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AWARENESS AND ATTITUDE OF HEALTHCARE PROFESSIONALS REGARDING COVID-19 IN CENTRAL INDIA

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ABSTRACT

Background: Relentless spread of the ongoing COVID-19 pandemic has become a major cause of concern for healthcare professionals who have a crucial role to play in identification, assessment, reporting and management of potential cases of COVID-19.A poor understanding of the disease among healthcare workers may result in rapid spread of infection. Also they have the highest risk of being infected by this highly contagious disease. The present study was conducted, to assess the level of awareness and attitude of healthcare professionals about COVID-19 in Central India. **Materials and methods:** The present cross sectional study was conducted at a tertiary-care hospital and teaching institute using an online semi-structured questionnaire.919 respondents(311 post graduate students,156 interns and 452 nurses) completed the survey giving a response rate of 83.54 %.Statistical analysis was done using Microsoft office excel. **Results:** Social media, television and newspaper were the main sources of information. The overall awareness for all subgroups regarding etiology, symptoms and preventive measures was fairly good. However certain gaps were identifed in their knowledge about sequence of donning and doffing PPE, drugs used for treatment and chemoprophylaxis, containment and surveillance. A higher percentage of correct responses were obtained from postgraduate medical students and interns as compared to the nurses. The attitude of healthcare professionals towards COVID-19 appeared to be fairly positive. **Conclusion:** Healthcare professionals have adequate awareness of COVID-19 and a positive attitude. However there is a need to implement periodic educational interventions and training programs.

KEYWORDS: awareness, attitude, healthcare professionals, COVID-19.

INTRODUCTION

Coronavirus, a humanitarian emergency, which started in Wuhan in China in early December 2019 was declared as Public Health Emergency of International Concern (PHEIC) on 30th of January 2020, and finally a pandemic on 11th March 2020 by World Health Organisation.[1]

The first case of the coronavirus pandemic in India was reported on 30th January 2020. Since then the count of covid positive individuals has crossed 27 lakhs with more than 51000 deaths over a period spanning around 6 months.[2]The rapid and extensive spread of the ongoing COVID-19 pandemic has become a major cause of concern for the healthcare professionals (HCP).[3]

Health care professionals have a crucial role to play in identification, assessment, reporting and management of cases of COVID-19. A poor understanding of the disease among healthcare workers may result in delay in identification and treatment and in addition rapid spread of infection. Moreover they have the highest risk of being infected with this highly contagious disease.[4] Being highly vulnerable to this infection, they must protect themselves and also take sufficient care to prevent the transmission of infection. It is imperative for the HCPs to update themselves about the knowledge regarding source, transmission, symptoms and preventive measures to curb this pandemic.

Hence this study was conducted with the aim, to assess the present level of awareness and attitude of healthcare professionals regarding COVID-19.

MATERIALS AND METHODS

The present cross sectional study was conducted at a tertiary-care hospital and teaching institute in Central India, using an online semi-structured questionnaire with a consent form appended to it. The questionnaire was designed based on extensive literature review, regarding COVID-19 by WHO and other agencies.[5,6] Demographic characteristics of the participants such as

age, gender, profession were included in the first section of questionnaire. The second section included questions regarding the knowledge of COVID-19 and its source of information. These questions were related to the causative agent (name, disease caused, incubation period, routes of transmission), symptoms, investigations, preventive practices (hand hygiene, social distancing, use of personal protective equipments, chemoprophylaxis, quarantine) diagnosis, treatment etc. The third section comprised of the questions about the attitude of respondents regarding COVID-19. The link of the questionnaire was shared through Whatsapp to potential respondents who included post graduate students, interns and nursing staff. On clicking the link the participants got auto directed to the information about the study and informed consent. The set of questions appeared sequentially, which the participants had to answer. The survey was conducted in March 2020, and of the 1100 potential respondents, 919 (311 post graduate students, 156 interns and 452 nurses) completed the survey giving a response rate of 83.54 %. The participants were apprised of the nature and the purpose of the study and assured of anonymity and full confidentiality. Consent was obtained from all the participants. Ethical clearance was obtained from the Institutional ethics committee.

Statistical analysis

Data was obtained in the form of excel sheet. It was analysed further to calculate percentage.

RESULTS

The socio demographic characteristics of the participants is presented in table 1. of the 919 healthcare professionals who completed the study questionnaire, maximum 282 (30.69%) were from the age group of 26 - 30 years. Majority of the respondents were females (73.89%). The study participants included 49.18% nurses, 33.84% medical postgraduate students and 16.98% medical interns.

Table 1: Demographic profile of the respondents.

S. No.	Demographic Characteristic	Sub-Group	No.	%
1	Age group	20 - 25 yrs	262	28.51
		26 - 30 yrs	282	30.69
		31 - 35 yrs	121	13.17
		36 - 40 yrs	141	15.34
		>40 yrs	113	12.29
		Total	919	100
2	Gender	Male	240	26.11
		Female	679	73.89
		Total	919	100
3	Profession	Medical postgraduate students	311	33.84
		Medical Interns	156	16.98
		Nurses	452	49.18
		Total	919	100

The source of information regarding COVID-19 among the participants is shown in table 2.

Table 2: Source of information.

S N	Source of information	Medical postgraduate students (n = 311)		Medical Interns (n = 156)		Nurses (n = 452)		Total (N = 919)	
		No.	%	No.	%	No.	%	No	%
1	Newspaper	227	72.99	99	63.46	145	32.08	524	57.02
2	Television / Radio	162	52.09	87	55.77	275	60.84	633	68.88
3	Social media	261	83.92	143	91.67	352	77.87	756	82.26
4	Official govt. websites	243	78.14	81	51.92	122	26.99	446	48.53
5	Friends and relatives	87	27.97	48	30.77	217	48.01	352	38.31

The principal source of information about COVID-19 was social media. Television and newspapers were other important sources of information for 68.88% and 57.02% respondents respectively. Official government websites and discussion with friends and relatives were the less commonly cited ones.

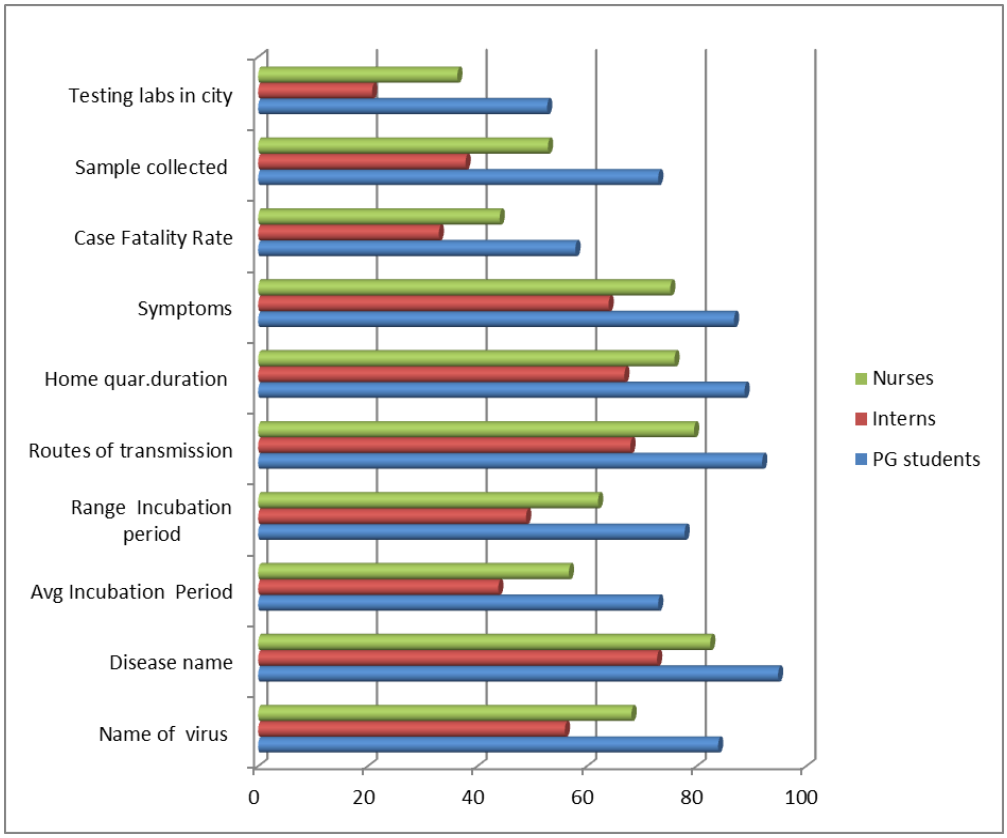

Figure 1: Knowledge of healthcare professionals regarding COVID-19.

Figure 1, shows the awareness about COVID-19 among healthcare professionals.

There was a great deal of variability in the knowledge of healthcare professionals. A higher percentage of correct responses were obtained from postgraduate medical students and interns as compared to the nurses.

Name of the causative virus of this pandemic was known to 261 (83.92%) of medical postgraduate students, 112 (71.79%) medical interns and 253 (55.97%) of nurses, also a large majority was aware of the name of the disease caused by it. Although the range of incubation period was correctly known to 62.02% participants, right response regarding the average incubation period was given by 56.69%. Majority, that is 286 (91.96%) medical postgraduate students, 138 (88.46%) medical interns and 307(67.92%) nurses were aware of major routes of transmission. Overall 75.19% were aware of the main symptoms. However 47.12 % and 63.66% respondents respectively had no knowledge regarding the sample collected for testing and testing labs available in the city.

Table 3: Knowledge of healthcare professionals regarding prevention and control of COVID-19.

S. N.	Questions	Medical postgraduate students (n=311)		Medical Interns (n = 156)		Nurses (n = 452)		Total (N = 919)	
		No	%	No	%	No	%	No	%
1	Distance to be maintained for physical distancing	304	97.75	140	89.74	388	85.84	832	90.53
2	Distance to be kept between two beds in isolation ward	199	63.99	88	56.41	153	33.85	440	47.88
3	Who are at higher risk of contracting the disease?	273	87.78	112	71.79	246	54.42	631	68.66
4	What PPE should be used by Health care workers while caring for Covid suspect?	261	83.92	118	75.64	216	47.79	595	64.74
5	Sample collected for testing and testing labs in the city.	174	55.95	68	43.59	171	37.83	413	44.94
6	Duration for hand washing with sanitiser / soap and water	262	84.24	123	78.85	320	70.79	705	76.71
7	Recommended concentration of alcohol in	208	66.88	67	42.95	117	25.88	392	42.66

	hand sanitizers								
8	All PPE used in COVID-19 wards should be disposed off in which colour bag	214	68.81	79	50.64	307	67.92	600	65.29
9	Drugs used for treatment (Name and dose)	149	47.91	49	31.41	54	11.95	252	27.42
10	Drug used for chemoprophylaxis	270	86.82	54	34.62	311	68.81	635	69.1
11	Name the stages of COVID-19 pandemic	130	41.8	54	34.61	63	13.94	247	26.88
12	Containment and surveillance of hotspots can help in controlling the epidemic?	180	57.87	55	35.26	95	21.02	330	35.91

Awareness of healthcare professionals regarding prevention and control of COVID-19 is seen in table 3.More than 90% of the respondents were well informed about the distance to be maintained for physical distancing. Persons with co morbidities are at higher risk of contracting the disease was known to 68.66 % participants. Overall 76.71% respondents were knowledgeable about the duration for hand washing with soap and water or sanitiser but oniy 42.65% were aware of the recommended concentration of alcohol in hand sanitizers. Most of the respondents were aware of various personal protective equipments but only a few knew the right sequence of donning and doffing PPE.

Very few respondents were informed about drugs used for treatment and the stages of COVID-19 pandemic. Drug used for chemoprophylaxis was known to 69.10% respondents. Containment and surveillance of hotspots can help in controlling the epidemic was affirmed by 35.91% respondent.

Table 4: Attitude of health care professionals.

SN	Statement	Response	
		No.	%
1	If the need arises, are you willing to provide care for COVID-19 patients?	717	78.02
2	Are you worried that you or your family members may get infected?	496	53.97
3	Transmission of COVID-19 can be prevented by following universal precautions.	707	76.93
4	If a COVID-19 vaccine was available, would you have it?	443	48.2
5	Do you think together we can win over this situation?	727	79.1
6	Are the available resources enough for this victory?	312	33.95
7	Health care professionals must keep updating themselves of all information about the virus.	856	93.14

Table 4 displays attitude of health care professionals Majority (78.02%) of the health care professionals were willing to provide care for COVID-19 patients. Approximately half of them were worried that they or their family members might get infected. More than 75% participants strongly agreed that transmission of COVID-19 could be prevented by following universal precautions. Willingness to take COVID-19 vaccine once it becomes available was noted in 48.20% respondents. Although 79.10% were hopeful of gaining victory over the situation only 33.95% felt that the available resources were enough for this. More than 93% of the respondents felt that health care professionals must keep updating themselves of all information about the virus.

DISCUSSION

India has been adversely impacted by the ongoing Novel Coronavirus Disease pandemic. Due to its expeditious spread it has become a cause of great concern for the healthcare professionals who are overburdened with enormous work load because of this highly contagious disease. To add to this crisis, the mode of transmission of SARS-CoV-2, makes the HCPs in contact with COVID-19 patients most vulnerable to this infection. Effective infection prevention and control practices including use of personal protective equipments is crucial for their safety and depends on their knowledge and attitude regarding the same.[7] So it is utmost essential for the HCPs to keep updating themselves with the current information about the prevention, control and management of COVID-19 to curb this pandemic.

The present study was conducted, to assess the awareness and attitude of HCPs about COVID-19 and the findings may be used to plan health education and training programmes about this emerging infectious disease.

In the present study, the major source of information about COVID-19 was social media followed by television and newspapers. However official government websites which are the authentic sources of information were the less commonly cited ones. The main sources of COVID-19 information as social media and the Ministry of Health website in the study of Huynh Giao et al.[8] Social media and television were also reported as the main sources of information by numerous other authors in their studies on MERS.[9-13]

Obtaining information from authentic sources is pivotal for disseminating unbiased and reliable data about the emerging COVID-19 infection and is essential for HCWs' preparedness and response. Currently, there is a vast diversity of information available through the internet, including unverified malicious information,

that can spread quickly and misguide HCWs. In this regard, HCWs should carefully evaluate COVID-19 related information and should use scientific and authentic content as information sources.[14,15]

There was variability in the knowledge of HCPs, a higher percentage of correct responses were obtained from postgraduate medical students and interns as compared to the nurses.

Knowledge about the aetiology, incubation period, main symptoms, and major routes of transmission and prevention of COVID-19 among majority of healthcare professionals was found to be adequate. Current findings of good knowledge among HCPs are in line with findings of Giao et al.[8] and Shi et al.[16] However the respondent's knowledge about sample collected for testing and availability of testing labs in the city was not adequate. This may be because of the fact that recently new testing laboratories have been approved which many people are not aware of .Majority (68.66%) of HCWs were aware that people with co-morbidities are at a higher risk of infection and mortality. These results are in concordance with findings of Huynh Giao et al.[8]

Knowledge of healthcare professionals regarding prevention and control of COVID-19 revealed that more than 90% of the respondents were well informed about the distance to be maintained for physical distancing. Practising proper steps of hand hygiene for appropriate duration, using recommended concentration of alcohol in hand sanitizers or soap and water is important for preventing the spread of infection. Although 76.71% respondents were knowledgeable about the duration for hand washing with soap and water or sanitiser, only 42.65% were aware of the recommended concentration of alcohol in hand sanitizers. Most of the respondents were aware of various personal protective equipments but only a few knew the right sequence of donning and doffing PPE. Apart from being aware of the required PPE, the knowledge of correct sequence of "donning and doffing" of PPE is imperative. Similar findings were reported by Pranav D. Modi et al. [3] However when questions were asked regarding drugs used for treatment and drug used for chemoprophylaxis, 72.58% and 30.90% respondents respectively were unable to identify correct responses . Khan et al. in their study about MERS reported 40% of participants had no knowledge of the treatment of MERS[17] Stages of COVID-19 pandemic ,containment and surveillance were not known to majority of the respondents.

Attitude of health care professionals about COVID-19 appears to be positive. Majority of the health care professionals were willing to provide care for COVID-19 patients. However, they were apprehensive about contracting the virus and in turn infecting their family members. Similar findings were also reported by Huynh Giao et al .[8] Approximately half of the respondents were willing to take COVID-19 vaccine once it becomes available. A sizeable number of the respondents felt that health care professionals must keep updating themselves of all information about the virus. This is important in the current scenario as the HCPs must be aware of all the updates and take precautions in treating and preventing the infection. A vast majority of the respondents were hopeful of gaining victory over the situation which is a positive aspect that will keep motivating them to work more enthusiastically to overcome these adverse circumstances.

The present study attempted to explore an area where there is scarcity of literature due to paucity of knowledge of this re-emerging infection. This study assessed the current status of HCPs awareness and attitude, which is a major requirement for providing optimum healthcare and curbing any epidemic. The findings may be used to plan health education and training programmes about this emerging infectious disease.

However this study also has certain limitations which should be taken into consideration.

This being an online survey, responses are self reported and mainly depend upon the participants honesty and their ability to recall. Also this survey was conducted in a tertiary care center and the respondents do not truly represent the healthcare professionals of the entire state and country which might limit its generalisation.

CONCLUSION

Healthcare professionals have adequate awareness of COVID-19 and a positive attitude. A higher percentage of correct responses were obtained from postgraduate medical students and interns as compared to the nurses. However certain gaps were identifed in their knowledge about sample collected for testing and testing labs in the city, sequence of donning and doffing PPE, drugs used for treatment and chemoprophylaxis, stages of COVID-19 pandemic ,containment and surveillance. The present study indicates that there is a need to implement periodic educational interventions and training programs on infection control practices for COVID-19 across all healthcare professionals. This can be achieved by conducting periodic informative webinars for educational intervention for all healthcare professionals .It is imperative to update the HCPs so that they take precautions and provide optimum healthcare.

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