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**Research Paper**

# Is stress breaking the back of nurses? A descriptive study

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## ABSTRACT

Healthcare is one of the most stressful sectors in the world. Being the backbone of every hospital no matter how small or big, nurses face various stressful situations on a daily basis. This stress takes toll on their health predisposing them to various problems.

The aim of this study was to assess the prevalence of stress and psychosomatic symptoms among nurses as well as relationship between the two. Self-administered questionnaire was used to collect the background data and standardised scales were used to measure the stress levels (Expanded Nursing Stress Scale) as well as to collect information regarding the prevalence of psychosomatic symptoms (The Somatic Symptom Scale-8). 100 nurses working in emergency and ICU areas of tertiary care hospital were included in the study. The subjects were grouped among three stress levels - mild, moderate and severe according to their score on the ENSS and the psychosomatic symptoms were scored according to the severity with which they bothered the subjects.

Maximum subjects reported having severe stress due to high workload. The average level of stress in the assessed population was 1.57 which falls under the category of moderate level of stress. Average population was bothered highly from the somatic symptoms with feeling of low energy, tiredness and back pain. A positive relationship was found between the stress and psychosomatic symptoms. Senior nurses had more stress than their junior counterparts. In general, nurses are moderately stressed. Stress factors are work load, inadequate preparation and conflicts with other healthcare workers including fellow nurses. Incidence of psychosomatic symptoms was found to increase with level of stress.

***Keywords:*** *Nurses, Stress, Psychosomatic Symptoms, Workload*

When we talk of stress (Distress), we are talking about something that directly causes the brain and body to shrink in its working capacity, resulting in low- performance levels. It is caused when a person feels anxious, threatened (may be embarrassed, pressed for time, loss of prestige) or is overwhelmed with feelings of helplessness. The perceptions can be real (the person actually has no control or power over changing the situation) or imagined (the person could have influence over the situation) but the effects are the same: the person feels

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threatened and in danger. This danger could be physical safety or his psychological state of mind.

Stress has become a part of everyday life. Yet there are few individuals who face comparatively more stress than the general masses. These include nurses working in the healthcare sector. Nursing is a profession which involves provision of holistic care to the sick. While medicine and surgery deals with diagnosis and treatment of illness, nursing serves for the person to help him/her and the family to come back to their pre sickness independence with full potential. Nurses work day in and day out to help the sick get back to their normal life such that they require no or little help from others. The reason for stress is not limited to shift duties, dealing with sick and dying, shortage of resources both material and human, dealing with a wide range of professionals etc. Even though they are trained to handle every type of situation in a professional manner but it takes toll on their mental and physical health after chronic exposure to such adversities. In addition to that, they have to face home stress, intra and interdepartmental conflicts as well as under trained colleagues. Apart from the above stressors, nurses also perform shift duties, which is an additional stressor. According to Dr Charmane Eastman, PhD, a psychologist at Rush University, Chicago, "It doesn't matter whether they get enough sleep during the daytime. All the sleep in the world won't make up for circadian misalignment." [19] Stress has many repercussions on the ability of nurses to perform to their full potential. Severe level perceptual stress and stressful working environment have a direct effect on nurses' physiological as well as psychological well-being. [16] Any kind of distress directly reduces a nurse's capability to provide the best possible service and care. [25] In addition to the burnout, many times they develop physical symptoms which cannot be attributed to any organic causes in the body. . When mental factors start producing physical symptoms, it is termed as somatisation or somatoform disorders. These symptoms are due to increased nervous activity towards different body parts. [12] The studies regarding prevalence of stress among nurses are quite old. Yet the stress among nurses has not reduced. This could chiefly be because of increasing shortage of nurses, escalated responsibilities as well as chronicity of the stress. Authorities need to acknowledge the existence of these issues and take proper steps to reduce stress and its physical effects upon the nurses of their hospitals. This will not only help to reduce the current high rates of job dissatisfaction, but also attract youth to choose such a rewarding profession.

## REVIEW OF LITERATURE

In the mid-1960s, Ford and Silver (1967) in their research paper titled "Expanded role of the nurse in child care", grasped the problems in the health care system as an opportunity to create a role such as that of the NP to expand nurses' scope of practice and provide direct services to patients. . Over the years, professional clinical nurses had increasingly and competently taken on more medical types of tasks. Arthur and Andrew R. (2005) found that 86 per cent of nursing staff (n = 111) who experience stress in the workplace have sought help from their workplace counselling schemes. This study found that almost high levels of mental health problems existed (86 per cent) in nursing staff who remained at their work and that participants had higher rates of anxiety than depression. Salmond, Susan; Ropis and Patricia E., (2005) analysed the job related stress among medical-surgical and home care nurses in the U.S. High stress leads to negative work environments that deprive nurses of their spirit and passion about their job. Key factors contributing to workplace stress includes team conflict, unclear role expectations, heavy workload, and lack of autonomy.

Gbolahan and Gbadamos (2008) have conducted a study which explored the relationship among Perceived stress, Perception of sources of stress, Satisfaction, Core self-evaluation, Perceived health and Well-being. Survey data was collected from 355 nursing staff in Botswana. Results indicated that significant links between Perceived stress, Satisfaction, Core self-evaluation and Well-being. Overall, much of these findings were consistent with what had been reported in the literature. Hirak Dasgupta and Suresh Kumar (2009) in their study titled "Role stress among Nurses working in a Government Hospital in Shimla" concluded that role overload, self-role distance, role isolation, inter role distance, role stagnation, role expectation conflict, role ambiguity and role inadequacy are the factors causing role stress among nurses.

Number of studies has been conducted and they have established a relationship between stressful working environment and psychosomatic symptoms as well as with musculoskeletal ailments.

According to a study conducted by Pratibha Kane under research society of Maharashtra medical research society, Pune, the existence and extent of workplace stress among nurses was tried to establish. The researcher tried to identify the major stress sources and their effect as psychosomatic illness. The result showed that around 74% of nurses reported to be suffering from moderate to severe stress. The major psychosomatic symptoms as per the study were headache (60.5%), acidity (54.5%), backache (47.2%), stiffness in neck and shoulders (43.4%), stomach ache (11.3%).

Study on somatic symptoms among nurses working in an Indian psychiatric hospital was conducted by S.Gandhi and S.K. Chaturvedi. 150 nurses responded to the questionnaire and results provided that mostly pain related somatic symptoms were presented by nurses. The correlation among somatic symptoms and stress perception was positive (r= 0.302). They also included the variable of job satisfaction and related it negatively with the somatic symptoms (r= -0.231). As per a study by Engels et al, prevalence of musculoskeletal complaints was high among nurses with 36% complaining back aches, 30% neck pain, 16% leg complaints.

## OBJECTIVES

In the present study, an attempt was made to assess the relationship between stress and psychosomatic symptoms among nurses working in the emergency areas of tertiary care hospital. Therefore, the study has the following objectives:

- The assess the prevalence of stress among nurses
- To assess the prevalence of psychosomatic symptoms among nurses
- To study the relationship between stress and psychosomatic symptoms among nurses

## MATERIALS AND METHODS

Expanded Nursing Stress Scale is a highly used standardised test to measure stress among nurses using everyday situations they face under seven sub factors. Initially conceived as Nursing Stress Scale by Gray-Toft and Anderson (1981) it was concluded that the self-administered NSS was a reliable and valid measure of stress associated with nursing in hospital settings but suggested further testing with other groups of nurses. After careful analysis, the test was finalised to have seven sub factors. These sub factors are work load, death and dying, inadequate preparation, lack of staff support, uncertainty concerning treatment, conflict with physicians and conflict with other nurses. The expanded version is strongly supported for its validity and reliability and its necessity has been established for adequate measurement of sources of stress among nurses. There are 34 questions based on

daily interactions with a likert scale to record level of stress caused by each situation. Along with this, The Somatic Symptom Scale-8 was attached to measure the various symptoms which bothered the nursing staff. Derived from, the PHW-15, the 8-item Somatic Symptom Scale (SSS-8) was recently developed as brief patient- reported measure of somatic symptom burden. The SSS-8 has been used as a reference measure in the diagnostic and statistical manual of mental disorders (fifth edition) (DSM-5) field trials as an instrument to facilitate the diagnosis of somatic symptom disorder. Respondents rate how much they were bothered by common somatic symptoms within the last seven days on a five-point likert scale. The ratings are summed up to make a simple sum score (which can vary between 0 and 32 points). The SSS-8 includes Stomach or bowel problems, Back pain, Pain in your arms, legs, or joints, Headaches, Chest pain or shortness of breath, Dizziness, Feeling tired or having low energy and Trouble sleeping.

## RESULTS

***Table 1: Level of stress***

| Serial number | Scale | Score | n | |
|---|---|---|---|---|
| 1 | Mild level of stress | 1 (0-34) | 45 | Mean= 1.57 |
| 2 | Moderate level of stress | 2 (35-68) | 53 | Standard deviation= 0.537 |
| 3 | Severe level of stress | 3 (69-102) | 2 | |

It was found that 45% of the study participants had only mild levels of stress which did not interfere with their personal and professional lives. More than half of the study subjects (53%) had moderate levels of stress which represents a busy professional life and this level of stress needs to be acknowledged. 2% of the subjects had severe form of stress which needs to be acknowledged and treated immediately as it is a major risk factor. Mean of the score id 1.57 (SD=0.537). this means that average level of stress in the population is 1.57 which falls under the category of moderate level of stress,

***Table 2 : Correlation between stress, psychosomatic symptoms and various demographic variables***

***Correlations***

| | | ENS_Total | SSS_TOTAL | age | sex | education | marrital_status | family | locality | designation |
|---|---|---|---|---|---|---|---|---|---|---|
| ENS_Total | Pearson Correlation | 1 | .462** | .121 | .094 | -.013 | .019 | -.112 | .025 | .260** |
| | Sig. (2-tailed) | | .000 | .232 | .352 | .900 | .853 | .269 | .809 | .009 |
| | N | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| SSS_TOTAL | Pearson Correlation | .462** | 1 | -.143 | .242* | .091 | .211* | .143 | .174 | -.090 |
| | Sig. (2-tailed) | .000 | | .157 | .015 | .369 | .035 | .155 | .084 | .373 |
| | N | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

| | | ENS_Total | SSS_TOTAL | age | sex | education | marrital_status | family | locality | designation |
|---|---|---|---|---|---|---|---|---|---|---|
| Age | Pearson Correlation | .121 | -.143 | 1 | -.287** | -.383** | -.461** | -.018 | -.047 | .528** |
| | Sig. (2-tailed) | .232 | .157 | | .004 | .000 | .000 | .858 | .641 | .000 |
| | N | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Sex | Pearson Correlation | .094 | .242* | -.287** | 1 | .082 | .450** | -.373** | -.287** | .039 |
| | Sig. (2-tailed) | .352 | .015 | .004 | | .415 | .000 | .000 | .004 | .702 |
| | N | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Education | Pearson Correlation | -.013 | .091 | -.383** | .082 | 1 | .161 | .046 | -.127 | -.221* |
| | Sig. (2-tailed) | .900 | .369 | .000 | .415 | | .110 | .647 | .208 | .027 |
| | N | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| marital_status | Pearson Correlation | .019 | .211* | -.461** | .450** | .161 | 1 | -.132 | .033 | -.153 |
| | Sig. (2-tailed) | .853 | .035 | .000 | .000 | .110 | | .192 | .741 | .128 |
| | N | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Family | Pearson Correlation | -.112 | .143 | -.018 | -.373** | .046 | -.132 | 1 | .459** | -.070 |
| | Sig. (2-tailed) | .269 | .155 | .858 | .000 | .647 | .192 | | .000 | .487 |
| | N | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Locality | Pearson Correlation | .025 | .174 | -.047 | -.287** | -.127 | .033 | .459** | 1 | -.039 |
| | Sig. (2-tailed) | .809 | .084 | .641 | .004 | .208 | .741 | .000 | | .702 |
| | N | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| designation | Pearson Correlation | .260** | -.090 | .528** | .039 | -.221* | -.153 | -.070 | -.039 | 1 |
| | Sig. (2-tailed) | .009 | .373 | .000 | .702 | .027 | .128 | .487 | .702 | |
| | N | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

There is a significant positive correlation between somatic symptom scale total and marital status (.211). This means that married staff have more stress than unmarried ones. Also there is significant correlation between somatic symptom scale total and sex. Males have less stress than females. Among the relationship between ENS total and designation, there is significant positive correlation (.260) which means, with increase in designation, there is decrease in stress levels. Rest of the correlations are insignificant for the study.

## DISCUSSION

The study included 100 nurses working in the emergency areas of tertiary care hospital, who willingly participated in the study and filled the questionnaire. Among them, 66% were

females and 34% were males. Participants were aged between 21-50 with mean age 33 years. Most of them were graduates (72%) with 26% G.N.M. and 2% post graduates. 64% of the participants were married, 58% belonged to nuclear family, 66% were from urban locality, and 96% of them were nursing officers.43% of them had no working experience outside the tertiary care hospital, and around 42% of the total study participants had more than 5 years of experience of working in the tertiary care hospital. 23% of the participants were diagnosed with some physical or mental illness after joining the job which were backache, TB, extra pulmonary TB, renal stone disease, gall bladder stone, depression etc. only 15% of the participants were taking part in extracurricular activities on daily basis and 25% didn't participate in any extracurricular activity at all.

Coming to the number of subjects who had and had not been diagnosed for any physical or mental illness before or after joining services in the tertiary care hospital, the number saw a rise According to the data obtained, there has been an increase in the number of subjects who have been medically diagnosed with any physical or mental illness after they have joined services in the tertiary care hospital. This increase has been 11.5 times with only 2 subjects being diagnosed with any physical or mental illness before joining the services but 23 after being in the hospital on the post of nursing officer.

Substance abuse is increased after joining the institute. Before joining the institute, 8% of the nurses were using alcohol and drugs very often to sometimes. But the number increased to17% after they joined the job. Comparison of change in habit of substance intake among the subjects before and after they joined services in the tertiary care hospital was consistent to above observations. There is an increase in the number of subjects who admit an increase in intake of substances like alcohol/drugs after joining the post of nursing officer in the tertiary care hospital. The number has doubled for subjects who intake the substances sometimes in the week.

The level of stress caused by various sub factors as given in the ENS depict the daily situations nurses face. Among these, workload causes maximum stress among the staff. With the current shortage of nursing staff, the stress is increasing day by day. To add to the woes, many untrained staff are asked to perform activities they are not suitable to perform. This puts the life of patients as well as the health care personnel at risk.

Along with the stress of workload, the staff also faces issues of psychosomatic symptoms which reduces their efficiency. The nursing staff faces a high occurrence of low energy and a feeling of tiredness along with some other symptoms like back pain and headache. , there is significant positive correlation between all the factors and total stress as well as among themselves (correlation table 1). This means that a subject having stress due to factor 1 is very likely to have stress due to other factors as well. The same subject is also very likely to have high stress score. There is significant positive correlation between stress and somatic symptom with r= 0.483 (correlation significant at the 0.01 level) (correlation table 2). This means that presence of stress in the study participant is accompanied by the presence of somatic symptoms. This establishes relation between stress and psychosomatic symptoms.

There is significant positive correlation (.260 significant at level of 0.01) between designation and stress scoring, which means that with rise in designation, there is rise in number of responsibilities and thus increase in stress. There is significant negative correlation (-0.231 significant at level of 0.05) between experience and presence of somatic symptoms. This means that with an increase in the number of years spent in the tertiary care hospital, the

occurrence of symptoms decreases. The stress is found to be more prevalent among married females as compared to their unmarried counterparts.

## CONCLUSIONS

In this study, mostly females, graduates, married and nurses from age group 25-35 participated. Most of the participants belonged to nuclear families residing in urban areas.

There was a significant increase in the number of nurses diagnosed with physical or mental illness after joining the institute. Along with that the hike in intake of substance was also reported.

Among various stress causing factors, workload was reported to be causing stress in first place after inability to access emotional support from peers as well as various types of conflicts among health care professionals. Besides, more than half of the nurses are suffering from moderate levels of stress caused due to various workplace stressors. Workload can be attributed to staff shortage and increased patient load which is a worldwide phenomenon and needs to be acknowledged immediately and effectively.

Lack of continuing nursing education and in-service education makes nurses in India more vulnerable to be looked at as outdated and poorly informed. This is a major reason for conflict among nurses and physicians along with ages old hierarchical models of teams in Indian hospitals. More stress and less acknowledgement along with poor promotion criteria can be the cause of conflicts amongst the nurses. Positive correlation among various factors indicates that stress in one area affects the other too and thence causing an increased total stress score.

Positive correlation among various factors, total stress score and symptoms indicate need of immediate actions to relieve nurses from the stress and increase their overall outcome. Psychosomatic symptoms can be difficult to diagnose since they can't be verified through lab values. Instead, deep psychoanalysis is required to diagnose psychosomatic symptoms.

Positive correlation found between designation and stress indicates that with rise in the post, there is an increase in the number of responsibilities and thus increase in the stressors leading to high stress score.

Severe form of stress was seen among young nurses as compared to experienced ones who had mild form of stress. These changes can be attributed to the development of some sort of defence mechanism to cope with the stress and they have adapted well to the situations. Young nurses are more stressed because of monotony in job and lesser scope of promotions.

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