



Perceived Stress Levels of Physicians and Other Health Personnel Working in the 112 Emergency Service and Associated Factors

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Abstract

Objectives: This study determined the level of stress perceived and experienced by physicians and other health personnel working at the 112 emergency service and the factors that caused this stress.

Objective and Methods: The population of the study comprised 100 physicians and all other health personnel working in the 112 emergency services. The data in the study were collected using the information form and perceived stress scale containing the sociodemographic characteristics of physicians and other health personnel (age, sex, working years, etc.) and working conditions thought to cause stress. The data was evaluated using SPSS software utilizing figure values, percentile values, the Kruskal-Wallis analysis of variance, and the Mann-Whitney U test.

Results: Of the participating health professionals, 54% were females, 72% were married, 45% were aged 20 to 30, 38% were high school graduates, 4% were physicians, 19% were emergency medical senior technicians, 49% emergency medical technician, 22% were drivers, and 6% were other health personnel. The mean value of the health personnel's inadequate self-efficacy perception score was 15.8400 ± 4.13587 , whereas the mean stress/disturbance perceptions core was 14.7200 ± 4.04 .

Conclusion: According to these results, health professionals perceive stress during working and experience stress at certain levels.

Keywords: Perceived stress; Sociodemographic characteristics; Inadequate self-efficacy perception

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Introduction

Stress is an automatic response that an individual experience in situations that are difficult to overcome or challenging [1,2]. Stress is a reaction that motivates a response and keeps people alive. It is important to accurately define the stressor and the problems it causes as well as to develop coping strategies. However, a long-term-stressor or a problem at a higher level than the individual can provide a solution for may cause individuals to experience high levels of stress [1,2]. If the stressors encountered are not work related and if the key to the solution is not himself/herself, people may experience higher levels of stress leading to a decline in work efficiency and negative effects on their personal and professional lives. If this workplace is an institution or organization that serves patients and sensitive individuals, the presence of stressors is inevitable. Receiving no tolerance for the tiniest mistake and trying to keep sensitive individuals and their relative's satisfied leads to pressure on health sector employees and higher levels of stress.

The 112 emergency service stations are one of these institutions. Physicians and emergency medical technicians working at this station arrive at the patient's location and provide the first intervention. Then, they transport the patient to the hospital for further treatment. The patients and patients' relatives served by emergency stations often experience fear during the medical emergency. This fear as well as the patient's struggle for their life is a difficult situation for physicians and other health professionals who carry out the first intervention. The whole team both provides intervention to the patient in critical condition and soothes and provides information to the panicking patients' relatives. In addition, the relatives of the patient usually consider why such a life-threatening situation occurred and some bureaucratic procedures independent from the health personnel may cause anger in patients' relatives, which is reflected to the health personnel. Patients' relatives can implement emotional or even physical violence to the health personnel because of the anger they

experience.

As a result, health personnel may experience elevated levels of stress due to the pressure associated with making the first intervention for the patient and the pressure applied by the patient's relatives [3-6]. To eliminate or minimize factors that will cause stress perceived by the health personnel, protocols should be added to bureaucratic procedures and the Provencal Health Directorate can allocate resources for the planning of educational and consulting services for health personnel to cope with the factors that may cause perceived stress.

Thus, this study contributes to the determination of the stress level perceived by physicians and other health personnel working at the 112 emergency service and the factors that cause stress.

Subjects and Methods

This study was initiated following approval from the Niğde Ömer Halisdemir University Ethics Committee (dated 21.12.2015; No. 09), receiving written permits from the Niğde Provincial Health Directorate, and explaining the aim of the study to the health professionals participating in the research and obtaining their verbal consent. The population of the study included 100 health employees (physicians, nurses, emergency), medicine senior technicians, emergency medicine technicians, and other health professionals working at nineteen 112 emergency medical stations, 112 centers, and 112 command control centers (call receiving) who agreed to participate in the study and were on duty during the study dates. The data were collected between January 2016 and June 2016 using the information form and the perceived stress scale.

Information form

This form contained 13 questions about the sociodemographic characteristics of physicians and other health personnel (age, sex, working years, etc.) and working conditions thought to cause stress.

Perceived stress scale

The Perceived Stress Scale (PSS) was developed by Cohen, Kamarck and Mermelstein (1983) and the Turkish validity and reliability was conducted by Eskin et al. [7]. PSS consists of 14 items and is designed to measure the level of stress perceived by individuals through the events in their lives. There are 2 sub dimensions of scale consisting of 14 items: Inadequate self-efficacy perception and stress/Disturbance perception. The participants evaluated each item using a five level Likert type scale varying between "Never (0)" and "Very frequently (4)." Seven of the items that contained positive statements were reverse scored. And minimum score of scale is 0; maximum score of scale is 56 points [7].

The data obtained in the study were evaluated using SPSS software. One way ANOVA and the independent t-test were used for the groups that fulfilled the number, percentage, and parametric assumptions, and Kruskal-Wallis variance analysis and Mann-Whitney U tests were used for the data groups that did not fulfill the parametric assumption.

Results and Discussion

Of the health professionals participating in the study, 54% were females, 72% were married, 45% were ages 20 to 30, 38% were high school graduates, 4% were physicians, 19% were emergency medical senior technicians, 49% emergency were medical technician, 22% were drivers, and 6% were other health personnel. In addition, 86%

worked 24 hr shifts, 4% worked daytimes, 32% worked 40 hrs a week, and 60% worked more than 45 hrs a week. Finally, 30% worked for 1 to 5 years, 39% worked 6 to 10 years, and 31% worked 11 years or more.

Of the health personnel, 8% stated they experienced problems because of food, 16% from carrying/transporting patients, 5% from relationships with management and 5% from the lack of social resting areas, 60% from patients' relatives, and 2% from working hours.

The mean value of the health personnel's inadequate self-efficacy perception scores was 15.840 ± 4.136 whereas the mean stress/disturbance perception score was 14.720 ± 4.04 (Table 1). According to these results, health professionals perceive themselves as inadequate and experience stress at certain levels. This study supports the literature reporting that health employees, especially those working at emergency units, serve patients and their relatives during acute traumatic periods while they also carry out some bureaucratic procedures, which leads to a feeling of pressure and higher levels of stress. In parallel with these result, in two study stress among medical students was found 38% to 62% in many countries, which is higher than that of the general population [8,9].

Comparing the socio-demographic properties of health employees with the sub scales of the stress perception scale, those who were 41 years old or older, male, single, and had an associate degree, worked more than 45 hrs a week, stated they experienced issues with patients' relatives, worked for 11 years or more, and emergency medicine technicians felt inadequate. This result suggests those with advanced aged, inadequate education, more working years and working hours, a lack of social support such as being single, issues with patients' relatives, and working at units where more confrontation is experienced with patients' relatives such as emergency service may have feelings of incompetency. On the other hand, those who were 20 to 30 years of age, were female, worked less than 40 hours a week, stated they had communication problems with the management, worked for 1 to 5 years, and emergency medical technicians experienced more stress. In this case, being a younger age and in the first five years of their profession, having fewer working hours, a lower education level, and higher exposure to patients' relatives might cause higher levels of stress in emergency health personnel. In parallel with these results, Korkmaz and Ceylan (2012) stated female participants experience more stress-related problems than male participants, however their reactions are lower than those given by the males [10]. In another study, the most negative psychosocial factor for health personnel's well being occurs with high workload low job control-low social support [2]. Similarly, in a study on the effect of shift on the performance of health personnel, employees experienced reduced work efficiency and sleeping problems because of intense shifts [6]. In another study on the effects of working intensity focusing on stress in the 112 services related to traumatic and secondary traumatic stress, employees experience high levels of stress from the psychological intensity of the job they perform over time [10]. And in another study that was made in Zambia, Africa with doctors was found doctors felt high stressed and lack of resources to carry out their job, the workload, the low level of reward, the long working hours were most frequently identified as stressors [11,12].

Conclusion

In this study, those who were 41 years old or older, male, single, had an associate degree, worked more than 45 hours a week, experienced issues with patients' relatives, worked for 11 years or more, and

Table 1: Distribution of perceived stress level score averages according to socio-demographic characteristics of health personnel.

Socio-Demographic Characteristics	Inadequate Self-Efficacy Perception	Stress/Disturbance Perception
	X ± SD	X ± SD
Age		
20-30	16.044 ± 3.30	15.177 ± 3.39
31-40	15.500 ± 5.01	14.250 ± 4.49
41 and higher	16.363 ± 3.50	14.727 ± 4.75
kw/p	0.193/0.908	0.326/0.850
Sex		
Female	15.481 ± 4.04	15.259 ± 3.78
Male	16.260 ± 4.25	14.087 ± 4.28
u/p	1028.00/0.137	894.500/0.015
Marital status		
Married	15.513 ± 4.43	14.472 ± 4.27
Single	16.678 ± 3.17	15.357 ± 3.36
u/p	867.000/0.276	977.000/0.810
Education level		
High School	15.868 ± 4.19	14.605 ± 4.51
Associate degree	16.552 ± 3.14	15.342 ± 2.78
Undergraduate	14.600 ± 5.66	13.800 ± 5.35
Master of Science	15.000 ± 4.13	14.500 ± 1.29
kw/p	1.177/0.555	0.807/0.668
Duty area in the station:		
Command and Control Center	15.409 ± 4.45	15.727 ± 4.62
Emergency Health Services	16.055 ± 4.09	14.277 ± 3.94
Head Physician's Office	14.833 ± 3.81	16.333 ± 1.75
kw/p	1.267/0.531	5.662/0.059
Income level		
Low	14.500 ± 3.65	15.600 ± 4.45
Moderate	15.988 ± 4.17	14.622 ± 4.01
u/p	321,500/0.137	376.500/0.394
Working routine		
24-Hour duty	16.127 ± 3.82	14.720 ± 3.57
Dayshift	14.071 ± 5.55	14.714 ± 6.42
u/p	471.500/0.192	522.500/0.425
Weekly working hours		
Less than 40 hours	14.500 ± 0.70	17.000 ± 1.41
40 hours	14.968 ± 5.04	14.906 ± 4.94
45 hours	16.166 ± 2.22	14.000 ± 5.40
More than 45 hours	16.316 ± 3.76	14.616 ± 3.44
kw/p	0.000/0.984	0.015/0.903
Subjects causing stress		
Feeding	17.125 ± 2.41	15.000 ± 0.92
Moving a patient	15.562 ± 3.65	14.250 ± 4.21
Relationships with management	15.200 ± 3.96	17.200 ± 2.77
Lack of social resting areas	12.400 ± 8.08	9.400 ± 7.23
Patients' Relatives	16.450 ± 3.51	15.283 ± 3.38
Drug Addicts	11.250 ± 8.30	10.250 ± 7.04

Working Hours Problems	14.000 ± 1.41	16.500 ± 2.12
kw/p	5.012/0.414	10.910/0.053
Education on stress		
Taking	16.769 ± 3.19	15.307 ± 3.09
Not Taking	15.701 ± 4.25	14.632 ± 4.17
u/p	499.500/0.496	552.500/0.893
Working Years		
5-Jan	15.300 ± 3.79	15.200 ± 3.65
10-Jun	16.641 ± 4.03	14.692 ± 4.19
11 and higher	15.454 ± 5.71	12.636 ± 4.86
kw/p	4.930/0.085	3.625/0.163
Years Working in the Profession		
5-Jan	15.566 ± 4.47	15.200 ± 4.03
10-Jun	15.692 ± 3.77	14.666 ± 3.73
11 and Higher	16.290 ± 4.32	14.322 ± 4.49
kw/p	1.100/0.577	0.403/0.817
Profession		
Physician	15.000 ± 2.30	15.000 ± 1.41
Emergency Medicine Senior Technician	15.842 ± 4.53	15.210 ± 4.67
Emergency Medicine Technician	16.449 ± 3.90	14.449 ± 3.62
Driver	15.045 ± 4.73	14.227 ± 4.94
Other health personnel	14.333 ± 3.32	17,000 ± 2.52
kw/p	4.968/0.291	5.227/0.265

emergency medicine technicians felt inadequate. On the other hand, those who were 20 to 30 years of age, female, working less than 40 hrs, having communication problems with management, working for 1 to 5 years, and emergency medical technicians experienced more stress. According to the results, high work-loads, frequent work shift schedules, having problems in their personal lives including being female and single, a low education level, or problems with patients' relatives and management caused high levels of stress in employees.

According to these results, we suggest enacting regulations to reduce workload of health employee and revising bureaucratic procedures for employees to provide better services to the patients, educating employees about stress management, improving employee awareness, and organizing intra organizational activities for employees to increase their motivation.

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