# OCCURRENCE OF PSYCHIATRIC CO-MORBIDITY AND FACTORS ASSOCIATED AMONG COVID-19 PATIENTS

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## ABSTRACT

***Objectives***: The occurrence of psychiatric co-morbidity and factors related to psychiatric comorbidity among COVID-19 patients in hospital setting.

***Study Design***: Cross sectional research design.

***Place and Duration of Study***: Was conducted at Combined Military Hospital Multan, from Apr 2020 to May 2020.

***Methodology***: A purposive sample of 81 in patients diagnosed with COVID-19 was gathered from Combined Military Hospital Multan. Psychometric tests Depression Anxiety and Stress Scale and Multi dimensional Scale of Perceived-Social-Support were administered to assess study variables. Bivariate correlation analysis was used to find relationship between variables. Linear Regression was analyzed to gather causal relationships between study variables.

***Results***: The results of current study indicated that among eighty one COVID-19 patients 21% of participants were having symptoms of depression, 31 patients (38%) were experiencing symptoms of anxiety, 36 patients (44%) were facing stress and 54% COVID-19 patients reported to have lack of social support respectively. Perceived-social support significantly negative correlated with depression, anxiety and stress. Moreover, stress significantly positively predicted whereas social support significantly negatively predicted depression and anxiety.

***Conclusion***: Psychiatric co-morbidity especially the occurrence of anxiety and stress was high and perceived social support was less amongst patients suffering from COVID-19. The findings of the study highlighted the need of thoughtful efforts to be put by health department and government organizations to prevent impending psychological catastrophe that emerged over the lives of COVID-19 sufferers.

**Keywords**: COVID-19, Psychiatric co-morbidity, Social support.

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## INTRODUCTION

The widespread Coronavirus Disease 2019 began in the Wuhan city of China, and extent coast-to-coast from December 2019 to early 2020. The COVID-19 wide-ranging has instigated severe pressures to individual's physical and psychological health and lives due to uncertainty of the situation, the vagueness of disease control and the gravity of the risk[1]. In Pakistan, the first corona virus case was reported on Feb 26, 2020 in Karachi. To date May 31, 2020, there were 76483 diagnosed COVID-19 cases and 1543 deaths due to COVID-19 in Pakistan[2]. In this worldwide health catastrophe, rigorous protective measures have been employed to decrease COVID-19 by spreading[3]. The existing global epidemic certainly has concerns for psychological health, as revealed through earlier health catastrophes. Like, in Hong Kong in 2003, severe acute respiratory syndrome (SARS) has been pronounced as a "mental health catastrophe" with long standing psychiatric-morbidities for instance Post-Traumatic Stress Disorder (PTSD) and Depression intervened by factors such as social-support and disease related stress[4]. For general community those who don't have direct exposure with corona virus disease, psychological health may be affected by preventive procedures as well. For instance, the commencement of social-distance, self-isolation and lock-downs which limits social connection with other people[5], as social linking is energetic to well-being[6].

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Moreover, augment edcaution towards hygiene and sanitation tied with uncertainties and doubts of getting infection or disease may also lead to added anxieties than usual, prone psychiatric vulnerable individual may develop anxiety disorders later[7]. In addition, quarantined people also limit their social connections and experience loneliness and frustration making it a stressful phenomenon[8]. There are multiple aspects known contributing to decrease or worsening of psychological health like quality of perceived social support and the one's own apprehensions related to the illness, prognosis and recovery. Such challenges and stress generate common mental-health disorder, for instance anxiety and depression[9]. Current study focused on COVID-19 patients. The key objectives of current study are to assess the occurrence of emotionaland mental agony andto examine the associated factors related to psychological distress. Therefore benefiting a concrete beginning for adapting and implementing pertinent therapeutic modalities to manage this challenge professionally and effectively[10]. Hence, current study aimed to measure the occurrence of psychiatric co-morbidities and assess the associated factors. This study will help upcoming investigators and mental health experts with a substantial beginning for acclimatizing and instigating relevant therapeutic interventions to manage this challenge proficiently and effectively.

## METHODOLOGY

A cross sectional research design was used in current study. Study was conducted at Combined Military Hospital (CMH), Multan during 14th April to 30th May, 2020. Data collection began on 14th April when first case of COVID-19 positive reported to CMH Multan. Formal written consent was collected from the each participant. They were delivered with all information concerning research, its necessities and process. Those participants who had no history of any chronic physical disability or psychiatric illness were included in the study. Individual administration was carried out. Total of 120 patients were diagnosed with COVID-19 during this time frame. Eighty one sample size was estimated through EpiTools Epidemiological Calculator 11 with 5% level of significance, 95% confidence level, and 5% of absolute precision and 73% estimated true proportion. Among them three patients were serious and died. Thirty six patients were excluded from the study due to having history of choric physical or psychiatric illness. Ultimately a convenient sample of 81 inpatients was gathered from CMH Multan diagnosed with COVID-19.

Demographic form consisted of[11], items which contains question regarding participant's age, gender, marital status, family system, general home environment, history of any physical, psychological illness and drug intake. Psychiatric Comorbidity was assessed in terms of depression and anxiety moreover, specifically stress and perceived social support were studied as associated factors of psychiatric co-morbidity for current study. Study variables were operationally defined by psychometric scales including Depression Anxiety Stress Scale (DASS-21)[12], and multi dimensional Scale of Perceived Social Support (MSPSS)[13], respectively. The Depression Anxiety Stress Scales was developed by Lovibond in 1995. It is a 21-item self-report measure to assess physical and emotional symptoms of stress, depressive and anxiety symptoms in the for going week. Cut off score for depression was[10], for anxiety 8 and for stress cut off raw score was[15]; having strong psychometric properties[12]. Social support was assessed using the Multidimensional Scale of Perceived Social Support. This scale was developed by Zimet and her colleagues in 1988 which has 12-items of social support. Participants were be asked to respond using a 7-point scale ranging from 1 very strongly disagree to 7 very strongly agree to 8 statements. Scoring involved adding together all 12 items and then division by[12]. Mean total score from 1 to 2.9 reflected low support; a score of 3 to 5 was considered as moderate support; a score from 5.1 to 7 revealed as high social support. The overall social support scale showed good internal reliability ($\alpha$=0.93). The subscales including significant other ($\alpha$=0.90), family

(α=0.89), and friends (α=0.89) showed good internal reliability as well[13].

Data was analyzed using Statistical-Package for Social-Sciences-23. Descriptive analysis was done to determine frequencies and percentage of prevailing study variables. Bivariate correlation and linear regression analyses were used to find relationship between variables and to infer causal relationships between variables, respectively. Further, 0.05 level was set as level of significance in the present study.

## RESULTS

81 in total patients diagnosed with COVID-19 that consists of Males 52 (64%) and females 29 (36%) with mean age of 44.7 years ± 8.1 were selected. 70 participants (87%) married among overall sample. 24 (29%) had educational standard till matric and below, 27 (33%) were educated till intermediate and 30 (36%) were graduates. Table-I indicates that among 81 COVID-19 patients 21% participated reported depressive symptoms, 31 patients (38%) reported anxiety symptoms, 36 patients (44%) reported higher level of stress and 43 (54%) COVID-19 patients revealed having lack of social support, respectively. Table-II represents the correlation coefficient between study variables. Depression, anxiety and stress have significant negative correlation with social support. Results of table-III revealed that stress significantly positively predicted anxiety and depression whereas social-support substantially predicted anxiety and depression in negative direction. Moreover, it accounted for 45% and 47% variance in depression and anxiety respec-tively. Results were statistically significant as *p*-value ≤0.05.

**Table-I: Frequency distribution of psychiatric illness and associated factors among COVID-19 patients (n=81).**

| Co-Morbid Psychiatric Illness & Factors | n (%) |
|---|---|
| Depression | 17 (21) |
| Anxiety | 31 (38) |
| Stress | 36 (44) |
| Perceived Lack of Social Support | 43 (54) |

**Table-II: Bivariate correlation among study variables (n=81).**

| Variables | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Depression | - | 0.76** | 0.40** | -0.86** |
| Anxiety | - | - | 0.34* | -0.69** |
| Stress | - | - | - | -0.46** |
| Social support | - | - | - | - |

**p<0.05; **p<0.01; ***p<0.000*

## DISCUSSION

The results of current study revealed that among eighty one COVID-19 patients 17 participants (21%) were having symptoms of depression, 31 patients with percentage of 38% were experiencing symptoms of anxiety, and 36 patients (44%) were facing stress during their illness. Forty three (54%) COVID-19 patients reported to have lack of perceived-social-support. Moreover, our results found perceived-social support had significant negative correlation with depression, anxiety and stress. Additionally, stress significantly positively predicted whereas social support significantly negatively predicted depression and anxiety indicating that taking high stress is leading to depression and anxiety whereas having lack of social support is leading to depression and anxiety. Results of current study are consistent with previous researches as Chinese studies conducted by Xiao *et al*. in 2020 examined the occurrence of psychological variables in a COVID-19 patients. Though they provided rough estimates

**Table-III: Stressand social support predicted depression and anxiety in Covid-19 patients (n =81).**

| Variables | | B | S.E | B | *p* | R2 | R2adj | T |
|---|---|---|---|---|---|---|---|---|
| Outcome | Predictor | | | | | | | |
| | (Constant) | 21.79 | 3.62 | - | 0.00 | 0.45 | 0.14 | 6.02 |
| Dep | Stress | 0.45 | 0.15 | 0.39 | 0.01 | - | | 2.94 |
| Anx | | 0.65 | 0.45 | 0.41 | 0.03 | - | 1.4 | 0.65 |
| | (Constant) | 33.93 | 11.41 | - | 0.01 | 0.47 | 0.14 | 5.02 |
| Dep | SS | -0.26 | 0.39 | -0.19 | 0.00 | - | - | -0.66 |
| Anx | | -0.12 | 0.29 | -0.14 | 0.02 | - | -1.3 | -0.43 |

**p<0.05; **p<0.01 Dep = Depression, Anx = Anxiety, SS = Social Support*

of the frequencies of patient' mental health indicators, and found anxiety being the commonest[14,15]. There is no more descriptive studies could be found from Pakistan and other countries so far. An Iranian study conducted by Zandifar & Badrfam in 2020 emphasized the role of unpredictability, insecurity, gravity of the ailment, distorted information and social quarantine are leading to stress and mental morbidity[16]. Another, Japanese study conducted by Shigemura and colleagues in 2020 focusing the impact of COVID-19 on health. They identified patient diagnosed with COVID-19 and their relatives, healthcare personnel and those already having any physical or psychiatric morbidity are at higher risk and more vulnerable for psychiatric issues[17]. A review of COVID-19 quarantine patients revealed several emotional aftermaths, including anxiety, stress, depression, irritability, insomnia, fear, confusion, frustration, boredom, and stigma linked with quarantine[18,19].

### Suggestions

In general health crises, psychological interventions related to such challengesmay be a part of our health care system. There is the need for both psychologicalfacilities, particularly for susceptible populations, and the consolidation of social aspect to lessen the adversative psychological impact of this epidemic. Special focus should be given to the mental-health issues among existing preventive measures. Through employing psychiatrics, psychologists and other relevant medical groups screening of psychiatric co-morbidities including anxiety and depression among COVID-19 patients, caregivers, especially in quarantine cases can be done. As early detection is better to avoid worsening to psychological health. Moreover, as suggested in earlier studies through expansion of online psycho education and online counselling services will also be beneficial in this pandemic.

## CONCLUSION

Results of present study concluded that the occurrence of anxiety and stress was high and perceived social support was less amongst patients suffering from COVID-19. The findings of the study highlighted the need of thoughtful efforts to be put by health department and government organizations to prevent impending psychological catastrophe that emerged over the lives of COVID-19 sufferers.

## CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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