COVID-19 Awareness Among Medical Students of Different Universities of Pakistan

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Abstract

Objective: To evaluate the awareness about COVID-19 among medical students of different universities of Pakistan.

Methods: It is a cross sectional study. In which we assessed the awareness of 254, 3rd year and 4th year medical students of King Edward Medical University and Rashid Latif Medical college about novel COVID-19 disease during this current pandemic. The surveillance of this awareness among 254 medical students about COVID-19 was done through a KAP study. An online questionnaire was used to collect the demographic details, knowledge, attitude towards the disease and practices of the medical students.

Results: All the 254 students of KEMU and RLMC had good knowledge about COVID-19, its symptoms, incubation period, disease fatality and prevention.99.6% students were well aware about source of infection and its route of transmission.55.5% students were satisfied with the precautionary steps taken by the government while 86.6% were afraid to go to the crowded places and 63% believed that there is stigma associated with COVID-19 pandemic.75.6% always used Soap/Hand Gel to wash hands for 20 seconds and 87.8% always ensured that mask fits properly and covers nose and mouth completely. About 96.9%avoid normal daily life activities.

Conclusion: This study concludes that majority of the medical students have good knowledge, positive attitude and sufficient practices. But practices of hand hygiene, mask usage and social distancing should be emphasized. Medical students play a vital role in society as they can educate public about the pandemic and its precautions to prevent further spread of the disease. Hence, continued efforts are required to strengthen knowledge, attitude and practices towards COVID-19, so that Pakistan can win the battle against this pandemic.

Key Words: COVID-19, Pandemic, Attitude, Practices, Awareness

Introduction

Since late December 2019, an outbreak of novel coronavirus disease (Covid-19; previously known as 2019-nCov) was reported in Wuhan, China, which has subsequently affected 215 countries so far. The people affecting with this novel virus is increasing day by day.[1] Epidemiological investigations have sugges-ted that the outbreak was associated with a seafood market in Wuhan.[2]

In general, COVID-19 is an acute resolved disease but it can also be deadly with a 2% case fatality rate. Severe disease onset might result in death due to massive alveolar damage and progressive respiratory failure.[3] Although most coronavirus infections are mild, the epidemics of two betacoronaviruses, severe acute respiratory syndrome (SARS-CoV) and middle east respiratory syndrome (MERS-CoV) have caused more than 10,000 cumulative cases in the past two decades with mortality rates of 10% for SARS-CoV and 37% for MERS-CoV.[4]

The pandemic of SARS cov-2 is a condition characterized by array of symptoms leading to acute respiratory distress syndrome.[4] Common symptoms are

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fever, cough, myalgia, less common symptoms were sputum production, headache, loss of taste/smell, nausea/vomiting, diarrhea. Some patients develop dyspnea and lymphopenia. According to a recent study in New York study, most common presenting symptoms were cough(79.4%), fever(77.1%), dyspnea (56.5%), myalgias (23.9%), nausea and vomiting (19.1%).Most of the patients (90%) had lymphopenia, 27% had thrombocytopenia and many had elevated liver function tests and inflammatory markers.[5] Real time RT PCR is used to diagnose the cases of COVID-19 disease.[6]

The pathogen responsible for covid-19 disease was suspected to be from the family of enveloped, positive sense RNA viruses, characterized by club shaped spikes that projections from their surface, an unusually large RNA genome and a unique replication strategy.[7] Multiple trials are going on to discover definitive treatment modalities of this novel disease as well as its vaccine.

Governments are rapidly mobilizing to minimize transmission of COVID-19 disease with the measures of social distancing and travel restrictions to reduce fatalities and spread of this disease. The pandemic's progression and its impact is strongly related to the demographic composition and population especially its age structure. Older ages are more prone to this disease resulting in mortalities.[8]

To defeat coronavirus, in addition to public health measures, different policies of government like effective containment helped to lower down the exponential spread of this deadly virus.[8]

The purpose of this study is to evaluate the awareness of undergraduate medical students (3rd and 4th year MBBS) about novel COVID-19 disease. As being health professionals, they have to guide the public about its precautions and management.

Methods

It is across sectional study. In this study, we assessed the awareness of 254, 3rd year and 4th year medical students of King Edward Medical University and Rashid Latif Medical college about novel COVID-19 disease during this current pandemic.

Simple random technique was used for sampling purpose. The surveillance of this awareness among 254 medical students about COVID-19 was done through a KAP study. An online questionnaire was used to collect the required data. Demographic details, knowledge, attitude towards the disease and practices of the medical students were recorded through this questionnaire.

Results

In this study 254 undergraduate medical students of KEMU and RLMC filled an online structured questionnaire. Almost all of the respondents were from age group 15-24 (98.8%). There were 154 female students (60.6%) and about 100 male students (39.4%). Primary source of information for most of the students was social media (72%) and Television (26%).

Knowledge

Nearly all participants had heard about COVID-19 (98%) and were well aware about the source of infection (99.6%) and route of transmission of the infection (99.6%). Majority of the students had good knowledge about disease symptoms, incubation period, disease fatality and social measures required for protection from corona virus as shown in Table 1.

Attitude

More than half of the respondents (55.5%) were found to be satisfied with existing precautionary measures by the Government to slow the spread of Novel COVID-19. Although one-third (32.7%) also agreed that the Government institutions shall be able to control the pandemic, many (34.6%) believed that the pandemic shall not be controlled leaving the remaining one-third unsure about the consequences as shown in Table 2.

A high proportion of respondents (86.6%) agreed that they were afraid to go to crowded areas. About 63% of the respondents (63%) believed there is stigma associated with COVID-19 diagnosis. However, despite this belief, a vast majority (98%) still reinforced the significance of informing health authorities about a suspected case.

Table 1: *Response Regarding Knowledge of Undergraduate Medical Students about COVID-19*

S. #	Appropriate Response	No. (%age) of Correct Answers
1.	The cause of COVID-19 infection is a virus.	253(99.6)
2.	Someone who has had COVID -19 can spread infection to others.	244(96.1)
3.	Route of transmission is respiratory droplets and touching/shaking hands.	253(99.6)
4.	You should suspect corona if someone is showing symptoms (like fever, cough, sore throat, shortness of breath) and there is history of travel or contact.	235 (92.5)
5.	It takes 2 -14 days for symptoms of the disease to appear after infection.	223(87.8)
6.	COVID-19 can be caught from a person who has no symptoms.	202(79.5)
7.	Frequent hand washing, social distancing and respiratory etiquettes can keep you safe from COVID-19.	250(98.4)
8.	COVID-19 is not fatal for all infected individuals.	201(79.1)
9.	There is no Vaccine/Treatment for Novel COVID-19.	240(94.5)
10.	Health Education can help prevent Novel COVID-19.	237(93.3)
11.	Early diagnosis can be helpful in improving the disease outcome.	245(96.5)

Practice

Among the participants, 192(75.6%) always and 60 (23.6%) occasionally used Soap/Hand Gel to wash hands for 20 seconds. Similarly, 223(87.8%) always and 30 (11.8%) occasionally ensured that mask fits properly and covers nose and mouth completely. About 96.9%avoid normal daily life activities (e.g: going to Work, School/College/University, Public Parks, Gyms, Parlors, Cinemasetc).

Figure 1: *Response of Undergraduate Medical Students about Hand Washing Practice*

Independent Sample T Test

Gender wise comparison reveals that there is no statistically significant difference between Knowledge (p-value 0.433), Attitude (p-value 0.498) and Practice (p-value 0.383).

Discussion

On the knowledge questionnaire, an overall correct rate of 92% was found in the well educated population of undergraduate medical students from 3rd year and 4th year MBBS classes of Rashid Latif Medical College and King Edward Medical University. Most participants were well aware about the causative agent (99.6%), incubation period (87.8%), disease transmission (99.6%), symptoms (92.5%), disease fatality (79.1%) and had adequate knowledge about the social etiquettes required for protection from corona (98.4%). Comparable findings have also been observed in similar studies from other countries.[9,10] Following an outbreak of MERS-CoV, a study aimed to measure the level of its awareness in faculty and students of a Saudi Arabian University was conducted.[11] The overall knowledge score was significantly higher in participants from the health colleges.

Table 2: *Response regarding attitude of undergraduate medical students towards COVID-19*

	Response regarding Attitude	Agree	Disagree	Uncertain
1.	Are you satisfied with existing precautionary measures by the Government to slow/contain the spread of Novel COVID-19?	141(55.5%)	75(29.5%)	37(14.6%)
2.	Are Government institutions able to control the pandemic?	83(32.7%)	88(34.6%)	83(32.7%)
3.	Are you afraid to go to crowded areas?	220(86.6%)	12(4.7%)	21(8.3%)
4.	Do you think is there any stigma associated with COVID-19 diagnosis in patients?	160(63.0%)	33(13.0%)	60(23.6%)
5.	It's important to report a suspected case to health authorities?	249 (98.0 %)	1(0.4%)	4(1.6%)

Although most of the students had sufficient knowledge about the emerging Corona infection, it was observed that a small but significant number of medical students (8%) seemed to agree that COVID-19 cannot be caught from a person who has no symptoms. An additional 12% were not sure about this asymptomatic transmission of the virus. According to World Health Organization, the incubation period for COVID-19, which is the time between exposure to the virus and symptom onset, can last up to 14 days. During this pre-symptomatic period, some infected persons can be contagious.[12] Since these are 3rd year and 4th year medical students, it is expected they should be well aware of the virus replicative cycle as well as its implications on disease transmission and prevention.

Attitudes towards COVID-19 were not very optimistic as far as the measures taken by Government were concerned. Approximately 55.5% were satisfied with existing precautionary measures by the Government. Only one-third (32.7%) agreed that Government institutions shall be able to control the pandemic. However, this attitude could be a consequence of an excessive use of social media platforms which is not just the primary source of information in 72% of our respondents, but is also known to spread anxiety among people about the pandemic.[13]

Overall, a high proportion of respondents were concerned about the infection and agreed that they were afraid to go to crowded areas (86.6%). About 63% of the respondents (63%) believed there is stigma associated with COVID-19 diagnosis. A vast majority (98%) reinforced the significance of informing health authorities about a suspected case.

Despite the mixed response regarding attitude towards control of COVID-19 between the participants, majority took precautions to prevent infections: performing proper hand hygiene (76%), wearing masks in an appropriate manner (88%) and avoiding normal daily life activities by not going to any public place (96.9%). Most participants knew that hand washing is an effective way to reduce the spread of virus (98%), and there was no noticeable confusion among participants regarding transmission of disease as shown in above data. However, there was a gap between perceived usefulness and practice of hand hygiene measures. A significant proportion of respondents (24%) admitted that they only occasionally wash their hands with soap or gel for 20 seconds.[14,15]

According to a study in MERS-CoV endemic regions, it was revealed that personnel clearly understand the importance of hand hygiene practices but failed to implement proper hand hygiene applications.[16] In order to successfully prevent infection transmission in health care settings, we need to take persistent appropriate measures as revealed in a Case-Cohort MERS study from South Korea.[17] Educating these young minds can be one of the first key steps towards this goal.

Conclusion

This study concludes that majority of the medical students are well informed about coronavirus disease, its causative agent, incubation period, symptoms, transmission and disease fatality. Most of them have positive attitude and sufficient practices. But practices of hand hygiene, mask usage and social distancing should be emphasized.

Medical students play a vital role in society as they can educate public about the pandemic and its precautions to prevent further spread of the disease. Although the results are positive, continued efforts are required to strengthen knowledge, attitude and practices towards COVID-19, so that Pakistan can win the battle against this pandemic.

Author's Contribution

HB: Study design, data collection, analysis & interpretation, manuscript writing & approval.
BA: Data Collection
TK: Manuscript writing
SA: Supervision whole project
FS: Manuscript writing
SuM: manuscript corrections

Conflict of Interest: None

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