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Occupational stress of the nonmedical personnel at a training hospital

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Abstract

Background: This study was conducted to evaluate the stress sources and its harmful effects on the personnel working at a military training hospital in Ankara in 2014. Methods: This cross-sectional study included the nonmedical administrative staff working at the hospital. The inquiry form, developed previously (Agma, 2007) was used to reveal the reasons of stress and its effects. Totally, 250 inquiry forms were distributed, 161 were analysed. Results: While Employee Social Environment (ESE) Stressors have had the lowest mean score (1,53 ± 0,77) suggesting the highest impact, Working conditions Stressors factors have had the highest (2,13 ± 1,01). No significant result was found when compared mean scores of ESE between groups based on age, sex, marital status, and work duration with the exception of the groups based on education levels (p=0,037). Conclusion: Results of this research indicate that the occupational stressors existing in the hospital have led to very high stress on all the administrative staff involved in this study. Low decision latitude seems to be one major factor contributing this high level of job stress. Verbal abuse and mobbing might cause the remarkable part of the given stress.

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1. Introduction

Stress is a familiar concept to all people in both daily and work life since it is the pattern of organism how responding to any kind of demand. Many different things and events from physical to emotional may cause stress. There are many sources of stress like Survival Stress, Internal Stress, Environmental Stress, Fatigue- Overwork, work related stress.

Workers at all industries spend most of their times at the workplaces. Pressure at the workplace is unavoidable due to the demands of the contemporary work environment. Organizational stress, also called as Work related stress or occupational stress is defined as the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope According to World Health Organization (WHO, 2015).

According to The European Agency for Safety and Health at Work, Work-related stress is among the most commonly reported causes of illness by workers (Parent-Thirion, Macías, Hurley, Vermeylen, 2007) affecting more than 40 million individuals across the EU. In the same report it has been stated that Workers in the health sector are eight times more likely to have experienced the threat of physical violence than workers in the manufacturing sector. It is unsurprising therefore that in occupational terms life science and health professionals and associate professionals (occupational categories including, for example, doctors, dentists, nurses,dental technicians, etc.) also report high levels of exposure to violence, a significant factor contributing to stress.

In a recent nationwide study conducted in Turkey workplace violence targeting all health care workers was found as a significant public health problem with an incident of 44.7% in the previous 12 months (Pinar et al. 2015).

Hospitals are considered as one of most stressful workplaces, and Job stress has been an important concern of the health care workers. Occupational stress at hospitals includes various kinds of stressors such as psychological stressors, biological and biomechanical risk factors (Martinez, do Rosário Dias de Oliveira Latorre & Fischer, 2015). Although there are huge scientific research on hospitals and health workers particularly nurses and physicians, number of studies on administrative personnel is comparatively low.

There have been many studies on the working conditions of hospital physicians with the considered aspects of job satisfaction, work-life balance, multitasking and work interruptions (Tanner, Bamberg, Kozak, Kersten, and Nienhaus, 2015). NEXT study group conducted a comprehensive European study to explore Contribution of job strain to nurses' consideration of leaving the profession considering high levels of work related stress reported in numerous studies on Nurses (Hasselhorn, Tackenberg & Müller, 2003; Hasselhorn et al., 2008).

Stress can damage an employees' health and the business performance." (WHO,2015).There are also many studies revealing the impact of job-related stress on both hospital outcomes and impact on personell, especially burnout reaching at clinical levels among 30% to 50% of nurses (Aiken, Clarke, Sloane, Sochalski & Silber, 2002; Adriaenssensa, Guchtb & Maesc, 2015; McTiernan & McDonald,2015; Sadatsafavi, Walewski & Shepley, 2015; Cañadas-De la Fuente et al.2015).

However, administrative workers at hospitals are relatively neglected group regarding the occupational stress studies. One recent study included only limited number of healthcare managers in order to investigate work related stressors among them (Doynovska, and Stambolova, 2014). Some studies involve administrative workers along with the health workers. (Chou, Li, and Hu, 2014; Pinar et al. 2105)

This study was performed for the analysis of the stress sources and their negative impacts on the staff in the work life of the administrative staff (Data Preparation and Control Operator, DPCO) working at a teaching hospital.

2. Methods

The cross-sectional study was conducted to evaluate the stress sources and its harmful effects on the personnel working at a military training hospital in Ankara, the capital city of Turkey. It was intended to include all non medical administrative staff (DPCO) working at a training hospital in Ankara during January-February, 2014. Since that no sampling method was applied. Totally, 250 inquiry forms were distributed, 210 (84%) were received back, after excluding missing and inaccurate 49 ones, 161 responses were taken into evaluation.

The inquiry form, developed previously (Agma, 2007) was used to reveal the reasons of stress and its effects on the personnel. According to Agma, this form was based on two previous scales developed by Pehlivan (1993) and Sokmen (2005).The scale consists of 40 items with 6 factors. These factors are task structure (6 items), authority structure (5 items), working conditions, (4 items), Employee Social Environment (ESE) (6 items), negative effects of occupational stress on working life (10 items), negative effects of occupational stress on social life (9 items). The first 4 factors directed to cover stress causes while the last two regard the consequences of the stress.

The scale is in 5-point Likert format and each individual item could be scored as a range from 1 point assigned for strongly agree and 5 points for strongly disagree. So, as the score is lower, the degree of stres level or effect level is higher.

The cronbach Alpha for reliability of the inquiry form with 40 questions was estimated at a value 0.915 in the study by Agma.

The data was analyzed by using SPSS for Windows 15.0 package program.

3. Results

Table 1. The reliability analysis results related to the scale

Factors	Cronbach's Alpha Coefficient	Number of Items
The Task Structure	0,83	6
The Authority Structure	0,78	5
Working Conditions	0,71	4
Employee Social Environment	0,88	6
The Negative Impact of Workplace Stress on The Working Lives	0,90	10
The Negative Effects of Workplace Stress on The Social Life	0,90	9
Total Scale	0,94	40

The results of reliability analysis for the scale used in the study are given in Table 1. Accordingly, the reliability coefficients for the factors of the scale are ranged from 0.71 to 0.88, and it is 0.94 for the whole scale, clearly higher than the acceptable values of 0.70.

Table 2. Demographic characteristics of the staff involved in this study

Demographic Data	n	%
Sex		
Male	81	50,3
Female	80	49,7
Marital Status		
Single	37	23,0
Married	119	73,9
Widow	5	3,1
Educational Status		
High School	48	29,8
Associate Degree	35	21,7
Graduate	61	37,9
Postgraduate	16	9,9
Age		
20-34	30	18,6
35-44	85	52,8
45 and older	46	28,6
Professional experience		
1-5	29	18,0
6-10	28	17,4
11-15	42	26,1
16-20	24	14,9
21 and more	38	23,6

Certain demographic characteristics of participants are shown in Table 2. With regard to gender, 81 of the participants were women (50.3%) and 80 were men (49.7%). Most participants in the sample were married (119; 73.9%), while 37 of them were singles (23.0%). The majority of them had graduated from a university (61; 37.9%) and second largest group included those graduted from high school (48; 29.8%). 52.8% of the participants are in the 35-44 age group and 26.1% of them have worked for 11 to 15 years.

The mean age of the participants in the study was 39.35 years (SD ¼ 8.9, range 24-61). Their professional experience varied between 2 and 34 years, with a mean of 13 (SD ¼ 7.7).

Table 3. The distribution of mean scores according to factors of the scale and the impact working life and social life of the participants.

Factors	**n**	**Mean**	**SD**
The Task Structure	161	1,78	0,84
The Authority Structure	161	1,55	0,71
The Working Conditions	161	2,13	1,01
Employee Social Environment	161	1,53	0,77
Total Mean Score for 4 factors relating stress causess	**161**	**1,77**	**0,64**
The Negative Impact of Workplace Stress on The Working Life	161	1,61	0,71
The Negative Effects of Workplace Stress on The Social Life	161	1,80	0,85
The mean score for total impact	**161**	**1,70**	**0,72**

The distribution of mean scores of the total scale and its factors are shown in Table 3. The participants got a mean score of 1,77 ± 0,64 for the total of 4 factors relating stress causes and 1,70 ± 0,72 for total of negative effects of the stress.

Among 4 factors relating stress causes, Employee Social Environment and the authority structure were estimated as the lowest mean scores of 1,53 ± 0,77 and 1,55 ± 0,71 respectively.

The negative effects of workplace stress for working life (1,61 ± 0,71) had a lower average than the negative impact on social life (1,80 ± 0,85) indicating that occupational stress has stronger impact on work life of participants.

Table 4. The distribution of mean scores according to sex groups.

Factors	Male			Female			P*
	Med.	Min.	Max.	Med.	Min.	Max.	
The Task Structure	1,66	1,00	4,17	1,50	1,00	5,00	0,647
The Authority Structure	1,40	1,00	4,80	1,20	1,00	5,00	0,287
The Working Conditions	1,83	1,00	5,00	2,00	1,00	5,00	0,163
Employee Social Environment	1,16	1,00	4,17	1,16	1,00	5,00	0,493
Total Mean Score for 4 factors relating stress causess	**1,64**	**1,00**	**4,24**	**1,57**	**1,00**	**4,81**	**0,807**
The Negative Impact of Workplace Stress on The Working Life	1,40	1,00	4,60	1,40	1,00	4,90	0,514
The Negative Effects of Workplace Stress on The Social Life	1,66	1,00	4,67	1,44	1,00	5,00	0,812
The mean score for total impact	**1,53**	**1,00**	**4,63**	**1,53**	**1,00**	**4,95**	**0,403**

Comparisons of means scores have been performed between the groups based on age, sex, marital status, professional experience, but no statistically significant relationship was found regarding the all factors and the total scores. Table 4 presents the distribution of all mean scores according to gender; there was no significant relationship between groups. However, mean scores for employee social environment is clearly lower in both sexes.

Table 5. The distribution of mean scores according to the educational status.

Factors	High School			Associate Degree			Graduate			Postgraduate			P*
	Med.	Min.	Max.	Med.	Min.	Max.	Med.	Min.	Max.	Med.	Min.	Max.	
The Task Structure	1,66	1,00	3,83	1,66	1,00	4,00	1,50	1,00	3,67	1,66	1,00	5,00	0,312
The Authority Structure	1,30	1,00	3,60	1,40	1,00	3,00	1,20	1,00	4,00	1,40	1,00	5,00	0,673
The Working Conditions	2,00	1,00	5,00	2,00	1,00	4,67	1,66	1,00	4,33	2,83	1,00	5,00	0,089
Employee Social Environment	1,33	1,00	5,00	1,50	1,00	3,17	1,16	1,00	3,33	1,50	1,00	5,00	**0,037**
Total Mean Score for 4 factors relating stress causess	**1,62**	**1,19**	**4,14**	**1,57**	**1,00**	**3,10**	**1,52**	**1,00**	**3,00**	**1,76**	**1,14**	**4,81**	**0,056**
The Negative Impact of Workplace Stress on The Working Life	1,36	1,00	3,00	1,60	1,00	3,50	1,40	1,00	4,60	1,57	1,00	4,90	0,317
The Negative Effects of Workplace Stress on The Social Life	1,61	1,00	3,56	1,55	1,00	3,33	1,44	1,00	5,00	1,88	1,00	5,00	0,689
The mean score for total impact	**1,50**	**1,00**	**3,11**	**1,63**	**1,00**	**3,37**	**1,42**	**1,00**	**4,63**	**1,61**	**1,00**	**4,95**	**0,546**

However, when we have compared the mean scores of all factors and total scores between groups of educational status, a significant difference was found only for mean score of employee Social Environment as a p value of 0.037 (Table 5). This difference was indicating graduate level participant were more affected by negative stressors related to the ESE.

4. Discussion

There were some previous studies conducted to explore occupational stress and/or its impact on health workers especially nurses and physicians working at the same hospital, targeted in this study (Bakir, Ozer, Ozcan, Cetin, and Fedai, 2010; Kalemoglu, and Keskin, 2006; Ozer, and Bakir, 2003). There were studies also regarding health problems on Medical students studied at the same institution (Gulec et al. 2005, Bakir, Yilmaz, and Yavas, 1996), According to our knowledge, this study could be first to explore directly the health problems of DPCOs who are not wearing white coats (or green scrubs) considered as uniform at this health facility. Since the facility is a military training hospital, military physicians with their ranks are the dominated figures across the facility along with

the nonmedical commander and some high rank administrative officers. Nurses in their white dresses or pink or green scrubs are another visible group at the hospital. In general, DPCOs deal with official procedures of the patients regarding insurance. Some of them work as secretaries of heads of services or chiefs of the administrative divisions. They are not involved directly patient care. However, the estimated low mean scores of ESE and authority structure factors reveals that DPCOs perceive remarkable occupational stress in our study. These results are very similar to the study conducted by Agma. In Agma's study the mean scores for factors were 1.57 for ESE, 1.79 for Authority structure, 1.89 for task structure, 1,99 for working conditions. However the participants in that study have different characteristics, they are from a department of Environmental and forestry Ministry not from a hospital. It seems that one major different between two studies relates the mean score of authority structure, since it has been as low as ESE (1.53) in our study (1.55), while it was quiet higher in Agma study as 1.79. This could be explained that the participants of our study have low decision latitude, but participants in Agma study might come from also high decision latitude group within the structure of organization. There is also apparent difference between educational levels of the participants in two studies. While the educational level less than a bachelor degree in the present study has a percent of 51.5, it was only 7.4 % in Agma study. Moreover, a significant part of the participants (37.1%) had a post graduate degree in Agma Study, indicating a having possibility of career development. This result in our study is consistent with the study of Landsbergis who stated that at reported job strain (job dissatisfaction, depression, psychosomatic symptoms) and burnout is significantly higher in jobs that combine high workload demands with low decision latitude. The significant difference found in the present study between mean ES scores of the groups based on educational level might point out two well defined job stressors as task unfitness and/or lack of career development among the participants (WHO, Coetzee, and de Villiers, 2010). As presented in table 5, the group with a bachelor degree had significant ly lower mean score of ESE factors with comparing other groups. Normally, having a bachelor degree gives a chance for career advancement in many fields. However, in the administrative structure of hospital there are no or very few posts relevant for DPCOs especially as physicians to be assigned. This might cause more stress to be perceived by them,) But, this explanation requires attention since there are 16 (9,9) participants who had a postgraduate level degree and they had lower mean scores than those with graduate levels. This needs more detailed study to be explored.

Chou et al., (2014) claimed that their study was the first report to compare most of the medical professions in a hospital setting. Their results indicated that nurses have the highest burnout scores as compared to the other medical professions, which is consistent with a previous report (Weinberg, & Creed, 2000). However, the unanticipated result in their study is that the burnout scores of physicians were very close to those of medical technicians and administrative staff. Taking into account this anticipated result we could say that not wearing white coat and not involving directly patient care are not enough to avoid burn out that has strong association with occupational stress.

Being respected and appreciated by significant others is one of the most fundamental human needs. Consequently, people go to great pain to gain acceptance and approval and they can define this as violence. Social stressors should be especially important because they typically involve the perception of 'a lack of fairness, a lack of respect and open or indirect attacks, ridicule, derogation' (Semmer, 2007). In their nationwide study targeting all health workers, Pinar et. al have found that the incidence of any type of violence in the previous twelve months was 58.1 for physicians and dentists, and 51.0 for nurses and midwives, 42.5 for health officers, 32.2 for administrative staff. Although the last two groups faced comparatively lower rate of violence, the rates are still high. The participants of this study can be compared these groups especially with administrative staff. Verbal abuse constitutes the largest proportion of the total violence rates in these groups as 40.8 and 30.8. In this study the factors ESE and authority structure were rated at lowest level, indicating the higher negative impact of stress. According to Leyman (1996), Mobbing is an extreme social stressor, bringing about stress reactions, which in turn can become social stressors for others. Considering these facts all together we can claim that the higher stress level that the participants suffer could be explained by violence, especially verbal abuse and mobbing to some extent.

5. Limitations of the study

The study includes only DPCOs. This prohibits comparing the results with the scores of different professions. However, it gives also an advantage to uncover the problems of people who normally stay in the shades of more visible or problematic professionals.

The scale used in this study was designed to determine stress at work only. In the real life, both stresses at work and outside of work contribute to the anxiety and depressive disorders experienced by healthcare staff.

6. Conclusion

Results of this research indicate that the occupational stressors existing in the hospital (especially relating ESE and authority structure) has led to very high stress on all the administrative staff involved in this study. Low decision latitude seems to be one major factor contributing this high level of Job stress. Verbal abuse and mobbing could be also a remarkable part of the given stress. In addition, negative impact of this stress on the working life and social life of personnel was found to be quite high. We suggest the hospital management should consider these results and take the necessary actions to mitigate the negative stressors existing at the hospital.

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