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Knowledge, Attitude, and Practice Towards COVID-19 Among General Population of Karachi South: A Cross-Sectional Survey

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ABSTRACT

Objective: To assess the knowledge, attitude, and practices of precautionary measures against COVID-19 by the general population of Karachi South, Pakistan.

Methods: This descriptive cross-sectional questionnaire-based survey was conducted among the general population living in the district South of Karachi, Pakistan from April to May 2020. A structured questionnaire was formed using google forms, containing 31 questions regarding knowledge regarding transmission, signs and symptoms of the coronavirus, attitude, and precautionary measures for novel coronavirus outbreak were noted.

Results: Of 400 participants, most of the participants 259 (64.8%) were from 20-30 years of age group with females predominantly higher, i.e. 217 (54.3%). The majority of the participants 315 (78.5%) believed that COVID-19 is a viral infection. The majority of the participants 328 (82.0%) believed that COVID-19 starts with flu-like symptoms whereas few of them 65 (16.3%) thought stomach upset was also part of it. Similarly, majority of the participants, 320 (80.0%) presumed that elderly population was most effected by COVID-19 pandemic. The majority 286 (71.5%) of the participants were consuming home-based food rich in vitamin c and zinc. only 233 (58.3%) participants preferred to wear a surgical mask. Regarding use of supplements to boost immunity, 213 (53.3%) of the participants were not taking supplements, comparatively 186 (46.5%) consumed it.

Conclusion: Currently COVID-19 outbreak is on rise worldwide, but the general population is cognizant of knowledge, attitude, and practices of precautionary measures against it. Our findings can be useful for public health authorities, clinicians, and media to intercept the transmission of COVID-19.

Keywords: COVID-19, Knowledge, Attitude, Precautions, Protection.

INTRODUCTION

Early December 2019, marked the beginning of novel coronavirus which initially was reported as pneumonia case of unknown origin in Wuhan, the capital city of Hubei province in China.[1] The causative pathogen of novel coronavirus was identified as enveloped RNA betacoronavirus, which now is known as severe acute respiratory syndrome coronavirus-2 (SARS-CoV2), currently, a global pandemic affecting almost every country and has a devasting effect on individuals as well as healthcare systems around the world.[2,3]

While presently the specific origin of the novel coronavirus is being debated and studied, possible origin has been suggested to be from animals specifically bats which then affected the human population.[4] COVID-19 affects upper as well as lower respiratory tract and causes pneumonia although symptoms have been suggested to be milder than SARS and MERS. Coronavirus transmission is from human to human direct contact via respiratory droplets, making social distancing a much substantial step to limit its spread in the community.[5,6]

Infectivity of novel coronavirus is one of the utmost significances because through this, tremendous information can be generated to help in the development of effective drugs and vaccines. COVID-19 interaction with angiotensin-converting enzyme inhibitor 2 (ACE-2) has been proposed to be the primary factor of infectivity. This might be a concern of patients currently on ACE inhibitors and Angiotensin Receptor Blockers (ARBs) so guidance on its use is urgently required for such patients.[7]

The initial period of infection commences with an asymptomatic illness where the infected individual is unaware of ailment and this poses a difficult challenge because this particular individual unknowingly might propagate the disease.[8,9] Incubation period is around 2-

14 days in which the infected individual remains asymptomatic and between this time frame initial symptoms might start to appear, although this can vary.[10,11] Individual begins to have a fever, cough, sore throat, myalgia, and shortness of breath, and these symptoms become more severe as the days pass.[12,13] Currently, it has been suggested that severe infection affects the elderly population and individuals with underlying medical conditions and these patients also have a higher mortality rate.[14,15] New cases of individuals without any comorbidities are also experiencing severe infection and with mortality rates on the rise.[16]

Elderly and those individuals with underlying medical ailments are at higher risk of getting a severe form of the novel coronavirus. This particular group needs to have the proper knowledge and should practice standard protection protocols against COVID-19.

The primary objective of this study is to determine how well the adult population of different age groups are aware of the basic facts about coronavirus and knowledge regarding precautionary measures and comparing it with standard guidelines issued by the World Health Organisation (WHO) and the Center for Disease Control (CDC). The secondary aim is to assess whether these protecting measures are being implemented or not to protect against COVID-19.

METHODS

This cross-sectional survey-based study was conducted through among general population known to reside in district south of Karachi, Pakistan from April to May 2020. The ethical review committee of Altamash Institute of Dental Medicine approved this study. (AIDM/EC/03/2020/01). Moreover, informed consent was taken from the participants before they began filling out the questionnaire.

A structured questionnaire was devised using Google Forms which included demographic data, assessment of the knowledge, attitude and practices against COVID-19. The online questionnaire was circulated among the participants through emails and social media platforms such as Facebook, WhatsApp and Twitter.

The study comprised of individuals who are above 20 years old, with or without comorbid conditions residing in the district south, Karachi. People belonging to the age group below 20 years and unlettered individuals were excluded from this study.

Questions regarding knowledge included asking participants about signs and symptoms suffered by infected individuals, mode of transmission, age group most affected, ways for prevention, and if the participant is suffering from any underlying medical condition. Furthermore, to asses attitude of the participants, questions were asked about whether covid-19 infection is contagious or not, availability of vaccine and treatment options, and if the virus can affect the humans more than once. Finally, to determine the practices of the participants, questions were asked which includes hand washing practices, modalities followed for protection, whether mask should be wore when going outside, and ways to boost immunity. Of 440 filled questionnaires, 40 forms were excluded due to being irrelevance and partially filled. Thus, a total of 400 filled questionnaires were finally included in the analysis.

Using SPSS statistical software version 25 for data analysis, Bivariate analysis was used to compare variables presenting age, gender, and education of the population with the responses that consisted questions regarding knowledge, attitude and practices. Each of these variables was analyzed to look for any significant relationship with the responses of the population. Spearman's test in this case was used for analysis. Data for responses was given a mean with a p-value of ≤0.001 considered as statistically significant.

RESULTS

Of 400 participants, the majority of the participants 259 (64.8%) were from 20-30 years of age group with females predominantly higher, i.e. 217 (54.3%). The educational status of 193 (48.3%) of the participants had graduate or more educational status with other categories. (Table 1).

Knowledge related questions showed that the majority of the people 315 (78.5%) believed that COVID-19 being a viral infection and transmitted by the transmitted by shaking hands with an infected person, touching objects touched by the infected person, sneezing, and coughing by the infected person. (Figure 1). The majority of the people, 228 (57.1%) heard about COVID-19 through all of the means which include social media, television, newspaper and family and relatives. Most of the participants reported that quarantine period for asymptomatic positive COVID-19 patients is 2-14 days, i.e. 326 (81.7%) participants. The majority of the participants 328 (82.0%) believed that COVID-19 starts with flu-like symptoms (fever, sore throat, dry cough) whereas few of them 65 (16.3%) thought stomach upset was also part of it. Similarly, majority of the participants, 320 (80.0%) presumed that elderly population was most effected by COVID-19 pandemic.

Regarding awareness of COVID-19, the majority of participants 345 (86.3%) believed that COVID-19 is contagious but not directly leading to death. The majority 198 (49.5%) of the people assumed COVID-19 affected the person more than once whereas an approximately few of them 86 (21.5%) believed that it affected only once. Among the participants, 198 (49.5%) answered that vaccine is currently being worked upon and 154 (38.5%) said no vaccine is currently present. The majority of the 344 (86.0%) participants believed that the COVID-19 pandemic is a problem for our community. Among the respondents, 174 (43.5%) believed that treatment option is available for the infected individuals. In general, 273 (68.3) participants have not come across any individual having symptoms similar to COVID-19.

When participants were asked about precautions taken for prevention, the majority of 328 (82.0%) believed that all of the following to be essential: washing hands with sanitizer and handwash, avoiding crowded places, wearing masks when outside and coughing, and sneezing in elbows. The majority 286 (71.5%) of the participants were consuming home-based food rich invitamin c and zinc followed by few which were not concerned with the food they were consuming. The majority of the respondents 327 (81.8%) were avoiding going outside unnecessarily.

Concerning practices as precautionary measures against COVID-19, the majority of 257 (64.25%) washed their hands frequently alongside using following modalities such as wearing masks, immune boosters, personal hygiene and avoid going outside. Boosting immunity by diet was the most common practice followed by 264 (66.0%) in generality. When going outside, only 233 (58.3%) participants preferred to wear a surgical mask. Regarding use of supplements to boost immunity, 213 (53.3%) of the participants were not taking supplements, comparatively 186 (46.5%) consumed it. About 245 (61.3%) of the people sometimes touched their hands with their faces (eyes, nose, and mouth).

The correlation of knowledge, attitude, and practice regarding COVID-19 showed an insignificant relationship with age, gender, and educational status. (Table 2)

Table 1: Descriptive characteristics of the patients (n=400)

	Variables	n	%
Age	20-30 years	259	64.8
	30-40 years	66	16.5
	40-50 years	33	8.3
	Above 50 years	41	10.3
Gender	Male	183	45.8
	Female	217	54.3
Area	Defence	167	41.8
	Clifton	99	24.8
	Saddar	74	18.5
	Punjab Chowrangi	60	15.0
Education	Below Undergraduate	18	4.5
	Undergraduate	188	47.0
	Graduate	118	29.5
	Post-graduate	75	18.8

Table 2: Correlation of knowledge, attitude, practice with predictor variables (n=400)

Parameters	Correlations	Knowledge	Attitude	Practice
Age	Correlation	-0.006	0.112	0.005
	Sig. (2-tailed)	0.907	0.025	0.916
Gender	Correlation	-0.051	-0.020	-0.026
	Sig. (2-tailed)	0.313	0.695	0.601
Education	Correlation	0.039	0.086	0.044
	Sig. (2-tailed)	0.440	0.850	0.382

Spearman correlation was applied, p -value <0.001 was considered significant

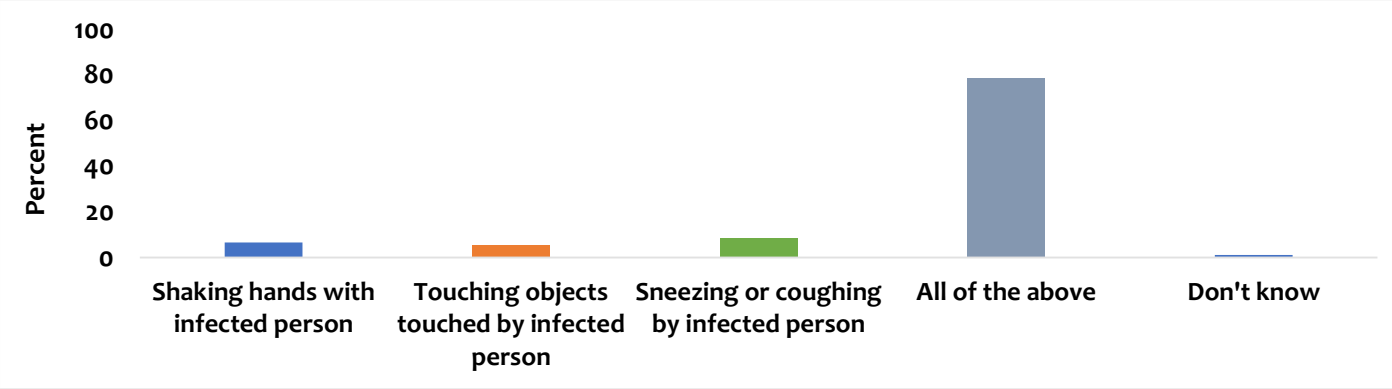

Figure 1: Knowledge regarding mode of transmission of COVID-19

DISCUSSION

Currently, coronavirus is a global threat affecting almost all of the countries. Individuals on their own are gaining knowledge regarding COVID-19 through various platforms available such as social media, television, print media, and newspapers. Also, they are performing measures that they consider is the utmost importance.

In general, all of the population regardless of their age, gender, and educational background, are well aware of the basic knowledge and precautionary measures to prevent transmission as well as protection against novel coronavirus.

Both males and females have relatively equal knowledge about precautionary measures against COVID-19. According to literature, the mortality rate is believed to be higher in male gender as compared to female although both are equally likely to contract the virus.[17]

Participants have sufficient knowledge about novel coronavirus and believed its death rate to be 2% but this could be higher according to current information available.[18]

Protection modalities against novel coronavirus recommended by world-renowned healthcare organizations such as World Health Organisation (WHO) and Centre of Disease Control and Protection (CDC) are being followed by the majority of the population.[19,20]. An assumption made by the population is that the age group at highest risk of contracting as well as facing mortality from novel coronavirus is elderly.[15]

Concerning symptoms of the infected individuals, flu-like symptoms i.e. fever, dry cough, and sore throat were believed to be the first to occur followed by shortness of breath, anosmia (loss of smell sensation), and stomach upset.[21] Although 2-14 days asymptomatic period was believed to be correct by the population, literature states this can vary significantly.[22]

WHO recommended individuals to avoid crowded places, wash hands, and keep distance between individuals, with the recent introduction of wearing medical masks in public due to evidence of the airborne transmission of the virus.[23] Boosting immunity has been a concern among individuals with lower immunity for contracting the virus.[24] Literature recommended foods especially those which are rich in vitamin c and zinc for people to consume although medical and herbal supplements are also being taken as concluded from our study.[25]

Literature states that individuals infected once with COVID-19 might contract the virus again in the future.[26]

In our findings, those with positive medical history mainly suffered from Hypertension and Diabetes with these particular individuals more prone to acquire severe viral infection.[27] With the recent outbreak and stress among the general population caused by the virus, making of vaccine is among the most talked topic these days with the majority of the participants believing that vaccine is currently being worked upon.[28]

According to WHO, N95 has been categorized as the most appropriate mask against COVID-19 forming a proper seal around the face which can be compromised in case of individuals having facial hair.[29] The general population are wearing medical masks for protection against COVID-19 when going outside although WHO has suggested its use only when taking care of infected individuals or if suffering from coronavirus symptoms.[30]

Handwashing has been a very critical factor for transmission of COVID-19 with United Nations International Children's Emergency Fund (UNICEF) suggesting proper technique, duration and frequency of handwashing.[31]

Individuals with a positive medical history, particularly of hypertension, diabetes, chronic respiratory problems and compromised immune system, were more prone to get severe COVID-19 infection requiring them to take additional precautionary measures as compared to normal healthy individuals.[32]

Although current belief is that high-risk group, which are elderlies are more likely to contract the virus, but recent research has proven as stated above that this disease does not limit itself to elderlies but can affect any age group and cause fatalities along with complications.[33]

Healthcare workers are among the first ones to come in contact with COVID-19 patients, therefore, they must follow the recommended guidelines issued by WHO and CDC.[30,34]

Previous studies do report that healthcare professional are aware of coronavirus pandemic and following the necessary precautionary measures, although some dental

professionals lack sufficient knowledge.[35,36]

We evaluated knowledge, attitude and practices regarding precautionary measures in adults in midst of COVID-19 outbreak and found some limitations. Firstly, this study was conducted with a limited sample size. Lastly, inclusion of children and adolescents can increase the scope of assessing knowledge, attitude and practices as following these precautionary measures is difficult in this age group. This study was carried out using a questionnaire in which detailed questions were asked about COVID-19. Avoiding these limitations can aid in further studies being carried on.

CONCLUSION

Tough times are being faced by the general population. Current evidence suggests that novel coronavirus outbreak is increasing day by day, but the general population regardless of age, gender and education are sufficiently well aware of knowledge and necessary precautionary measures required to mitigate transmission of COVID-19. Social media platforms are playing a crucial role in delivering the necessary information to the general population for preventing transmission of COVID-19.

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