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ORIGINAL ARTICLE

Level of Workload and Its Relationship with Job Burnout among Administrative Staff

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ABSTRACT

Burnout syndrome is a response to prolonged occupational stress. Workload is one of the organizational risk factors of burnout. With regards to the topic, there are no data on administrative employees' burnout and workload in Iran. This study seeks to determine the levels of job burnout and their relationships with workload among administrative members of staff. Two hundred and forty two administrative staff from Kermanshah University of Medical Sciences [Iran] volunteered to participate in this cross-sectional and descriptive-analytical research. Various data were collected using the Maslach Burnout Inventory [MBI], NASA-Task Load Index and Demographic questionnaire. ANOVA and Pearson tests were performed using the SPSS version 16. An alpha level of 0.05 was accepted for all tests in this study. Burnout had 49.36 and 16.2 as mean and standard deviation, respectively. Total workload got an average of [76.07±16.32]. Result depicts that the job burnout has significant correlation with age, work experience, gender, and educational levels [$P<0.05$]. In addition, workload had important correlation with gender and educational levels [$P<0.05$]. Data shows a significant relation between workload and burnout syndrome [$P<0.05$]. Levels of the job burnout were acceptable but workload was high among administrative employees. This study indicated a significant correlation between workload and burnout syndrome. Therefore, having the lower level of workload is necessary in order to prevent or reduce of the job burnout and improve the employees' performance.

KEYWORDS: *Workload, NASA-TLX, Burnout, Maslach Burnout Inventory, Administrative Employee*

INTRODUCTION

Employees tend to adopt themselves with their social and working environments. By continuing working in a stressful environment and accepting the limitations, they expose themselves to a health risk called: occupational or job burnout. Job burnout is the fatigue or exhaustion of working in a stressful environment that may result into frustration and anti-social behaviors among employees [1].

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Job burnout costs organization on so many levels including: decrease in staffs' performance [2], increased accidents [3], work absence [4], job dissatisfaction [5-6], frequent job changes and turnovers, reduced work performance quality [7] which may lead to decreased customer satisfaction. In Finland, employees with lower level of job satisfaction were more involved in accidents and the accidents they were involved were more severe [8]. We discuss about job burnout in a more detail in order to gain a better understanding of the workload and its contributing to incidents. Overall,

there are two major factors in accidents and incidents: unsafe acts and unsafe conditions.

If employers overlook the importance of the employee's health, it may turn offices into hazardous workplaces and increase associated costs to the organizations. On the other hand, human resources are considered as one of the main resources in an organization. Therefore, attention to job burnout should be one of the priorities of those involved in organizational planning. A proactive approach should be incorporated in organizational planning in order to promote employee's health leading to sustainable improvement.

Ergonomics or human factors engineering is one of the most comprehensive sciences that can help planners to accomplish this objective. From ergonomics standpoint, the most important factor in incidents and accidents is imbalance between workload and human capability and limitations. The cost of musculoskeletal disorders (MSDs) in Iran in 2000 was 0.1% of the budget of Iranian government [9]. In the past, the causes of MSDs were mostly researched in the physical conditions of the workplaces. However, recent researches indicate the importance of organizational, social and psychological factors such as burnout [10,12]. As discussed above, there is complicated relationship between different organizational factors in order to empower the organization to achieve its objectives. Factors such as cognitive, physical and temporal demands are some of these factors. NASA identifies these factors as workload [13]. By having an understanding of the conditions that may result in increased workload to employees, they can be moderated and controlled so that it will result in decreased stress and increased productivity. Various studies have been carried out among different occupations such as doctors [14], Nurses [15], teachers [16], librarians [17] and managers [18]

Regarding to change of work systems from the traditional to the modern style, institutional order, work overload, and the need to a relatively high level of permanent concentration as origin of stress in administrative workplaces, burnout among this group of employers is highly probable and predictable. A proactive approach is necessary for prevention of burnout-related damages and therefore it is important to do diagnosis, assessment and management of burnout-related risk factors. In spite of study about burnout and its related management factors [19], there is no data on administrative employees' burnout and workload in Iran.

Therefore, this study aimed to evaluate the level of job burnout and its relationship with workload among administrative personnel in 2014.

Materials and Methods

This cross-sectional and descriptive-analytical research was performed on 242 administrative employees from Kermanshah University of Medical Sciences (Iran) with informed consent as they were randomly selected to participate in the study. Administrative employees were official workers who performed the tasks at least 8 hours in their workplaces. Total number of administrative employees was 427. Out of 300 questionnaires distributed, the response rate was 80.67%. Data were collected using Maslach Burnout Inventory (MBI) and NASA-Task Load Index. Demographic data included age, gender, marital status, educational level and work experience.

Participants: A sample of 242 administrative employees from Kermanshah University of Medical Sciences volunteered in this present study.

Maslach Burnout Inventory (MBI): Job burnout assessment was done using the Maslach Burnout Inventory [20]. This questionnaire had been used in several researches [21-23] and its reliability was acceptable [24-25]. MBI was designed to measure burnout in a variety of human services and occupations. The MBI consists of three subscales representing the three dimensions of the burnout syndrome: emotional exhaustion, depersonalization and ineffectiveness. In this questionnaire, individuals answered 22 statements in terms of the frequency on a 7-point scale [ranging from zero "never" to six "every day"]; therefore, the total score is in the range of 0-132. A high degree of burnout reflected in high scores of all scales. The scores for each subscale were considered separately and not combined into a single scale. Each score was coded as low, moderate or high by using the numerical cut-off points [26].

NASA-Task Load Index: Workload assessment was done using the NASA-TLX questionnaire [13]. This questionnaire has been used in several researches [27-28]. The tool's validity was determined using face validity and its reliability was satisfactory by Cronbach's alpha 0.897 [29].

Other studies represent its acceptable validity and reliability [30].

Workload has six dimensions as follow: One: mental demand (how mentally demanding was the task? e.g. thinking, decision-making, calculating, memorizing). Two: physical demand (How physically demanding was the task? E.g. pulling, pushing, and handling). Three: temporal demand (How hurried or rushed was the pace of the task?). Four: performance (How successful were you in accomplishing what you were asked to do?). Five: effort (How hard did you have to work in order to accomplish your level of performance?). Six: frustration (How insecure, discouraged, irritated, stressed, and annoyed were you?). This

questionnaire determines the level of workload through weighting and rating six different dimensions. Total workload was the mean of six dimensions; a magnitude between zero to100.

Data analysis: Using SPSS V.16 (Chicago, IL, USA), descriptive statistics was used to analyze the mean, standard deviation, minimum and maximum of demographic characteristics, workload scores, and burnout scores. ANOVA and Independent t-test were used to compare the level of workload and burnout between different groups. Pearson test was used to evaluate the correlation between demographic characteristics, workload scores, and burnout. An alpha level of 0.05 was accepted for all tests in this study.

RESULTS

Demographics: Overall, 142 respondents (60.3%) were female and 39.7% male. The majority of participants were married [74.4%]. The educational levels of participants were diploma [32.7%], bachelor [47.1%], and master of sciences or higher [20.2%]. The Mean±SD [Range] of their ages and work experiences were 36.56±7.69 [22-58] and 12.51±7.86 [1-33] years respectively.

Burnout: Reliability of BMI was 0.73 using Cronbach's α. Regarding scores, emotional exhaustion, depersonalization, and ineffectiveness among employees were low, low, and moderate respectively. Table1 shows the mean, standard deviation, minimum and maximum burnouts and their subscales.

Table 1. The means, standard deviation, minimum and maximum scores of job burnout and their subscales (N=242)

Burnout	N	Mean	Std. Deviation	Min	Max
Emotional exhaustion	242	12.93	10.288	0	53
Depersonalization	242	2.90	4.236	0	25
Ineffectiveness	242	33.51	10.685	0	48
Burnout	242	49.36	16.200	1	113

Relationship between demographic characteristics and job burnout: ANOVA showed that job burnout was significantly different with regards to educational levels, so that diploma had more emotional exhaustion than other groups (P=0.007). Independent t-test showed that job burnout was significantly different between males and females, so that females had more emotional exhaustion than males (P=0.031), and on the other hand, males had more depersonalization than females (P=0.027). Pearson test showed that the emotional exhaustion had significantly positive correlation with age (R=0.171, P=0.009) and work experience (R=0.157, P=0.015). Job burnout was not different between single and married participants (P≥0.05).

Workload: The highest scores of workload were in performance and effort sub-scales. On the other hand, the lowest score was in frustration sub-scale. Generally, workload level was high among administrative employees. Table 2 depicts means, standard deviation, minimum and maximum scores of workload and its dimensions.

Table 2. The means, standard deviation, minimum and maximum scores of workload and their subscales (N=242)

Workload	Mean	Std. Deviation	Min	Max
Mental demand	44.70	22.88	0	100
Physical demand	32.61	21.82	0	100
Temporal demand	38.50	21.70	0	100
Performance	50.87	21.17	0	100
Effort	55.01	24.36	0	100
Frustration	06.82	11.31	0	60
Total workload	76.07	16.32	19	100

In addition, Table 3 presents correlation between workload sub-scales with each other.

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Table 3. The correlation between workload dimensions (Pearson test)

Pearson correlation		Mental demand	Physical demand	Temporal demand	Performance	Effort	Frustration
Mental demand	R	1					
	Sig.						
Physical demand	R	-0.322**	1				
	Sig.	0.000					
Temporal demand	R	-0101	-0.112	1			
	Sig.	0.119	0.083				
Performance	R	-0.208**	-0.355**	-0.191**	1		
	Sig.	0.001	0.000	0.003			
Effort	R	-0.225**	-0.324**	-0.290**	0.102	1	
	Sig.	0.000	0.000	0.000	0.112		
Frustration	R	-0.081	0.110	-0.039	-0.122	-0.227**	1
	Sig.	0.212	0.087	0.549	0.059	0.000	

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Relationship between demographic characteristics and workload: ANOVA showed that workload was significantly different regarding educational levels, so that diploma had more physical demands than other groups (P=0.014). Independent t-test showed that level of workload was significantly different between males and females, so that females had more physical demands than males (P=0.023). Workload had no significant correlation with age, work experience, and marital status ($P \geq 0.05$).

Correlation between job burnout and workload: Pearson test showed that job burnout had positive correlation with workload (R=0.196, P=0.002). There are the reverse correlation between performance with emotional exhaustion (R=-0.131, P=0.042), and depersonalization (R=-0.134, P=0.037). In addition, there was positive correlation between frustration and emotional exhaustion (R=0.159, P=0.013). Result of linear regression regarding performance and frustration that have significant correlation with job burnout is presented through table 4. The equation 1 is resulted from this correlation.

Job burnout = 34.53 + 0.196 (workload) (Equation 1)

Table 4. Linear regression between workload and job burnout

Coefficients[a]					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	***t***	**Sig.**
	B	Std. Error	Beta		
Workload (Constant)	34.529	4.889		7.063	0.000
	0.195	0.063	0.196	3.103	0.002

a. Dependent Variable: job burnout

DISCUSSION

Burnout: Reliability of BMI was 0.73 and that is acceptable in reports [31]. The mean scores for emotional exhaustion, depersonalization and personal accomplishment were 10.2 (SD=6.10), 2.92 (SD=2.64), and 11.6 (SD=3.45) respectively. According to the means and standard deviations of burnout sub-scales, burnout levels of administrative personnel were lower than expected. Findings of the present study show that their burnout levels were less than other occupations. A study had reported the moderate levels of emotional exhaustion, depersonalization, and personal accomplishment among female teachers [32].

Other studies between nurses have reported the moderate levels of emotional exhaustion, moderately high levels of depersonalization, and moderately low levels of personal accomplishment. In addition, other study conducted on the nurses in Germany showed the moderately high levels of burnout [33]. Overall, the present research suggests administrative employees are susceptible to low/ moderate levels of burnout.

Relationship between demographic characteristics and job burnout: The socio-demographic factors play a small, but significant role in predicting burnout [34]. Organizational factors and work features were more highly correlated with burnout than personal factors [35-36]. In addition to organizational and work features, some demographic characteristics, such as age, gender and marital status were related to burnout in several studies [37-39]. Concerning the important role of demographic characteristics in job burnout, this study tries to establish the correlation between them.

This research shows that the emotional exhaustion has significantly positive correlation with age and work experience. This finding is inconsistent with previous studies. Mukundan and Ahour, and Fisher found that the teachers' age and work experience have significantly negative correlations with burnout [32, 40]. Job burnout has no significant correlation with age [41-43]. The positive correlations in the present study indicate that increased age and years of experience of the employee had led to increasing the feelings of emotional exhaustion, depersonalization, and reduced personal accomplishment. Naturally, we expect that by increasing age and work experience and exposure to chronic stress in workplaces would have led to development of job burnout.

Findings from the current study show job burnout was significantly different between males and females. In this case, females had more emotional exhaustion than males. On the other hand, males had more depersonalization than females. A female employee is more likely to experience burnout than her male counterpart [44]. On the other hand, there was no significant correlation between job burnout with gender [43, 45].

Present study suggests that interpersonal relationship is more sensitive among women than in men. Therefore, personal, and work related conflicts can easily have an overload on the emotional relations and as a result, women are more likely to be exhausted emotionally. In contrast and in the same situation, men treat in an impersonal manner and as a result, they are at high risk in depersonalization. This study shows that the job burnout was significantly different regarding educational levels, so that diploma has more emotional exhaustion than other groups. Considering that, the educational level of people in university is always high, then people with low levels of education probably have more restrictions [social restriction] in improvement of interpersonal relationships and these people are more susceptible to emotional exhaustion. In present research, we have not found any statistical differences between two groups of single and married staff members in the job burnout; likewise, another study showed that marital status was not a significant factor in the development of the burnout level of teachers [32].

On the other hand, single teachers burnt out more than married teachers in emotional exhaustion and depersonalization [46]. In addition, another study depicted marital status had influence on job burnout [47]. Overall, this study revealed that presence of stress in workplaces is one of the most important factors in development of job burnouts. In other words, the work conditions have main roles in burnouts, not marital status.

Workload: Generally, the workload levels were high between administrative employees. The results of the present study depict the most scores of workload were in performance and effort subscales. Intraversary the lowest score of workload was in frustration subscale. In other word**s**, the administrative employees had moderate levels of performance, effort, and mental demand, moderately low level of physical and temporal demands, and finally low level of frustration.

Correlation between workload subscales with each other: Finding**s** of our study revealed that mental, physical and temporal demands have significantly negative correlation with effort and performance. This results show that increasing the mental, physical and temporal demands can lead to decreased effort and performance of the employees. In addition, employees' effort has significantly negative correlation with their frustration. Indeed, increasing effort (how hard did you have to work to accomplish your level of performance?) led to decreased frustration (How insecure, discouraged, irritated, stressed, and annoyed were you?).

Correlation between demographic characteristics and workload: This research shows that workload was significantly different concerning educational levels, so that diploma had more physical demands than the other groups. People who had low levels of education had to perform physical duties during working hours without enough rest and then workload and fatigue appear much frequently in these people.

Although the workload has not significantly correlation with age, work experience, and marital status, but the level of workload was significantly different between males and females, so that females have more physical demands than the males. Women always have weaker body than men but then, the same physical workload can impose more pressure on them.

Correlation between job burnout and workload: This study shows that the job burnout has positive correlation with workload, so that increase in the employees' workload leads to an increase in the job burnout. Linear regression results demonstrate that performance and frustration have significant correlation with job burnout. In more details, there is the negative correlation between performance with emotional

exhaustion, and depersonalization and the positive correlation between frustration and emotional exhaustion.

As expected, findings of the present study are consistent with the majority of previous researches. Nurse workload was positively related to emotional exhaustion [48]. Workload is one of the most important organizational risk factors of burnout [49,50]. Becker et al., have laid emphasis on workload at workplace as one of the most important factors influencing job burnout [51]. Burnout has some predictors but administrative workload is one the most significant ones [22]. Teachers' [32] and physicians' workload [52] were not significantly associated with job burnout. The workload [number of working hours] has negative association with emotional exhaustion [53]. However, it is possible rising in workload especially in self-managed teams and with enough time to do activities does not result in burnout [54], but workload has a strong relationship with burnout. Employees who have exposure to excessive workloads will find it difficult to cope with their jobs, which eventually lead to burnout. In contrast, a sustainable workload provides opportunities to use existing skills, knowledge, and abilities as well as to become effective in new situations.

CONCLUSION

The results demonstrate acceptable level**s** of job burnout in administrative employees from Kermanshah University of Medical Sciences. This research depicts that the job burnout significantly correlates with age, work experience, gender and educational level. Furthermore, the workload level was high between administrative employees. Although the workload had no significant correlation with age, work experience, and marital status, but had important correlation with gender and educational level. Despite the low prevalence of job burnout, our data indicated a significant correlation between workload and burnout syndrome. Therefore, having the lower level of workload is necessary in order to prevent or reduce job burnout and improve the employees' performance.

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