ORIGINAL ARTICLE

VARIATION IN ATTITUDE AND PRACTICES AMONG HEALTHCARE WORKERS REGARDING COVID-19: ARE KNOWLEDGE AND DEMOGRAPHICS DETERMINANTS?

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ABSTRACT

Objective: To explore knowledge, attitude and practices among healthcare workers regarding Covid-19 in Punjab-Pakistan by taking knowledge and demographics as predicting variable.

Methods: It was a cross-sectional survey using electronic distribution of questionnaire. It was conducted through online survey in Punjab province from 15.7.2020 to 23.7.2020. Through snowball sampling technique, a sample of 350 healthcare workers was taken from all over the Punjab with consent. Survey questionnaire contained 29 items to assess knowledge, attitude and practices concerning the epidemic. The collected data was analyzed in SPSS version 20.

Results: It showed that two hundred and twenty-seven participants (64.8%) fall in the category of minimal knowledge, mean scores on fearful attitude measure was 2.72 with standard deviation of 1.36. Around 52.9% healthcare workers were in the range of poor practices while 47.1% in good practices category. Positive correlation between knowledge and practices was found significant ($p < 0.05$). Results of regression analysis demonstrated that knowledge influence significantly ($\beta = .12$, $p < .001$), positively predicts practices among healthcare workers (1, 348) = 5.01. Moreover, there was significant difference in knowledge scores for six profession groups: F (5, 344) = 73.91.

Conclusion: The study concluded that most of the healthcare workers have minimal knowledge of covid-19, however their attitudes and practices vary from each other. The knowledge of healthcare staff highly affects their practices regarding pandemic. Moreover, profession influence the level of knowledge. The findings can help to draw interventions for enhancing positive practices among healthcare workers.

KEY WORDS: Knowledge, Attitude, Practices, Healthcare workers.

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INTRODUCTION:

According to Nature, the spread of corona virus disease 2019 (COVID-19) is becoming unstoppable and has already reached the necessary epidemiological criteria for it to be stated a plague, having infected more than 11669259 people around the world.[1] On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic.[2] Data from China have indicated that older adults, particularly those with

serious underlying health conditions, are at higher risk for severe COVID-19–associated illness and death than are younger persons.[3] Therefore, a coordinated global response is desperately needed to prepare health systems to meet this unprecedented challenge.[4]The fact that healthcare workers are at high risk of infection in the outbreak is a serious issue as healthcare workers help in controlling the epidemic. Therefore, it is necessary to control the spread among healthcare workers, all possible actions must be taken in this regard, first by recognizing the risk factors causing infection and then reducing them by taking appropriate schedules.

As we can see that ignorance and impoverished conditions of general public contribute in creating source of spread of covid-19 however, the inadequate awareness of infection among healthcare workers can directly affect the spread of virus among them.[5]The insufficient knowledge of a disease may influence the attitudes and practices, and incorrect attitudes and practices directly increase the risk of infection.[6] Prevention of the disease through better knowledge and awareness is the correct way to keep disease away.[7] Studies relating to knowledge, attitude and practices showed that direct interaction with community plays an important role in circumventing infectious diseases.[8]

In Pakistan, there is a wide range of variation in practices; some healthcare staff are strictly following SOPs and taking all the protective measures, while some are neither wearing masks nor maintaining distancing. This variation has become very serious which needs to be addressed as we can see the number of deaths among healthcare staff is increasing day by day. The recent statistics given by National Information Technology Board, Government of Pakistan, show that there are more than 241000 confirmed cases of corona virus in Pakistan, among them 4,983 have died. This is the alarming situation in which the role of healthcare staff is very vital. The previous studies during the time of pandemic, Crimean-Congo Hemorrhagic Fever (CCHF) indicated the poor level of knowledge of healthcare workers regarding the clinical presentations and the modes of spread of CCHF, and the common preventive measures of this disease[9]which resulted the loss of several important lives in the past in this region. By keeping in view past literature, the knowledge, attitude and practices among healthcare workers should be assessed in the current pandemic of corona virus. Therefore, the current study sought to explore the knowledge, attitude and practices among healthcare workers regarding Covid-19 in Punjab-Pakistan by taking knowledge as predicting variable, so that effective strategies can be drawn to protect lives.

METHODS:

The study was conducted in the Punjab province through an electronic survey after the approval of ethical review committee. During the study period i.e. 15.7.2020 to 23.7.2020, a total of 350 responses of healthcare workers including house officers, doctors, nurses, pharmacists and paramedics, were recorded through snowball sampling technique. Participants were ensured that the information required from them will be held confidential and will not be used for any other purpose except the current research. An online consent was taken from them and they were briefed about the purpose and nature of study. All the collected information was stored and analyzed in SPSS version 20.

Knowledge, Attitudes, and Practices Questionnaire Design:

Survey questionnaire contained 29 items to assess healthcare workers' knowledge, attitude and practices concerning the epidemic. A brief test including 16 questions was constructed to measure knowledge regarding coronavirus. Questions were based on the information provided by WHO 2020. Excessively broad questions were avoided that might affect the quality of data. Responses were recorded on dichotomous scale (yes/no) and were classified into3 categories (0-7 scores=insufficient knowledge; 8-7=minimal knowledge; 13-16=sufficient knowledge).Attitude included 4 items that measure the fear of pandemic among healthcare workers on dichotomous scale (yes/no), with total score ranging from 0 to 4. Higher the scores mean higher level of fearful attitude. Practices were accessed through 8 items regarding the frequency of taking protective measures i.e. washing/sanitizing hands, using protective equipment, avoid crowding etc. (Always; Often; Sometimes; Never). Scores 0-14= poor practices while 12-24= good practices. The survey was completed on a general question about the cause of healthcare professionals getting infected with COVID -19, to address the concern of healthcare workers in this regard.

RESULTS:

A total 350 healthcare workers were included in the study. The demographic information of participants is mentioned in the table 1. For knowledge, results revealed that most of the participants (64.8%) fall in the category of minimal knowledge, as shown in the *figure 1*. The surveyed healthcare workers reported a normal range of scores on fearful attitude measure with mean score 2.22 and standard deviation 1.36. Around 30.9%

were afraid that they might get infection from colleagues while 27.7% were afraid that they might get infection from patients, whereas 30% had a fear that they may spread infection to their family and about 38% reported that their life is seriously affected by fear of getting infected with COVID-19. For practices, results are shown in the *figure 2*.

Figure 1. Knowledge of healthcare workers regarding covid-19(*N*=350)

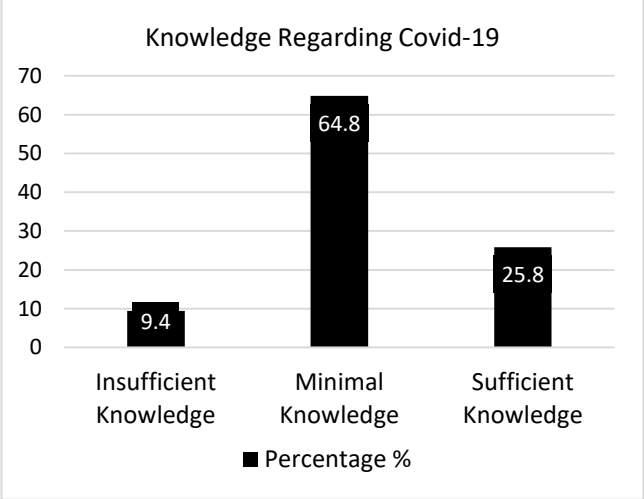
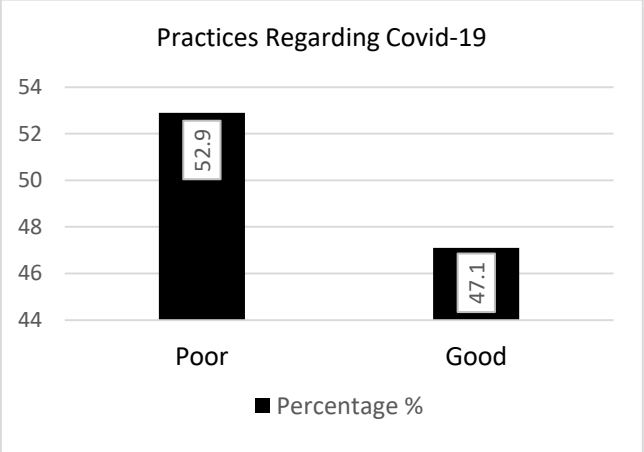


Figure 1. Practices of healthcare workers regarding covid-19(*N*=350)



By applying Pearson Product Moment Correlation, positive correlation between knowledge and practices was found significant (p<0.05, r= .12) i.e. as knowledge increases, level of practices also increases and vice versa. However, no significant correlation was found for fearful attitudes.

On using Linear Regression, knowledge was taken as predicting variable while practices as outcome variable. Results demonstrated that knowledge influence significantly (β = .12, p < .001), positively predicts practices among healthcare workers: F (1, 348) = 5.01.

Table 1. Demographic information of participants (*N*=350)

Characteristics	Frequency (%)
Age Group	
20-30 years	58 (16.6)
31-40 years	86 (24.6)
41-50 years	81 (23.1)
51-60 years	79 (22.6)
61 above	46 (13.1)
Gender	
Male	199 (56.9)
Female	151 (43.1)
Marital Status	
Married	216 (61.7)
Unmarried	107 (30.6)
Divorced	16 (4.6)
Widow	11 (3.1)
Residence	
Rural	81 (23.1)
Urban	269 (76.9)
Profession	
House Officers	29 (8.3)
Doctors	119 (34.0)
Nurses	87 (24.9)
Pharmacists	42 (12.0)
Paramedics	49 (14.0)
Others i.e. administrative officers	24 (6.9)
Working place	
BHU	28 (8.0)
RHC	41 (11.7)
THQ	33 (9.4)
DHQ	44 (12.6)
Tertiary Care Hospital	144 (41.1)
Private Clinic/Hospital	60 (17.1)
Job Experience	
Less than 1 year	58 (16.6)
1-5 years	61 (17.4)
6-10 years	74 (21.1)
11-15 years	67 (19.1)
16-20 years	55 (15.7)
21-25 years	35 (10.0)
Specialty	
Medicine and Allied	65 (18.6)
Surgery and Allied	51 (14.6)
Gynae & Obs	46 (13.1)
Pediatrics	42 (12.0)
Anesthesia	42 (12.0)
Radiology	46 (13.1)
Eye/ ENT/ Psychiatry	36 (10.3)
Other	22 (6.3)

One-way between-groups ANOVA was conducted to explore the impact of profession on scores of knowledge. Participants were divided into six groups according to their profession (House Officers, Doctors, Nurses, Pharmacists, Paramedics, Others i.e. administrative officers). There was a statistically significant difference at the $p < .001$ level in knowledge scores for six profession groups: $F(5, 344) = 73.91$. Descriptive showed that doctors are high in the scores of knowledge with mean 12.50 and standard deviation 1.34. However, for House Officers ($M = 11.24$, $SD = 1.61$), for Nurses($M = 11.28$, $SD = 1.47$),for Pharmacists($M = 8.69$, $SD = 2.35$), for Paramedics($M = 8.43$, $SD = 1.61$) and for others i.e. administrative officers($M = 8.13$, $SD = 2.17$). Similarly, profession groups differences were also assessed for attitudes and practices, results demonstrated no statistically significant difference in the scores ($p>0.05$).

Differences for residence of healthcare workers (i.e. rural and urban) in knowledge, attitudes and practices scores were also evaluated by independent sample t-test but results showed that there is no significant difference in knowledge, attitudes and practices of rural and urban healthcare workers($p>0.05$).

The results of concluding question of survey about the cause of healthcare professionals getting infected with COVID -19, revealed that 43.4% surveyed healthcare workers believed that it is due to insufficient supplies (PPE, sanitizers, disinfectants), while 24.6% reported because of insufficient training on donning, doffing and infection control, whereas 19.4 agreed on the lack of awareness of healthcare professionals about SOPs of infection control, and around 12.6% suggested the non-serious attitude of healthcare professionals causing the spread of virus.

DISCUSSION:

The present study explored knowledge, attitudes and practices of healthcare workers with regard to different demographic factors, for preventing further spread of the epidemic among them. Results demonstrated that most of the healthcare staff falls in the category of minimal knowledge about the modes of transmission of coronavirus while only one-fourth (25%) have sufficient knowledge. As compared to Chinese data, 89% healthcare workers have sufficient knowledge of covid-19 with strong determination of defeating virus,[10] this indicates a very wide range of difference with our data. However, prior literature of our region during the time of Crimean-Congo Haemorrhagic Fever pandemic also shows poor level of knowledge of healthcare workers regarding the clinical presentations and the modes of spread of virus.[9]The attitudes of healthcare professional regarding a disease plays a major role in its coping strategies, positive attitudes help professionals to effectively handle the emergency situation however negative attitudes can worsen the circumstances.[11]The findings of our study exposed a normal range of fear in attitudes of healthcare providers which is a positive factor to deal with current pandemic. The number of fearful attitudes is small even if we compare it with a recent study of China where 85% of healthcare staff was afraid of becoming infected at work.[10]This difference in fear level can be because of the difference in circumstances and severity of virus in both countries. The results of practices vary among healthcare staff, about half of the surveyed participants fall in poor practices category while half in the range of good practices. The recent researches in China reported 89.7% of healthcare providers are following correct practices regarding covid-19.[10] the number in Pakistan is still very small as compared to international practices and this is causing the spread of epidemic among healthcare worker.

The positive relationship between knowledge and practices was confirmed, moreover knowledge was found a significant predictor of practices among healthcare workers. International and national literature also give us evidences that knowledge has a wide impact on practices.[6,9,10]It has been investigated in Pakistan that inadequate knowledge caused poor practices for common preventive measures of epidemic which further caused several deaths among healthcare professionals.[9] Researches proposed insufficient knowledge not only causes poor care practices but also higher the risk of infections among healthcare providers.[12]

Profession was found an influencing factor of knowledge and doctors scored significantly high on knowledge test than other profession groups. A research in China have also found that Doctors showed higher knowledge scores than nurses and paramedics,[10]these findings are parallel to our study. The practices of healthcare workers are more or less same in rural and urban areas as no significant differences were found, this illustrates that if any intervention for enhancing knowledge, positive attitudes and practices regarding covid-19, would be planned so it should not be given to any specific area but throughout the Punjab province.

CONCLUSION:

The study concluded that most of the healthcare workers have minimal knowledge of covid-19, however their attitudes and practices vary from each other. The knowledge of healthcare staff highly affects their

practices regarding pandemic. Moreover, profession influence the level of knowledge.

IMPLICATIONS:

The findings of the study can help to draw interventions for enhancing positive practices among healthcare workers. As results demonstrated knowledge a significant predictor of practices, so training workshops can be designed for increasing knowledge among health staff. Moreover, study has implications for administration to provide healthcare staff the sufficient amount of PPE, as it was found the major concern of healthcare workers.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCHES

The current study only measured fearful attitudes for which no correlation and prediction was found significant. Therefore, it is suggested that attitudes of healthcare workers should be measured in different dimensions which may affect their practice.

CONFLICT OF INTEREST

There is no conflict of interest involved.

ETHICAL APPROVAL:

The study was approved by the Ethical Review Committee of Postgraduate Medical Institute/Ameer ud Din Medical College/Lahore General Hospital, Lahore, Pakistan vide Research Reference No. 00-117-20 dated July 11, 2020.

REFERENCES:

1. Callaway E. Time to use the p-word? Coronavirus enter dangerous new phase. Nature.2020;579(12):10-38.
2. World Health Organization. Coronavirus disease 2019 (COVID-19) situation report–51. Geneva, Switzerland: World Health Organization; 2020. https://www.who.int/docs/default-source/coronaviruse/situationreports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e5710
3. Novel Coronavirus Pneumonia Emergency Response Epidemiology Team. The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China. Chinese Center for Disease Control and Prevention Weekly. 2020;41:145–151.
4. Remuzzi A, Remuzzi G. COVID-19 and Italy: what next?. The Lancet. 2020 Mar 13.
5. Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. Jama. 2020;323(13):1239-1242.
6. McEachan R, Taylor N, Harrison R, Lawton R, Gardner P, Conner M. Meta-analysis of the reasoned action approach (RAA) to understanding health behaviors. Ann Behav Med. 2016;50(4):592-612.
7. Klein RE, Weller SC, Zeissing R, Richards FO, Ruebush TK. Knowledge, belief and practices in relation to malaria transmission and vector control in Guatemala. Am J Trop Med Hyg. 1995;52:383–388.
8. Singh Neeru,Singh MP, Saxena Ajay, Sharma VP, Kalra NL. Knowledge, attitude, beliefs and practices (KABP) study related to malaria and intervention strategies in ethnic tribals of Mandla (Madhya Pradesh). Curr Sci. 1998;75(12):1386–1390.
9. Sheikh NS, Sheikh AS, Sheikh AA. Knowledge, attitude and practices regarding Crimean–Congo haemorrhagic fever among healthcare workers in Balochistan. J Ayub Med Coll Abbottabad. 2004;16(3).
10. Zhou M, Tang F, Wang Y, Nie H, Zhang L, You G, Zhang M. Knowledge, attitude and practice regarding COVID-19 among health care workers in Henan, China. J Hosp Infect. 2020;105(2):183-187.
11. O'Connor S, Hanes D, Lindsey A, Weiss M, Petty L, Overcash J. Attitudes among healthcare providers and patients diagnosed with sickle cell disease: Frequent hospitalizations and stressors. Clin J Oncol Nurs. 2014;18(6):675-680.
12. Jiang L, Ng IH, Li D, Tan LW, Ho HJ, Mark I, Chen C. Infectious disease transmission: survey of contacts between hospital-based healthcare workers and working adults from the general population. J Hosp Infect. 2018;98(4):404-411.

AUTHORS' CONTRIBUTION:

AR: Study design, concept, literature search, data collection
ARZ, ADZ: Data collection, data analysis
SQB: Data interpretation, comparison
TI: Data Analysis
SHW: Review of article