Original Article

Stress, Anxiety and Depression among Nursing Staff in a Rural Tertiary Care Hospital: A Cross Sectional Study

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ABSTRACT

Background: Nursing staff form the backbone of healthcare delivery and are frequently exposed to high workload, irregular schedules, and limited professional support, making them vulnerable to stress, anxiety and depression. These factors may impair their psychological well-being and the quality of patient care. The present study aimed to assess the prevalence of stress, anxiety and depression and identify their determinants among nurses working in a rural tertiary care hospital in Sindhudurg district, Maharashtra.

Methods: A cross-sectional study was conducted among 150 BSc-qualified nurses with at least one year of work experience. Participants were selected through simple random sampling. Data were collected using a pre-validated questionnaire incorporating the DASS-21 scale. Descriptive statistics (mean, percentages) and inferential analysis (Chi-square test) were performed.

Results: The majority of participants were young (52.6% aged 20–25 years), female, rural residents, and from lower income groups. Mild and moderate depression were seen in 16% and 4.6% participants respectively. Anxiety was mild in 31.3%, moderate in 8.6%, and severe in 2% of the nurses. Stress prevalence was higher: 37.3% had mild stress, 22% moderate, and 6% severe. Difficulty in night duties (p < 0.01) and dissatisfaction with superiors (p = 0.03) were significantly associated with stress. No significant determinants were identified for anxiety.

Conclusion: The study highlights considerable levels of mild to moderate stress and anxiety among nurses, although depression was not a major concern. Occupational factors—particularly night shifts and unsatisfactory supervision—contribute significantly to stress. Interventions such as improved staffing patterns, better workplace communication, and supportive management systems are essential to safeguard the mental well-being of nurses in resource-limited rural healthcare settings.

Keywords: Stress, Anxiety, Depression, Nursing staff, DASS-21, Rural hospital, Occupational stress, Mental health determinants.

INTRODUCTION

Nurses and paramedical staff are the workforce of the healthcare system upon whom relies the efficient functioning of healthcare delivery. However, the nature and burden of the work can be exhausting and leave them stressed and drained. Consequent to the demanding nature of their work, the nursing staff are at an increased risk of developing mental states like Stress, anxiety and depression. (1) Nurses not only provide care and assistance to patients and their families but also advocate health education, undertaking an important role in improving and promoting health of the community. Their broad and multifaceted workload requires them to invest substantial amount of time spent with patients and exposes them to the

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occupational hazards associated with provision of healthcare services. (2) Nurses regularly experience a variety of workload related stressors including long working hours, meeting patients' needs, irregular schedules and lack of professional support. With such a demanding occupation, the ongoing strain faced by health care professionals can lead them to have a severe impact on their mental health and quality of life. Studies have shown that ongoing stress faced by these professionals can have negative effects on their psychological well-being. Poor mental health among nurses can also hinder their professional performance and can have considerable effects on the quality of care they provide to the patients. (3)

Psychological indicators of stress include low self-esteem, fatigue, and sleep and appetite disturbance; while physical impact may include increased risk of cardiovascular diseases, high blood pressure, decreased immunity, migraine, muscle aches and chronic fatigue. (4) It may also lead to mal-adaptive behaviours like smoking, over/under eating, alcohol consumption and substance abuse. (5)

In emergency situations like natural and man-made disasters and pandemics, nurses are the front line workers of any outbreak response. The overwhelming patient load and anticipation of consequences coupled with limitation of manpower, resources and protective equipment exposes the healthcare staff not only to hazards that put them at risk of infection but also to the risk of exhaustion and stress. Hazards include pathogen exposure, long working hours, psychological stress, fatigue, occupational burnout, stigma and violence. (6) In the context of a tertiary care set-up serving as a referral centre for a district, the burden on the nurses is further accentuated. In view of these circumstances the current study was conducted to assess the prevalence of depression, anxiety and stress and their determinants among the nursing staff in a rural tertiary care hospital of the Sindhudurg district.

A study was conducted by Khani M, Ahmadi F et al to compare the stress, anxiety and depression levels of nurses in special and general wards of public hospitals of Iran. This study reported that stress, anxiety and depression affected 72. 04%, 46.33% and 53.68% of nurses, respectively, with mild to extremely severe intensity levels. (7)

MATERIALS AND METHODS
This study was carried out in a tertiary care hospital in the Sindhudurg district of Maharashtra. A Cross sectional design was adopted. The study was undertaken among all the nurses with a qualification of Bachelor of Science in nursing. The sample size was estimated using the formula $n=4pq/d^2$. The prevalence of stress among nurses was seen to be around 90%. (8) (p=0.9, q=0.1) therefore, n = 144

All nurses (male and female) who had completed BSc nursing, and had at least one year of working experience and who had given informed consent were considered eligible for inclusion. Nurses who were ANM staff were not included in the study. Simple random sampling was employed to all the eligible nurses of the institution to meet the sample size of 150. A pre-validated structured questionnaire translated, narrated and explained in the native language comprising the DASS-21(depression, anxiety and stress scale) scale was used for an interview based data collection after obtaining an informed consent. 21 points which assess the frequency of stress, depression and anxiety symptoms on a 4 point Likert scale ranging from 0 (never)-3(nearly every day) were used. The DASS21 scale classifies subjects into mild, moderate and severe stress, anxiety and depression. The total score of DASS 21 ranges from 0-63 with increasing scores indicating a more severe functional impairment as a result of anxiety, depression and stress. (9) Participation was voluntary, informed consent was taken, confidentiality was maintained and Ethical approval was obtained. Data were entered using Microsoft Excel software. All responses were tabulated and graphical representations were prepared wherever necessary. Descriptive statistics were carried out using mean and percentages. Inferential statistics were undertaken using Chi-square test of significance

RESULTS
Table 1. Age group wise distribution of the participants.

AGE GROUPS (years)	No. of Participants N (%)	Mean Age (SD)
20-25	79 (52.6)	22.85 (±1.25)
25-30	47 (31.3)	28.67 (± 0.31)
>30	24 (16)	36.32 (±3.39)
Total	150 (100.0)	

Most of the participants in the study were young individuals with more than half of the participants (52.6%, n=79) in the age group of 20-25 years. Experienced nursing staffs (>30 years) comprised only 16% of the total sample size. It was observed that all the participants in this study were females.
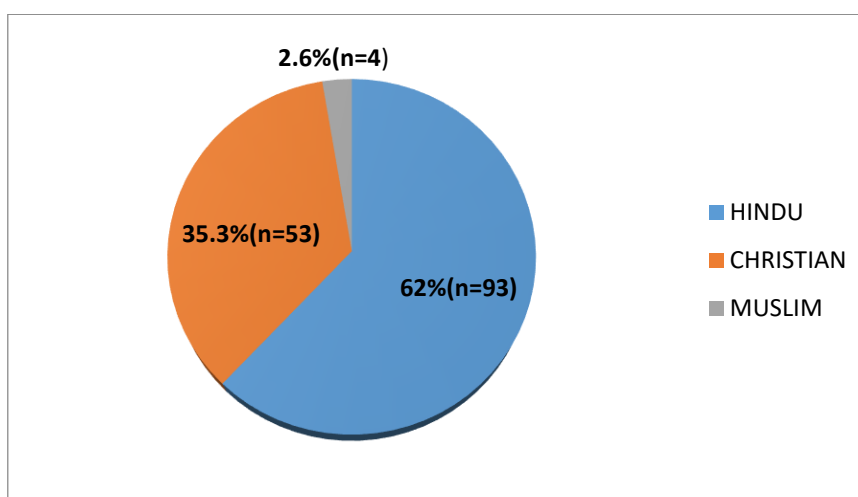
Fig. 1 Distribution of the participants based on the faith of the participants

Majority (62%) of the participants in the study were of 'Hindu' community and a little over one in three participants were Christian (35.3%)

Table 2. Distribution of participants based on annual income

INCOME (Annual)	No. of participants N (%)	Mean Income (SD)
1.2 -2.4 Lakh	121 (80.7)	2.16 Lakh (±0.24)
2.4-3.6 Lakh	24 (16.0)	2.88 lakh (±0.36)
>3.6 Lakh	5 (3.3)	4.20 Lakh (0)
TOTAL	150 (100.0)	

Most (80.7%) of the participants in the study had an annual income between 1.2-2.4 lakhs. Significantly less number of individuals (3.3%) had an annual income of >3.6 lakhs. This was suggestive that the participants primarily belonged to lower socio-economic groups based on their income.
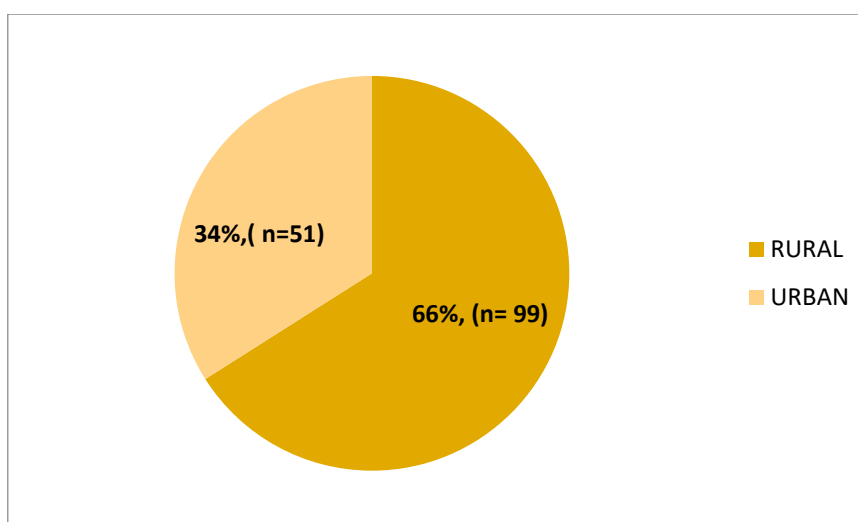

Fig. 2 Distribution of the participants based on locality of residence

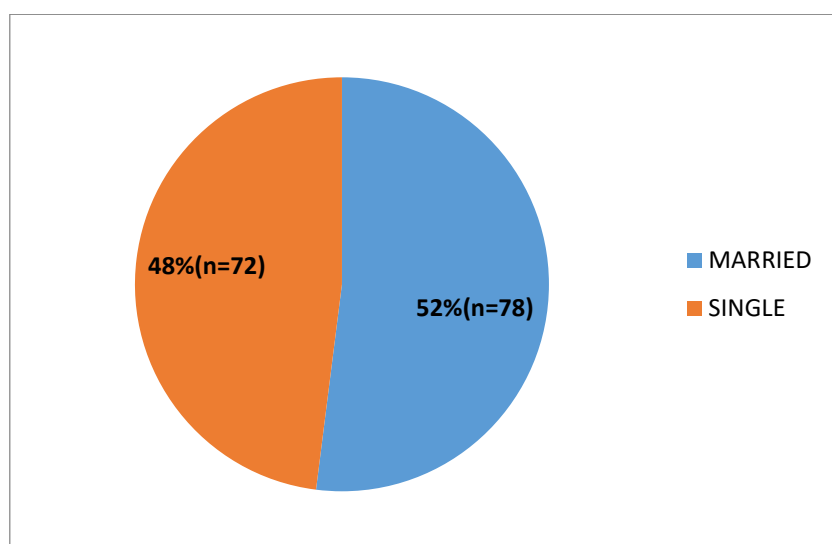Around two third (66%) of the participants in the study were residents of rural areas

Fig. 3 Distribution of the participants based on the marital status

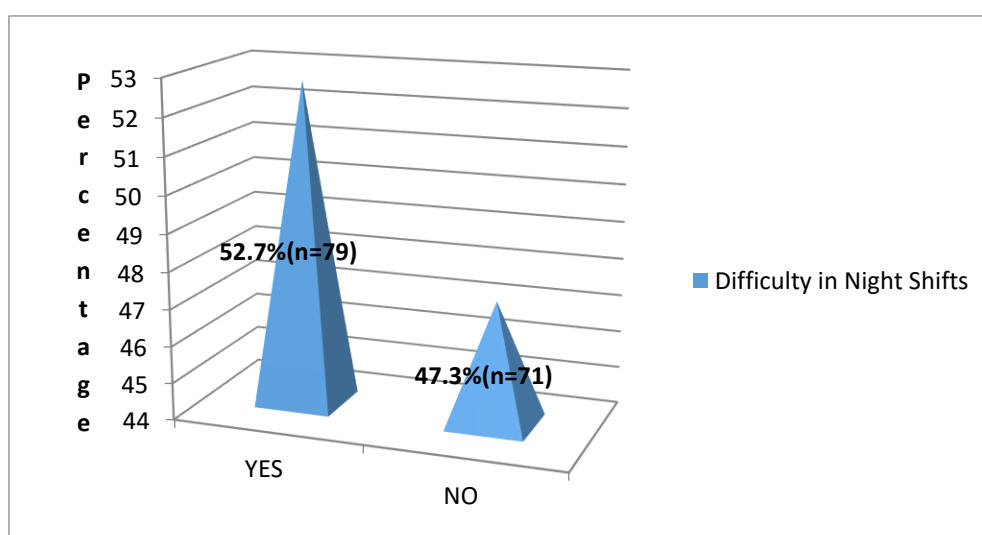A little over half (52%) of the participants were married.

Fig. 4 Participants reporting difficulty in taking up night duties

Among the participants, more than half (52.7%, n=79) were having difficulty in taking night shifts.
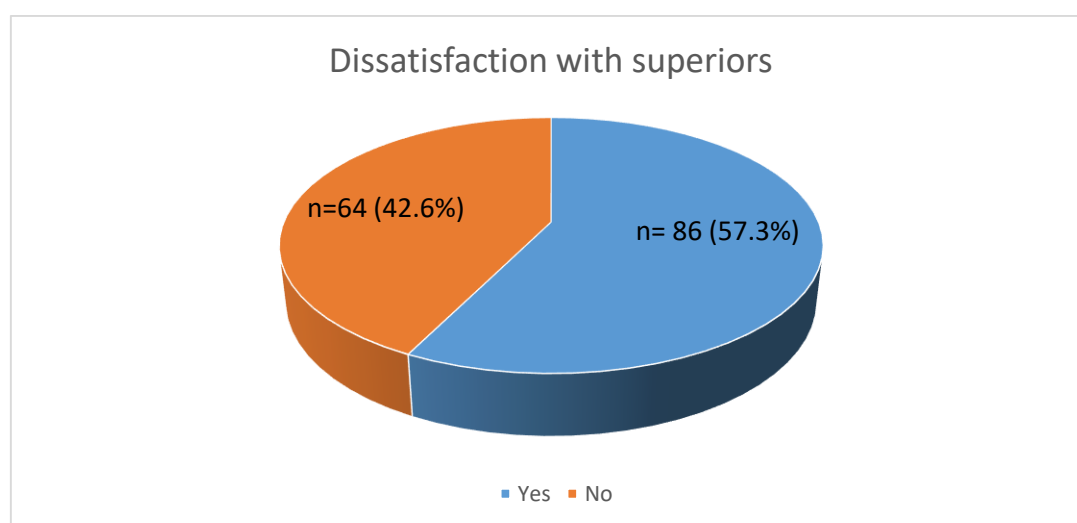

Fig. 5 subjective dissatisfaction with superiors as reported by the participants

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Majority of the participants of the study (57.3%) reported subjective dissatisfaction with their superiors.
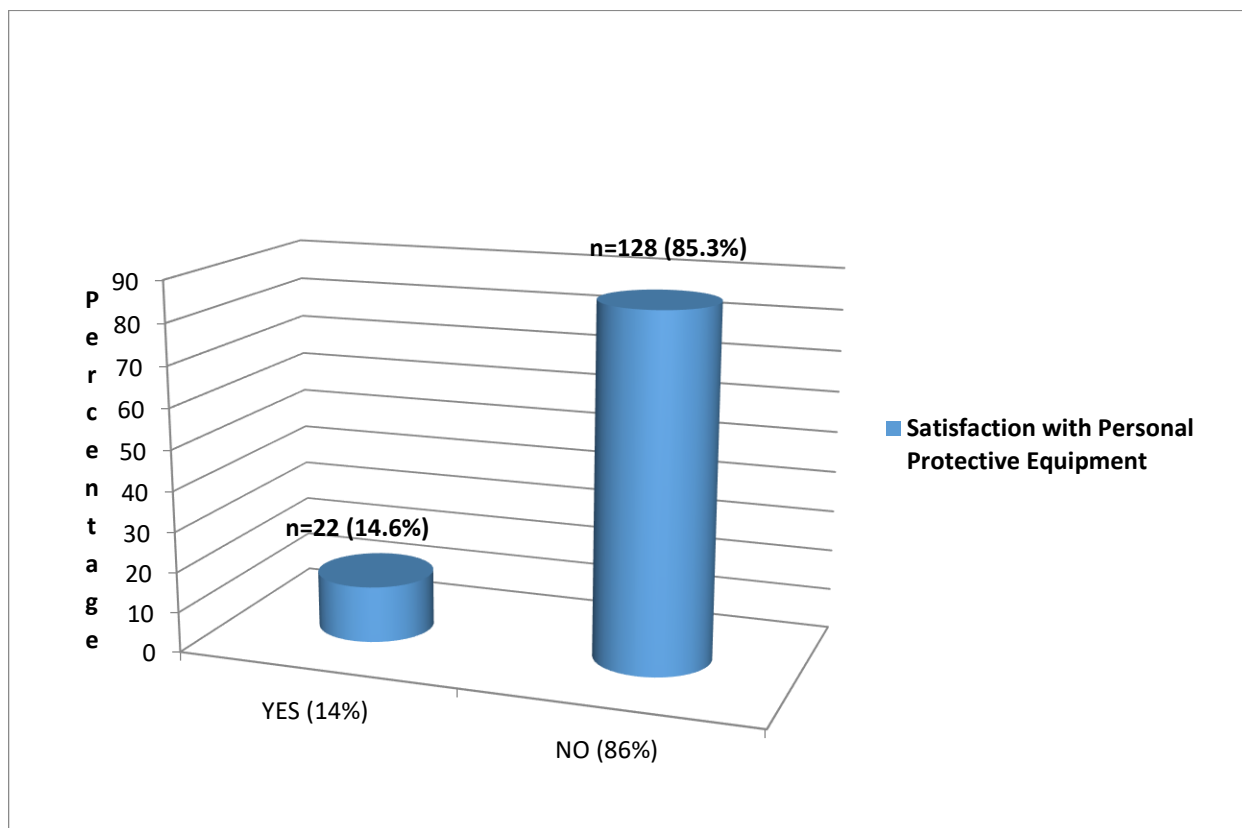

Fig. 6 Attitude towards personal protective equipment as reported by participants

Alarmingly around 85.3% participants were not satisfied with the personal protection measures.

Table 3. Distribution of participants based on severity of depression.

DEPRESSION	FREQUENCY(N)	PERCENTAGE (%)
NORMAL	119	79.3
MILD	24	16.0
MODERATE	7	4.6
TOTAL	150	100.0

Majority of the participants showed no depression however among the depressed, mild depression comprised most of the cases (16%) and moderate depression was seen among (4.6%).
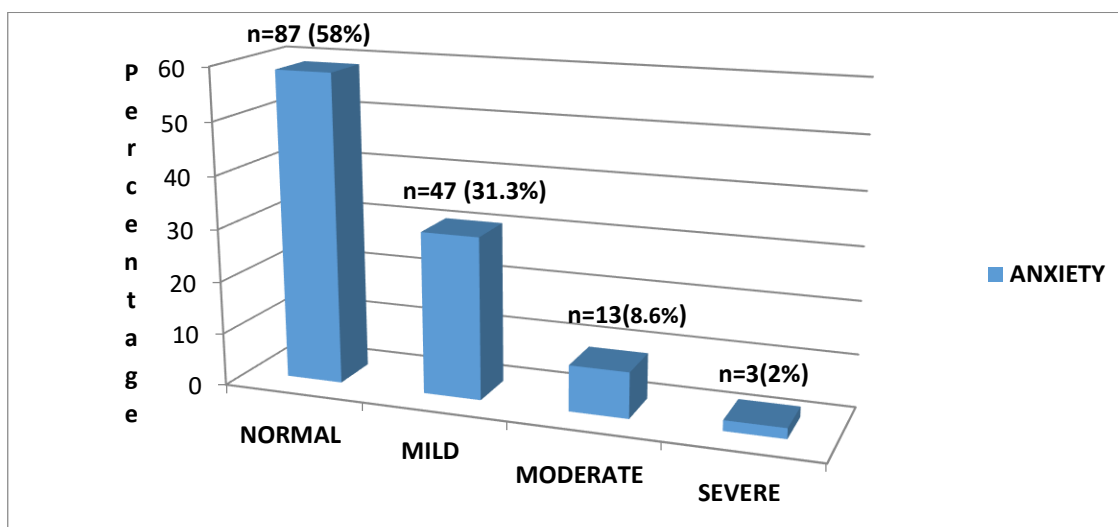

Fig. 7 Distribution of the participants based on the severity of Anxiety

Prevalence of mild, moderate and severe anxiety was 31.3%, 8.6% and 2% respectively.
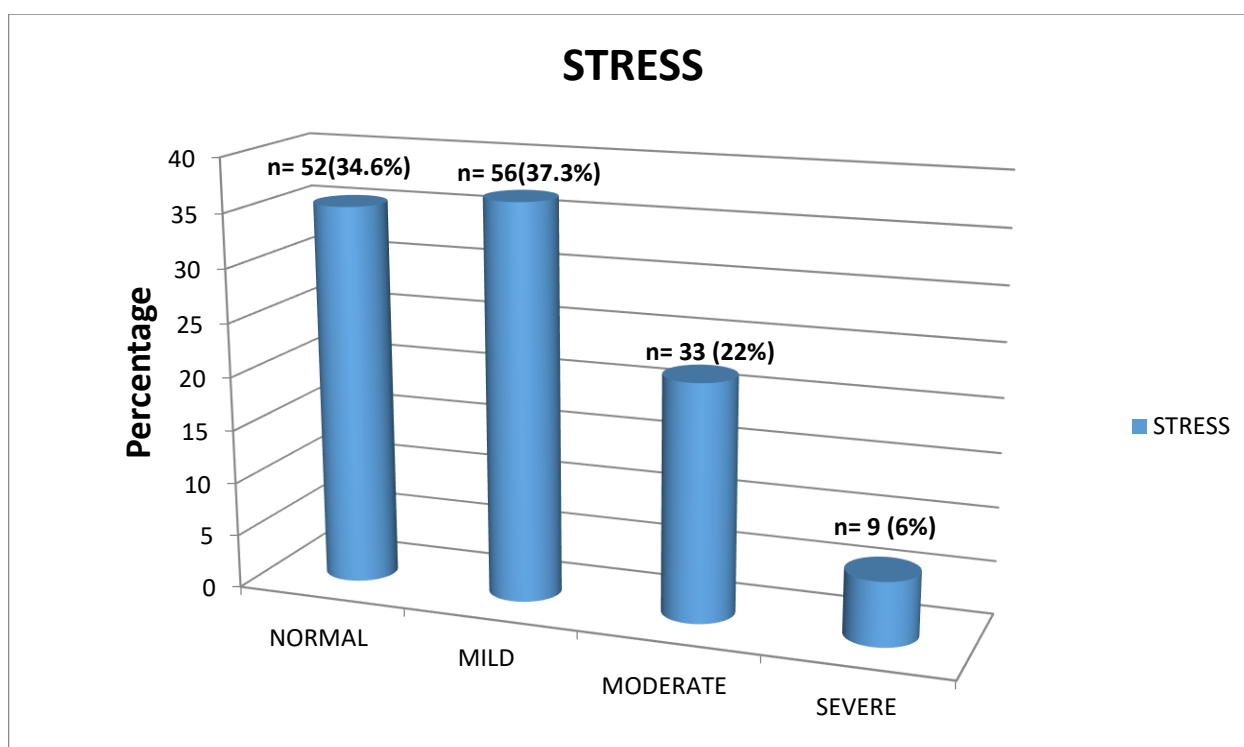

Fig. 8 distribution of participants based on severity of stress

Among the participants 37.3% were found to have mild stress, 22% had moderate stress and significantly few individuals (6%) had severe stress.

Table 4 Stress severity and the determinants of stress

STRESS	NORMAL	MILD	MODERATE	SEVERE	p VALUE
DISSATISFACTION WITH SUPERIORS:					
YES	25	31	**26**	4	**0.03**
NO	27	25	**7**	5	
TOTAL	52	56	**33**	9	
SATISFIED WITH PPE:					
YES	7	7	7	1	0.68*
NO	45	49	26	8	
TOTAL	52	56	33	9	
AGE:					
20-25	28	29	16	6	0.83*
25-30	16	16	12	3	
>30	8	11	5	0	
TOTAL	52	56	33	9	
NIGHT SHIFT DIFFICULTY					
YES	17	31	**28**	3	**<0.01***
NO	35	25	**5**	6	
TOTAL	52	56	**33**	9	
MARITAL STATUS					
MARIED	31	24	18	5	0.35*
NOT MARIED	21	32	15	4	
TOTAL	52	56	33	9	

* Does not meet Cochrane criteria

Table 5 Anxiety severity and the determinants of anxiety

ANXIETY	NORMAL	MILD	MODERATE	SEVERE	p VALUE
DISSATISFACTION WITH SUPERIORS					
YES	43	31	10	2	0.12*
NO	44	16	3	1	
TOTAL	87	47	13	3	
SATISFIED WITH PPE					
YES	13	8	1	0	0.744*
NO	74	39	12	3	
TOTAL	87	47	13	3	
AGE					
20-25	46	24	7	2	0.995*
25-30	27	15	4	1	
>30	14	8	2	0	
TOTAL	87	47	13	3	
NIGHT SHIFT DIFFICULTY					
YES	49	23	6	1	0.705*
NO	38	24	7	2	
TOTAL	87	47	13	3	
MARITAL STATUS					
MARIED	41	31	5	1	0.11*
NOT MARIED	46	16	8	2	
TOTAL	87	47	13	3	

* Does not meet Cochrane criteria

DISCUSSION

The study was conducted in a tertiary care hospital with an inclusion criteria for male and female nurses. However, with a gender disparity skewed in favor of female nurses and unwillingness of male nurses to participate, all the participants were female nurses limiting any analysis of gender based distinctions in the prevalence of stress, anxiety and depression. More than half (52.6%) of the participants belonged to the 20-25 years age group with a mean age of 22.85 years. The young nursing workforce is reflective of the fact that their institution is also a relatively new hospital. Annual income of majority of the nurses was in line with income trends for beginners. (10) Due to the rural localization of the hospital, majority of the nurses hailed from rural background. In accordance with the demographic trends of the district (11), Hindu participants were in majority (62%).

Moderate Stress levels seen in 22% of the nurses in this study was comparable to the findings of the study conducted by Khani M, Ahmadi F et al in Iran (7) reporting moderate stress among 25.14 % of nurses. Severe stress was remarkably low in the current study participants (6%) as compared to the Iran study participants (25.41%). This study reports a higher proportion of mild stress (37.3 % participants) as compared to the Iran study (21.46%) indicating comparatively an overall lower stress level. Similarly, moderate and severe anxiety was relatively seen among less participants, 8.6% and 2% respectively compared to the Iran study reporting moderate and severe anxiety among 17.51% and 11.57% participants respectively. Depression was not a major finding of the current study with only 16% and 4.6% participants showing mild and moderate depression respectively.

More than half of the participants (52.7%) expressed difficulty in taking up night shifts in spite of an overall young age of the participants. This was seen to have a statistically significant association with moderate stress (p<0.01). (Table 4) Similarly, dissatisfaction with superiors seen in more than half of the participants (57.3%) was seen to be associated with moderate level of stress (P=0.03). (Table 4) High level of dissatisfaction with personal protective equipment (PPE) perhaps could be consequential to the experiences of the pandemic. However no association was noted with PPE dissatisfaction, marital status and stress (Table 4). Anxiety levels did not show any significant associations with analyzed determinants. (Table 5)

CONCLUSION

A healthy workforce is imperative for the efficient functioning of a healthcare institution. The paramedical staff making the workhorse of hospitals, need to maintain health not only in the physical context but also mentally. Stress anxiety and depression can greatly undermine the quality of work as well personal health of the employees.

This study attempts to highlight the overlooked plight of the paramedical workforce, especially in the era of the stride for expansion of healthcare delivery across the country. The findings of the study are consistent with the established idea of burnout among nurses. The study identifies mild and moderate levels of stress among the nurses with similar levels of anxiety. Depression however, does not appear as a major concern among the nurses in this study. Determinants like night shifts and unsatisfactory work environment seem to be contributory factors in adversely affecting mental health of the nurses.

Tertiary hospitals and medical colleges overwhelmingly serving communities can institute mechanisms to address factors promoting poor mental health among the overstretched nurses. Working hours could be adjusted to ease the burden of work. Efforts may be directed at improving work place harmony.

Unavailability of data on gender based distinction in the prevalence of stress, anxiety and depression could be a limitation of this study.

REFERENCES

1. Kaushik A, Ravikiran SR et al, Depression, Anxiety, Stress and Workplace Stressors among Nurses in Tertiary Health Care Settings, Indian J Occup Eviron Med. 2021 Apr 26;25(1):27-32.
2. Al-Yafeai T, Kumardhas V et al, Occupational hazards facing nurses in the United Arab Emirates: a cross-sectional study, BMC Nurs. 2025 Nov 4;24:1369.
3. Babapour A, Mozaffari N et al, Nurses' job stress and its impact on quality of life and caring behaviours: a cross-sectional study, BMC Nursing. 21, Article number: 75 (2022).
4. Henein M, Vancheri S et al, The Impact of Mental Stress on Cardiovascular Health-Part ll, J Clin Med. 2022 Jul 28;11(15):4405.
5. Sun W, Yin L et al, Prevalence of Work-Related Musculoskeletal Disorders among Nurses: A Meta-Analysis, Iran J Public Health. 2023 Mar;52(3):463-475.
6. Mercer M, Stimpfel A W et al, Psychosocial Factors Associated With Alcohol Use Among Nurses: An Integrative Review, J Nurs Regul. 2023 Jan;13(4):10.1016/s2155-8256(23)00032-7.
7. Khani M, Ahmadi F et al. Comparison of stress, anxiety and depression levels in nurses in specialized and general ward. Iran J Nurse Midwifery Res. 2025 Jan. 30(1): 103 – 109.
8. Hepsi B, Vinitha R. Job stress among nurses. Indian J of continuing nursing education. 2019 July. 20(2): 92-96.
9. Lovibond SH, Lovibond PF. Manuel for the Depression Anxiety Stress Scales (1995) 2nd edition. Psychology foundation. Sydney.
10. Available from: https://timesofindia.indiatimes.com/city/bengaluru/karnataka-govt-raises-salaries-for-doctors-nurses-to-check-shortage/articleshow/121183491.cms?utm_source=app&utm_medium=share&utm_campaign=social_share.
11. District Census Hand book – Sindhudurg. Census of India 2011. Registrar General and Census Commissioner of India.