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KNOWLEDGEAND PERCEPTIONS ABOUT CORONA VIRUS INFECTION AMONG HEALTH CARE PROVIDERS OF ROHTAK: ONLINE CROSS-SECTIONAL SURVEY

Community Medicine

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ABSTRACT

Background: COVID-19 is now a pandemic affecting many countries globally. No vaccine for prevention of COVID-19 has been made so far and no specific treatment modalities exist to treat corona virus infection. The present study aims to assess the knowledge and perceptions of the health care providers in response to COVID-19 as they are expected to be the best advisers to general population.

Material and Methods: A cross-sectional online survey was carried out from 1st April,2020 to 7th May,2020 among 382 health care providers who were working either in government or private hospitals of Rohtak

Results-Total 382 responses of questionnaire were obtained which included 184 (48.2%) doctors, 165 (43.2%) medical students, 7(1.8%) dentists, 23 (6%) nurse and 3 (0.8%) pharmacists. Majority 162(42.4%) of participants were from 30 to 40 years age group.100% health care providers believed facemask to be helpful in preventing coronavirus infection, 12.8% said that close contact with any sick individual should be avoided.82% participants agreed that everyone should stay at home except to seek medical care if emergency and to obtain food.

Conclusion-To tackle the pandemic more efficiently, knowledge of health care providers need to be updated so as to have uniformity in decision making and uniformity in what is taught to patients and general public so as not to create any misconceptions, beliefs and panic in general population.

KEYWORDS

COVID-19, Knowledge, Perceptions, doctors, medical students, Nurses.

INTRODUCTION-

Coronaviruses are a large family of viruses which may cause illness in animals and humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). COVID-19 is an infectious disease caused by coronavirus. (1)

It is a serious emerging disease that has killed a number of people, particularly in China, which is the origin of the disease (2). The COVID-19 pandemic has affected many countries all over the world. (3)

Stopping the pandemic of the disease is now the highest priority for the global public health community. There are more than 34 lakh people infected and more than 2 lakh thirty thousand deaths due to COVID19 in the past few months from different countries as in official situation report of 4thMay 2020 by the World Health Organization (WHO). (4)

Preventive steps are being taken to limit the spread and impact of corona virus illness. No vaccine for prevention of COVID-19 has been made so far and no specific treatment modalities exist to treat corona virus infection. So proper knowledge about prevention strategies like frequent and thorough handwashing, not touching our face, social distancing, avoiding large gatherings, and regularly cleaning frequently touched surfaces and objects at home, schools, at work place and in other settings along with when to contact doctor should be there in individuals.(5)

Therefore, in the midst of this pandemic, this study was planned to know the knowledge and perceptions of the health care providers related to COVID-19 as they are expected to be the best advisers to general population.

This study would form basis of finding information area that needs focus while planning public health measures.

MATERIALAND METHODS-

A cross-sectional online survey was carried out from 1st April,2020 to 7th May,2020 among 382 health care providers who were working either in government or private hospitals of Rohtak. The online survey was planned as it is rapid, less time consuming and require less engagement of human resources to conduct interviews and could reach large number of individuals in a very short span of time. This was the best survey technique available to conduct knowledge survey in midst of this pandemic.

Link of survey with request to fill survey was sent to more than 500 health care providers out of which 382 completed the online survey. Strata by age (20-30, 30-40 ,40-50, 50-60), sex (male or female), and profession (MBBS student, MBBS/MD Doctor, Dentist, Nurse, Pharmacist) were made. The number of participants in each of these strata were calculated along with their knowledge and perceptions. The questionnaire comprised of questions relating to knowledge about preventive methods, signs and symptoms of COVID19, perception about various government implemented measures to tackle COVID 19 and perceptions about corona virus being a bioweapon.

RESULTS—

Total 382 responses of questionnaire were obtained. Majority(42.4%) of participants were from 30 to 40 years age group followed by 147(38.5%) from 20-30 years age group and 12.6% from 40-50 years age group. In our study, out of 382 participants, 243(63.6%) were male participants and 139(36.4%) were female participants. (Table 1)

Table 1: Distribution of participants according to age group and gender

AGE GROUP (Years)	NUMBER OF PARTICIPANTS	PERCENTAGE (%)
20-30	147	38.5
30-40	162	42.4
40-50	48	12.6
50-60	25	6.5
TOTAL	382	100
GENDER		
MALE	243	63.6
FEMALE	139	36.4

Out of 382 participants, 184 (48.2%) were doctors, 165 (43.2%) were medical students, 7(1.8%) were dentists, 23 (6%) were nurses and 3

(0.8%) were pharmacists. (TABLE-2)

Table-2: Distribution of participants (health care providers)as per their profession

PROFESSION	NUMBER OF PARTICIPANTS	PERCENTAGE (%)
Medical student	165	43.2
Doctor	184	48.2
Dentist	7	1.8
Nurse	23	6
Pharmacist	3	0.8
TOTAL	382	100

All the participants (328) believed wearing masks and avoid touching eyes, nose and mouth with unwashed hands is helpful in preventing corona virus infection.Out of 382,49 (12.8%) believed that close contact with all sick people of any kind should be avoided and 17(4.5%) believed gargling with mouthwash helps in preventing corona virus infection(7 medical students, 4 doctors, 5 nurses and 1 dentist) and 1.6% believed that antibiotics can help prevent corona virus infection (all were medical students). Also, 0.8 % and 0.5% respectively believed in getting vaccination against pneumonia and regularly rinsing nose with normal saline to prevent corona virus infection(these responses were obtained from medical students). (TABLE-3)

Table-3: Distribution of health care providers according to actions that they believe to be helpful in preventing corona virus infection*

Preventive Action	Number Of Participants (n)	Percentage (%)
1. Wearing facemask	382	100
2. Getting vaccination against Pneumonia	3	0.8
3. Gargling mouthwash	17	4.5
4. Avoiding close contact with all sick people	49	12.8
5. Taking antibiotics	6	1.6
6. Avoid touching eyes, nose and mouth with unwashed hands	382	100
7. Regularly rinsing nose with saline	2	0.5

*Multiple responses were obtained

Six questions relating to patient summaries/hypothetical situations were included in research questionnaire and responses of health care providers were obtained in context to whether they accept or reject the statement. The responses to the questions are recorded in Table 4. 10.9% health care providers said that a person with shortness of breath should immediately call ambulance and rest 88.7% said not to immediately call ambulance until clarity about cause of shortness of breath is not made based on previous medical history and other comorbidities patient is suffering from. Health care providers were also questioned about what an individual should do if he has no mask available at home. To this question,361(94.5%) responded that a person without any underlying symptom can go out without mask in such a situation and 297(77.7%) said that patients with fever, cough and sorethroat should not go out without mask.

TABLE 4: Distribution of health care providers as per their responses to different case summaries.

	Number of participants saying YES	Number of participants saying NO	Don't Know
Q1. A patient calls and tells that he has cough, sore throat, shortness of breath and fever. He doesn't have a travel history. Could he have corona virus infection?	349 (91.4%)	33 (8.6%)	0
Q2.A patient calls you and tells you that he has sore throat, painful swallowing, high grade fever, painful glands in neck. He denies cough and shortness of breath. Is he having corona virus infection?	118 (30.9%)	230 (60.2%)	34 (8.9%)
Q3. A patient calls you and tells you that he is having runny nose, mild fever, productive cough. He should be managed at home.	40 (10.5%)	325 (85%)	17 (4.4%)
Q4. A person has no mask available. He has no symptoms. Can he go outside without a mask?	21 (5.5%)	361 (94.5%)	0
Q5.A person is having fever, cough, sore throat. Can he go out without mask if he has no mask available	297 (77.7%)	85 (22.3%)	0
Q6. A patient staying at home develops shortness of breath. He should call ambulance immediately for isolation service.	42 (10.9%)	339 (88.7%)	1 (0.3%)

Figure 1 depicts the knowledge of health care providers about various signs and symptoms of corona virus infection. 100% knew about fever and shortness of breath as a symptom of corona virus infection followed by 97% who were aware about cough as symptom of corona virus infection.92% were aware of sore throat ,39% and 34% respectively were aware of constipation and diarrhoea as symptom of corona virus infection.

FIGURE 1: Distribution of participants as per their knowledge about signs and symptoms of coronavirus infection

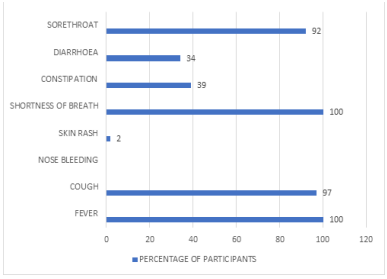


Figure 2 depicts the perception of health care providers about government implemented measures. 98% supported the step of suspension of air travel in country by government.97% supported the concept of quarantine of travellers from abroad for 14 days. 82% agreed that people should go out of home only in case of medical emergency or to obtain food.74% agreed to forbid mass gathering of any type.71% health care providers were in favor of continuing curfew/lockdown.69% supported the idea of making facemask mandatory for everyone outdoor.

Figure 2: Perception of participants about government implemented measures in cintext to COVID-19

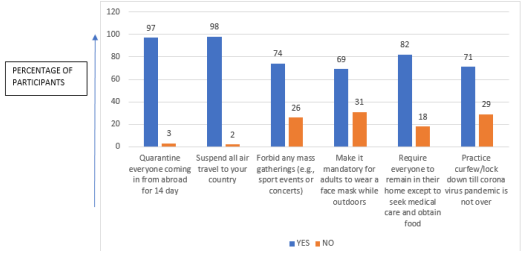
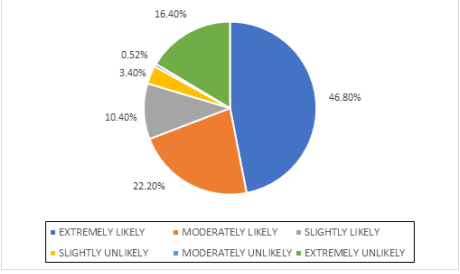


Figure 3 depicts that 46.8% health care providers perceived that it is extremely likely that corona virus infection is a bioweapon developed by terrorist organization while 16.4% said it is extremely unlikely.

Figure 3: Distribution of health care providers according to their perception about new coronavirus being a bioweapon developed by terrorist organization



DISCUSSION:

Government, health care providers, frontline workers and people of the community face hardship and several challenges during any epidemic or pandemic. Different epidemics and pandemics have different causes, mode of transmission, progression and different prevention and control measures. It is crucial to provide health education and create awareness during such situations for effective prevention of disease spread [6]. If proper awareness is not generated among community, it leads to inappropriate planning and preparedness and hence may have devastating future consequences. Hence, this study is an attempt to evaluate the knowledge, awareness and perceptions of health care providers.

In our study, most (80.9%) of participants were from 20 to 40 years age group. The likely reason is that it was an online survey and the use of smart phones, what's app and e-mails is a routine work in this age group. Most of the participants in our study were educated - either graduate or post-graduate and all were healthcare providers.

All the participants believed wearing masks and avoid touching eyes, nose and mouth with unwashed hands is helpful in preventing corona virus infection. The use of mask and washing hands is a normal practice during teaching of health care providers. It is an important measure to prevent cross-infection among the patients. Study by Roy et al also indicated the frequent use of sanitizers, hand wash and masks towards personal hygienic measures to avoid COVID-19 infection.[7] Almost all participants (98.4%) knew that there is no role of any antibiotics. This shows their thought perception that it is a disease of viral origin.

All participants knew about fever and shortness of breath as a symptom of corona virus infection followed by 97% who were aware about cough as symptom of corona virus infection and 92% were aware of sore throat. Most of the participants (88.7%) knew that mere suffering from shortness of breath is not an emergency to rush to an hospital. They knew that the cause of shortness of breath must be evaluated which may be other co-morbidities. Also, they knew that a person without any underlying symptom can go out without mask.

Almost all the participants agreed and supported the government implemented measures including the step of suspension of air travel in country, the concept of quarantine of travellers from abroad for 14 days, restricted out of home visits only in case of medical emergency or to obtain food, to forbid mass gathering of any type and the idea of making facemask mandatory for everyone outdoor. Also, about half of the health care providers perceived corona virus infection to be a bio-weapon developed by terrorist organization. In study by Roy et al, most of the participants (>80%) agreed with – social distancing, avoiding travel and self-quarantine as to prevent the contact transmission of the disease.[7]

CONCLUSION:

The participants had a moderate level of awareness regarding the mode of spread, symptoms, and yet adequate awareness about the preventive measures. It was possibly due to the government and media emphasizing more on the preventive measures. Educated and especially healthcare people get more sensitized by these information's.

LIMITATIONS:

The study is limited to the health care providers who had smart phones and used what's app and e-mail ID's. So the results may not be generalized to whole population. The knowledge and perception awareness of general population and uneducated people may be different from the findings of our study.

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