



The Prevalence of Psychological impact (Depression, Anxiety, Stress) and coping mechanism of COVID -19 on Staff Nurses

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Abstract

The ongoing COVID-19 pandemic has affected people in more than one way. It is accompanied by various morbidity and mortality trajectories with long lasting effects impacting public health, with psychosocial consequences across the globe². This upsurge in COVID-19 cases has heavily burdened and in many cases overwhelmed and impaired the healthcare systems. Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Healthcare professional face lot of difficulties in maintaining the quality of healthcare in these days. Investigator herself worked a lot during that period and could able to see the impact of the staff nurses of covid -19.

Key words- Covid-19, Anxiety , Depression , Stress , Coping

Introduction –

The healthcare system across the world has been overburdened due to the COVID-19 pandemic impacting healthcare workers (HCWs) in different ways. The present study provides an insight into the psychosocial challenges faced by the HCWs related to their work, family and personal well-being and the associated stigmas. Additionally, the coping mechanisms adopted by them and their perceptions on the interventions to address these challenges were also explored.

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. The Covid 19 syndrome is caused by SARS CoV2.

The most common symptoms of this viral infection are fever, cold, cough, bone pain and breathing problems, and ultimately leading to pneumonia.

The best way to prevent and slow down transmission is to be well informed about the COVID-19 virus, the disease it causes and how it spreads. We all need to protect ourselves and others from infection by continuously washing hands by using an alcohol-based sanitizer frequently and not touching the face.

The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's also important to practice respiratory etiquette (for example, by coughing into a flexed elbow). The severity of COVID-19 symptoms is highly variable, ranging from unnoticeable to life-threatening. Severe illness is

more likely in elderly COVID-19 patients, as well as those who have underlying medical conditions. COVID-19 transmits when people breathe in air contaminated by droplets and small airborne particles. The risk of breathing these in is highest when people are in close proximity, but they can be inhaled over longer distances, particularly indoors. Transmission can also occur if splashed or sprayed with contaminated fluids, in the eyes, nose or mouth, and, rarely, via contaminated surfaces. People remain contagious for up to 20 days, and can spread the virus even if they do not develop any symptoms. By implementing travel restrictions, lockdowns and quarantines, workplace hazard controls, and business closures can only reduce the spread of infection.

The coronavirus outbreak came to light on December 31, 2019 when China informed the World Health Organisation of a cluster of cases of pneumonia of an unknown cause in Wuhan City in

Hubei Province. Subsequently the disease spread to more Provinces in China, and to the rest of the world. The WHO has now declared it a pandemic. The virus has been named SARS-CoV-2 and the disease is now called COVID-19²³

Recommended preventive measures include social distancing, wearing face masks in public, ventilation and air-filtering, hand washing, covering one's mouth when sneezing or coughing, disinfecting surfaces, and monitoring and self-isolation for people exposed or symptomatic. Several vaccines have been developed and widely distributed in most developed countries since December 2020.

The pandemic has resulted in severe global, social and economic disruption, including the largest global recession. It has led to wide spread supply shortages exacerbated by panic buying, agricultural disruption, and food shortages. However, it has also caused temporary decreases in emissions of pollutants and greenhouse gases. Numerous educational institutions and public areas have been partially or fully closed, and many events have been cancelled or postponed. The pandemic has raised issues of racial and geographic discrimination, health equity, wealth inequality and the balance between public health imperatives and individual rights²⁴.

This COVID-19 has affected the sources of supply and effects the global economy.. All governments, health organisations and other authorities are continuously focussing on identifying the cases affected by the COVID-19. Healthcare professional face lot of difficulties in maintaining the quality of healthcare in these days.

Gap of Existing literature -Though there are various research works on the psychological impacts of covid19 on health care workers and many are going on. There are many studies conducted in Abroad related to burnout and psychological impact of covid -19 outbreak on health care workers. But the study on assessment of psychosocial and personal impact of covid -19 outbreak on staff nurses are very few in India as well as West Bengal. As a frontline workers nurses faced a lot of challenges in management of Covid19 outbreak.

Investigator herself worked a lot with the nurses during this covid19 pandemic period. Investigator herself experiences many psychological and physical burden of the staff nurses

while they were providing the care to the patients. So, the investigator felt the need for a study to assess the Psychosocial and personal impact of Covid -19 outbreak on staff nurses.

Maharashtra, Gujarat and West Bengal have the maximum number of COVID positive staff nurses in the country and also the highest fatality rate, TNAI, the largest nursing association in the country, released data for the first time since the beginning of the pandemic, indicating that 509 nursing staff were infected and 20 died while providing care to COVID patients.

According to the data, West Bengal reported 111 COVID positive nurses with three fatalities; Maharashtra has 75 cases with six deaths and Gujarat 96 cases with four deaths. Mizoram, Chhattisgarh, Kerala and Uttar Pradesh has the least recorded COVID case-load among nursing staff with Rajasthan, Telangana, Uttar Pradesh registering the lowest reported fatalities.

Research Questions -Based on the above few points, the present study is a sincerity of the investigator to answer the following questions.

Are there any impact of Covid -19 on psychological conditions of staff nurses and their coping mechanism due to their management and experience variations?

Title of the study -To find out the clues/answers, the pre above mention questions the title for study is stated as mentioned below.

“The Prevalence of Psychological impact (Depression, Anxiety, Stress) and coping mechanism of COVID -19 on Staff Nurses”-

Objectives –

- To assess psychological impact of covid 19 in anxiety depression, stress,
- To assess coping mechanism of the staff nurse in covid 19 situation
- To find out the relationship of psychological impact with the selective demographic variables of the staff nurses.
- To find out the relationship of coping mechanism with the selective demographic variables of the staff nurses.

Hypothesis –

H₀₁-There does not exist any significant relationship of psychological impact due to Covid19 of staff nurses with their demographic variables at 0.01 level of significance.

H₀₂-. There does not exist any significant relationship of mean score of coping level of staff nurses due to Covid19 with their demographic variables at 0.01 level of significance.

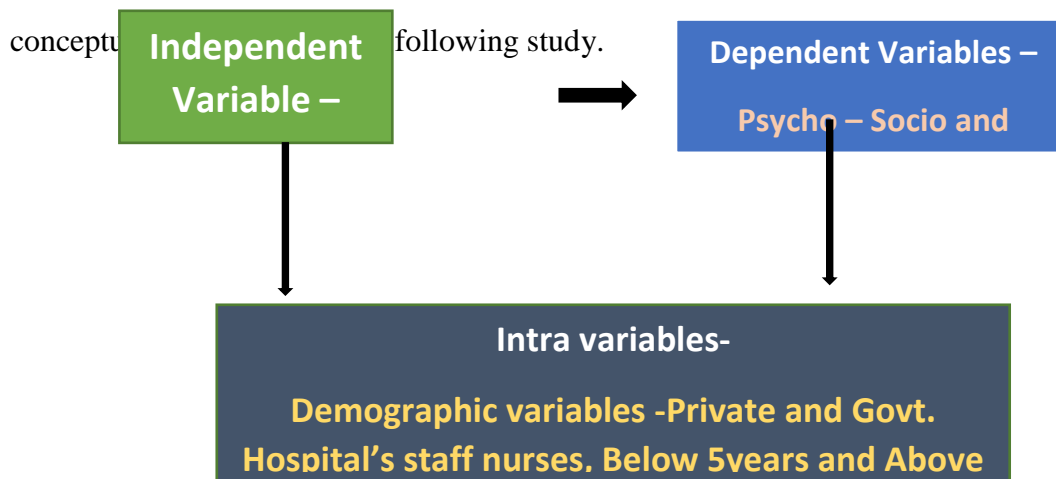
Operational Definition –

Covid19- Diseases caused by Corona Virus.

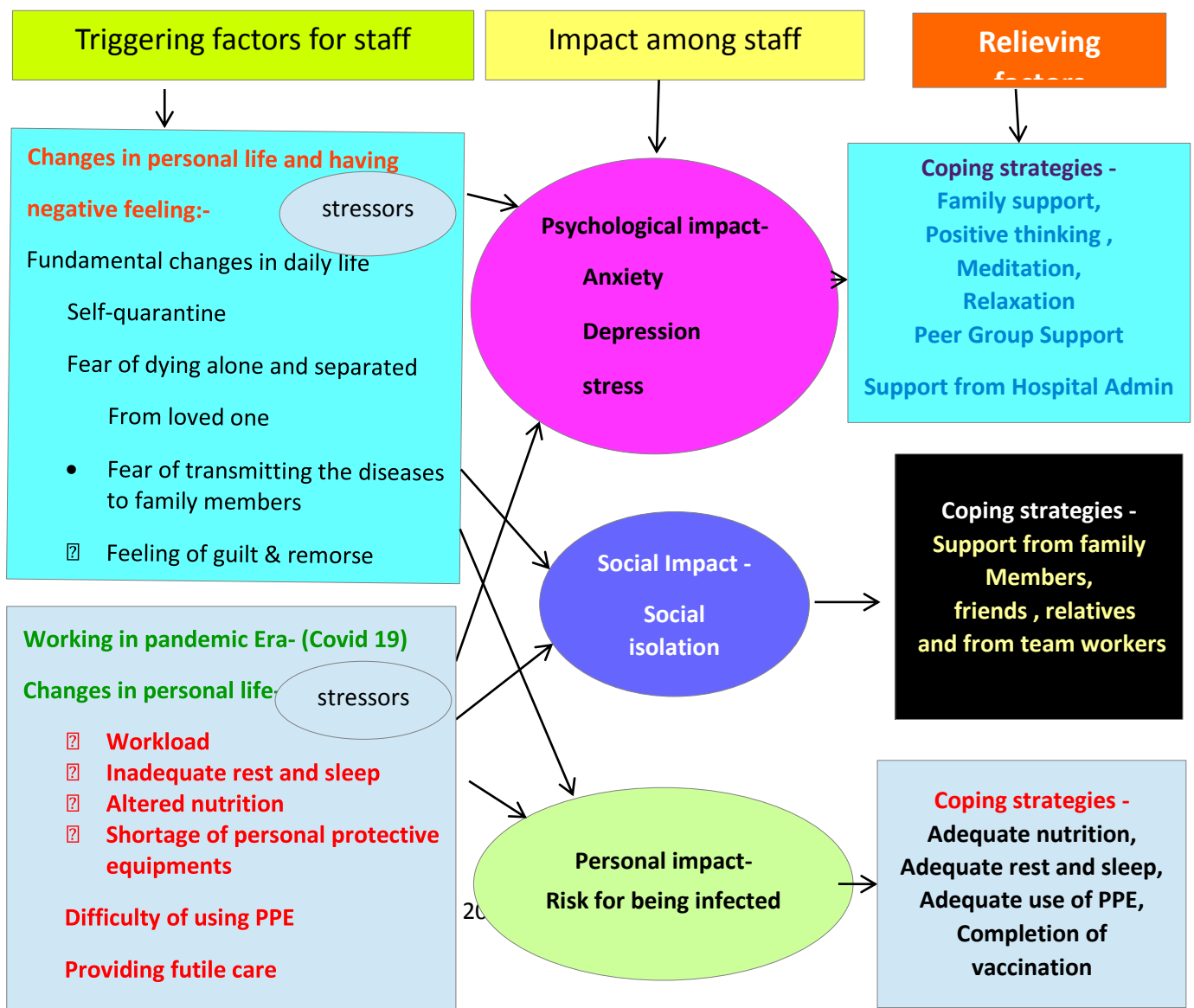
Psychological impact – In this study It’s indicated anxiety, depression, stress of staff nurses as measured by DASS21 Scale

Coping Mechanism- The thoughts and behaviours mobilized to manage internal and external stressful situation as measured by Brief cope inventory

Conceptual frame work – The following conceptual frame work illustrates what a researcher expects to find through her research. It defines the relevant variables for her study and maps out how they might relate to each other. The following visual format represents the concept



The schematic representation of the conceptual frame work based on Betty Neuman system model is presented in figure 2



Review of Literature: -

Ardebili. M. E. etal¹ in 2020 had done a qualitative study on Health care providers experience of working during the covid 19 pandemic in Iran where he has used a thematic analysis approach with semi-structured interviews with 97 health care professionals. Participants were health care professionals including pre-hospital emergency services (EMS), physicians, nurses, pharmacists, laboratory personnel, radiology technicians, hospital managers and managers in the ministry of health who work directly or indirectly with COVID-19 cases .Data analysis highlighted four main themes, namely: ‘Working in the pandemic era’, ‘Changes in personal life and enhanced negative affect’, ‘Gaining experience, normalization and adaptation to the pandemic’ and ‘Mental Health Considerations’ which indicated that mental ill deteriorations unfolded through a stage-wise process as the pandemic unfolded.

Bozdog. F. etal² in 2020 had done a study on Psychological Resilience of Healthcare Professionals During COVID-19 Pandemic - where they found that the COVID-19 pandemic as a public health issue has spread to the rest of the world. Although the wellbeing and emotional resilience of healthcare professionals are key components of continuing healthcare services during the COVID-19 pandemic, healthcare professionals have been observed in this period to experience serious psychological problems and to be at risk in terms of mental health. Therefore, this study aims to probe psychological resilience of healthcare workers. The findings of this study showed that in order to raise psychological resilience of healthcare professionals working during the COVID-19 pandemic their quality of sleep, positive emotions and life satisfaction need to be enhanced. Psychological resilience levels of healthcare workers in their later years were found to be higher. Doctors constitute the group with the lowest levels of psychological resilience among healthcare workers. The current study is considered to have contributed to the literature in this regard. Primary needs such as sleep which are determinants of quality of life, life satisfaction and psychological resilience should be met.

Li. Q. etal³ in 2020 done a study on The Psychological Health Status of Healthcare Workers During the COVID-19 Outbreak Study in Guangdong, China. This study aimed to assess their psychological health status at the peak of COVID-19 and to identify some coping strategies.

A cross-sectional survey study was conducted during the outbreak of COVID-19. The survey was completed by 908/924 HCW (response rate 98.27%) in government-designated hospitals in Guangdong, China. A quality of life (QoL) scale, the Zung Self-Rating Anxiety Scale (SAS), and the Zung Self-Rating Depression Scale (SDS) were used to evaluate their psychological status. Logistic regression models were used to identify the occupational factors related to anxiety or depression. A total of 221 (24.34%) respondents had varying levels of anxiety, and 299 (32.93%) of them had depression. The mean SAS (42.9) and SDS (47.8) scores of HCW indicated that they were in the normal range for both anxiety and depression. Contact with COVID-19 cases or suspected cases, worry about suffering from COVID-19, worry about their family, and dismissal during the COVID-19 period were

significant work-related contributing factors to the psychological health problems of HCW (all $p < 0.01$).

Labrugae. L. J. etal⁴ in 2020 conducted a study on Fear of COVID-19, psychological distress, work satisfaction and turnover intention among front line nurses in China. The study was done to examine the relative influence of fear of COVID -19 on nurses' psychological distress, work satisfaction and intent to leave their organisation and profession. This was a cross sectional research design involving 261 frontline nurses in the Philippines. Five standardised scales were used for data collection. Overall, the composite score of the fear of Covid -19 scale was 19.92. Job role and attendance of COVID -19 related training predicted fear of COVID-19. An increased level of fear of COVID-19 was associated with decreased job satisfaction, increased psychological distress, and increased organisational and professional turnover intentions.

Mathur. S. etal⁵ in 2020 conducted a study on Stress-related disorders in health-care workers in COVID-19 pandemic. The aim of the study was to study the impact of COVID-19 pandemic in HCWs in reference with a variety of factors. A nationwide cross-sectional online study using semi-structured pro forma along with the Adjustment Disorder New Module and the Depression, Anxiety, and Stress Scale-21 was conducted among 200 respondents. Of the 200 respondents, 174 (87%) were doctors and 26 nursing staff, with a mean age of 42.1 ± 12.2 years, 62% were male, and 63% were working in the government sector. A significant number of respondents were found to be suffering from acute stress (9.5%), depression (17%), and anxiety (19.5%) which they attributed to the negative professional and personal influence of this ongoing pandemic scenario. HCWs on the front lines of this pandemic are facing compounding stressors and need robust psychiatric help to adequately take care of this need.

Shaukat.N.etal³ 2020 conducted a study on Physical and mental health impacts of COVID-19 on healthcare workers: a scoping review. In the findings it was identified the following risk factors for COVID-19-related health impact: working in a high-risk department, diagnosed family member, inadequate hand hygiene, suboptimal hand hygiene before and after contact with patients, improper PPE use, close contact with patients (≥ 12 times/day), long daily contact hours (≥ 15 h), and unprotected exposure. The most common symptoms identified amongst HCWs were fever (85%), cough (70%), and weakness (70%). Prolonged PPE usage led to cutaneous manifestations and skin damage (97%), with the nasal bridge (83%) most commonly affected site. HCWs experienced high levels of depression, anxiety, insomnia, and distress. Female HCWs and nurses were disproportionately affected.

Chakma.T.etal²⁰ 2020 conducted a study on Psychosocial impact of COVID-19 pandemic on healthcare workers in India & their perceptions on the way forward - A qualitative study. In the findings, it was found that HCWs report major changes in work-life environment that included excessive workload with erratic timings accentuated with the extended duration of inconvenient personal protection equipment usage, periods of quarantine and long durations of separation from family. Family-related issues were manifold; the main challenge being separated from family, the challenge of caregiving,

especially for females with infants and children, and fears around infecting family. Stigma from the community and peers fuelled by the fear of infection was manifested through avoidance and rejection. Coping strategies included peer, family support and the positive experiences manifested as appreciation and recognition for their contribution during the pandemic.

RESEARCH METHODOLOGY

Sources of data: The data was collected from the staff nurses working in selected hospitals in West Bengal

Population: Staff nurses working in different Private and Govt hospital having at least one year experience

Research approach: Non Experimental quantitative survey approach

Research design: Descriptive survey design

Sampling technique: Non probability convenience sampling

Sample size: 300 staff nurses working in selected hospital in West Bengal.

Setting of the study: Study was conducted in different Private and Govt hospital in Kolkata

Ethical Permission – Was obtained from the competent authority

Pilot study – Done with 30 samples

Time period of the study – From August 2021 to october2022

Criteria for selection of sample:

Inclusion Criteria:

Staff nurses who are

- working in selected hospital in West Bengal
- present at the time of data collection
- willing to participate in the study
- Having at least one year of working experience

Exclusion criteria:

- Student nurses, teaching staff , senior nursing administrators are excluded in the study.
- Staff nurses who were very sick unable to take part in the study during the time of data collection.

Tools for data collection:

Section 1: Demographic proforma which was assessed the demographic variables of the staff nurses such as age, gender, degree, years of experience, marital status, place of residence, place of work.

Section 2: A. A Standardized tool (DASS 21 SCALE) was used to measure the depression, anxiety and stress level of the staff nurse due to Covid19.

DASS21 Scale is Depression, anxiety and stress scale. It was developed by Lovibond and Lovibond in 1995.

Section 2: B. Brief cope scale was used for measuring coping of the staff nurses. Carver.C.S 1997 Invented this scale.

Content validity of the tool has been obtained in consultation with guide and experts in the field of community medicine, Community Health Nursing. Psychiatry, Psychiatric Nursing, Medical Surgical nursing, Educational and Biostatistics.

Reliability of the tool is established by split -half and test-retest method , inter rater reliability test and by Cronbach alpha .The tool will be accepted after try out and reliability score ranges between to 0.75 to 0.95.

Method of data analysis:

Descriptive and inferential statistics was used for data analysis,

Data collection procedure – After taking the approval from the competent authority, Investigator has discussed about the aim of the study. Investigator has taken the consent from the staff nurses. Three tools were introduced to the staff nurses. Total 25 minutes time was given for the same. Data was collected from February 2022 to April 2022

Findings of the study – For the demographic variables –

- Majority of the staff nurses 70% (210) are belongs to female category.
- Majority of the staff nurses 65%(195) are having less than 5 years of experience.
- Majority of the staff nurses 55%(165) have completed GNM Course.
- Majority of the Staff Nurses 60% (180)are belongs urban community.
- Majority of the staff nurses 51.6% (155) are from the age group of more than 30 years.
- Majority of the staff nurses 50.6% (152) are from the Govt Hospital.

DASS 21 - Depression Anxiety Stress Scale Test

DIFFERENTIAL ANALYSIS ON PSYCHOLOGICAL IMPACT ON NURSING STAFF Table 1: Categorization of the sample in their differential level on DASS 21 Scale (Depression-Psychological Impact-1)

Categories	Score Range	No. of sample	% of sample
Normal	0-9	79	26.33%

Mild	10-13	81	27%
Moderate	14-20	98	32.67%
Severe	21-27	26	8.67%
Extremely Severe	28+	16	5.33%

Table 2: Categorization of the sample in their differential level on DASS21 Scale (Anxiety-Psychological Impact-1)

Categories	Score Range	No. of sample	% of sample
Normal	0-7	60	20%
Mild	8-9	89	29.67%
Moderate	10-14	121	40.33%
Severe	15-19	18	6%
Extremely Severe	20+	12	4%

Table 3: Categorization of the sample in their differential level on DAS Scale (Stress-Psychological Impact-1)

Categories	Score Range	No. of sample	% of sample
Normal	0-14	68	22.67%
Mild	15-18	92	30.67%
Moderate	19-25	103	34.33%
Severe	26-33	23	7.66%
Extremely Severe	34+	14	4.67%

Table 4: Categorization of the sample in their differential level on Brief-COPE Scale (Psychological Impact-2)

Categories	Score Range	No. of sample	% of sample
Excellent Coping	57 and above	72	24%
Very Good coping	29 to 56	162	54%
Good coping	28 and Below	66	22%

Findings

from the Brief Cope scale inventory-

Problem focussed coping –38%

Emotional focused coping-54%

Avoidance coping- 8%

Fig-2 Different coping mechanism in Brief Cope Inventory

Under problem focussed coping	Under Emotional focused coping-	Under Avoidance coping-
Active coping- item no 2,7-18% Use of informational /instrumental support- item no-10,23-10% Positive reframing -item no-12,17-6% Planning- item no- 14,25 -4%	Emotional Support -item no-5,15-6% Venting -item no-9,21-4% Humour -item no-18,28-8% Acceptance -item no-20,24-20% Self-blame -item no-13,26-12% Religion- item no-22,27-4%	Self-distraction -item no-1,19-4% Substance Use-item no-4,11-NIL Denial -item no-3,8-2% Behavioural disengagement-item no-6,16-2%

Their scores on Psycho-Social impact was calculated for determining the significance between the means. That was adopted and the value of 't' ratio was calculated and presented in the table below:

Table 5: Summary of test of significance of difference between the mean scores in relation to Age variation (Total Sample)

Age	N	Mean	S. D	SE _D	't'	Remarks
More than 30 years	155	161.3	4.23	2.82	2.31	Significant
Less than	145	160.1	3.14			

30 years						
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Critical

value of 't' with df (98) at 0.01=2.63 and 0.05=1.98

Table 6: Summary of test of significance of difference between the mean scores in relation to Management variation (govt/private)- (Total Sample)

Type of Management	N	Mean	S.D	SE _D	't'	Remarks
Private	148	160.6	3.9	2.02	3.16	Significant
Government	152	166.2	6.7			

Critical value of 't' with df (98) at 0.01=2.63 and 0.05=1.98

Table 7: Summary of test of significance of difference between the mean scores in relation to Experience variation (Below 5 yrs/above 5 years)- (Total Sample)

Year of Experience	N	Mean	S. D	SE _D	't'	Remarks
More than 5 years	105	154.5	3.16	2.9	2.4	Significant
Less than 5 years	195	165.2	7.7			

Critical value of 't' with df (98) at 0.01=2.63 and 0.05=1.98

Brief-COPE Scale (Psychological Impact-2)

Table 8: Summary of test of significance of difference between the mean scores in relation to Age variation.

Age	N	Mean	S. D	SE _D	't'	Remarks
More than 30 years	155	59.24	8.21	2.31	3.62	Significant
Less than 30 years	145	56.53	6.54			

Critical value of 't' with df (98) at 0.01=2.63 and 0.05=1.98

Table 9: Summary of test of significance of difference between the mean scores in relation to Management variation

Type of Management	N	Mean	S.D	SE _D	't'	Remarks
Private	148	55.12	6.95	1.54	3.12	Significant
Government	152	57.56	7.67			

Critical value of 't' with df (98) at 0.01=2.63 and 0.05=1.98

Table 10: Summary of test of significance of difference between the mean scores in relation to Experience variation

Year of Experience	N	Mean	S. D	SE _D	't'	Remarks
More than 5 years	105	55.17	6.65	0.54	5.41	Significant
Less than 5	195	58.12	7.39			

years						
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Critical value of t' with df (98) at 0.01=2.63 and 0.05=1.98

Discussion - This descriptive study was conducted to explore exclusively front line nurses' perceptions about the psychological impacts of treating hospitalized people with COVID-19. The main psychological impacts of caring for people with COVID-19 perceived by nurses working on the front line were fear, anxiety, stress, social isolation, depressive symptoms, uncertainty, and frustration. The fear of infecting family members or being infected was the main repercussion perceived by the nurses. A different study revealed the sleep disorder of the nurses happened due to pandemic. In a recent systematic review and meta-analysis of 53 studies involving 38,189 nurses, Al Maqbali, Al Sinani, and Al-Lenjawi (2020a) found the prevalence of stress, anxiety, depression and sleep disturbance to be 38.9, 37, 37.2 and 38.2%, respectively, during the COVID-19 outbreak.

Conclusion- The results of the study show that the main psychological impacts of caring for people with COVID-19 manifested by the nurses were anxiety, depression, stress, depressive. The fear of infecting family members or being infected was the main impact perceived by the nurses. As the pandemic progresses, fear prevails over stress, which was the main psychological impact in the initial phases of the pandemic. Moreover, other negative impacts that nurses suffer as the COVID-19 pandemic progress were anger, obsessive thoughts, compulsivity, introversion, apprehension. All participants reported that they could cope with the challenges they faced because of the support from their immediate family members and friends having another family member also engaged in COVID duty was a strong motivational force to deal with these tough times.

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