



Research Article

RELATIONSHIP BETWEEN BEING AWARE OF WORK ENVIRONMENT ERGONOMICS WITH NURSES' OCCUPATIONAL STRESS IN EDUCATIONAL HOSPITALS OF KERMANSHAH

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(Received: June 10, 2016; Accepted: July 20, 2016)

ABSTRACT

Background and goal: Ergonomics is a science that tries to design equipment and machines of work place regarding body and mental abilities of human. Ergonomics can reduce difficulties due to work place as for restoration of it. Since nursing is one of the stressful occupations, thus, recognition of tension factors can reduce stress and treatment. This study was performed in order to discuss relationship between being aware of ergonomics of work environment and occupational stress of nurses in educational hospitals of Kermanshah.

Materials and Methods: this study is descriptive-analytic one which was performed on 289 people of nursing experts who practiced in educational hospitals of Kermanshah. Two questionnaires like aware from ergonomics and occupational stress has been used. Analysis of data was performed by SPSS 2 and by descriptive-analytic method for exploration factor, regression and Pearson correlation factor was meaningful level 0/05.

Results: there is significant relationship between awareness of nurses on ergonomics and occupational stress ($r=0.177$). Also, there is direct relationship between biological factors and occupational stress ($r=0.558$). Similarly, there is direct significant relationship between activity in different work place and occupational stress ($r=0.188$) and finally, there is direct significant relationship between activity in unsuitable physical environment and occupational stress of nurses ($r=0.485$).

Conclusion: the application of ergonomics remarks and sufficient education play vital role in increasing utilization of nurses. Therefore, one of the operational aims of nursing and hospitals faculties is to educate professional health.

Keywords: Ergonomics, Occupational Stress, Nurses.

INTRODUCTION

Ergonomics is scientific study of humans in relation to their work places which tries to provide suitable work place with reducing and limiting neural tensions and establish suitable working place for worker and employee to perform in environment without tension. It is obvious that easiness working reduce pressures, accurate position of body and working with different materials all caused increment of

efficiency ⁽¹⁾. Physical, chemical confrontation, crowd and ergonomics difficulties cause act in terms of stressful action. Physical confrontation like hot, cold, insufficient light or sever radiation, vibration and movement can cause unsuitable effects ⁽²⁾.

Occupational stress is stress which person is exposed to it. In this definition, there are some points: the person is able to experience (skilful or amateur), how is scale of his power or

weakness and guarantee⁽³⁾. In nursing profession, there are stressful factors. Each of them play significant role in stress between nurses: high working hours, lacking occupational safety, lacking suitable equipment, high workload, activity in non-standard physical environment, inattention to prestige and real placement of nurses in society, forcible extra time, conflict with doctors, conflicts between co-workers, biological factors and different work places⁽⁴⁾. Also, the studies show that the nurses especially nurse of emergency ward has hard working situations and occupational fatigue due to stress and inclination to withdrawal is more than others⁽⁵⁾. Between existing human forces in hospitals, it is so important the activity of nurse's forces because of offering treatment care and their relationship with other groups. It is obvious that offer suitable services is so vital because of rendering qualitative and quantitative services and experiences and skilful nurses in promoting hospital care. Responsibility of nurses is so hard and its profession because of nature of night work is hard and troublesome. Occupational fatigue is so high which is due to pressures like occupation and lacking standard working facilities. Any inattention to nursing society can reduce quality of services and working equipment. Thus, observation of standard situation can reduce occupational stress, unfortunately, traditional view into responding to problems like design work place, protect working forces, restore yield and reduce energy consumption, increase speed and safety and reduce accidents due to work, more competition market is so insufficient⁽¹⁾.

As for said contents, it seems that the nurses are continuing their work under great stress and there is no doubt that these factors can influence on quality of their work. Since the nurses are one of the more stressful professions, thus recognition of tension factors will reduce stress 94). Based on report of World Health Organization, more than 50% of staff in industrial countries complains about working stress⁽⁶⁾. Lacking attention to ergonomics principles and lacking observation on work place tolerate many costs for employer and staff and reduce efficiency and increase stress. If ergonomics technology not applies accurately, can delete or reduce damages due to safety in work place and increase efficiency⁽⁷⁾. For this reason, this study was performed in order to discussion relation between ergonomics of work place with occupational stress in nurses of educational hospitals of

Kermanshah at 2013.

METHODOLOGY: This study is descriptive-analytic one which was discussed aware from ergonomics of working place and occupational stress of the nurses. The statistical society consists of all nursing experts of educational hospitals and treatment centres of Kermanshah (N=1163).

The reliability of the questionnaire was controlled by consulting nursing professors, professional health and management of health services and validity of the pilot plan as estimated by Alpha Cronbach about ergonomics and occupational stress was 91% and 90%. Aware questionnaire was estimated in order to measure ergonomics and occupational stress was 91% and 90%. The questionnaire was made in order to estimate awareness of the nurses about ergonomics which has 6 questions of four options from A to D. by responding accurate ones to each of responses, the point 1 is given and in the case of inaccurate response, zero point is given, minimum point of the questionnaire is zero and maximum is 6 and in order to analyse it, the questionnaire was classified in terms of pointe like very much, much, medium, low and very low. Points of zero and 1 locate in very low and points 2, 3, 4 locate in low, medium and more and points 5 and 6 locate in very much scale. The questionnaire has 29 questions which were provided by the researcher and it has three scales are: physical environment, activity in working environment, ionization radiation. The options are never, seldom, sometime, often and usually which assigned point from 1 to 5 excluding questions 12, 21, 25 and 29 which are converse. Maximum total point of questionnaire was 145 and the minimum is 29.

Firstly, total numbers of nurses of hospitals affiliated to medical sciences of Kermanshah which were 7 (Imam Khomeini, Imam Ali, Imam Reza, Farabi, Mohammad Kermanshahi, Motazedi and Ayatollah Taleghani) were recognized by cooperation with hospitals affiliated to medical sciences and after performing administrative proceedings and obtain necessary permission which are 1163. Based on volume of sample, the classified sampling was performed by simple sampling randomly by using Kokran formula and compare with Morgan table. The sample volume was 289. After determination reliability and volume of sample, the questionnaire was distributed between samples. Before obtaining written letter of consent, the

entrance scales are one year background of clinical work, lacking expose to bodily and mental chronic disease, lacking expose to addiction, lacking sever crisis like death of relatives, divorce, bankruptcy and losing properties.

At sum, 280 questionnaires were provided which have been calculated after collecting questionnaire relationship between ergonomics principles, aware from ergonomics, activity in unsuitable physical environment, activity in different working place, confrontation with biological factors (Aids, hepatitis). In this research, SPSS version 22 and descriptive statistics like abundance, average and deviance have been used and Pearson correlation coefficient was performed in significant level 05, and regression analysis.

FINDINGS:

Analysis data showed that the more abundance was women with 201 and the more ages was 30 or 35 and also, the more participants was 190 and more years background was related to 10 and 15 years working.

Table 1: Correlation between different aware from ergonomics with occupational stress:

Occupational stress	R	Significant
Apply ergonomics of work place	-0/775	/001
Aware from ergonomics sciences	-0/177	/002
Confrontation with Biological Factors	0/558	/001
Activity on different work place	0/881	/001
Activity in unsuitable environment	0/845	/001

Above table shows applied principles of occupational stress and significant relationship between environment ergonomics of the nurses that means $r=p<0/05$ and more ergonomics principles, slight occupational stress.

Also, above table show that there is converse significant relationship between aware from ergonomics and occupational stress ($p<0/05$, $r=-/177$), that means more aware from ergonomics, little occupational stress. Similarly, the above table showed that there is direct significant relationship between biological factors and occupational

stress of the nurses ($p<0/05$, $r=/558$), that means more biological factors, more occupational stress.

Also, above table showed that there is direct significant relationship between different working place and occupational stress ($p<0/05$, $r=/881$), that means more activity in different working place, more occupational stress.

Also, the above table showed that there is direct significant relationship between unsuitable physical environment and occupational stress, that means more activity in unsuitable physical environment, more occupational stress ($p<0/05$, $r=/845$).

DISCUSSION AND CONCLUSION:

In this article, it was recognized that there is convers significant relationship between working environment and occupational stress of nurses. Masoumeh Joz Kanani in the articles titled Ergonomics, safety and utilization, concluded that if the ergonomics is applied accurately, reduces or delete damages or health and safety damages and increase efficiency (8). Managers pay attention to ergonomics problems little, safety problems are reduced.

Malakouti and Nasr Seraji in research titled documentation of ergonomics programs in working place, reported that by performing ergonomics comprehensive programs, it can establish infrastructure in order to recognize strength and control ergonomics in working places (9) which conforms to results of present research.

Also, it was recognized that there is convers significant relationship between aware from ergonomics and occupational stress of nurses. Nakhaee and et al in research titled ergonomics evaluation of working situations in nursing wards of internal and surgery of hospitals affiliated to Birjand medical sciences university, reported that in order to prevent from neural and skeleton problems in the nurses, the accurate ergonomics principles especially during nursing actions shall be considered more by helping vehicles (10) and it conforms to results of present study.

This study showed that there is direct significant relationship between biological factors (aids, hepatitis) and occupational stress of the nurses. Sahrifian, Aminian and Afshari Saleh in research titled discussion occupational stress and its relationship with polluted syringes in emergency wards, concluded that scale of pollution had not significant with syringe and its secretion especially in specialized assistants.

In this study, it was emphasized that stress had not significant effect on pollution of syringe that means occupational stress don't cause more pollution in working place. But conversely, more pollution cause more stress⁽¹¹⁾. In study was performed by Wang and et al titles relationship between occupational stress and strategy between Hong Kong nurses, they concluded that the nurses who were on surgery ward, had more stress because of high reception and discharge, acute treatment⁽¹²⁾ and it conforms to results of present study.

Also, in this study, it was recognized that there is direct significant relationship between different working places and occupational stress of the nurses. The research was performed by Rahimi, Ahmadi and Akhondi titled discussion effective factors on occupational stress of the nurses in Tehran hospitals, concluded that there is significant relationship between occupational stress and type of hospitals. Also, there is significant relationship between occupational stress and type of hospitals and years working⁽¹³⁾ which conforms to results of present study.

This research showed that there is direct relationship between unsuitable physical environment and occupational stress of nurses. In research titled occupational stress between nurses in special wards and its relation with their occupational stress, concluded that from occupational stress dimensions (work load, insufficient role, responsibility, physical environment and role) the nurses had more stress.

End⁽¹⁴⁾, Parker Kolikovert in research titled occupational stress between the supervisors concluded that this relation is true and recognized physical and psychological environment are so important⁽¹⁵⁾.

Rezapour (2010) in research titled ergonomics in controlling stress reported that observation of standards in order to control environmental variables like control lighting, noise and temperature and design internal section can control stress somewhat and increase their stimulation⁽¹⁶⁾ which conform with results of present study. Bahrami and et al in study titled occupational stress in nurses of Kashan concluded that there is not relationship between occupational stress and factors like age, literacy, marital status, income and hospitals⁽¹⁷⁾ which not conform with results of present study and the more abundance is on male stress in dimensions like responsibility and in women on duality of role⁽¹⁷⁾ which conform to present study (90). As well, in this research, mean

of hospital is not hospital with different terms but it is 5% of hospitals which are on Kashan having similar situations.

As for results, it shall develop aware from ergonomics sciences by using internet materials and educational tools in order to satisfy shortage of educational tools to cover occupational groups with more stress by ergonomics tools, also, in working places, ergonomics sciences are applied to consider all projects from arranging working stations, facilities and operational frequency and prevention from skeleton- nervous diseases and since it is necessary to consider safety working place, thus, it is so important to observe ergonomics instructions and laws by consideration population and apply educational courses for nurses and staff who deal with biological factors like Aids, Hepatitis including aware from services and guidance and consulting ones.

Acknowledgment:

The writers are entitled to thank all persons who cooperate in the research especially grubber nurses.

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