

Resilience in the Face of Psychiatric Morbidity Among COVID-19 Patients

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ABSTRACT

Objective: To study the effects of COVID-related psychiatric morbidity on the psychological resilience of male patients.

Study Design: Cross-sectional study.

Place and Duration of Study: Pak Emirates Military Hospital (PEMH), Rawalpindi and PNS Shifa, Karachi Pakistan from Apr to Jul 2020.

Methodology: One hundred and thirteen male patients filled out the depression, anxiety and stress scale (DASS-21) on day zero and the Connor-Davidson resilience scale (CDRS) on day 180. Mean values were calculated for each component of DASS-21 and resilience. Pearson correlation was applied to establish statistical significance.

Results: The mean values were highest for stress (2.65±4.52), followed by depression (2.02±5.28) and then anxiety (3.63±5.96). The mean resilience was found to be 72.4±14.2. There was a significant negative correlation between each of the three measurements of DASS-21 and its total value with resilience ($p < 0.01$). All three aspects of DASS-21 increased with age [depression $\{r(111) = 0.33, p < 0.01\}$, anxiety $\{r(111) = 0.39, p < 0.01\}$ and stress $\{r(111) = 0.30, p < 0.01\}$].

Conclusion: Resilience among hospitalized COVID-19-positive patients is reduced compared to the normal population. As depression, stress and anxiety increase, resilience decreases proportionately.

Keywords: Anxiety, Coronavirus, Depression, Isolation, Psychiatric morbidity, Resilience, Stress.

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INTRODUCTION

Being declared COVID-19 positive carries an impending fear of death and trauma at the same time – and the prevalence of panic is well-documented.^{1,2} On top of all this, myths, misconceptions and conspiracy theories have produced more anxiety among people than the disease would have created.³ As a result, a sense of mistrust is born in patients and the general masses leading to hyper-vigilance and subsequent stress and anxiety.^{4,5} The endpoint is compromised coping capacity and reduced psychological resilience.⁶ In this way, the concept of psychological resilience gets paramount importance in this whole scenario. It is the ability to cope with a stressful situation and the psychological immunity to threatening and stressful events. Therefore, the probability of developing psychiatric disorders following traumatic experiences depends on the impact on psychological resilience that the trauma has exerted.⁷

The coronavirus pandemic is a global traumatic experience almost equally experienced by the whole world.^{8,9} Its impact on resilience has not yet been studied; neither has the prevalence of psychiatric disorders been sorted out. Pak-Emirates Military Hospital (PEMH) Rawalpindi was designated as a

corona (COVID-19) hospital on 11th April 2020, while during the same time, PNS Shifa Karachi was also managing COVID-19 patients. Together, these two hospitals provided us with our data. This study aimed to measure, firstly, the quality and quantity of psychiatric morbidity among COVID-19 patients; i.e., stress, anxiety and depression; and, secondly, assess the response of resilience to psychiatric morbidity and its demographic correlates among these patients. Data from both hospitals were collected and analysed to develop a better policy for managing corona patients focusing on their mental health compromise.

METHODOLOGY

The cross-sectional study was conducted at Pak Emirates Military Hospital, Rawalpindi and Pak Naval Ship Shifa, Hospital Karachi, Pakistan from April and July 2020 after approval from Ethical Committee. The sample was collected using a non-probability, consecutive sampling technique from all consenting patients who were COVID-19 positive and admitted to PEMH Rawalpindi and PNS Shifa Karachi. Raosoft sample size calculator,⁹ was used for sample size calculation. Study by McGillivray *et al.* (2013) was used as the reference for the study parameters.¹⁰

Inclusion Criteria: Male patients aged >18 years, who were PCR positive for COVID-19 and admitted to PEMH and PNS Shifa were included in the study.

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Exclusion Criteria: Any patients with a history of previous psychiatric illness or psycho-pharmacological intervention and those refusing after informed consent were excluded from the study.

One hundred fifty (n=150) patients were approached, 113 participants consented, while 37 dropped out after discharge. Names of patients were kept confidential during data entry. Data was first collected on day zero, this was the first assessment. It included demographic details, such as age, occupation, educational levels and marital status-and any medical illness history. Each patient was given a questionnaire to fill out, with a resident doctor at hand to answer any queries. All patients were able to read and write for themselves. The depression, anxiety, and stress scale,¹¹ (DASS-21) was administered here. The second assessment was on day 180, where the same patients were then administered the Connor-Davidson Resilience scale-13 (CDRS). Statistical Package for Social Sciences (SPSS) version 20.0 was used for the data analysis. Mean values of depression, anxiety, stress and resilience were calculated. The Pearson correlation test was used to establish the correlation between the DASS-21 and CDRS values and with different demographics such as age. The *p*-value lower than or up to 0.05 was considered as significant.

RESULTS

Our study included 113 male participants, with a mean age of 38±12 years. The mode value for depression, anxiety and stress was 0 (accounting for more than half the candidates in each case), while that for resilience was 21. Among the items of the DASS-21 scale, anxiety was the most prevalent in our sample (mean 3.63) of COVID-19 patients, followed by depression (2.65) and then stress (2.02) (Table-I).

Table-I: Mean Values of Three Items of the DASS-21 Scale and Mean Resilience (n=113)

Depression	Mean±SD	2.65±5.28
Anxiety	Mean±SD	3.63±5.96
Stress	Mean±SD	2.02±4.52
Total depression anxiety stress scale value	Mean±SD	8.30±14.7
Resilience	Mean±SD	72.4±14.2

There was a significant negative correlation between all aspects of the DASS21 scale with resilience (Table-II). Table-III demonstrates the correlation of the DASS-21 with age. This was significant (*p*=0.001) and had positive correlation. In terms of resilience and age, anxiety was the parameter most closely correlated.

Table-II: Correlation of Resilience with Depression, Anxiety, Stress Scale (n=113)

Depression	Pearson Correlation	-0.345
	<i>p</i> -value	0.01
Anxiety	Pearson Correlation	-0.366
	<i>p</i> -value	0.01
Stress	Pearson Correlation	-0.279
	<i>p</i> -value	0.01
Total scale value	Pearson Correlation	-0.351
	<i>p</i> -value	0.01

Table-III: Correlation of Age with Depression, Anxiety, Stress Scale (n=113)

Depression	Pearson Correlation	.326
	<i>p</i> -value	<0.001
Anxiety	Pearson Correlation	0.398
	<i>p</i> -value	<0.001
Stress	Pearson Correlation	0.299
	<i>p</i> -value	0.001
Total scale value	Pearson Correlation	0.362
	<i>p</i> -value	<0.001

DISCUSSION

Our study found the mean value of the CDRS score (Psychological resilience) to be 72.4±14.2. Connor *et al.* (2003),¹² used CDRS with the mean score of 80.4 in the general US population. However, a similar mean CDRS score of 80.67 was discovered in Pakistan, albeit in the young population.¹³ This signifies the importance of a fall in mean psychological resilience after a traumatic experience compared to the mean scores of the general population.

Our model Thai study by McGillivray showed a similar correlation.¹¹ In our case, this correlation meant that with increasing age, depression, anxiety and stress all were elevated among COVID-19 patients. On the other hand, with increasing age, resilience decreased, however, this decrease was not in proportion to the increase, for the same ages, in DASS21 or its component traits.

Our results showed that as a patient’s anxiety, depression and stress levels increased and their resilience fell. The degree of this inverse correlation was astounding, particularly because the six-month period between the administration of the first and the second scales is also the time they have had to ‘recover’ psychologically from the event. Munk *et al.* have provided similar definitions of resilience, enlightening the dynamic nature of the process. This means that a negative correlation was established with a temporal spacing of six months. It should be remembered that higher resilience is reported to be preventive against mental disorders in the face of COVID-19.¹⁴ However, in that study, age and resilience had a slight positive

correlation—which was not a significant finding in our study.

Hospital admission with viral infection has been documented to cause a 2.5-fold increase in anxiety and mood disorders.¹⁵ A similar study should compare our findings with a control group. A study carried out among stroke patients showed mean resilience to be 62.15 ± 14.69 , which shows how the severity of the disease may further influence a fall in resilience.¹⁶

Isolation during this pandemic is already documented to cause mental health disorders in students in France.¹⁷ In China, effects have been investigated and found in both students¹⁸ and the general population,¹⁹ the latter showing more than 6% among quarantined civilians. This would merit a study in Pakistan comparing the effects of quarantine against a control group. The lack of a control group was one of our study's limitations. Another was the prioritising of male patients. This data must now be extrapolated onto the female population by conducting comparative research.

We must be holistic and turn to the biological, social, and psychological model again and not relegate the latter to a level where no heed is paid to it. This means that every patient—their age, gender, socio-economic background, education, and levels of depression, anxiety and stress must be considered in an all-encompassing approach. Only then, can we nurture better resilience and truly claim that we have healed or helped our patients.

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CONCLUSION

Resilience among hospitalised COVID-19-positive patients is reduced compared to the normal population. As depression, stress and anxiety increase, resilience decreases proportionately.

Conflict of Interest: None.

Author's Contribution

Following authors have made substantial contributions to the manuscript as under:

WA & SAS: Study design, data interpretation, critical review, approval of the final version to be published.

SA & SK: Data acquisition, data analysis, critical review, approval of the final version to be published.

AA & NM: Conception, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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