

COVID-19 awareness, attitude, and prevention among university students in Thi-Qar Province, southern Iraq

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Abstract

COVID-19 (coronavirus disease) is a quickly spreading epidemic brought on by a new human coronavirus. Due to the fact that the outbreak has touched everyone working in the education field, including university students, it is thought that the purpose of this study was to understand the public's awareness to facilitate COVID-19 outbreak management in Iraq. The purpose of the current study is to look into the awareness, attitude, and preventive measures among university students in Thi-Qar province during the outbreak. Cross-sectional research was carried out using a verified questionnaire and students studying various health specializations participated in the study. There were 606 students in the sample (418 males and 188 females). The ages range was 18-28, with the majority (74.9%) falling between the ages of 21 and 24. The total mean score for participants' awareness of COVID-19 was 4.33 (SD = 0.77) out of 5 points, demonstrating that the vast majority of students (85.8%) had positive awareness. The total mean score for attitudes toward COVID-19 was 3.35 (SD = 1.09), showing an approximately equal distribution of positive and negative attitudes among students. In terms of prevention, the average score was 3.520 (SD = 0.960), with 44.60% compromising inactive and 55.40% compromising proactive methods, respectively. The results of this survey demonstrate that the majority of the students in Thi-Qar Province from various medical specialties were knowledgeable about fundamental facts and had good attitudes toward COVID-19, demonstrating the effectiveness of this public health initiative.

Keywords: *university students, COVID-19, attitude, prevention, Iraq, Thi-Qar.*

INTRODUCTION

The severe acute respiratory syndrome (SARS) and the common cold are both known to be brought on by emerging respiratory viruses known as coronaviruses (CoV) [1, 2]. In severe cases, these viruses produce lethal pneumonia comparable to that brought on by the Middle East respiratory syndrome-coronavirus (MERS CoV) and the severe acute respiratory syndrome-coronavirus (SARS CoV), which have appeared intermittently worldwide over the past 20 years [3, 4]. Coronavirus disease 2019 (COVID-19) is spread from person to

person by droplets, feces, and direct contact with an incubation period of 2 to 14 days [5, 6]. The COVID-19 infection outbreak has spread throughout the entire planet, making it the most feared pandemic that people have ever experienced. On December 31, 2019, cases of pneumonia with no known etiology were discovered in Wuhan City, Hubei Province, and reported to the China Regional Office of the World Health Organization (WHO) [7, 8].

Later, based on genetic sequencing, the Chinese government declared that they had discovered a new virus they had designated

SARS-CoV-2 that was the cause of these outbreaks.

On March 10, 2020, the WHO classified COVID-19 as a pandemic because it had already affected 114 nations [5]. As of today (August 26, 2022), WHO has received reports of 604,445,796 confirmed COVID-19 cases, and 6,483,400 deaths [9, 10].

In Iraq, from 2 January 2020 to 25 August 2022, there have been 2,456,555 confirmed cases of COVID-19 with 25,343 deaths, submitted to WHO. As of 8 August 2022, a total of 19,000,211 vaccination dosages have been given [11, 12].

This signaled the start of regional preventive actions that followed the WHO outbreak management recommendations [13, 14]. Significant measures were taken, including the cancellation of both domestic and foreign flights, the closing of malls and shopping centers nationwide (apart from pharmacies and grocery stores), and the closure of schools and universities.

Due to the Iraqi Ministry of Health's quick and coordinated actions, the infection rate has dramatically decreased.

Iraq experienced its first verified COVID-19 cases, which was reported on hotel worker may unknowingly being in close proximity to the patients and are therefore more likely to get the illness or perhaps pass away as a result of occupational exposure in addition to long working hours, stress, and exhaustion [15, 16]. Public health agencies have promoted common preventive measures, including the use of facial covers, teaching social distance, maintaining hand hygiene, and limiting contact with affected people [17, 18]. To combat this plague and protect the human species, the government

authorities have put in place many preventative measures.

To identify the gaps and reinforce ongoing preventative efforts, it is crucial to evaluate the level of awareness among medical students. The purpose of this study is to evaluate the awareness, attitude, and preventive practices of the nation's aspiring medical professionals.

Methodology

Students from diverse health specializations enrolled at Thi-Qar Universities in Iraq participated in a cross-sectional survey utilizing a validated questionnaire. There were 606 students in the sample (418 males and 188 females). The range of ages was 18 to 28, however, the majority (74.9%) were between the ages of 21 and 24. The individuals' sociodemographic details are shown in detail in Table- 1.

Through the use of a questionnaire with five questions on each concept, the awareness, attitude, and prevention (AAP) of COVID-19 students were evaluated (15 questions total). The right responses had been detected and given a 1 code, while the incorrect ones had received a 0. The combined score for the AAPs was determined by summing each indicator's individual questions.

The AAP score ranged from 1 to 5, indicating that the AAPs toward COVID-19 are higher the higher the score. If a student's score was three points or less, they were classified as having poor/negative/inactive AAPs, and if their score was three points or more, they were classified as having good/positive/proactive AAPs.

For all categorical variables, the data are given as counts and proportions, whereas averages and standard deviations were utilized to show continuous variables. For comparisons across

groups, the Mann-Whitney U-test or Kruskal-Wallis's test was employed.

Using the Shapiro-Wilk and Kolmogorov-Smirnov tests, normality, collinearity (also known as the variance inflation factor), and statistical interactions, were also evaluated.

Additionally, a correlation matrix was created to depict the relationships between each pair of AAPs. For all statistical tests, a p-value of 0.05 has been regarded as a significant level.

Table- 1. Social and economic background of participants (n = 606).

Variables	N (%)
The Age group (years)	
▪ 18-20	96 (15.80)
▪ 21-24	454 (74.90)
▪ 25-28	56 (09.30)
The Gender	
▪ Male	418 (69.00)
▪ Female	188 (31.00)
The College	
▪ Medicine	256 (42.20)
▪ Pharmacy	86 (14.20)
▪ Nursing	34 (05.60)
▪ Technical	16 (02.60)
▪ Dentistry	70 (11.60)
▪ Veterinary	144 (23.80)
The Academic year	
▪ 1 st	40 (06.60)
▪ 2 nd	42 (06.90)
▪ 3 rd	154 (25.40)
▪ 4 th	144 (23.80)
▪ 5 th & 6 th year	108 (17.80)
▪ Trainee	118 (19.50)

Results and Discussion

Table- 2 displays the evaluation of students' awareness of COVID-19. It demonstrates that the majority of students (78.90%) accurately identified COVID-19 as a viral infectious disease, and almost all of them think that COVID-19 is primarily spread through breath

droplets and close proximity. Furthermore, a substantial portion (90.80%) think that the COVID-19 incubation period lasted for 14 days. Comparatively, a little over two-thirds (67%) are aware that everyone is often susceptible to a viral illness.

Finally, the majority of participants (97.4%) correctly identified fever and dry cough as COVID-19's primary symptoms.

Table- 2. Students' awareness toward COVID-19, * reveals the correct response, (n = 606).

Awareness statement	N (%)
1. Which infectious disease class does COVID-19 belong to?	
▪ Bacterial	122 (20.1)
▪ Viral*	478 (78.9)
▪ I have no idea.	6 (01.0)
2. What is the primary pathway for COVID-19 transmission?	
▪ Close contact and respiratory droplets *	600 (99.0)
▪ Food	4 (0.70)
▪ I have no idea.	2 (0.30)
3. How much days does COVID-19 take to incubate?	
▪ 1-14 *	550 (90.80)
▪ 3-7	6 (01.00)
▪ > than 14	34 (05.60)
▪ I have no idea.	16 (02.60)
4. Who is at risk for COVID-19?	
▪ Old people and kids	102 (16.80)
▪ The majority of people are vulnerable*	406 (67.00)
▪ Young adults	6 (01.00)
▪ People who already have certain disorders	90 (14.90)
▪ I have no idea.	2 (0.300)
5. What are the primary COVID-19 clinical symptoms?	
▪ Dry cough and fever	590 (97.40)

*	
▪ An upset stomach and myalgia	14 (02.30)
▪ I have no idea.	02 (0.300)

Table- 3. The attitude toward COVID-19, * reveals the correct response, (n = 606).

Attitude statement	N%
1. Are you alarmed by COVID-19 being spread among persons?	
▪ Yes, but I'm logical and capable of defending myself *	546 (90.11)
▪ I don't care.	50 (08.30)
▪ I feel panicky and am unsure of what to do.	10 (01.71)
2. Do you wish the disease will end quickly so you could get back to class quickly?	
▪ Yes*	408 (67.30)
▪ I don't care	34 (05.61)
▪ No, I prefer to spend as much time as possible at home.	164 (27.10)
3. What is the opinion on eating wild animals?	
▪ I refuse to eat wild birds, and I will hold customers responsible *	248 (40.91)
▪ I'm not sure, though I would not forbid others	220 (36.30)
▪ I have no objection to trying.	138 (22.81)
4. Do you believe you will be able to role public health emergencies better?	
▪ Yes, I have a good education, which makes me more competent *	450 (74.32)
▪ I'll remain the same.	114 (18.81)
▪ No, I can't take it anymore; I'm too afraid.	42 (06.90)
5. Do you think the study has been impacted by this outbreak?	
▪ Yes, it had *	378

	(62.42)
▪ No, I'm obedient, and my home life had no impact on my study.	228 (37.61)

Table- 4. The preventive practices toward COVID-19, * reveals the correct response, (n = 606).

Prevention statement	N (%)
1. If you experienced a dry cough along with a fever, what would you do?	
▪ I'll do a logical analysis of the situation. Stay at home for monitoring and isolation or visit a hospital for treatment *	566 (93.4)
▪ I want to visit the hospital, but I'm worried about becoming sick.	28 (04.61)
▪ I'm in a panic. I am clueless. steps to take	12 (02.01)
2. If your country needs you, would you be willing to take part in a front-line rescue operation??	
▪ Yes, everyone is responsible for a country's problems *	408 (67.3)
▪ I'm unsure and might need some advice from the family.	154 (25.4)
▪ No, because it's too risky.	44 (07.31)
3. If you came into contact with confirmed cases, what would you do?	
▪ Submitt to the community proactively and remain under quarantine as necessary *	564 (92.8)
▪ Similar to before	28 (04.62)
▪ I'm feeling anxious and unsure of what to do.	14 (02.30)
4. If a COVID-19 patient wanted to meet you, what would you say?	
▪ I'll go see them and be even nicer.	214 (35.3)
▪ I'll see them again exactly as before.	172 (28.4)

▪ I'll come up with a reason to avoid them. *	220 (36.3)
5. What's going to be your biggest concern once the epidemic is over?	
▪ I'll return to school and resume my regular study schedule *	378 (62.4)
▪ Similar to before	136 (22.4)
▪ The epidemic is too terrifying. I need to live my life as fully as I can.	92 (15.2)

Table- 5. Descriptive statistics of (awareness, attitude, and prevention) AAPs to COVID-19 (n = 606).

AAP	participants
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N (%)	
All awareness score (mean, $\pm$ SD)	4.33 $\pm$ 0.78
Level of awareness	
▪ Poor	86 (14.20)
▪ Good	520 (85.81)
The total score (mean $\pm$ SD)	3.35 $\pm$ 1.1
The level of attitude	
▪ Bad	318 (52.52)
▪ Good	288 (47.51)
Prevention score (mean $\pm$ SD)	3.52 $\pm$ 0.966
Level of prevention	
▪ Passive	270 (44.66)
▪ Active	363 (55.4)

Table- 6. Comparisons of AAPs with regards to the sociodemographic of students (n = 606).

Factor	Awareness total score (5) Mean $\pm$ SD	The attitude score (5) Mean $\pm$ SD	Preventive practices total score (5) Mean $\pm$ SD
Age group (years)			
18 to 20	4.101 $\pm$ 0.930	3.02 $\pm$ 1.081	3.50 $\pm$ 1.112
21 to 24	4.370 $\pm$ 0.741	3.35 $\pm$ 1.082	3.48 $\pm$ 0.931
25 to 28	4.39 $\pm$ 0.63	3.89 $\pm$ 0.991	3.89 $\pm$ 0.832
F-test	2.491	5.807	2.317
p-value a	0.176	0.005 **	0.081
Gender			
Male	4.271 $\pm$ 0.792	3.360 $\pm$ 1.08 1	3.64 $\pm$ 0.91
Female	4.472 $\pm$ 0.681	3.333 $\pm$ 1.133	3.276 $\pm$ 1.011
F-test	-2.115	0.224	3.210
p-value b	0.044**	0.844	0.003**
College			
Medicine	4.31 $\pm$ 0.81	3.28 $\pm$ 1.144	3.37 $\pm$ 0.966
Pharmacy	4.07 $\pm$ 0.865	3.51 $\pm$ 1.011	3.54 $\pm$ 1.122
Nursing	4.76 $\pm$ 0.44 4	3.82 $\pm$ 0.811	3.41 $\pm$ 1.001
Technical	4.50 $\pm$ 0.532	2.50 $\pm$ 1.412	3.75 $\pm$ 0.711
Dentistry	4.29 $\pm$ 0.751	3.23 $\pm$ 1.071	3.72 $\pm$ 0.961

Veterinary	4.42 ± 0.711	3.26 ± 1.030	3.68 ± 0.840
F-test	2.418	2.009	1.598
p-value ^a	0.042**	0.197	0.168
Academic year			
▪ 1 st	3.60 ± 0.98	3.25 ± 1.26	3.65 ± 1.36
▪ 2 nd	3.76 ± 0.95	3.00 ± 1.13	3.57 ± 0.94
▪ 3 rd	4.35 ± 0.77	3.74 ± 0.81	3.64 ± 0.94
▪ 4 th	4.44 ± 0.61	3.19 ± 1.17	3.46 ± 0.88
▪ 5 th & 6 th	4.57 ± 0.75	2.98 ± 1.06	3.37 ± 0.95
▪ Trainee	4.39 ± 0.745	3.53 ± 1.16	3.54 ± 0.96
F-test	8.2556	4.496	0.642
p-value ^a	<0.001**	0.001**	0.576
^a p-value was determined by the Kruskal-Wallis's test. ^b p-value was determined by the Mann-Whitney U-test. ** Significant at p < 0.05 level.			

About the evaluation of students' attitudes concerning COVID-19 presented in Table- 3, it was discovered that nearly all students were terrified of COVID-19 spreading from person to person, with more than two-thirds (67.3%) hoping the outbreak would end soon so they could go back to school. Additionally, about 41% of them said they would never consume wild animals.

74.3 percent of them said "yes" when asked if they would have greater endurance in light of the current public health issue. Nearly two-thirds of them (62.4%) also said "yes" if asked if the outbreak has had an impact on their work.

The prevention of COVID-19 among the pupils was evaluated in Table- 4. According to the findings, almost all students (93,4%) would consider the issue logically before visiting a hospital for treatment. More than two-thirds of them (67.3%) said they would be willing to assist frontliners if asked. 93.1% of respondents who were asked how they would act if they had direct contact with COVID-19 cases said they would alert the people and remain in home as required.

Only a little over a third of them (36.33%) would come up with an excuse to omit making contact them if someone who had been cured of COVID-19 requested a meeting, according to a question on what they would do in that situation. Finally, many students (62.4%) indicated that returning to school and resuming a regular study schedule would be their top priority once the pandemic is over.

AAPs' COVID-19 descriptive statistics were calculated (Table- 5). The average awareness score across all students (85.88%) was 4.333 (SD = 0.777), which indicates that most students had good awareness. The overall mean score for attitudes about COVID-19 was 3.355 (SD = 1.091), which indicates that participants' sentiments were roughly split in half between positive and negative.

The average score for prevention was 3.522 (SD = 0.966) with inactive and proactive measures being compromised in 44.66% and 55.44% of cases, respectively.

Regarding the correlations between the AAPs dimensions, neither awareness and attitude ($r =$

0.062; $p = 0.274$) nor awareness and prevention ($r = 0.017$; $p = 0.784$) showed any correlation.

A favorable attitude about COVID-19 may lead to proactive prevention, and vice versa, according to a substantial positive association between attitude and prevention ($r = 0.225$; $p = 0.001$). Table- 6's comparison of the socio-demographic data to the AAPs revealed that the attitudes of the oldest age groups (25–28 years) were considerably more favorable than those of the other age groups. ($F = 5.807$; $p = 0.005$). Additionally, we found that male students showed significantly more proactive preventative behavior than female students ($T = 3.212$; $p = 0.003$), while female students had significantly worse awareness ($T = 2.104$; $p = 0.045$).

Additionally, compared to the other college disciplines, nursing students demonstrated considerably higher awareness ($F = 2.418$; $p = 0.043$). Additionally, the third-year level students exhibited more positive attitudes than other year levels, whereas fifth and sixth-year level were substantially more related with having better awareness than the other year levels ($F = 8.256$; $p = 0.001$).

This is the first study to look into AAPs linked to COVID-19 in university students in Thi-Qar.

COVID-19 has been at the center of attention on a global scale since December 2019.

Acute infectious pneumonia caused by COVID-19 has been reported in China and a number of other nations, including Iraq [19, 20].

Through respiratory droplets from coughing or sneezing as well as contaminated hands, the virus spreads from infected people to others [21, 22].

Clinical symptoms of the illness, which are extremely contagious, include dry cough, fever, myalgia, tiredness, and dyspnea. It may progress to the severe stage, which is marked by septic shock, metabolic acidosis, hemorrhage, and coagulation dysfunction [23, 24]. According to the Centers for Disease Control and Prevention, the virus can remain dormant for 2 to 14 days [25, 26].

In a cross-sectional study of 606 university freshmen, it was discovered that 99.9% of participants recognized how COVID-19 was spread, 97.4% knew the usual symptoms, 90.8% knew how long it took for it to develop, and only 69% knew who was susceptible to it.

The sample included students from the medical, dental, pharmaceutical, and applied health science professions, thus it is not surprising that the majority of university students had a strong understanding of COVID-19. Similar research on large populations with good awareness was done in Pakistan, Egypt, and Uganda [27–30].

In comparison to Chinese university students (73.81%), more than two-thirds of participants (74.3%) believe they can survive this public health outbreak [31, 32]. A major factor in preventing the spread of the virus is raising public understanding of how to handle infectious respiratory diseases. The time needed to produce a vaccine is estimated at months. As a result, the management of the outbreak would depend on people taking the suggested precautions.

The population's AAPs have a significant impact on those measures [33, 34]. The majority of the students showed proactive behavior against COVID-19, according to this cross-sectional survey, which shows that the administration has effectively imparted health education to the kids. A comparable study

conducted in China revealed effective practices for limiting this outbreak as well [35].

Conclusion

The results of this cross-sectional survey demonstrate that the majority of university students in Thi-Qar of various medical professions have good attitudes and are proactive in their prevention of COVID-19, demonstrating the effectiveness of the present public health campaign.

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