



Research Article

Assessment of the Awareness of COVID-19 among the Students Enrolled in Different Medical Universities of Pakistan: A Cross Sectional Survey

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ABSTRACT

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Background: The study was designed for the assessment of the knowledge of medical students regarding pandemics. In the current designed study, the level of awareness was checked and the majority of students were found aware of SARS-CoV and SARS-Cov2 (Covid-19).

Objective: To assess the awareness of SARS-CoV and SARS-Cov2 (Covid-19) among medical students of Pakistan.

Subjects and Methods: A cross-sectional survey was carried out in different universities of Pakistan from May to August 2020. A self-constructed questionnaire by Pursuing the clinical and community administration of COVID-19 given by the National Health Commission of the People's Republic of China was used among the 831 students who are enrolled in different medical universities of Pakistan and SPSS version 23 was used to analyze the data.

Results: The majority (n=440, 52.9%) were male, (n=525, 63.2%) having age between 18 to 23 years and (n=682, 82.1%) were unmarried. In educational status (n=501, 60.3%) were undergraduate and (n=214, 25.8%) were students of MBBS. After checking the residential status (n=343, 41.3%) were the permanent residents of Balochistan province. During the assessment of awareness towards Covid-19 results showed that (n=801, 96.4%) were aware regarding Covid-19.

Conclusion: This study finalized that the students enrolled in different medical universities of Pakistan were aware of the Covid-19. The observed awareness can be due to qualitative education especially in the domain of disease prevention, which has been provided by the educational institutions of Pakistan in collaboration with the Ministry of Health. Keywords: Awareness, Covid-19, Medical students, Pakistan

Introduction

The outbreak of severe acute respiratory syndrome coronavirus (Covid-19) was initially started in Wuhan (Hubei, China) in December 2019. Firstly, the thoughts supporting the zoonotic origin of Covid-19 but yet not conformed (1, 2). The clinical sign and symptoms are fever, dry cough, dyspnea, headache, myalgia, diarrhea, nausea, nasal congestion, severe chest congestion, fatigue, pneumonia, and restlessness. Whereas in the patients, the dominant manifestations were observed in the repertory system. Whereas in Pakistan, thousands of asymptomatic patients were tested Covid-19 positive as well (3). Due to the immunity compensation, the people with very young and old age were at higher risk of getting infected from Covid-19 (1, 2). As the Covid -19 is airborne and easily transmittable through respiration and getting in touch with contaminated surfaces. Furthermore, the treatment of Covid-19 is yet not been discovered the only way to keep ourselves safe is prevention (3).

At the end of January 2020, the world health organization (WHO) has declared the Covid-19 as a Public Health Emergency of international concern (PHEIC), at the end of March 2020 WHO declared the Covid-19 as a pandemic outbreak because in February more than 1500 deaths were reported from 100 different countries (2).

Summing up, in the current declared Covid-19 disease outbreak the front-line warriors were the health care professionals, and being medical students, it is necessary to keep themselves aware especially for any kind of disease outbreak (4).

Subject and Methods

Study Design, Settings, and Duration: A cross-sectional survey was carried out from May to July 2020, and data was gathered from the students who were enrolled in different universities in Pakistan.

Sampling: Convenient Non-Probability Sampling Technique was used among 831 students of health sciences who are enrolled in the any University of Pakistan and agreed to participate in the study were included. While, the students who were not enrolled in any university in Pakistan, did not belong to health sciences, and were not agreed to sign informed consent were excluded.

Data Collection Tool :The questionnaire consisted of two parts: first is consist of the demographics which includes age, gender, matrimonial status, educational level, and locality. Second one consists of 10 awareness items by Pursuing the recommendations for clinical and community administration of COVID-19 given by the National Health Commission of the People's Republic of China (5,6).

Data Collection Procedure :The data was collected online through an e- questionnaire because during an undefined period of lockdown it was not possible to conduct a sampling study based on a hardcopy questionnaire. The link of the e- questionnaire was sent to the medical students by using their e-mails and by using different social media applications.

Data Analysis Procedure: Data were examined and presented in frequency and percentages for categorical variables, mean and standard deviations were presented for continuous variables. Spss (Statistical Package for Social Sciences) 23 version was used.

Ethical Consideration: The approval was received from the ethical inspection committee of the Faculty of Pharmacy & Health Sciences, University of Balochistan, Quetta, Pakistan. Informed consent was

taken from participants containing that their participation is voluntary, their information will be kept confidential and they can leave the study anytime, after that the proforma was filled for data collection.

Results

Demographic Characteristics: Demographic Characteristics are reported in table 1, which tells that the majority (n=525, 63.2%) concern to age group between 18-23 years, (n=440, 52.9%) were male and after checking the marital status we found that majority (n=682, 82.1%) were unmarried. In education (n=501, 60.3%) were Under-graduate with (n=214, 25.8%) MBBS specialty, while (n=343, 41.3%) were the permanent residents of Balochistan province.

Table 1: Demographic Characteristics

Characteristics	Frequency	Percentage
Age group		
18-23 years	525	63.2
24-30 years	249	30
30 and above	57	6.8
Gender		
Male	440	52.9
Female	391	47.1
Marital status		
Married	149	17.9
Unmarried	682	82.1
Other	00	00
Education		
Under-graduate	501	60.3
Graduate	220	26.5
Post-graduate	110	13.2
Doctorate	00	00
Specility (Major)		
MBBS	214	25.8
BDS	76	9.1
DPT	201	24.2
Pharm-D	76	9.1
Eastern Medicine	118	14.2
DVM	22	2.6
Any other	124	14.9
Province of current residence		
Balochistan	343	41.3
Punjab	229	27.6
Kpk	179	21.5
Sindh	67	8.1
Islamabad	10	1.2
Azad and Jammu Kashmir	03	0.4
Gilgit -Baltistan	00	00

Response to COVID-19 Awareness items

Response to COVID-19 Awareness items is reported in table 2, which states that the majority (n=799, 96.1%) were aware regarding the first case which was reported from Wuhan, (Hubei, China) in December 2019. The (n=774, 93.1%) was also aware of the clinical symptoms (Fever, fatigue, dry cough, and muscular pain) of COVID-19.

Although, (n=620, 74.6%) were not aware that both viruses (SARS & SARS-CoV-2) causes the COVID-19. The majority (n=609, 73.3%) were aware and know that respiratory droplets are the major mode of transmission from person to person. In the current pandemic situation of COVID-19 (n=808, 97.2%) were aware regarding the wearing of a mask and (n=786, 94.6%) worn the mask over letting out their homes. Regarding personal or hand hygiene (n= 489,

58.8%) received an e-mail from health officials and (n=795, 95.7%) were washing their hands frequently at least for 20 seconds. In personal protective equipment (n=687, 82.7%) were aware and agreed that all health care providers and helping staff who are working among the patients of COVID-19 should wear the N-95 mask (respirator), Gown, Gloves & proper eye protection. Approximately (n=526, 63.3%) were aware and acknowledge that the direct contact with a patient of COVID-19 is a violation of social distancing, and in terms of isolation (n=804, 96.8%) were agreed to keep the patient of covid-19 in isolation, at least for 14 days. In addition to this (n= 683, 83.4%) were aware that except symptomatic there is no curative treatment for COVID-19 is present in Pakistan.

Table 2: Response to COVID-19 Awareness items.

COVID-19 Knowledge item	Correct N (%)	Incorrect N (%)
The first case of COVID-19 was reported in December 2019 from city Wuhan, Hubei province, china.	799(96.1)	32(3.9)
Fever, fatigue, dry cough, and muscular pain are the main clinical symptoms of COVID-19.	774(93.1)	57(6.9)
The earlier corona virus which produces (SARS) is different from current (SARS-CoV-2).	211(25.4)	620(74.6)
From person to person the respiratory droplets are the major mode of transmission for COVID-19.	609(73.3)	222(26.7)
Do you think, is it mandatory to wear a mask in current pandemic situation of COVID-19?	808(97.2)	23(2.8)
In current situation, when leaving home have you worn a mask?	786(94.6)	45(5.4)
In current pandemic situation of COVID-19, did you receive any email regarding personal or hand hygiene from health officials?	342(41.2)	489(58.8)
Do you wash your hands frequently, with soap at least for 20 seconds?	795(95.7)	36(4.3)
In personal protective equipment (PPE), is it necessary for health care provider and helping staff for that who are working among the patients of COVID-19 to wear the N-95 mask (respirator), Gown, Gloves & proper eye protection?	687(82.7)	144(17.4)
Direct contact with the infected patient of COVID-19 is considered as a violation of social distancing.	526(63.3)	305(36.7)
A patient suffering from the COVID-19 virus should be kept in isolation in a specific place at least for 14 days.	804(96.8)	27(3.2)
Rather than symptomatic, is there any effective treatment for COVID-19 present in Pakistan?	138(16.6)	683(83.4)

Note: Appraisal of Awareness was done by awarding 1 to correct answer and 0 to the incorrect answer. The scoring range of Awareness questionnaire was consisting of maximum 12 and minimum 0. The 6 and below points was assumed as unaware, whereas the 7 and above was assumed as aware regarding COVID-19.

Awareness Regarding COVID-19

Awareness Regarding COVID-19 is reported in table 3, which states that the Majority of participants (n=801, 96.4%) were aware to COVID-19. In statically analysis the knowledge of participants was significantly associated with awareness of participants. P value is (0.01).

Table 3: Awareness Regarding COVID-19.

Variable	Frequency	Percentage	P value
Aware	801	96.4	<0.01
Un aware	30	3.6	

Cross tabulation between the demographics and awareness:

Cross-tabulation between the demographics and awareness is reported in table 4, which states that the Majority (n=502) were aware and concern to the age group of 18 -23 years and (n=423) were male. After the analysis of their marital status, we found that (n=655) were un-married. In educational status, the majority (n=479) were undergraduate students, and (n=205) were related to MBBS. Furthermore (n=323) were the permanent residents of Balochistan province.

Table 4: Cross tabulation between the demographics and awareness.

Characteristics	N	Aware	Unaware
Age group			
18-23 years	525	502	23
24-30 years	249	243	06
30 and above	57	56	01
Gender			
Male	442	423	17
Female	391	378	13
Marital status			
Married	149	146	03
Unmarried	682	655	27
Other	00	00	00
Education			
Under-graduate	501	479	22
Graduate	220	215	05
Post-graduate	110	107	03
Doctorate	00	00	00
Speciality (Major)			
MBBS	205	205	09
BDS	76	75	01
DPT	201	193	08
Pharm-D	76	72	04
Eastern Medicine	119	113	05
DVM	22	22	00
Any other	124	121	03
Province of current residence			
Balochistan	343	323	20
Punjab	229	222	07
Kpk	179	177	02
Sindh	67	66	01
Islamabad	10	10	00
Azad and Jammu Kashmir	03	03	00
Gilgit -Baltistan	00	00	00

Discussion

The current study disclosed that the majority of medical students from Pakistan were aware of the Novel coronavirus COVID-19. Globally, different surveys were conducted out of which two surveys were conducted by Modi et al and Rose et al and concluded that most of the students who are enrolled in different medical universities were well aware regarding the quick and extensive spread of the Covid-19 pandemic and related infectious diseases (7, 8). However, similar studies were not yet been conducted in Pakistan. The studies related to infectious diseases were conducted by Anjum et al in 2005 and Abbasi et al in 2009 and concluded with contradictory results and found that most of the medical students were not aware of different infectious diseases, which can be due to unsatisfactory teaching methods or lack of facilities (9, 10), the assumption made by the author were not been supported by different studies, as one of the studies says that the most of the students showed a good level of satisfaction on the teaching methods and facilities that are being provided by their respective institutes (10). Furthermore, the attitude of students towards their studies and professionalism was positive which can somehow compensate for the lack of facilities in their respective institutions and can be the major cause of their good level of awareness towards the pandemics (11).

When students were asked regarding the history of this virus majority was miss understood this by missing it with previously infection causing virus and they even did not know the difference between the previous SARS-CoV and SARS-Cov2(12), this may cause them to be unaware of the severity this virus could have caused to the world and might lead to further misunderstandings (13). Considering the issue of social distancing the respondents were asked about the direct contact with the patient, they responded that direct contact with covid-19 infected patient was a clear violation of social distancing which somehow was not practically possible to them as they being the healthcare student might get exposure to the infected patients. All they need is to have the protective equipment that will prevent them from getting the infection (14).

Summing up, the awareness level of medical students of Pakistan regarding covid-19 was satisfactory, which will traverse them toward good management of the health care system. Moreover, the ministry of health ought to arrange health literacy campaigns especially among the students to enhance the level of awareness among the un-aware students (15, 16). The high level of health literacy among the medical students can help them to prevent their patients and themselves from an outbreak of pandemics like Covid-19 (17).

Conclusion

In Pakistan, the medical students who were enrolled in different medical universities were asked regarding the start, spread, mode of transmission, and prevention of Covid-19, and the majority of them were found well aware of it, such quantitative and qualitative knowledge of the students can very helpful in terms of eradication of these pandemics.

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Conflict of Interest

No conflict of interest.

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