

# Covid-19 Epidemiology in Kabul Afghanistan

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## Abstract

On 31 December 2019, a new coronavirus was discovered in China, which is a respiratory disease that has spread to almost all the world including Afghanistan. This study aimed to describe the mentality/awareness of people, the signs and symptoms they have experienced, and how they followed medical protocols to protect themselves and others against Covid-19. A cross-sectional survey was conducted on 307 respondents. Data were collected by a valid and reliable questionnaire including ten questions from different types of people in different places in Kabul from (2021-08-12 To 2021-10-25), after collecting the data IBM SPSS Statistics 20 was used for the analysis of the data.

We found that (13.3%) of the respondents are still not aware of Covid-19, and most of the respondents have experienced cough (67.4%), fever (79.8%), body pain (68.1%), loss of taste or smell (49.2%), and headache (59.3%). The study found that (39.7%) of participants were not wearing masks, (76.5%) didn't keep a social distance and (25.4%) of them were not washing their hands. It also found that (40.2%) of the respondents were vaccinated, and that (57.6%) of them were between 21-35 years of age.

Covid-19 is a highly infectious disease that is spreading rapidly around the world affecting more than 200 million people and more than 4 million people died due to Covid-19. Most people still do not know about Covid-19, do not follow medical protocols, and most of them have not been vaccinated. There is no specific treatment for Covid-19, it is very important to protect yourself and others against this infectious disease.

**Keywords:** SARS-COV-2; Covid-19 Epidemiology in Kabul Afghanistan; Prevention

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## Introduction

Coronaviruses (CoVs) cause a broad spectrum of diseases in domestic and wild animals, poultry, and rodents, ranging from mild to severe enteric, respiratory, and systemic disease, and also cause the common cold or pneumonia in humans [1]. It is 75 to 80% identical to the SARS-CoV and even more closely related to several bat coronaviruses [2].

They are enveloped RNA viruses that are single-stranded, ranging from 60 nm to 140 nm with a crown-like shape. There have been 7 strains of coronaviruses, SARS-CoV-2 is the new member of the family. Covid-19 can cause a deadly impact on humans and can cause mild respiratory disease to severe acute respiratory syndrome, central nervous system infection, pneumonia [3].

On 31 December 2019, an outbreak of pneumonia of an unknown cause was reported in Wuhan, China, and an unfamiliar Beta Corona was discovered. Which was given the name 2019-nCoV by the world health organization (WHO) and later on named SARS-CoV-2 by the International Committee on Taxonomy of Viruses [4].

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There have been 4,295,743 confirmed deaths and 202,681,079 lab-confirmed cases of COVID-19, and 182,158,854 recovered of COVID-19, as of August 07, 2021 [5]. Different types of symptoms are reported in patients with COVID-19 ranging from mild to severe symptoms, which may appear after 2-14 days after the virus enters the body [6]. People with these symptoms may have COVID-19, Fever or chills, Cough, Shortness of breath or difficulty breathing, Fatigue, Muscle or body aches, Headache, New loss of taste or smell, Sore throat, Congestion or runny nose, Nausea or vomiting, Diarrhoea [7]. For those with a weakened immune system and the elder, there's a chance the virus could cause a lower and much more serious respiratory tract illness like pneumonia or bronchitis [8].

On February 24, 2020, it was certified that the virus has spread to Afghanistan, the first case was from Herat province, a 35 years old man who came from Iran was lab-confirmed to have Covid-19 [9]. Afghanistan's population is around 39,885,89. There have been 150,458 confirmed cases, and 6,908 deaths due to COVID-19 across Afghanistan, 102,827 people recovered from the disease COVID-19, 40,723 active cases, 1,124 of those were serious patients as of 7 August 2021 [5]. The numbers don't seem to be the true image of the infection because of the weak health care system and lack of enough diagnostic kits is a big challenge and many more problems like illiteracy, poor economics of people, lack of common sense, war, and corruption. Approximately 10 million people were infected a third of the country's population, as reported by (MoPH) in a survey which was held by the Ministry of Public Health on 5 August 2021.

## Prevention

To protect ourselves from COVID-19 we must follow the below medical protocols [10].

1. Get vaccinated
2. Wear a mask
3. Stay 6 feet away from other
4. Avoid crowded places
5. Wash your hands often
6. Cover your cough or sneeze
7. Clean and disinfect daily
8. Monitor your health daily

According to WHO, there is no evidence that those patients who are recovered from COVID-19 cannot be reinfected and still need to take precautions to protect against reinfection [11].

## How does SARS-cov-2 spread?

The main route of transmission is the small respiratory droplets from an infected person, these droplets usually arise from sneezing, coughing, and even talking, people with approximately 1 meter far from an infected person are at high risk of being infected [12]. The virus can also spread in poorly ventilated and/or crowded indoor settings, where people tend to spend longer

periods of time. This is because aerosols can remain suspended in the air or travel farther than conversational distance (this is often called long-range aerosol or long-range airborne transmission) [13].

## Methodology

I have used two types of data, primary data and secondary

### Secondary data

First, I collected secondary data to gain more information about the virus, and for collecting this data I used different internet sites like (Google Scholar, pub.med, sci-hub, YouTube, Socratic, world meter) and reviewed different research papers regarding my topic and summarized the important parts.

### Primary data

After collecting enough information about Covid-19 I have started collecting primary data. For collecting this data, I have made questionnaires about Covid-19 which contained 10 different questions including age, gender, and profession of respondents, my aim for making the questionnaires was to know how people see Covid-19 from their view, how people are dealing with Covid-19 and what steps they are taking to protect themselves and other from Covid-19 from 12-8-2021 to 24-8-2021 in Kabul.

I went to different places (hospitals, schools, universities) and met and talk with different kinds of people (Doctors, Engineers, School & University students, Shopkeepers, Taxi drivers, government employees) and asked them the question, after collecting I have added the data in Excel.

### Data analysis

After collecting primary data, I added the data to excel sheets and did add the data to SPSS IBM 20 for analysis. A descriptive research design is used. I have collected 307 respondents' data using a cross-sectional study. In fact, the target was 500+ respondents but unfortunately, I wasn't able to reach the number due to recent political issues in Afghanistan and then did add the data in IBM SpSS 20 for analysis in the coded variables.

## Results

### Gender-wise distribution

The following chart shows the percentage of male and female participants in the interview.

It shows that (66.12%) of the respondents are males and (33.88%) of the respondents are females (**Figure 1**).

### Age-wise distribution

The below chart shows that the majority of participants were between 21-35 years of age which are (185) respondents with a percent of (60.26 %), and people aged 1-20 years were (67) with a percent of (21.82%), 31 respondents that make (10.10%) were between 36-50 years of age and participants above 50 years of age were (24) that makes (7.82%) (**Figure 2**).

### Do you follow medical protocols?

We asked participants if they wore a mask, kept their distance, or washed their hands.

We found that 122 respondents which make (39.7%) were not wearing a mask. 103 of them which makes (50.7%) were male and 19 (18.3%) were female. A total of 235 questioned respondents which makes (76.5%) didn't keep their distance, 173 (85.2%) were male and 62 (77.8%) of them were female. We also found that 78 participants which make (25.4%) were not washing their hands, 67 of them that make (33.0%) were male and 11 (10.6%) were female. Overall female participants are better than males in following medical protocols (Table 1).

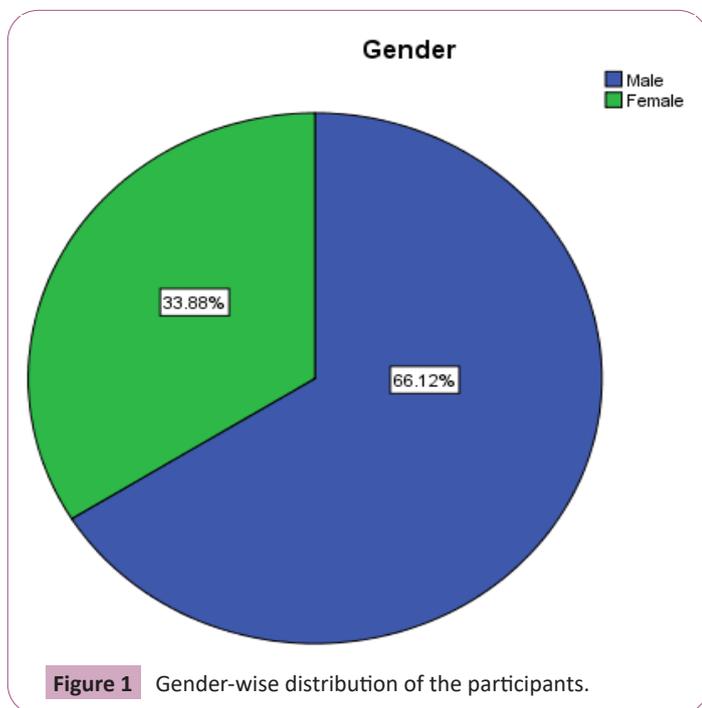


Figure 1 Gender-wise distribution of the participants.

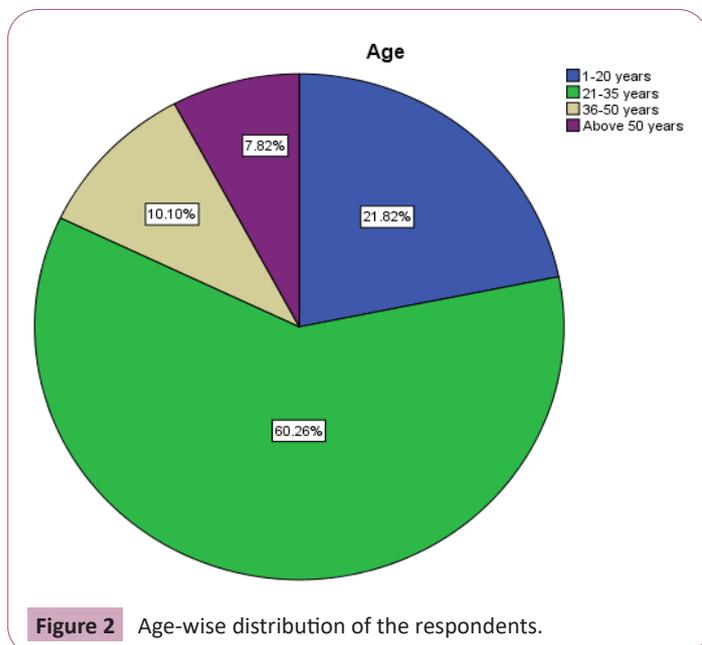


Figure 2 Age-wise distribution of the respondents.

### Vaccinated respondents and their age

It indicates that 23 respondents that make (18.4%) who received Covid-19 which were between 21-35 years of age, 72 (57.6%) were between 21-35 years of age, 16 (12.8%) were between 36-50 years of age and 14 (11.2%) were above 50 years of age (Table 2).

### Symptoms according to the age of the respondents

67 Respondents from age 1-20 years experienced the following symptoms:

Shortness of Breath 10 (14.9%), Difficulty Breathing 6 (9.0%), Cough 10 (61.2%), Fever 49 (73.1%), Chills 7 (10.4%), Congestion or runny nose 27 (40.3%), Repeated shaking with chills 9 (13.4%), Muscle pain or Body ache 45 (67.2%), loss of taste or smell 29 (43.3%), Sore throat or headache 33 (49.3%), Nausea or vomiting 9 (13.4%), Diarrhoea 4 (6.0%).

185 respondents from age 21-35 years experienced the following symptoms:

Shortness of Breath 15 (8.1%), and Difficulty Breathing 20 (10.8%), Cough 122 (65.9%), Fever 146 (78.9%), Chills 38 (20.5%), Congestion or runny nose 53 (28.6%), Repeated shaking with chills 40 (21.6%), Muscle pain or body ache 122 (65.9%), Loss of taste or smell 83 (44.9%), Sore throat or headache 102 (55.1%), Nausea or Vomiting 19 (10.3%), Diarrhoea 17 (9.2%).

We had only 31 respondents in the 36-50 years category and they have experienced these symptoms:

SOB 9 (29.0%), Difficulty Breathing 11 (35.5) Cough 25 (80.6%), Fever 29 (93.5%), Chills 11 (35.5%), Congestion or runny nose 12 (38.7%), Repeated shaking with chills 13 (41.9%), Body ache 22 (71.0%) Loss of smell or taste 21 (64.5%), Sore throat of headache 23 (74.2%), Nausea or vomiting 7 (22.6%) and Diarrhoea 4 (12.9%).

A total of 24 respondents were above 50 years category and they

**Table 1.** Do you follow medical protocol?

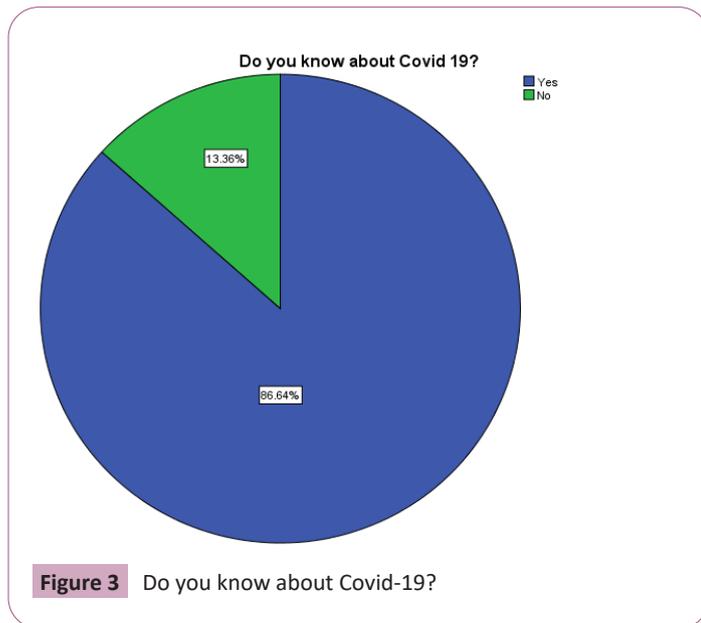
		Gender			Total		
		Male	Female	Total			
Wearing mask	Yes	100	49.3%	85	81.7%	185	60.3%
	No	103	50.7%	19	18.3%	122	39.7%
Social distance	Yes	30	14.8%	42	40.4%	72	23.5%
	No	173	85.2%	62	59.6%	235	76.5%
Washing hands	Yes	136	67.0%	93	89.4%	229	74.6%
	No	67	33.0%	11	10.6%	78	25.4%

**Table 2.** Vaccinated respondents and their age.

		Have you received Covid 19 vaccine?			
		Yes	No	Total	
Age	1-20 years	23	18.4%	44	24.2%
	21-35 years	72	57.6%	113	62.1%
	36-50 years	16	12.8%	15	8.2%
	Above 50 years	14	11.2%	10	5.5%
	Total	125	100.0%	182	100.0%

have the following symptoms:

SOB 11 (45.8%), Difficulty Breathing 10 (41.7%), Cough 19 (79.2%), Fever 21 (87.5%), Chills 10 (41.7%), Congestion or runny nose 7 (29.2%), Repeated shaking with chills 13 (54.2%), Body pain 20 (83.3%), Sore throat or headache 21 (87.5%) and Loss of smell or taste 19 (79.2%), Nausea or vomiting 7 (29.2%) and Diarrhoea 5 (20.8%) (Table 3).



### Do you know about Covid-19?

The following chart shows the percent of those respondents who knew about covid-19 and those who did not.

It shows that 41 of the respondents which makes (13.3%) still don't know about Covid-19, and the remaining participants knew about Covid-19 which were 266 respondents which makes (86.6%) (Figure 3).

### Discussion

This is the first study conducted in Afghanistan about the Epidemiology of Covid-19 in Kabul, Afghanistan. The results acquired from the study have upsetting for all people who live in Afghanistan as (13.3%) of people are still not aware of Covid-19 and the complications that the virus could bring to them and those around them, when we asked about Covid-19, their replay was: I just heard about Covid-19, or NO. so how they will protect themselves and others against Covid-19? On the other hand, most people do not follow medical protocols, as (39.7%) were not wearing a mask, and (76.5%) were not keeping their distance. And (33.0%) of the male was not washing their hand even though men spend most of their time outside their homes and are in touch with everybody else outside. Out of 125 vaccinated respondents, 72 (57.6%) of them were between 21-35 years of age and only 14 (11.2%) above 50 years of age, which means, elders who need to be vaccinated at first are not vaccinated, but unlike most vaccinated people are in middle age.

Table 3. Symptoms according to the age of the respondents.

Are you experiencing or have you experienced any of the following symptoms?		Age									
		1-20 years		21-35 years		36-50 years		Above 50 years		Total	
Shortness of Breath	Yes	10	14.9%	15	8.1%	9	29.0%	11	45.8%	45	14.7%
	No	57	85.1%	170	91.9%	22	71.0%	13	54.2%	262	85.3%
Difficulty Breathing	Yes	6	9.0%	20	10.8%	11	35.5%	10	41.7%	47	15.3%
	No	61	91.0%	165	89.2%	20	64.5%	14	58.3%	260	84.7%
Cough	Yes	41	61.2%	122	65.9%	25	80.6%	19	79.2%	207	67.4%
	No	26	38.8%	63	34.1%	6	19.4%	5	20.8%	100	32.6%
Fever	Yes	49	73.1%	146	78.9%	29	93.5%	21	87.5%	245	79.8%
	No	18	26.9%	39	21.1%	2	6.5%	3	12.5%	62	20.2%
Chills	Yes	7	10.4%	38	20.5%	11	35.5%	10	41.7%	66	21.5%
	No	60	89.6%	147	79.5%	20	64.5%	14	58.3%	241	78.5%
Congestion or runny nose	Yes	27	40.3%	53	28.6%	12	38.7%	7	29.2%	99	32.2%
	No	40	59.7%	132	71.4%	19	61.3%	17	70.8%	208	67.8%
Repeated shaking with chills	Yes	9	13.4%	40	21.6%	13	41.9%	13	54.2%	75	24.4%
	No	58	86.6%	145	78.4%	18	58.1%	11	45.8%	232	75.6%
Muscle pain or body aches	Yes	45	67.2%	122	65.9%	22	71.0%	20	83.3%	209	68.1%
	No	22	32.8%	63	34.1%	9	29.0%	4	16.7%	98	31.9%
loss of taste or smell	Yes	29	43.3%	83	44.9%	20	64.5%	19	79.2%	151	49.2%
	No	38	56.7%	102	55.1%	11	35.5%	5	20.8%	156	50.8%
Sore throat or headache	Yes	33	49.3%	102	55.1%	23	74.2%	21	87.5%	179	58.3%
	No	34	50.7%	83	44.9%	8	25.8%	3	12.5%	128	41.7%
Nausea or vomiting	Yes	9	13.4%	19	10.3%	7	22.6%	7	29.2%	42	13.7%
	No	58	86.6%	166	89.7%	24	77.4%	17	70.8%	265	86.3%
Diarrhea	Yes	4	6.0%	17	9.2%	4	12.9%	5	20.8%	30	9.8%
	No	63	94.0%	168	90.8%	27	87.1%	19	79.2%	277	90.2%

(79.8%) experienced fever, (68.1%) body pain, (67.4%) cough, (58.3%) sore throat, and (49.2%) experienced loss of smell or taste. Almost everyone has experienced some of the symptoms of Covid-19, which means most of the people are infected, it may be because lack of common sense or awareness among people, and also lack of a good health care system.

Covid-19 is spreading rapidly around the world affecting more than 200 million people and more than 4 million people died due to the virus. It is highly recommended for everyone to follow medical protocols (wear a mask, wash your hands, and keep your distance) because this deadly virus does not have any specific treatment, everyone needs to protect themselves and others against Covid-19. People must follow Government prescribed rules and try to be abide by the regulations.

## Conclusion

This research opens the door for further research in the future and is not enough. It is recommended for further research to cover a large population and to find more complications everyone could face.

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## Conflict of Interest Statement

All authors declared no potential personal or financial conflicts of interest.

## Ethical Approval Statement

This study was ethically approved by the medical bioethics committee of the SIHE ethics committee (code: 1386-1409). The patients/participants provided their written informed consent to participate in this study.

## Author Contributions

ARP and HS were involved in the study's conception, design, statistical analysis, and interpretation of the data. RK, and UN were involved in data collection, data cleaning, AZS, statistical analysis, and manuscript drafting.

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