KNOWLEDGE, ATTITUDE AND PRACTICES OF PAKISTANI GENERAL POPULATION ASSOCIATED WITH COVID-19; A CROSS SECTIONAL STUDY

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ABSTRACT

Objective: To know the knowledge, attitude and practices of Pakistani general population associated with COVID-19 outbreak and its correlation in different age groups, genders and educational status.
Study Design: Cross-sectional study.
Place and Duration of Study: Online survey based study conducted in Pakistan, from Mar to May 2020.
Methodology: Self administered questionnaire using the Google Forms was used to get the responses from online enrolled participants. Questionnaire included general questions regarding disease etiology, symptomatology, transmission and prevention along with general questions regarding respondent's attitude and practices. Data was downloaded on Microsoft Excel Spread sheet and analyzed by using Statistical Package for Social Sciences version 23.
Results: Age ranged from 15 to 68 years with a mean of 30.5 ± 9.1 years. The mean knowledge score was 8.5 ± 0.8. Out of total 285 participants 180 (63.2%) individuals had adequate knowledge while 105 (36.8%) individuals had inadequate knowledge about COVID-19 outbreak. Attitude and practices were optimal and positive among the majority of the participants.
Conclusion: Our study reported an optimal level of knowledge and an optimistic attitude among the literate group of Pakistani general population. Moreover, we highlighted the knowledge gaps among the general public which would help the authorities to spread mass awareness regarding the COVID-19 Pandemic.

Keywords: Attitude, COVID-19, Knowledge, Pakistan, Pandemic, Practices.

INTRODUCTION

Since the dawn of this century multiple corona virus outbreaks have been reported across the globe. The latest of Corona outbreaks was COVID-19 originating in Wuhan (China). The outbreak was first reported in December 2019 when multiple unexplained cases of pneumonia were reported to the local health care facilities. By January 2020 the outbreak was attributed to a "Novel Corona Virus" and a global emergency was declared by World Health Organization[1]. The disease was characterized mainly by respiratory symptoms accompanied with other symptoms such as fever, generalized body aches etc. In a few patients severe symptoms such as drop in oxygen saturation, acute respiratory distress syndrome (ARDS), septic shock and multi-organ failure was seen[2]. The impact of disease in terms of deaths per million seems to vary from country to country. However, mortality rate of COVID-19 in China stands at 2.3% far lower than severe acute respiratory syndrome (SARS) at 9.5% and middle east respiratory syndrome (MERS) at 34.4%[3].

Various studies show that individuals exposed to a virus usually take around 2 to 14 days to develop symptoms characteristic of the disease. With a 97.5% of individuals having onset of symptoms within 11.5 days[4]. The mode of transmission of the virus is shown to be via respiratory droplets. The presence of virus has also been shown in human feces, but feco-oral route as

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Received: 18 Jun 2020; revised received: 06 Aug 2020; accepted: 07 Aug 2020

mode of transmission is still unproven[5]. The ability of the virus to survive on various surfaces also considerably contributes to its spread. It has been shown to be able to survive outside a live host on non-viable surfaces such as cardboards, plastics and steel for upto 55, 100 and 90 hours respectively[6].

Different approaches were undertaken by the government's across the globe to tackle the viral Pandemic. Almost every government at one stage or the other had to enforce a lockdown. Quarantine, social distancing, compulsory wearing of masks and travel restrictions were other measures enforced. Such measures, however, also contributed to a great degree of fear in the general public leading to mass buying, panic and confusion[7]. This public behavior fueled by fear, confusion and misunderstanding the rationale of the measures being taken raises questions of the understanding and knowledge of the public regarding the viral outbreak.

As Pakistan was safe from other Corona outbreaks of the century including Ebola, severe Acute Respiratory Syndrome (SARS) and Middle Eastern Respiratory Syndrome (MERS), COVID-19 is the first Corona Virus outbreak that has prompted the government to undertake unprecedented measures to protect the public from the disease. Unprecedented measures have lead to fear, confusion and non-compliance of standard operating procedures (SOPs) set by the government. It is, therefore, imperative to understand the knowledge, attitude and practices of the Pakistani public in response to the COVID-19 pandemic for which this study was undertaken. The short falls in knowledge, attitude and practices of the public would, thus, help us better target weak areas to bring about a better national response in controlling the viral outbreak. The objective of our study was to know the knowledge attitude and practices of Pakistani general population associated with COVID-19 outbreak and its correlation in different age groups, genders and educational status.

METHODOLOGY

The study was a cross-sectional online survey based study that was conducted within a duration of 2 months i.e. from 15th March to 15th May'2020. This was the time period when daily new cases were being reported across the country and unprecedented measures such as lock-down, mass quarantines and social distancing were being enforced by the government across the country. Owing to the infectious nature of the disease, a Google forms based questionnaire was designed which was sent to individuals online personally, by the help of close contacts and social media influencers using social media networking applications WhatsApp, Facebook, Twitter and Instagram. A detailed text explaining the rationale of the study and statement to maintain the confidentiality of the participants was sent along with the link to Google forms. All participants who voluntarily agreed to participate in the study while living in Corona hit regions, pressed a continue button agreeing to the written informed consent for participation in the study. Individuals who were able to read and understand Urdu/English language, having access to 3G/4G internet service and with adequate knowledge of the use of social media networking were included in the study. Individuals who were not living in Corona hit regions, suffering from psychiatric illnesses, and those who gave incomplete responses to open ended questions were excluded from the study. We selected the participants using non-probability convenient sampling technique. A total of 412 participants responded to our questionnaire. We included 285 individuals in our study using strict inclusion/exclusion criteria. A self-modified questions' set targeting basic knowledge, attitude and practices of individuals regarding the COVID-19 outbreak was used. Our questionnaire was translated in Urdu language using Google translation and further validated by the two senior subject specialists according to our socio-ethical culture. The Questionnaire included four main themes; 1) responses for demographic details including age, gender, place of residence, educational , marital and

smoking status, history of co-morbid conditions or psychiatric illness, profession were recorded. 2) Knowledge questionnaire included basic questions regarding etiology, spread and prevention of the disease from the previously published research. Responses were recorded on the basis of Yes/No and Not sure. Each correct answer was given 1 point summing up to 0-9 score on knowledge scale, higher score demonstrating better knowledge of COVID-19. We compared the mean score and a score above mean was considered as adequate knowledge. 3) Attitude Subsection included 9 questions and their responses in yes/no and may be. Their descriptive statistics counts and percentages were formulated to categorize the information. 4) Practices subsection included 8 questions and their responses in yes/no and never/rarely, sometimes, often and always.

Their responses are categorized in terms of frequencies and percentages. The study protocols were approved by ethical review committee of Combined Military Hospital, Quetta (IRB#/030). Responses from the Google forms were downloaded as Microsoft Excel spread sheet 360 and Data imported later to be analyzed by Statistical Package for the Social Sciences version 23 (SPSS v23). Chi-square test was used to find statistical correlation between the quantitative variables.

Table-I: Response of the participants to questions asked in knowledge subsection.

Questions	Answers	
	Correct	Incorrect
Q1: Is COVID-19an infection transmitted by a virus?	265 (93%)	20 (7%)
Q2: Is COVID-19an infection transmitted by close contact with an infected person ?	278 (97.5%)	7 (2.5%)
Q3: Fever, cough, sore throats and shortness breath are possible symptoms of COVID-19?	283 (99.3%)	2 (0.7%)
Q4: The disease shows its symptoms with in 2 weeks of infection?	271 (95.1%)	14 (4.9%)
Q5: COVID-19vaccine is available in markets?	277 (97.2%)	8 (2.8%)
Q6: Antibiotics are the recommended treatment for this disease?	232 (81.4%)	53 (18.6%)
Q7: Washing hands with soap and water, and using face masks can help in the prevention of disease transmission?	281 (98.6%)	2 (1.4%)
Q8: Patients with Pre existing long standing diseases are at a higher risk of infection and death?	272 (95.4%)	13 (4.6%)
Q9: COVID-19could be an infection which imposes life risk?	266 (93.3%)	19 (6.7%)

Table-II: Correlation of educational status, gender and age groups with knowledge score.

		Knowledge		*p*-value
		Adequate Knowledge	Inadequate Knowledge	
Educational Status	Matric	2 (1.9%)	-	0.04
	Intermediate	12 (11.4%)	8 (4.4%)	
	Bachelors	44 (41.9%)	74 (41.1%)	
	Masters	45 (42.9%)	76 (42.2%)	
	M.Phil.	-	13 (7.2%)	
	Ph.D.	2 (1.9%)	9 (5.0%)	
Gender	Male	32 (30.5%)	51 (28.3%)	0.40
	Female	73 (69.5%)	129 (71.7%)	
Age Groups	15 to 30 years	71 (67.6%)	106 (58.9%)	0.53
	31 to 45 years	27 (25.7%)	60 (33.3%)	
	46 to 60 years	6 (5.7%	12 (6.7%)	
	61 years and above	1 (1.0%)	2 (1.1%)	

RESULTS

Out of 285 participants in the study, 83 (29.1%) were females while 202 (70.9%) were

males. Age ranges from 15 to 68 years with a mean of 30.5 ± 9.1 years.

Knowledge

Mean knowledge score was 8.5 ± 0.8. Out of total 285 participants 180 (63.2 %) individuals had adequate knowledge while 105 (36.8%) individuals had inadequate knowledge about transmission, symptoms and treatment/prevention of the disease. Individual counts and percentages for correct answers given for each question asked in the knowledge section are given in table-I. Table-II demonstrates the correlation of educational status, gender and age groups with the knowledge score.

Attitude

Out of 285 participants, 101 (35.4%) think they will get the disease while 184 (64.6%) think otherwise. One hundred sixty five (57.9%) individuals are worried that one of their family member might contract the disease. On contracting the disease 258 (90.5%) individuals were willing to accept isolation in the health facilities. Majority of the participants believe that frequent hand washing with soap 272 (95.4%) and social distancing 284 (99.6%]) actually prevents the spread of the disease. If a COVID-19's vaccine were available 46 (16.1%) participants would have refused it. Two hundred and eighty three (99.3%) participants believe that quarantine and isolation policy for COVID-19 suspected and positive cases are useful and should continue to be implemented and 258 (90.5%) individuals agree that every individual coming back from abroad should be quarantined for at least 14 days in the government based facilities. The aggressive media campaign to educate the masses regarding prevention of the disease was thought useful by 228 (80%) participants while 57 (20%) thought otherwise.

Practices

When asked that whether the participant was hand with soap for more than 20 seconds, 3 (1.1 %) replied never, 11 (3.9%) replied rarely, 63 (22.1%) replied sometimes, 120 (42.1%) replied often and 88 (30.9%) replied always. Mass gatherings and visits to malls, bazars and masjids were avoided by 270 (94.7%) individuals. Two hundred and seventy five (96.5%) individuals avoided unnecessarily going outside, 217 (80.4%) individuals tried to maintain 6 feet distance in day to day meetings and 229 (95.1%) participants wore mask whenever they went outside. Two hundred and seventy one (95.1%) individuals tried to avoid visiting hospitals or clinics for minor ailments, 235 (82.5%) participants try to keep themselves updated with day to day changing statistics and situation of pandemic and 276 (96.8%) individuals continue to convince their friends and family members to take necessary precautions to prevent the spread of the disease.

DISCUSSION

COVID-19 outbreak has overwhelmed the globe in mere 3 months since the first case was reported in Wuhan (China). Owing to the novel nature of the disease and little available literature, It has met with plethora of controversies spreading numerous myths and confusions among the masses[8]. The disease outbreak proved to be a nightmare for global economy and health systems. Low and middle income countries (LMIC) having vulnerable health systems and limited resources are the most burdened of the disease owing to lack of awareness and compliance, financial constraints, limited infrastructure, minimum health care resources and lack of expertise to address huge clientele[9]. In third world countries, this pandemic has taken unprecedented pathways. In Pakistan, the discussion about the pandemic has been a hot potato among general public and media cells, even before first positive case has been reported in the country. The present study was an online survey among the literate adults of Pakistan during the time when the positive cases of the diseases were on a rise exponentially. Our study highlighted the level of awareness among our general population regarding the COVID-19 outbreak.

We reported optimal knowledge level of the respondents especially regarding the etiology, symptoms, modes of transmission and ways of prevention from the disease. However, their

knowledge regarding the ways of treatment/ management of the disease was suboptimal. A majority of the respondents 53 (18.6%) believed that the antibiotics are the recommended treatment for the disease and 19 (6.7%) think that the disease doesn't impose a life risk. Surprisingly, 277 (97.2%) individuals correctly identified that the vaccine for the novel Corona virus disease 19 is not available in the market at the moment. These results are significantly higher than a local study done by Mubeen *et al*, in Karachi during late December 2019 as they reported 80% correct answers to the same question[10]. Our figures are much higher than reported by Al Mohaissen *et al*, among Saudi University students during MERS-CoV outbreak as only 32% gave the correct answer[11]. We reported a statistically significant correlation (p=0.04) with increasing levels of education and better knowledge regarding the disease prevention and transmission unlike other similar studies. However, comparison with different age groups and gender showed little variations and results were statistically insignificant like similar studies[11-13].

A majority of participants in our study 101 (35.4%) think they might get the disease in future and 57.9% individuals had fear that one of their family member might contract the disease. However, an optimistic approach was found amongst the majority as 90.5% individuals were willing to accept isolation in the health facilities and 99.3% participants believe that quarantine and isolation policy for COVID-19 suspected and positive cases are useful and should continue to be implemented. This positive attitude of the respondents is similar to the study done by Rugarabamu *et al*, among Tanzanian population and Zhong *et al* in Chinese population. The positive attitude attributed to good practices to control the spread of the disease as 30.9% participants in our study always wash hands for more then 20 seconds and 94.7% individuals avoided mass gathering in the past 4 weeks. In daily routine 80.4% tried to maintain six feet distance, 95.1% participants wore mask whenever they went outside, and surprisingly 95.1% participants avoided visits to the hospitals for minor ailments to avoid contracting the disease from the health care setups. Zhong *et al*, reported similar practices by the Chinese adults as 96.4% respondents of their study avoided visiting crowded places and 98% wore masks while leaving from their homes. Awareness of the masses and cooperation is vital to end the pandemic. The World health organization (WHO) has recommended to address the communities regarding the risks of the pandemic and effectively engagement of the societies to fight the viral outbreak[16-17].

The results of our study were unprecedented, as majority of the population were found to had reasonable knowledge about the disease, had positive attitude and indulged in positive practices to control and prevent the disease. The reason might be the recruitment of literate subgroup of the population through online survey thus recollective bias being the limitation of our study. Moreover, aggressive media campaign to cover the daily changing situation of the pandemic and increased access to internet since last decade has shifted the paradigm, making people more aware of the Pandemic[18].

ACKNOWLEDGEMENTS

We would like to acknowledge Advocate Touqeer Ahmed Gujjar who had helped us in recruiting participants for this research study via social media handles.

CONCLUSION

Our study reported a optimal level of knowledge and optimistic attitude among the literate group of Pakistani general population. Moreover, we highlighted the knowledge gaps among the general public which would help the authorities to spread mass awareness regarding the COVID-19 Pandemic.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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