

**SEVERITY OF DEPRESSION, ANXIETY AND STRESS AMONG RECOVERED PATIENTS OF COVID-19: AN CROSS-SECTIONAL OBSERVATION STUDY VIA TELEPHONIC CONVERSATION.**

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**Abstract**

As a major virus outbreak in the 21st century, the Coronavirus disease 2019 (COVID-19) pandemic has led to unprecedented hazards to mental health globally. While psychological support is being provided to patients and healthcare workers, the general public's mental health requires significant attention as well. This systematic review aims to synthesize extant literature that reports on the effects of COVID-19 on psychological outcomes of the general population and its associated risk factors. A systematic search was conducted on PubMed, Embase, Medline, Web of Science, and Scopus from inception following the PRISMA guidelines. Relatively high rates of symptoms of anxiety, depression, post-traumatic stress disorder, psychological distress, and stress are reported in the general population during the COVID-19 pandemic. Risk factors associated with distress measures include female gender, younger age group, presence of chronic/psychiatric illnesses, unemployment, student status, and frequent exposure to social media/news concerning COVID-19. The COVID-19 pandemic is associated with highly significant levels of psychological distress that, in many cases, would meet the threshold for clinical relevance. Mitigating the hazardous effects of COVID-19 on mental health is an international public health priority.

**Keywords:** Mental health, General population, Anxiety, Depression, Post-traumatic stress disorder (PTSD), COVID-19

**Introduction:**

An outbreak of a new coronavirus pneumonia occurred in December 2019 in Wuhan, China (1). Since early 2020, this new coronavirus disease (COVID-19) began to spread throughout the world and caused havoc. Despite measures to control the infection, India has become an important hotspot of the pandemic. Beyond the medical risk, the pandemic is having enormous psychological and social impacts. The rapid increase in confirmed cases and deaths has created problems such as stress, anxiety, and depression in the general population.

Various lines of research had focused previously on understanding how societies define the origin and impact of epidemics and how they deal with them, with emotional coping as a key to the process(2). In the current unprecedented situation, it is difficult to accurately predict (and thus estimate) the psychological and emotional consequences of COVID-19. Studies from China, the first country affected, indicate that fear of the unknown and uncertainty can lead to the development of mental disorders such as stress, anxiety, depression, somatization, and adverse behaviours such as increased alcohol and tobacco consumption.

Fear, uncertainty, and stigmatization are common in any biological disaster, and it is thus essential to implement appropriate clinical and mental health interventions. It is equally

important to know the actual psychological status of the groups (on the basis of gender, age, regions, occupations etc.) potentially targeted for such interventions, since each group can perceive the risk differently (3).

In short, in an international public health emergency like the one we are now experiencing, it is important to investigate the pandemic's psychological impact on actual populations and those who are going through the illness in order to develop strategies to reduce symptoms during the crisis and to minimize its consequences. The current study thus measured levels of stress, anxiety and depression in a sample of adults who were diagnosed with COVID-19, in order to analyse the psychological needs of those coping with the pandemic and possible predictive factors.

**AIM:**

To determine the impact of COVID-19 on psychological health (depression, anxiety and stress) of people who contracted the infection through application of DASS scale.

**METHODOLOGY:**

This was a cross-sectional observational study done via online platforms and telephone conversation with the participants. After obtaining consent from the patients who had suffered and recovered from COVID-19 they were asked about their stresses and DASS-21 scale was applied (4). The socio-demographic details were also collected. After analysing the database in Microsoft Excel (<https://products.office.com/>), the results were interpreted. We obtained a total of 258 responses but we opted to exclude the responders who completed less than 50% of the items. For better comparison we divided the participants into groups based on gender and age range. So in the end total 200 participants were chosen consisted by 100 males and 100 females.

DASS-21 consists of 21 Likert-type items and presents 3 factors: Depression (items: 3, 5, 10, 13, 16, 17, and 21), Anxiety (items: 2, 4, 7, 9, 15, 19, and 20), and Stress (items: 1, 6, 8, 11, 12, 14, and 18). This categorization of the different dimensions is obtained via the sum of the scores on the answers to the items corresponding to each of the factors. The available options for answering this scale were: 0: did not apply to me at all; 1: applied to me to some degree, or some of the time; 2: applied to me to a considerable degree or a good part of the time; and 3: applied to me very much or most of the time. The ad hoc procedure to collect the participants' sociodemographic data, designed with closed questions, asked their age, sex, residence. Age was later categorized in two brackets (20-40 years and 41 years and older). DASS items were applied on each individual and the rates of depression, anxiety, and stress symptoms were stratified by sex and age bracket.

**RESULTS**

As mentioned earlier, we conducted this study via telephonic conversations and online platforms and got a total of 258 responses out of which 200 participants were recruited and DASS rating scale was applied on all of them. All the participants had contracted COVID-19 infection and had been admitted to our hospital at some point of time.

We divided the sample into two groups of males and females with 100 participants in each group. In female group the mean score for depression component of DASS was  $20.54 \pm 8.39$  compared to  $18.39 \pm 6.78$  for male group. For anxiety component the mean score was  $13.34 \pm 5.63$  and  $14.94 \pm 4.73$  for female and male group respectively and for stress the mean was  $26.65 \pm 10.33$  for females while for male group it was  $29.57 \pm 6.37$ . The mean scores along with median scores are shown in Table 1 comparing the two groups. It also shows the p-value which was significant for all the three components i.e. depression, anxiety and stress indicating

that the male group had higher DASS scores in anxiety and stress domains while females had higher values in depression domains.

We also compared the sample by dividing it into two separate groups based on age and observed that the mean depression score for people in age range 20-40 years was  $19.27 \pm 7.38$ , mean anxiety score and stress score was  $15.09 \pm 4.7$  and  $28.3 \pm 8.64$  respectively while in the other group with age  $\geq 40$  years the scores were  $19.66 \pm 8.02$ ,  $13.19 \pm 5.61$  and  $27.92 \pm 8.77$ . The p value showed significant difference between the two age groups in anxiety domain of DASS indicating higher psychological morbidity in the form of anxiety in people aged between 20-40 years. Table 2 summarises the DASS scores for the two age based groups.

Score values	Male group	Female group	<i>p-values</i>
<i>Depression domain</i>			0.047
Mean	18.39	20.54	
Median	18	19	
Mode	20	20	
SD	6.78	8.39	
<i>Anxiety domain</i>			0.030
Mean	14.94	13.34	
Median	16	13.5	
Mode	16	8	
SD	4.73	5.63	
<i>Stress domain</i>			0.017
Mean	29.57	26.65	
Median	30	27	
Mode	30	27	
SD	6.37	10.33	

Table 1.: DASS scores for male and female group.

Score values	Age 20-40years	Age $\geq 40$ years	<i>p-values</i>
<i>Depression domain</i>			0.720
Mean	19.27	19.66	
SD	7.38	8.02	
<i>Anxiety domain</i>			0.010
Mean	15.09	13.19	
SD	4.7	5.61	
<i>Stress domain</i>			0.758
Mean	28.3	27.92	
SD	8.64	8.77	

Table 2.: DASS scores of the two age based groups.

## DISCUSSION:

COVID-19 has caused a situation of chaos worldwide since its beginning in 2019. With no exact treatment available and various drugs under study for its management those who suffered from it have realised their hidden inner fears and have suffered from psychological stresses simultaneously. The prevalence of anxiety, depression and stress has increased many fold since its beginning and more so in people who have seen it closely either in relatives who got infected or them themselves. Many studies have been conducted since then to assess the levels of psychological impact that COVID-19 has had on the population and several of

such studies have found deep impacts on psychological health of people during COVID-19. With the pandemic still going on its difficult to assess the exact impact that it will have on the world. This study was done to assess the levels of depression, anxiety and stress by using DASS among the people who suffered from the infection of COVID-19 and were admitted to hospital. Study by M.Passavanti et.al in 2021 over 7 countries in 1600 subjects highlighted the psychological impact of COVID-19 in the form of depression, anxiety and PTSD and also showed that the stress was more in female gender and in those belonging to lower socio-economic status as opposed to that in our study we observed DASS score to be more in males in anxiety and stress domains but for depression domains females had more DASS score values (5). Study by Marijanovic I et.al in Bosnia in 2021 also showed that significant DASS scores were seen in oncology staff in all three domains of depression, anxiety and stress(6). A cross sectional observational study in Spain by Ozamiz Etxeberria N et al also noted DASS scores to be high and found that there were higher mean levels of stress, anxiety, and depression in the 18-25year age bracket, followed by the 26-60year bracket and finally the mean levels of symptoms in the three dimensions were lowest in individuals 61 years and older(7). In our study we found DASS to be significantly higher for anxiety component for younger people.

#### CONCLUSION:

COVID-19 pandemic has hit upon the world and caused devastation since its beginning. It has affected whole population either physically or psychologically. At the global level, fear of COVID-19 is much greater than that of seasonal flu outbreaks, although the latter have killed considerably more individuals. (8)The consequences are yet to be determined especially neuro-psychiatric effects as the pandemic is still going on. The levels of depression, anxiety and stress have increased manifold in people who got infected with COVID-19. It is high time that we realise need for interventions for mental wellbeing so as to reduce the impact of the pandemic on people who have suffered from the infection as well as for the remaining population.

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