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A CROSS SECTIONAL DESCRIPTIVE RESEARCH SURVEY ON KNOWLEDGE OF COVID-19 AMONG HEALTHCARE PROFESSIONALS

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ABSTRACT

Aim: A cross-sectional research survey on knowledge of COVID-19 among healthcare professionals. Despite control measures adopted to check the rapid spread of the COVID-19 pandemic, healthcare workers still face a serious threat to infection due to SARS-CoV-2 virus. Adherence to control measures by healthcare workers depends on their knowledge. This study aimed to determine the knowledge of COVID-19 and related infection control practice among healthcare professionals. **Methology:** The present cross-sectional descriptive survey was carried out from February 20 to March 21, 2021, among healthcare professionals. A cross sectional study was conducted among healthcare professionals in India as well as out of India. Replying on our network with the healthcare professionals, 250 participants were required into the study. The data were collected using online questionnaire consisting of socio-demographic questions and 25 questions based on knowledge & infection control practice related to COVID-19 disease in the healthcare setting adapted from a study in India as well as out of India. This method helps in preventing any direct and physical contact with participants, which was necessary during the current COVID-19 outbreak. An online questionnaire was developed in English by the use of the Google form. In addition, we requested that participants share the questionnaire with their social contacts and fill it out including the perspectives of family members and friends who were unable to use digital electronic media. Participants with sound physical and mental health, age 16 years and older, and with the ability to understand the questionnaire content clearly were eligible for the study.

KEYWORDS: Knowledge, infection, control, COVID-19.

1.0 INTODUCTION[1-6]

1.1 Corona Virus

- Corona viruses are a large group of viruses that are common throughout the community. Evidences have shown historically that the virus is a zoonotic disease transmitted through birds and mammals, with humans being particularly vulnerable to infection and transmission of the virus.

- Sometimes fatal pulmonary diseases such as, Severe Acute Respiratory Syndrome (SARS-) and Middle East Respiratory Syndrome (MERS-).
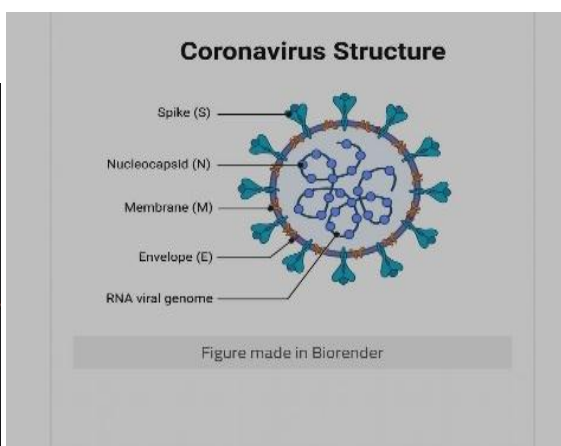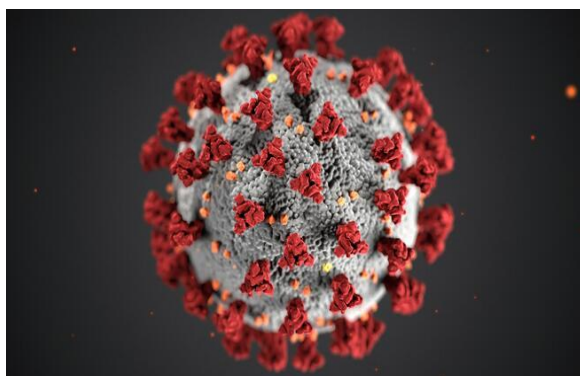

Figure 1.1: Structure of Corona Virus.

- In 2002–03, SARS-CoV first identified as pneumonia in Guangdong, China, which later turned into life-threatening respiratory failure. Initially, it was only animal-human interspecies transmission that further progressed into human-to-human transmission.

- Due its wide spread across countries, the corona virus disease was declared as a pandemic by World Health Organization (WHO) on March 11, 2020. As of this time point (March 25, 2021, 5:33 GMT) of writing, SARS-CoV-2 had extended to 216 countries altogether, resulting in 125,436,393 confirmed cases and 2,756,768 deaths.

- Corona virus disease 2019 otherwise called "COVID-19" is one of the emerging respiratory Diseases caused by a novel corona virus known as Severe Acute Respiratory Syndrome Corona virus 2 (SARS-CoV-2). SARS-CoV-2 is a new strain discovered in 2019, never found in human being before and seems to have originated from bats and first reported cases were from Wuhan, Hubei Province in China, suggesting an animal-to-person spread in a live animal market.

- The virus then spread outside Hubei to the rest of the world via human transmission. Several countries including India have now reported community spread.

- This virus causes pneumonia, which can be fatal in severe cases. SARS-CoV-2 is a single-stranded positive sense RNA virus, which may be responsible for illnesses from the common cold to serious symptoms as previously exhibited by SARS and MERS.

- People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus.

- COVID-19 has clinical symptoms of cough, fever, malaise, fatigue as well as shortness in breathing. Global concern about the emerging virus has been greatly escalated because of its extraordinary capacity for rapid transmission and because it can be fatal.

2.0 MATERIAL AND METHOD
Platform

- An online cross-sectional study conducted in India as well as out of India for the period of February 20 to March 21, 2021. It involved the collection of information through the use of structured questionnaire to assess respondents on the study objectives.

- The study was conducted among various healthcare professionals in India as well as out of India. Relying on our network with the healthcare professionals, the online questionnaires were sent to potential 250 healthcare professionals using simple random sampling method via Social media and email.

- The questionnaire consists of socio-demographic questions and 25 questions based on knowledge and infection control practices related to COVID-19 disease in the healthcare setting adapted from a similar study in India.

- The dependent variable in this study is the knowledge of COVID-19 among the healthcare professional while the independent variables are the socio-demographic characteristics of the participants.

- **GOOGLE LINK for Survey**: https://forms.gle/3emb8y93VMw4F3r66

LIST OF QUESTIONS
➢ **Section 1**

Table 2.1: Details of Healthcare Professional In Section– 1.

Sr. No.	Details to be filled	
	Main detail	**Sub- detail**
1	Name of participant	---
2	Age group	• 18 – 30 yrs. • 31 – 45 yrs. • Above 45 yrs.
3	Gender	• Female • Male • Other
4	Location	• India • Out of India
5	Profession	• Doctor • Nurse • Pharmacist • Social worker • Other
6	Mail ID	---
7	Contact No.	---

Figure 2.1: Section – 1 of Google Form.

➢ **Section- 2**

Table 2.2: Questions For Healthcare Professional In Section– 2.

Sr. No.	Questions to be filled	
	Questions	**Options**
1	Q.1 - Which of the following disease are related to corona virus?	• MERs • both • SARs
2	Q.2 - The first case of novel corona virus was identified in	• Beijing • Tianjn • Shanghai • Wuhan , Hubei
3	Q.3 - In a study which cells are found in Covid 19 patients 'bode well' for long term	• Endothelial cell • D - cell • T - cell • P - cell
4	Q.4 - Mid symptoms of novel corona virus are	• Fever • Shortness of breath • Cough • All the above
5	Q.5 - The virus causing Covid 19 infection is called	• Severe acute respiratory syndrome (SARs) • Severe acute respiratory syndrome corona virus - 2 (SARs-cov-2) • Middle east respiratory syndrome (MERS)
6	Q.6 - When was first case of Covid 19 seen in India?	• 01 February 2020 • 20 January 2020 • 30 January 2020 • 25 January 2020
7	Q.7 - How many countries, areas or territories are suffering from novel corona virus outbreak in the world?	• More than 150 • More than 50 • More than 200

		• More than 100
8	Q.8 - When WHO officially declared Covid 19 as global pandemic?	• 13 January 2020 • 09 January 2020 • 30 January 2020 • 11 March 2020
9	Q.9 - Incubation period of corona virus infection	• 2-14 Days • 3-21 Days • 4 - 28 Days • 1-7 Days
10	Q.10 - which test is done for detection of covid-19?	• both • Antibody test • RT - PCR
11	Q.11 - SARs-cov-2 belong to which category of corona viruses?	• Alpha COVs • Gamma COVs • Beta COVs • Delta COVs
12	Q.12 - Which website did Google for raising awareness of the corona virus?	• google.com/corona • google.com/virus • google.com/coronavirus • google.com/covid-19
13	Q.13 - Arogya setu App launched on	• 01 April 2020 • 10 April 2020 • 02 April 2020 • 25 March 2020
14	Q.14 - In corona which zone refers as	• Red zone • Orange zone • Green zone • Yellow zone
15	Q.15 - Janta curfew was held on	• 25 March 2020 • 21 March 2020 • 22 March 2020 • 24 March 2020
16	Q.16 - When did the Indian air force flowers shower on corona warriors	• 3 May 2020 • 22 March 2020 • 5 April 2020 • 3 June 2020
17	Q.17 - SARs-cov-2 is?	• Negative sense single stranded RNA virus • Positive sense single stranded RNA virus • Double stranded RNA virus • None of the above
18	Q.18 - In which district was the first death due to corona in Gujarat?	• Ahmedabad • Rajkot • Surat • Bhavnagar
19	Q.19 - What is corona virus?	• it's a large family of viruses • it belongs to the family of nidovirus • Both A & B are correct • Only A is correct
20	Q.20 - How long do you have to wait to receive optimal protection from the corona virus vaccine?	• Two week after the first dose • Immediately after the second dose • Two week after the second dose
21	Q.21 - You can still get Covid - 19 after you've been vaccinated.	• True • False
22	Q.22 - Which type of face mask does the CDC recommend for the general public to fight Covid 19?	• N95 Mask • Surgical Mask • Multi-layer cloth Mask

		• Double masking
23	Q.23 - Currently which group has had more severe effects of Covid - 19?	• Men • Women
24	Q.24 - How does weather seem to affect the novel corona virus?	• The virus can't survive in hot humid climates • Cold temperature can kill the virus • It is not yet known
25	Q.25 - The flu shot prevents Covid - 19.	• True • False

Figure 2.2: Section – 2 of Google Form.

3.0 RESULT
Table No: 3.1 Socio-demographic characteristic.
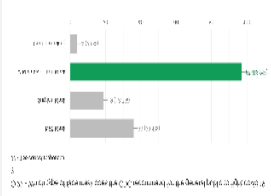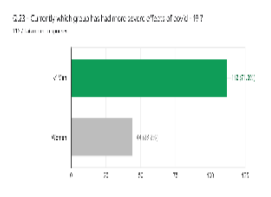
Demographic group	Sub group	Frequency	Percent
	18 – 30 yrs.	143	96.2%
Age group	31 – 45 yrs.	7	4.8%
	Above 45 yrs.	0	0%
	Total	150	100 %
	Female	93	62.9%
Gender	Male	57	38.5%
	Other	0	0%
	Total	150	100%
	India	149	99.3 %
Location	Out of India	1	0.7 %
	Total	150	100 %
	Doctor	1	0.7 %
	Nurse	6	4.5%
Profession	Pharmacist	109	73.6 %
	Social worker	4	2.7 %
	Other	30	19.9%
	Total	150	100 %

Table No: 3.2: Correct response given by healthcare professionals.

Que. No.	Healthcare professionals		Graph
	No. of correct response	**Freq (%)**	
Q-1	113	72.4%	
Q-2	147	94.2%	
Q-3	125	80.1%	
Q-4	148	94.9%	

Q-5	132	84.6	
Q-6	100	64.1%	
Q-7	119	76.3%	
Q-8	125	80.1%	
Q-9	141	90.4%	
Q-10	108	69.2%	
Q-11	103	66%	
Q-12	99	63.5%	
Q-13	103	66%	

Q-14	139	89.1%	
Q-15	122	78.2%	
Q-16	85	54.5%	
Q-17	110	70.5%	
Q-18	107	68.6%	
Q-19	116	64.4%	
Q-20	103	66%	
Q-21	128	82.1%	

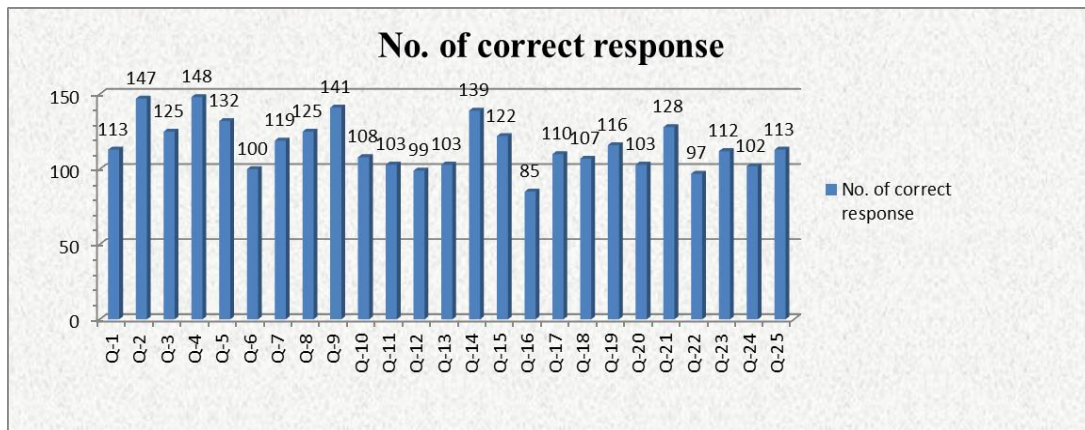| Q-22	97	62.2%	
Q-23	112	78.2%	
Q-24	102	65.2%	
Q-25	113	72.4%	

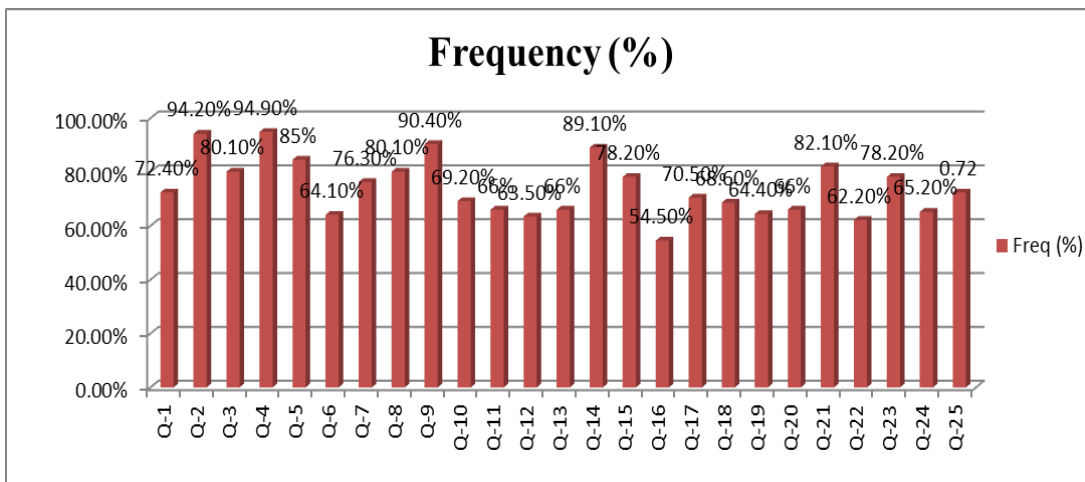**Fig. 3.1: Graph of Question Wise Correct Response.**

Fig 3.2: Graph of % Frequency of Correct Response.

4.0 DISCUSSION

- To the best of our knowledge, this is the study in India examining COVID-19 knowledge and its related infection control practices among healthcare professionals in the healthcare setting among India as well as out of India healthcare professionals.

- A total of 150 respondents out of 250 recruited into this survey filled the questionnaire completely and return back giving us a response rate of 75 %. More than half (37.5%) of the respondents were from the age group of 18 – 30 group years.

- Among the various categories of health professionals, 4.1 % of the nurses, 0.7 % of the doctors, 73.6% of the pharmacists and 19.2% other professionals participated in the study the identification and isolation of an active case and its close contacts is the most important step in preventing the spread of COVID-19.

- In our study, less than half of the responders knew the correct definition of a "close contact. This finding is similar to what was obtained in a study in India.12 Correct hand hygiene practices play a crucial role in preventing the spread of COVID-19. Two basic methods to clean hands are hand washing and hand rubbing. The CDC recommends alcohol-based hand rub (ABHR) in most situations.

- In our study the question on hand hygiene 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.

- In this study doctors have the highest correct response to this question while the lowest was among other health workers (CHOs, Health recorders and laboratory assistants). This is in contrast from what was obtained in the India study.

- Awareness of the use of personal protective equipment (PPE) for suspected/confirmed COVID-1219 cases were high among all categories of healthcare professionals. The CDC has provided Interim Infection Prevention and Control Recommendations for Patients with suspected or confirmed corona virus disease 2019 (COVID-19) in healthcare Settings for PPE.

- Besides being aware of the required PPE, it is also important to know the correct sequence of "donning and doffing" of PPE. But in our study despite high awareness of PPE, the knowledge of the correct sequence of donning and doffing of PPE is low among the participants. This is similar to study done in India.

5.0 CONCLUSION

- Our study concluded that healthcare professionals from India and out of India are adequately aware of COVID-19 in the healthcare setting with an overall percentage of 77.47% correct answers though there are versions in the correctness of the answers to the questions asked among the various categories of the healthcare professional.

- It is obvious from this study that periodic health educational interventions on infection control practices for COVID-19 across all healthcare professions need to be implemented to create more awareness.

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