

Knowledge, Attitudes and Practices – COVID-19

MEHAK IQBAL¹, MISHAL IQBAL², SYED HASHIM ALI INAM³, ANUM ARIF⁴, HAIDER IFTIKHAR⁵, HAMZA JAMIL⁶

^{1,2,6}House Officer, CMH Rawalpindi

³HO, CMH Lahore

⁴Consultant Surgeon, Fellow Vascular Surgery, CMH Lahore

⁵Army Medical College, Rawalpindi

Correspondence to Dr. Anum Arif, Email: Anum_arif@cmhlahore.edu.pk, dranumarif@yahoo.com

ABSTRACT

Background: Unparalleled measures have been taken to control the increasing spread of the COVID-19 pandemic in Rawalpindi and Islamabad. Peoples' adherence to the control measures is affected by knowledge, attitudes and practices (KAP) towards COVID-19.

Aim: To investigate medical students' of Rawalpindi and Islamabad KAP towards COVID-19 during this outbreak.

Methods: A sample of medical students was recruited by the authors via their networks with the medical students. A self-administered, close ended, online questionnaire was completed by the participants. It consisted of 9, 4 and 6 questions for knowledge, attitudes and practices respectively.

Results: Among the participants (n=374), 210(56.1%) were females and 318(85%) were enrolled in MBBS program as compared to BDS program. Approximately half the participants, 202(54%), felt they have adequate knowledge concerning COVID-19 and 263(70.3%) said they attained their knowledge from social media sources. Nearly all participants, 359(96%) felt they had their daily life disrupted by COVID-19 and 266(71.1%) participants were confident that COVID-19 may successfully be controlled in the near future. A vast majority, 342(91.4%) participants practiced self-isolation and 310(82.9%) participants wore masks before leaving their homes

Conclusions: Most participants were knowledgeable, optimistic and maintaining appropriate practices to minimize the spread of the disease. Due to the limited representative sample, we must be careful before generalizing these results for the whole population.

Keywords: Covid 19, KAP, pandemic

INTRODUCTION

Coronavirus Disease 2019 (which is abbreviated as COVID 19) is a newly emerging respiratory disease caused by the novel coronavirus and is now a pandemic. As of 25 March 2020, it has affected over 425,059 cases all over the world, reaching 172 countries altogether. This disease was first detected on 17 November 2019 in Wuhan, China¹. It is a highly infectious disease that mainly presents with fever, dry cough, fatigue, myalgia and dyspnea². In immunocompromised and the elderly population, it is characterized by acute respiratory distress syndrome, septic shock, metabolic acidosis, bleeding and coagulation dysfunction^{3,4}. In response to this situation, World Health Organization (WHO) has declared it a public health emergency of international concern on 30 January 2020 and has called for collaborative efforts of all countries to prevent its rapid spread^{5,6}. There is no vaccine to the Coronavirus yet and 12 different groups have announced their plans to developing new vaccines against novel Coronavirus 2019⁷. Pakistan is still fighting COVID 19 therefore to guarantee the complete success against the disease, the adherence to specific control measures is imperative. That is dependent on their knowledge, attitudes and practices towards COVID 19 according to the KAP theory^{8,9}. Practices include thorough and regular hand washing with soap and water or any chemical hand washing disinfectant, sneezing on a tissue or handkerchief and in case of unavailability, sneezing into your elbow, avoiding the palms¹⁰.

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To facilitate the outbreak management of COVID 19 in Rawalpindi and Islamabad, there is an urgent need to understand the public's awareness of COVID 19 at this crucial time. In this study, we have investigated the KAP towards COVID 19 of the medical students in Rawalpindi and Islamabad during the rapid rise period of the COVID 19 outbreak.

MATERIALS AND METHODS

This was a multi centered, cross sectional survey done to determine the extent of knowledge, the attitudes and the practices adopted by the medical students of Rawalpindi and Islamabad (Table 1) in regards to COVID 19. It was conducted from 25th March 2020 to 25th April 2020, the time of the lockdown of Rawalpindi and Islamabad. All students filling the questionnaire during this time period were enrolled in this specific time via random sampling to achieve a maximum sample size. As community based sampling was not possible at this time, we collected online data. A self-administered, close ended questionnaire was used that was adapted from a similar research conducted in China¹¹. Questionnaire was made on Google Forms, which had 4 sections: demographics, knowledge, attitudes and practices. Demographic variables consisted of 3 questions: gender, year of study and course. The knowledge section had 9 questions, attitudes section had 4 questions and the practices section had 6 questions. People were recruited for this survey through the network of the authors and were sent a brief introduction of the survey along with an online consent form and a link of the questionnaire. The survey was limited to the medical students of Rawalpindi and Islamabad only and was not

distributed to the students of other cities. All data were collected and tabulated on Microsoft Excel 2016 and analyzed by IBM SPSS statistical software V.23.

RESULTS

A total of 374 individuals filled the survey questionnaires and all were filled fully and were included in the analysis. Overall, 164(43.9%) were males and 210(56.1%) were females. The first year medical student group accounted for 150(40.1%) of the total responses, second year medical student group for 49(13.1%), third year medical student group for 35(9.4%), fourth year medical students 61(16.3%) and final year medical students accounted for 79(21.2%) of the total responses. The study population was comprised of 318(85%) MBBS and 56(15%) BDS students.

Knowledge: Out of the whole study group, 202(54%) participants felt they had ample information about COVID-19 whereas 40(10.7%) felt they did not. 337(90.1%) respondents were fully aware that COVID-19 is the infectious disease that is caused by the novel Coronavirus and 37(9.9%) incorrectly thought that it is the infectious particle that causes the disease. The knowledge regarding the prime source of the respondents' information is given in Figure 1. 362(96.8%) participants of the whole study population knew that fever was one of the main symptoms of the disease, followed by 352(94.1%) that knew about shortness of breath and 343(91.7%) that knew about dry cough. 341(91.2%) participants were aware that person to person contact causes spread of the infection, followed by 312(83.4%) that knew about the spread by respiratory particles and 304(81.3%) that knew about the spread from surfaces or objects. 370(98.9%) respondents were aware of the use of masks as personal protective equipment, 355(94.9%) of gloves, 183(48.9%) of goggles- followed by 160(42.8%), 127(34%), 116(31%), 111(29.7%) and 104(27.8%) were aware of hazmat suits, face visors, aprons, hair caps and shoe covers respectively. Out of the total study population, 353(94.4%) knew that immunocompromised individuals were at most risk for contracting the disease, followed by 350(93.6%) that knew about the elderly population being at risk and 295(78.9%) about people with preexisting medical conditions. A vast majority, 349 participants (93.3%) of the total study population was aware of there being a lack of vaccine, 19(5.1%) were unsure and 6(1.6%) wrongly thought that a vaccine is available. The knowledge regarding incubation period of the virus is discussed in Figure 2.

Attitude: More than 95% (359 participants- 96%) respondents believed that COVID-19 has disrupted their daily life, whereas 15 (4%) believed they felt no disruption. 294 (78.6%) respondents were worried about contracting the illness and 346 (92.5%) were worried about their families suffering from the disease. A total of 266 (71.1%) respondents had confidence that COVID-19 may successfully be controlled where as another 108 (28.8%) were unsure of it.

Practices: A vast majority of participants have actively practiced self-isolation (342 participants- 91.4%) and wore masks (310 participants- 82.9%) before leaving their homes in the recent days (Figure 3 & 4). There was still a small proportion of 32 individuals who had not practiced self-isolation (8.6%) and 74 participants who had not worn a mask (17.1%) while going out. 268(71.7%) participants who wore masks while going out, also stated that they checked to see if the mask fit their face properly whereas the remaining 106(28.3%) did not bother. Basic washing of hands was practiced by 353(94.4%) participants every time they came in contact with a symptomatic individual, 249(66.6%) have stated that they use gloves before coming in contact with a symptomatic individual and 296 (79.1%) have stated that they frequently use hand sanitizer to clean their hands.

Table 1: Medical Colleges included across Rawalpindi and Islamabad

Army Medical College, Rawalpindi
Fauji Foundation Medical College, Rawalpindi
Islamic International Medical College, Rawalpindi
Rawalpindi Medical College, Rawalpindi
Shifa College of Medicine, Islamabad
Islamabad Medical and Dental College, Islamabad
Margalla Institute of Health Sciences, Islamabad
Rawal Institute of Health Sciences, Islamabad

Table 2: Source of information

Source of Information	No. of participants	%age
Social media	263	70.3
Research articles	44	11.8
Television	38	10.2
Health care workers	27	7.2
Newspapers	2	0.5

Fig.1

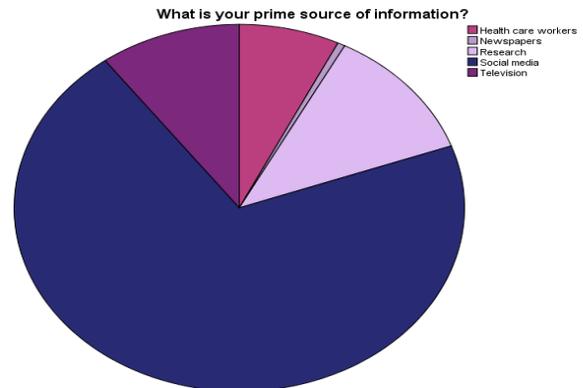


Table 3

Incubation Period (days)	No. of participants	%age
1 – 7	46	12.3
7 – 14	280	74.9
14 – 21	47	12.6
21 – 28	1	0.3

Fig. 3

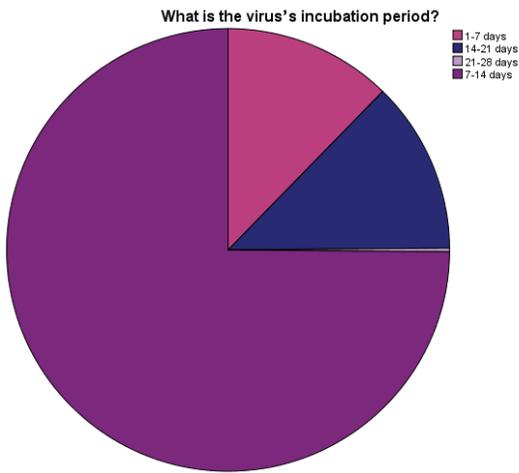


Figure 3

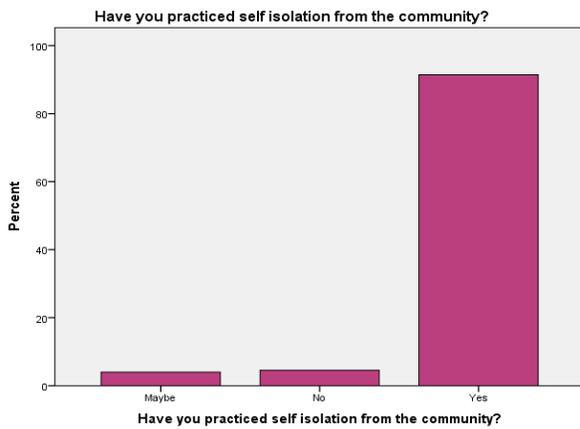
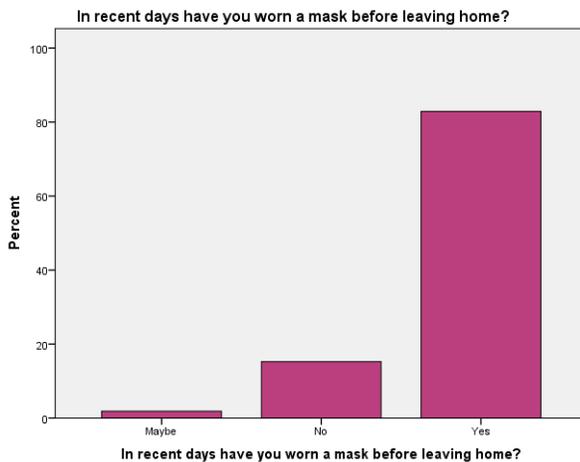


Figure 4



DISCUSSION

To the best of our knowledge, this is the first study in Rawalpindi and Islamabad, Pakistan, examining the knowledge, attitude and practices towards COVID-19 among the medical students. In our well educated

population, we have found out that there is an overall high percentage of people with correct knowledge about COVID-19. The greater majority of population also had an optimistic approach towards the COVID-19 pandemic: 71.1% had confidence that it can be successfully overcome. Despite this, the practices of these respondents were very cautious towards the spread of the disease because they were worried about contracting the disease as well as the disease spreading to their families. Due to their knowledge of the susceptible groups to this disease, the respondents limited interactions with the general population by self-isolation (91.4%) and also took personal protective measures while interacting with a symptomatic individual.

The finding of an overall high percentage of people with correct knowledge was unexpected, given that this epidemiological survey was conducted during the relatively earlier stage of this pandemic. We believe that it is primarily due to the sample population we considered: medical students. Due to the serious nature of this pandemic, this population group would gain more knowledge on this infectious disease from various resources such as different research articles and news reports. In 2003, a report by Gerberding stated that the “use of internet has sped information exchange and helped overcome the problems”¹². Given the recent advances made in the field of technology, there is no doubt that there is a far vaster spread of information by means such as the internet and social media, which may owe to the high knowledge among our population. However, the use of social media for the spread of knowledge may also be hazardous since most of the knowledge has been gained by sources which are not authentic. This can lead to the spread of incorrect knowledge and should therefore be discouraged^{13, 14}. According to the given analyzed data in Figure 1, it is suggested that our health authorities should have been more active in the production of television documentaries, journal articles and news reports to educate our community better.

By increasing the knowledge and awareness regarding COVID-19, we can equip our medical students with education that is basic enough to provide medical care and also counteract most of the negative attitudes that have surrounded this pandemic. Due to the fact that most of their clinical rotations and academic lectures have been postponed indefinitely, online classes can make up for the educational loss the students may face. The application of problem based learning techniques is important¹⁵.

78.6% respondents are worried about contracting the illness, and 92.5% are worried about the spread of the disease to their families. Given the high percentages of individuals who are surrounded by negative attitudes in response to this pandemic, this raises certain red flags about the mental health of such individuals. According to a published article by W Rana, “The pandemic not only brought the high mortality rate from the viral infection but also psychological rest and mental catastrophe to the rest of the world”^{16, 17}. Since 91.4% of our study population is also practicing self-isolation, mental health problems can present, be aggravated or trigger psychological and emotional distress in such individuals^{18,19}. “It is possible that anxiety of falling sick or fear of death could amplify the

sense of helplessness (nothing- can-be-done conviction and inability to mobilize effort), hopelessness (the feeling that any effort for constructive change is not worthwhile), exhaustion and burnout (continuous stressors' psychological strain hamper coping-mechanisms over long-term) and nervous anticipation (what may yet to come), negative emotions, work-life balance, and personal life stressors further compromise physical, mental and emotional wellbeing – which requires resilience (interactive and dynamic process of adjusting, dealing and adapting to adversity by cultivating a sense of empowerment and belongingness, and nurturing mindfulness)"¹⁸.

The percentage of participants practicing self-isolation (91.4%) and the ones wearing masks while going out (82.9%) was lower than the results obtained in a study conducted in Hubei, China during the early stages of the pandemic, which was (96.4%) and (98.0%) respectively¹¹. This shows that the rates of these two practices was different across the two demographic groups and can be improved for our study population by various means such as health education interventions.

CONCLUSIONS

In summary, our findings suggest that the medical students across Rawalpindi and Islamabad have adequate knowledge, positive attitudes and appropriate practices regarding COVID-19 during the early and middle stages of the pandemic of COVID-19. Hopefully, under the combined efforts of the Pakistan government and health authorities, we will surely be able to win this battle against COVID-19 in the near future. Due to the limited representation of the sample, more studies are warranted to investigate knowledge, attitudes and practices towards COVID-19 among the medical students of Rawalpindi and Islamabad.

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