Research Article

Self-perceived occupational stress and blood pressure profile of nurses from government hospitals

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Abstract

Background: Nursing is a demanding profession that can lead to occupational stress and influence the health and nursing ability of nurses.

Objective: To determine the self-perceived occupational stress and blood pressure profile of nurses from government hospitals in Delhi.

Materials and Methods: A cross-sectional study was carried out on 100 nurses working in government hospitals in Delhi, who were selected using purposive sampling technique. A questionnaire-cum-interview schedule was designed to elicit information regarding the general profile, perceived occupational stress, and other health-related aspects of the nurses. Blood pressure measurements were also taken.

Result: Job and salary satisfaction were reported by 77% and 90% subjects, respectively. Occupational stress was experienced by 70% subjects and 81.2% of them could satisfactorily manage household and nursing chores simultaneously. Health risks due to their occupation were reported by 60% subjects and 73.8% subjects perceived themselves as healthy. About 40% and 13.8% subjects were in prehypertension and stage 1 hypertension categories as per their blood pressure measurements.

Conclusion: This study indicated that nurses working in government hospitals have a satisfactory self-perception about their occupation and health even though their occupation poses several stressors and health risks. The stressors may, however, have a gradual detrimental effect on their health. Regular stress-relieving and coping strategies to maintain optimum health need to be promoted among nursing professionals.

KEY WORDS: Nurses, Nursing, Occupational stress, Blood pressure, Government hospitals

Introduction

Nursing is seen as an inherently stressful occupation, as nurses assume not only the role of caregivers, administrators, and supervisors for their patients, but they also become strong role models, advocates, and educators for their families, their communities, and work environments.[1,2] These multiple work roles expose nurses to several work-related stressors, including the experience of death, the emotional demands of patients and their families, shift-work, long working hours, budget cuts, and a continuously changing work environment.[3,4] Significant amount of occupation-related stress is seen amongst nursing staff particularly those working at the bottom of the hierarchy, such as staff nurses and nursing sisters who end up sharing most of the work burden.[5] Moreover, nurses working in large city hospitals show more strain and lower levels of morale, job satisfaction, and quality of work life than others.[6] It has also been seen that those working in public hospitals are more stressed than their counterparts working in private hospitals.[7]

Studies have indicated that the conflict between work and family roles among nurses contributes to occupational stress development because fulfilling the work role may adversely affect fulfilling a role within the family and vice versa.[8–11] It is not uncommon for nurses and other shift workers to acknowledge falling asleep when working at nights.[12] Moreover, work stressors may also account for higher prevalence of smoking

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in the nursing profession when compared with other health professionals.[13]

Nurses are trained to consider patient's quality of care and life but seldom their own.[14] They learn to accept health problems that come from the physical and emotional demands of their profession. While the health of nurses is important to nurses themselves, it is also important for quality of care they provide to their patients.

The health of nurses can no longer be ignored. The study of occupational stress is imperative since it has been shown that stress has negative impact on nurses' health and on the health organization they belong to, with absenteeism and low quality of health care being the most frequent consequences.[8] It is the patient who is likely to be harmed due to the nurse's stress as a nurse under stress will care for patients in a cold, indifferent and impersonal manner, with apathy and disappointment.[15] Moreover, it is possible that a nurse under stress withdraws, behaves negatively and has a short-temper, is often absent from work, and performs in a less effective and suboptimal manner often wishing to quit the profession.[15,16]

To meet the physical and emotional demands of their profession, nurses need to be free of occupational stress and maintain good health. The present study was planned to determine the self-perceived occupational stress and blood pressure profile of nurses from government hospitals in Delhi.

Materials and Methods

A cross-sectional survey design was used to assess the perceptions of nurses related to their occupation and health. A total sample of 100 nurses working in various government hospitals in Delhi was selected using the purposive sampling technique. The inclusion criteria used for identifying the sample was that the nurses had to be married, and working as nurses for at least 3 years and should have received their nursing training after completing class XII in school. Nurses who lived in joint families or those who were pregnant or nursing were excluded from the study. Approval to carry out the study was obtained from the Institutional Ethics Committee and a written consent to participate in the study was taken from the nurses after explaining them the purpose of the study.

A questionnaire-cum-interview schedule was designed to elicit information regarding the general and family profile, perceived occupational stress and some other health-related aspects of the nurses. This schedule was pretested on 10 nurses who were not included in the final study sample. After analyzing the responses elicited during pretesting, the questionnaires were modified as required.

The blood pressure of the nurses was recorded by a trained health professional, using an inflatable cuff and pressure sphygmomanometer. The subject was made to sit straight and the cuff was inserted in the right arm halfway point between shoulder tip and elbow tip and the readings were taken. Categorization of subjects was done based on the classification of hypertension in adults as given by Seventh Report of Joint National Committee on Prevention, Detection, and Treatment of High Blood Pressure (JNC7).[17]

The data obtained from the subjects were consolidated and subjected to quantitative and qualitative analysis. The percentages were calculated for general profile, perceived occupational stress and health-related aspects, and blood pressure categories. Mean and standard deviations were also calculated for blood pressure measurements. The software Statistical Package for Social Sciences (SPSS) version 20.0 was used for the analysis of data.

Results

The general and family profile of the subjects has been presented in Table 1. Data revealed that the age of subjects ranged between 25 and 39 years, and the mean age of the sample was 35.6±4.1 years. Majority of the subjects had been married for 5 or more years so they were likely to have made adjustments in their family settings and reduce the risk of additional stress besides the occupational stress of their nursing profession. A higher percentage of subjects lived in nuclear families as compared to extended families. Data on monthly family income of the subjects revealed that most of them had a good income and could afford to have a decent lifestyle. Nearly 60% subjects employed servants at home, most of them on a part-time basis for cleaning, cooking, and laundering purposes.

More than three-quarters of the subjects had a Diploma in General Nursing and Midwifery, and the others had a Bachelors degree in Nursing (Honours) (Table 1). About 20% of the nurses also had higher qualifications and reported to

Table 1: General and family profile

Characteristic	Category	Percentage
Age (years)	25–29	12.5
	30–34	25.0
	35–39	62.5
Educational qualification	Diploma course	77.5
	Bachelors degree	22.5
Length of marriage (years)	<5	16.3
	5–<10	22.5
	10–<15	28.7
	>15	32.5
Family type	Nuclear	65.0
	Extended	35.0
Monthly family income (INR*)	25,000–<50,000	7.6
	50,000–<75,000	66.2
	≥75,000	26.2
Servant at home	Employed	61.3
	Not employed	38.7

*Indian National Rupees

Table 2: Occupational profile

Characteristic	Category	Percentage
Designation	Staff Nurse	73.8
	Nursing Sister	20.0
	Assistant Nursing Superintendent	6.2
Length of working as nurse (years)	<10	21.2
	10–<15	32.5
	≥15	46.3
Monthly income (INR)	25,000–<50,000	32.5
	50,000–<75,000	60.0
	≥75,000	7.5
Working days per week	≤5	61.3
	≥6	38.7
Rotating shift duties	Performed	93.8
	Not performed	6.2
Overtime duty	Performed	17.5
	Not performed	82.5

Table 3: Perceptions regarding occupation and health

Perception	Category	Percentage
Job satisfaction	Satisfied	77.0
	Dissatisfied	23.0
Salary satisfaction	Satisfied	90.0
	Dissatisfied	10.0
Perceived work environment	Pleasant	86.3
	Unpleasant	13.7
Satisfaction regarding shift work	Satisfied	83.8
	Dissatisfied	16.2
Occupational stress	Felt	70.0
	Not felt	30.0
Management of household and nursing chores simultaneously	Satisfactory	81.2
	Not satisfactory	18.8
Perceived occupational health risks	Yes	60.0
	No	40.0
Perceived health status	Healthy	73.8
	Unhealthy	26.2

have completed their Masters degree in Nursing or a Post-basic Nursing degree after their diploma course.

Table 2 depicts the occupational profile of the subjects. Maximum subjects worked as Staff Nurse whose major work responsibilities included giving injections, medicines, bed-side nursing care to pre- and post-operative patients. Nursing Sisters revealed that they had to maintain stocks of drugs and other consumables of the ward and managed the staff roster according to the duties allotted. Like staff nurses, they assisted the doctors for rounds and were responsible for taking care of the pre- and post-operative patients and managing the ward. They also had to act as staff nurses in case there was shortage of staff. Assistant Nursing Superintendents were responsible for the total nursing care of patients, and management and development of the unit assigned to them. They also handled administrative work and supervised the nursing staff in the unit. A high percentage of subjects had a good experience in nursing care and high monthly salaries as they had been working as nurses for at least 10 years. As they worked in government hospitals, nearly two-thirds of them had a 5-day working week. Majority of the subjects reported to be performing rotating shift duties since the beginning of their nursing careers and this seemed to be an inherent part of the nursing profession. The subjects further revealed that the timings of their shift duties kept changing each day and depended on the workload and the patients' needs. There was no fixed time for doing rotating shift as the senior staff kept changing the days on which the shift duties had to be performed. A small percentage of subjects also reported that they had to perform overtime duties beyond their normal working hours due to shortage of staff in the hospital.

The perceptions of the subjects regarding their occupation and health are given in Table 3. High percentages of subjects reported to be satisfied with their jobs and salaries they received. They found their work environment to be pleasant, were not dissatisfied with their shift duties and reported that they were able to satisfactorily manage their household and nursing chores simultaneously. The main reason enumerated by the subjects for satisfaction with their job was that it was a permanent government job and provided them many benefits such as government accommodation, medical benefits, casual leaves, maternity leave, child care leave, leave travel concession, etc. The two main reasons for job dissatisfaction among small percentages of subjects were staff shortage in the hospital resulting in more work for them, and lack of respect and bullying by seniors and doctors. The other reasons reported by them were night shifts, unpleasant environment in terms of uncooperative colleagues and frequent arguments, and lack of knowledge and proper training in some medical areas. Dissatisfaction related to shift work duties by a very small percentage of subjects was mainly because they felt that it resulted in inappropriate care practices and negligence in looking after their children and families, and they not being able to maintain regular day-to-day routines or participate in social activities. These issues increased stress, tension, and sour environment in the family and inter-personal relationships of the family members and put an extra strain on their daily lifestyle and health.

Nurses have to deal with patients who are suffering from various kinds of health issues - some of which are in the worst conditions. Despite satisfaction in most areas of their work, about two-thirds of the subjects each also reported that they felt stressed due to their occupational chores and felt that their occupation posed some health risks for them (Table 3). The main causes of occupational stress listed by the subjects were shortage of staff and having to handle large number of patients alone, dealing with aggressive patients, frequent night shifts, fear of getting infected, nursing difficult patients,

lack of breaks between shifts, rude behaviour of doctors, no respect for nurses, and lack of manpower and resources in the hospital settings. The reasons enumerated for being stressed were similar to those listed for their job dissatisfaction; however, much higher percentages of subjects listed them as reasons for stress rather than their job dissatisfaction. The occupational health risks cited by more than half of the subjects included needle stick injury which increased their risk to infections such as HIV/AIDS, Hepatitis B and C, etc., risk of getting infected with other communicable diseases, respiratory infections, and cross infections such as tuberculosis, swine flu, etc. while dealing with patients who were suffering from these diseases.

With regard to their health status, nearly three-fourths of the subjects perceived themselves to be healthy (Table 3). Maximum subjects never experienced symptoms such as insomnia (75%), lack of concentration (72.5%), anxiety (67.5%), and forgetfulness (60%) while on their job. The symptoms which were experienced frequently by more subjects included headache (62.5%) and fatigue (42.5%) with fatigue being experienced by maximum subjects on a daily basis (18.8%). Majority of the subjects (95%) reported that their health issues had no effect on their nursing chores, while 5% stated that their nursing quality was affected if they had some health problems.

Majority of the subjects (93.8%) reported that they slept for 6–8 hours a day and the remaining slept for less than 6 hours. None of the subjects in the present study reported consumption of alcohol and cigarette smoking.

Nurses due to their demanding job profile and resultant stress may have abnormal blood pressure levels. In the present study, mean systolic (SBP) and diastolic blood pressure (DBP) levels of the nurses were 116.4 mmHg and 76.7 mmHg, respectively. Categorization of subjects based on JNC7 classification of hypertension in adults showed that more than half the subjects were pre-hypertensives and stage 1 hypertensives (Table 4).

Discussion

This study assessed the self-perceived occupational stress and risks faced by nurses working in government hospitals in Delhi. Most nurses were satisfied with their jobs and salaries due to the many benefits they received being government employees. They seemed to have settled well in their nursing profession and were aware of problems of overcrowding of patients and shortage of nursing staff, and did not treat them as major concerns that would cause dissatisfaction. However, most nurses pointed out that they felt stressed due to shortage of staff as that made them put in additional work at the cost of their health and family responsibilities. Other important occupational stressors included lack of adequate resources in the hospitals, frequent night shifts, disrespect by senior staff and doctors, and dealing with difficult and aggressive patients. Various studies have also documented that staff shortage and lack of resources simultaneously increase the workload on one person and hence nurses have to deal with large number of patients alone and this might lead to diminished nursing care. The workers cooperation is even less in some cases and there are conflicts and unfriendly atmosphere at the workplace.[18–21] This study indicated that job stress and job dissatisfaction were seen as two separate entities by the nurses and their job dissatisfaction was not related to their stress at work as though more nurses felt stressed with their work, they still seemed to exhibit job satisfaction. It seemed that for most nurses the benefits of being nurses in government hospitals outweighed the stress they encountered in the hospitals on a daily basis.

Table 4: Blood pressure profile

Blood pressure category (mmHg)	Percentage
Normal (<120* and <80**)	46.2
Prehypertension (120–139* or 80–89**)	40.0
Stage 1 hypertension (140–159* or 90–99**)	13.8

*SBP, **DBP

Shift work duties seemed to hamper the personal and family life of some of the nurses, often resulting in conflicts as the nurses had to miss many important personal events due to their work commitments. Various studies have also reported that the nursing staff's family life can be influenced by their work, through frequent change in shifts and night shifts, which are a main feature of nursing occupation.[8,11,22] Bhatia et al.[10] in their study among 87 randomly selected nurses in two tertiary care teaching hospitals of Central Delhi reported that married nurses showed a trend towards being more stressed than those who were unmarried and suggested that the additional responsibility of married life may adversely increase the stress levels of nurses. As all nurses included in the present study were married, such a comparison could not be made. Moreover, majority of the nurses also did not report any dissatisfaction in managing their household and nursing chores simultaneously.

It has been reported that individuals working nights and rotating shifts rarely obtain optimal amounts of sleep, resulting in sleep debt if sleep loss is cumulative. This sleep debt may be significant enough to impair decision-making, initiative, integration of information, planning and plan execution, and vigilance and may go unrecognized until severe.[23] Sleep loss can influence the care provided to the patients by the nurses and result in their making mistakes which could be life threatening for the patients. In the present study, however, most nurses were found to be sleeping for adequate number of hours required in a day which provided rest to their mind and body and prepared them for their nursing chores better.

Contrary to the findings in the present study, several studies have reported that work stressors may account for higher prevalence of smoking in the nursing profession when compared with other health professionals, with some studies showing that as many as 45–57% of nurses are current

smokers.[13,24–27] None of the nurses in the present study reported to be smoking or consuming alcohol and the reason for this could be their awareness regarding the negative implications of such vices as well as the Indian traditions which do not support smoking and drinking among women.

It has been suggested that occupational stress among nurses may often lead to chronic health conditions such as diabetes and cardiovascular diseases.[28] Blood pressure profile of the nurses in the current study revealed that more than half of them were either at risk or were suffering from hypertension. Similar prevalence of hypertension (13.7%) and prehypertension (42.7%) was reported by Hegde et al.[29] in their recent study on nurses in a Medical College Hospital in Tamil Nadu, India. The present study indicated that though most nurses did not perceive or recognize their occupational stress and could multi-task, perhaps it was having a gradual and insidious effect on them. The other reasons for high blood pressure could also be faulty eating habits and inadequate physical activity by the nurses.

Conclusion

The present study indicated that most nurses had a satisfactory self-perception about their occupation and health. Though their occupation posed several stressors and health risks, they still did not feel dissatisfied with their jobs. However, as nursing is a profession in which all professionals need to be satisfied and in good health to take care of their patients effectively, appropriate measures need to be taken to relieve the stress of those who feel that because of the conflict between their multiple roles. Regular stress-relieving and self-care strategies to help cope up with stressors inherent to practicing nurses and to help maintain optimum health need to be promoted among this lifeline of the health workforce.

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