



Knowledge and Attitude of Medical Students towards COVID-19 Pandemic

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Authors' contributions

This work was carried out in collaboration among all authors. Author RK designed the study. Authors HH and NI performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors ANB and AB managed the analyses of the study. Author TM managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Aim: To determine the knowledge and attitude of medical undergraduates towards COVID-19.

Study Design: Cross-sectional.

Place and Duration of Study: Study was conducted at Quaid-e Azam medical college from June 2020 to August 2020.

Methodology: The undergraduate students enrolled in 1st year to final year of MBBS were included

in the study. A proforma was prepared by using the Google Docs and validated before starting the study. The reliability of the questionnaire was 0.78. Data was analyzed by using Statistical Package for the Social Sciences (SPSS) version-20. All the qualitative variables were presented as frequency and percentages while quantitative as mean and standard deviation. Knowledge score was compared with demographic variables by using independent t-test and one-way ANOVA test, as appropriate. p-value less than 0.05 was considered as significant.

Results: About 56% of the participants were female while remaining 44% were male, majority of them i.e. 51.6% were mediocre. Majority were from 3rd year and final year i.e. 25.2% and 24.4% respectively. Looking over the mean knowledge score the final year students having more knowledge about COVID-19 then the other students from different years, among them the female participants were having more knowledge score then their male counterparts with significant highly p-value. Comparing knowledge score with socioeconomic status reported that upper class was having higher score. Over-all 74% of final year students answered correctly to all of the questions regarding knowledge towards COVID-19. Considering specifically the attitude of medical students towards COVID-19, majority of the students including all years of MBBS, like to get more information about COVID-19.

Conclusion: It can be concluded that Pakistani undergraduate students of MBBS are having good knowledge about COVID-19. They are also well-aware of the protective measures which should be taken. In comparison, final year students having the higher level of knowledge then the students of other years of MBBS. All the students having positive attitude for stopping COVID-19.

Keywords: COVID-19; knowledge; attitude; undergraduate students.

1. INTRODUCTION

Currently global population is facing a pandemic condition, named Corona virus disease 2019 (COVID-19). It is a viral infection mainly lead to severe acute respiratory syndrome (SARS) and is contagious in nature [1]. Initially it was considered as the disease which can only infect the animals but later it is identified as SARS causing agent and can easily transmit from person to person [2]. Its main route is transmission through respiratory droplets. The main symptoms are sore throat, fever, cough, breathlessness, pneumonia, lack of taste and smell sensation but can also affect gastrointestinal tract causing diarrhea and vomiting [3]. As per WHO recommendation its incubation period is 2-10 days [4] but further studies have evaluated that the incubation period is more than 2 weeks [5].

On 30th January 2020, the WHO declare it as a global emergency because of its disastrous effects [6]. Looking over the Pakistan, total 7,764,114 cases are tested for COVID-19 till date, out of which 537,477 are the confirmed cases, among them 11,450 lead to death [7]. The outbreak has been created a stressful situation by increasing the fear of death, pain of losing the close ones, resulting in increasing the incidence of depression [8]. Government of Pakistan is trying to ensure the safety measurements including lockdown to minimize the spread of

infection and COVID-19 awareness programs. As per WHO guidelines the important measures to limit the spread of infection are self-isolation, social distancing, mask usage, frequent hand washing and use of hand sanitizer [9].

Healthcare workers are at higher risk of COVID-19 because they are the front line warriors and are more exposed to the COVID outbreak [10] so it is important for medical students to have adequate knowledge about COVID-19. A study conducted in Lahore reported good knowledge about COVID-19 among medical undergraduates [11]. In the same way another study conducted in different institutes of Karachi manifested enough knowledge regarding COVID-19 among medical and dental undergraduates and they are pretty concerned about the safety measures [12], so this study aimed to determine the knowledge and attitude of medical undergraduates towards COVID-19 in current setup.

2. METHODOLOGY

Convenient sampling technique was used. Those participants were included who were the undergraduate students enrolled in 1st year to final year of MBBS while those were excluded who either refused to give consent or having any psychiatric issue. A proforma was prepared by using the Google Docs and validated before starting the study. Majority of the questions were close-ended. The reliability of the questionnaire

was checked by using cronbach's alpha which was 0.78. The proforma included demographic data (like gender, age, socioeconomic status and year of study) followed by questions to assess the knowledge about COVID-19 (including causative agent, signs, symptoms, and route of transmission) and the last part consisted of questions regarding their attitude towards COVID-19. Due to lockdown situation in Pakistan the data was collected by using the social media, email and WhatsApp groups.

Data was analyzed by using Statistical Package for the Social Sciences (SPSS) version-20. All the qualitative variables were presented as frequency and percentages while quantitative variables were presented as mean with standard deviation. Knowledge score was compared with demographic variables by using independent t-test and one-way ANOVA test, as appropriate. p-value less than 0.05 was considered as significant.

3. RESULTS

Total of about 250 medical students were participated in the study, out of them 56% were female while remaining 44% were male. Majority of the study participants i.e. 51.6% were mediocre followed by lower socioeconomic class i.e. 40% while very few (8%) were from upper socioeconomic class. Enrolled participants were from different years of MBBS study, among them majority were from 3rd year and final year i.e. 25.2% and 24.4% respectively. The frequency and percentages of all the demographic variables of study participants are mentioned in Table 1.

Looking over the mean knowledge score the final year students having more knowledge about COVID-19 than the other students from different years, among them the female participants were having more knowledge score than their male counterparts with significant highly p-value. Comparing knowledge score with socioeconomic status reported that upper class was having higher score followed by middle and lower class while majority were from final year. Over-all knowledge score towards COVID-19 was higher among final year students followed by 4th year students while the minimum score noted was among 1st year medical students with significant p-value as mentioned in Table 2. Over-all 74% of final year students answered correctly to all of the questions regarding knowledge towards COVID-19, followed by 4th year, 3rd year, 2nd year and lastly 1st year as mentioned in Fig. 1.

Considering specifically the attitude of medical students towards COVID-19, majority of the students including all years of MBBS, like to get more information about COVID-19 and were continuously remain in touch about the viral strains, their pathogenicity, frequent mutations, daily reported cases, mortality rate and vaccination updates. Some of the participants reported that they were tired of listening whole day about pandemic, according to them media is spreading fear and depression among the general population. Majority of them were from final year and a very few were from junior class. Students from all years agreed on the statement that COVID-19 is a life threatening condition as presented in Fig. 2.

4. DISCUSSION

Globally millions of peoples are affecting by COVID-19 outbreak so looking over the current situation it is very important to assess the knowledge and attitude of medical students towards COVID-19 as they are going to be the front line fighters against diseases. In the current study majority of the participants were female which is favored by other studies done on medical undergraduates as well [13,14]. The reason behind this might be the fact that in Pakistan medical colleges having majority of female students who enrolled through open-merit system. As the female students are more hard working so the current study also reported that the female students having more knowledge regarding COVID-19 than their male counterparts.

A study conducted by Khan et.al. reported that the healthcare workers are having more knowledge as compared to general population [15], in the similar manner another study concluded that the medical undergraduates having better knowledge towards COVID-19 than the dental undergraduates [14]. Current study favored this finding by reporting higher level of knowledge about COVID-19 among medical undergraduates. It has been also noted that the final year students were having better understanding about COVID as compare to other years of MBBS. This difference might be because of the studying multiple diseases in details till they reached to the final year while the remaining years of MBBS are in process of learning stepwise about the diseases. current finding is favored by Bhagavathula et.al. who concluded that when a student passes the tunnel of MBBS and become a doctor, he has got the

better understanding about all diseases as compared to other healthcare workers [16].

A study conducted in China noted that majority of the participants preferred to wear surgical face mask to protect themselves from COVID-19 [17]. Current study favored this finding by reporting a high percentage of medical undergraduates who were having good knowledge about the use of surgical face mask. Same is reported by Ali S et.al, who noticed adequate knowledge among both medical and dental undergraduate students [14]. Looking over the hand washing, it plays a crucial role in protecting against multiple infection. Literature also highlighted the importance of hand washing to protect against COVID-19 [18]. A study conducted by Basurrah et al. reported better maintenance of hand hygiene among healthcare workers [19]. Same is reported by a study in Pakistan which showed statistically significant results regarding hand washing among medical and dental

undergraduate students [14]. Current study also reported a high percentage of medical undergraduate students, who had knowledge about protocols for hand washing including proper technique, time duration and use of antibacterial soap.

Globally COVID-19 is labelled as a serious condition that cause irreparable damage [20,21]. In current study majority of the study participants also agreed with the statement that COVID-19 is a life threatening condition which need a planned infection-control program. One of the study reported that the majority of undergraduate students are tired of listening about COVID-19 [14] but the current study contradict this finding by reporting a large proportion of undergraduate students in current setup who like to get more information about COVID-19. Limitation of the study is small sample size. It is recommended to conduct sessions for medical students for better understanding of COVID-19.

Table 1. Demographic characteristics of study participants

	n =250	%
Gender		
Male	110	44
Female	140	56
Socioeconomic status		
Upper	21	8.4
Middle	129	51.6
Lower	100	40
Year of study		
1 st yr	29	11.6
2 nd yr	53	21.2
3 rd yr	63	25.2
4 th yr	44	17.6
5 th yr	61	24.4

Table 2. Comparison of knowledge score with demographic characteristics among participants of different year of study

		1 st year	2 nd year	3 rd year	4 th year	5 th year	p-value
Gender	Male	4.57 ± 1.08	4.82 ± 1.06	5.07 ± 1.03	5.13 ± 1.05	5.18 ± 1.08	0.001
	Female	4.82 ± 1.06	4.96 ± 1.09	5.12 ± 1.13	5.19 ± 1.17	5.25 ± 1.24	
Socioeconomic status	Upper	5.10 ± 0.320	5.19 ± 0.521	5.53 ± 0.962	5.85 ± 1.013	5.95 ± 1.026	0.021
	Middle	5.02 ± 1.282	5.06 ± 0.915	5.17 ± 1.147	5.62 ± 0.861	5.75 ± 0.52	
	Lower	4.9 ± 1.173	5.05 ± 1.048	5.1 ± 1.003	5.2 ± 1.121	5.56 ± 1.149	
Over all COVID-19 score		5.05 ± 1.09	5.09 ± 1.125	5.18 ± 1.23	5.21 ± 1.15	5.33 ± 1.113	0.032

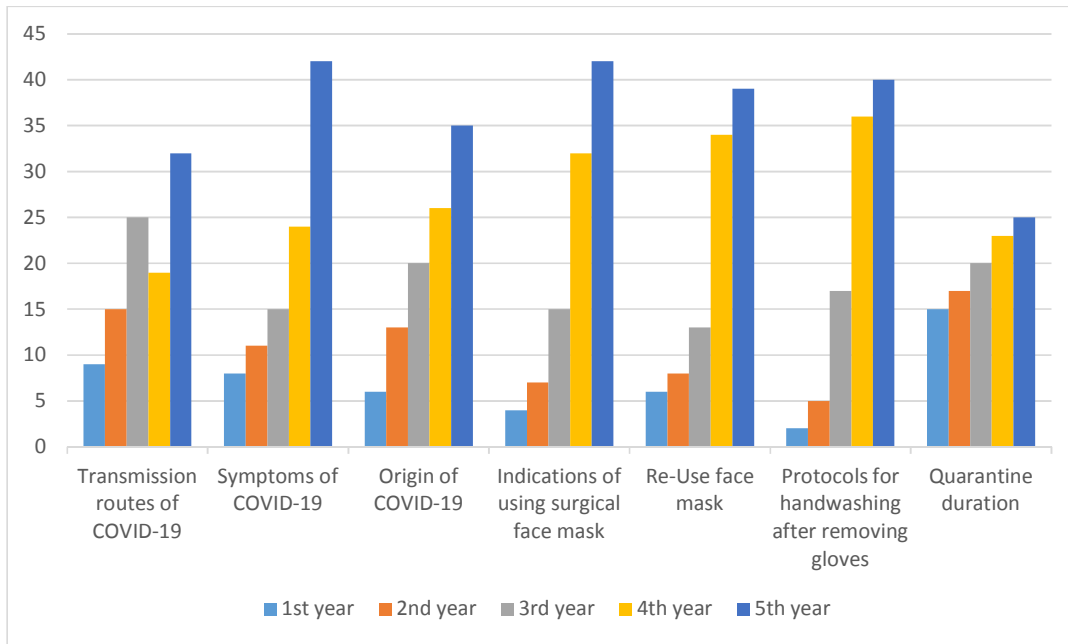


Fig. 1. Percentage of knowledge about COVID-19 among different years of medical education

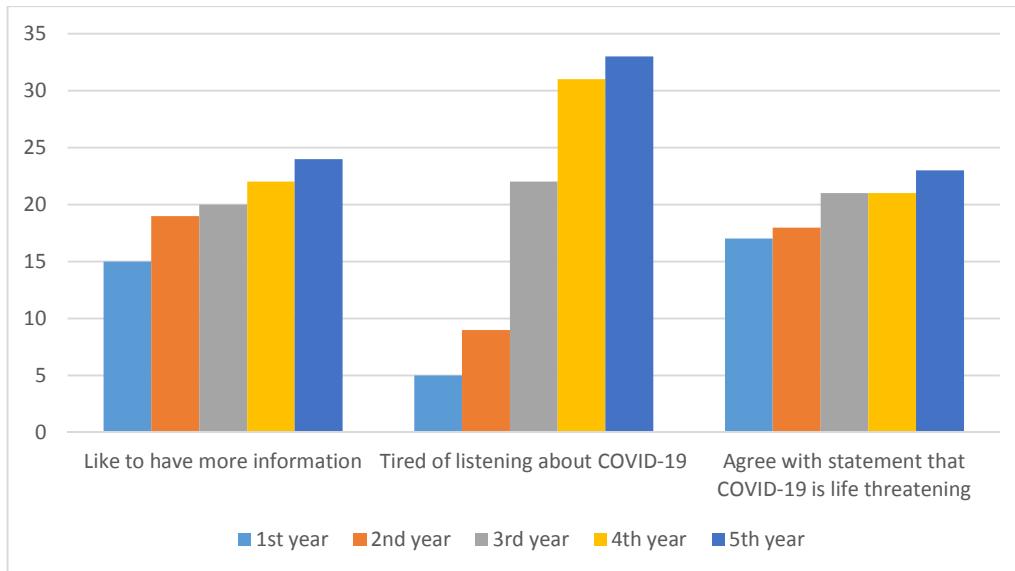


Fig. 2. Attitude of medical students towards COVID-19

5. CONCLUSION

It can be concluded that Pakistani undergraduate students of MBBS are having good knowledge about COVID-19 including its pathogenicity, route of transmission, signs and symptoms. They are also well-aware of the protective measures which should be taken. In comparison, final year students having the higher level of knowledge

then the students of other years of MBBS. All the students having positive attitude for stopping COVID-19.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

A descriptive cross-sectional study was conducted at Quaid-e Azam medical college Bahawalpur from June 2020 to August 2020. Approval was taken from the Ethical review committee of concerned institute.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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