

Emotional State and Resilience of Nurses Working in the COVID-19 Clinical Areas

Shalini Chandran¹, Dorathy Devakirubai², T, Premila Lee³

¹Professor, College of Nursing, Christian Medical College, Vellore

²Professor, College of Nursing, Christian Medical College, Vellore

³Retd. Professor, College of Nursing, Christian Medical College, Vellore

Corresponding author: Shalini Chandran

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ABSTRACT

The coronavirus disease 2019 (COVID-19) pandemic had a great impact on the mental health status of the general population and also showed high levels of psychological symptoms in health professionals. Nurses were also subject to changes in their emotional state related to depression, anxiety and stress as they worked closely with these patients. This research study was aimed to understand the emotional state related to depression, anxiety and stress of nurses working in the COVID-19 clinical areas and their resilience.

A descriptive cross-sectional research design was used for this study and data were collected from 400 nurses caring for COVID-19 patients using consecutive sampling technique. Self-administered questionnaires were used which included demographic proforma, Depression, Anxiety and Stress Scale (DASS21) for assessing the depression, anxiety and stress and Brief Resilience Scale (BRS) to measure the resilience of nurses. The study findings revealed that there was a weak negative correlation seen between resilience with depression ($r = -0.177$, $p = 0.000$), anxiety ($r = -0.177$, $p = 0.019$) and stress ($r = -0.122$, $p = 0.014$). There was significant association between depression with area of work ($p = 0.049$) and years of experience ($p = 0.029$). The results also revealed that there

was significant association between anxiety with years of experience ($p = 0.048$) and the educational status ($p = 0.015$). It was found that there was significant association between stress and gender ($p = 0.003$). There was significant difference of resilience seen among nurses for different durations of work ($p = 0.031$) and areas of work ($p = 0.014$). Understanding the emotional state and resilience of nurses enable the management to develop necessary interventions to improve their emotional well-being.

Key words: depression, anxiety, stress, resilience, nurses, COVID-19

INTRODUCTION

COVID-19 disease originated in December 2019, Wuhan, China and this pandemic had been declared as a global health emergency by the WHO.^[1] There had been 27,236,916 confirmed cases of COVID-19 including 891,031 deaths reported on 8th September 2020 globally.^[2] In India, it was seen that the coronavirus cases were 4,367,436 as reported on September 8th 2020 and the deaths were 78,445 as reported on 10th September 2020.^[3]

This pandemic had a great impact on the mental health status of the general population and also showed high levels of psychological symptoms in health professionals.^[4,5] In a study done in Italy,

26.8% of the health professionals had clinical levels of depression, 31.3% of anxiety and 34.3% of stress.^[5] A similar study done on the psychological impact of the COVID-19 pandemic on health care workers in Singapore showed that 14.5% of the participants screened positive for anxiety, 8.9% for depression and 6.6% for stress.^[6]

Nurses were also subject to changes in their emotional state related to depression, anxiety and stress as they work closely with patients. According to a large-scale cross-sectional study done in Wuhan, China on the frontline nurses during the COVID-19 outbreak, it was found that 14.3% and 10.7% of nurses reported moderate and high levels of anxiety and depression respectively.^[7] A cross-sectional survey done in the United States on the psychological responses of hospital-based registered nurses working during the COVID-19 reported moderate degree of traumatic stress (54.6%), depression (54.6%) and anxiety (37.3%).^[8] A study done during the 2021 COVID-19 outbreak in Taiwan also revealed that 33.7% of nurses had depression, 36.8% had anxiety and 38% had stress.^[9]

Roberts had explored the experiences of UK nurses working in a respiratory environment during the COVID-19 pandemic. This study found that 20.9% experienced moderate severe to severe symptoms of anxiety, 30.9% had mild depression and 17.2% experienced moderate to severe symptoms of depression. The findings also revealed that 65% of nurses had a moderate or moderately high resilience score.^[10] Ang et. al reported that marital status, age and working experience of nurses were associated with higher resilience level.^[11] A negative correlation between nurses' resilience and depression was seen in a study done on 196 nurses from the Department of Clean Operating at Harbin Medical University Cancer Hospital.^[12]

After a year of the COVID-19 outbreak in China, the study done among aiding 100 Wuhan nurses showed that 46% had

depression, 40% anxiety and 61% posttraumatic stress disorder.^[13] Several of these studies have also shown that the resilience of nurses had a negative correlation with the depression, anxiety^[10] and stress.^[9,13]

This research study is aimed to understand the emotional state related to depression, anxiety and stress of nurses working in the COVID-19 clinical areas and their resilience. This may in turn help to take measures to improve resilience of nurses in order to improve their emotional well-being.

OBJECTIVES

1. To assess the emotional state and resilience of nurses working in the COVID-19 clinical areas.
2. To determine the relationship between the emotional state of nurses working in the COVID-19 clinical areas with their resilience.
3. To determine the relationship between the emotional state and resilience of nurses working in the COVID-19 clinical areas with the demographic variables.

MATERIALS AND METHODS

A descriptive cross-sectional design was used. The study was conducted among 400 nurses who were working in the COVID-19 clinical areas for a minimum of one month in a tertiary care hospital in South India. Nurses who had been diagnosed with COVID-19 prior were excluded.

Instruments

The instruments used in this research study are as follows:

- (i) Demographic proforma was used to collect information about the study participants' characteristics i.e., gender, age, marital status, education, years of experience, experience in COVID-19 clinical areas and area of work.
- (ii) DASS21 (Depression, Anxiety and Stress Scale) a standardized scale consisting of 21 items was used to measure the emotional state related to

depression, anxiety and stress. It has 7 items each for measuring depression, anxiety and stress. The items for depression assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, inability to feel pleasure in normally pleasurable activities and inactivity. The items for anxiety assess autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The items for stress assess difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-reactive and impatient. Scores for depression, anxiety and stress were calculated by summing the scores for the relevant items and multiplied by 2 to calculate the final score.

- (iii) Brief Resilience Scale (BRS) a standardised instrument consisting of six items was used to measure an individual's ability to bounce back, resist illness, adapt to stress, or thrive in the face of adversity. The values of the responses for the six items were added and the average was taken for the final score.

This study was conducted after obtaining permission from the Institutional Review Board and the concerned authorities. Data were collected after obtaining written informed consent from the nurses. A pilot study was conducted to check the feasibility of the study.

Data collection procedure

Data were collected in the COVID-19 clinical areas according to a planned schedule during the months of August and September in 2020. The study participants who fulfilled the inclusion criteria included the nurses who were working in the COVID-19 clinical areas for a minimum of one month, were selected by consecutive sampling technique. They were explained about the aim of the study and obtained informed consent. The investigator administered the self-administered

questionnaires to the participants to fill the forms independently. The questionnaires were collected back immediately after completion.

STATISTICAL METHODS

Data analysis was done using SPSS. Mean scores and percentages were used to assess the emotional state and resilience. Spearman's correlation was used to determine the relationship between the emotional state of nurses working in the COVID-19 clinical areas with their resilience as the distribution was skewed. To determine the association between the emotional state of nurses working in the COVID-19 clinical areas with their demographic variables, chi-square was used. To determine the relationship of resilience of nurses and the demographic variables, ANOVA and t-test were used depending on the number of categories.

RESULTS AND DISCUSSION

Majority (94%) of the subjects were females. Most of the subjects had completed Diploma in Nursing (73.3%) and the rest had completed BSc degree in Nursing (26.7%).

Majority of the subjects were in the age group of 20 to 30 years (66.8%), followed by those in the age group more than 30 to 40 years (27.8%). About 55.5% of the subjects were single while 44.5% were married. The years of experience as staff nurses revealed that 23.1% had one or less than one year of experience, 56% had more than one and less than 10 years of experience, 19.3% had more than 10 and less than 20 years of experience and 1.3 % had more than 20 years of experience.

It was found that majority had worked 1 to 4 months (50.5%) in the COVID-19 clinical areas, followed by those in the duration of more than 4 and less than 7 months (31.8%). Most of the participants were working in the wards with convalescent patients (42%), followed by those working in the intensive care units (40.7%) and the others were

working with those in the high dependency units (17.3%).

Figure 1 shows that 69.5% had no sign of depression, 13.75% had mild depression and 2.5% had extremely severe depression. The staff of the institution had mandatory training programs conducted on COVID-19 which also included sessions taken on psychological well-being. They were also encouraged to contact the counsellor available in the institution if needed. A similar study done by Giusti et al [5] showed that 26.8% of health professionals had clinical levels of depression. A study done on the psychological impact of the COVID-

19 pandemic on health care workers in Singapore by Tan et al [6] presented that 8.9% screened positive for depression. Another large-scale cross-sectional study done on the frontline nurses by Hu et al. [7] during the COVID-19 outbreak also revealed that 10.7% of nurses reported high levels of depression. The study done in US showed that 54.6% reported moderate degree of depression [8] and in Uk it was found that 30.9% had mild depression and 17.2% experienced moderate to severe symptoms of depression during the COVID-19 pandemic. [10]

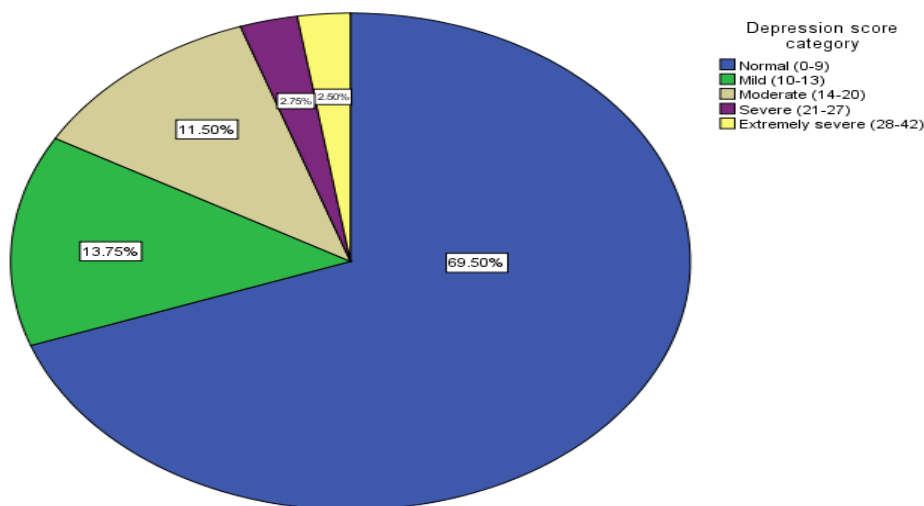


Figure 1: Distribution according to depression of nurses working in the COVID-19 clinical areas

Figure 2 shows that 48.75% demonstrated no sign of anxiety, 21.75% with moderate anxiety and 11% with severe anxiety. These results are similar to the findings of Robert

which revealed that 20.9% experienced moderate severe to severe symptoms of anxiety. [10] The study done in Taiwan also showed that 36.8% of nurses had anxiety. [9]

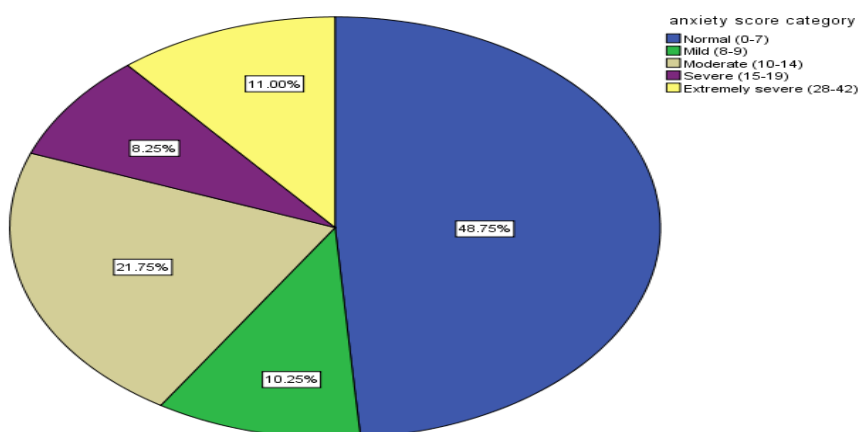


Figure 2: Distribution according to the anxiety of nurses working in the COVID-19 clinical areas

Figure 3 shows that 83.5% had no stress, 6.5% with mild stress and 0.5% with extremely severe stress. Similar findings were seen in a study done on the psychological impact of the COVID-19 pandemic on health care workers in

Singapore by Tan et al [6] which showed that 6.6% screened positive for stress. However, the studies done on nurses by Giusti et al [5] and Wu [9] reported that 34.3% and 36.8% respectively had stress.

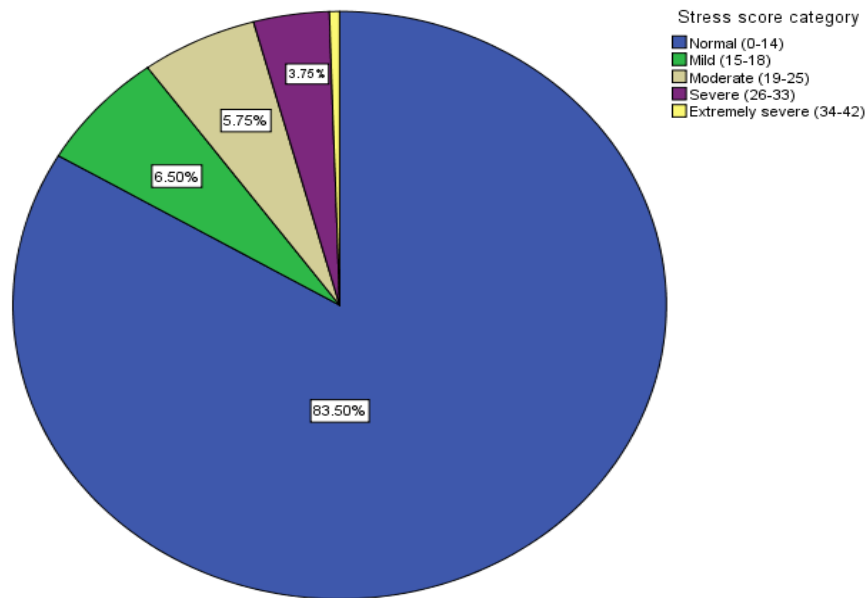


Figure 3: Distribution according to stress of nurses working in the COVID-19 clinical areas

Figure 4 shows that 26.5% of nurses had low resilience, 70.5% had normal level of resilience and 3% had high resilience. A study done by Roberts also revealed that 65% of nurses had a moderate or moderately high resilience score.^[10]

A weak negative correlation was seen between resilience with depression ($r = -0.177$, $p = 0.000$), anxiety ($r = -0.177$, $p = 0.019$) and stress ($r = -0.122$, $p = 0.014$). These results are consistent with studies done by Wu [9] and Zhang [13] which showed that there was a negative correlation between resilience with depression, anxiety and stress. Negative correlation of resilience with depression and anxiety was also seen in studies done by Hu [7] and Roberts.^[10] A statistically significant association was seen between depression with area of work

($p = 0.049$) and years of experience ($p = 0.029$). However, there was no significant association between depression with age, gender, educational status, marital status and duration of work. The findings also showed that there was significant association between anxiety with years of experience ($p = 0.048$) and the educational status ($p = 0.015$). There was no significant association between anxiety with age, gender, marital status, duration of work and area of work.

It was also found that there was significant association between stress with gender ($p = 0.003$). There was no significant association between stress with age, educational status, marital status, duration of work, area of work and years of experience.

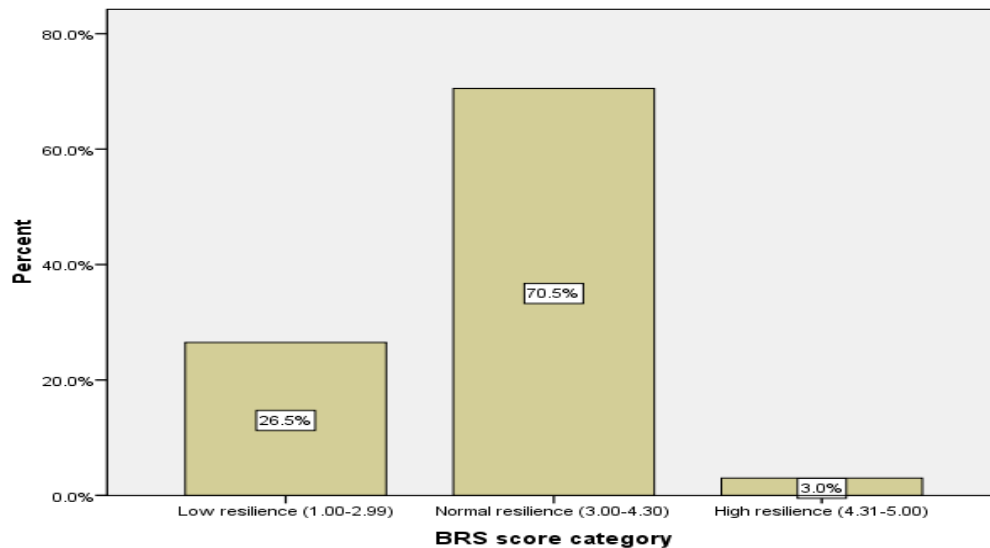


Figure 4: Distribution according to resilience of nurses working in COVID-19 clinical areas

The study also showed that there was significant difference of resilience seen among nurses for different durations of work ($F = 3.49$, $p = 0.031$) and areas of work ($F = 3.606$, $p = 0.014$). There was no significant difference in resilience seen among different age groups, educational status, gender, marital status and years of experience. Contrary to this, a study done by Ang et. al among nurses in Singapore found that their marital status, age and working experience was associated with higher resilience levels.^[11]

LIMITATION

one of the limitations of the study is that self-reported questionnaires had been used to assess the emotional state and the resilience of the nurses working in the COVID-19 areas. People may be often biased when they report their own experiences using self-reported questionnaires.

CONCLUSION

The study findings revealed that some of the nurses who worked in the COVID-19 clinical areas experienced depression, anxiety and stress. A weak correlation was seen between the emotional state (depression, anxiety, stress) and resilience. There was also significant association between depression, anxiety and stress with

selected demographic variables. This helps us to understand that appropriate strategies like training programs can be implemented in order to increase or build the resilience of nurses which can help in maintaining a healthy emotional state.

Declaration by Authors

Ethical approval: Approved

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