



## Level of stress among staff nurses working in covid 19 designed hospital: Questionnaire based survey

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### Abstract

**Background:** Health workers especially Staff nurses working in COVID 19 designated hospital during COVID 19 pandemic perceived the stress which affects both physical and mental well-being and also quality of life because nurses play essential roles in the fight against infectious diseases.

**Objective:** The objective of the study was to assess the level of stress among staff nurses working in COVID 19 designated hospital.

**Methods:** Non-experimental questionnaire based survey was adopted with 30 participants who selected by convenience sampling technique at selected hospital. The tool used for the study was demographic variables and perceived stress scale to assess the level of stress.

**Results:** Out of 30 participants, majority (90%) had moderate level of stress (90%) and 10% had perceived severe level of stress. Chi-square test reveals that there is a positive association of educational status with the level of stress at the level of  $p < 0.05$ .

**Conclusion:** The study findings concluded that staff nurses perceived the stress and this may be utilized as a baseline for planning awareness campaigns on stress management among staff nurses in the future. Staff nurses are encouraged to Participate in yoga and relaxation exercise and also do the modification in duty hours according to the personal commitment especially in the pandemic situation.

**Keywords:** COVID 19, COVID 19 designated hospital, staff nurses, Stress

### Introduction

The novel coronavirus pneumonia (COVID-19) caused by a novel coronavirus (SARS-CoV-2) infection emerged in 2019. The rate of transmission of COVID-19 is quite high, with 2 732 709 people diagnosed worldwide by the end of April 2020, covering 184 countries worldwide. The number of deaths continues to increase, with a fatality rate of 6.95%, exceeding the number of SARS cases worldwide. In December 2019 multiple unexplained cases of pneumonia we're reported in Wuhan Hubei province China epidemiology findings revealed severe human to human transmission which was later confirmed to be caused by a novel coronavirus 2019 COVID infection. The world health organization (WHO) reported that COVID 19 is highly infections during the incubation period and asymptomatic infection persist and total of 1,719 confirmed cases and 17deaths have occurred in other countries as a February 2020. Due to rapid spread of COVID19 it's strong contagion factor lethality in severe cases of no specific medication it's poses a huge threat to human life and health. The disease also has a huge impact on mental health causing people to experience various degrees of emotional problems. Widespread infection and fatalities among the HCWs are causing social and mental pressures on them which have been reported previously for SARS and MERS and currently for the COVID-19 disease. The worry of social isolation, the discomfort caused by the protective equipment, the difficulties and anxiety of infection control, and the workload of caring for patients are main related

factors associated with stress. Stress at work is regarded as the process of interaction between the individual and the work environment, which represents an accumulation of negative emotions generated by the work. Negative reactions lead to the experience of high stress for a long period, which in turn affects physical and mental health and it causes multiple adverse symptoms, such as insomnia, headache, fatigue, anxiety, gastrointestinal discomfort, and immunity decline, as well as increased family conflicts, decreased work quality, interpersonal relationship disorders, and other negative effects. During the COVID-19 pandemic, nurses faced higher risks of death than physicians in some countries. The pandemic caused not only morbidity and mortality but also psychological and social problems. Unclear disease status and uncertainty regarding COVID-19 treatment and care policies exacerbate stress on nurses, affecting nursing care quality and even causing resignations. They left their families and lived in the designated hotels. Additionally, they cared for COVID-19 infected patients with new colleagues in a new working environment. All of these were exposed to an extremely stressful environment. Hospital staffs are under high stress during the care process. By understanding the current context the present study was conducted with the aim to assess the level of stress.

### Methods and Materials

Non experimental questionnaire based survey was conducted to assess the level of stress among staff nurses working in COVID 19 designated hospital after obtained the formal permission from the hospital authority. Totally 30

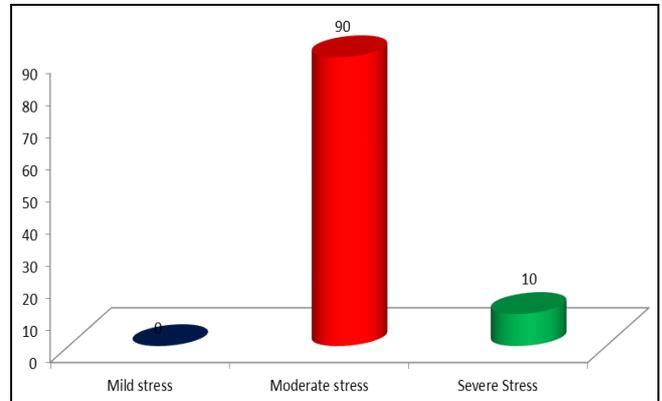
participants who met the inclusion criteria were selected by non-probability purposive sampling technique. The staff nurses who were in the quarantine after COVID duty, access the internet facility and willing to participate in the study were included in the study. Explained the study in detail and obtained informed consent virtually. Survey form link was sent to the respective staff nurses through whatsapp after assuring the confidentiality. It contains both the socio-demographic variables and perceived stress scale. Instruction regarding filling the form was clearly mentioned in the form itself. Responses were received in the mail and taken for analysis. The perceived scale consist of 35 questions and the response for each question is range from 0 to 4 as 0- Almost never, 2- Sometime, 3- Fairly often, 4- Very often. point was given as 0 - never, 1- almost never, 2 – sometimes, 3 – fairly often and 4 – very often. Total score was calculated by adding all response of each item of individual participant and range from zero-140. The level of stress interpreted as Mild ( $\leq 50\%$ ), Moderate (51 – 75%) and Severe ( $>75\%$ ). Confidentiality and anonymity was maintained throughout the study. The collected data prepared for analysis using Microsoft excel and were analyzed by using descriptive and inferential statistics. P values less than 0.05 were considered statistically significant.

**Results**

**Table 1:** Frequency and percentage distribution of demographic variables of staff nurses.

Demographic Variables	Frequency	Percentage
Age in Years		
22 – 35	18	60.0
35 – 40	6	20.0
Above 45	6	20.0
Gender		
Male	5	16.7
Female	25	83.3
Marital Status		
Married	22	73.3
Unmarried	8	26.7
Educational Status		
Auxiliary Nursing Midwives	9	30.0
General Nursing Midwives	2	6.7
B.Sc. Nursing	19	63.3
M.Sc. Nursing	-	-
Monthly Income in Rupees		
12,000 – 15,000	20	66.7
20,000 – 25,000	8	26.6
Above 35,000	2	6.7
Years of Experience		
1 – 3 years	14	46.7
4 – 6 years	14	46.7
More than 7 Years	2	6.6
Ward		
COVID ICU,	8	26.6
COVID ward	17	56.7
COVID Suspected ward	5	16.7
Working Hours		
8 hours	24	80
Above 12 hours	8	20
Working in		
Morning shift	8	26.6
Afternoon shift	6	20.2
General shift	8	26.6
Night Shift	8	26.6
Provision of Adequate PPE		
Yes	19	63.3
No	11	36.7

The table 1 shows that, most of the staff nurses 18(60%) were aged between 22–35 years, 25(83.3%) were female, 22(73.3%) were married, 19(63.3%) were B.Sc. Nursing, 20(66.7%) earned a monthly income of rupees 12,000 – 15,000, 14(46.7%) had 1 – 3 and 4 – 6 years of experience respectively, 17(56.7%) were working in COVID ward, majority were working of 8 hours duty, 11(36.7%) were working in afternoon shift and general shift respectively and 19(63.3%) had provided with adequate PPE.



**Fig 1:** Frequency distribution of level of stress

The figure 1 shows that 27(90%) had moderate level of stress and 3(10%) had perceived severe level of stress.

**Table 2:** Mean and Standard deviation of Level of Stress

Level of Stress	Government School	
	Mean	Standard Deviation
Low level of Stress	43.7	1.24
Moderate level of Stress	93.6	4.13
Severe level of Stress	108.4	6.42
Over all	130.6	7.21

The mean value of low level of stress was 43.7 with 1.24 standard deviation, moderate level of stress mean was 93.6 with 4.13 standard deviation and severe level of stress mean was 108.4 with 6.42 standard deviation. The overall mean and standard deviation of level of stress was 130.6±7.21 as shown in Table II.

**Table 3:** Association of level of stress with their selected demographic variables among staff nurses working in Covid-19

Demographic Variables	Mild	Moderate	Severe	Chi-Square Value	
	No.	%	No.		%
Educational status					
B.Sc. Nursing	-	-	19	63.3	$\chi^2=7.778$ d.f=2 p = 0.020 S*
Auxiliary Nursing Midwife	-	-	6	20.0	
General Nursing Midwife	-	-	2	6.7	
M.Sc. Nursing	-	-	-	-	

The table 4 shows that the demographic variables of educational status had shown statistically significant association with level of stress among staff nurses at p<0.05 level and the other demographic variables had not shown statistically significant association with level of stress among staff nurses.

## Discussion

Work related stress within staff nurses may affect the quality care and patient safety. The current study findings also revealed that out of 30 staff nurses majority 90% had moderate level of stress and 10% had perceived the severe level of stress. The current study supported by Maria polores onievg (2020) who reported that 47.92% of nurses experience a moderate level perceived stress and only 25% had high level of stress. Another study done by ABD Hasan (2020) who found that mild (18.5%) and moderate (32.8%) and severe (62.8%) level of stress in workplace during clinical nursing practice level among staff nurses. Similarly a study by H. Alshetry Aiharbi 2020 reported that majority level of nurses Perceived moderate level of stress this was similar to the current study. Mozhdn S et al 2018 also showed that majority of participants 55% of moderate level of stress The current study also observed that the demographic variables of educational status had shown statistically significant association with level of stress among staff nurses at  $p < 0.05$  level. This finding is supported by the study by Washawant Ramawat 2021 the survey report showed a moderate level of stress perceived by majority of nurses there was a statistically significant association found between perceived level of stress with demographical variable age education and experience. Chunling Wang et al 2020<sup>[11]</sup> who reported that participants with younger age, experience, and course of study, longer shift time considered to be associated with higher stress levels among staff nurses during the covid19 pandemic. There are the factors associated with the high level of stress. Hence further study can be conducted for intensive analysis of the factors associated with stress and their coping strategies.

## Conclusion

Findings of the present study revealed that, the most of staff nurses working in hospital had a moderate level of stress related to workplace in the clinical practice. Staff nurses are encouraged to participate in yoga and relaxation exercise and also do the modification in duty hours according to the personal commitment especially in the pandemic situation. The result of this study may be utilized as a baseline for planning awareness campaigns on stress management among staff nurses in the future.

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## Competing Interests

Authors have declared that no competing interests exist.

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