

## KNOWLEDGE AND ATTITUDES OF PHARMACY PROFESSIONALS TOWARDS COVID-19: SURVEY OF PHARMACY STUDENT'S COMPLIANCE OF SOPS IN COMBATING THE PANDEMIC

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### ABSTRACT

Covid-19 is a highly contagious disease caused by SARS-COV2. It is first time observed in Wuhan, Hubei, Mainland China. This virus belongs to  $\beta$ -corona virus family and bats are considered as the natural host for this disease. WHO has declared the emergency situation throughout the world due to the outbreak of Covid-19. In this disease mainly respiratory tract is infected and results in the death of person. Cases of Covid-19 were also reported in Pakistan. This study is especially designed to observe the awareness of this pandemic among Pharmacy students of Karachi, Pakistan studying both in private and public sector Universities through online survey forms. All Professional students are allowed to participate in this study. It is good to know that students have significant awareness regarding the prevention, treatment and transmission of Covid-19.

**Keywords:** Corona virus, Pandemic, SARS-COV2, Pneumonia.

### INTRODUCTION

COVID-19 has been reported first time as a group of pneumonia type cases of unidentified etiology from Wuhan, Hubei, Mainland China on 8th December 2019 [1]. The causative agent of Corona virus disease (COVID-19) is SARS-COV2 which causes potentially incurable disease and is of great public health concern worldwide [2]. This virus belongs to the  $\beta$ -corona virus family that is common in nature [3]. A study from Wuhan Institute of Virology proved bats as the natural hosts of SARS-CoV-2 [4]. World health organization (WHO) declared the COVID-19 as a pandemic [5]. Covid-19

commonly considers as a disease which resolved acutely but it can also result in the death of person due to considerable alveolar smash up and progressive respiratory failure [6]. The first case was reported on 12 December 2019 in China [7]. On January 30, 2020 the first case of human-to-human transmission of COVID-19 was reported in the US [8].

As whole world is under the pressure of COVID-19 [9], Pakistan is also fighting to combat this crucial scenario. The first 2 cases of COVID-19 were confirmed on 26 February 2020 in Karachi and Islamabad by the Pakistan Federal Health Minister [10]

Government of Pakistan has taken serious major against this pandemic condition. Lot of public awareness campaign has been launched. This study has been especially designed to focus on the awareness, knowledge and proper attitude of pharmacy students to prevent from the threatening virus at Karachi, Pakistan. To the best of our knowledge no study has been yet evaluated the knowledge and attitudes of pharmacy students regarding COVID-19.

#### **MATERIAL AND METHODS**

An online survey technique was used to collect the data about the knowledge and attitudes of Pakistani higher education students regarding COVID-19. This study was conducted among pharmacy students of Universities in Karachi including both private and public sector. Students from all Prof. (1<sup>st</sup> to 5<sup>th</sup> Year) were participated in the survey. The duration was April 2020 to June 2020.

Venue of the Study: Karachi is the biggest and most heavily populated city of Pakistan and is the capital of Sindh province. There are 3 public sector and 6 private sector institutes. The total intake of pharmacy students is 1070 as per the current information.

Target population and exclusion criteria: The target population for this study was pharmacy students of Pakistan from both private and public sector. It included those

participants who were currently enrolled in Pharm. D (Doctor of Pharmacy) program in a Pakistani pharmacy institution. Those pharmacy students who withdraw during the studies were also not included. Students enrolled in post-graduation studies in Pakistan were also not included. Those questionnaires whose data were missing are not part of our study.

#### **STATISTICAL ANALYSIS**

All the data was added by using Statistical Package for Social Sciences version 22.0 (SPSS Inc., Chicago, IL, USA). Chi square test was applied and  $p < 0.05$  was considered significant

#### **RESULTS AND DISCUSSION**

Currently, corona virus pandemic condition is a hot topic in media, among public and government level. Corona virus disease is raising tension for everyone including health care professionals who are fighting on the front line. So, for this reason this survey is conducted to check the degree of awareness of corona virus among the Pharmacy Professionals, as they are also the part of health care system and plays great role in this chaotic situation.

A total of 400 Pharmacy students participated, almost all completed the study questionnaire (99.8% response rate), including 109.6 (27.4%) male and 288 (72.4%) female. Around 98% participants were between age group of 20-25 years. Figure-1 shows the demographic characteristics of the participants.

**Table 1: Distribution of responses among Pharmacy students**

Questions	Responses	%age	p value
<b>Is coronavirus bacteria or virus or other?</b>	Bacteria	1.10%	0.02
	Virus	98.90%	
	Other		
<b>Do you know about the symptoms of corona virus?</b>	Yes	98.90%	0.01
	No	1.10%	
<b>What are the symptoms of corona virus?</b>	cough		0.01
	fever		
	sore throat		
	difficulty in breathing		
<b>Is the corona virus disease more severe than the flu?</b>	Yes	94.30%	0.003
	No	5.70%	
<b>Can corona virus spread through mosquito bite?</b>	Yes	96%	0.001
	No	4%	
<b>Can a corona virus be transmitted from person to person?</b>	Yes	98.90%	0.02
	No	1.10%	
<b>Can someone spread corona virus when asymptomatic? If they're not sneezing or coughing.</b>	Yes	75.90%	0.02
	No	24.10%	
<b>Who is at risk for corona virus more?</b>	Older people (that is people over 60 years old)	49.40%	0.02
	those with poor medical conditions	17.80%	
	All aged group people	32.80%	
<b>Can antibiotics treat the corona virus disease?</b>	Yes	17.20%	0.01
	No	82.80%	
<b>Can cold weather and snow prevent the corona virus disease?</b>	Yes	5.70%	0.004

	No	94.30%	
<b>Can the corona virus disease be transmitted in hot or humid climates?</b>	Yes	69%	0.003
	No	31%	
<b>What is a quarantine? Do you know about it?</b>	Yes	99.40%	0.001
	No	0.60%	
<b>What is the incubation period of the corona virus disease?</b>	3 weeks	83.90%	0.04
	2 weeks	8%	
	one month	8%	
<b>How to prevent corona virus disease infection?</b>	staying at home		0.004
	avoiding crowded places		
	washing hands with soaps		
	All of above		
<b>What parts of body are affected by corona virus diseases?</b>	respiratory tract	98.30%	0.02
	digestive tract		
	central nervous system		
<b>Should person wear mask when go to public places?</b>	Yes	98.30%	0.02
	No	1.70%	
<b>What should patients with confirmed or suspected COVID-19 be advised to</b>	stay at home	62.10%	0.02
	go to the hospital	36.20%	
	anything else	1.70%	
<b>Do you know about the different types of tests for COVID-19?</b>	Yes	60.30%	0.02
	No	39.70%	
<b>What should person use when providing supportive care?</b>	Acetaminophen	26.40%	0.01
	NSAIDs	17.20%	
	None	56.30%	

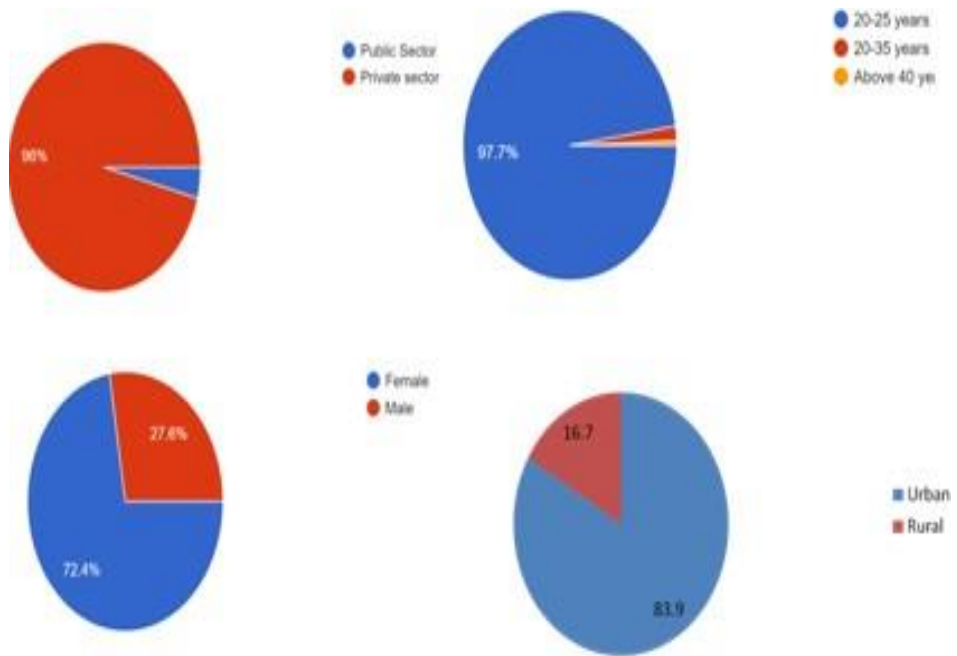


Fig. 1: Visual representation of demographic information of study group

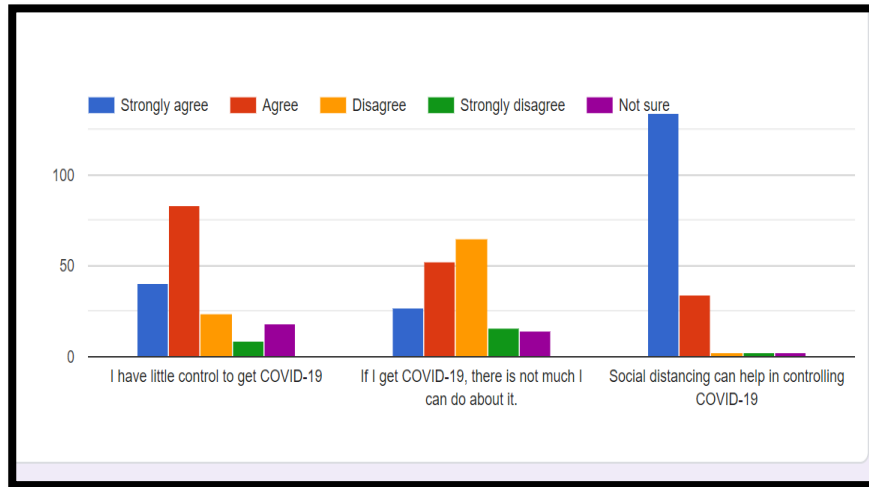


Fig 2: Attitudes of Pharmacy students towards COVID-19

### **Knowledge about the Corona virus**

Most of the respondents generally have hopeful attitude towards the awareness of corona virus pandemic condition. In this study, around 62% Pharmacy students have agreed to stay at home if any person suspected to have symptoms of corona virus. In addition, students also have encouraging information regarding the preventive measures (like avoiding crowdie places, washing hands with water and soap, wear mask etc) and the symptoms of corona virus (like fever, cough, difficulty in breathing, sore throat). In addition, more than 90% of the participants know that corona virus is something which is more severe than flue. Table 1 depicts the responses among students of Pharmacy.

### **Transmission of corona virus**

More than 90% of the students have knowledge that corona virus transmitted from person to person and it has not spread by a mosquito bite like dengue fever. Moreover, cold weather is not a reason for the transmission of the disease but almost 70% respondent have believed that hot climate is responsible for the spread. More than half of the students believe if corona positive is not coughing and sneezing but he/she still has a chance to infect others.

### **Treatment of corona virus**

Students have also showed the satisfactory response about the treatment

of the virus as they are well aware that antibiotics have not used against covid-19 and if there is a need to take any medicine than acetaminophen is the first priority of major participants.

It is good that students are acquainted what quarantine is. As far as attitudes of Pharmacy students is concerned it is reflected by the data that students are optimistic regarding recovery from COVID-19. Majority of the students believe that social distancing can be helpful for better control of corona virus. Similarly, most of the students possesses positive attitude that if they get the disease, they can fight this vulnerable virus to recover. However, it was also observed from the analyzed data that many students agreed that they had little control to get COVID-19. Figure-3 represents attitudes of Pharmacy students towards COVID-19.

### **CONCLUSION**

The outcomes of current study indicate that Pharmacy higher education student's knowledge, towards COVID-19 response is sufficient good. Although the attitudes of students towards the pandemic are optimistic even then some of the aspects must be taught to the students to better fight this deadly situation.

### **CONFLICT OF INTERESTS**

The author declares no conflict of interests.

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