Original Article

Myths and realities: A novel study on COVID-19 among the medical students of Rural university of Sindh, Pakistan

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Abstract

Background: The COVID-19 first appeared in Wuhan city of China. It was treated as a case of pneumonia having no etiology, first appeared in December 2019. Its spread was at a rapid pace worldwide. It was named as COVID-19 by the World Health Organization on 11th February 2020, as of 5th June 2020, there are 87,113 confirmed cases of COVID-19 in Pakistan. **Method:** A cross-sectional descriptive study was conducted on 196 students of SMBBMU through an online questionnaire. It was self-generated and evaluated by epidemiologists. The questionnaire was developed through the WHO advisory from the Coronavirus disease advice for public: Myth busters. It contains socio-demographic information and Twenty-four (24) questions related to myths and knowledge for COVID-19 and the response of questions was taken on true/false basis. **Results:** A total of 196 students participated out of which 100 were females and 96 were males, the mean age of the participants was 22.4005 ± 4.97, and 168(85.7%)participants were unmarried. The highest ratio involved in this study was of the first year, which was about 82 (41.8%). The most common source of information was social media (n=118; 60.2%). Overall,77.21% of the students were aware of the myths and realities regarding COVID-19.Data were analyzed through SPSS 24.**Conclusion:**The students had sound knowledge regarding the myths and realities of COVID-19.It is the responsibility of public health care providers to spread this knowledge into every part of the country through social media and other sources at their disposal.

Keywords: COVID-19; Students; Universities; Surveys; Questionnaires

INTRODUCTION

The COVID-19 first appeared in the city of Wuhan of China and it was treated as a case of pneumonia having no etiology in December 2019, its spread was at a rapid pace from country to international level [1-3].The ailment is exceptionally contagious, and its major symptoms include fever, drycough, fatigability, myalgia, and dyspnea [4].In China, 18.5% of the patients with COVID-19 reach the level of the serious stage, which is portrayed by acute respiratory distress syndrome, septic shock, metabolic acidosis and coagulation problems [5-7]. Initially, it was named as Novel Coronavirus Pneumonia by the Center for Disease Control of the People's Republic of China [8]. The origin of the coronavirus was branched with a food market of Wuhan in China [9, 10]. COVID-19 attacks the respiratory system [11].Later it was named as 2019-nCoV by the Chinese researchers [12], then it was named as SARS-CoV-2(severe acute respiratory syndrome coronavirus-2 by the International Committee On Taxonomy of Virus [13].It was named COVID-19 by the word heath organization on 11th February 2020 [14] and it was declared as 6th SPHEC (Sixth Public Health of Emergency Services). On January 30th, 2020 it was not the first attack of corona virus[15] previous attacks were SARS-CoV (Severe Acute Respiratory Syndrome Coronavirus) and MERS-CoV (Middle East Respiratory Syndrome Coronavirus) [16].

It is the third outbreak of Corona virusa ffecting more than 209 countries, which includes Pakistan [17].The initial two affirmed cases of COVID-19 in Pakistan were reportedon 26 February 2020 ringing the bell for the forthcoming tempest [18], as of 5th June 2020 there have been87,113 confirmed cases of COVID-19 in Pakistan and 1838 deaths,33,536

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casesin Sindh, 33,144 in Punjab, 11,890in KPK, 5,582 in Baluchistan, 3,946 inIslamabad,299 in AJK, and 852 cases in GB [19]. According to a public survey conducted in Pakistan, people were shockingly unaware of COVID-19, relying more on myths, hearsay, and false beliefs rather than correct medical information. This survey interviewed the public of the whole country, which includes all provinces and socioeconomic groups.

The survey reported shocking misinformation towards the disease and how to protect oneself from it: A staggering 82 percent of people believe that performing ablution five times a day can protect from Coronavirus. The report also shows that Pakistanis have developed conspiracy theories towards the authenticity of the virus and had misinformation towards preventive measures for COVID-19 [20]. Therefore, it is necessary to evaluate the misinformation among University students, as they are young and vulnerable to the disease. This study will further help in providing true information aboutCOVID-19 to the youth of this nation and reject the misinformation or myths towards COVID-19 among society helping people to understand preventive measures towards the disease. The aim of this study was to assess the myths and realities of COVID-19 related information among medical students of the rural part of Sindh, Pakistan.

Methods

This cross-sectional descriptive study was performed on the students of Shaheed Mohtarma Benazir Bhutto Medical University Larkana Students through an online questionnaire with the help of Google forms. The questionnaire regarding myths and realities was self-generated and later it was validated with the help of epidemiologists and public health specialists, which was followed by a pilot study to pretest the questionnaire. The questionnaire was developed through World Health Organization advisory from the Coronaviruses disease (COVID-19) advice for public: Myth busters [21]. The online questionnaire included socio-demographic information i.e. age, sex, marital status, source of information, and year in which students are currently enrolled. Twenty-four (24) questions were included regarding myths and knowledge for COVID-19 to assess the relevant information and the response of questions was taken on true/false basis. In order to follow SOPs for prevention of COVID-19, and keeping social distancing we carried out convenient sampling and a total of 196 respondents participated in the study who filled the consent form and were willing to be part of this study. The data was collected through a link to Google forms, which was circulated among the concerned university students through social media, etc. The respondents were given proper information about the objectives and aims of the study. Assurance of confidentiality was given towards their personal details before conducting the survey and informed consent form was also obtained from respondents and data were analyzed by using Statistical Package for Social Sciences" (SPSS) version 24.0.The results were calculated in the form of frequencies and percentages.

Results

A total of 196 students participated in this study out of whom100 (51%) were females and 96(49%) were males. The mean age of the participants was 22.4005± 4.97 SD. The majority of participants in this survey 168 (85.7%) were unmarried, 27 (13.8%) were married, and 1(0.5%) was divorced. The majority of participants (n=82, 41.8%) were first-year students, followed by second-year (n=36, 18.4%), third-year (n=17, 8.7%), fourth-year (n=21, 10.7%), and fifth-year (n=40, 20.4%), respectively. Likewise, the students obtained information regarding COVID-19 from different sources, which included social media 118(60.2%), internet search engine 38(15%), Television (6.3%), families 5(2%), friends 2(0.8%), print media 1(0.4%), and other sources 16(6.3%), respectively (see Table 1). Overall 91.8% of the students answered correctly that people who get COVID-19 can recover with the help of supportive care, 62.8% of students knew that thermal scanners cannot detect COVID-19 as they only detect if the person has a fever or not.86.7% of students were aware of that there is no drug approved to treat or prevent COVID-19.

Although there are several trials going on, 76.5% of students replied that adding peppers to your soup or other meals will neither prevent nor cure COVID-19 but it was advised to stay hydrated and eat a balanced diet, do exercises, and sleep well. 83.2% of students responded that COVID-19 is not transmitted through houseflies because until now, no evidence or information has come on front.72.4% of students were aware that spraying and introducing bleach or another disinfectant into your body will not protect you against COVID-19 and can be dangerous because they contain toxic substances if ingested can become very dangerous.88.8% of students knew that drinking methanol, ethanol, or bleach does not prevent or cure COVID-19 and can be extremely dangerous.81.1% of students responded that 5G/4G mobile networks do not spread COVID-19.

Because the virus cannot transmit through radio or mobile waves or network.68.9% of students answered correctly that exposing yourself to the sun or temperatures higher than 25°Cdoes not prevent the coronavirus disease.77.6% of students knew that you can recover from the coronavirus disease, catching the new coronavirus does not mean you will have it for life.65.8% of students were aware that being able to hold your breath for 10 seconds or more without coughing or feeling discomfort does not mean you are free from the coronavirus disease or any other lung diseases and the best way to confirm if one has COVID-19 is through a laboratory test. 61.2% responded that the COVID-19 virus could be transmitted in areas with hot and humid climates. 94.9 % answered correctly against that Cold weather and snow kill the new virus. 67.9% knew that taking a hot bath does not prevent the new coronavirus disease. 86.7% were aware that the corona virus could not be transmitted through mosquito bites until now there has been no information to surface out and confirm it. 70.4% answered correctly against the hand dryers are effective in killing the new

coronavirus.78.6% responded that ultraviolet lamps should not be used to disinfect hands or other areas of your skin because it can damage your eyes and can also cause skin irritation.82.1% answered correctly against the vaccines against pneumonia protect against the new coronavirus.43.9% answered correctly against that regularly rinsing your nose with saline help prevent infection with the new coronavirus. 67.9% answered correctly against that the eating garlic helps prevent infection with the new coronavirus as there is no evidence. 92.3% answered correctly against that the coronavirus only affects older peoples.92.9% answered correctly against that the coronavirus does not affect younger people.63.3% answered correctly against the antibiotics are effective in preventing and treating the new coronavirus because antibiotics do not work against viruses.95.4% knew that there are no specific medicines to prevent or treat the new coronavirus reported in (Table 2). Overall 77.21% of the students responded with correct answers.

Table 1: Descriptive statistics of study participants (N=196).

Variable (n)	(%)
Gender	
Male (96)	49
Female (100)	51
Age(Mean± SD)	22.4005 ± 4.97
Marital status	
Single (168)	85.7
Married (27)	13.8
Divorced (1)	0.5
Participation of students	
1st Year (82)	41.8
2nd Year (36)	18.4
3rd Year (17)	8.7
4th Year (21)	10.7
5th Year (40)	20.4
Source of information	
Social Media (118)	60.2
Internet Search Engine (38)	15
Television(16)	6.3
Families (5)	2
Friends (2)	0.8
Print Media (1)	0.4
Other Sources (15)	6.3

Table 2: Questions regarding the Myths and Realities of COVID-19.

Description	Frequency (%)
Most peoples who get COVID-19 recover from it.	180(91.8)
Thermal scanners cannot detect COVID-19.	123(62.8)
There are currently no drugs licensed for the treatment or prevention of COVID-19.	170(86.7)
Adding peppers to your soup or other meals does not prevent or cure COVID-19.	150(76.5)
COVID-19 is not transmitted through houseflies.	163(83.2)
Spraying and introducing bleach or another disinfectant into your body will not protect you against COVID19 and can be dangerous.	142(72.4)
Drinking methanol, ethanol, or bleach does not prevent or cure COVID-19 and can be extremely dangerous.	174(88.8)
5G/4G mobile networks do not spread COVID-19.	159(81.1)
Exposing yourself to the sun or temperatures higher than 25c degrees does not prevent the coronavirus disease.	135(68.9)
You can recover from the coronavirus disease, catching the new coronavirus does not mean you will have it for life.	152(77.6)
Being able to hold your breath for 10 seconds or more without coughing or feeling discomfort does not mean you are free from the coronavirus disease or any other lung disease.	129(65.8)
COVID-19 virus can be transmitted in areas with hot and humid climates.	120(61.2)
Cold weather and snow kill the new virus.	186(94.9)
Taking a hot bath does not prevent the new coronavirus disease.	133(67.9)
The coronavirus cannot be transmitted through mosquito bites.	170(86.7)
The hand dryers are effective in killing the new coronavirus.	138(70.4)
Ultraviolet lamps should not be used to disinfect hands or other areas of your skin.	154(78.6)
Vaccines against pneumonia protect against the new coronavirus.	161(82.1)
Regularly rinsing your nose with saline help prevent infection with the new coronavirus.	86(43.9)
Eating garlic helps prevent infection with the new coronavirus.	133(67.9)
The coronavirus only affects older people.	181(92.3)

The coronavirus does not affect younger people.	182(92.9)
The antibiotics are effective in preventing and treating the new coronavirus.	124(63.3)
There are no specific medicines to prevent or treat the new coronavirus.	187(95.4)
Total Percentage	77.21

Discussion

After the discovery of the novel coronavirus, it has started its journey across the globe, and WHO has declared it as a public health emergency of international concern [22].The image of COVID-19 is yet to be understood and clear[23], but it is associated with drycough, fever, pneumonia, and shortness of breath. Until now, no vaccine or anti-viral medicine has been invented. In this cross-sectional survey, an assessment of myths and misconceptions towards COVID-19 was carried out among the University students at SMBB Medical University. In the present study, we give an insight into the misconceptions and myths towards COVID-19 among university students at SMBB Medical University Larkana Sindh Pakistan, and to our best knowledge, this is the first study conducted to assess the level of myths and misconceptions among the university students in Pakistan. It was found in the present study that the majority of the students had extensive knowledge aboutCOVID-19 and against the myths or misconceptions as the majority of the students responded correctly and similar results were found in studies conducted in several countries including India, Jordan, Vietnam, and China where respondents had extensive knowledge about COVID-19 [24-28].

Another study conducted in Pakistan among the healthcare professionals to assess knowledge, attitude, and perceived behaviors about COVID-19 showed similar results where healthcare professionals had extensive knowledge about COVID-19 [29], while on the contrary, if we compare our results with a study conducted in Bangladesh among the university students where the knowledge of university students about COVID-19 was low or moderate [30]. In this study majority of the respondents received information about COVID-19 from social media, which is similar to another study conducted in Pakistan among the healthcare providers about COVID-19 [31]. Another study revealed the same results where pharmacists in Pakistan used social media to gain information about COVID-19.On the contrary, in a study university students used literature and media as a source of gaining information about COVID-19 as compared to our study also they knew about the symptoms and unavailability of the vaccine in the same study, which is similar to our study [32, 33].

As only 196 students participated in this survey, therefore this study can be performed on a large scale for further evaluation of the concept of myth *vs*. reality of COVID-19.Medical personnelis at risk because of COVID-19 contagious nature, even knowing that it can be transmitted from the patient being asymptomatic.

Conclusion

Overall, the students had good sound knowledge regarding the myths and realities of theCOVID-19, therefore, it is the responsibility of Public Health Care providers to spread this knowledge into every part of the country through social media and other sources at their disposal.

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Conflict of interest

The authors do not have any conflict of interest.

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Patients consent

The data were collected with the help of an online questionnaire with their consent.

Author's contribution

Prof. Dr. Aneela Atta Ur Rahman generated the idea to conduct this study. Dr. Mir Hassan Khoso, Dr. Fahad Jibran Siyal, Dr. Arsalan Humayun, and Dr. Ehsanullah Malik helped in the data collection. While, Dr. Mir Hassan Khoso and Dr. Fahad Jibran Siyal wrote the manuscript. Dr. Saeed Ahmed Shaikh and Muhammad Parial Shahani reviewed the questionnaire and the rest of the authors did critical analyses. Finally, all the authors approved the manuscript.

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