

# Prevalence of Symptoms of Anxiety Among Residents of Kabul During Pandemic of COVID-19: A Report from Capital of Afghanistan

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**Purpose:** This study was conducted to evaluate the prevalence of symptoms of anxiety among residents of Kabul during the present COVID-19 pandemic.

**Methods:** This descriptive cross-sectional, community based survey was conducted in Kabul, Afghanistan, during the COVID-19 pandemic. Data were collected from July 11, 2020, to July 16, 2020. A bilingual (Dari and English) questionnaire was used for data collection. The first section of the questionnaire collected sociodemographic information of the respondents and the second comprised a self-report standardized scale, i.e. Generalized Anxiety Disorder-7 (GAD-7) to assess symptoms of anxiety. The survey form was distributed through online platforms. All residents of Kabul who used social apps such as WhatsApp and Facebook were eligible to participate in the study and participation was voluntary and non-commercial.

**Results:** Altogether 1135 complete responses were received. The majority of them were males and aged 18–34 years. Almost 18% were healthcare workers. Overall, 28.2% of the respondents reported symptoms of moderate to severe anxiety, 38.8% reported symptoms of mild anxiety, and nearly one third of the respondents reported no symptoms. Female participants reported significantly higher levels of anxiety compared with males (39.7% versus 25.6%;  $p = 0.0001$ ). No significant association was noted between anxiety levels and age groups, occupations, and healthcare workers versus non-healthcare workers.

**Conclusion:** The findings suggest that a gender-specific psychosocial protocol needs be integrated into the public health emergency plans to fight against the current pandemic.

**Keywords:** anxiety, mental health, capital of Afghanistan, Kabul, COVID-19 pandemic

## Introduction

The Corona Virus Disease - 2019 (COVID-19) was first diagnosed in Wuhan, China in late December 2019 and has spread rapidly throughout the world.<sup>1</sup> The accelerated increase in the cases of COVID-19, has posed different challenges to global public health, research and medical communities.<sup>2</sup> According to the World Health Organization (WHO), a total of 176,156,662 confirmed cases of COVID-19 have been reported globally which included 3,815,486 deaths as of 16 June 2021.<sup>3</sup> The first confirmed case of COVID-19 in Afghanistan was announced on February 24, 2020.<sup>4</sup> As of May 28, 2021, there were a total of 69,130 confirmed cases and 2,881 deaths due to COVID-19 in the country.<sup>5</sup> However, these figures do not seem to tally with the actual speed of the disease transmission. According to a survey report of the Ministry of Public Health of Afghanistan, around 10 million people might have been infected.<sup>6</sup> Factors such as limited

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resources and testing capacity and the lack of a national database for deaths could have contributed to this under-estimation of the confirmed cases and deaths of the COVID-19 in Afghanistan.<sup>7</sup>

Soon after the emergence of the outbreak, the government of Afghanistan adopted several public health measures, such as compulsory quarantine for people returning from Iran, closure of wedding halls, schools and universities, and the shutdown of non-essential services to mitigate the risk of spread of the infection.<sup>8</sup> Despite the fact that Afghanistan was facing an ongoing food security crisis which was being aggravated by an economic downturn caused by COVID-19, the people were confined at home as much as possible in order to slow down the rate of infection.<sup>9</sup>

During previous outbreaks of infectious diseases there was generalized fear among the public and increased fear-related behaviors and anxiety.<sup>10</sup> The current pandemic also raised many uncertainties with a possibility of a fatal outcome. Studies have reported on the level of distress, depression, anxiety, and insomnia in general populations.<sup>11</sup>

Anxiety is defined as a feeling of tension, worry, and physical changes such as an increase in blood pressure and/or pulse rate, sweating, trembling, and dizziness.<sup>12</sup> Anxiety may lead to weakness of the immune system if triggered above the normal level, which could increase the risk of getting infection. Moreover, anxious reactions such as rushing to stores, healthcare centers, and pharmacies could disrupt social order and as a result of these, the healthcare service provision might be affected.<sup>13</sup> Increasing evidence suggest that practices such as effective self-care and mental health provision need to be integrated into the preparedness plans so as to reduce the burden of adverse mental health conditions associated to the COVID-19.<sup>14</sup>

In Afghanistan, the ongoing political conflicts have already created major challenges to various aspects of the lives of the people. Uncertainty and rapid spread of COVID-19 can possibly further aggravate the condition and make the residents feel stressed, anxious, and upset, among other emotional reactions.<sup>15</sup>

Therefore, this survey was conducted to investigate the prevalence of anxiety symptoms among residents of Kabul in order to make appropriate recommendations to policy-makers with regard to mental health management during the pandemic.

## Materials and Methods

### Study Design and Participants

Due to existing lockdown restrictions, this cross-sectional, population-based study was conducted online using a bilingual (Dari and English) questionnaire. The first section of the questionnaire gathered sociodemographic information of the respondents and the second consisted of a self-report standardized scale, Generalized Anxiety Disorder-7 (GAD-7) which assessed symptoms of anxiety. All residents using WhatsApp and Facebook were requested to take part in the survey. The online questionnaire was voluntary and non-commercial.

### Sampling Technique

For the purpose of this study, non-probability convenience sampling method was used. Participants were asked to provide their informed consent before answering the questions. Respondents were able to quit their participation from the survey at any time without any consequence.

### Inclusion and Exclusion Criteria

Participants who were 18 years old or more and had access to the internet were included in the survey, whereas, those who did not provide their consent to take part in the study and those who filled out the survey form incompletely were excluded from the study.

### Data Collection

Data were collected anonymously. All respondents provided information about their demography and filled out a questionnaire which was designed to assess the symptoms of anxiety. To ensure the quality of the data, the purpose of the survey was explained to participants and they were encouraged to give answers to questions carefully. After excluding five incomplete questionnaires, a total of 1,135 complete survey forms were included in the final analysis.

### Ethical Consideration

Ethical approval for this study was obtained from the Research and Ethics Committee of Department of Neuropsychiatry, Kabul University of Medical Sciences. All aspects of this study comply with the ethical standards of the relevant national and institutional committees on studies involving human contacts and with the Declaration of Helsinki released in 1975 and revised in 2008.

## Measures

### Age, Sex and Employment Were Included in Demographic Information

The employment section composed of five categories: (1) Office and management; (2) Business and Free occupation; (3) Teachers or students, both in schools or universities; (4) Healthcare workers including doctors, nurses, technicians, and support staff; (5) Opportunities such as freelancers, retirees, social activities, and relevant fields were included in an 'others' category.

### Generalized Anxiety Disorder Scale

We used the Generalized Anxiety Disorder-7 (GAD-7) scale to investigate the symptoms of anxiety among study participants. GAD-7 has been used extensively to detect and screen the symptoms of anxiety. It is a valid instrument with a desirable level of internal consistency in reported results.<sup>16</sup> Moreover, it can be completed in only 3 minutes with easy scoring. For this study, the Dari translation of the scale was used. To ensure the Dari translation was appropriate for data collection, it was sent to three experts who were proficient in both languages, i.e. English and Dari, for critical review. Their comments/corrections were applied in the Afghanistan version of the scale. Furthermore, the scale was pilot-tested on 30 random people to check whether the questions were comprehensible. The participants of pilot-testing were satisfied with the content of the GAD-7 scale.

The GAD-7 contains seven questions, each representing one core symptom of anxiety and investigates the frequency of the symptoms during the last two weeks. Participants were required to choose one option from a 4-item Likert rating scale ranging from 0 to 3. The 0 indicated that the concerned symptom did not occur at all, whereas the 3 indicated that the symptom occurred almost every day. The participants were then given a score of 0–3 for each question accordingly. The minimum score was 0 and the maximum was 21.<sup>16</sup> We considered a total score of 10 points or more as the presence of anxiety among the study population. To classify mild, moderate and severe levels of anxiety, cut-off values of 5, 10, and 15 were applied.<sup>17</sup>

## Statistics

Descriptive statistics were used to describe the demographic variables and frequency distribution of participants according to different levels of anxiety. The prevalence and severity of anxiety were classified based on age, sex

**Table 1** Sociodemographic Information of the Participants (n = 1,135)

Variable	n (%)
<b>Total</b>	1,135 (100)
<b>Gender</b>	
Male	926 (81.6)
Female	209 (18.4)
<b>Age (Years)</b>	
18–24	449 (39.6)
25–34	496 (43.7)
≥ 35	190 (16.7)
<b>Employment</b>	
Office and management	203 (17.9)
Business and free occupation	112 (9.9)
Teachers or students	509 (44.8)
Healthcare workers	204 (18.0)
Others	107 (9.4)

and employment. The Chi-square test was used to investigate any possible associations between dependent and independent variables. Statistical Package for Social Sciences version 26 used to analyze the data. A p-value of < 0.05 was considered statistically significant at 95% confidence interval.

## Results

### Sociodemographic Characteristics

Table 1 shows the sociodemographic information of respondents. From a total of 1,135 participants, the majority were males and aged 18–34 years (81.5% and 83.2%, respectively). Less than half (44.8%) of the participants were either teachers or students and almost 18% were healthcare workers.

### Prevalence of Anxiety Symptoms Among Study Participants

Table 2 shows various levels of anxiety symptoms among study participants. Overall, 28.2% of the participants reported symptoms of moderate to severe anxiety, 38.8% reported symptoms of mild anxiety, and nearly one third (33%) of the respondents reported no symptoms.

**Table 2** Different Levels of Anxiety Among Study Participants

Anxiety Level	N	%
Normal	375	33
Mild	440	38.8
Moderate	231	20.4
Severe	89	7.8

## Association of Age, Sex and Employment with Prevalence of Anxiety Symptoms

Table 3 shows the association of age, sex, and employment with the prevalence of symptoms of anxiety. Female participants reported significantly higher anxiety symptoms compared with males (39.7% versus 25.6%;  $p = 0.0001$ ). No significant association was found in the prevalence of anxiety symptoms between healthcare workers and non-healthcare workers. Likewise, age and other occupation groups did not show any significant associations with the prevalence of anxiety symptoms.

## Discussion

This is the first report on the prevalence of anxiety symptoms among the general public in Kabul, Afghanistan during the COVID-19 pandemic.

**Table 3** Cross-Tabulation of Sociodemographic Characteristics Associated with the Prevalence of Anxiety

Anxiety			
Variables	No n (%)	Yes n (%)	P-value
Gender			
Male	689 (74.4)	237 (25.6)	0.0001
Female	126 (60.3)	83 (39.7)	
Age (Years)			
18–24	321 (71.5)	128 (28.5)	0.958
25–34	356 (71.8)	140 (28.2)	
≥ 35	138 (72.6)	52 (27.4)	
Employment			
Office and management	145 (71.4)	58 (28.6)	0.548
Business and free occupation	87 (77.7)	25 (22.3)	
Teachers or students	366 (71.9)	143 (28.1)	
Healthcare workers	145 (71.1)	59 (28.9)	
Others	72 (67.3)	35 (32.7)	

The findings of this survey demonstrate that more than a quarter of people in Kabul have experienced moderate to severe anxiety and that anxiety was more prevalent and severe among women than men. Studies conducted in China,<sup>18</sup> the Philippines,<sup>11</sup> and Saudi Arabia<sup>19</sup> reported similar findings, i.e. one-fourth of the participants reported to suffer from moderate to severe anxiety and female gender was affected more than male. Another study conducted in India during the pandemic found that 25.1% of the subjects experienced moderate to severe depression, 28% were affected with anxiety, and 11% were affected with stress.<sup>20</sup> A systematic review and meta-analysis reported that the overall prevalence of anxiety among the population under study was 28–38% and also reported that female gender, increased risk of contact with COVID-19 patients, lower socio-economic status, loneliness, and spending more time watching COVID-19 related news were common risk factors for adverse mental health effects.<sup>21</sup> These findings further support our results. Contrary to our findings, a study conducted in China reported no significant difference in the prevalence of anxiety symptoms between male and female participants.<sup>22</sup> Furthermore, studies conducted in Iran<sup>23</sup> and India<sup>20</sup> reported higher levels of anxiety symptoms in male participants compared with female participants.

Healthcare workers have been at the center of the fight against COVID-19. Extended working hours, increased risk of contraction, shortage of personal protective equipment, particularly in situations similar to Afghanistan,<sup>24</sup> loneliness, exhaustion, and separation from families and friends make them at greater risk of adverse mental health conditions.<sup>11</sup> However, there was no difference between healthcare workers and non-healthcare workers in terms of the prevalence of anxiety symptoms in this study. The findings of a systematic review conducted by Min Luo et al., 2020 is similar to that of our study.<sup>21</sup> This can be due to their strong sense of duty and ability to adapt to crisis.<sup>11</sup>

Analysis of our survey data showed that the symptoms of anxiety were equally distributed among different age categories and various occupational groups. This may suggest that people of all ages and occupational groups were equally concerned about COVID-19 and its consequences. This finding conforms to the results of studies carried out in Turkey<sup>25</sup> and India<sup>20</sup> which reported no significant association between age groups and anxiety symptoms. Likewise, a recently published study in China did not report any significant association between the



prevalence of anxiety symptoms and different occupational groups.<sup>22</sup> However, a study conducted in Jordan reported higher anxiety scores in older age,<sup>26</sup> whereas, studies conducted in Iran<sup>13</sup> and China<sup>22</sup> reported that younger people tend to experience anxiety symptoms more than older participants.

Due to unavailability of data on the status of anxiety symptoms among general population before the COVID-19 pandemic, we were not able to compare the occurrence and severity of anxiety symptoms before and during the pandemic. However, a study from Swiss reported that the overall attendance of psychiatric patients during the COVID-19 pandemic decreased by 17.5% compared to pre-pandemic period and that majority of them were patients with more severe conditions.<sup>27</sup>

## Limitations

This study had some limitations. Firstly, our sample was from one province and not representative of all Afghanistan. Future studies will improve the study design by recruiting more participants from different provinces. Secondly, this study investigated only the symptoms of anxiety among participants. Other mental health conditions such as depression and post-traumatic stress disorder were not included. Researchers may consider more psychological impacts and factors associated with COVID-19 in future studies. Thirdly, the results would have been more concrete and perhaps more useful if a prospective study on the same study group was conducted. Unfortunately, we were not able to collect personal information of the respondents due to ethical restrictions. Thus, we could not perform a prospective study on the same population. Fourthly, the proportion of a particular group, i.e. teachers or students was larger than other groups. This prevents the findings of our study being generalized to the entire population, particularly to those with lower level of education. Finally, the self-reported results of anxiety may not always be the same as the results diagnosed by mental health experts. However, the findings of this study provide an important insight into the mental health status of people in Kabul that could help policymakers in designing more effective plans in controlling the negative consequences of the current pandemic at various levels.

## Conclusion

This study highlights that more than one-fourth of the population in Kabul were suffering from symptoms of moderate to severe anxiety and that the symptoms were significantly higher in female participants compared with

male counterparts. Therefore, it seems necessary to integrate a gender-specific psychosocial protocol to public health emergency plans in the fight against the current crisis.

## Acknowledgments

The authors would like to sincerely thank Dr. Pakeer Oothuman, former professor of medical parasitology at National University of Malaysia and International Islamic University Malaysia for editing the manuscript. All participants are also gratefully appreciated for taking part in the study.

## Disclosure

The authors declare no conflicts of interest for this work.

## References

1. Odriozola-González P, Planchuelo-Gómez Á, Irujo MJ, de Luis-garcía R. Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. *Psychiatry Res.* 2020;290:113108.
2. Li Q, Guan X, Wu P, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med.* 2020;382:1199-1207.
3. World Health Organization (WHO). Coronavirus (COVID-19) dashboard. Available from: <https://covid19.who.int/>. Accessed 16 June 2021.
4. Nemat A, Raufi N, Sediqi MF, Rasib AR, Asady A. Knowledge, attitudes, and practices of medical students regarding COVID-19 in Afghanistan: a cross-sectional study. *Risk Manag Healthc Policy.* 2021;14:1491.
5. World Health Organization (WHO). Afghanistan. Available from: <https://covid19.who.int/region/emro/country/af>. Accessed 28 May 2021.
6. Ariana News. Survey finds at least 10 million Afghans infected with COVID-19. Available from: <https://ariananews.af/survey-finds-at-least-10-million-afghans-infected-with-covid-19/>. Accessed 29 May 2021.
7. Nemat A, Asady A. The third wave of the COVID-19 in Afghanistan: an update on challenges and recommendations. *J Multidiscip Healthc.* 2021;14:2043.
8. Khudadad U, Safi N, Aftab W, Ali A, Siddiqi S. The COVID-19 pandemic: an opportunity to strengthen health systems in Afghanistan. *East Mediterr Health J.* 2021;27(3):220-223. doi:10.26719/emhj.21.007
9. Lucero-Prisco DE III, Ahmadi A, Essar MY, Lin X, Adebisi YA. Addressing COVID-19 in Afghanistan: what are the efforts and challenges? *J Glob Health.* 2020;10:2.
10. Shultz JM, Cooper JL, Baingana F, et al. The role of fear-related behaviors in the 2013-2016 West Africa Ebola virus disease outbreak. *Curr Psychiatry Rep.* 2016;18(11):104.
11. Tee ML, Tee CA, Anlacan JP, et al. Psychological impact of COVID-19 pandemic in the Philippines. *J Affect Disord.* 2020;277:379-391.
12. Brown TA, Barlow DH, DiNardo PA. *Anxiety Disorders Interview Schedule Adult Version: Client Interview Schedule*. Graywind Publications Incorporated; 1994.

13. Moghanibashi-Mansourieh A. Assessing the anxiety level of Iranian general population during COVID-19 outbreak. *Asian J Psychiatr.* 2020;51:102076.
14. Peteet JR. COVID-19 anxiety. *J Relig Health.* 2020;59:2203–2204.
15. Hamrah MS, Hamrah MH, Ishii H, et al. Anxiety and depression among hypertensive outpatients in Afghanistan: a cross-sectional study in Andkhoy City. *Int J Hypertens.* 2018;2018: Article ID 8560835.
16. Cao W, Fang Z, Hou G, et al. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Res.* 2020;287:112934.
17. Spitzer RL, Kroenke K, Williams JB, Löwe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med.* 2006;166(10):1092–1097.
18. Wang C, Pan R, Wan X, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 Coronavirus Disease (COVID-19) epidemic among the general population in China. *Int J Environ Res Public Health.* 2020;17:5.
19. Alyami HS, Naser AY, Dahmash EZ, Alyami MH, Alyami MS. Depression and anxiety during the COVID-19 pandemic in Saudi Arabia: a cross-sectional study. *Int J Clin Pract.* 2021;e14244.
20. Verma S, Mishra A. Depression, anxiety, and stress and socio-demographic correlates among general Indian public during COVID-19. *Int J Soc Psychiatry.* 2020;66(8):756–762.
21. Luo M, Guo L, Yu M, Wang H. The psychological and mental impact of coronavirus disease 2019 (COVID-19) on medical staff and general public—A systematic review and meta-analysis. *Psychiatry Res.* 2020;291:113190.
22. Huang Y, Zhao N. Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. *Psychiatry Res.* 2020;288:112954.
23. Mohammadi SM, Ashtari S, Khosh Fetrat M. The psychological impact of COVID-19 pandemic on mental health of Iranian population. *Int J Travel Med Global Health.* 2020;9(1):19–24.
24. Nemat A, Asady A, Raufi N, et al. A survey of the healthcare workers in Afghanistan during the COVID-19 pandemic. *Am J Trop Med Hyg.* 2020;104(2):537–539. doi:10.4269/ajtmh.20-1367
25. Ozdin S, Bayrak ozdin S. Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: the importance of gender. *Int J Soc Psychiatry.* 2020;66(5):504–511.
26. Khatatbeh M, Khasawneh A, Hussein H, Altahat O, Alhalaiqa F. Psychological impact of COVID-19 pandemic among the general population in Jordan. *Front Psychiatry.* 2021;12:618993.
27. Ambrosetti J, Macheret L, Folliet A, et al. Impact of the COVID-19 pandemic on psychiatric admissions to a large Swiss emergency department: an observational study. *Int J Environ Res Public Health.* 2021;18(3):1174.

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