# Evaluation of Stress Levels in Patients Suffering from COVID 19 Infection Admitted in Isolation Ward of a Tertiary Hospital at Hapur as Assessed by Perceived Stress Scale

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## Abstract

The present study aimed to evaluate the stress levels in patients suffering from COVID 19. 100 COVID 19 patients with age >15 years of both genders were included in the study after taking written informed consent. All the subjects were administered Perceived Stress Scale questionnaire to fill and scores were calculated. 82% of the subjects were suffering from high stress while 16% were in moderate category and only 2% reported low perceived stress. As far as age wise distribution of subjects was considered, 36% were < 40 years of age, 32% were between 40 – 60 years and 32% were more 60 years of age. Out of the females 43% had high stress, 3% had moderate and none were in low stress category. While in males 39% had high stress, 13% had moderate and 2% reported low stress. There was a significant increase in the perceived stress score in females as compared to males ($33.08 \pm 4.29$ vs $30.57 \pm 5.27$; $p < 0.01$). So, there is a need to assess the stress in all COVID 19 patients and regular counselling and psychotherapy should be done specially in female patients.

***Keywords:*** *COVID 19, stress, Perceived stress scale*

## Background

Coronavirus disease 2019 (COVID-19) was first identified in December 2019 in Wuhan City in central China. From then, it has spread to all parts of the world and is still spreading in many places. [1] In India, the first case of COVID 19 was reported in late January 2020, ever since it is spreading at a high speed and India has the second highest number of World cases and highest in Asia.[2] Though recovery rate of COVID in India is quite high but the fear of death, mental stress, anxiety and panic associated with being COVID positive and living in isolation ward away from family is also very high, quarantined family.[3] Despite the acquisition of knowledge about coronavirus, its clinical manifestation and diagnostic criteria, its confirmed treatment is still awaited and availability of vaccine in India is still a few months away. Although world has already confronted with extensive epidemics of acute respiratory illness like SARS in 2003, but this outbreak was aptly managed by quarantine measures. Apart from ensuing social instability, COVID-19 is persistently influencing all aspects of human lives. The spreading of the Severe COVID-19 pandemic could be associated with development of stress in patients.[3,4,5]

The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes a number of direct queries about current levels of experienced stress. There are 10 questions which are general in nature, easy to understand, and the response alternatives are simple to grasp. In each case,

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respondents are asked how often they felt a certain way.[6]

So, this study is designed to evaluate the stress levels in COVID 19 patients.

**Objectives:**

1. To evaluate the stress levels in COVID 19 patients using Perceived Stress scale.

2. To determine stress levels in different age groups.

3. To compare stress levels between males and females

## Methods

**Study sample:**

The present study was conducted in the Saraswathi Institute of Medical Sciences, Hapur. The study included 100 patients with age >15 years of both genders admitted in isolation ward of the Hospital after being diagnosed positive for COVID 19 by RT PCR test. Ethical clearance was obtained from Institutional Ethical Committee and informed consent was taken from all subjects. Subjects with terminal illness, $SPO_2$ < 90 %, known cases of cardiovascular diseases or hypertension were excluded from the study.

All the subjects were divided into 3 groups according to age viz < 40 years, 40 – 60 years and > 60 years. They were administered Perceived Stress Scale (English/ Hindi Version based on their preference) at the time of admission stress score was calculated. Scores ranging from 0-13 were considered low stress. Scores ranging from 14-26 were considered moderate stress. Scores ranging from 27-40 were considered high perceived stress.[3]

## Analysis

Data was analyzed using descriptive statistics and stress levels between different groups were analyzed using independent t test and one way ANOVA

## Result

The mean age of the subjects was 49.02 $\pm$ 18.5 years. 54 % of the subjects were males and rest were females. 82% of the subjects were suffering from high stress with stress scores $\geq$ 27 while 16% were in moderate category with stress score $\geq$ 14 and only 2% reported low perceived stress with score $\leq$ 13. As far as age wise distribution of subjects was considered, 36% were < 40 years of age, 32% were between 40 – 60 years and 32% were more 60 years of age. Age wise distribution of stress levels is given in table 1. The mean stress scores in different age is given in table 2. Out of the females 43% had high stress, 3% had moderate and none were in low stress category. While in males 39% had high stress, 13% had moderate and 2% reported low stress. There was a significant increase in the perceived stress score in females as compared to males (33.08 $\pm$ 4.29 vs 30.57 $\pm$ 5.27; p <0.01).

**Table 1: Age wise distribution of stress levels**

| | Low | Moderate | High |
|---|---|---|---|
| < 40 years | 1% | 7% | 28% |
| 40 – 60 years | 1% | 7% | 24% |
| >60 years | 0 | 2% | 30% |

**Table 2: Age wise comparison of stress scores.**

| | < 40 years | 40 – 60 years | >60 years | P value |
|---|---|---|---|---|
| Stress scores (mean + SD) | 32.08 + 5.15 | 30.9 + 5.6 | 32.15 + 4.13 | Not significant |

**Table 3: Gender wise distribution stress levels**

| | Low | Moderate | High |
|---|---|---|---|
| Males | 2% | 13% | 39% |
| 40 – 60 years | 0 | 3% | 43% |

**Table 4: Gender wise comparison of stress scores:**

| | Males | Females | P value |
|---|---|---|---|
| Stress scores (mean + SD) | 33.08 + 4.29 | 30.57 + 5.27 | < 0.01 |

## Discussion

Due to COVID-19 pandemic and essentiality of isolation and quarantine, the stress levels in the COVID patients is drastically increasing. Though the recovery rate is very high in India, but the associated anxiety and stress is still high.

Our study included 100 patients admitted in isolation ward with mild symptoms of COVID 19. According to our study high perceived stress was prevalent in most of the subjects irrespective of age group. Statistically there was no significant difference in stress scores in different age groups. As far as gender wise distribution of stress is concerned in both males and females most of subjects were under high stress. But the mean stress scores were significantly higher in females than in males.

Our study results were consistent with the results of other studies. A study done by Raza et al, also showed females had higher stress scores than males. While contradictory to our study, Raza et al found normal anxiety and stress scores in COVID patients. [3]A study done by Parker et al also showed 25 % of patients with acute stress disorder. [7] An Italian study of 402 patients with COVID-19 evaluated in the emergency department and then screened for psychopathology approximately showed 28% of patients screened for stress disorder.[8] Al-Rabiaah et al explored the impacts of the Middle East respiratory syndrome coronavirus (MERS-CoV) epidemic by examining medical students and found that all of these students experienced stress; however, female students were found with higher levels of stress. [9]

Though researchers across the world are rigorously searching for the cure or developing vaccine but the impact of COVID-19 pandemic on the psychology of people is a neglected facet and should be brought to the attention of stakeholders for timely intervention. Our results suggest that screening of all COVID 19 patients for stress and other psychiatric disorders should done on regular basis. All the patients should be counselled and psychotherapy should be done for them. Stress relieving practices like yoga and meditation sessions and music therapy are recommended for all patients to prevent stress related complications. Special attention should be paid in female patients as they are more prone to stress.

**Conflict of Interest:** None

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