



## Original Article

## An analysis of the exposure to violence and burnout levels of ambulance staff

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## ABSTRACT

**Objective:** Ambulance workers experiences some of the highest risks of job-related violence. This descriptive study was conducted to analyze the exposure to violence and burnout levels of ambulance workers in Turkey. **Method:** The research was conducted via web survey with the ambulance staff. The sampling size was 143 ambulance workers who participate in this study. A 30-item questionnaire and the Maslach Burnout Inventory (MBI) were used to collect data.

**Results:** In study, 58.7% of respondents were female; 57.3% were paramedics. 86.5% of respondents were exposed to verbal abuse, and 35% of them were exposed to physical violence. Swearing and yelling were the most common forms of verbal abuse whereas pushing and throwing objects were the most common forms of physical violence. 47.3% of the physical violence cases were reported. In the sampling, MBI scores indicated that the mean *Depersonalization* subscale score was  $X = 7.97 \pm 3.82$ ; *Emotional Exhaustion* subscale score was  $X = 12.07 \pm 6.57$ ; and *Personal Accomplishment* subscale score was  $X = 9.16 \pm 5.14$ . Significant differences were determined in MBI scores ( $p < 0.05$ ) based on the independent variables such as gender, age, profession and exposure to verbal abuse.

**Conclusions:** Exposure to violence in ambulance staff is compatible with the literature, exposure to verbal violence is one of the significant factors associated with burnout, and paramedics have a higher level of burnout.

## 1. Introduction

Workplace violence is a significant problem affecting many professions, and the rates of violence in health sector seem to be increasing in particular.<sup>1,2</sup> Workplace violence is simply described as “any incident or situation where staff members are abused, threatened, or assaulted in situations related to their work”.<sup>3</sup> The healthcare industry has many unique situations that increase the risk of violence, including working directly with patients and their relatives, and providing non-stop care service.<sup>1,4–6</sup> Most of the violence in the health institutions is perpetrated by patients and their relatives in the form of verbal abuse, psychological violence/mobbing, physical assault, and sexual abuse.<sup>7,8</sup>

In the relevant literature, workplace violence mostly occurs in psychiatric departments, emergency services, polyclinics/waiting rooms, and geriatric units.<sup>4,9</sup> Negative factors such as lack of information, insufficient personnel and equipment, and communication breakdowns increase the risk of violent behavior in healthcare services.<sup>1,7,10,11</sup> Ambulance personnel is in the charge of providing pre-hospital service care in situations of emergency where personal or public health is under risk. Ambulance staff works in conditions that are

often unpredictable, difficult, and sometimes dangerous, and in which it is difficult to provide adequate security.<sup>12,13</sup> In addition, ambulance staff often interacts with psychiatric, delirious, alcoholic or forensic patients who have a higher potential for violence.<sup>14,15</sup> There are many studies on the prevalence of workplace violence in health services. The most prevalent violence forms are defined as verbal threat and verbal abuse and 74.6% of health employees suffer from physical violence at some point in their careers.<sup>8</sup> In the literature, the verbal/psychological abuse ranges between 33.3% and 100%, whereas physical assault ranges between 1.8% and 52.5% in Turkey.<sup>4</sup> Even though some differences are determined among these rates in previous studies for different countries, violence is a major problem for emergency department in the health services in particular.<sup>5,7,10,13</sup> Likewise, emergency service employees have one of the riskiest jobs in Turkey; it is determined that 85.2% are exposed at least one form of violence.<sup>9</sup> Similar to these research findings regarding emergency services. Ambulance staff is exposed to high level of workplace violence.<sup>1,6</sup>

Workplace violence might lead to various negative impacts on the psychological and physical health of health workers such as physical injuries; increase in stress and anxiety; feelings of fear, anger, guilt and

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insecurity; as well as various individual, occupational and corporate problems such as insomnia, depression, drug and alcohol abuse, decrease in job satisfaction and burnout.<sup>4,5,10,17,18</sup> Burnout is defined as, “a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who do people-oriented work of some kind”.<sup>19</sup> Emergency health employees frequently suffer from burnout, and it is associated with many factors related to working environment, employment, marital status, age and exposure to violence and mobbing.<sup>19–21</sup>

To summarize, particularly employees of emergency and ambulance services, face with extremely high rates of workplace violence, and violence has multiple negative outcomes. Therefore, in most countries, several programmes have been implemented to prevent workplace violence from taking place.<sup>17</sup> An analysis on the workplace violence in the health services is important to develop prevention programmes in Turkey. This study is based on the assumption that the exposure to workplace violence is a variable that effects the degree of burnout. It aims to analyze the violence exposure that ambulance staff encounters in Turkey, and it examines its effect on burnout levels of ambulance employees.

## 2. Material and methods

### 2.1. Study design and data collection

This descriptive study was conducted in 2017 between April and June after necessary permissions and ethics committee approval (Mugla Sitki Kocman University, 2016/146) were obtained. This study was undertaken in Mugla region which has 50 ambulance stations, each consisting of personnel around 10 people. Ambulance stations are present in all towns and some rural areas in Mugla province. Ambulance employees use a 4-day leave following a 24-h shift. The study was conducted via web survey as it is very difficult to have face to face meetings with employees.

To collect data, the questionnaire form and Maslach Burnout Inventory (MBI) were used and transferred to the web survey. The web survey link and informed consent form were sent to the ambulance staff via e-mail by the local state authorities. Among the emergency ambulance workers, internet and/or smartphone users voluntarily participated in the study. But, the number of ambulance workers who did not receive e-mails were unknown. The employees who had only more than one year of work experience in ambulance were included in the study. Ambulance employees confirmed the informed consent check box before they start to the survey. The data file of data collection tools was transferred into the SPSS software. In the analysis of the data; Independent Sample T-test, One-way variance analysis were used. Additionally, Kruskal Wallis H and Mann Whitney U tests were performed for nonparametric data and then Bonferroni correction was applied.

### 2.2. Measurement methods

The descriptive questionnaire form prepared by the researcher consists of thirty questions regarding socio-demographic and vocational characteristics, forms of workplace violence exposure, reporting, safety of the work environment etc. Participants were given questions only about the workplace violence they experienced in ambulance services. Formal definition of physical and verbal violence were given in survey for respondents. Sexual abuse was included under the headings of verbal and physical violence. Time to completion of the survey was presumably around 15 min.

**Maslach Burnout Inventory (MBI):** The MBI developed by Maslach and Jackson (1981) and adapted to Turkish by Ergin (1992) was applied to health workers. With this inventory, the burnout situation was assessed through three sub-dimensions: *Depersonalization* (DP); *Emotional exhaustion* (EE) and *Personal Accomplishment* (PA). Each

**Table 1**  
Job and vocational characteristics of ambulance workers.

	n	%
<b>Job</b>		
Physician	4	2.8
Nurse	17	11.9
Paramedic	107	74.8
Other	19	13.3
<b>Education</b>		
Primary school	1	0.7
High school	46	32.2
Vocational school	61	42.8
Undergraduate	28	19.6
Postgraduate	7	4.9
<b>Working years in ambulance services</b>		
0–5 years	60	42.0
6–10 years	68	47.5
11–15 years	12	8.4
Over 15 years	3	2.1
<b>Job security competence in ambulance services</b>		
Yes	38	54.5
Partly	11	20.3
No	94	25.2
<b>Total</b>	143	100

subscale score is separately calculated; higher mean scores for DP and EE subscales and lower mean scores on the PA subscale correspond to a higher degree of burnout. Ergin calculated the Cronbach's alpha coefficients of the sub-scales as 0.83 for EE, 0.72 for PA and 0.65 for DP.<sup>1,19,22</sup>

## 3. Results

In total 143 employees (i.e., nurses, paramedics and others) were participated to the survey from 30 ambulance station staff. Most of the employees work in touristic towns under similar conditions except few of those working in rural stations. No participation to the study took place from 20 ambulance stations.

Socio-demographic characteristics of the sample indicated that 58.7% of respondents were female, 30.1% were between 18 and 25 years of age, 66.7% were married. Most of the respondents were paramedics, graduates of vocational schools and had a 6–10 years of work experience in ambulance services. And 25% stated that their job security measures were insufficient (Table 1).

The participants were asked whether they had been exposed to verbal/psychological abuse during their career in ambulance services: only 13.5% of the participants had not been exposed to verbal abuse and most of the respondents were exposed 3 to 5 times to verbal abuse. Women in particular experienced more multiple verbal/psychological abuse (28.6%), 20.3% of men did not define any psychological violence exposure. It appears that there were significant differences about exposure to psychological violence according to gender ( $X^2 = 9.74$ ,  $p = 0.002$ ). The exposure rate in the paramedic group was 91.6%. Swearing and yelling were the most common forms of verbal/psychological abuse; most of this violence was perpetrated by the relatives of the patients. After violence, most of verbal/psychological abuse cases were not reported (Table 2). Moreover, only 3.4% of the participants had received psychological support; 31.6% needed support but were not able to receive any psychological support.

As for physical assaults exposure of the ambulance staff, 35% of the respondents were exposed to physical violence and 14% witnessed physical assaults at work. Pushing and throwing objects were the most common forms of physical assaults. The rate of violent acts perpetrated by patient was 51.7. In most of those cases, the violent act was realized on-scene or in the house where the ambulance was called. There was no injury/physical damage in most of the events and bruising or crushing was indicated generally. The rate of physical assaults reported was 47.3

**Table 2**  
Exposure to verbal violence in ambulance services and its characteristics.

	n	%
<b>Verbal/psychological violence exposure</b>		
No	19	13.5
1-2 times	36	25.2
3-5 times	38	26.2
6-10 times	18	12.6
Over 10 times	32	22.4
<b>Total</b>	143	100
<b>Verbal/psychological violence type</b>		
Swearing	95	27.9
Threatening	74	21.8
Insult	62	18.3
Yelling	95	27.9
Verbal sexual violence	14	4.1
<b>Total</b>	340 <sup>a</sup>	100
<b>Verbal violence attacker</b>		
Patient	93	30.0
The relatives of the patient	115	44.6
Colleague	26	10.0
Overman	14	5.4
<b>Total</b>	258 <sup>a</sup>	100
<b>Reporting verbal violence</b>		
No	87	70.2
Yes, some of	31	25.0
Yes, to all	6	4.8
<b>Total</b>	124	100

<sup>a</sup> Multiple responses were given.

**Table 3**  
Exposure to physical assault in ambulance services and its characteristics.

	n	%
<b>Physical violence/assault exposure</b>		
No	94	65.7
Witness	14	9.8
1-2 times	33	23.1
3-5 times	2	1.4
<b>Total</b>	143	100.0
<b>Physical assault type</b>		
Punching/Slap	9	14.5
Hair pull/pinch	2	3.2
Pushing	16	25.8
Kicking	11	17.7
Cut/injure	5	4.8
Sexual harassment	2	3.2
Throwing objects	15	24.2
Hostage taking	4	6.5
<b>Total</b>	62 <sup>a</sup>	100
<b>Physical assault attacker</b>		
Patient	30	51.7
The relatives of the patient	28	48.3
<b>Total</b>	58 <sup>a</sup>	100
<b>Physical effects</b>		
No damage	30	60.0
Minor injury/Graze	8	16.0
Bruise/Crush injury	11	22.0
Severe Injury	1	2.0
<b>Total</b>	50 <sup>a</sup>	100 <sup>a</sup>
<b>Place of assault</b>		
Ambulance	15	27.3
Accident scene/Home	32	58.2
Hospital/other	8	14.5
<b>Total</b>	55 <sup>a</sup>	100
<b>Reporting to physical assault</b>		
No	18	52.7
Yes	17	47.3
<b>Total</b>	35	100

<sup>a</sup> Multiple responses were given.

(Table 3). Only two ambulance workers who were exposed to workplace violence received psychological support after the harassment, 60% of them also needed psychological support but did not receive any.

**Table 4**  
Comparison MBI subscale scores to independent variables.

	Depersonalization	Emotional Exhaustion	Personal Accomplishment
<b>Verbal/psychological violence in ambulance services</b>			
No	5.15 ± 2.63	7.00 ± 4.90	9.94 ± 7.02
1-2 times	7.41 ± 3.20	1.30 ± 7.50	8.91 ± 5.28
Many times	8.81 ± 3.96	13.48 ± 5.89	9.09 ± 4.64
<b>p</b>	<b>p &lt; 0.001</b>	<b>p &lt; 0.001</b>	p = 0.095
<b>Physical violence/assault in ambulance services</b>			
No	7.72 ± 3.38	11.75 ± 6.48	9.66 ± 5.51
Yes	8.54 ± 4.66	12.79 ± 6.77	8.02 ± 3.97
<b>p</b>	p = 0.34	p = 0.16	p = 0.33
<b>Gender</b>			
Women	8.88 ± 4.04	14.19 ± 5.96	9.44 ± 4.89
Men	7.47 ± 3.45	9.10 ± 6.26	8.76 ± 5.49
<b>p</b>	p = 0.224	<b>p &lt; 0.001</b>	p = 0.360
<b>Age</b>			
18–25 years	8.34 ± 3.37	14.27 ± 6.66	10.20 ± 5.17
26–30 years	7.48 ± 4.21	11.51 ± 6.11	10.02 ± 5.40
31–35 years	8.75 ± 4.26	12.95 ± 5.96	9.15 ± 4.58
36 years and above	6.73 ± 2.83	7.34 ± 5.85	5.82 ± 4.41
<b>p</b>	p = 0.147	<b>p &lt; 0.001</b>	<b>p = 0.007</b>
<b>Job</b>			
Nurse	7.17 ± 3.32	10.47 ± 5.42	6.05 ± 4.08
Paramedic	8.48 ± 3.91	13.57 ± 5.48	9.56 ± 4.87
Other	5.84 ± 2.89	5.10 ± 6.74	9.68 ± 6.60
<b>p</b>	<b>p = 0.012</b>	<b>p &lt; 0.001</b>	<b>p = 0.022</b>

Furthermore, ambulance staff explained the causes of workplace violence as non-deterrent penalties (27.4%), fake news on the media (24.3%), and lack of information (21.0%), national health politics (19.4%) and work & environment issues (7.9%).

The MBI average scores of the ambulance staff for DP, EE, and PA subscales were 7.97 ± 3.82, 12.07 ± 6.57, and 9.16 ± 5.14, respectively. Based on the comparison of MBI scores for independent variables; there was a statistically significant in DP and EE subscale scores (p < 0.001) by the comparison for the exposure to verbal abuse. As this finding was analyzed with the Bonferroni correction test, in DP and EE subdimensions the point average of those exposed to multiple psychological violence appears to be higher than those who were not exposed and there was a statistically significant difference (DP p < 0.001), (EE p = 0.017). There was no significant difference in MBI subscale scores for the exposure to physical violence. The comparison of MBI scores by gender indicates that there is a statistically significant difference in EE subscale scores (p < 0.001) and that women have higher scores in general (Table 4). The scale scores are compared according to age groups and a significant difference was found in EE (p < 0.001) and PA (p = 0.007) subdimensions. This likely to be related with the higher EE subscale scores in the age groups 18–25 years (p < 0.001) and 31–35 years (p = 0.004) than 36 years and above in bonferroni correction test. PA subscale score was lower in 36 years and above group than 18–25 (p = 0.006) and 26–30 years groups (p = 0.016). The comparison of MBI scores in terms of occupation indicates that there was a statistically significant differences in DP (p = 0.012), EE (p < 0.001) and PA (p = 0.022) subscale scores. Compared with Bonferroni correction test, the fact that the point average of paramedics is higher than of other professions is found statistically significant in DP (p = 0.015) and EE (p < 0.001) subscale scores. Additionally, nurses were had lowest PA scores (p = 0.026). In this study, validity and reliability were not tested for thirty questions and MBI.

#### 4. Discussion

This study indicates that most of ambulance staff were exposed to verbal/psychological abuse and that patients were the most common

perpetrators of the workplace violence. Paramedics were the most frequently exposed group to verbal/psychological abuse. The 35% rate of physical assault was mainly perpetrated by patients and occurred on-scene or in the patients' homes. Bigham and his colleagues stated that most of the paramedics (75%) interviewed reported experience of violence in the past 12 months, and the most common form of violence reported was verbal abuse (67%), followed by psychological violence or mobbing (41%), physical assault (26%), and sexual abuse (14%).<sup>16</sup> In a study conducted with the ambulance technicians in Iran, the most frequently reported form of workplace violence was verbal abuse (70%) and physical assault rate was determined 38% by relatives of patients and on scene of the accident.<sup>3</sup> In Slovenia, verbal abuse was experienced by 78% of the personnel, 49.6% was physically assaulted.<sup>13</sup> In a similar study conducted in Turkey, verbal abuse was reported by 74% and physical assault in 11%.<sup>22</sup> In another study, 67.5% of the ambulance staff were exposed to some form of violence, mostly verbal or psychological abuse.<sup>19</sup> Physical violence rates in our study are similar to those in the literature; however, the rate of verbal/psychological violence is relatively higher. This data could be associated with the tourism trade of Mugla and the prevalence of the alcohol use in the city, especially when one considers the fact that ambulance workers often come across with alcohol-related emergency cases. Published studies show a strong link between alcohol consumption and violent behavior.<sup>10,22</sup>

As this study reveals swearing and yelling were the most common forms of verbal/psychological violence, whereas pushing and throwing objects were the most common forms of physical assault. Ambulance workers work under stress when they are unable to control the environment to ensure their security and prevent workplace violence.<sup>12,16,23</sup> In a study conducted in Iran, pushing and punching were found to be the most common forms of physical assault.<sup>3</sup> Attempts at physical assault, the use of sharp objects and kicking rates are higher in Çelebi's study.<sup>22</sup> In another study; insults, threats, forcing, damaging objects, pushing, throwing objects were defined as the most common violent behaviors.<sup>23</sup>

In Greece, 72% of health workers who were exposed to violence received psychological support after the harassment.<sup>11</sup> Despite the rate of violence exposure was high, the rate of receiving psychological support was very low in the study. A possible reason is that ambulance workers may have a tendency to accept workplace violence as the nature of their job. In Turkey, the difficulties to get an access to preventive mental health/counseling services could have affected this conclusion.

After harassment, ambulance staff reported to 1/3 of verbal/psychological abuse and 1/2 of physical assault approximately. Vural et al. indicated that the rates of reporting the violence and legal acts by emergency service employees are low (26.8%).<sup>2</sup> In a study conducted in Australia, 30% of physical violence incidents are reported.<sup>24</sup> In Palestine, the violence reporting rate was 40%.<sup>18</sup> In the present sample, reporting rates of physical violence are higher when compared with those in many studies examined. Published reports overall state that there is a tendency toward the normalization and disregard of verbal abuse incidents in the working environment, and health workers think that they would not have any satisfactory results if they report the case.<sup>4,18,19,24</sup> To increase the frequency of violence reporting, employees should be supported in their efforts to report the incidents, and legal enforcements and penalties should be instituted.

If the study outcome is to be compared with the literature; Çelebi conducted a study to examine the conditions of ambulance staff in Turkey; EE subscale average score was  $15.88 \pm 6.34$ , DP subscale score was  $6.68 \pm 3.93$ , and PA subscale score was  $20.64 \pm 4.66$ .<sup>22</sup> In the study by Deniz et al. study, EE subscale score was  $11.59 \pm 6.20$ , DP subscale score was  $5.434 \pm 3.01$ , and PA subscale score was  $9.16 \pm 4.23$ .<sup>19</sup> These findings are similar to DP and EE scores in the present study results, but PA subscale score is higher. In a study conducted in Palestine, burnout levels of healthcare employees were

higher, and DP scores were especially higher for nurses.<sup>18</sup> Comparing MBI scores based on independent variables found that the exposure to verbal abuse leads to statistical significance difference for DP and EE subscale scores ( $p < 0.001$ ), but the exposure to physical violence has no significant difference on burnout levels ( $p = 0.009$ ). This result can be associated with physical violence occurring less often, but verbal abuse occurs more frequently and it is repetitive. Several studies with similar samples suggest that healthcare workers who are exposed to violence have higher burnout scores.<sup>21,22,25</sup> Nart found that DP and EE subscale scores were higher in the subjects who were exposed to violence, and that the PA subscale score is not affected at all.<sup>1</sup> EE subscale scores of the ambulance staff who were exposed to physical violence are significantly higher in the literature.<sup>19,23</sup> Based on the studies analyzed here, it can be stated that the exposure to violence and risky work environments increase burnout levels.

In evaluation of the burnout scores according to independent variables, MBI scores are higher in the young workers, women and paramedics. The comparison of MBI scores by gender, age and job indicates that there are statistically significant differences in MBI subscale scores. Violence cases were analyzed for different variables and for risks of violence in the literature. Some studies state that nurses are exposed to more violence than physicians; some found age as a risk factor whereas others did not.<sup>2,4,6,10,11</sup> Statistically significant differences were found in burnout scores of healthcare professionals in China in terms of marital status, years of occupation and of employment.<sup>21</sup> It becomes evident that occupational burnout increase as years of work and age increase. Additionally, education of paramedic have been widespread in recent years in Turkey, therefore young paramedics are working in ambulance staff usually. These findings are different from the literature and it can be attributed to the fact that the majority of employees are consisted of young and paramedic professionals. High burnout scores in young paramedics might also be associated with inadequate professional experience. These findings are indicating that it would be useful to give support to women, young employees, and paramedics in emergency services.

Furthermore, in this study, ambulance staff stated the causes of workplace violence as non-deterrent penalties, fake news on the media, lack of information and national health politics. Relying on the responses from emergency services personnel, a study conducted in Turkey attributes healthcare violence to the following reasons, no penalty for violent acts (15%); the assumption of patients and their relatives that they are neglected (13%); false news in the media (12%); and lack of confidence (12%).<sup>8</sup> Particularly in Turkey, perpetrators of violence do not receive any deterrent penalty after tough legal procedures, which leads to disappointment and an increase in acts of violence.

Suggestions in the literature are put forth as; implementing professional education for risk identification and prevention of aggression/violence; enhancing workers' self-defense skills and mechanisms; instituting security measures, and leverage communication and coping skills; providing the physical layout; increasing and promoting workers' awareness; and implementing effective prevention policies and programs.<sup>8,17,26</sup> The effective job safety precautions and prevention programs should be promoted in Turkey. Mental health professionals, health workers and media should also actively participate in violence preventive projects.

## 5. Limitations

Interviewing with all the staff were difficult since ambulance stations are dispersed all over the city and most of the employees were in ambulance service or in rest day. Therefore the study was conducted via the internet instead of face-to-face interviews and this was an important limitation. In this study, ambulance workers were informed via e-mails but, the number of ambulance workers who did not receive e-mails or who do not use the internet is unknown. For these reasons,

randomization was not achieved in the sample and is an important limitation of this study. The sample size was below the expected size as a consequence of all these negations. Therefore it is advisable to repeat the similar studies with a larger sample in an environment where face to face interaction could be possible. Additionally, in this study, other variables (job satisfaction, stress level, coping strategies etc.) that might affect the burnout level have not been examined and this can be considered as another limitation of the study.

## 6. Conclusions

To conclude, verbal/psychological violence rates in the present sample are higher than the rates in the literature; younger employees and paramedics are the ones who were mostly exposed to violence. Burnout scores are higher for the workers who were exposed to verbal abuse, as well as for female and younger workers. The reporting rate of physical violence is found to be higher than that in many previous studies, and it is assumed that workers who are exposed to violence require more social, psychological, and legal support. In addition, penalties should be more deterrent, effective job safety precautions should be promoted and a multi-dimensional approach to implement more effective policies and well-organized preventive programs are needed in Turkey.

## Conflicts of interest

The author report no conflicts of interest.

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