THE RELATIONSHIP BETWEEN MENTAL WORKLOAD WITH WORK STRESS ON HOSPITAL NURSES

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Abstract

During their work, nurses have a mental overload. A nurse should have good communication to care the patient who has differentiated behavior and health condition. A bad communication between nurse and patient result in work stress to the nurse that potential lead to human error. This study aims to know the correlation between mental workload and work stress on hospital nurses. This study was an analytical observational study with a cross sectional approach, data was obtained in October-November 2016. The instruments used NASA-TLX questionnaire to measure mental workload and HRV uBioClip v70 to measure stress. Data was analyzed by Fisher's-Exact correlation test both univariately and bivariately. A total sample of 32 nurses who worked in hospital of Muhammadiyah Gubug. Bivariate analysis showed that from 14 nurses who had under load-optimal load, 8 (57,1%) of them are suffered to work stress. Whereas from 14 nurses who had over load, all of them (100%) are suffered to job stress. Statistical analysis showed a correlation between mental workload and job stress in nurses at hospital of Muhammadiyah Gubug (p=0,003). The results proved that mental workload has a significant correlation with job stress.

Key words: Mental workload, work stress, nurse

INTRODUCTION

During the work, nurses tend to feel like under pressure. According to the National Institute for Occupational Safety and Health (NIOSH), the nurse as a profession is very high risk of stress[1]. Nurses have a great mental workload. Nurses should be warm, friendly and courteous to all patients because their work includes social work. Therefore, it is needed to have skills in communicating well dealing with patients with various personalities and health conditions[2]. Communication between patients and nurses can aggravate the condition of the patient because of misunderstanding in communication that can cause work stress. Nurses are easily angry with patients, work hastily, and have difficulty in concentrating. Nurse's work stress has the potential to cause human error for the actions of nursing care that have been done and can adversely affect the quality of nursing service, so that it affects the condition of the patient [2].

PKU Muhammadiyah Hospital Gubug is a type D health service located in Gubug sub-district and it is the only referral hospital for *Puskesmas* around it. The characteristics of patients in the Gubug sub-district mostly have low levels of education. Misconceptions between patient and nurse in communicating often occur in the hospital. The number of patients increases in the period of June-August. These conditions create an increasing workload that can trigger the emergence of work stress and exacerbated by the rule of rolling guard the patient at PKU Muhammadiyah Gubug Hospital conducted every day.

RESEARCH METHODS

This research used analytic observational study with cross sectional design. The study was conducted in PKU Muhammadiyah Gubug Hospital in October-November 2016. The population was all nurses of PKU Muhammadiyah Gubug Hospital which were 67 nurses. The sampling method used total sampling technique with total number of 32 nurses according to inclusion criteria and exclusion criteria. Respondents' data were collected by filling out a NASA-TLX questionnaire and a stress check with a branded HRV uBioClip v70 tool. Data analysis used Fisher's Exact statistic test with confidence level p <0,05.

RESULTS

Based on the analysis by using Fisher's test-exact value obtained p = 0.003 (<0.05), it could be concluded that there was a meaningful correlation between mental workload with work stress.

Table 1. The Correlation Between Mental Workload And Work Stress On Hospital Nurses In PKU Muhammadiyah Gubug Hospital.

Workload	Work stress		Total	P
	Yes	No		
	n (%)	n (%)	N	
Over workload	0 (0)	18 (100)	18	0.003
Low - Optimal workload	6 (42,9)	8 (57,1)	14	
Total	6	26	32	

DISCUSSION

The results of this study were also in accordance with the previous research which said that there was a correlation between workload with work stress, with value (p <0.05) that is p = 0.006 [3]. Work stress that occurred in nurses was caused by work demands in the form of excessive workload. Otherwise, nurses with low workload could feel stress during examination. This was because the work stress could happen by many factors other than the workload. According to the theory of assembly line-hysteria when the nurse was stressed and not interested in his work then the workload was also lower [4].

Another factor causing the emergence of work stress was the gender of female nurses who had higher levels of stress than men and undergo two roles at once as a worker as well as a housewife could trigger the increased risk of work stress. In addition, the personality type also affected the onset of stress[5]. A person with a Type B tendency was less likely to experience stress even though the workload was excessive because the B-type personality was more relaxed in doing something, more patient, avoiding competition, non-perfectionist and less ambitious than someone with a personality type who tended to rush into something, happy with competition, ambitious, perfectionist, and polyphasic that was doing two things at the same time[6].

The stress response arising was controlled primarily by a nerve impulse of the hypothalamus that would trigger autonomic nervous excitability. The parasympathetic nerves would be suppressed and the sympathetic nerves would be activated and then directly infected the effects on the target organ and indirectly stimulated the adrenal medulla secrete Epinephrine (> 90%) and Norepinephrine (> 10%) which might affect the target organ of the heart[7]. The effects arising from sympathetic activity were vasoconstriction of blood vessels, increased blood pressure, pulse changes and changes in Heart Rate Variability (HRV). Changes in HRV were changes in R heart interval. The more complex and varied changes in R the heart interval, the stress that happened was also higher[8].

REFERENCES

1. NIOSH. 2008. Exposure to Stress Occupational Hazards in Hospital. NIOSH. Cangara, H. 2004. Pengantar Ilmu Komunikasi. Jakarta: Kencana Prenada Media Group.
2. Tarnow, Mordi-WO, Hau, C., Warden, A. 2000. Hospital Mortality in Relation to Staff Workload: a 4-year Study in an Adult Intensive-care Unit. Lancet.

3. Dwi, A. 2015. Hubungan Beban Kerja Terhadap Stres Kerja Pada Pegawai BPJS Kesehatan Kantor Cabang Utama Medan Tahun 2015. Universitas Sumatera Utara.
4. Munandar, A. S. 2001. Psikologi Industri dan Organisasi. Depok: Universitas Indonesia (UI Press).
5. Cooper, R. K. dan Ayman, S. 1998. Kecerdasan Emosional dalam Kepemimpinan dan Organisasi. Jakarta: PT Gramedia Pustaka Utama.
6. Cooper, C. L., Dewe, P. J., & O'Driscoll, M. P. 2001. Organizaional stress: A review and critique of theory, research and application. Thousand Oaks: Sage Publication.
7. Joachim, T., Vandeput, S. 2008. Influence of Mental Stress on Heart Rate and Heart Rate Variability. Belgium.
8. Paritala, N. R. 2009. Effects Of Physical And Mental Tasks On Heart Rate Variability. Journal of Electronics and Communication Engineering. India: Kakatiya University.