Short Communication

Practices and Perception of COVID-19 Among Pakistani Population

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Abstract

Introduction: COVID-19 was declared as "Pandemic" by World Health Organization (WHO) on March 11th, 20120. Since this time, various awareness campaigns by health authorities and healthcare professionals have been conducted for knowledge and ultimately prevention of transmission of the disease. Proper attitude and knowledge toward the disease is the key point for prevention of COVID-19 as there is currently no treatment of vaccine available.

Objective: Main objective of the study is to assess attitude, knowledge and perspective of COVID-19 in Pakistani Population.

Methodology: An online – based and paper – based questionnaire was filled from both healthcare – related and non – healthcare – related individuals. Frequencies were analyzed using SPSS 21.0

Results: A total of 3256 individuals participated in the study, including both healthcare – related (2244/68.91%) and non – healthcare – related (1012/31.08%). Majority of the population had good knowledge in maximum questions. 89.60% believed COVID-19 as a contagious disease. 94.25% agreed that the cause of disease is primarily a virus, though small percentage didn't agree on this point. Regarding treatment, 68.08% individuals agreed that there is currently no treatment of COVID-19, followed by some believed antibiotics (4.39%), antiviral (14.52%) and passive immunization (2.64%) as treatment of the disease. Majority of population had good knowledge regarding clinical features of COVID-19.

Conclusion: The knowledge, attitude and perspective of population were good as most of the people were agreed on standard facts. The reason behind this knowledge is awareness campaigns by health authorities and healthcare personnel, especially through media. Still there is lack of knowledge in some points due to misconceptions and false beliefs of population towards COVID-19. More campaigns with scientific data is required for prevention of the disease.

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Introduction

COVID-19 has become a pandemic infection, announced by World Health Organization (WHO). It is a rising disease of respiratory tract which was detected first in December 2019 in Wuhan, China. The transmissibility and infectivity of this disease is high, with chief complaints include dry cough, fever, myalgia, fatigue and shortness of breath. Now it has been spread to more than 150 countries of the world.[1,2] This virus primarily trans-mits through respiratory droplets produced by coughing or sneezing by infected person or it can be transmitted by touching contaminated objects or surfaces followed by touching nose, mouth or eyes.[3–5] In severe form, this virus is responsible for lethal pneumonia identical to that caused by Middle East Respiratory Syndrome coronavirus (MERS-CoV) and Severe Acute Respiratory Syndrome coronavirus (SARS-CoV), which were emerged in past 2 decades all over the world sporadically.[6,7]

Protection of healthcare providers as well as non-healthcare workers and population requires adequate knowledge regarding transmission, source, symptoms and preventive options.[8,9] Lack of awareness and knowledge as well as misunderstanding and misconceptions among healthcare providers and population is responsible for late diagnosis, transmission of infection and inadequate infection control measures.[10,11]

World Health Organization (WHO) published several guidelines and recommendations as well as initiation of online training and course sessions for awareness and attentiveness regarding prevention of COVID-19. Educational campaigns increased COVID-19 awareness but it is unclear to what level this campaign of knowledge can be implemented practically and helped in reduction of COVID-19 infection.[9,12–14]

Therefore, we conduced study on Pakistani Population for identification of their status of knowledge, attitude and perception towards COVID-19.

Methods

This study was conducted through online survey form as well as paper and oral survey forms. Participants were described regarding the questionnaire. Those who were unable to participate online, paper-based questionnaire were given for participation. Questionnaire consisted of two parts, including demographic information and knowledge and perception sections. For every question, participants were given score of 1. Relationship of knowledge between various groups was analyzed by t-test. P – value of <0.05 was considered as statistically significant. The number and frequencies of adequate/inadequate knowledge responses and various perceptions were analyzed using SPSS 21.0

Results

A total of 3256 people participated through online and paper-based questionnaire. Ratio of male was higher than females, with 2189 (67.22%) and 1067 (32.77%) respectively (Table 1). People from all groups participated, with highest participation ratio among 18 – 25 years (1275/39.18%). Participation of healthcare – related individuals was higher (2244/68.91%) as compared to non – healthcare – individuals (1012/31.08 %). Level of education found in highest number was Bachelors (1837/56.41%) (Table 2). In knowledge and perception section, it was observed that 3179 (97.63%) people heard about COVID-19; while 77 (2.36%) individuals had no idea about COVID-19. Majority of people (3179/97.63%) agreed the fact that COVID-19 is a contagious disease; while 111 (3.40%) did not agree the statement and 209 (6.41%) people had no idea about it. Regarding cause of the disease, 3069 (94.25%) believed it is caused by a virus; although minor number of people though other reasons for COVID-19, including bacteria (119/3.65 %), fungi (31/0.95%) and parasite (13/0.39%). Majority of the population (3039/93.33%) agreed on statement that incubation period of COVID-19 is 3–14 days. 2217 (68.08%) believed that there is no treatment of COVID-19 yet; while some believed antibiotics (143/4.39%), antiviral (473/14.52%), and passive immunization (86/2.64%) as the treatment of COVID-19. 2937 (90.20%) agreed the statement that COVID-19 is more dangerous in older age. Regarding symptoms of COVID-19, it was observed that people believed fever (3189/97.94%), cough (3234/99.32%), sore throat (2959/90.87%), diarrhea (1562/47.97%), constipation (528/16.21%), headache (2387/73.31%) are the symptoms of COVID-19. Perception regarding prevention and transmission was various among people and are summarized in Table 3. Relationship of knowledge between various groups (e.g. age, gender,

profession and level of education) was measured. Gender and age show no statistically significant difference while profession (e.g. healthcare and non-healthcare) and level of education showed significant difference (Table 4).

Table 1: *Gender Distribution (n=3256)*

	Number	Percentage
Male	2189	67.22%
Female	1067	32.77%
Total	3256	100%

Table 2: *Demographic Characteristics in Population (n=3256)*

Characteristic	Category	Number	Percentage
Age	*<18 years*	33	1.01%
	18 – 25 years	1276	39.18%
	26 – 30 years	869	26.68%
	31 – 35 years	462	14.18%
	36 – 40 years	341	10.47%
	>40 years	275	8.44%
Profession	*Healthcare – Related*	2244	68.91%
	Non-Healthcare-Related	1012	31.08%
Marital status	*Married*	1452	44.59%
	Single	1804	55.40%
Number of household	*<5*	946	29.05%
	5	561	17.22%
	>5	1749	53.71%
Level of education	*Matriculation*	22	0.67%
	Intermediate	374	11.48%
	Bachelors	1837	56.41%
	Masters	781	23.98%
	Scholar	110	3.37%
	Doctorate (PhD/FCPS / MD /Equivalent)	66	2.02%
	Illiterate	66	2.02%
Living place	*House/ Villa*	2585	79.39%
	Hostel	88	2.70%
	Apartment	572	17.56%

Table 3: *Questionnaire about Attitude, Knowledge and Perspective of Population Towards COVID-19 (n=3256)*

Question	Category	Number	Percentage
Did you hear about COVID-19?	*Yes*	3179	97.63%
	No	77	2.36%
Is COVID-19 a contagious disease?	*Yes*	2926	89.86%
	No	111	3.40%
	I don't know	209	6.41%
What is the cause of COVID-19?	*Virus*	3069	94.25%
	Bacteria	119	3.65%
	Fungi	31	0.95%
	Parasite	13	0.39%
	I don't know	24	0.73%
What is the incubation period of COVID-19?	*2 – 5 days*	84	2.57%
	3 – 14 days	3039	93.33%
	>14 days	46	1.41%
	I don't know	87	2.67%
What is the treatment of this disease?	*Antibiotics*	143	4.39%
	Antiviral	473	14.52%
	Passive immunization	86	2.64%
	No treatment	2217	68.08%
	I don't know	337	10.35%
In which age group is this disease more dangerous?	*< 15 years*	21	0.64%
	15 – 30 years	23	0.70%
	31 – 50 years	176	5.40%
	>50 years	2937	90.20%
	All ages	35	1.07%
	I don't know	64	1.96%
Fever is the symptom of COVID-19	*True*	3189	97.94%
	False	67	2.05%
	I don't know	0	0
Cough is the symptom of COVID-19	*True*	3234	99.32%
	False	22	0.67%
	I don't know	0	0
Sore throat is the symptom of COVID-19	*True*	2959	90.87%
	False	286	8.78%
	I don't know	11	0.33%
Diarrhea is the symptom of COVID-19	*True*	1562	47.97%
	False	1573	48.31%
	I don't know	121	3.71%
Constipation is the symptom of COVID-19	*True*	528	16.21%
	False	2651	81.41%
	I don't know	77	2.36%
Headache is the symptom of COVID-19	*True*	2387	73.31%
	False	797	24.47%
	I don't know	72	2.21%
Disease can be transmitted directly through cough	*True*	3157	96.95%
	False	85	2.61%
	I don't know	14	0.42%
Disease can be transmitted directly through contact with infected surfaces	*True*	3190	97.97%
	False	53	1.62%
	I don't know	13	0.39%
Disease can be transmitted directly through consumption of contaminated dairy products and meat	*True*	1991	61.14%
	False	1209	37.13%
	I don't know	56	1.71%
Disease can be transmitted directly through contact with infected individual (handshake, hugging etc)	*True*	3256	100%
	False	0	0
	I don't know	0	0
Disease can be transmitted through household pets to humans	*True*	1408	43.24%
	False	1628	50%
	I don't know	220	6.75%

Disease is more dangerous in pregnant women	*True*	2209	67.84%
	False	935	28.71%
	I don't know	112	3.43%
Disease is more dangerous in old individuals	*True*	3212	98.64%
	False	44	1.35%
	I don't know	0	0
Disease is more dangerous in individuals with weak immune system	*True*	3212	98.64%
	False	3	0.09%
	I don't know	1	0.03%
Disease is more dangerous in individuals with co-morbid conditions	*True*	3080	94.59%
	False	176	5.40%
	I don't know	0	0
The prevalence of COVID-19 is increasing in Pakistan	*True*	3147	96.65%
	False	93	2.85%
	I don't know	16	0.49%
In suspecting infection with COVID-19, I will measure fever	*True*	3102	95.27%
	False	142	4.36%
	I don't know	12	0.36%
In suspecting infection with COVID-19, I will visit physician	*True*	2651	81.41%
	False	583	17.90%
	I don't know	22	0.67%
In suspecting infection with COVID-19, I will avoid unnecessary routine activities	*True*	3201	98.31%
	False	55	1.68%
	I don't know	0	0
To avoidcontracting COVID-19, I will avoid contact with individuals suspected to be infected with COVID-19	*True*	3201	98.31%
	False	55	1.68%
	I don't know	0	0
Washing hands with water and soap can eliminate the COVID-19	*True*	3036	93.24%
	False	89	2.73%
	I don't know	10	0.30%
Early detection of COVID-19 can improve treatment and outcome	*True*	2926	89.86%
	False	308	9.45%
	I don't know	22	0.67%
COVID-19 can be treated at home	*True*	2189	67.22%
	False	902	27.70%
	I don't know	165	5.06%
Health education can prevent COVID-19	*True*	3157	96.95%
	False	73	2.24%
	I don't know	26	0.79%
COVID-19 is a curable disease	*True*	2530	77.70%
	False	639	19.62%
	I don't know	87	2.67%
Awareness regarding COVID-19 disease in society is sufficient	*True*	1650	50.67%
	False	1474	45.27%
	I don't know	132	4.05%
COVID-19 results in death in all cases	*True*	418	12.83%
	False	2773	85.16%
	I don't know	65	1.99%
Authorities should restrict travel to and from COVID-19 disease areas to prevent contamination	*Yes*	3168	97.29%
	No	70	2.14%
	I don't know	18	0.55%
Authorities should quarantine COVID-19 patients in special hospitals	*Yes*	3091	94.93%
	No	154	4.72%
	I don't know	22	0.67%
In case of increase in number of COVID-19 cases, authorities should be ready to close educational services (schools, colleges, universities)	*Yes*	3202	98.34%
	No	54	1.65%
	I don't know	0	0
In case of increase in number of COVID-19 cases, authorities should be ready to restrict access to religious sites, shrines and mosques	***Yes***	**3113**	**95.60%**
	No	143	4.39%
	I don't know	0	0
In case of increase in number of COVID-19 cases, authorities should be ready to lockdown and quarantine the city	*Yes*	3213	98.67%
	No	43	1.32%
	I don't know	0	0
In order to prevent contracting and spread of COVID-19, Iwill avoid going out of my home	*Yes*	3189	97.94%
	No	67	2.05%
In order to prevent contracting and spread of COVID-19, I will avoid unnecessary vacations	*Yes*	2673	82.09%
	No	583	17.9%
In order to prevent contracting and spread of COVID-19, I will avoid consuming outdoor food	*Yes*	3113	95.60%
	No	143	4.39%

In order to prevent contracting and spread of COVID-19, I will avoid handshaking	*Yes*	3223	98.98%
	No	33	1.01%
In order to prevent contracting and spread of COVID-19, I will avoid publi transportation	*Yes*	3223	98.98%
	No	33	1.01%
In order to prevent contracting and spread of COVID-19, I will avoid going to work	*Yes*	2728	83.78%
	No	528	16.21%
In order to prevent contracting and spread of COVID-19, I will frequently wash my hands	*Yes*	3223	98.98%
	No	33	1.01%
In order to prevent contracting and spread of COVID-19, I will pay more attention to my personal hygiene than usual	*Yes*	3202	98.37%
	No	54	1.65%
In order to prevent contracting and spread of COVID-19, I will use disinfectants and solutions	*Yes*	3135	96.28%
	No	121	3.71%
In order to prevent contracting and spread of COVID-19, I will use herbal products and traditional medicine	*Yes*	1375	42.22%
	No	1804	55.40%
In order to prevent contracting and spread of COVID-19, I will take vitamin supplements	*Yes*	2286	70.20%
	No	948	29.11%
In order to prevent contracting and spread of COVID-19, I will use facial mask	*Always*	1078	33.10%
	Most of the time	1485	45.60%
	Sometimes	220	6.75%
	Rarely	374	11.48%
	Never	99	3.04%

Table 4: *Knowledge Score Between Various Groups (n=3256)*

Characteristic	Knowledge Score	P-value
Gender		
Male	33.09 ± 1.12	0.14
Female	32.06 ± 1.18	
Age		
<18	28.97 ± 1.41	
18-30	31.05 ± 1.29	0.06
31-40	32.19 ± 1.31	
>40	33.22 ± 1.28	
Profession		
Healthcare – related	32.49 ± 1.87	0.01
Non – Healthcare – related	28.98 ± 1.98	
Level of education		
Matriculation	28.81 ± 1.81	
Graduate	32.19 ± 1.88	0.04
Scholar/Doctorate	34.23 ± 1.39	
Illiterate	26.02 ± 1.72	

Discussion

The attitude, knowledge and perception of specific illness caused by infectious agents can be affected by different factors e.g. depth of illness, severity of transmission and rate of fatality. Attitude, knowledge and perception of COVID-19 is continuously growing day by day, since it was announced as Pandemic by WHO.[15,16] Complete outcome and clinical features of COVID-19 is still not completely understood; although cough, fever and dyspnea are among most commonly associated symptoms.[17,18] No antiviral drug or vaccine is yet produced against COVID-19.[17,19] In this study, majority of population were observed to have good knowledge about its contagious nature, etiology, incubation period and common symptoms of COVID-19. The main reason behind this good attitude may be due to certain factors such as disease severity circulated by media and health professionals, especially after its declaration as "Pandemic" by WHO. Social awareness via various campaigns also played important role to increase the knowledge regarding COVID-19. This statement is supported by the fact that though there was only one case of COVID-19 in Jordan, clinical findings and knowledge regarding the disease was very good among people through a survey. In study, it was found that most of the people agreed that cough, fever and dyspnea were common findings in COVID-19. They also knew the status of unavailability of treatment and vaccines.[18,20,21]

This study also emphasized on various perspectives towards preventive measures against spread of the

disease. Majority of population agreed that certain infection control measures can prevent the disease transmission including proper hand hygiene, usage of disinfectants and sanitizers, avoid handshaking etc. These measures are also responsible for prevention of other infections apart from COVID-19. There was little variation in the fact regarding usage of masks for disease prevention. Majority believed the usage of mask should be most of the time in their routine life. While population to some extend believed that mask should be used all the time for prevention. Although World Health Organization (WHO) is not recommending the usage of masks in public without respiratory symptoms.[22] This attitude may be clarified by the fact that large amount of information has been spread in various communities to reduce the panic of disease transmission in population. It was very interesting to observe that 42.22% of population believed that usage of herbal products and traditional medicines can actually reduce the medicine; although there is no proved data for clarification of this point.

Various campaigns have been conducted by health authorities and media but our study observed that 45.27% of people believed that awareness is still not sufficient for them to decrease the rate of transmission. It was also seen that 42.24% individuals believed that COVID-19 can be transmitted to humans via pets and surprisingly 50% didn't agree on this statement. Though there is no specified treatment against COVID-19, it was seen that 14.52% people believed that antiviral can treat the disease, followed by 4.39% who believed that it can be treated by antibiotics. To small extent (2.64%) marked the passive immunization as the specific treatment.

As per various findings in the study, it will not be incorrect to come up with good efforts in knowledge delivery, attitude measurement and various perspectives among the population. Particular facts can be described again such as use of antibiotics against COVID19. Use of antibiotics has no proven scientific data so its use will not be beneficial; although it may increase antimicrobial resistance which is already a major health problem globally.[23–25] It is believed from the findings of the study that health authorities and medical personnel still have to work for awareness against prevention of COVID-19 by clarifying the misconceptions in the community. By providing corrected awareness about the disease in large populated areas and various communities may increase remaining specified points regarding the disease and will improve the measures against its prevention.

Conclusion

The study showed that good knowledge, attitude and perception against disease were high in majority of population towards COVID-19. This significant and positive attitude towards COVID-19 is due to awareness campaigns by health authorities and healthcare providers. Though, some points still lack the proper awareness due to misconceptions regarding the disease and should be addressed properly. Study on large population, especially from rural areas is required as this area is lacking proper approach and awareness regarding disease.

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