

Student Corner

Pandemic 2020 Covid-19 Takes a Toll on Mental Health Causing Anxiety and Depression in People From the General Population

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Abstract

Objectives: To determine the prevalence of anxiety and depression in general population due to the spread of covid-19 pandemic. The study was conducted to find differences in the level of mental distress demographically as well as finding the prevalence among the health care providers and those with chronic medical illnesses.

Methods: This descriptive cross-sectional was carried out via an online survey created through google forms which was circulated through social media apps & websites because of better access to people between 1st – 9th of April 2020. Demographic information and individual responses were obtained through 25 statements each describing an emotion incorporating “Hopkins Scale for anxiety & depression” (with URDU translation). Confidentiality was assured so each question could be answered freely. Chi square statistic test and Z score were applied by taking $p < 0.05$.

Results: Among total of 1336 responses, 80.5% of the data was from people living in Pakistan & the rest from all around the globe. Anxiety was found in 71.4% respondents where 71.4% were females and 28.6% were males. Depression was found in 79.9% in which 30.1% were males and 69.9% were females (p value < 0.00001). Among the anxious population 39.8% were married where as 60.2% were unmarried. Similarly 39.3% of the depressed people were married and 61.0% were unmarried. Among the male and female gender mental distress was more dominating among the females ($n=890$) as compared to the males ($n=446$). It was found out that 44.9% of people with anxiety due to the outbreak and 47.4% with depression did not have any family history of depression/anxiety or psychiatric illness while 48.2% of people with anxiety & 49.9% of people with depression did not have any personal history of depression/anxiety or psychiatric illness.

Highest numbers of responses were from the age group of 10-20 years. It was seen that both anxiety and depression were higher among the younger age group (78.4% & 87.4%) whereas much less in the elderly, 60-70 years (47.2% & 58.3%).

It was observed that anxiety in people with respiratory illnesses was 1.3 times more as compared to those who did not have any respiratory illness. Similarly depression was 1.2 times more common in people respiratory diseases.

Out of 222 health care provider responses, 67.1% of them were reported to have anxiety while 77.9% of them had depression. (Anxiety: value of z is 3.49211. P is 0.00024. Depression: value of z is -2.255. P is 0.01191)

Conclusion: Anxiety & depression were more prevalent among the younger age group, females, unemployed and unmarried populations. People with respiratory illnesses suffered greater degree of mental distress due to covid pandemic as compared to those who did not have any respiratory issue. More than half of the health care providers suffered considerably from anxiety and depression hearing about the spread of covid-19 outbreak.

Keywords: Anxiety, Depression, Covid-19 Pandemic, Hopkins Scale for Anxiety and Depression, Health care providers

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Introduction

The novel coronavirus which started from the city of Wuhan, China shaped everyone's life in some way or the other.¹ On March 11th, 2020 covid 19 was declared a pandemic by the world health organization which

led to a panic situation.² Hospital staff and frontline health workers were at the greatest risk of being affected and further transmission of the disease causing profound psychological distress.^{3,4,5,6} They were called “the most beautiful warriors” because of their

compassionate spirit to provide care day and night in their heavy suited dresses.⁷ The exponential rise of cases brought about a lockdown throughout the globe and without neither a cure nor a vaccine the death toll continued to rise.^{9,10} Increased workload in the emergency departments led to a burnout and exhaustion of medical services.¹¹ Majority of the developed countries were unprepared for the pandemic and treating at such a mass scale hence failure was certain.

Quarantine, the restriction on the movement of people & isolation of those with the symptoms is intended to prevent the spread of a disease. The only preventive strategy was to implement a complete lockdown and quarantine people so that definitive treatment guidelines could be formed and the nature of the virus could be studied. Unfortunately it led to a disruption in normal daily life activities for a longer time than it was expected. This took an emotional toll on the general population. Home isolation and complete ban on travelling and outdoor activities became a major factor affecting the mental health of people. Schools, universities and work places were shut down.^{9,10} People became jobless and it became difficult to manage with the financial crisis.¹² In times of such distress media aggravated the situation by providing constant updates and creating unnecessary panic about the death toll and disease severity & spread among the general public.¹³

The increasing number of covid 19 cases in the hospitals leading to medical shortage was one of the very important factor of increasing fear and anxiety among people seeking medical care for problems other than the pandemic itself. Elective procedures were suspended, thalassemia patients and those with renal failure requiring transfusions and dialysis suffered badly. It became difficult to cope for the patients who were hospitalized as they were kept away from their family adding to their fears and anxiety.¹⁴

Methods

An online google survey form was generated incorporating “Hopkins Scale for anxiety & depression” (with URDU translation), 25 points to assess someone with mental health disturbance. The survey consisted of basic demographics & 25 statements with each describing an emotion, the respondent was asked to grade

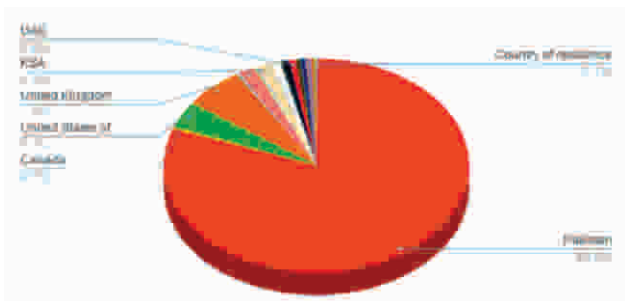
them according to the extent to which they had that emotion.¹⁵ The aimed population was general public who had access to the internet & social media. There were no limitations of region or age as the pandemic affected everyone around the globe. It was assumed that people with internet access were more prone to mental health disturbance as they readily had access to news and updates on the rising number of deaths and cases

Confidentiality was assured to the respondents so that each question can be answered freely and honestly. The questionnaire link was forwarded through WhatsApp, Facebook, Twitter, Reddit & Quora. Respondents were well informed of the reason for which this study was being conducted.

Results

Responses were obtained in 9 days from 1st-9th April 2020. After data from 1336 forms was sorted and compiled, it was found that 80.5% of the data was from people living in Pakistan & the rest from all around the globe.

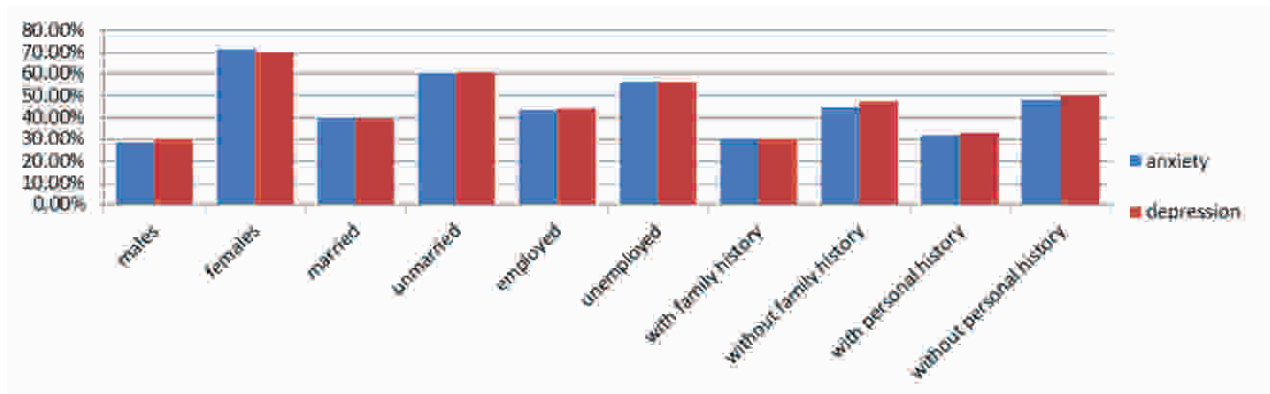
Respondents from countries like Argentina, Australia, Bahrain, Bangladesh, Columbia, Guatemala, Guyana, Hong Kong, India, Indonesia, Iran, Ireland, Jordan, Kazakhstan, Kashmir, KSA, Kuwait, Lebanon, Malaysia, Netherlands, Nigeria, Norway, Oman, Qatar, Scotland, Spain, Sweden, Turkey, UAE, UK participated.



Scoring System: On the basis of “Hopkins symptoms checklist 25” people were grouped according to the score they had.

Anxiety scale consisted of 10 questions carrying 4 score for each, making 40 as the maximum score and 10 as the minimum for those with no disturbance. People with a score of 11-20 were classified as having

	Pakistani	Non Pakistani	Males	Females	Employed	Un-employed	Married	Un-married	Health care providers
No of responses	1076	260	446	890	621	715	570	766	222
%age out of total number of responses	80.5	19.5	33.4	66.6	46.5	53.5	42.7	57.3	16.6



mild, 21-30 as moderate and 31-40 as severe symptoms.

Depression scale consisted of a total of 15 questions with a maximum score of 60 and a minimum of 15 for those with no depression. People with a score of 16-30 were classified as having mild, 31-45 as having moderate and 46-60 as having severe symptoms.

- Anxiety was found in 71.4% (n=1336) of the total respondents, 73.8% with mild, 20.6% with moderate and 5.6% with severe symptoms.
- Depression was found in 79.9% (n=1336) of the respondents, 65% with mild, 27.2% with moderate and 7.8% with severe symptoms.

P is <0.001. The result is significant at *p* <0.05

Demographics: On classifying gender it was found that anxiety & depression were more prevalent among the female population. Out of 954 anxious people 71.4% were females and 28.6% were males. Similarly 30.1% of the 1068 depressed people were male and 69.9% were females. Among the anxious population 39.8% were married whereas 60.2% were unmarried. Similarly 39.3% of the depressed people were married and 61.0% were unmarried. Another key point to note was that 56.3% of the people with anxiety & 56% of people with depression were unemployed. It was found out that 44.9% of people with anxiety and 47.4% people with depression did not have any family history of depression/anxiety or psychiatric illness while 48.2% of people with anxiety & 49.9% of people with depression did not have any personal history of depression/anxiety or psychiatric illness.

Comparing data from total population of participants: It was found that out of all the female respondents (n=890) anxiety was seen in 76.5% & depression in 83.8%. The percentage in male respondents (n=446) was fairly lower, anxiety being seen in 61.2% & depression in 72.2%.

Null hypothesis: There was no difference in the level of anxiety & depression among males & females.

Anxiety: Z score was 2.38. Confidence interval lies

at 99%. *P* is <.00001. The result is significant at *p* <0.05. Depression: Z score was 2. Confidence interval lies at 95%. *P* is <.00001. The result is significant at *p* <0.05.

Null hypothesis was rejected.

We studied the prevalence of anxiety and depression in married and unmarried population. It was found that out of the total married respondents (n=570) 66.7% had anxiety & 73.7% had depression whereas out of the total unmarried respondents (n=766) 74.9% had anxiety & 84.6% had depression.

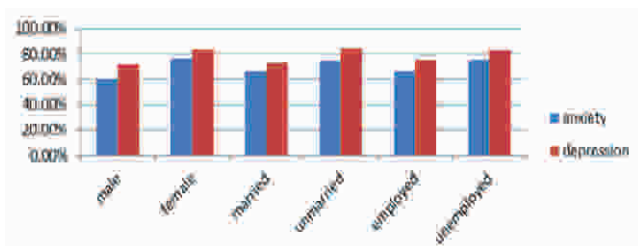
Anxiety: The chi-square statistic is 10.9422. *P* is 0.00094. The result is significant at *p* <0.05

Depression: The chi-square statistic is 24.26. *P* is <.00001. The result is significant at *p* <0.05

The total employed and unemployed population was studied, it was found that both anxiety and depression were more prevalent among the unemployed population (n=715).

Anxiety: The chi-square statistic is 10.301. *P* is 0.001329. The result is significant at *p* <0.05

Depression: The chi-square statistic is 13.1054. *P* is 0.000294. The result is significant at *p* <0.05



It was revealed that anxiety & depression were more prevalent in the younger age group. Maximum number of people, which is 78.4%, in the age group of 10-20 years was anxious & 87.4% of the same were depressed.

	10-20	20-30	30-40	40-50	50-60	60-70
Anxiety	78.4%	76.5%	67.5%	54.7%	56.3%	47.2%
Depression	87.4%	84.0%	76.0%	65.0%	71.3%	58.3%

Data above consists of percentage from the total number of respondents in each respective group.

Respondents with various diseases:

	Diabetes Mellitus	Heart disease	Respiratory illness	Liver disease
Number of respondents	49	28	46	9

Those with diabetes were seen to have:

Anxiety	Depression
44.9%	61.2%

Those with any kind of respiratory issues like asthma, chronic bronchitis & COPD were seen to have:

Anxiety	Depression
93.5%	93.5%

Comparison with general population:

Anxiety: The value of chi square is 11.7557. P is 0.000607. The result is significant at $p < 0.05$

Depression: The value of chi square is 5.5805. P is 0.018161. The result is significant at $p < 0.05$

It was observed that anxiety in people with respiratory illnesses was 1.3 times more as compared to those who did not have any respiratory illness. Similarly depression was 1.2 times more in people respiratory diseases.

In summarizing the data from 222 health care provider responses, 67.1% of them were reported to have anxiety while 77.9% of them had depression.

Anxiety: The value of z is 3.49211. P is 0.00024. The result is significant at $p < 0.05$. Depression: The value of z is -2.255. P is 0.01191. The result is significant at $p < 0.05$

Data responses: The questionnaire consisted of 25 statements which described a certain feeling or emotion. Respondents were asked to grade them from 1 to 4 where 1 was considered as a negative response meaning that they did not have that feeling at all.

Statement	Number of positive responses	Percentage
"Poor appetite."	351	26.7
"Difficulty falling asleep, staying asleep."	578	43.3
"Feeling hopeless about the future."	551	41.2
"Headaches"	454	40.8
"Worrying too much about things"	726	54.3

Majority (54.3%) of the respondents said that they worry too much about things.

Discussion

It was seen that anxiety and depression were more prevalent in the unemployed population which mainly consisted of housewives and students. Unemployment has a negative impact and leads to impaired mental health of the working age population. Concerns are raised about people during the covid pandemic which has affected the mental health of both the working and non-working population but since the unemployed are already affected to some degree, they are in much greater distress. It signifies that the health policies must be developed which can help improve well-being of the working age population.¹⁶ It was estimated that between 2.2 and 2.8 million adults in the country of South Africa lost their jobs from February to April 2020 due to which it became difficult to cope with the financial & economic crisis. A lot of people were shifted on work from home jobs which provided some relief. Adults who retained paid employment during the lockdown had significantly lower depression scores than adults who lost employment.¹⁷

Complete lockdown resulting in disruption of daily activities and home isolation had a major impact on global mental health. It was found out that there was a higher prevalence of mental health problems among adults no social support in China during the outbreak.¹⁸

Study showed that marriage was associated with reduced prevalence of anxiety and depression in both men and women as compared to the unmarried. It is possibly due to the relationship stability present in married couples and companionship. Age of the unmarried population could also be a factor as 79.2% of the unmarried respondents were in the age group of 20-30 years.^{19,20}

According to WHO, Approximately 15% of adults aged 60 and over suffer from a mental disorder. Through this study we observed that there was less anxiety and depression related to covid with increasing age.²¹ Younger populations were more affected. Younger men & women are 2.5 times more likely to be unemployed than people aged²⁵⁻⁶⁴. The younger age group was considered to be at lower risk of developing severe symptoms from the disease however, the disruption in their access to education and employment opportunities as a result of economic downturn is likely to put them on a much more volatile trajectory in finding quality jobs and income.^{22,23} The pandemic has affected mental health of people with respiratory illnesses more. Higher case fatality rate in those with an underlying respiratory problem must have led to this fear of death and becoming sick.²⁴ There should be

awareness programs for people to boost their immune system and adopt a healthy lifestyle.

Smoking cigarettes & hookah reduces lung capacity and increases the risk of many respiratory problems. It can also lead to severity of symptoms in covid patients.²⁵ Smokers should be encouraged to quit smoking by carrying out campaigns on all hazards and health risks due to the cigarette smoke as well as TV shows and live question/answer sessions. Furthermore, taxes on cigarettes should be raised.

Conclusion

Public awareness regarding lowering the transmission and spread of covid-19 can cause decreased anxiety and panic among the general public. Health concerns should be addressed through webinars and tv shows.

A stable healthy relationship provides a sense of companionship and reduces mental distress among young men & women. Alternate ways should be deduced to provide job opportunities in the unemployed population especially in days of complete lockdown.

Conflict of Interest

None

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None

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