Health Professionals' Attitude, Knowledge and Practices Towards COVID-19 Infection in Karachi, Pakistan

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ABSTRACT

Objective: To evaluate the health professional's knowledge, attitude, and practices towards the COVID-19 pandemic in Karachi, Pakistan.

Study Design: Cross-sectional study.

Place and Duration of Study: Karachi Pakistan, from Mar to Jul 2020.

Methodology: A total of 228 healthcare professionals, i.e. specialists, physicians, nurses, and technicians working in the district East of Karachi were included. Independent sample t test and ANOVA were used for inferential statistics.

Results: Our findings showed that 95% study participants had a good knowledge regarding the infection and 81.8% showed a positive attitude towards the infection with over 98% reporting good professional practices regarding COVID-19 infection control.

Conclusion: These findings underscore the effectiveness of ongoing education and training initiatives among health professionals in Karachi, contributing to their preparedness and ability to effectively respond to the challenges posed by the COVID-19 pandemic.

Keywords: Attitude, COVID-19, Health professional, Knowledge, Practices.

INTRODUCTION

The sudden outbreak of viral infections is not new for the world and especially for medical professionals. Similarly, an outbreak of COVID-19, a Coronavirus disease, was caused by SARS-CoV-2 emerged in the city of Wuhan, China, in December 2019.[1,2] Initially, several patients presented with pneumonia of unknown origin which was later on confirmed as Coronavirus and officially named COVID-19. This type of virus had never been detected in humans or even in animals. Genetic information studied among these patients was significantly similar to that of bats.[3-5] The causative agent of this virus was named SARS-CoV-2 because it caused severe acute respiratory syndrome among the presented patients. SARS-CoV-2 share app-roximately 79% of its genetic sequence with subgenus Sarbecovirus (Beta-CoV lineage B), however, it is much more different to MERS-CoV responsible for Middle East respiratory syndrome which is a member of Merbecovirus subgenus. All the viruses belong to a subfamily called Orthocoronavirinae and come under the Coronaviridae family.[1,6] The early diagnosis and confirmed cases were found near the Huanan seafood market in Wuhan city during the first week of January 2020. The spread of this virus was found to be very fast due to its mood of transmission and soon got global attention. The latest virus was supposed to spread in humans through animals but later on, in the mid of January 2020, it was suspected that transmission of this infection has also occurred from human to human.[7,8] Due to the mode of transmission of this virus, the spread escalated manifold across 37 countries and infected more than 37000 people till 26 February 2020.[9,10] Hence, certain guidelines, principles, and practices are published by WHO for the general public and especially for health professionals to prevent from further spread of this infection. This study aimed to analyze the knowledge, attitude, and practices of health professionals in Karachi Pakistan, regarding COVID-19.

METHODOLOGY

The cross-sectional study was conducted in the city of Karachi Pakistan, from March to July 2020. Data for this study was collected from the respondents working in different hospitals in the district east. Specialists, Physicians, Nurses, and Technicians from NICVD, Tabba heart, JPMC, NMC, and PNS Shifa were approached irrespective of their age, gender, experience, and nature of the job. The sample size was calculated by the Raosoft sample size calculator.

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Informed consent to participate in the study was taken from all respondents.

Inclusion Criteria: Healthcare professionals, i.e. Specialists, Physicians, Nurses, and Technicians working in one of the following hospitals in the district east of Karachi: National Institute of Cardiovascular Diseases (NICVD), Tabba Heart Institute, Jinnah Postgraduate Medical Centre (JPMC), National Medical Centre (NMC), or Pakistan Navy Ship (PNS) Shifa Hospital were included.

Exclusion Criteria: Healthcare professionals, who were not available to complete the questionnaire during the study period were excluded.

A total of 300 questionnaires were distributed among the health professionals in Karachi. The response rate was 80% representing 228 out of 300 distributed questionnaires.

Statistical Package for Social Sciences (SPSS) version 23.0 was used for the data analysis. Quantitative variables were expressed as Mean±SD and qualitative variables were expressed as frequency and percentages. Independent sample t-test was applied to explore the inferential statistics. One-way analysis of variance (ANOVA) was applied to gauge the mean differences among the groups.

RESULTS

among them, 114(50%) were nurses, 46(20.2%) were technicians, 40(17.5) were physicians and 27(11.8%) were specialists. Most of the respondents were <5 experience i.e 129(56.6%). The majority acquired knowledge from health professionals 100(43.9%), internet and social media (30.7%) and TV/friends (24%.), 95% had sound knowledge regarding the incubation period (95.2%) and disease manifestation (82.5%). An independent sample t-test revealed no statistically remarkable differences in the means scores of knowledge, attitude, and practices both for males and females. Similarly, the impact of age on knowledge and practices and position on knowledge and attitude through one-way ANOVA showed no statistically remarkable differentiation at the significance p=0.05 level. On the other hand, the impact of age on attitude and experience on knowledge revealed statistically remarkable differentiation at the p=0.05 level among the groups [$F(3,227)$ =0.455, p=0.714, [$F(2,224)$ =4.103, p=0.018, respectively. However, the nexus between experience and attitude and practices showed no statistically remarkable difference at the p=0.05 level in the attitude and practices scores. A strong positive correlation between knowledge and attitude was found [r=535, n=227, p<0.001]. The relationship between knowledge and practices was also found to be strong and positive [r=.626, n=223, p<0.001].

Table: Health Professionals' Attitude, Knowledge and Practices Towards COVID-19 Infection

Variable	Age Groups[b]				
	>20 years	**>30 years**	**>40 years**	**>50 years**	**_p_-value**
Knowledge score	1.28±.035	1.315±.366	1.22±.12	1.25±.17	0.714
Attitude score	1.42±.311	1.5±.35	1.81±.101	1.37±.16	0.013
Practices score	1.12±.267	1.24±.396	1.06±.242	1.06±.153	0.046
	Position[b]				
	Physician	**Nurse**	**Specialist**	**Technician**	**P-value**
Knowledge score	1.27±.331	1.33±.376	1.124±.1077	1.254±.159	0.031
Attitude score	1.413±.296	1.471±.379	1.353±.1318	1.395±.251	0.401
Practices score	1.173±.268	1.18±.392	1.35±.1318	1.395±.251	0.74
	Experience[b]				
	<5 years	**5-10 years**	**>10 years**	**_p_-value**	
Knowledge score	1.27±.299	1.22±.194	1.400±.453	0.018	
Attitude score	1.42±.298	1.40±.216	1.49±.478	0.514	
Practices score	1.14±.285	1.12±.231	1.42±.476	0.182	
	Gender[a]				
	Male		**Female**		**_p_-value**
Knowledge score	1.275±.293		1.315±.374		0.443
Attitude score	1.42±.326		1.44±.308		0.792
Practices score	1.13±.293		1.23±.373		0.042

[a] = t-test, [b] = ANOVA test

Out of 228, the majority of respondents were between the ages of 20-50 years. The respondents consist of 167(73.2%) males and 61(26.8%) females

DISCUSSION

In this study, age and experience were significantly associated with attitude and knowledge

respectively. More attitudes were found among the people above 30 years and 40 years. Besides this, the knowledge of participants having 5-10 years' experience is significantly different from participants having experience >10 years. Experienced participants have more knowledge because of greater opportunities for professional growth, development, training, and orientation. Similar findings were reported by the previous studies.[11-15] Lack of association among age and knowledge, age and practices, specialty to knowledge, gender to knowledge, attitude, and practices were also supported by other studies.[16-17] An interesting finding of no significant association between gender to knowledge, attitude, and practices was found which contradict other studies that found gender a strong predictor of knowledge among health professionals, as previous research has discussed the values, norms, and customs of Islamic cultures that also affect gender and knowledge among health professionals. In Islamic countries, the male staff is given priority over their counterparts, and they found more chances of interaction and socialization than females through traveling, symposiums, conferences, and other health-associated functions.[14-18]

Correlation analysis showed a significant positive relationship between knowledge, attitude, and practice scores. A similar significant positive correlation between knowledge, attitude, and practices was also found among health professionals by previous studies among the Saudi population.[5] Through these findings, it can be stated that good knowledge can lead to a positive attitude, and this was explained by a famous study in the theory of reasoned action.[6] Our analysis showed that 45% of the practices were predicted by participant knowledge and attitude. Knowledge and attitude are good predictors of participants' practices.

CONCLUSION

These findings underscore the effectiveness of ongoing education and training initiatives among health professionals in Karachi, contributing to their preparedness and ability to effectively respond to the challenges posed by the COVID-19 pandemic.

Conflict of Interest: None.

Authors' Contribution

Following authors have made substantial contributions to the manuscript as under:

MRK & MAK: Conception, study design, drafting the manuscript, approval of the final version to be published.

MNK: Data acquisition, data analysis, data interpretation, critical review, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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