Knowledge and Practice towards COVID-19 among Students of Al-Bayan University

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Abstract

Introduction: On 12 March 2020, world health organization (WHO) declared that COVID-19 was a global pandemic when more than million humans were infected in more than 200 countries in less than four months. To limit its spread, WHO recommended preventive measures such as hand washing frequently, social distancing, and face mask wearing. Public knowledge and practice towards the disease is important. **Aim of study**: We assess the level of knowledge and practices towards COVID-19 among students in Al-Bayan University. **Method**: A cross- sectional study was conducted to gather information regarding the COVID-19 related knowledge and practices among undergraduates. This survey was conducted between October 10 till October 15,2020. **Results:**351 students were participated from medical and non- medical colleges by completing the questionnaire online. The overall correct answer rate of the knowledge questionnaire was 85.71% and 86.22% of them practicing preventive measures according to WHO guidelines and instructions of ministry of health(MOH). There were no significant differences in knowledge and practices between medical and non-medical. **Conclusion**: The students have moderate knowledge and appropriate practices towards COVID-19, this indicates the success and the efficacy of the of campaigns and the advertisements announced by WHO and the local MOH.

Key words: *COVID-19, knowledge, practice, students, Iraq*

Introduction

Many Chinese people in Whan region have got pneumonia of unknown cause in December 2019 [1]. The causative pathogen then discovered that it was RNA virus that belong to the family Coronaviridae [2]. It was given the name of n COV 2019 by international Committee on taxonomy of viruses then it was changed to severe acute respiratory syndrome coronavirus 2(SARS-CoV-2) for depending on its main clinical symptoms appeared in most patients [3]. The disease became pandemic in March 2020, when more than million humans were infected in more than 200 countries all over the world in less than four months [4].

The main routes of virus transmission are by direct contact from person to person and by droplets produced by the infected person [5]. Its incubation period is (1-14) days and it is contagious in the asymptomatic patients [6]. According to epidemiological studies, each infection results in 1.4-3-9 new cases if preventive measures are not taken [7].

The most common symptoms of COVID-19 infection are dry cough, fever, shortness of breath, fatigue, and myalgia [8]. Elderly people and people with decreased immunity due to a disease or medication are at high risk of infection [9].

Several drug companies try to develop a vaccine for COVID-19, but till now there is no approved vaccine, also there is no effective antiviral drug, treatment of the patients depends on the supportive therapy [10].

To limit its spread, the world health organization(WHO) recommended preventive measures such as hand washing frequently, wearing face masks, social distancing, cover the mouth and nose when someone cough or sneeze , and self-isolation if infected [11].

Iraq, similar to other countries in the world, the number of infected people with COVID-19 is increasing since the first case has been discovered in February 2020 in Najaf (12). By April, the number of confirmed cases was 1202 in different regions of Iraq. On 18 March, as the number of positive testes had increased, the government imposed partial or total curfew in Baghdad, closed the schools and universities as precautionary measures (13). By 27 October the number of confirmed cases reported by ministry of health (MOH) in Iraq was 455,398 confirmed cases, 10,671 deaths and 348,593 recovered [14].

To limit the virus spread, the preventive measures should be applied by public, so knowledge and practices assessment is essential in such outbreak, especially among the university students.

The aim of this study is to assess the knowledge and behaviors of the students towards COVID-19 in different colleges in the University. According to our search, this is the first descriptive study among students in Iraq since the COVID-19 outbreak.

Method

A cross sectional study was conducted. The questionnaire was designed after reviewing several articles and formulated in Arabic then translated to English and distributed online for students. The questionnaire measured the knowledge and practice of medical students (pharmacy and nursing colleges) and non-medical students (law and business administration colleges) towards COVID-19.

The questionnaire consisted of 3 sections, namely demographic characteristics of the participants, knowledge regarding (the virus, symptoms of the disease, routes of transmission, prevention and treatment of the disease) and practices and behaviors of the participants during COVID-19 pandemic. A correct answer was assigned 1 point. A score ≥ 75% was regarded as high, 50%-75% as moderate and ≤50% as low level of knowledge. Data were analyzed using SPSS version 24, the frequencies and percentages were computed for variables. To detect the significant difference between the medical and non- medical student's knowledge and practice, independent sample t- test was used; p value of 0.05 or less was considered statistically significant.

Results

A total of 351 participants filled in the questionnaire from four colleges in Al-Bayan University. The mean age was 24 years. Among the participants, 179(51%) were male and 172(49%) were female. 185(52.7%) of participants from medical colleges and 166(47.3%) from non-medical colleges (Table 1).

Table 1: Demographic characteristics of participants

Variable	Count (%)
Age	24years(mean)
Male	179(51%)
Female	172(49%)
Medical colleges	185(52.7%)
Non-medical colleges	166(47.3%)
Total number	**351**

The prevalence of knowledge among all participants is shown in table 2. The result indicates that the overall knowledge about the virus, symptoms of the disease, transmission routes, and preventive measures was good (85.78%). The majority of the students were aware that the virus is highly contagious (91.1%) and the main symptoms of the disease is fever, dry cough, and fatigue (98.6%). They also agree that the condition will be worse when elderly patients with chronic disease infected with COVID-19(98.8%). The majority of the students were in agreement of the main routes of the transmission which are by droplets from the infected person(97.7%) and may be transmitted by touching the paper currencies(92.5%).Our participants had high awareness towards the preventive measures to limit the spread of infection, (96%) of them answer yes to washing hands frequently and (95.2%) agree with isolation and quarantined of the infected person. Only 60% thought that wearing face

mask protect the person from virus infection. They knew that there is no treatment (79.8%) or vaccine (83.5%) against coronavirus till now, but about half of the participants thought that antibiotics are effective against the virus. (Table 2)

Table 2:Prevalence of knowledge towards COVID-19 among the participants

Question	% of correct answers
The name of corona is derived from the Latin that means crown	66%
Is COVID-19 highly contagious?	91.%
The virus may affect all age groups	84.9%
Are the main clinical symptoms of COVID-19 fever, fatigue, dry cough and myalgia?	98.6%
Is the condition become worse in elderly patients when infected with COVID-19?	98.8%
Is the virus can be transmitted from asymptomatic persons?	90.6%
Droplets of the infected person is one of the transmission routes	97.7%
Paper currencies can transmit the virus when touching it.	92.5%
Washing hands several times for 20-40 seconds may prevent infection	96.%
Wearing masks protect persons from infection by the virus	60.1% *
Isolation of infected persons is effective measure to limit spread of infection	95.2%
The infected persons should be quarantine for a minimum of 14 days period.	95.2%
Corona virus can be treated by antibiotics	57.3%*
Is there any effective treatment against coronavirus?	79.8%
Is there any effective treatment against coronavirus?	83.5%
Total	85.78%

*Item with lowest scores

Practicing among our participants towards COVID-19 are shown in Table 3, the results revealed that majority of them shared their agreement with washing hands regularly (83.8%) and avoid contact mouth, nose, and eyes before washing hands (88%), about(87%) accept mask wearing, while (85.8%) avoid crowded places and (86.6%)applied social distance instructions.

Table 3: Prevalence of Practicing preventive behaviors among participants

Question	% of yes
Do you wash your hands several times for 20-40 seconds?	83.8%
Do you apply the social distance instructions?	86.6%
Do you avoid going to crowded places?	85.8%
Do you wear face mask when going outside?	86.9%
Do you avoid contact your mouth, nose and eyes before washing your hands?	88%
Total	86.22%

Mean difference of knowledge between participants of medical and non-medical colleges are shown in table 4. The p value was more than 0.05, the results concluded that there is no significance difference in knowledge level for all items except the one in which about 30% of non-medical students believed that antibiotics are effective against viral infection.

Table 4: Differences in Knowledge scores between medical and non- medical students

Knowledge questions	Medical students	Non- medical students	P value
The name of corona derived from the crown in Latin	117(50.4%)	115(69.6%)	0.234
Is COVID-19 highly contagious?	170(53.1%)	150(46.9%)	0.615
The virus may affect all age groups	156(52.3%)	142(47.7%)	0.751
Is the condition become worse in elderly patients when infected with COVID-19?	184(53.2%)	163(47%)	0.266
Are the main clinical symptoms of COVID-19 include fever, fatigue, dry cough and myalgia?	184(53.2%)	162(46.8%)	0.141
Is the virus can be transmitted from asymptomatic persons?	104(50.7%)	101(49.3%)	0.381
Droplets of the infected person is one of the transmission routes	182(53.1%)	161(46.9%)	0.358
Paper currencies can transmit the virus when touching it.	170(52.3%)	155(47.7%)	0.598
Washing hands several times for 20-40 seconds may prevent infection	179(53.1%)	158(46.9%)	0.453
Wearing masks protect persons from infection by the virus	115(54.5%)	96(45.5%)	0.410
Isolation of infected persons is effective measure to limit spread of infection	177(53%)	157(47%)	0.634
The infected persons should be quarantine for a minimum of 14 days period.	176(52.7%)	158(47.3%)	0.984
Corona virus can be treated by antibiotics	122(60.7%)	79(39.3%)	0.000 *
Is the vaccine available now?	158(53.9%)	135(46.1%)	0.88
Is there any effective treatment against coronavirus?	154(55%)	126(45%)	0.088

*P Value< 0.05(significant difference)

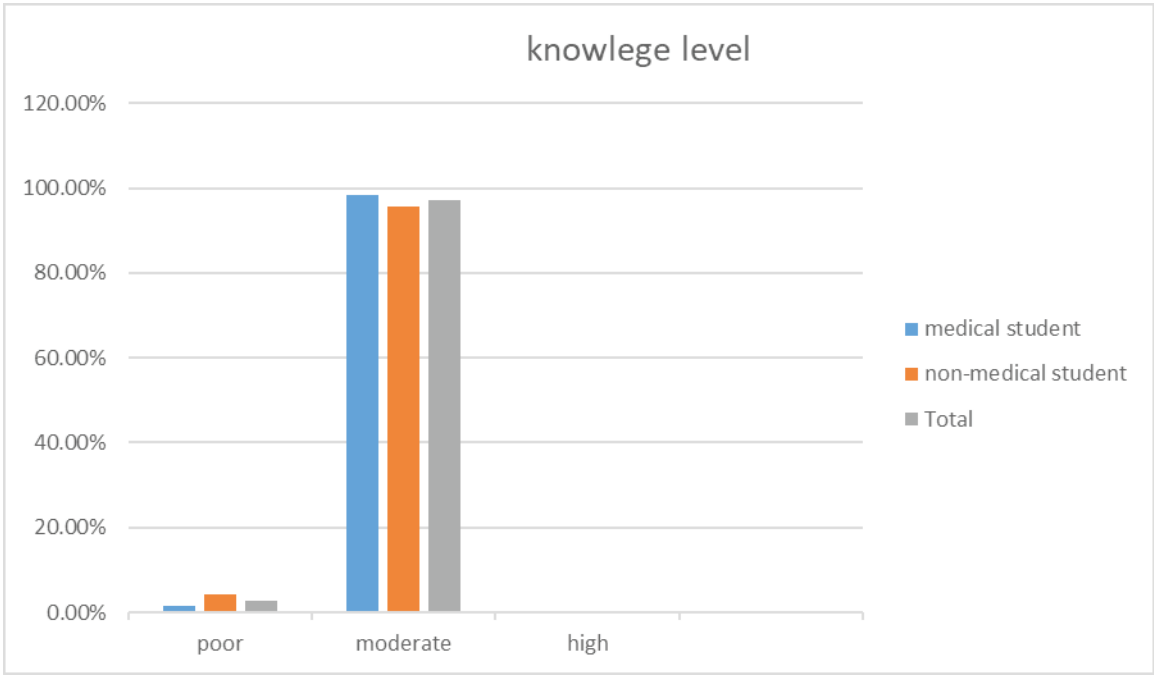

Figure 1: Level of knowledge among medical and non -medical students towards COVID-19.

Figure 1 demonstrate that 98% of the total number of participants had moderate level of general knowledge towards COVID-19 with no significant differences between medical and non- medical students**.**

Practices toward COVID-19 among medical and non- medical students is shown in Table 5. The result recorded a negative significance differences between medical and non-medical students p value more than 0.05.

Table 5: Difference in Practicing between medical and non-medical students towards COVID -19

Question	Medical students	Non - medical students	P value
Do you wash your hands several times for 20-40 seconds?	141(53.4%)	123(46.6%)	0.647
Do you apply the social distance instructions?	145(49.3%)	149(50.7%)	0.486
Do you avoid going to crowded places?	158(52.5%)	143(47.5%)	0.844
Do you wear face mask when going outside?	162(53.1%)	147(47.6%)	0.694
Do you avoid contact your mouth, nose and eyes before washing your hands?	162(52.4%)	147(47.6%)	0.777

Discussion

COVID-19 is a highly contagious disease, to limit its chance of its spread, preventive measures should be taken by all population. The good practices of these measures depend on the awareness of population.

This cross- sectional study highlighted on the knowledge and practices of university students towards COVID-19 outbreak. To the best of our knowledge, this is the first study carried among students in Iraq. We used the WHO website as a reference concerning information about the COVID-19 disease.

Our sample consisted of 351 students from medical and non- medical colleges. Concerning student's general information about COVID-19, the results showed high level of knowledge and practices among our students and there is no significant differences between the medical and non- medical students, the results agree with previous study conducted in Jordan among university students from different colleges(9) .A survey data of COVID-19 related knowledge and practice among 6.249 undergraduates students showed significant differences between medical and non-medical students in their knowledge and practices [15].

Our students showed moderate level of knowledge among participants about the virus name origin, our result is higher than that recorded among students in Saudi Arabia (8). Majority of our students (91%) mentioned that the virus is highly contagious, this response is similar to nursing student's response in Saudi (93.5%) [16]

Almost all of our students knew the main symptoms of disease, this is agreed with previous studies conducted in Jordan, Iran, and Egypt [9,15,17].

Regarding routes of transmission**,** 97.7% of our participants mentioned that the virus spread through the droplets of infected persons compared with 77.4% of nursing students in Saudi(8) .92.6% of our students stated that the virus can spread also by touching the paper currencies, this result is higher than findings reported by Egyptian population (87%) and students in Saudi (37.8%) [17,18].

The majority of our participants were aware of handwashing role in preventing the virus transmission, this result similar to findings revealed among participants in Jordan [9]. Moderate satisfaction was shown by our participants regarding the protection by using surgical masks, this is less than results recorded among students in Saudi (85.5%) [17].

95.2% of our students were aware that isolation of infected persons and quarantine for 14 days reduces virus transmission, this finding is agreed with study conducted in China (98%) [19]

Antibiotic cannot treat COVID-19 [20]. This was known by only half of our students, about 50% of participants believed that antibiotics can treat the viral infection, such response indicates the prevalence of antibiotics misuse in Iraq [21]. However,79.8% of them knew that there is no effective treatment and there is no available vaccine against this virus (83.5%), these results agree with results recorded in other studies conducted in Jordan, China, and India [119,22,23].

In this study, most participants reported the application of preventive measures such as wearing masks, avoiding crowded places, practicing hand hygiene, and maintaining social distancing, these good practices were also recorded in studies conducted in India, Jordan and Saudi Arabia [17,22,23]. This reflects the success of the awareness campaigns and advices by MOH and other health authorities to prevent virus spread.

Conclusion

The present study revealed a moderate level of knowledge and appropriate practice among the students towards COVID-19. This indicates the success and the efficacy of the of campaigns and the advertisements announced by WHO and the local MOH. The findings also revealed that there is no significance differences between medical and non- medical students concerning information and practice towards COVI-19 outbreak.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Al-Bayan University and all experiments were carried out in accordance with approved guidelines.

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