



Awareness, Attitude and Practice during COVID-19 Pandemic among Non-Health Care Workers in a Tertiary Care Hospital in South India: A Cross Sectional Study

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ABSTRACT

Introduction: To plan and implement effective control measures, knowledge about basic hygiene and the mechanism of disease transmission, and practices adopted in such circumstances is of utmost importance. Non-professional health care workers working in a tertiary care hospital is at a major risk than general population in contracting a pandemic. This study was undertaken to assess the awareness, attitude and practice during COVID-19 pandemic among non-health care workers in a tertiary care hospital.

Materials and Methods: Cross-sectional self-administered questionnaire was used to assess the awareness, attitude and practice of non-health care workers. Personnel in pharmacy, patient service and food and security were taken as subjects. The subjects were also categorised according to their educational status.

Results: The knowledge, attitude and practice scores and the total combined scores were found to be statistically significant based on the occupation and educational status of the subjects. Pharmacy personnel had better awareness and those with higher educational status were found to have favourable attitude and practice scores.

Conclusion: The non-health care workers were found to have adequate knowledge, attitude and practice behaviour regarding prevention of Covid infection. Educational status of the subjects influenced their awareness, attitude and practice.

Keywords: Knowledge, COVID, health care sector, Prevention

INTRODUCTION

The COVID-19 pandemic has threatened the entire population of the planet with its alarming rate of spread raising serious health concerns. It has led to an unprecedented never seen public health crisis worldwide.¹ First recognition of the virus was made in Wuhan, Hubei Province, Republic of China in De-

cember 2019. Ever since, the disease has posed serious challenges to public health, health research and medical communities' world over.² The World Health Organization (WHO) had declared the COVID-19 outbreak a public health emergency of international concern on January 30, 2020 the 6th such declaration in the history of WHO.³

How to cite this article: Kumar KA, Kumar SV, Pottakkattu V, Nizar FN, Sugandhi P, Mangundumkara D. Awareness, Attitude and Practice during COVID-19 Pandemic among Non-Health Care Workers in a Tertiary Care Hospital in South India: A Cross Sectional Study. *Natl J Community Med* 2021;12(12):439-443. DOI: 10.5455/njcm.20211021052914

Financial Support: None declared **Conflict of Interest:** None declared

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Date of Submission: 25-10-2021; **Date of Acceptance:** 27-12-2021; **Date of Publication:** 31-12-2021

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To plan and implement effective control measures, knowledge about basic hygiene and the mechanism of disease transmission, and practices adopted in such circumstances is of utmost importance. The commitment of population in adhering to the disease control measures proposed by its administration is a necessity in achieving an ultimate success against the ongoing battle against novel corona virus.⁴ Stigma regarding the disease and a dearth in knowledge about the disease can result in delayed diagnosis and lack of adherence to treatment regime.^{5,6} Appropriate preventive measures should be strictly followed by all sections of community in order to win the battle against the COVID-19 virus. This is to large extent, influenced by awareness and thereby preparedness toward COVID-19. Panic generated during the spread of a pandemic and the resulting misconceptions can be a major deterrent in curbing the disease.²

For effective control and mitigation of COVID-19 within a region, actional and timely epidemiological data generated from the populace will inform health authorities to design robust interventions and policies that are relevant and which the general population can comprehend.⁷ Non-professional health care workers working in a tertiary care hospital is at a major risk than general population in contracting a pandemic which has an enormous magnitude. Slightest disregard towards adhering to preventive strategies against COVID-19 of such a target population can topple the containment of the pandemic in a short duration.

Prolonged work hours and doing their job in potentially transmissible environment can have adverse effects on non-professionals as is seen in case of frontline health care workers.⁸ Accurate information about the virus, its mode of transmission and preventive strategies is very much essential among these workers who are occupied in health care environment.⁹

Food service staff, patient service staff, security personnel and pharmacy staff, as their part of job often comes in close proximity to patients and their bystanders in a hospital. Lack of proper precautions and awareness about COVID-19 can pose serious threat to the health of the community at large.

OBJECTIVE

This study was undertaken to assess the awareness, attitude and practice during COVID-19 pandemic among non-health care workers in a tertiary care hospital.

MATERIALS AND METHODS

Cross-sectional self-administered questionnaire was used to assess the awareness, attitude and practice of non-health care workers. The questionnaire consisted of a part collecting subjects' demographic data

such as age, gender and place of work. The questionnaire consisted of 10 questions on awareness, 7 questions on attitude and 7 questions regarding practice. The questionnaire was subjected to content validation by four experts and reliability was checked using kappa statistics which was found to be 0.81. The questionnaire was also translated to local language, Malayalam. The questions were forward translated, back translated and pre-tested before being administered to the subjects. They were administered to the subjects through online forms. An online informed consent form was also attached prior to the questionnaire section. The non-health care workers in the study were personnel belonging to pharmacy section, patient service attendants, food service personnel and security personnel. Institutional ethical committee clearance was obtained before the commencement of the study.

The knowledge questions were about the type of agent, which age group it affects, symptoms associated with COVID-19, about re-infection, transmission routes, about treatment, most vulnerable age and about infectious stage of a covid patient. The attitude questions were about their perceptions about lockdown, whether it is necessary to strictly follow the social distancing norms etc. The practice questions were about their social rules to follow, personal hygiene and what they would follow in institution. There were 10 questions on knowledge, seven each on attitude and practice.

Sample size was calculated based on pilot survey using the formula $4pq/d^2$, based on the awareness score obtained and it was found to be 79. Adjusting for the non-response rate of 10%, a sample size of 90 was considered adequate. In the present study, there were 93 subjects. For analysis the awareness, attitude and practice of these three sections were entered separately and coded. The responses were coded and entered into SPSS version 17.0 and analysed. The most appropriate response were given a score of '1' and inappropriate responses were given score '0'.

The educational status of the subjects were categorized as high school, graduate and post graduate. The knowledge, attitude and practice and the total combined scores were analysed according to the subject's occupation as well as their educational status. Descriptive statistics was done and data was presented in percentages and frequencies. ANOVA and t-test were used for comparison of scores between groups. Post-hoc analysis was done using bonferroni test. A p value of 0.05 was taken as level of statistical significance.

RESULTS

The number of responses obtained from the on-line survey was 93. There were 37 from pharmacy, 28 from patient service personnel, 28 personnel from food service and security department combined.

There were 65 male subjects and 28 female subjects. The mean knowledge scores among males were 9.07 ± 0.66 and mean knowledge scores among female subjects were 9.14 ± 2.25 and the difference was not statistically significant ($p=0.84$). The mean attitude scores among males were 6.44 ± 0.55 and mean attitude scores among female subjects were 6.17 ± 0.72 . The difference was not statistically significant ($p=0.11$). The difference in mean scores of males (6.43 ± 0.48) and females (6.17 ± 0.39) were also not significant ($p=0.14$). The mean age of patient service personnel were relatively young which was 23.51 ± 0.96 years, whereas the mean age of pharmacy personnel was 36.7 ± 2.1 years and that of security personnel was 46 ± 2.25 years.

The knowledge scores were not statistically significant either between subjects based on their occupation or between their educational statuses. (**Table 1**) The attitude scores were statistically significant when compared based on the occupation and educational status of the subjects, $p=0.008$ and $p = 0.001$ respectively (**Table 1**).

Table 1: Comparison of knowledge, attitude and practice scores with education and occupation of the subjects

Scores	Subjects	Mean \pm SD	P value
Knowledge Score			
Occupation			
Pharmacy personnel's	37	9.4 ± 1.93	0.12
Patient service	28	8.71 ± 0.76	
Food and security	28	9.07 ± 0.53	
Education			
High School	47	8.8 ± 0.73	0.13
Graduate	35	9.31 ± 1.96	
Post graduate	11	9.52 ± 0.52	
Attitude Score			
Occupation			
Pharmacy personnel's	37	6.54 ± 0.55	0.008
Patient service	28	6.07 ± 0.71	
Food and security	28	6.32 ± 0.49	
Education			
High School	47	6.17 ± 0.63	0.001
Graduate	35	6.37 ± 0.54	
Post graduate	11	6.9 ± 0.3	
Practice Score			
Occupation			
Pharmacy personnel's	37	6.51 ± 0.5	0.001
Patient service	28	6.07 ± 0.26	
Food and security	28	6.17 ± 0.39	
Education			
High School	47	6.1 ± 0.31	0.001
Graduate	35	6.31 ± 0.47	
Post graduate	11	6.9 ± 0.3	
Total Score			
Occupation			
Pharmacy personnel's	37	22.45 ± 2.16	0.001
Patient service	28	20.85 ± 1.45	
Food and security	28	21.57 ± 1.1	
Education			
High school	47	21.1 ± 1.33	0.001
Graduate	35	22.0 ± 2.19	
Post graduate	11	23.36 ± 0.37	

SD=Standard Deviation

The practice scores were also found to be statistically significant when compared according to their occupation and educational status. Pharmacy personnel were found to have statistically significant higher scores compared to those employed in patient service and food and security service. ($p= 0.003$ and $p =0.001$ respectively) Personnel with post-graduate education fared better in attitude scores compared to those in graduate and high-school category. ($p =0.001$).

The difference in the combined scores of knowledge, attitude and practice scores also were found to be statistically significant between subjects belonging to pharmacy sector, patient services and food and security personal. ($p =0.001$) The scores between those in pharmacy and patient service and between pharmacy and food and security personnel were found to be statistically significant in the post-hoc analysis ($p=0.001$). However, there were no statistical significance between patient service and food and security personnel. (**Table 1**)

DISCUSSION

As observed in the study conducted at Saudi, in the present study too the knowledge and practice of the employees in the health care sector were found to be adequate.¹⁰ A score of 6 and above for knowledge score and 4 and above for attitude and practice was considered as adequate. The findings were comparable as in that study too about half of the subjects were graduate or having more than graduate educational qualification. The results from the general population in Iran with a sample size of 8591 showed that education is significantly positively associated with knowledge about Covid19 virus.⁴ In the present study, such an association were not found probably due to reason that all the subjects were employed in a health care environment.¹¹ Similar results were found in Nigeria, where good knowledge about Covid virus and its mode of transmission was found among the higher social class of population.⁵ Education level was found to be a major factor in determining the overall awareness about Covid. These studies show that in general population, education level plays a major part in the overall awareness of the population about the Covid virus and therefore higher chances of curtailing the spread of virus in the country.¹² In the present study too, education level of the subjects was found to be significant in determining the attitude and practice to prevent covid infection.

Adequate knowledge and a positive attitude towards preventing the spread of Covid virus was found in a study conducted among health care workers in Nepal.¹³ The survey also revealed that with proper awareness programmes, the awareness among the health care workers could be further enhanced.¹³ The results were very much similar to that of present study, where moderate to high knowledge about

Covid virus was obtained for various queries regarding Covid virus.

Community pharmacists need to engage with patients, providing them with counselling regarding the safety precautions to minimise exposure and infection probabilities as well as psychological and mental health support during a pandemic. Pharmacists would be expected to support general healthcare teams in infection prevention, as well as alert public health officials of potential outbreaks/cases.^{17,18}

Pharmacists and supporting personals in a tertiary care hospital have a role in providing adjunct role to general health care team. They would also be expected to alert public health officials about anticipated outbreak of pandemic if situation demands.^{14,15} Thus the awareness about the Covid pandemic is very much essential to the supporting health care professionals especially pharmacy staff. The pharmacy staffs were found to have adequate knowledge, attitude and practice towards Covid pandemic as revealed from this study. The fact that the attitude and practice scores were also high among pharmacy staff indicates that their knowledge is getting translated to proper behaviour patterns in effectively warding off the Covid virus.

Accepting the complexity of Covid pandemic and newer strains arising, knowledge about its spread and prevention is of high priority in containing the fast-spreading disease across various sectors and pharmacy is one such sector working in close ties with health care professionals.^{16,17,18,19} The knowledge and practices among the pharmacy personal were good in the present study and it is a promising sign that adequate measures to bring about awareness about Covid is taken care of either in personal level or at institution level.

In a study conducted in Mumbai, the authors were of the opinion that periodic awareness programs for non-health care professionals and administrative staff is necessary to keep them updated about the Covid virus and the preventive measures adopted.²⁰ This view finds more value in the current scenario where the mutation of Covid virus is taking place in numerous forms spread across continents. The importance of upgrading preventive measures along with vaccination should not be under rated in the present scenario. When the social distancing norms are in place, social networking gains much prominence and the awareness and information spread through social media also helps in gaining knowledge.^{21,22,23} Since the penetration of internet is high among population in state of Kerala, the social media could have played a major role in increasing the awareness among hospital personnel.

Awareness about appropriate preventive measures and awareness about Covid among personnel handling food and associated service are more important than constant monitoring of the worker's temperature.²⁴ In the present study, the awareness among

the workers handling food were found to be adequate though it is less than that of those in pharmacy sector. The knowledge, attitude and practice of such personnel was found to be higher compared to those dealing with patient service.

CONCLUSION

In the present study, the knowledge, attitude and practice of those employed in pharmacy, food service and security service were found to be adequate in the tertiary care centre. Education level of the subjects influenced their awareness, attitude and practice. Personnel with graduation and post graduation were having better knowledge, attitude and practice compared to those with high school as their highest qualification.

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