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KNOWLEDGE, ATTITUDES & PRACTICES TOWARDS COVID-19: A CROSS SECTIONAL QUESTIONNAIRE SURVEY AMONG HEALTH CARE PROFESSIONALS IN A TERTIARY CARE SUPERSPECIALITY HOSPITAL, RAJASTHAN, INDIA

Healthcare

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ABSTRACT

Introduction: Covid 19 disease caused by the SARS-CoV-2 virus, the infection spread from Wuhan, China in December 2019, there after the virus infecting millions of populations worldwide. Healthcare professionals worked tirelessly to tackle the situation worldwide. Our main objective was to access the knowledge, attitude and practice (KAP) of healthcare professionals towards Covid-19 at NIMS Hospital, Rajasthan.

Methodology: The study was a Cross-sectional questionnaire-based survey, conducted during the second wave of covid. 160 Healthcare Professionals responded to the self-administered questioner, which had 15 questions in total to evaluate the KAP. The data was analyzed using SPSS software 23.0 and ANOVA test was performed.

Result: Majority of the respondents had good knowledge 83.75%, 68.75% good attitude, and 55.63% was observed to have good practice. Significant difference was seen in knowledge score across the professions and significant difference in Attitude score across the age group. Significant difference was observed in knowledge, Attitude and Practice score across the genders.

Conclusion: The stakeholders must focus on training of HCPs for better practice of tackling with COVID-19. Special emphasis is required to impart Education, training on COVID, and emphasis on mental health of the healthcare professionals.

KEYWORDS

Health Care Professionals, covid-19, knowledge, Attitude, Practice, coronavirus disease

INTRODUCTION

COVID-19 emerged as disease caused by the SARS-CoV-2 virus, which was first discovered in Wuhan, China in December 2019(Huang et al., 2020). There after the virus spread very fast to Europe and America and other continents, and WHO declaring it pandemic on March 11, 2020. The first case in India, was reported on January 27, 2020, when a 20 year old female presented with just history of fever, shortness of breath, to General Hospital, Thrissur, Kerala and later discovered that she had returned from Wuhan city, on January 23, 2020 due to the outbreak of covid.(Ranjan, Sharma, & Verma, 2021) In India during the first wave, Government took active measures by imposing complete lockdown with range of stringent measures to control spread including Janata curfew, closures of social gathering places, travel restrictions, entry point screening, quarantine, and various infection prevention and control measures from March 23rd, 2020 till April 14, 2020. India was one of the most affected countries during covid-19 pandemic. A year after, educational institutions still mostly closed or running in online mode, employees still are on work from home duties, though businesses have reopened to some extent but with a lot of restrictions.

In Mid of February 2021, the second wave clearly indicated dual phasic, with slow first phase and then followed by sudden rise. (Purkayastha et al., 2021; Ranjan et al., 2021; Thomas, 2021). The second wave in India caught everyone surprise, which showed total lack of foresight and precautions(Purkayastha et al., 2021). “The highest number of daily new cases during second wave was reported on May 6, 2021, which reached a staggering 414,280”(Angela Betsaida B Laguipo, 2021; Purkayastha et al., 2021; Thomas, 2021). There have been a wide variety of studies to evaluate knowledge, attitude, and practice (KAP) for COVID-19 among healthcare professionals and the general public during the first wave. such surveys vary widely between locations and populations and a range of different scoring methods was used. Studies have mostly focused on identifying which demographic and other variables were associated with different levels of KAP(Anozie et al., 2020; Azlan, Hamzah, Sern, Ayub, & Mohamad, 2020; Kotian, Faujdar, Kotian, & D'souza, 2020; Limbu, Piryani, & Sunny, 2020; Taghrir, Borazjani, & Shiraly, 2020; Tamang et al., 2020). Because of the prolonged duration of the pandemic, we assume that change in attitude, cause and effect relationship may arise among the Healthcare workers significantly, also in term of knowledge and practices in different healthcare settings. To facilitate outbreak management there is need to understand that, the Healthcare professionals are much more well prepared and are well equipped on tackling the virus at this critical moment. Therefor to maximize impact of infection prevention on COVID-19 spread, we undertook a cross sectional study to assess knowledge, attitudes and practice among healthcare professionals during the second wave in NIMS Hospital, Jaipur.

MATERIALS AND METHOD

The study was conducted at NIMS Hospital, Jaipur during the peak second wave of covid 19, from the period 01 March to 01 May 2021, the questionnaire was distributed among 200 participants but 160 responded to the questioner, the participants identity was kept anonymous. The minimum eligibility of the participants was that they should be Health care professionals or Health care workers. Each of the participants were given self-administered questionnaire, which was earlier validated by three subject expertise, with more than 5 years of content validation experience.

There was total 15 questionnaires, 5 questions each to access the knowledge, attitude, and practice. The demographic variables included age, gender, educational qualifications, and occupations. The knowledge was accessed through question about the covid virus and its infection, modality of choice for diagnosis and imaging in radiology and attitude was accessed through question on training and safe handling of patients on the other hand practice was accessed through questions on safe work practices.

The questions were closed ended questions with MCQs, yes/no/not sure. A maximum mark of 05 score for assessment of knowledge and 05 for attitude and 05 for practice, for each correct answer the participants was given 1 for correct answer and 0 for incorrect, the score of = or 4 was considered as good knowledge, good attitude and good practice whereas below 4 was considered as poor knowledge, poor attitude and poor practice. Informed consent was obtained from each participant and participants confidentiality was maintained by making participants' information anonymous.

Data Analysis

The data was analyzed using descriptive statistics of mean & SD for continuous variables and frequency and percentage was used for discrete variables. We performed paired t test to compare the scores, at 95% Confidence Interval, p-value < 0.05. The p-value were obtained from ANOVA taking each score as dependent variable, age group, and Profession as independent variable. The responses were analyzed using SPSS 23.0.

RESULT

A total of 160 HCP Participated in the study, the age distribution was 18-29 years 66.88 %, from 30-40 years 28.75 % and >40 was 4.37% where men were (n=115) 71.88% and (n=45) 28.12% were women. Based on professions 37.5% were from medical, 23.13% nursing and 39.37 had paramedical background. (Table 1)

Table 1: Participants Demographic Characteristics

		No. of Participants	Percentage %
Profession	Medical	60	37.5
	Nursing	37	23.13
	Paramedical	63	39.37
Gender	Male	115	71.88
	Female	45	28.12
Age Group	18-29	107	66.88
	30-40	46	28.75
	>40	7	4.37

There is significant difference in knowledge score across the professions. Whereas there was no significant difference in knowledge, Attitude and Practice score across the genders. (Table 2) We observed significant difference in Attitude score across the age groups. 18-29 (n=107) is 3.64, 30-40 is 4.11 and >40 is 4.71, there was better attitude with increase in age. There was also significant difference in Practice score across the age groups, by 18-29 (n=107) is 3.38, 30-40 is 3.98 and >40 is 4.29. We have observed that there is significance difference between Knowledge-Attitude score, Knowledge-Practice score, and Attitude-Practice score.

Table 2: KAP Score Difference Among Different Age Group, Profession, And Gender.

		No. of Participants	*Knowledge Score*	*Attitude Score*	*Practice Score*
Age Group	18-29	107	4.09	3.64	3.38
	30-40	46	4.5	4.11	3.98
	>40	7	4.71	4.71	4.29
Profession	*Medical*	60	4.58	4.31	4.03
	Nursing	37	4.16	3.86	3.51
	Paramedical	63	3.95	3.32	3.22
Gender	*Male*	115	4.3	3.83	3.53
	Female	45	4.09	3.8	3.76

Table 3: Mean differences of Knowledge-Attitude score, Knowledge-Practice score, and Attitude-Practice score.

	Mean Difference	95% CI	P-value
Knowledge-Attitude	0.4188	(0.3145, 0.5230)	<0.0001
Knowledge-Practice	0.6438	(0.5233, 0.7642)	<0.0001
Attitude-Practice	0.225	(0.1375, 0.3125)	<0.0001

Most of the respondents had good knowledge with 83.75%(n=134) on the basic concepts of covid virus, its transmission routes and preferred modalities for Imaging Covid19 patients. on the other hand, 16.25%(n=26) had poor knowledge regarding covid-19. The attitude of the healthcare worker during the second wave was good with 68.75%(n=110) as they were confident of winning the battle against covid very soon. 31.25%(n=50) also had poor attitude due to the lack of moral support from the family and the psychological impact with anxiety during this tough time and seeing the condition of the 1st wave. The practice of the healthcare workers was seen to be greater than the poor margin by 55.63%(n=89) against the poor by 44.38%(n=71). Due to the availability of proper PPE kit and lack of proper infection control were major factor for lapses in the good practice. There were also factors like improper knowledge and lack of motivational factors from the institutions and departments the healthcare workers are performing their duties.

DISCUSSION

India was one of the most affected nations during the 1st wave of covid, with considerable differences in terms of organization, management strategies throughout the country, resulting in heterogeneous levels of performance across regional health systems, which lead to the collapse of healthcare system suddenly. With the still ongoing pandemic situation and number of covid cases rising daily in different parts of the world, to the best of our knowledge, this is the first study in India examining the KAP towards COVID-19 among healthcare professionals during the second wave of covid19. In our study majority of the respondents answered correctly regarding the symptoms 94.37%, the spread of the virus transmission routs 74.37%, infection control in radiology 88.75% and the best modality for screening for covid 70% CT Scan 29.37% X-ray. The overall attitude was positive, as we can draw the result from the responses that if India can win battle against covid 79.37% responded yes, whereas 75.62% are confident to work with covid patients, with 73.75% respondents have told that they receive family support to work in the covid environment. On the other hand, there is fear and anxiety of the virus while working with covid patient by 56.25%. practice standards of the respondent seem to be good in terms of training the HCW 58.12%, following hand hygiene 84.37% and using proper PPE kits 81.25% and on vaccine recommendation for healthcare workers 66.87%.

Although most of this studies which were performed during the first wave of covid, according to (Kotian et al., 2020) (Tamang et al., 2020) (SRIVASTAVA et al., 2020) (Limbu et al., 2020) the correct rate of knowledge on covid spread, symptoms and transmission was found to be good from respondents, we found that there is good knowledge among the health care professionals by 83.75% according to our findings. In the study reported by Obiageli et al. the participants had considerable good knowledge about COVID-19.(Obiageli, Osuolale, Owolewa, & Peterside, 2021) Our study respondents had good knowledge with 83.75%(n=134) on the basic concepts of covid virus, its transmission routes and preferred modalities for Imaging Covid19 patients, surprisingly we also observed that there were 16.25% poor knowledge among the respondents. The poor knowledge may be because they were not trained adequately. There was a gape of approximately 4 months between first and second wave but the attitude among the HCP was found to be good by 68.75%, which revealed that they were confident to work in the covid environment although they may have to risk their lives. The respondent's attitude towards the ongoing pandemic was seen positive with 79.37% HCPs believe that India can win battel against Covid 19. We have seen that 73.75% respondents receive immense support from their family, which boosted their moral and confidence in their practices. This may be the reason also that the practice also was found satisfactory 55.63% respondents practice good work practice.

According to Abdulaziz Hussain Albahri et al. 89/176, 50.6% expressed concern about personally acquiring infection, on the other hand 112/176 (63.6%) were worried about their relatives acquiring the infection,(Albahri, Alnaqbi, & Alnaqbi, 2021) in this study 56.25% of the total respondents felt anxiety and fear while working with covid patients. 72/176 (40.9%) expressed hesitancy to take COVID-19 vaccine among the respondents of Abdulaziz Hussain Albahri et al.(Albahri et al., 2021) while only 20% of the respondent in our study responded no to vaccination and 13.12% respondents note sure. The practice of the health care professionals have been improving with 58.12% respondents were trained, 156/176, 88.6% reported practice of acceptable infection control(Albahri et al., 2021) 81.25% practice wearing PPE kits, gloves etc during their practice, 84.37% follow all appropriate covid guideline during their practice. 50% of the respondents showed willingness to vaccinate according to Ioannou et al.(Ioannou et al., 2021) We have observed that 30.62% respondents expressed not being trained in regarding covid 19, which is a matter of concern as the daily rise of covid cases in the country and countries like China and other southeast Asian countries in recent days according to many reports. Misconceptions regarding proper antiseptic solutions use and indications for hand washing were 10.62% responding 'No' and 5% 'Not Suer' we observed in a small proportion of HCWs. This may serve alarming issue thereby guide Hospital Infection Control Committees to enhanced educational programs during pandemic. The same case was observed in the study conducted by Ioannou et al.(Ioannou et al., 2021).

Medical professionals were found to be more knowledgeable on COVID-19, disinfection and hand hygiene practices then other HCPs. But it was observed that were not satisfied with protective equipment provided by the hospital, and they were less afraid of being infected by the virus which was also observed by Ioannou et al.(Ioannou et al., 2021) The attitude of the healthcare worker was observed good with 68.75%(n=110) which is comparable to study in Pakistan where 86.5% of HCPs had positive attitude,(Salman, Mustafa, Asif, Zaidi, & Shehzadi, 2020) 53.4% from Nepal(Limbu et al., 2020) and and 21% from Uganda(Olum & Bongomin, 2020) and 65.7% positive attitude from study in Ethiopia.(Yesse et al., 2021)31.25%(n=50) of the respondents showed poor attitude according to our study. Interestingly

the attitude and practice of the healthcare professionals was exceptionally good there is fear of infection and of being infected by the virus in our study, similarly the study in Greece,(Ioannou et al., 2021) Pakistan(Salman et al., 2020) and the study in Nepal.(Limbu et al., 2020; Tamang et al., 2020) our study also found that 55.63% (n=89) reported appropriate practice and good practice towards covid 19, whereas 68.9% is considerably low against the study done by M Yesse et al. in Southern Ethiopia(Yesse et al., 2021) which is nearly comparable with the other studies conducted in Uganda(Olum & Bongomin, 2020) and Pakistan.(Salman et al., 2020) However it has been seen better and good practice in Pakistan 88.7% and 81.5% in Nepal reported earlier. We also assume that the knowledge highly is associated with practice, as the knowledge gets better will lead to better practice, which was visible in previous studies also.

There were few limitations in this study as it has very little impact on the findings, as this was a cross-sectional study, we could not report changes and cause and effect relationship. On the other hand, there may be possibility of information biased, as the questioners were self-administered. Despite this the findings is generalized to public health facilities of the study area. This survey would probably provide update information and provide preventive actions for HCPs.

CONCLUSIONS

This study found that majority HCPs had good Knowledge and positive attitude toward COVID-19, but few of HCPs practices sufficiently as compared to good knowledge and attitude. There is significant difference in knowledge across the professions, and no significant difference in knowledge, Attitude and Practice score across the genders. There was significant difference in Attitude score across the age groups. the stakeholders must focus on training of HCPs for better practice of tackling with COVID-19. Special emphasis is required to impart Education, mental health care of the healthcare professionals and training on COVID.

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