

Assessment of Severity of Anxiety and Depression in Covid-19 Patients Admitted to Rawalpindi Medical University and Allied Hospitals Rawalpindi Pakistan

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ABSTRACT

Objective: To determine the prevalence of anxiety and depression among the COVID-19 infected patients.

Study design: Descriptive cross-sectional study.

Place and Duration of Study: Rawalpindi Medical University and Allied Hospitals Covid designated wards from 1st April 2019 and 30th June 2020

Methodology: Data of 100 patients were collected using questionnaires on physical parameters including medical comorbidities and listed physical symptoms. The patients were interviewed based on ICD 10 diagnostic criteria of depression and anxiety. Those patients who fulfil the clinical criteria Hamilton rating scale for anxiety (HAMA) and Hamilton rating scale for depression (HRSD) were applied to assess the severity of anxiety and/or depression.

Results: There were 69 (69%) males and 31 (31%) females. Eighty two (82%) patients fall in the age range of 21 to 50 years with the mean of 38 years. There is high level of anxiety as well as depression among admitted patients suffering from COVID-19. Seventy five (75%) patients suffered from depression and 72 (72%) of patients suffered from anxiety ranging from mild to severe.

Conclusion: Patients suffering from ischemic heart disease, diabetes mellitus and hypertension showed higher anxiety and depression as compared to patients suffering from Asthma, Chronic obstructive pulmonary disease (COPD), TB and renal failure.

Keywords: Covid 19, Anxiety and depression, Physical comorbidities

INTRODUCTION

In December 2019 first case of SARS COV was reported in Wuhan (China). WHO declared it a global pandemic soon after its rapid global spread on 11th March 2020.¹ The United Nations also warned of risk of a global health crisis by corona virus.²

The increased risk of post-traumatic stress disorder, stress and psychological distress in both patients and health care workers suffering from Covid-19 infections were reported. Multiple factors can be playing role in developing stress, anxiety, fear, and depression in admitted patients. First is uncertainty regarding the treatment protocol in hospitals.³ Second is the rapid and devastating spread of COVID-19 infection a lot of people have been isolated and quarantined in homes and severe cases have been admitted in hospitals. Third the course and prognosis of this viral infection is unclear along with sudden worsening of symptoms and deaths occurring among young patients. Fourth factor can be due to the complete and forced isolation of the infected individuals.⁴ Evidence shows that severe the mental health issues the longer will it take for the patients to recover from physical illness.⁵

Patients who have physical illnesses are routinely screened for anxiety and depression as chances of having anxiety and depression in physical illnesses is relatively high.⁶ The response of the patients to treatment is also affected by the severity of anxiety and depression.

MATERIALS AND METHODS

This descriptive, cross-sectional study was conducted from 1st April 2020 to 30th June 2020. We included 100 patients, using consecutive sampling technique, who were hospitalized in specialized units for COVID-19 patients at RMU and Allied hospitals Rawalpindi. Patients with a positive PCR for covid-19 admitted to the hospital were included in the study and patients who were on ventilators, having a previous history of psychiatric illness and those who refused to give consent were excluded.

After the approval from ethical review committee of Rawalpindi medical university and allied hospitals (letter # 97/IREF/RMU/2020), data was collected from the diagnosed cases admitted in Allied hospitals of RMU after taking written informed

consent from the patients. We collected data on the travel history if any, the physical symptoms and comorbidities as diabetes mellitus, ischemic heart disease, hypertension, asthma, TB, COPD or any other through a pre-developed questionnaire. Study participants were also asked whether they were suffering from physical symptoms (fever, cough, shortness of breath, fatigue, sore throat, headache, myalgia, and any other symptom).

The patients were interviewed based on ICD 10 diagnostic criteria of depression and anxiety. Those patients who fulfil the clinical criteria Hamilton rating scale for anxiety (HAMA) and Hamilton rating scale for depression (HRSD) were applied to assess the severity of anxiety and/or depression. The optimal HAM-A score ranges are mild anxiety = 8-14; moderate = 15-23; severe ≥ 24 (scores ≤ 7 were considered to represent no/minimal anxiety). We used the 17 item HRSD scale with each item on the scale is scored on a 3- or 5-point scale. The scoring is as follows; not depressed: 0-7, mild (subthreshold): 8-13, moderate (mild): 14-18, severe (moderate): 19-22 and very severe (severe) >23 . Data was analyzed using SPSS-16. Statistical analysis was used to ascertain correlation with a p value <0.05 considered statistically significant.

RESULTS

Among the sample of hundred admitted COVID-19 patients 69% were males and 31% were females. 82% of the patients fall in the age range of 21 to 50 years with the mean of 38 years. Among the sample of one hundred participants, 92% had no travel history and 8% had a positive travel history. A large proportion of study participants had comorbid physical illnesses 5% had asthma, 3% had COPD, 32% had Diabetes, 27% had hypertension, 14% suffered from ischemic heart disease and 4% had chronic kidney disease (Table 1).

There is high level of anxiety as well as depression among admitted patients suffering from COVID-19. 22% had mild depression, 11% have moderate depression, 13% had severe depression and 26% had very severe depression, 39% patients had severe depression (Fig. 1). 75% had anxiety ranging from mild to severe (Fig. 2).

When symptoms of anxiety and depression were considered according to comorbidities of participants, it was found that

patients suffering from ischemic heart disease, diabetes mellitus and hypertension showed higher anxiety and depression as compared to patients suffering from Asthma, Chronic obstructive pulmonary disease (COPD), TB and renal failure. Among the patients suffering from hypertension 81% (22) reported symptoms of anxiety ranging from mild to severe and 77% (20) participants suffering from hypertension reported symptoms of depression ranging from mild to very severe, among patients suffering from ischemic heart disease 71% (10) of participants reported symptoms of anxiety ranging from mild to severe.

Coming to symptoms of COVID-19 admitted patients the wide range of symptoms have been observed ranging from asymptomatic infection to severe pneumonia. The most frequent symptom in current study were fever or chills 88%, cough 82%, myalgias 80% followed by headache, shortness of breath and gastrointestinal symptoms. 57% patients had positive findings on chest X-ray and chest CT scan. Out of those 57% patients 35% had depression and 36% had anxiety.

Table 1: Frequency of gender and comorbidity (n=100)

Variable	No.	%
Gender		
Male	31	31.0
Female	69	69.0
Comorbidities		
Asthma	5	5.0
COPD	3	3.0
Diabetes	32	32.0
Hypertension	27	27.0
Ischemic heart disease	14	14.0
Renal failure	4	4.0
Nil	15	15.0

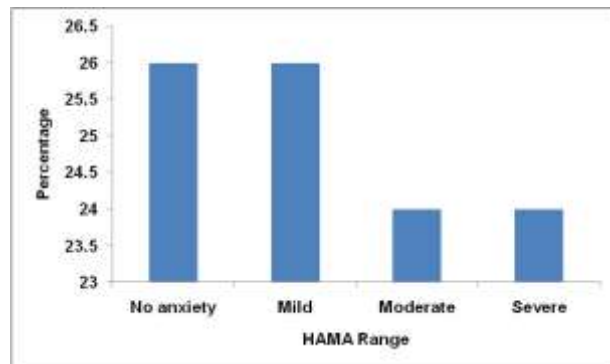


Fig. 1: Overall prevalence of anxiety in patients suffering from Covid-19

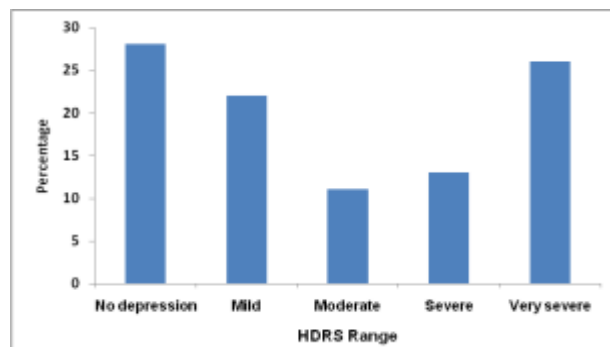


Fig. 2: Overall prevalence of depression among participants suffering from Covid-19 infection

DISCUSSION

There are significantly higher rates of anxiety symptoms (72%) and depressive symptoms (72%) as compared to a study conducted in China⁴ having a sample of 307 patients where 18.6% were having

anxiety symptoms and 13.4% were having symptoms of depression. These high rates can be attributed to several factors including meagre resources in our current health care system, growing burden of COVID-19 infected patients and lack of information to the patients regarding treatment protocols being followed. The patients who are tested positive are disconnected from outside world and all they could interact is with a person wearing a PPE and dispensing medications. Their emotional and psychological needs are not met because of social distancing and complete isolation.

Patients and their relatives experience high levels of anxiety due to Covid-19, but frequency of depressive symptoms is low. It contrasts with the current study where almost 75% have anxiety and 72% have depression. It can be due to the presence of comorbid physical illness that our study population has, leading to increased risk of mental health issues⁹ and to the unpredictable outcome of COVID-19 infection and loss of loved ones in the family.

In the present study, the patients suffering from medical illnesses experience more anxiety and depression especially the patients suffering from ischemic heart disease, diabetes mellitus and hypertension while the patients who had comorbid asthma, COPD, tuberculosis, and renal failure had low anxiety and depressive symptoms. Similar results have been observed in a Chinese study in which more than one third of patients had an underlying physical comorbidity and 97.2% of patients with COVID-19 had some degree of depression.^{10,11} This study also shares similar findings where hypertension, chronic bronchitis or chronic obstructive pulmonary disease and diabetes were the three comorbidities associated with higher rates of depression and anxiety. Similar findings have been seen in studies done in other regions of the globe revealing strong association between comorbidities such as diabetes, heart diseases, chronic renal disease, obesity and COVID-19 hospitalization.¹²⁻¹⁵

Current study has few limitations such as the sample size was small. It was difficult to collect the data from isolated patients because for collection we had to communicate wearing PPE that might have increased anxiety among patients. The patients were interviewed after their COVID-19 test was positive there is a possibility that patients who chose not to participate have more depression or anxiety. No comparison was done between patients suffering from corona virus infection and those admitted other infective aetiologies that require physical distancing, so it is not possible to tell if high percentage of depression and anxiety is more prevalent in patients suffering from COVID-19.

CONCLUSION

Level of psychological burden in form of increased frequency and severity of anxiety and depression in patients suffering from corona virus infection requires serious attention towards the mental health of the patients. Our health care providers need to investigate this and devise treatment protocols for the patients admitted in hospitals. Special attention should be given to the mental health of the patients suffering from COVID-19 having coexisting physical illnesses.

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