher among nursing students.

Keywords: COVID-19; Knowledge; Attitude; Precautionary measures; Students.

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INTRODUCTION

The pandemic of Novel Coronavirus Disease 2019 (COVID-19) was declared a public health emergency concern by the World Health Organization (WHO) in December 2019 [1]. COVID-19 is an infectious respiratory illness caused by a new coronavirus that first appeared in China at the end of December 2019 and quickly spread worldwide [2].The incubation period of COVID-19 is 2–14 days, and it causes respiratory infection (like the flu), with major clinical symptoms including dry cough, fever, pain or pressure in the chest, fatigue, and in more severe cases, myalgia, arthralgia, confusion, difficulty breathing and bluish lips or face. COVID-19

is a highly contagious virus with a high death rate, and it was designated as a class B infectious illness in China in January 2020 [3].According to the available research data, the COVID-19 virus is transmitted between humans by close contact and droplets, not through airborne transmission. Those in close contact with a COVID-19 patient or who care for COVID-19 patients are the most vulnerable to infection [4].Following the pandemic nature of the diseases, countries implement various preventative measures, such as restricting people's movement, requiring them to stay at home, and closing schools and other social services [5]. The most effective preventative strategies/measures include closing schools, staying at home, maintaining social distance, avoiding touching your face, practicing respiratory hygiene when coughing or sneezing, wearing a medical mask, and appropriate hand-washing in public areas such as banks, markets, and mosques [6].As the risk of COVID-19 spreads rapidly, individuals should take precautions to protect themselves and others from infection. Though medical students are not actively involved in the managing infected patients with COVID-19, they can serve as an information provider for the community about the importance of personal hygiene, the main clinical symptoms of COVID-19, and how to limit its spread by following precautionary measures [7]. The crowded class of students in school, institution, and college eases the transmission of COVID-19 [8]. To decrease the number of infected students with COVID-19, undergraduate students must have a basic knowledge and understanding of the new Coronavirus, which is essential to limit the spread of the virus and should be able to clear common misconceptions regarding COVID-19 [9]. With this background, the study is aimed to assess the undergraduate students' knowledge and attitudes toward precautionary measures about COVID-19 in Erbil City, Kurdistan Region of Iraq.

METHODS

This descriptive comparative study design aimed to assess undergraduate (medical and non-medical students) students' knowledge and attitudes toward the precautionary measures to prevent COVID-19 infection. The study was conducted at the Gasha Technical Institute in Erbil, Kurdistan Region of Iraq, from 2nd January to 1st March, 2022. The sample included a total of 240 students. Students from the nursing department in the 2nd grade (120 medical students) and students from the English department (120 non-medical students) were recruited to participate in the study. The Scientific and Ethical Committee approved this study at Hawler Medical University/ College of Nursing, No (5) 16, December 2021. Before data collection, permission was obtained from the director of administration of the Gasha Technical Institute. At the beginning of the study, the details and the objectives were explained to the study participants. Then, written informed consent was obtained. Participants were assured that their information will be kept confidential using codes instead of personal information .After reviewing the related literature, a self-reported structured questionnaire was adopted from other published articles with a few modifications [10,11]. The questionnaire was designed in English language and then translated to the Kurdish language with the assistance of a native Kurdish professional. The self-reported questionnaire consisted of three sections: socio-demographics, knowledge, and attitudes toward COVID-19. The first part determined undergraduate students' socio-demographic characteristics, including sex, age, marital status, degree or certificate, and area of residence. The second part

measured students' knowledge regarding COVID-19 comprising 18 questions. The third part was measured students' attitudes regarding COVID-19 comprising 18 questions. The scientific committee at the college of nursing extensively reviewed the questionnaire for its validity and relevancy. A small pilot study was done to check for simplicity and difficulty. The samples of the pilot study were excluded from the actual study sample.Students were given the following options to answer the questions: correct, incorrect, never, rarely, often. A question scoring system was used to measure the knowledge level of undergraduate students as follows: one point for a correct answer and zero point for the incorrect answer for each question. Students' knowledge was classified as poor (<50%), fair = (50-75%) and good (>75%). Students' attitude was classified as negative (<50%) and positive (³50%). Statistical Package of Social Science SPSS (Version 23.0) were used to analyze the collected data. The socio-demographic features of the study participants were analyzed using descriptive statistics. Person's Chi-square (X2) test was used to investigate the association between study participants' socio-demographic variables and their knowledge level and attitude toward precautionary measures against COVID-19. A p -value of less than and equal to 0.05 was considered significant.

RESULTS

Table 1 illustrates the socio-demographic characteristics of study participants. Around 70% of nursing students and 69% of students in the English department were males. Most of students in both departments were between 18 and 23 years old, and only 8.3% and 25% were between 24 and 30 years old in the nursing and English departments, respectively. The highest percentages, 83.3 % of students in nursing and 77.5% of students in the English department, were single. The rate of married students (21.7%) was higher in the English department. Most study participants in both departments lived in urban areas, less than 7% of nursing students lived in rural areas, and 5% of English students lived in suburban areas. The rate of students infected with COVID-19 was higher among nursing students than English students.

Table 1: Nursing and English students' distribution according to their socio-demographic characteristics

Characteristics	Nursing students N (%)	English students N (%)
Sex		
Male	35 (29.2)	37 (30.8)
Female	85 (70.8)	83 (69.2)
Age group		
18-24	110 (91.7)	90 (75)
25-31	10 (8.3)	30 (25)
Marital status		
Single	100 (83.3)	93 (77.5)
Married	20 (16.7)	26 (21.7)
Divorced		1 (0.8)
Degree or certificate		
Diploma	120 (100)	120 (100)
Area of residence		
Urban	79 (65.8)	94 (78.3)
Rural	8 (6.7)	20 (16.7)
Sub-urban	33 (27.5)	6 (5.0)
Did you infected with covid-19		
Yes	51(42.5)	46 (38.3)
No	69 (57.5)	74 (61.7)

As demonstrated in Table 2, more than half (63.3%) of nursing students showed good knowledge, 31.7% showed medium knowledge, and only 5.0% showed poor knowledge. 93.3% of nursing students had a positive attitude about COVID-19. In contrast, 68.3% of students in the English department had positive. Negative attitude toward COVID-19 was higher among English students (31.7%) than nursing students (6.7%).

Table 2: Percent distribution of students' knowledge and attitude.

Knowledge and Attitude	Category	Students in Nursing Department (n=120) F.(%)	Students in English Department (n=120) F.(%)
Knowledge	Poor	6 (5.0)	23 (19.2)
	Fair	38 (31.7)	61 (50.8)
	Good	76 (63.3)	36 (30)
Attitude	Positive	112 (93.3)	82 (68.3)
	Negative	8 (6.7)	38 (31.7)

Table 3 shows the relationship between participants' socio-demographic characteristics, knowledge level and attitude. No significant differences were observed among nursing students' knowledge with sex, marital status, and area of residence. There was a highly significant association between knowledge and age (p= 0.001). Also, no significant differences were observed among nursing students' attitudes with sex, age, marital status, and area of residence.

Regarding students in the English department, there were no significant differences between knowledge level with age, marital status, and area of residence. Significant associations were noticed between knowledge and sex (p= 0.02), and attitude with age (p= 0.044).Overall, a higher knowledge level was observed in nursing students than students in the English department with a mean score (14.59 ± 2.43 and 12.66 ± 2.88, respectively).

Table 3: Participants' socio-demographic-characteristics relationship with knowledge levels and attitude.

Variable	Students in Nursing field		Students in English field	
	Knowledge	Attitude	Knowledge	Attitude
	p-value	*p*-value	*p*-value	*p*-value
Sex	0.211	0.501	0.02	0.756
Marital status	0.777	0.479	0.613	0.1
Age	0.001	0.216	0.617	0.044
Area of residence	0.593	0.495	0.170	0.761

DISCUSSION

To the best of our knowledge, this is the first comparative study among undergraduate medical and non-medical students, assessing the knowledge and attitudes of precautionary measures toward COVID-19. A good knowledge level has been shown by nursing students. This is consistent with the finding of other studies done recently [12,13]. Nursing students were more knowledgeable than non-medical students. This result is consistent with research conducted in Jordon [14], which found that students in colleges of medical science had higher knowledge levels on COVID-19 than students in other fields of study. The knowledge level of students between 24 to 30 years old was higher than others between 18 to 23 years old. This finding is consistent with the study by Olaimat et al., 2020, which explained that knowledge increases as age increases. Female nursing students have a greater level of knowledge than male students. Male English students had higher knowledge levels than female English students. Our findings are consistent with research conducted in China and Italy [15, 16]. However, studies done in Ethiopia, Malaysia, and Saudi Arabia found the reverse of this study's findings [17,18,19]. Nursing students who were married had higher knowledge than single students. However, divorced non-medical students had higher knowledge levels than single and married students in the same field of study. A study conducted by Abate and Mekonnen in 2020, showed that divorced individuals were less likely than single participants to have inadequate knowledge levels [4]. In our study, nursing students in urban residency were more knowledgeable than rural residency. In contrast, non-medical students of suburban residency had a higher knowledge level of COVID-19 than rural and urban residencies. This is in agreement with the study done by Akalu et al., 2020, the reason being explained as inadequate information about human health is not available online due to poor internet connection and weak mobile network systems in rural areas [20]. More than 90% of nursing students and 60% of students in the English field had a positive attitude toward COVID-19. This is similar to a study conducted in Egypt [21], which stated that more than 80% of the study participants had a positive attitude toward COVID-19. The result of this study showed that 13.3% of students in nursing and 29.2% in the English department did not wear a surgical face mask. Also, 73.3% of nursing students and 69.2% of participants in the English field did not always practice physical distancing of two meters. Maheshwari et al., 2019, reported that more than 9% of the participants did not wear a surgical mask to protect themselves against COVID-19 [2].

CONCLUSION

In general, nursing students in our research had higher good knowledge level and positive attitudes than participants in the English department towards using precautionary measures against COVID-19. This basic information is vital to decrease the spread of the disease. Less than half of participants in nursing and around two-thirds of participants in the English department believed that vaccines could not be effective in preventing infection transmission. We recommend seminars and workshops about COVID-19 vaccination for undergraduate students in all fields of study, especially for non-medical students. Also, the government needs to clarify the benefits of COVID-19 vaccines for the community, in order to increase the societies' positive attitudes about vaccines.

CONFLICT OF INTEREST

The author reports no conflict of interests.

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