

# Association of Depression and Anxiety in Patients with Covid-19

SAFDAR ALI PERVEZ<sup>1</sup>, HARESH KUMAR<sup>2</sup>, RAKESH KUMAR<sup>3</sup>, SARIKA BAI<sup>4</sup>, AZRA SHAHEEN<sup>5</sup>, OM PARKASH<sup>6</sup>

<sup>1</sup>Assistant Professor, Medicine, Khairpur Medical College, Khairpur Mirs

<sup>2</sup>Assistant Professor, Psychiatry, Khairpur Medical College, Khairpur Mirs

<sup>3</sup>Senior Registrar, Psychiatry, Hamdard Medical University, Karachi.

<sup>4</sup>Woman Medical Officer, Tamachani Maternity Home, Sukkur

<sup>5</sup>Assistant Professor, Clinical Psychologist, Baqai Medical University Karachi

<sup>6</sup>Liaquat University of Medical and Health Sciences, Jamshoro.

Corresponding author: Dr. Hareesh Kumar, Email: hareeshmakhija@gmail.com, Mob: 03337589901

## ABSTRACT

**Objective:** To determine the prevalence of depression and anxiety in patients with corona virus disease and without corona virus disease.

**Study Design:** Cross-sectional/observational

**Place and Duration:** Psychiatry department of KMC Teaching Hospital Khairpur Mirs for four months duration from 1<sup>st</sup> July, 2020 to 30<sup>th</sup> October, 2020.

**Methods:** Two hundred and twenty patients of both genders were presented in this study. Patients detailed demographics were recorded after taking written consent. Patients were ages between 20-70 years. Among all the patients, 110 patients (group I) with covid-19 disease taken as cases and 110 non-covid 19 patients (group II) were taken as control. Prevalence of depression and anxiety were measured by DASS-21. Complete data was analyzed by SPSS 27.0 version.

**Results:** Mean age of the patients in group I and II was 42.38 ±12.44 years and 41.22±12.85 years. Mean BMI in group I was 23.46±1.52 kg/m<sup>2</sup> and in group II it was 24.33±1.58 kg/m<sup>2</sup>. 76 (69.10%) and 70 (63.64%) patients were males while 34 (30.91%) and 40 (36.36%) were females in cases and control. Frequency of depression and anxiety was significantly among patients with covid-19 disease as compared to without covid-19 disease patients (p-value <0.05).

**Conclusion:** Anxiety and depression was significantly associated with COVID-19 disease. Medically ill patients should develop techniques for rapid diagnosis and treatment of depression and anxiety.

**Keywords:** Depression, Anxiety, Coronavirus Disease, Illness

## INTRODUCTION

The reason for the transmission of the novel coronavirus disease-19 (COVID-19) which is linked to the ability to transmit disease from man to man is the severity of acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease has severe and life-threatening health issues[1]. As some scholars suggested, the first outbreak of a 21st century infectious disease was not the latest, with the emergence of COVID-19 as a pandemic earlier this century[2].

The World Health Organization described the outbreak as a Public Health Emergency (PHEIC)[3]. Recently, social disruption and worrisome economic effects have affected the epidemic. These points can lead to disorders of mental santé for the public, and particularly for patients with the disease[4–6], along with a risk of stigmatization and discrimination.

Many patients may experience psychological distress and physical problems due to the growing number of infected patients and their deaths[7]. The unpredictability and volatility of the disease state of various epidemiological aspects and successful treatment approaches brings people under stress [8]. Fear of death and extreme angst and mental distress, which can correlate with insomnia and the physical symptoms of the disease, can establish adverse patient circumstances as mental disorders worsen[9–11].

Hospitalized patients posed questions such as anxiety, solitude, exhaustion and frustration early in the SARS epidemic. Due to fever and the symptoms of insomnia they were concerned. [12]. Anxiety is seen as the

significant impact of epidemics affecting both individuals actively involved in the disease and among the population with elevated levels of participation and death risk. Depression and other psychological issues may be associated with this [13]. In addition, this study examined the potential effects on mental health of patients' occupational, economic and social conditions following COVID-19 spread. Another point of discussion is to examine the effects in this field of demographic variations, such as marital status. Because of certain underlying conditions, including high blood pressure, diabetes and mental diseases, interaction[14, 15].

The mental health status of hospitalized patients with COVID-19 was analyzed in this report. Certain psychological symptoms including depression and anxiety were investigated in these patients following clinically stable conditions.

## MATERIAL AND METHODS

This cross-sectional/Observational study was conducted at Psychiatry department of KMC Teaching Hospital Khairpur Mirs for four months duration from 1<sup>st</sup> July, 2020 to 30<sup>th</sup> October, 2020 and comprised of 220 patients. Patients detailed demographics including age, sex and body mass index were recorded after taking written consent. Patients with any severe illness and those were not agreed to provide written consent were excluded from this study.

Patients were ages between 20-70 years. Among all the patients, 110 patients (group I) with covid-19 disease taken as cases and 110 non-covid 19 patients (group II) were taken as control. Prevalence of depression and

anxiety were measured by DASS-21. All the data was analyzed by SPSS 27.0 version. Chi-square test was done to compare the frequency of depression and anxiety between cases and controls. P-value <0.05 was taken as significant.

## RESULTS

76 (69.10%) and 70 (63.64%) patients were males while 34 (30.91%) and 40 (36.36%) were females in cases (group I) and control (group II). Mean age of the patients in group I and II was  $42.38 \pm 12.44$  years and  $41.22 \pm 12.85$  years. Mean BMI in group I was  $23.46 \pm 1.52$  kg/m<sup>2</sup> and in group II it was  $24.33 \pm 1.58$  kg/m<sup>2</sup>. Majority 155 (70.45%) patients were from urban areas while 65 (29.55%) patients had residence of rural areas. 160 (72.73%) were married (83 in group I and 77 in group II) while 60 (27.27%) were unmarried. 145 (65.90%) were literate while 75 (34.10%) were illiterate. (table 1)

Table 1: Baseline detail of enrolled cases and controls

Variables	Group I (cases)	Group II (control)
Gender		
Males	76 (69.10%)	70 (63.64%)
Females	34 (30.91%)	40 (36.36%)
Mean age	$42.38 \pm 12.44$	$41.22 \pm 12.85$ years
Mean BMI	$23.46 \pm 1.52$	$24.33 \pm 1.58$
Residence		
Urban	80 (72.73%)	75 (68.18%)
Rural	30 (27.27%)	35 (31.92%)
Marital Status		
Married	85 (77.27%)	75 (68.18%)
Unmarried	25 (22.73%)	35 (31.92%)
Education Status		
Literate	68 (61.82%)	77 (70%)
Illiterate	42 (9.17%)	33 (30%)

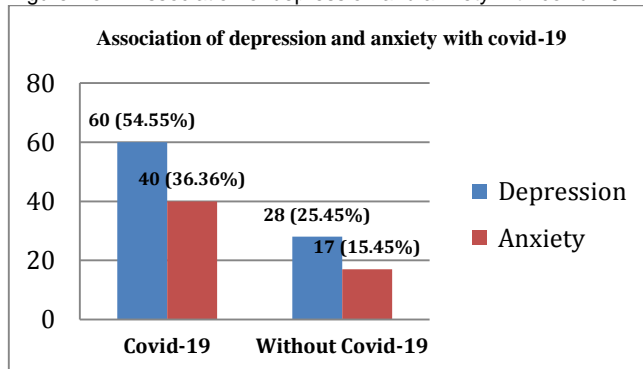
In group I (cases) depression and anxiety found in 60 (54.55%) and 40 (36.36%) patients while in group II 28 (25.45%) and 17 (15.45%) patients had depression and anxiety. A significant association was found between depression and anxiety and covid-19 disease with p-value <0.05 (table 2)

Table 2: Frequency of depression and anxiety among the patients

Variables	Group I (cases)	Group II (control)
Depression	60 (54.55%)	28 (25.45%)
Anxiety	40 (36.36%)	17 (15.45%)

P-value 0.001

Figure No 1: Association of depression and anxiety with covid-19



## DISCUSSION

In the first phase in the WHO guidelines of the CO VID 19 confines, an international study of Spanish adults found both a worsening current anxiety and humor with regard to physical activity. [16]

In our study Mean age of the patients in group I and II was  $42.38 \pm 12.44$  years and  $41.22 \pm 12.85$  years. 76 (69.10%) and 70 (63.64%) patients were males while 34 (30.91%) and 40 (36.36%) were females in cases (group I) and control (group II). Mean BMI in group I was  $23.46 \pm 1.52$  kg/m<sup>2</sup> and in group II it was  $24.33 \pm 1.58$  kg/m<sup>2</sup>. Majority 155 (70.45%) patients were from urban areas while 65 (29.55%) patients had residence of rural areas. 160 (72.73%) were married (83 in group I and 77 in group II) while 60 (27.27%) were unmarried. 145 (65.90%) were literate while 75 (34.10%) were illiterate. These findings were comparable to the many previous studies, in which majority of patients presented with coronavirus disease were males 65% to 75%, belongs to urban area and the average age of patients was 50 years [17,18].

In present study depression and anxiety found in 60 (54.55%) and 40 (36.36%) patients while in group II 28 (25.45%) and 17 (15.45%) patients had depression and anxiety. A significant association was found between depression and anxiety and covid-19 disease with p-value <0.05. A study conducted by Amir Vahedian-Azimi et al regarding psychological problems among covid-19 patients, medical student and medical staff, in their study they reported that frequency of depression and anxiety was high in medical student and covid-19 patients as compared to staff with p-value <0.05 [19]. Dai L-L et al [20] reported that frequency of depression and anxiety in covid-19 patients was 18.6% and 13.4%. The direct consequence of this co-morbid medical condition, medications used for the treatment of medical condition, illness or stress linked to longer durations, and the severity of the COVID 19 outcome of individuals with various chronic conditions and longer periods of illness may be the potential cause.

Lee et al. studied the stress and psychological stress levels in 79 and 96 patients in two clinics during the SARS outbreak and one year thereafter. They were more stressful than the control group when the outbreak occurred. The point of concern of their research was that the results of this study were seen strongly in both classes one year after this survey. In addition, depression, anxiety and post-traumatic stress have remained disturbing one year since the outbreak. [21] The persistence of such manifestations is also reflected in the light of similitudes between SARS and COVID-19 causatives, although many specialists say COVID-19 was worse and more severe than SARS. [22]

A similar high prevalence and severe psychiatric disorder indicates a significant need for commitment to mental wellbeing in hospitalized patients with COVID-19. Health policymakers seem to require coherent screening and management strategies. In the continuum of this disease, patient psychiatric treatments and the implementation of an educating initiative may also be effective at a community level.

## CONCLUSION

We concluded that anxiety and depression was significantly associated with COVID-19 disease. Frequency of

psychological disorders was high in covid-19 patients as compared to medically ill non covid-19 patients. Medically ill patients should develop techniques for rapid diagnosis and treatment of depression and anxiety.

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