Prevalence of Low Mental Health Among Nurses in Medical Intensive Care Units

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ABSTRACT

Introduction: Professional nurses who work in ICU experienced more stressful conditions compared to those involved in other wards of hospitals. Excessive workloads, job factors, and organizational factors stand to be the leading causes of mental health problem in nurses. However, a little attention has been directed towards determining the prevalence of occupational stress and mental health problem in ICU nurses. The present study was intended to determine the prevalence of mental health problems among nurses working in the intensive care units in various private hospitals in Amravati city.

Material and Methods: The objective of this cross-sectional study was to determine the prevalence of mental health problems in ICU nurses working in various Private Hospitals. The mental health status of the nurses working in the ICU was characterized using the 28-item General Health Questionnaire (GHQ-28). 68 female ICU nurses completed the questionnaires. Statistical significance was analyzed using independent samples t-test as appropriate.

Results: The prevalence of somatic symptoms, anxiety, social dysfunction, and depression were 56.68%, 64.60%, 69.96%, and 14.18%, respectively. As per the independent samples t-test, somatic symptoms, anxiety, and social dysfunction had significant relationships with marital status (p = 0.01), but no significant differences between mental health subscales and educational status, and working different shifts (p > 0.05).

Conclusion: There was a high prevalence of low mental health among ICU nurses. There was a significant relationship between mental health and marital status. Future interventions to identified and reduced occupational stress are needed to develop the comprehensive health program to enhance nurses' levels of mental health.

Keywords: mental disorders, ICU nurses, marital status, educational status

INTRODUCTION

The key to success in nursing care lies in the fact that the nurses must be sensitive enough to respond to even minimal changes in patients' health condition so that appropriate clinical assessment is done timely, accurately and expediently. This is possible only when affective states of nurses on duty are optimally aroused over different times of the day, which in turn thought to be conducive to enhance patients' safety.

It is becoming increasingly difficult to ignore the factors that are clearly important in stress induced by work, i.e., including long hours of working, the quality of the relationships between hospital workers, poor supervision, high workload, and poor work environment. The physical environment (including the factors like temperature, lighting, the levels of sound in hospitals etc.), in addition, has a great impacts on the levels of stress in the healthcare staff.[1] Occupational stress has a significant impact on workers' health and well-being, job satisfaction, their quality of life and quality of family life, turnover, and absences from work.[2] In general, the prevalence of mental health problems among people was estimated to be 14 to 18%.[3]

Stress levels among professional nurses have increased due to the increased demands of clinical nursing in recent years. Previous studies have shown that there is an association of work demands and stress with adverse mental health like emotional exhaustion[4], depressive disorder[5,6] and fatigue[7,8], which found to result in sleep problems and absences from work due to sickness.[4]

Many nurses reported to experience high levels of occupational stress in their work environment. As an outcome of stressful workplaces and tasks, stress has effects on nursing behavior in hospital wards.[3,1] However, the results of the General Health Questionnaire (GHQ) among 870 nurses working in various hospitals in the south of England indicated that about 27% of hospital workers were suffering from occupational stress and various mental health problems.[3] Nurses in the intensive care unit are exposed to more traumatic events happening in their stressful working environment and reported to have experienced more stressful conditions than the nurses working in other wards of hospitals.[9] Higher levels of stress result in increased turnover rates and burnout among this working group.

The prevalence of mental health problems (anxiety and depression) among nurses is high. Excessive workloads, organizational factors and job factors are found to be the important leading causes of mental health problem in nurses.[10,11] However, far too little attention has been directed towards the determination of the prevalence of occupational stress and mental health problem in nurses working in ICUs. This study was intended to determine the prevalence of occupational stress and various mental health problems in ICU nurses working in private hospitals in Amravati city and to conclude the relationship between occupational stress and mental health.

MATERIAL AND METHODS

This cross-sectional study was conducted to determining the prevalence of mental health problems in various Private Hospitals in Amravati City.

Selection and Description of Participants

All registered female nurses employed in the private hospitals,

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Variables		Somatic symptoms	Anxiety	Social dysfunction	Depression
Marital status	Single	45.04	58.71	64.5	10.32
	Married	60.86	66.71	71.93	15.57
Education Levels	Diploma	53.57	61.89	69.03	12.79
	Bachelor's degree or higher	57.33	65.18	70.14	14.45
Table-1: Prevalence of mental disorder subscales (%) according to marital status and education levels					

Occupational stress	Education Level	Mean	SD	p-value*
Somatic symptoms	Single	45.03	5.63	0.000
	Married	60.86	6.57	
Anxiety	Single	58.71	4.78	0.000
	Married	66.71	7.12	
Social dysfunction	Single	64.50	4.50	0.000
	Married	71.93	7.77	
Depression	Single	10.32	3.85	0.180
	Married	15.57	16.21	
Table-2: Prevalence of mental disorders among nurses as per their marital status (*Independent samples t-test; SD = standard deviation)				

having intensive care units (ICU) of at least 3 beds to maximum possible number of beds in the Amravati city, were eligible to participate in this study. The nurses who had bachelor degree or were associate diploma holders of either nursing institutions or universities, and agreed to participate in this study, were included in the study. Any nurse with a qualification less than two years since completing their nursing program was excluded. The initial sample consisted of 80 female ICU nurses, 12 of whom did not complete the questionnaires.

Technical Information

The 28-item General Health Questionnaire (GHQ-28) was used to characterize the mental health status of the nurses in the ICU. Numerous studies have investigated reliability and validity of the GHQ-28 in various clinical populations. Test-retest reliability has found to be high (0.78 to 0 0.9)[12] and both, interobserver and intraobserver reliability, have been reported to be excellent (Cronbach's α 0.9–0.95). High internal consistency has also been reported. The GHQ-28 has been reported to correlate well with the Hospital Depression and Anxiety Scale (HADS)[13] and also with the other measures of depression.[12]

This questionnaire has four subscales; each subscale consists of seven questions meant to evaluate anxiety, somatic symptoms, social dysfunction, and depression.[14] Mental health -related stress was rated using a 5-point Likert scale.[3] A high score suggests a severe mental disorder, and the lower score suggests of no disorder. Demographical features, including age, education level, marital status and work experience, of the nurses in the ICU were collected with an appropriately designed form. The data for the study were collected using a questionnaire for the assessment of the mental health status among the nurses in the ICU. Ethical issues were considered. Written informed consent was taken.

STATISTICAL ANALYSIS

Statistical analysis was done using independent samples t-test as appropriate, by Statistical Package for the Social Sciences (SPSS) software, version 20. The results were considered

significant at the level of α = 0.05.

RESULTS

The nurses in the present study ware having the age ranging from 23 to 45years, with an average of 28.99 years and with a standard deviation of ±4.89. About 82.24% of the nurses were holding Bachelor's degrees or a higher level degree, and about 17.64% of them were having a diploma-level education. The nurses who were married comprised 72.53% of the total number of participating nurses. 81% of the nurses had worked on rotating shifts, 10.29% had worked on permanent day shifts and 8.82% had worked on night shifts.

The most prevalent mental disorder in the nurses was found to be social dysfunction (69.96%), and the least prevalent mental disorder being the depression (14.18%). Among all the nurses, about 64.6% had anxiety symptom, those about 56.68% had somatic symptoms. In order to find out the relationships between marital status, mental disorders and education level, the score in each subscale were calculated and the independent samples t-test was applied. The results indicated that the prevalence in all subscales of mental health was greater in married nurses than in the nurses who were not married, and this difference was statistically significant (p < 0.05). No significant difference was found between education levels and the mental health disorder subscales.

Table-1 shows the prevalence of mental disorders and its subscales according to education levels and marital status. Nurses having diploma-level educations were found to have higher somatic symptoms (80%) than in the nurses having more advanced educational levels. However, the other mental disorders were greater in the nurses holding Bachelor's degrees or higher level degrees.

Table-2 All mental disorder subscales, except depression, were greater in nurses who were married than those who were singles.

DISCUSSION

This study was designed to study the prevalence of various mental health problems in nurses who work in ICU in various Private Hospitals in Amravati City. The results of the study indicated that the nurses on the fixed night shift schedule had much greater prevalence of somatic symptoms, anxiety, depression, and mental disorders than that in the nurses who worked the rotating shifts (Table-2). This finding was in agreement with previous findings of the study done among hospital nurses in Japan that showed a significant relationship (p < 0.001) between mental disorders and shift work in nurses.[15] Assessment of mental disorders among nurses doing shift work in Shiraz, using the GHQ-28 questionnaire, showed that 45.4% of the reported nurses had experienced mental disorders. The highly prevalent mental disorders were anxiety (43.2%) and somatic symptoms (34.5%) and prevalence of depression and social dysfunction has been reported as 1.2% and 79.5% in

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nurses who do shift work.[16] This study produced results that confirm the important findings of a previous work in this field. The investigation done among the nurses in Tabriz's teaching hospitals, considering the relationship between occupational stress, general health and burnout, revealed that 37.3% of the nurses suffered from significant mental health disorders, 30.5% of the nurses from somatic symptoms, 62.7% of the nurses from anxiety, 3.9% of the nurses from social dysfunction, and 16.9% of the nurses from depression.[17] This can be attributed to the heavy workload with less number of persons on duty, inadequate and poor quality of sleep, disputes among colleagues and also with the healthcare professionals and workplace violence.

The results also indicated that the prevalence of the mental health problem among married nurses was considerably greater than that in single/bachelor nurses working in the ICU (Table-1). The somatic symptom was noted to be the most prevalent mental disorder among married nurses (60.86% of the nurses). The results are consistent with the findings of other studies that found a significant difference between the nurses' marital status and depression and social dysfunction (p < 0.01).[16] The results of another study showed that the schedule of shift work had a great impact on the levels of stress among workers.[18] This can attributed to relatively low socioeconomic status and professional burden.

Mental disorders in nurses working in ICU who experienced high levels of stress were far greater than those experiencing low levels of stress. This result is in agreement with the findings of a previous study that showed a strong relationship between the development of mental disorders and occupational stress among nurses.[19] This may be due to disputes among colleagues and also with the healthcare professionals, poor nurse-patient relationship and workplace violence.

The factors that cause high prevalence of low mental health among nurses who work in the ICU must be identified and reduced and a comprehensive health program should be implemented in this field not only to reduce occupational stress but to enhance the level of nurses' mental health also, so as to improve the effectiveness and performance of the ICU.

Training programs to enhance communication skills and reduce stress could be beneficial in improving basic/intuitive communication strategies and also to promote safety as well as to improve health in the workplace.[20,21] Also an another important ergonomic recommendation is that night work should be reduced as much as possible. Schedule planners should avoid permanent night shift and rapid change over from night to day on the same day or from morning to night. The number of consecutive working days should be limited to 5-7. Every shift system should consider some free weekend including at least two successive full days off. Schedule planners must consider the time of recovery and rest breaks. Schedule should ideally and preferably be regular and predictable.[22]

CONCLUSION

This study highlighted the important findings that the prevalence of low mental health among nurses working in the ICU was high. There was a significant relationship between marital status, shift work and mental health and their subscales. These results can be a roadmap to establish policies for hospitals in promoting the health and welfare of their staff members. Future detailed interventions are needed to develop a comprehensive and appropriate health program in this field to reduce occupational stress and improve the level of nurses' mental health.

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