



**Assessment of Awareness of COVID-19 Infection among Doctors: A Questionnaire Based Study**

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**Abstract**

**Introduction:** within very short time period COVID-19 became a global pandemic with very high mortality and high infective rate. During this pandemic doctors play key role in the management of the disease.

**Material method:** this is a questionnaire based study, in which 106 doctors participated and answered 15 different question related with COVID-19 pandemic.

**Result:** all the doctors were aware of source of infection of COVID-19 is virus, 80.8% aware that vaccine is not available, 72.2% doctors received formal hand hygiene training, 95.9% doctors prefer all the options for prevention, 99% doctors know the things includes in PPE kit, correct method of hand hygiene for visible soil is opted by 63.3% doctors, 92.8% doctors know the correct high risk people, 93.9% doctors opted for the correct symptoms of the infection, 63.9% doctors experienced anxiety during pandemic, only 17.5% doctors were satisfied with the government arrangement, according to 33.3% doctors 40-50% asymptomatic cases are present, 41.8% doctors refer government websites for

information, 48.5% doctors said autopsy of COVID-19 cases don't take place in their institute, only 56.1% doctors were aware of correct sequence of PPE kit, 53.1% doctors think that COVID-19 is fatal. **Conclusion:** majority of doctors were aware regarding COVID-19 infection, but still more improvement is needed.

**Keyword:** COVID-19, HCW- Health care worker.

**Introduction**

Worldwide, due to the occurrence of millions of cases and unstoppable recent deaths, corona virus has become one of the crucial viruses. At the dawn of a new decade, on 30th January, 2019, the World Health Organization (WHO) declared a global public health emergency against the outbreak of corona virus disease, which is termed as Corona virus Disease 2019 (COVID-19), and since then has rapidly achieved a pandemic status. This disease with flu-like symptoms was initially observed among people residing in Wuhan, Hubei Province in China. (1)

The causative organism responsible for this outbreak the Severe Acute Respiratory Syndrome Corona virus 2 (SARS-CoV-2) – belongs to the family Corona viridae of the order Nido virales. This virus structurally comprises of a large, single, plus-stranded RNA as its genome (2, 3).

Health literacy is broadly defined as the “level of capacity one has to obtain, process and understand basic health information and services needed to make appropriate health decisions.”(4) Inadequate levels of health literacy have remained a pervasive problem worldwide, despite medical advances in the past decades. During the outbreak, the health care worker is the first person to come in contact with an infected person; with the two basic possibilities, they can either unknowingly become a carrier and infect others or by following proper guidelines can prevent the possible spread of the disease and save the entire community from its disastrous consequences.

To handle or fight with an outbreak, health care worker must be aware of recent developments, especially those related with public health, and by following guidelines make efforts to prevent the transmission of such diseases. Hence, the present study was undertaken with the aim to assess the Knowledge, Attitudes and Practices (KAP) of health care worker regarding the COVID-2019 pandemic. The goal of this research was to assess, the current level of awareness towards the pandemic states among the doctors through a well-designed multistage questionnaire (supplementary material 1).

### **Material and Methods**

Before the implementation of this KAP study, the questionnaire design, validation, and strategies to enrol doctors for maximal global participation were discussed. The only way to collect data was an online questionnaire

using Google forms and it was available at: <https://forms.gle/TCNuLn8HxpAPBb9J6>

After clicking on the link, the initial page assured the confidentiality of data, informed the doctors of the study objectives and stated that the participation in the study was purely voluntary. The doctors’ consent to participate in the study was mandatory. Participant had the complete freedom either to decline or answer the questionnaire. Each question has a four or five answers i.e. A.B.C.D.E. participant has to select the correct answer. Only the principal investigators of the study had access to the data and no personal details (e-mail address, phone number, name, etc.) were required. Submission was done only after the ‘submit’ button was clicked at the end of the questionnaire.

The study duration was one month from 1 June 2020 to 30 June 2020.

The questionnaire was distributed personally via a quick response (QR) code as well as posted on various social media platforms like Facebook and WhatsApp. The questionnaire had a total of 15 questions. Only those responses who attempted all the 15 answers were included in the study.

### **Result**

A total 106 doctors were participated in the study. We observed Knowledge regarding Covid-19, in doctors is as follows:

1. Covid-19 infection is 100% of doctors opted for the option virus.
2. Is vaccine available for Covid-19?  
80.8% said no, but 11.1% opted for may be and 8.1% said yes vaccine is available.  
Did you receive any formal training regarding hand hygiene in last three months  
72.2% doctors said yes but 25.8% doctors denied.

3. Most effective method for prevention of covid-19 infection  
95.9% doctors opted for all of the above option, and the options were hand washing, use of mask, social distancing, whereas 4% opted for only social distancing option.
4. Which of the following things are included in PPE kit?  
99% doctors opted for the all of the above option, which includes gown, gloves, eye protector goggle, and mask.
5. Preferred method of hand hygiene for visible soil hands is?  
Hand rub with soap and water for at least 20 seconds, is the most preferred option i.e. 63.3% selected the option.
6. Which of the following category of people are at high risk for Covid-19  
92.8% doctors opted for all of the above option, which includes pregnant women, above 60 yrs, with previous co morbidity, whereas 5.2% opted for above 60 yrs of age
7. Which of the these is common symptoms of COVID-19  
All of the above is the most preferred option by the doctors i.e. 93.9%. Options were fever, cough, breathlessness, body ache.
8. Have you experienced one of the following due to COVID-19  
63.9% experienced anxiety, 25.3% experienced anger, 21.7% experienced depression and 16.9% experienced panic attack.
9. Are you satisfied with the government arrangement for the screening people at check points  
30.9% said it is average, 25.8% said not satisfied & 25.8% said it is good whereas only 17.5% said that they are strongly satisfied.
10. According to you, is the percentage of asymptomatic COVID 19 in India

- 33.3% said it is between 40-50%, 25% said it is between 60-70%, 21.9% said it is between 50-60%.
11. What is the main source of information for you regarding COVID 19 updates?  
41.8% doctors prefer government websites, 24.5% doctors prefer social media like whats app, and 21.4% prefer news Chanel.
12. In your institutional set up, are autopsies of Covid 19 cases conducted?  
48.5% said no, whereas 46.4% said don't know.
13. Correct sequence for putting on PPE kit  
56.1% said, gown, mask, goggles, gloves is the correct sequence
14. According to you, COVID 19 is fatal  
53.1% said no, whereas 46.9% said yes.

### Discussion

Within short time of span covid-19 become the pandemic with high rate of infectivity and mortality. Health care professional plays the key role in the management of such pandemic. To play this role successfully doctors must be aware of the current guidelines and recent knowledge regarding the disease.

All the doctors were aware that the source of infection of covid-19 is a virus, like huynh giao et al (5) observed 99.1% correct answer in their study. According to 80.8% currently vaccine is not available, like huynh giao et al (5) 89.3%. Correct hand hygiene practices play an important role in preventing the spread of infection. The WHO "Five Moments of hand hygiene" defines important key moments when healthcare providers must carry out hand hygiene. 72.2% doctors said they had received hand hygiene training within last three months, whereas study conducted by pranav modi et al (6) shows only 16.6% doctors received formal hand hygiene training.

At present study 95.5% of the doctors were convinced with the social distancing in public places, in community, work places and at home, case isolation in the home, hand washing, are all the only methods to interrupt the person to person disease transmission, which is similar with the study of Ferguson et al (7)

Awareness of the use of personal protective equipment (PPE) for COVID-19 cases was high among all the participated doctors. in this study 99% doctors opted for the correct answer of the things included in PPE kit, like the study of pranav modi et al (6) which shows 90.8% HCW opted for the correct answer.

Two basic methods for clean hands are hand washing and hand rubbing. The CDC recommends alcohol-based hand rub (ABHR) for best result (8). However, the question in our survey was focused on the recommended hand hygiene technique for visibly soiled hands which is hand washing with soap and water for at least 20 seconds with the whole process lasting for up to 40-60 seconds (9) In this study 63.3% doctors opted for the correct methods, like study conducted by pranav modi et al (6) 42.6% HCW opted correct method.

Regarding the question, which group of people are more susceptible for covid-19 infection? 92.8% doctors opted for the correct option, i.e. patients having previous co morbid factor, ANC female, above 60 years of age, this is consistent with the study conducted by the huynh giao et al (5) the majority of HCWs were aware that patients with underlying chronic diseases are at a higher risk of infection and mortality accounted for 79.2%.

93.8% doctors opted for the correct option for the symptoms of the covid-19, this is consistent with study conducted by the, arina anis et al (10) where 86.7% opted the correct answer.

Majority of doctors i.e. 63.9% experienced anxiety during this pandemic, which is consistent with the study

conducted by Ping Sun et al( 11). In our study only 17.5 % doctors were satisfied with the government arrangement; same results were observed in the study conducted by Aulina Adamy et al (12). Majority of doctors i.e. 33.3% think that 40-50% asymptomatic cases are present in surrounding society. According to M. Shakiba et al (13) 57.2% subjects were asymptomatic.

Studies done in the past reported that doctors especially those working in emergency units, intensive care units, and infectious disease wards are at higher risk of developing adverse psychiatric impact Naushad et al, (14). The current review also showed similar results that doctors are at higher risk of developing adverse psychiatric outcomes.

41.8% doctors prefer the use official government websites as a primary source of information about COVID- 19. This indicates the COVID-19 related updates posted online by the official government health authorities had shown to have a positive implication for improving doctors' knowledge levels, like study conducted by akshaya bhagavathula et al (15) shows 33% HCW use government websites for the information.

Majority of doctors i.e. 48.5% said that, autopsy of covid-19 cases don't take place in their institute. In initial phase several guideline were given by ICMR and government of India for autopsy of covid-19 cases. Some countries like Italy 'no autopsy' policy was used (16). Whereas in some countries like Germany autopsy as mandatory (17). Sameer a et al,(18), conducted study on post-mortem screening and management of covid-19 related deaths in various institute, where they observed the majority of institutes perform autopsy of covid-19 cases with precautionary measures.

Besides being aware of the required PPE, it is also important to know the correct sequence of "donning and doffing" of PPE. In the present study 56.1% doctors were

aware of correct sequence of PPE kit, which is in contrary with the study conducted by the M.A. Alao et al (19) in which poor knowledge of health care workers about PPE kit was observed.

53% doctors said covid-19 is not fatal, like study conducted by akshaya et al, (15) observed 88.55 doctors said it is not fatal.

### Conclusions

As the global threat of COVID-19 emerging day by day, it is time to improve knowledge among doctors. As the doctor is the main pillar of the health care system. Orientation regarding the current knowledge of the disease trend, training of the new approach of the patient management is the most important key factors for the prevention of the spread of any disease. In the present study doctors showed adequate awareness of COVID-19, but still there is a need and scope of improvement in various aspects to battle the present pandemic situation, which will help to improve the better outcome in the form of decrease in mortality rate, increase in recovery rate, decrease in the rate of transmission etc.

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