

A STUDY TO ASSESS THE PSYCHOLOGICAL EFFECTS OF COVID-19 AMONG NURSES WORKING IN COVID-19 WARDS AT SELECTED HOSPITALS IN BANGALORE

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ABSTRACT

Background: COVID-19 has had an unprecedented effect on the lives of people. The first case of covid-19 was reported in Wuhan, China in December, 2019. As of May 8th, 2020, in India, 56,342 positive cases have been reported. In the battle against the COVID-19 pandemic, medical care staffs, especially nurses, are at a higher risk of encountering psychological health issues and distress, such as stress, anxiety, depression, emotional tension, insomnia, and burnout syndrome. This research study assesses the psychological effects of Covid-19 among nurses working in Covid-19 wards and it also assesses the level of work stress on nurses during Covid-19 pandemic. **Aims and Objectives:** This study was conducted to assess the psychological effects of COVID-19 among nurses working in Covid-19 ward and the level of work stress on nurses during the Covid-19 pandemic. **Method:** This is a descriptive study where a closed-ended questionnaire containing demographics and clinical variables was given to 60 nurses working in NRR Hospital at Bangalore. Subjective and objective data was collected with the help of the questionnaire and data was analysed and results were interpreted by using descriptive and inferential statistics. **Result:** The study found that anxiety and stress are the topmost causes of psychological distress among the nurses working in Covid-19 wards. The study reveals that most common psychological impact faced by the nurses was anxiety and stress (31.85%), followed by burnout syndrome (28.31%), insomnia (19.4%), depression (10.6%) and anger (9.73%). **Conclusion:** The following conclusion was drawn from the study: Most nurses have mild to moderate levels of psychological effects as a result of working in Covid-19 wards.

Key Words: Covid-19, Pandemic, Psychological effects, Mental health, Nurses.

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INTRODUCTION

Covid-19 as a pandemic was announced by the World Health Organization on 11th March, 2020, after it was declared a Public Health Emergency of International Concern on 30th January, 2020. India, with a population of more than 1.34 billion, the second largest population in the world, will have difficulty in controlling the transmission of COVID-19 among its population.

The health care workers between fulfilling their duties and caring for themselves have shown a greater vulnerability to mental health problems. Due to their excessive workload and the lack of personal protective equipment, the health care workers are exposed to the greater risk of mental health issues such as stress, burnout and post-traumatic stress disorder and infection by the virus.

The Covid-19 outbreak is a stark reminder of the ongoing challenge of emerging and re-emerging infectious pathogens and the need for constant surveillance, prompt diagnosis, and robust research to understand the basic biology of new organisms and our susceptibilities to them, as well as to develop effective countermeasures (Fauci et al, 2020). The most important occupational risk factors that employers should address include insufficient staff training and resources available, and lack of training and treatment protocols (Chirico et al, 2020).

This research study assesses and compares the mental health problems faced by Covid-19 healthcare workers and regular healthcare workers.

OBJECTIVES OF THE STUDY

1. To assess the psychological effects of Covid-19 among nurses working in Covid-19 wards.
2. To assess the level of work-stress on nurses during the Covid-19 pandemic.

HYPOTHESIS

There is no significant contribution of work stress causing psychological distress to nurses working during the Covid-19 pandemic.

REVIEW OF LITERATURE

The first case of covid-19 was reported in Wuhan, China in December, 2019. As the covid-19 virus kept spreading and the cases increased, health and front-line workers were faced with difficulties when discharging their duties (Nyashanu, 2020).

The continuing corona virus (COVID-19) pandemic has massive impact on psychological health of healthcare as well non-healthcare professionals. There is an increasingly pressing requirement to address these impacts on an individual's mental state by protection as well as promotion of overall well-being during as well as after the outbreak is over (Khan et al., 2020). A qualitative research study (Nyashanu, Pfende and Ekpenyong, 2020) found that lack of pandemic preparedness, shortage of personal protective equipment; anxiety and fear amongst professionals, challenges in enforcing social distancing, delay in testing, and shortages of staff are some of the constraints faced by front-line and health workers.

A recent study (Banerjee et al., 2021) shows that the unmet needs of the health care and front-line workers were flexible work policies, administrative measures for better medical protection, the sensitivity of media towards the image of healthcare workers, effective risk communication for their health, and finally, social inclusion, thus supporting the global call for better psycho-social health and quality of life of the frontline healthcare workers.

A multi-centric cross-sectional study was conducted by Selvaraj et al., (2020) on psychological impact of COVID-19 pandemic on health-care professionals in India. The study was conducted in India among 777 nurses to evaluate the mental health of nurses working in Corona wards from April 2020 to May 2020 using a pre-designed, pre-tested and validated, semi-structured DASS-21 questionnaire, and the Insomnia Severity Index. Continuous variables between the groups were measured using the Mann–Whitney U-test and the Kruskal–Wallis H test. The results showed that among the nurses working for the pandemic, around 55% of medical officers in the study reported having moderate levels of depression. With respect to anxiety, it was found that among men as many as 52% reported experiencing severe anxiety and 24% had moderate levels of anxiety whereas females reported as high as 68% and 48% of moderate and severe anxiety, respectively. Around 30% and 44% of male nurses reported mild and moderate levels of stress, respectively, whereas 70% and 56% of female nurses reported mild and moderate levels of stress, respectively.

MATERIALS AND METHODS

Research approach: A descriptive approach was considered to be the most appropriate and was adopted for the present study.

Research design: The research design adopted to achieve the objectives of the study was descriptive research design.

Variables: Variables identified in the study are:

- **Dependent Variables:** Psychological effects on nurses working in Covid-19 ward in the selected hospitals.

- **Independent Variables:** Age group, gender, marital-status, education, length of duty and work experience.

Research settings: The study was conducted at NRR Hospital in Bangalore, Karnataka. This hospital is easily reachable and is 3-5 km away from Smt. Nagarathamma College of Nursing.

Target population: The target population for the present study is nurses both male and female working in Covid-19 ward at NRR hospital in Bangalore.

Sample: Nurses who fulfilled the exclusion and inclusion criteria from NRR hospital in Bangalore working in Covid-19 wards were selected as study samples.

Sample size: In this research, the sample size was 60 nurses, working in Covid-19 wards.

Sampling technique: The samples were selected by using convenient sampling technique.

Criteria for sample selection: Sample selection was based on the following inclusion and exclusion criteria:

Inclusion criteria: The study includes the nurses who:

1. -are working in Covid-19 ward
2. -are willing to participate in the study
3. -are able to understand English

Exclusion criteria: The study excludes the student nurses who:

1. -are not working in Covid-19 ward
2. -are not willing to participate in the study
3. -are not available at the time of data collection

Tools used for the study:

Data collection tool: The data collection technique was self-administered knowledge questionnaire.

Description of the tool: Research tool for this study was self-administered knowledge questionnaire. This tool consisted of two sections:

Section A: Demographic variables.

Section B: Clinical variables.

Section A: This section consists of demographic variables of respondents. The variables are: age group, gender, marital status, education, length of duty and work experience.

Section B: This section comprises questionnaires which help to assess the psychological effects of COVID-19 among nurses working in Covid-19 wards.

It consists of 25 questions each of which contained 5 responses. Depending on the responses fixed points were given. Each question contains 5 points, which totals to 225 points.

I. Different ranges of psychological effects (mild, moderate and high) on the total number of nurses:

Average Score	78
Low effect	< 77
Moderate effect	78 - 80
High effect	> 80

II. Total number of nurses with different levels of psychological effects:

Characteristics	Scores		
	Low effect	Moderate effect	High effect
Anxiety and stress	< 16	16 – 18	> 18
Depression	< 17	17 - 19	> 19
Insomnia	< 17	17 - 19	> 19
Anger	< 16	16 - 18	> 18
Burnout syndrome	< 12	12 - 14	> 14

Analysis and Interpretation:

I. Number of nurses working in Covid-19 wards with different ranges of individual psychological effects:

Here is a table representing the total number of nurses with different levels of psychological effects of working in Covid-19 wards:

List of Psychological effects	Mild effect	Moderate effect	High effect
Anxiety and stress	24	23	13
Depression	48	4	8
Insomnia	38	20	2
Anger	49	9	2
Burnout syndrome	28	19	13

Interpretation:

According to the data that was collected, most nurses have low levels of psychological effects, compared to those with higher levels of psychological distress. It can also be predicted that the risks for anxiety and stress, insomnia and burnout syndrome are greater among nurses, comparing the difference between the numbers of nurses in each category of psychological distress.

II. Total number of nurses with different levels of psychological effect:

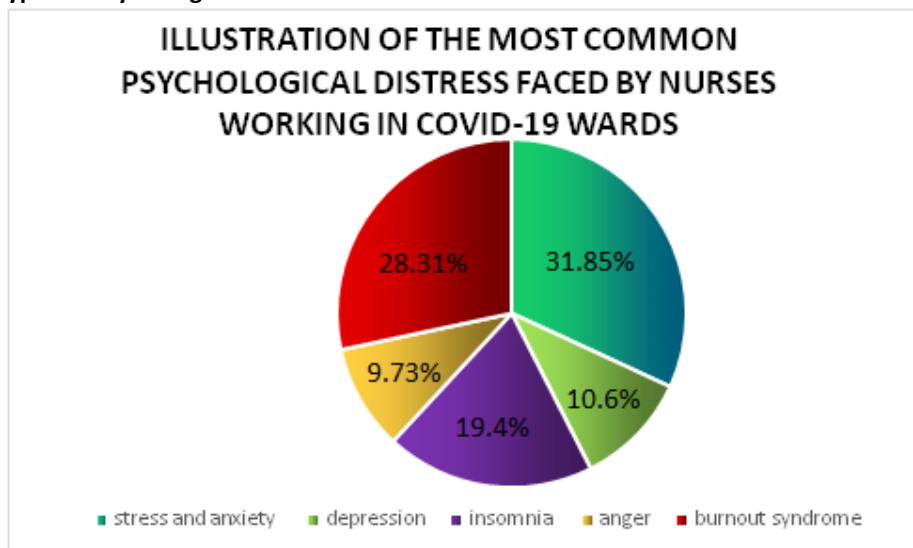
The following table demonstrates the number and percentage of nurses associated with the overall range of scores of psychological effects on nurses working in Covid-19 wards:

Psychological effects	Range of scores	Number of nurses	Percentage of nurses (%)
Low effect	< 78	24	40.00
Moderate effect	78 - 80	29	48.33
High effect	> 80	7	11.66

Interpretation:

The graph interprets that 40% of the nurses suffer lower level of psychological distress, 48.33% of the nurses suffer moderate level of psychological distress and 11.66% of nurses suffer high level of psychological distress.

III. The following Pie-chart illustrates the percentage of nurses working in covid-19 wards affected by different types of Psychological distress:

**Interpretation:**

Anxiety and stress is the most common psychological distress suffered by nurses with 31.85% of nurses getting affected, followed by burnout syndrome (28.31%), insomnia (19.4%), depression (10.6%) and finally anger (9.73%). The signs are not on extreme level, but on more of mild and moderate levels.

DISCUSSION**A. Total number of nurses suffering from low, moderate or high levels of individual psychological effects:**

Most nurses who worked in Covid-19 wards have low to moderate levels of psychological effects, compared to those with higher levels of psychological distress.

Findings based on their responses:

- 24 nurses and 23 nurses have mild and moderate levels of anxiety and stress respectively compared to 13 nurses who have higher levels.
- The numbers of nurses having mild to moderate depressive symptoms are 48 and 4 respectively whereas 8 nurses have higher levels of depressive symptoms.
- 38 nurses out of 60 are mildly insomniac, 20 are moderately insomniac and 2 suffer high level of insomnia.
- 49 nurses and 9 nurses have mild and moderate levels of anger respectively compared to 2 nurses who have high level of anger out of 60 respondents.
- The numbers of nurses having mild and moderate levels of burnout syndrome are 28 and 19 respectively whereas 13 nurses have higher degree of burnout syndrome.
- It can also be predicted that the risks for anxiety and stress, insomnia and burnout syndrome are greater among nurses, comparing the difference between the numbers of nurses in each category of psychological distress.

B. Overall scores of nurses working in covid-19 wards:

24 respondents out of a total of 60, i.e., 40% suffer lower level of psychological distress, 29 out of 60 nurses (43.33%) suffer moderate level of psychological distress and 7 out of 60 nurses (11.66%) suffer high level of psychological distress working in Covid-19 wards.

C. Interpretation of the different psychological effects (anxiety and stress, depression, insomnia, anger and burnout syndrome) that impact the majority of the nurses:

Each psychological impact faced by the nurses was computed and analysed based on their individual scores associated with each psychological distress and was generalised to assess which psychological effect causes most disturbance in the personal and professional life of the nurses.

Out of all the nurses (60) who provided response on the questionnaire, 36 nurses (31.85%) have moderate to high anxiety and stress (score 16 to >18). 12 nurses (10.6%) have moderate to high symptoms of depression (score 17 to >19). 22 nurses (19.4%) have moderate to high insomniac symptoms (score 17 to >19). 11 nurses (9.73%) have moderate to high level of anger (16- >18) and 32 nurses (28.31%) have moderate to high level of burnout syndrome (12 to >14).

The most common psychological impact faced by the nurses was anxiety and stress (31.85%), followed by burnout syndrome (28.31%), insomnia (19.4%), depression (10.6%) and anger (9.73%).

CONCLUSION

The focus of the study is to evaluate the psychological impact on nurses working in Covid wards. We focused mainly on the 5 clinical variables: anxiety and stress, depression, insomnia, anger and burnout syndrome.

The finding of the study had shown that out of all the 60 nurses who provided responses on the questionnaire, the most common psychological impact faced by the nurses was anxiety and stress (31.85%), followed by burnout syndrome (28.31%), insomnia (19.4%), depression (10.6%) and anger (9.73%). This result makes it clear that anxiety and stress are the topmost cause of psychological distress in the nurses working in Covid-19 wards.

24 respondents out of a total of 60, i.e., 40% suffer mild level of psychological distress, 29 out of 60 nurses (43.33%) suffer moderate level of psychological distress and 7 out of 60 nurses (11.66%) suffer high level of psychological distress working in Covid-19 wards. The finding implicated that majority of them have mild to moderate level of psychological distress than high level of effect.

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