

# Awareness of Corona Virus Disease (COVID-19) among Students and Healthcare Professionals of Rehman Medical Institute, Peshawar

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## ABSTRACT

**Aim:** To determine knowledge, awareness, and practice towards the COVID-19 infections, in addition to an awareness and education program with updated evidence.

**Study Design:** Cross-sectional study

**Place and Duration of Study:** Department of Medicine, Rehman Medical Institute, Peshawar, Pakistan from 31<sup>st</sup> March 2020 to 31<sup>st</sup> May 2020

**Methodology:** Three hundred and four healthcare professionals completed the questionnaire were included. The demographic information and knowledge about COVID-19 were completed by 304 patients.

**Results:** Males were 175(57.5%) and females were 129(42.4%), with an age range from 18 to 62 years with a mean age of 26.97±7.22 years. The majority of participants 241(79.3%) were in the age group 21-30 years. out of 304 participants, 117(38.48%) were medical students, 53(17.43%) dental students, 41(13.48%) resident doctors. About 296(97%) of the participants discerned that they had acquaintance about coronavirus. 213 (70.06%) knew the strain of the virus. 97.03% knew about the initial symptoms and 81.90% knew about the incubation period of the disease. Regarding prevention of COVID-19, 96% knew the proper use of PPE and 86.84% knew about the personal measure to be taken for prevention. Regarding certain myths, 63.13% of participant believed that thermal scanner did not detect the disease.

**Conclusion:** The medical students and health care professionals of RMI showed a satisfactory level of knowledge of COVID-19. More educational efforts with periodic educational interventions are still needed about the current pandemic.

**Key words:** COVID, Medical students, Awareness, Myths

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## INTRODUCTION

Corona Virus Disease 2019 (COVID-19) epidemic appeared in December 2019 in Wuhan, China, and gained global heed.<sup>1</sup> Severe respiratory syndrome coronavirus 2 (SARS-COV-2) is the name given to the virus. COVID-19 pandemic has been disseminated throughout the world, with approximately 7.04 million reported cases in 216 countries.<sup>2</sup>

The virus is very contagious and spread by near contact, and via droplets which are produced during a sneeze, cough, and even with talking.<sup>3</sup> Many countries have reacted by applying precautionary methods through various campaigns and restrict the community gatherings. Hospitals are building up their capabilities to tackle the numbers of patients infected with this disease. In the interim, scientists are exploring potential cure, doing trails on new therapies and vaccines to contain the virus.<sup>4</sup> In Pakistan, situation is no different with 300,000 confirmed cases and 6500 deaths to date.<sup>5</sup>

Healthcare professionals (HCPs) of all types are caring for patients with this disease. HCPs have to juggle multiple roles including administrative, clinical, and most notably educational roles. Due to its means of spread HCPs are among the highest risk of being infected. This highly contagious virus is an additional danger for the HCPs apart from the load of extended work hours, burnout, fatigue, and psychological stress.<sup>6</sup> Globally, many HCPs lose their lives in treating patients infected with COVID-19, and in Pakistan, it is no different, with more than 2,000

infected doctors, nurses, and other supporting staff and more than 100 death due to COVID.<sup>7</sup>

As the virus has spread, so have various theories about its causation, prevention, and transmission. Most of all and many of these theories are unfounded, while others are based on individual experiences or trial based. One of the significant hurdles in containing the spread and managing this pandemic are these non-evidence-based practices which not only give a false sense of safety but can be harmful and even life-threatening. It is therefore crucial that people who deal with patients and the public in general, namely healthcare professionals, should be able to advise on issues related to this menace accurately.

The first step to avoid corona infections among students and HCPs, should involve creating an estimate of their knowledge, awareness, and practice towards the COVID-19 infections. Therefore, our study aimed to assess the awareness of COVID-19 disease among students and healthcare professionals at RMI Peshawar, Pakistan.

## MATERIALS AND METHODS

This was a descriptive cross-sectional study conducted by the department of medicine and department of Paediatric, Rehman Medical Institute, Peshawar Pakistan from 1<sup>st</sup> March to 31<sup>st</sup> May 2020. In this study, all healthcare workers and students, both gender and present at the time of the study were included while non-medical staff e.g. administration, patients, or attendants were excluded from the study.

By fulfilling the inclusion criteria participant were included in the study after permission from the ethical committee and research department of RMI. Informed consent was taken from each participant, ensuring confidentiality and the fact that there is no risk involved to the participant while taking part in this study - basic demographics (age, gender, occupation, department, and the hospital was noted. The pre-designed questionnaire consisting of questions based on knowledge and infection control practices related to COVID-19 disease in the healthcare setting was adapted. A total of 500 pre-designed questionnaires were distributed (in person and through Google survey) to which 304 individuals gave a positive response and the response rate was 60.80%. SPSS v26 was used for data analysis. Mean $\pm$ SD was presented for quantitative variables. Frequency and percentage will be computed for qualitative variables.

## RESULTS

Males were 175 (57.5%) and females were 129 (42.4%), with an age range from 18 to 62 years with a mean age of 26.97 $\pm$ 7.22 years. The majority of participants 241 (79.3%) were in the age group 21-30 years. There were 117 (38.48%) were medical students, 53 (17.43%) dental students, 41 (13.48%) resident doctors, 31 (10.19%) nursing staff, 27 (8.88%) medical technician, 29 (9.53%) medical officers, and only 6 (1.97%) were consultants (Table 1). About 296(97%) of the participants discerned that they had knowledge about coronavirus. About 213 (70.06%) knew the strain of the virus while 97.03% knew about the initial symptoms and 81.90% knew about the incubation period of the disease (Table 2).

Regarding the prevention of COVID-19, 96% knew the proper use of PPEs and 86.84% knew the personal measures to be taken for prevention. Regarding certain myths, 63.13% of participants believed that thermal scanners did not detect the disease. Around 69.73% believed that sunlight exposure could kill the virus, while the rest of the participants believed that sunlight and temperature >25°C killed the virus (Table 3). Table 4 showing knowledge regarding treatment and the current situation in our participants.

Table 1: Demographic characteristics of participants (n=304)

Variable	No.	%
Age (years)		
<20	28	9.2
21-30	241	79.3
31-40	17	5.6
41-50	11	3.6
>50	7	2.3
Gender		
Male	175	57.5
Female	129	42.4
Professional		
Medical students	117	38.48
Dental students	53	17.43
Resident doctors	41	13.48
Nursing staff	31	10.19
Medical technician	27	8.88
Medical officers	29	9.53
Consultants	6	1.97

Table 2: Background knowledge of participant (n=304)

Variable	No.	%
Background		
Do you know about coronavirus (YES)	296	97.36
Which strain of the coronavirus affects human beings (SARS-COV2)	213	70.06
When did the novel coronavirus first emerge (2019)	279	91.77
Initial Symptoms of COVID-19 infection may resemble the flu-like illness (YES)	295	97.03
What is the approximate incubation period of COVID-19? (14 days)	249	81.9
Symptoms		
The most common symptoms of COVID-19 are: (Body aches, fever, throat irritation)	280	92.10
Which symptoms of COVID-19 warrant immediate medical attention. (SOB)	273	89.80
Newborn are not susceptible to severe infection (yes)	195	64.14
Paediatric Covid 19 infection may present as (asymptomatic illness)	74	24.34
Transmission		
Corona virus is transmitted by. (respiratory route)	265	87.17
The term "close contact/exposure" means (close contact with patient without PPE)	222	73.02
Is it possible to have Covid-19 infection more than once (no)	27	8.88
Investigations		
What tests are used to diagnose COVID-19? (PCR oronasal/pharyngeal swab)	286	94.07
Which investigation indicates an active COVID-19 infection? (positive PCR)	162	53.28
Testing which of the following samples would yield the most accurate result? (nasopharyngeal secretions)	107	35.19
Does a negative PCR definitely exclude Covid 19 infection? (no)	185	60.85
Presence of IgG Covid 19 antibodies indicates (past infection)	193	63.48

Table 3: Knowledge of prevention and myths of COVID-19 (n=304)

Variable	No.	%
Prevention		
If an individual test negative, should he/she still take protective measures? (yes)	264	86.84
What form of personal measures can be undertaken daily to prevent COVID-19 infection: (frequent hand washing/use of sanitizers/maintaining 1-meter distance)	264	86.84
What PPE should a health care worker wear while transporting a positive or suspected case of COVID-19 within a health care facility? (gloves/mask/goggles/ gown)	292	96.05
What is the duration of the COVID-19 quarantine? (14 days)	222	73.02
Which of the following actions DOES NOT help in preventing the spread of COVID-19 infection? Use of public transport)	258	84.86
Do you consider an individual who has completed the isolation period as virus-free? (no)	159	52.30
Has your workplace arranged a training session regarding the proper use of PPE? Yes	236	77.63
With regards to an expectant COVID positive mother, which of the following statements is correct: (Breastfeeding is recommended with appropriate precautions)	146	48.02

Myths		
Thermal scanners can detect the disease? (no)	192	63.15
Sunlight exposure & temperatures higher than 25C kill the virus? (no)	212	69.73
Most people who get COVID-19 usually get very sick or die?(no)	196	64.47
Drinking lots of hot drinks can stop COVID-19(no)	210	69.07
Chloroquine/Hydroxychloroquin antibiotics like azithromycin can prevent COVID 19 infection (No)	195	64.14
The new corona virus was deliberately created or released by international powers as a conspiracy (no)	132	43.42
Supplements (vitamin C, D, zinc, folic acid), green tea, Sana maki, Garlic, etc. can prevent Covid-19 infection (no)	156	51.31

Table 4: Awareness of treatment and current situation of COVID-19 (n=304)

Variable	No.	%
Treatment		
Do antibiotics have a very important role in treatment uncomplicated COVID-19? (no)	233	76.64
The management of COVID-19 includes all of the following EXCEPT (taking early antibiotics)	214	70.39
Is there any antiviral therapy against COVID-19 currently available? (no)	222	73.02
Can antimalarial help treat COVID-19? (no)	144	47.36
Steroids should be given to all patients with COVID -19 (no)	157	51.64
Current Situation		
The total number of Covid-19 cases worldwide has passed (10 million)	173	56.90
Total COVID related deaths worldwide are almost (>500,000)	174	57.23
Till date, the total number of diagnosed cases in Pakistan are: (>200,000)	196	64.47
Up till now COVID-19 related deaths in Pakistan are: (>4000)	219	72.03

## DISCUSSION

COVID-19 is currently a hot topic of discussion around the world not only among healthcare workers and patients but also the media and the public. The rapidly escalating number of cases around the world is increasing tension in everyone especially those involved in healthcare services, and has led many to ask the pressing question: how is information managed during a public health crisis to better assist the frontline healthcare workers?

During our study, we found an awareness rate of 93.37% on the knowledge questionnaire, indicating that the participants had adequate knowledge about COVID-19. Another cross-sectional study done in Mumbai, India, regarding the knowledge and attitudes of healthcare workers towards COVID-19 showed that most of the HCWs possessed sufficient knowledge and awareness about COVID-19, with physicians and nurses particularly standing out in terms of their knowledge.<sup>8</sup> Our findings of good awareness of COVID in medical students and the healthcare profession were also supported by local studies.<sup>9,10</sup>

Our study's findings suggested a significant disparity between the information about COVID-19 available and the depth of knowledge of healthcare workers, in particular about the incubation period and the mode of transmission of COVID-19. Consistent with the findings of studies done in China, many allied health workers had inaccurate knowledge of COVID-19 (the strain of coronavirus, use of proper PPE, use of antibiotics, and role of antimalarial medications).<sup>11</sup> All groups of healthcare professionals in our study exhibited a high awareness about the use of personal protective equipment (PPE) for confirmed and suspected cases of COVID-19. In line with our findings, the study done in China also reported that 93.3% of the participants believed that transmission of COVID-19 can be prevented by frequently washing hands with soap, isolating COVID-19 positive patients, and the patients accepting isolation after testing positive.<sup>12</sup> The rampant spread of COVID-19 has had devastating global consequences, so a large number of resources are made available for educating and improving the awareness about COVID-19 in healthcare workers. A likely reason behind the disparity between the knowledge of paramedics and physicians is that while physicians have to undergo many sessions of job training, CME programs, and exam processes throughout their career, education of paramedics lacks structured training appraisals. Our findings, therefore, suggest that health authorities need to put greater emphasis on distributing knowledge to all categories of healthcare workers, especially paramedics.

To curb the spread of COVID-19, the first and foremost step is identifying and isolating suspected cases. 86% of the respondents in our study could define a "close contact". US CDC defines a "close contact" as "being within approximately 2 meters of a infected case for a prolonged period."<sup>13</sup>

One shortcoming of our study was that most of the respondents were from the urban locations in Peshawar city; the sample, thus, did not truly represent the healthcare professionals of the entire state and country.

## CONCLUSION

The medical students and health professionals of RMI showed a satisfactory level of knowledge of COVID-19. More education efforts with periodic educational interventions are still needed to tackle this pandemic.

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