FACTORS ASSOCIATED WITH WORK RELATED STRESS AMONG NURSING OFFICERS IN A MAJOR TERTIARY CARE HOSPITAL IN SRI LANKA

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ABSTRACT

Stress is the harmful physical and emotional response caused by an imbalance between the perceived demands and the perceived resources and abilities of individuals to cope up with those demands. To determine the factors associated with work stress among nursing officers in the major tertiary care hospital in Sri Lanka. Descriptive cross-sectional study over a three-month period was carried out among 361 nurses in ward settings at National Hospital Sri Lanka. Two-stage stratification with simple random sampling method was used to select the sample. Nursing Stress Score was used to measure the stress. In-ward nursing officers work related stress was positively and significantly associated with increased number of night shifts, double shifts and inadequacy of the nursing and minor staff. Developing systems for effective two-way communication, proper recruitment of health staff, counseling should be made available.

The health services are delivered through an extensive network of primary-to-tertiary level community centres, hospitals, and dispensaries. In the Sri Lankan health system, nurses have a valuable role in caring for patients in order to avoid illness and help the evolving health status of the nation. Sri Lankan health-care delivery review recognized that a significant shortage of talented nurses exists in almost all medical institutions in all places (Abeykoon, 2003), (Jayasekara, 2009).

The nursing population of Sri Lanka is largely represented by a female. The female nurse plays a significant role as a mother, a wife, and a daughter in their own life in addition to the role of a nurse (De Silva and Rolls, 2010). Therefore, as a group, they are prone to encounter stressful situations more often compared to other professions.

MATERIALS AND METHODS

A hospital-based descriptive cross-sectional study was carried out to determine factors associated work related stress among nursing officers in a major tertiary care hospital of Sri Lanka.

This study was conducted at the National Hospital of Sri Lanka (NHSL) which is the largest teaching hospital consisting of 3300 beds and functions as the National Referral Centre for medical and surgical care in Sri Lanka. The NHSL has 106 Wards, 12 Intensive Care Units and 35 Operating Theatres in addition to other specialized units. There are 1328 nursing officers (excluding nursing sisters) attached to these wards. The study population consisted of nursing officers attached wards. Sample size calculated using formula by Lwanga & Lemeshow (Lwanga *et al.*, 1991) was 427. Two-stage stratification with a simple random sampling method was used.

Stress Scale developed by Pamela Gray-Toft and James G. Anderson (1981), was used to measure the level of stress among nursing officers. Nurses were requested to mention on a 4-point scale how frequently they experienced situations considered as stressful in the current place of the unit in which they work. The scale has consisted of 34 Likert-scale questions including choices. The mean stress score for each subscale was measured and the mean total score of participants was calculated. Each option carried out marks as follows, never (0), occasionally (1), frequently (2) and very frequently (3).

RESULTS

The sample consisted of 427 nursing officers and 361 responded with a response rate of 84.5%.

There was no statistically significant difference in the mean rank value of stress score with age, marital status, educational level, and income level and significant association was observed with availability of children (Table 1).

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Significant association with work related stress was observed in number of night shifts, number shifts per month, number of double shifts per day in a row, inadequacy of the nursing and minor staff in the ward, unable to adjust to the shift work and salary adequacy to work (Table 2).

Binary logistic regression shows that there is no association was observed in availability of children and salary adequacy to work which was significantly associated with Mann-Whitney test. Significant association with work related stress was observed in number of night shifts, number of double shifts per day in a row, inadequacy of the nursing and minor staff in the ward with binary logistic regression which was already associated non parametric test. Number of shifts per month and difficult to adjust to shift work which was significantly associated with Mann-Whitney test is not associated with binary logistic regression (Table 3).

Table 1: Association of work related stress with other factors

Variable	Frequency	Mean rank	Mann-Whitney U test	P value
Age up to 35	303	181.92	8508.5	0.702
Age more than 35	58	176.2		
Married	205	175	14773.5	0.215
Others*	156	188.8		
Income up to Rs.60,000	56	181.8	8281.5	0.719
Income more than Rs.60,000	305	176.3		
No children	214	193.8	12978.5	**<0.05**
Have children	147	162.3		

Table 2: Association of stress with work related factors

Variable	Frequency	Mean rank	Mann-Whitney U test	P value
Up to 6 night shifts per shifts/month	64	140.3	6902.5	<0.001
More than 6 night shifts per month	297	189.8		
Up to 40 shifts per month	155	160	127,295.00	<0.001
More than 40 shifts per month	206	196.5		
Up to 10 double shifts per month in a row	255	165.5	9574.5	<0.001
More than 10 double shifts per month	106	218.5		
Adequate of nursing staff in the ward	132	143.9	10226.5	<0.001
Not adequate of nursing staff in the ward	229	202.3		
Adequacy of minor staff in the ward	68	122.9	6012	<0.001
Not adequate of minor staff in the ward	293	194.8		
Able to adjust to shift work	130	163.3	12720	<0.016
Unable to adjust to shift work	231	190.9		
Adequately supervised by supervisor	291	177.6	9211	0.214
Not adequately supervised by supervisor	70	195		
Adequately support from supervisor	279	177.8	10560.5	0.29
Not adequately support from supervisor	82	192		
Work experience up to 3 years	31	189.19	4861	0.585
Work experience more than 3 years	330	180.23		
Salary adequate to work	72	152.1	8327	<0.009
Salary not adequate to work	289	188.2		

Table 3: Binary logistic regression on factors associated with stress

Factor	p-value	exponential B	95% confident interval	
			upper	Lower
Other factors				
Age of the nursing officer	0.092	0.544	0.269	1.104
Marital status of the officer	0.936	1.024	0.572	1.834
Income of the officer	0.753	0.901	0.472	1.723
Number of children	0.217	1.341	0.841	2.139
Work related factors				
Number of night shifts per month	0.044	1.839	1.017	3.326
Number of double shifts in a row per month	0.000	2.873	1.659	4.978
Adequacy of minor staff in particular ward	0.015	2.238	1.169	4.286
Adequacy of nursing staff in particular ward	0.011	1.963	1.168	3.299
Number of shifts per month	0.143	0.696	0.429	1.13
Able to adjust to shift work	0.487	0.822	0.473	1.429
Support from the supervisor	0.824	0.902	0.364	2.237
Good supervision by supervisor	0.455	1.261	0.686	2.319
Work experience	0.911	1.053	0.424	2.618
Salary of adequacy to the work	0.753	0.901	0.472	1.723

DISCUSSION

The nursing officers working more than six-night shifts per month had high-stress scores (median=1.62, IQR=1.41-1.79) compared to officers who were working up to six or fewer night shifts per month (median=1.41, IQR=1.33-1.70) which was statistically significant (p<0.001). This result was consistent with studies by Hamaideh *et al.*, 2008, Salilih and Abajobir, 2014, and Kawano, 2008.

Nurses who work more than 40 shifts per month had a high-stress score compared to nurses who worked 40 or fewer shifts per month (median=1.53, IQR=1.35-1.73). This relationship was statistically significant (p<0.001). Nurses who work more than ten double shifts per month had high-stress scores (median=1.70, IQR=1.56-1.82), compared to nurses working less than ten double shifts per month (median=1.53, IQR=1.35-1.76)). This association was statistically significant (p<0.001). Similar results were found in a study done by Gunasekara, 2013 among psychiatric inward nursing officers in the Colombo district,

Nurses working with inadequate nursing staff had a high-stress score (median=1.68, IQR=1.47-1.79) compared to nurses who were working with adequate nursing staff (median=1.41, IQR=1.32-1.74). This relationship was statistically significant (p<0.05). A similar picture was present in nurses who were working with inadequate minor staff having high-stress scores (median 1.65, IQR=1.44-1.79) compared to those who work with adequate minor staff (median=1.37, IQR=1.30-1.67). This relationship was statistically significant (p<0.05). Glazer and Gyurak, 2008, Umro, 2013 and Tzeng and Ketefian, 2002 also found that a shortage of staff had a significant association with work-related stress.

CONCLUSION

Work-related stress was positively and significantly (P<0.05) associated with in number of night shifts, number of double shifts per day in a row, inadequacy of the nursing and minor staff in the ward.

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