Original Research Article

Occupational Stress among Female Employees of the Golestan University of Medical Sciences in 2015

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ABSTRACT

Introduction: Occupational stress results from work demands and pressures that are not matched with abilities and characteristics of an employee. It is one of the main causes of job dissatisfaction, absenteeism, work delays, desertion and early retirement. Therefore, the present study aimed to evaluate occupational stress among female employees working at the Golestan University of Medical Sciences, Iran. **Materials and Methods:** This cross-sectional and descriptive-analytical study was performed in 2015 on 400 female employees of the university who were enrolled via stratified and quota sampling. Data were collected using the standard Osipow occupational stress questionnaire and a demographic questionnaire. The data were analyzed in SPSS (version 16) using independent t-test, ANOVA and Tukey's test. P-values less than 0.05 were considered statistically significant. **Results:** Mean total score of occupational stress was 173.44 ± 25.15. Role ambiguity (score: 33.57 ± 5.74) and physical environment (score: 22.56 ± 8.44) had the highest and lowest impact on occupational stress, respectively. Moreover, 146 contractual employees (52.1%) experienced occupational stress. Total occupational stress was significantly correlated with all study variables including education level (P=0.02), income (P=0.0001), service sector (P=0.001), marital status (P=0.01), employment status (P=0.0001) and work experience (P=0.04). **Conclusions:** Role ambiguity is the main source of stress for female employees working at the Golestan University of Medical Sciences. Therefore, it is necessary to design individual and organization trainings to help employees overcome role ambiguity.

KEYWORDS: Occupational stress, Female employees, Golestan University of Medical Sciences

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INTRODUCTION

Human resources are of great importance for organizations, since achieving objectives and overcoming challenges rely mainly on effective use of human resources. One of the necessities for maintaining human resources is to create job satisfaction [1]. Occupational stress results from work demands and pressures that are not matched with abilities and characteristics of an employee. It is one of the main causes of job dissatisfaction, absenteeism, work delays, desertion and early retirement [2]. Stress has been known as a common illness of the 21st century [3], and is responsible for 30% of all cases of absenteeism in health center personnel, imposing annual cost of $300-400 million. Stress has a significant impact on the life of personnel and their families [4]. Occupational stress has negative effects on organizational outcomes such as violence in the workplace, increased rate of accidents, absenteeism and burnout [5]. Stress and related complications result in the loss of hundreds of working days annually. On average, one million people are signed off from work due to stress disorders. The International Labor Organization estimated that stress disorders may account for 1-3.5% of GDP of a country [6, 7].

Stressors are factors or conditions that affect the health and performance of individuals [8]. Stressful working conditions are among occupational stressors. In fact, occupational stress refers to any physical or psychological

[DOI: 10.29252/jcbr.1.4.36]

event that can lead to physical or psychological harm [9] and in long-term, has a negative impact on the performance of individuals and organizations [10].

Many studies in Iran and other countries have shown that women are under varying degrees of occupational stress [11, 12]. In recent decades, due to the rise in women's employment rate, occupational stress in women has received a lot of attention. Because women play a more significant role in the family affairs, psychological stresses at their workplace can affect their physical and mental health as well as families and the community [11]. Therefore, the present study was conducted to evaluate occupational stress among female workers at Golestan University of Medical Sciences in 2015.

MATERIALS AND METHODS

This cross-sectional and descriptive-analytical study was performed on 400 female employees working in Golestan University of Medical Sciences, Gorgan, Iran. The subjects were enrolled via stratified and quota sampling. First, all university staff were divided into seven classes based on university departments. The number of samples assigned to each class was proportional to the total number of female employees working in each department. Finally, the subjects were selected by systematic random sampling based on the list of staff working in each department of the university. Inclusion criteria included employment in the administrative section of departments and willingness to participate in the study. In addition, written consent was obtained from all subjects. Data collection tools were the standard Osipow occupational stress questionnaire and a demographic questionnaire on items including service sector, age, education level, marital status, employment status, work experience and average monthly income. The Osipow occupational stress questionnaire was scored based on a 5-point Likert scale [1 to 5]. The questionnaire consists of six dimensions and each dimension contains 10 questions. First dimension is role overload and how the person responds to the workplace's demands. Second dimension is role insufficiency considering the level of skills, education and personal and experiential characteristics of the individual in relation with the demands of the workplace. Third dimension is role ambiguity associated with awareness of the priorities and expectations of the workplace and evaluation criteria. Fourth dimension is role boundary related to individual conflicts in terms of work conscience and work demands. Fifth dimension is responsibility associated with efficiency and wellbeing of others in the workplace. Sixth dimension is physical environment associated with unfavorable conditions of the workplace. The Osipow occupational stress questionnaire was first introduced by Osipow et al. in 1987, and was later referred to as the Occupational Stress Inventory (OSI-R)[26]. The validity and reliability of the questionnaire have been verified in various studies [27-29]. The questionnaire was completed by respondents without intervention of the researchers. In addition, consent was obtained from all participants in the study.

The scoring method (cut-off point) for the questionnaire was as follows: 60-107: stress lower than normal limit, 108-203: normal stress, 204-251: moderate stress and 252-300: severe stress [13].

The subjects were female volunteers working in the administrative section of each department of the university. The collected data were analyzed in SPSS (version 16) using the Kolmogorov-Smirnov test, independent t-test, one-way ANOVA and Tukey's test.

RESULTS

The Kolmogorov-Smirnov test showed normal distribution of the data for occupational stress. Considering the normal distribution of data, independent t-test and one-way ANOVA were used to analyze the data. Tukey test was used for comparisons if the results of ANOVA were significant. Overall, 282 questionnaires were completed and reviewed. The mean total score of occupational stress was 173.44 ± 25.15. Most

[DOI: 10.29252/jcbr.1.4.36]

subjects (n=121, 42.9%) were in the 30-40 year age group, and had bachelor's degree (n=153, 54.6%) (Table 1).

Table 1. Frequency distribution of demographic variables for subjects of the study

Variables	Subgroups	Number	Percentage
Age (years)	20>	2	0.7
	20-30	98	34.8
	30-40	121	42.9
	40<	61	21.6
	Total	282	100
Education level	High school diploma or less	38	13.6
	Associate degree	33	11.8
	Bachelor's degree	153	54.6
	Master's degree or higher	56	20
	Total	280	100
Marital status	Single	113	40.6
	Married	160	57.6
	Divorced	1	0.4
	Widowed	4	1.4
	Total	278	100
Employment status	Contractual	146	52.1
	Fixed-term	7	2.5
	Official	90	32.1
	Probationary	5	1.8
	Others	32	11.4
	Total	280	100

In addition, 140 subjects (50%) had 1-9 year of work experience, while 21 subjects (7.5%) had less than a year work experience. Role ambiguity (score: 33.57 ± 5.74) and physical environment (score: 22.56 ± 8.44) had the highest and lowest impact on occupational stress, respectively (Table 2).

Table 2. Mean and standard deviation (SD) of occupational stress dimensions for subjects of the study

Dimensions of the Osipow Questionnaire	Mean	SD	Minimum	Maximum
Role overload	30.96	5.82	12	55
Role insufficiency	30.45	5.49	11	59
Role ambiguity	33.57	5.74	5	47
Role boundary	29.49	4.67	15	45
Responsibility	27.79	7.06	12	72
Physical environment	22.56	8.44	9	47
Total score of occupational stress	173.44	25.16	59	231

As shown in Table 3, total occupational stress had a statistically significant correlation with all study variables including education level, income, workplace, marital status, employment status and work experience. However, there was no statistically significant relationship between age and occupational stress.

[DOI: 10.29252/jcbr.1.4.36]

Table 3. Relationship between dimensions of the occupational stress questionnaire and Study variables

Dimension	Variables	F-value	Significance
Total occupational stress Dimension	Age	1.01	0.36
	Education level	3.17	0.02
	Income	4.17	0.0001
	Service sector	5.74	0.001
	Marital status	2.51	0.01
	Employment status	3.62	0.0001
	Work experience	2.54	0.04

Results of the Tukey's test showed that women with high school diploma or less education level had higher level of occupational stress (P=0.04). Independent t-test showed that women with higher incomes had significantly higher level of occupational stress compared to those with lower income (p=0.0001). Moreover, occupational stress in single women was significantly higher than that in married women (p=0.01). Occupational stress was also significantly higher among official employees compared to contractual employees (p=0.0001). Based on the results, occupational stress in subjects with work experience of 1-9 years and over 17 years was less than that in subjects with less than one year of work experience (p=0.02). Furthermore, subjects working in the administrative sections of hospitals had higher level of occupational stress compared to those working at health centers, hospitals and schools.

DISCUSSION

This study was conducted on female employees working in administrative sections of departments, schools, health centers and hospitals affiliated with the Golestan University of Medical Sciences. We found that the mean score of occupational stress was within the normal range. Women working in the administrative section of hospitals had higher levels of occupational stress compared to other subjects, which could be due to work conditions of high-stress medical environments. In study of Abdi et al. on nurses working in the intensive care units of hospitals in Yazd, level of occupational stress was in the normal range [14]. Abedini et al. reported that 15.6%, 83.3% and 1% of the subjects had high, moderate and low level of occupational stress, respectively [15]. In study of Torshizi and Saadatjoo on employees working at a tire factory, 49.5% of the subjects had high level of occupational stress and 25.5% had normal stress [16]. However, due to the multiplicity of occupational questionnaires and the use of different tools in these studies, it is not possible to compare the results.

Similar to the results of the present study, study of Samari and Lalifaz on employees of Khorasan Electric Company showed that subjects working in the production department (55.8%) experienced higher levels of stress compared to those working in the administrative department (55.8%). This could be attributed to the presence of more stressors in the production department [17].

In our study, among the six dimensions of Osipow occupational stress questionnaire, role ambiguity (33.57 ± 5.74) and physical environment (22.56 ± 8.44) had the highest and lowest impact on level of occupational stress, respectively. Abdi et al. reported role ambiguity as the main source of stress [14]. In the present study, the physical environment had the least impact on occupational stress, which can be due to the relatively similar work environment of administrative staff. However, studies on nurses reported the environment as one of the main sources of stress [13, 18].

In the present study, there was no significant relationship between age and level of occupational stress, which is consistent with

[DOI: 10.29252/jcbr.1.4.36]

the results of Bahrami et al. [13] and Jackson [19]. However, a study has reported the opposite [20].

In the present study, subjects with work experience of less than a year were experiencing higher levels of occupational stress compared to more experienced employees. This is in line with findings of some other studies [20, 21]. We also found that occupational stress was higher in single employees compared to married employees. This is because couples tend to share their problems and sympathize with each other. According to Darvishi et al., this difference is because single subjects are mostly younger and less experienced [22]. As a person ages, he/she gains more experience and defense mechanisms against stressors improve, which could affect the level of occupational stress [21].

We detected a significant relationship between occupational stress and income level. In line with this finding, study of Ghane et al. found a significant relationship between occupational stress and demographic variables such as salary, age, education level, and work experience [23]. In the mentioned study, subjects who were more educated had lower levels of occupational stress. Women with higher income are expected to experience higher level of occupational stress since they usually have more important positions at work. Inconsistent with our findings, Mardani et al. demonstrated that individuals who are more educated experience higher level of occupational stress compared to less educated individuals [24]. This could be because well-educated individuals usually have a better understanding of the importance of organizational justice and administrative processes, and shortcoming in these aspects can lead to occupational stress among this group of individuals.

In the present study, we found a significant relationship between the service sector and occupational stress. Consistent with our findings, Golshiri et al. showed that nurses and employees in the emergency departments have higher level of occupational stress than administrative staff [25].

CONCLUSION

The results showed that role ambiguity, role overload and role insufficiency are the three main sources of stress for female employees working at the Golestan University of Medical Sciences. Therefore, it is necessary to train employees the skills necessary for overcoming role ambiguity and role insufficiency. Moreover, in order to cope with the challenges related to role overload, it is essential to design workload and assign responsibilities based on the capabilities of the personnel.

ACKNOWLEDGMENTS

The authors would like to thank the Department of Research and Technology of Golestan University of Medical Sciences for funding this research project, and all those who participated in the study.

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[DOI: 10.29252/jcbr.1.4.36]

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[DOI: 10.29252/jcbr.1.4.36]