

# Assessment of Knowledge, Attitude and Practices of the General Public in Combating COVID-19

Knowledge,  
Attitude and  
Practices of  
Public in  
COVID-19

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## ABSTRACT

**Objective:** To know knowledge, attitude and practices of the general public in combating Covid-19.

**Study Design:** Prospective study.

**Place and Duration of Study:** This study was conducted at the at two tertiary care hospitals of Khyber Pakhtunkhwa i.e. Lady Reading hospital Peshawar, and Mardan Medical Complex Mardan from 1<sup>st</sup> January 2021 to 30 June 2021.

**Materials and Methods:** A pre-validated online questionnaire was distributed among the general population. Adequate knowledge was assigned as a score of > 4 (range: 0–8) and good perception as a score of > 3 (range: 0–5). Chi-square test was used to determine the significance of difference in knowledge and perception of COVID-19 with socio-demographic characteristics. Logistic regression analysis was run to identify factors associated with adequate knowledge and perception.  $P < 0.05$  was considered as significant.

**Results:** A large no of participants had appropriate knowledge of Covid 19 disease (98.9%). Regarding attitudes of people COVID-19 is a treatable disease, agreed 28.5% disagreed. 9.1%. Neutral 25.8%, strongly agreed 31.5% and strongly disagreed 3.4%. COVID-19 can be avoided by washing hands and wearing facemasks Agreed 26.8%, disagreed 1.7%. Neutral 4.9%, strongly agreed 64.5% and strongly disagreed 0.4. Regarding practices, I avoid unnecessary going out of my home Missing 2.3%, always 64.3%. never 1.1%. Often 22.0%rarely .23% and sometimes 8.0%.

**Conclusion:** Albeit the surge of COVID-19 cases in Pakistan, the participants demonstrated an overall adequate knowledge and good perception towards COVID-19.

**Key Words:** Covid-19, Knowledge, Attitude, Practice.

**Citation of article:** Ziauddin, Zeb S, Qaisaer A, Ayub JU, Liaquat H, Salman S. Assessment of Knowledge, Attitude and Practices of the General Public in Combating COVID-19. Med Forum 2021;32(11):

## INTRODUCTION

Since the emergence of COVID-19, a number of casualties have occurred throughout the world. COVID-19 pandemic documented in China, world has changed immensely. With its advent the health professionals and systems got failed. The exact treatment of COVID is not known and we are still experimenting. COVID-19 affects different people in different ways. Most patients have mild to moderate disease and recover without hospitalization.

Most common symptoms are fever, dry cough and tiredness. Less common symptoms are body aches, sore throat, diarrhoea, headache, loss of taste.<sup>1</sup>

The dreadful thing about Covid-19 is that when severe, it leads to serious complications like pneumonia, ARDS, Acute liver and kidney injury, sepsis, DIC, DVT, chronic fatigue and death<sup>2</sup>. We have colleagues who are testing COVID positive and getting ill. We are losing doctors all over the country. Each one of us while working is potentially exposed to a deadly pathogen with no cure. Pakistan reported its first case of Covid-19 on February 26,2020 when a young man from Karachi tested positive after returning from Iran – one of the worst-hit countries by the virus. This Covid-19 – affected 85,264 people in the country, claimed 1,770 lives, while 30,128 individuals recovered from the respiratory illness. A total of 615,511 tests had been conducted in these 100 days across the country. Until now, 31,104 cases of the Covid-19 pandemic have been reported in Punjab, 32,910 in Sindh, 11,373 in Khyber-Pakhtunkhwa, 5,224 in Baluchistan, 824 in Gilgit-Baltistan, 3,544 in Islamabad and 285 in Azad Jammu and Kashmir.<sup>3</sup>

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Received: June, 2021

Accepted: August, 2021

Printed: November, 2021

The route of infection is determined by the site of infection. It is usually by respiratory droplets and secretions and indirectly through contaminated inanimate surfaces. Oro faecal and direct contact transmission has also been reported<sup>4</sup>.

The approximated incubation period for SARS CoV2 is 1- 14 days based upon epidemiological data<sup>5</sup>. The virus is less lethal but more contagious than SARS –CoV and MERS–COV. The main worrisome thing is the continuous careless attitude of the public and not observing precautions. Vaccine can reduce the severity of disease. Unfortunately, many people are reluctant to get vaccinated. The result is that there is no bed empty in almost all the hospitals of the country and having seen our neighbouring country India, where patients are dying on the streets is very horrifying. It's time to wake up , wear masks, maintain social distance, stay at home and restrict going to markets and get Vaccinated. The best defence against this disease is by taking all these precautions. We are putting our and our loved one's lives in danger if we are ignoring these precautions.<sup>6</sup>

A variant called B.1.351, which first appeared in South Africa, may have the ability to re-infect people who have recovered from previous attack of coronavirus. It might also be somewhat resistant to some of the coronavirus vaccines in development. Still, other vaccines currently being tested appear to offer protection from severe disease in people infected with B.1.351.

The main rationale of the study was that people of Khyber Puktunkwa (KP) were in continuous denial about the disease and we want to assess their knowledge, practices and attitudes towards it keeping in mind the magnitude of the problem.

## MATERIALS AND METHODS

This prospective Study was done at Lady Reading Hospital Peshawar and Mardan Medical Complex from 1<sup>st</sup> January 2021 to 30 June 2021. The sample size was 473 and technique being non probability convenient sampling. Patients of COVID 19 diagnosed by positive PCR were included. We excluded Patients with chest infections other than COVID-19. Our research was approved by the hospital ethical board. The rationale of the study was explained to the participants who met the inclusion criteria. Obtaining an informed consent, a validated questionnaire was used for recording the responses of participants.

The questionnaire consisted of 4 parts. The first part contained questions related to the demographic

information of the participants such as gender, age, education and occupation. To investigate the knowledge of participants 28 questions were asked in 2<sup>nd</sup> part with 3 options: “yes, No and don't know”. Total score was 88. 70% knowledge was considered as good.

Attitude section comprised of 14 questions, assessing attitude of people towards treatment, infection control and information regarding COVID -19. Response of each question was recorded on 5 point Likert scale as follows: strongly agree, agree, undecided, disagree and strongly disagree. Total score ranges from 1 to 75. Total score ranges from 5 to 75. Score above 75% will be considered as good.

Practice section has 17 questions assessing the practices of people towards COVID-19. Each response was recorder on a 5 point Likert scale as follow: always, often, sometimes, rarely and never. Total score ranges from 1-85. Response above 75% was considered as good.

The required information and demographic variables like age, gender was provided in proforma.

After data collection, analysis was done using SPSS version 25. Mean and Standard deviation was applicable to quantitative data. Frequency was applied for categorical data. Chi square was applied taking p value less than 0.05 as significant.

## RESULTS

A large no of participants had appropriate knowledge of Covid 19 disease. Have you heard about the new disease COVID-19, with 98.9% saying yes., Fever is a symptom of COVID-19 with 96.19%., This disease was found more dangerous in old individuals 94.71%. Different age groups according to disease vulnerability are ,0-10 Years= 10(2.1%), 11-20 years= 2(0.4%), 21-30 years=1(0.2%), 31-40 years=11(2.3%), >40 years=445(94.1%), Missing response=4(0.8%).

Regarding attitudes of people, COVID-19 is a treatable disease, agreed 28.5% disagreed. 9.1%. Neutral 25.8%, strongly agreed 31.5% and strongly disagreed 3.4%. COVID-19 can be avoided by washing hands and wearing facemasks Agreed 26.8%, disagreed 1.7%. Neutral 4.9%, strongly agreed 64.5% and strongly disagreed 0.4 %.

Regarding practices, I avoid unnecessary going out of my home Missing ,2.3%, always 64.3%. never 1.1%. Often 22.0% rarely .23% and sometimes 8.0%.

**Table No.1: Practices**

In order to prevent contracting and spreading COVID-19					Missing		Always		Never		Often	
Sn	Questions				n	%	n	%	N	%	n	
1	I avoid unnecessary going out of my home				11	2.3	304	64.3	5	1.1	104	2
2	I avoid consuming outdoor food				16	3.4	261	55.2	8	1.7	122	2
3	I avoid hugging, handshaking and kissing				12	2.5	217	45.9	12	2.5	129	2

4	I avoid public transportation				17	3.6	228	48.2	10	2.1	116	2
5	I practice social distancing at work				13	2.7	275	58.1	8	1.7	57	1
6	I frequently wash my hands				11	2.3	334	70.6	1	0.2	95	2
7	I pay more attention on my hygiene than usual				12	2.5	286	60.5	6	1.3	94	1
8	I use disinfectant and solution to clean items in frequent contact				15	3.2	155	32.8	166	35.1	80	1
9	I use facemask				16	3.4	356	75.3	9	1.9	63	1
10	I Avoid touching my eyes, nose, and mouth with unwashed hands				16	3.4	281	59.4	13	2.7	94	1
11	I Cover my mouth and nose when i cough or sneeze				13	2.7	373	78.9	11	2.3	46	9
12	I Avoid going to the doctor with issues that could be postponed				16	3.4	277	58.6	23	4.9	91	1
13	Bought drugs that I heard that are good for treating COVID-19				14	3.0	101	21.4	222	46.9	48	1
14	Asked family members or friends not to visit me				18	3.8	132	27.9	91	19.2	79	1

<b>Age (Years)</b>	32.93±13.41 (13-80)	
	<b>Frequency</b>	<b>Percent</b>
<b>Gender</b>		
Male/Female	219/254	46.3/53.7
<b>Education</b>		
Illiterate	4	0.85
Primary	74	15.64
Secondary	66	13.95
Middle	31	6.55
Higher Secondary	48	10.15
Bachelors	170	35.94
Masters	42	8.88
Other	38	8.03

Table No.2: Attitude

S.No.	Questions	Missing		Agree		Disagree		Neutral		Strongly Agree		Strongly Disagree	
		n	%	n	%	n	%	n	%	n	%	N	%
1	It is my opinion that early detection of COVID-19 can improve treatment	7	1.5	129	27.3	32	6.8	46	9.7	217	45.9	42	8.9
2	COVID-19 is a very much preventable disease	9	1.9	141	29.8	26	5.5	59	12.5	227	48.0	11	2.3
3	COVID-19 can be avoided by washing hands and wearing facemasks	8	1.7	127	26.8	8	1.7	23	4.9	305	64.5	2	0.4
4	COVID-19 is a treatable disease	8	1.7	135	28.5	43	9.1	122	25.8	149	31.5	16	3.4
5	COVID-19 results in death in all cases	8	1.7	80	16.9	137	29.0	75	15.9	48	10.1	125	26.4
6	COVID-19 can be transmitted from pets	8	1.7	72	15.2	111	23.5	159	33.6	44	9.3	79	16.7
7	Authorities should quarantine COVID-19 should be separately detention	11	2.3	151	31.9	13	2.7	60	12.7	234	49.5	4	0.8
8	Awareness regarding COVID-19 in society is sufficient	8	1.7	112	23.7	103	21.8	64	13.5	165	34.9	21	4.4
9	Travel restrictions is helping prevent disease	8	1.7	146	30.9	11	2.3	50	10.6	254	53.7	4	0.8
10	Closure of educational institutes is a good step	8	1.7	116	24.5	29	6.1	45	9.5	267	56.4	8	1.7
11	Closure of mosques is a good step	8	1.7	104	22.0	53	11.2	73	15.4	202	42.7	33	7.0
12	Drastic increase in disease, burden authorities should	9	1.9	124	26.2	35	7.4	55	11.6	242	51.2	8	1.7

	be ready to lock down city and quarantine												
13	More tests for coronavirus infection should be carried out in the population	8	1.7	103	21.8	29	6.1	69	14.6	226	47.8	38	8.0
14	Anyone moving in public areas should be required to wear a face mask	10	2.1	68	14.4	12	2.5	20	4.2	327	69.1	36	7.6

Table No.3: Attitude

S.No.	Questions	Missing		Agree		Disagree		Neutral
		n	%	n	%	n	%	n
1	It is my opinion that early detection of COVID-19 can improve treatment	7	1.5	129	27.3	32	6.8	46
2	COVID-19 is a very much preventable disease	9	1.9	141	29.8	26	5.5	59
3	COVID-19 can be avoided by washing hands and wearing facemasks	8	1.7	127	26.8	8	1.7	23
4	COVID-19 is a treatable disease	8	1.7	135	28.5	43	9.1	122
5	COVID-19 results in death in all cases	8	1.7	80	16.9	137	29.0	75
6	COVID-19 can be transmitted from pets	8	1.7	72	15.2	111	23.5	159
7	Authorities should quarantine COVID-19 should be separately detention	11	2.3	151	31.9	13	2.7	60
8	Awareness regarding COVID-19 in society is sufficient	8	1.7	112	23.7	103	21.8	64
9	Travel restrictions is helping prevent disease	8	1.7	146	30.9	11	2.3	50
10	Closure of educational institutes is a good step	8	1.7	116	24.5	29	6.1	45
11	Closure of mosques is a good step	8	1.7	104	22.0	53	11.2	73
12	Drastic increase in disease, burden authorities should be ready to lock down city and quarantine	9	1.9	124	26.2	35	7.4	55
13	More tests for coronavirus infection should be carried out in the population	8	1.7	103	21.8	29	6.1	69
14	Anyone moving in public areas should be required to wear a face mask	10	2.1	68	14.4	12	2.5	20

## DISCUSSION

Epidemics are usually very dangerous, and there are multiple difficulties for the affected population. Lack of knowledge and denial make it enormously difficult to curb the disease. Pakistan with fragile health system and substandard emergency preparedness mechanisms struggles to combat the corona virus. The number of recorded cases has grown exponentially, especially after the lockdown imposed in March 2020 was eased in May 2020 due to poor economic conditions; with a daily rise of approximately 1000 cases per million population. Punjab and southern Sindh provinces which make up 75% of the total cases in Pakistan, have slightly over only 14,000 beds for COVID-19 patients at state-run and private hospitals, causing most of the patients with milder symptoms to be managed at home instead. Moreover, the total number of functional ventilators are low unable to combat the large no of cases. As a result, in an attempt to reform the health sector, Pakistan has inaugurated its first ever local production of ventilators, with an average manufacturing capacity of 250–300 units per month.<sup>7</sup> Fever is a symptom of COVID-19 with 96.19%. This disease is more dangerous in old individuals 94.71% which is higher than that in previous studies from Pakistan.

The overall adequate knowledge of COVID-19 reported in our survey was very high. For example, disease i.e. have you heard about the new disease COVID-19 (CORONA) with 98.9% saying yes. This is parallel to a survey conducted in Tanzania where 84.4% had good knowledge. Such figures aren't astonishing as government have taken a lot of constructive steps by educating the public through television programmes, mobile phones, seminars and spreading pamphlets. Additionally, about 80% of the study population had a minimum education level of bachelor's which may account for their high level of knowledge; this is further confirmed by the significant association of education level with adequate knowledge-similar to a study conducted in China. It is interesting to note that the mean knowledge score for this sample was about 82% (6.59/8) which was quite comparable to the more developed parts of the world such as the United States and China with around 80 and 90% mean scores respectively. In particular, the knowledge regarding symptoms of COVID-19 was good where about 93% were well-aware and around 79% knew that there is only supportive treatment available for the virus; both these findings were in accordance with a study from Jordan. On the other hand, only 70.5% of the sample agreed that the virus spreads through air droplets and contact, whereas a similar study from Egypt showed a

wholesome 95% of the population to be aware of the same.<sup>8</sup> About 14% of the sample believed that wearing medical masks does not protect against infection, which is noteworthy, as a report on health care workers reported about 17% to believe the same. On the other hand, where almost 80% from this study agreed that wearing a mask offers protection, only 35% from a study in Egypt had parallel views. These positive findings explain how the seriousness of the disease has been highlighted by multiple media and health platforms during the pandemic, successfully reaching the masses in the country. A study on health care workers from Uganda reported a poor attitude towards COVID-19. However, a study among Malaysian, Chinese and Vietnamese citizens showed positive attitudes towards overcoming the COVID-19 crisis.

Despite much less faith in the government of Pakistan, 67.3% were optimistic that COVID-19 would be successfully controlled; though this was relatively low as compared to that in China and Malaysia. The government of Pakistan has taken several actions to limit the dispersion of the virus. Some important measures include suspension of incoming flights, closure of educational institutions and commencement of online learning.<sup>9</sup> However, despite these extensive preventative measures, 36.8% of the participants showed just a 'neutral' attitude regarding the competency of the government of Pakistan in controlling the pandemic. This wasn't surprising as lockdown restrictions were eased; educational institutions and markets were opened. Additionally, the aggressive media and the constant protests by political and religious leaders towards the government's shortfall in controlling the pandemic played an important role in orchestrating the pessimism among citizens.<sup>10-11</sup>

This study has some constraints. First, since the methodology is derived from a cross-sectional design. Hence, causal inferences may not be established.

## CONCLUSION

The participants demonstrated adequate Knowledge and good perception towards Covid-19.<sup>11</sup> There is a need to follow the preventive protocols and dissemination of correct information through conducting educational interventions that target safe health practice and provide appropriate information on this infection. This has already brought great results in our country to combat the disease.

### Author's Contribution:

Concept & Design of Study:	Ziauddin
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**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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