The Investigation of Skeletal and Muscular Disorders among Surgery Room Personnel in Zahedan Educational Hospitals in 2015

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ABSTRACT

Today, skeletal and muscular disorders are different between jobs and populations. Among the different job groups, the practitioners of health department especially the practitioners who work in hospitals experience higher job stress, so the amount of the skeletal and muscular disorders are more widespread among them. Due to the previous matters and also the importance of the health of this job group in providing the patients' health services, it is necessary to investigate the amount of skeletal and muscular disorders among them. Therefore, this research is done with the goal of investigating the skeletal and muscular disorders among surgery room personnel in Zahedan medical and educational hospitals. This research is descriptive and analytical. It is done on 112 personnel who are selected by census. In order to collect information, a questionnaire was used that has 2 parts. The first part is related to demographic information and the second part is related to Nordic standard questionnaire. Finally, after collecting the questionnaires, the data were analyzed by SPSS 19 soft-ware, descriptive statistics, Pearson Correlation, Analysis of variance (Anova) and independent T-test. The results of this research show that the individuals' age average is 30.95 ± 7.76; 41 individuals were single and 88individuals were woman. During the last year, 59 individuals of surgery room personnel (48.7%) had wrist pain, 41 individuals (36.6%) had shoulder pain, 55 individuals (49.1%) had backache and 41 individuals (36.6) had neck pain at least once. The relationship between marital status, Sex, age, work experience and skeletal and muscular disorders was not meaningful ($P>0.05$). In overall, the research results show that the skeletal and muscular disorders are widespread among surgery room personnel. It is clear that the working pressure on the individuals' body can decrease the physical performance of nurses and also it can decrease providing services to the patients and cause financial, economical and physical losses.

Key Words: skeletal and muscular disorders, surgery room, Zahedan

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INTRODUCTION

Today, skeletal and muscular disorders are different between jobs and populations. Among the different job groups, the practitioners of health department especially the practitioners who work in hospitals experience higher job stress, so amount of the skeletal and muscular disorders are more widespread among them (1,2). These disorders are the most important job problems among the providers of health services. The outbreak of Skeletal and muscular disorders among the providers of health services is under investigation in most of the countries all over the world. In Italy, the prevalence of complaints about these disorders among different medical jobs is reported. These disorders are considered as a problem among physiotherapists and radiologists (3, 4). In overall, the outbreak of skeletal and muscular disorders is more in women than men. Due to this reason, the outbreak of these disorders is more in some jobs such as health cares in which the number of working women is higher (5,6). Backache is the most prevalent skeletal and muscular disorders among nurses with the outbreak percentage of 30 to 60. After it, there are the disorders of shoulder with the outbreak percentage of 43 to 53 and the neck pain with the outbreak percentage of 30 to 48 (7). The previous researches in this field showed that after such damages, a large number of nurses leave their

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work temporarily or permanently (8). The risks of the factors that cause skeletal and muscular disorders or their progression are: the implementation of an excessive force, the repetition of the movements, and the implementation of force during a long time, the continuous lifting of the loads or lifting the heavy loads, pushing, pulling and carrying the heavy loads, the fixed and inappropriate physical position, the contact pressure, body and local vibrations, low temperature and inappropriate lighting that cause the undesirable condition of the body (9). One of the main problems in the prevention of skeletal and muscular disorders related to the work is multifactorialness (physical, organizational, mental, individual, social and cultural factors). In addition to physical needs of the patients' carriage and movement, the hospital staffs are often exposed to the factors such as mental needs, administrative arguments, time pressure, lack of social supports, conflicting needs, lack of work speed control and etc (10-12). According to the nurses' statements, the moving and lifting the patients is considered as the most stressful parts of the work (13, 14).

The first step for the prevention of skeletal and muscular disorders is to determine the outbreak percentage and frequency among different population specially different jobs that is done in widespread aspects and by minimum expenses (15). According to the previous matters and also the importance of the health of this job group in providing the health services, it is necessary to investigate the rate of skeletal and muscular disorders among them. It is hoped that the research results would provide a basis in order to plan for ergonomic interventions for redesigning the nursing work environment in order to increase the efficiency and effectiveness of nurses' activities in the hospitals, help the managers and decision makers of health department in order to decrease pregnancy, control the risk of mental social factors and their consequences in nursing, prevent and decrease the outbreak of skeletal and muscular disorders and increase the patients' safety level and the patients' satisfaction of nursing services that finally cause the increase of nurses and hospital efficiency. Therefore, this research is done with the goal of investigating the skeletal and muscular disorders among surgery room personnel in Zahedan medical and educational hospitals.

MATERIALS AND METHODS

This research is a descriptive-analytical study in which the researchers investigate the skeletal and muscular disorders among surgery room nurses who work in the educational hospitals of Zahedan medical university in 2015. The criteria of participating in the research are: 1.not having non-job skeletal and muscular problems 2. Not having the experience of muscles and bones surgery 3. Not having bony and vascular diseases such as osteoporosis and varicose veins. This research is done on 112 personnel who are selected by census. In order to collect information, a questionnaire was used that has 2 parts. The first part is related to demographic information (age, sex, work experience and marital status) and the second part is related to Nordic standard questionnaire. The validity of it is confirmed by Sharifi et al and the stability of it is evaluated by Cronbach's alpha (0/89) and the method of retesting (0/81) (16).

In order to collect the data, after an oral taking of the individuals, the questionnaire is distributed among the surgery room personnel who have the necessary qualifications. After completing the questionnaire, it is reviewed by the researcher and in a case of an incompleteness of the questionnaire, it is returned back to the individual in order to complete the incomplete part. Finally, after collecting the questionnaires, the data are analyzed by SPSS 19 software, descriptive statistics, Chi and independent T-test.

Finding:
The results of this research show that the individuals' age average is 30.95 ± 7.76; 41 individuals (36.6%) were single and 88 individuals (78.6%) were woman. Also 60 individuals (53.6%) have 1 to 5 years of work experience, 22 individuals (19.6%) have 5 to 10 years of work experience, 18 individuals (16.1%) have 10 to 15 years of work experience and 12 individuals (10.7%) have work experience over 15 years. Also, the results show that during the last year 59 individuals of surgery room personnel (48.7%) had wrist pain, 41 individuals (36.6%) had shoulder pain, 55 individuals (49.1%) had backache and 41 individuals (36.6) had neck pain at least once. The relationship between marital status, Sex, age, work experience and skeletal and muscular disorders was not meaningful ($P>0.05$).

Table 1: The relationship between the individuals' sex and skeletal and muscular disorders

MSDs (Musculoskeletal Disorders)		Sex	
		Man	Woman
Skeletal and muscular disorders related to back	having	9 (16.4 %)	46 (83.6%)
	Not having	15 (26.3)	42 (73.7%)
Skeletal and muscular disorders related to wrist	having	8 (13.6 %)	51 (86.4 %)
	Not having	16 (30.2 %)	37 (69.8 %)
Skeletal and muscular disorders related to neck	having	5 (12.2 %)	36 (87.8 %)
	Not having	17 (26.8 %)	52 (73.2 %)
Skeletal and muscular disorders related to shoulder	having	54 (61.4 %)	34 (38.6 %)

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	Not having	17 (70.8 %)	7 (29.2 %)

DISCUSSION

The results of this research show that most of the skeletal and muscular disorders related to back. In Choobineh et al. research that was done on surgery room nurses, 60 percent of the individuals were exposed to back damage (17). In Habibi et al. research (18), 76.1 percent of the nurses' complaints were related to backache and this result was consistent with the results of a research that was done in Japan. They found out that most of the skeletal and muscular disorders among nurses were related to backache (59%), shoulder pain (46.6%), neck pain (27.5%) and knee pain (16.4%) (19). It can be said about theprevalence of backache, neck pain and knee pain that is more than the other skeletal and muscular diseases that the possibility of back damages among the nurses is high during the patients' transportation in which the sudden movements and inappropriate positions are needed. The patients' carriage needs a set of physical movements and positions that are bending, twisting, hands' weak locking and repetitive movements that impose high pressure and sectorial forces on vertebral column during the patients' movement or changing the physical position of the patients (15). Also, due to the researchers' observations, it can be said that the surgery room personnel stand on their feet more and this can justify the high percentage of backache.

The skeletal and muscular disorders are ergonomic consequences of work environments in modern societies. These disorders are a result of the risk of different factors (8, 20, and 21). The nurses, who experience backache repeatedly, face some problems in their mental health and their job performance decreases. It is shown that backache is the most important reason of changing a job (16). Due to this point that skeletal and muscular disorders are one of the most important reasons of absence from work and sick leave among nurses, these results are so important and can be used by the managers and the supervisors of the hospitals (22-25). This research has some limitations such as not considering the individuals' height and weight. The effectiveness of these variables on the results is impossible. Karahan also shows that the obesity is an important factor in backache and causes the decrease of abdominal muscles stretch and the increase of back lordships (26). Also, the self-report questionnaire method has some weak points such as difficulties in reminding, denial and simulation. Therefore, this issue must be taken into consideration in the interpretation of the results. So, it is seemed that by doing more complete researches and by using the experienced individuals in the field of mental load of working as a nurse, the more firm and strong results can be achieved.

CONCLUSION

In overall, the research results show that skeletal and muscular disorders among surgery room personnel are widespread. It is clear that the imposed pressure on the individuals' body is a result of work environment pressure and it can decrease the physical performance of the nurses and decrease the providing of the health services for the patients and cause financial, physical and economical losses. So, it is suggested to decrease the prevalence of skeletal and muscular disorders by adjusting the dangerous factors, teaching these factors to the nurses and holding in-service training classes about the correct techniques of transportation and the correct use of body mechanics.

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