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Investigation of health care workers' stress, depression and anxiety levels in terms of work-related violence

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Abstract

Behaviors and attitudes of the people who are in a service setting have a determining effect on the mood of the people who provide the service. This effect can lead to either positive or negative results depending on the course of the action. The feeling of happiness, security, appreciation and pride can be given as examples of positive moods and feeling of sorrow, disappointment, loneliness, stress, anxiety and depression can be given as examples of negative moods. This clearly manifests itself especially in the settings, which have an intensive interaction between service providers and service beneficiaries. Health sector is such a setting where an intensive interaction is observed between health care providers and patients/patient relatives. Moving from this fact, effects of workplace violence on health care professionals' stress, anxiety and depression levels were investigated in this study. With this purpose, a survey was performed on the employees who work in a training and research hospital. The findings indicate a significant relationship between health-care workers' stress, anxiety and depression levels and the frequency of exposure to violence. In the light of the study findings, some suggestions, which could prevent health care violence, were made to researchers and decision-makers.

Keywords: Workplace violence; stress; depression; anxiety; health care workers.

1. INTRODUCTION

When healthcare workers fulfill their tasks and duties in their workplaces, they are directly in contact with various people (co-workers, patients, patient's relatives and etc.). In this interaction process, some unwanted situations which negatively affect employee's mental health and threaten his/her security and physical health can occur from time to time. This situation, called "violence at workplace", is one of the most significant and critical security issues of today's working life. And one of the sectors which workplace violence is most frequently encountered is health sector. Health care workers who are direct objects of disruptive and aggressive people have become targets and victims of the workplace violence in a gradual way.

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Although workplace violence committed by patients and patient's relatives is not a new topic in the literature (Wells and Bowers, 2002: 231), there has been a growing interest on this subject recently. The rationale behind this interest is the increasing number of violence committed by patients/patient's relatives and its traumatic effects on health-care workers (Baby, 2013: 115). Various corresponding organizations such as World Health Organization, International Labor Organization and International Council of Nurses considered the workplace violence as a subject which prevention policies should be developed immediately and as a subject which should be handled as a priority at the international level (Pınar ve Pınar, 2013: 315). Turkish Grand National Assembly also did not remain unresponsive to the subject and a commission of investigation was established in 2012 in order to investigate the violence occurred in health sector and determine which measures and actions should be taken. Furthermore, Provincial Chambers of Medical Doctors, affiliated to Turkish Medical Association, prepared some reports investigating violence in hospitals. All these developments reveal the importance of the subject and the critical point it reached. In spite of the investigations carried out and the preventive policies taken, both the number and the level of violence in hospitals have been increased gradually. This leads to some negative effects on health workers such as demoralization, anger, loss of self-confidence, exhaustion/burnout, labor loss (Fernandes et all., 1999: 1246), fear, depression, headache, disappointment, sleep disturbance, absenteeism (Kitaneh and Hamdan, 2012: 474), work stress (Hogh and Mikkelsen, 2005: 433; Magnavita, 2014: 370), and leave of employment (LeBlanc and Kelloway, 2002: 451). All these negative effects on the workers result in decrease in organizational competition and productivity (Steffgen, 2008: 289) and the level of service quality.

This study was carried out in order to determine whether or not there is a significant difference between frequency of exposure to violence and stress, anxiety and depression levels of health care providers, which consists of three sections. Section one starts with theoretical information of study variables, presence of relationship between the variables and research hypothesis. Then, in section two, research methodology is provided. Section three, or final section, presents discussion, conclusion and recommendations.

2. Conceptual Framework

In this part, an introductory review on the study variables (violence, stress, anxiety and depression) is provided, associations between the variables are touched on, and study hypothesis are specified.

2.1. Violence

Violence is a complex affair involving various disciplines such as law, sociology and psychology. Although there isn't any general agreed definition of this term, the main emphasize of various definitions is the negative psychological and physical actions made against an individual (van den Bosshe et al., 2013: 588). World Health Organization defines this term as "Violence is the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, which either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation (Krug et al., 2002: 5). Hence, violence against health-care providers can be defined as "verbal, physical and emotional behaviors and attitudes which are exhibited voluntarily by the people who interact with health-care professionals (patient, patient's relatives, visitors, coworkers etc.) and affect negatively the psychological and physical health of the employees".

Lots of theories of violence have been put forth in order to understand the background of the violent behavior. These theories can be grouped into 3 main categories: a) biological theories, b) social learning theories and c) frustration-aggression theories. Biological theories assert that some people incline to violent behavior due to their hormonal, genetic and neurological factors.

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According to social learning theories, violence is a form of social behavior and it can be learnt just as other forms of social behavior. According to the frustration-aggression theory, violence is a responsive behavior to frustration resulting from negligence of expectations of an individual. Violence in health sector can be explained with frustration-aggression theory (as cited from Bilge Annagür, 2010, 162-163).

As mentioned before, the leading sector which violent acts are frequently seen in the world is health sector (Merecz et al., 2006: 443). In this sense, Elliott (1997; 38) reported that working at health sector is 16 times more risky for health-care workers in terms of violent behavior than that of other workplaces.

The main reasons why violence mostly seen in health sector are the personal traits of the individuals in hospitals (health-care professionals, patient and patient's relatives), offering 7/24 uninterrupted service, long waiting time, lots of examinations performed and lab tests requested, patients with mental disorders, presence of stressful family members, overwork, lack of staff, lots of paperwork for hospitalization and discharging procedure, negative perceptions regarding to cost and quality of health services offered, working alone in the early of the mornings and the late hours of the night, lack of education on combatting violence, lack of security personnel, lack of legal regulations against violence (Elliott, 1997: 38-39; Hahn et al., 2013: 376; Gacki-Smith et all., 2009: 341), requiring urgent medical interventions, no tolerance for the delay of service and inability to repair negative results. From this point of view, it can be suggested that violence against health-care workers arise from the interaction of numerous factors. Health-care workers perform their tasks and duties in a difficult and stressful setting as a matter of course. On top of that, violent acts make health sector more difficult and stressful to work and lead to negative effects on health-care workers. As a result, health care workers keep working in a way that is vulnerable to lots of psychiatric disorders including stress, anxiety and depression (Cheung and Yip, 2015: 11074).

2.2. Stress, Anxiety and Depression

Working life today is a challenge due to increasing workload, work risks and higher expectations of customers. So, being well informed, talented and motivated are no longer sufficient in order to be able to meet all these requirements. Apart from these, employees should be energetic, passionate and healthy both physically and mentally (Sonnentag and Fritz, 2015: 72). But, having all these qualifications at one time doesn't seem probable for most employees today. So, it is inevitable that employees have negative feelings such as stress, depression and anxiety at their workplaces. The serious negative effects of all these feelings on employees and organizations frequently have been mentioned in the literature. Within this context, it is clear that negative feelings of stress, anxiety and depression are not only health problems affecting employees, but also factors interrupting organizational operation. Although the signs and symptoms of depression, anxiety and stress are closely related and evaluated under the same category of psychological distress, it is accepted that they should be evaluated separately (Lovell et al., 2015: 135).

Selye first coined the term "stress" in the literature and defined it as "the non-specific response of the body to any demand for change" (Selye, 1976:137). Stress is a status of physical and psychological tension as a result of the fact that individual resources can't cope with expectations and environmental pressure (Salem and Kattara, 2015:3). Work stress can be defined as the response of the individuals to new and threating factors arising from working environment (Lin et al., 2014: 605). Wilson et al (2004:574) evaluated stress as the perception of stress resources (stressors or stress factors) in workplaces and employee's response to these stress resources. Organizational stressors can be classified into various categories such as work-related, organizational structure-related, organizational role-related, relations-related, career development-related and outer liabilities and responsibilities-related (Parker and Decotiis, 1983: 166). A

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prolonged overstress in health-care employees can result in medical mistakes, burnout syndrome, resignation and inability to work properly (Lin et al., 2014: 605). But, it should be remembered that stress is not always negative. A certain level of stress is needed for motivation and success depending on the personal characteristics of an individual.

Anxiety, not associated with a clearly identifiable stimuli (Sublette, 2008:11), is defined as worry, strain and discomfort caused by a danger prediction (Ploghaus et al. 2001:9901). Anxiety, also known as distress and uneasiness, manifests itself by an unidentifiable feeling of fear and concern. Besides, some psychological problems such as shortness of breath, uneasiness, strain, shaking/shivering, excessive sweating, distress, emotional excitement, increased hearth rate/palpitation and anticipating unwanted circumstances are other signs and symptoms of anxiety (Üstün and Bayar, 2015: 385; Sublette, 2008: 11).

Anxiety and depression can mostly occur together (Song and Lindquist, 2015: 86). Depression is a mood (affective) disorder. Mood can be normal, elevated and depressive. The core features of depression are loss of interest/pleasure, decreased energy and depressed mood. Other frequently seen symptoms are lack of concentration, feeling of guilty, pessimism, self destructive or suicidal thoughts, appetite changes, sleep disturbance and loss of sex drive (Karamustafalıoğlu and Yumrukçal, 2011: 66).

According to the statements mentioned above, it can be said that there is a close association between stress, depression and anxiety. Furthermore, among these three disorders, depression is more serious than stress in terms of their impacts on the individual.

2.3. Associations Between Variables and Study Hypothesis

When the pressure of organizational stressors on an employee surpasses his/her toleration capacity (resistance level), stress will appear. If this situation persists, other negative results such as anxiety and depression will also appear. Any minor violent act emerging from the interaction between heath-care providers and other people in a workplace can be accepted incivility.

Anderson and Pearson (1999: 457) described incivility as "low-intensity deviant behavior with ambiguous intent to harm the target, in violation of workplace norms for mutual respect" and they stated that this kind of behaviors would led to decrease in productivity, performance, creativity, motivation and solidarity among workers. Furthermore, they stated that this kind of behaviors would consume individual resources and erode personal and professional values. Hence, it can be said that violent acts, when they are compared to rude or discourteous behaviors, will create pressure on the toleration capacity of the individuals and lead to much more greater negative outcome due to the fact that violence acts directly target physical and/or mental presence of individuals. There is enough evidence in the corresponding literature that victim or the one subjected to violence experiences various psychological or behavioral problems such as stress, anxiety, depression, anger, alcohol addiction, sexual dysfunction, self destructive thoughts, suicide and aggressive behaviors following the trauma (Asif, 2016: 8; Krug et al., 2006: 1085). Asif (2016: 6) stated that in some cases effects of psychological and behavioral problems could be so severe that victims need to get assistance from experts and/or his/her family members.

This theoretical relationship between violence, stress, anxiety and depression were tested with empirical studies. These studies suggest that workplace violence and threats are associated with variables of psychological distress, anxiety, burnout, depression, job dissatisfaction and absenteeism due to illness (Wieclaw et al., 2006: 771).

According to the analysis of data obtained from a study on 1192 nurses who were members of Queensland Nurses Union and worked in state or private hospitals, Hegney et al. (2010) found that the stress levels of the nurses who were exposed to violence within the last 3 months were higher

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than the ones who were not exposed to violence in the same period for both hospital groups. Franz et al. (2010) carried out a study on 123 heath-care providers who worked in Westphalia region and reported that 89.4% of the participants were exposed to verbal abuse and 70.7% of the participants faced physical assault within the past 12 months. Furthermore, they ascertained that being exposed to violence elevated stress levels and harmed physical and psychological health of the workers who joined in the study with the rates of 55.0% and 77.2% respectively.

This study was carried out in order to establish the association between exposure to violence and the health workers' stress, anxiety and depression levels.

Hence, on the basis of the theoretical data available in the literature and the findings from empirical studies, the hypothesis of our study were determined as bellows:

Hypothesis 1: There is a significant difference between frequency of exposure to violence and level of stress.

Hypothesis 2: There is a significant difference between frequency of exposure to violence and level of anxiety.

Hypothesis 3: There is a significant difference between frequency of exposure to violence and level of depression.

3. Methodology

3.1. Population and Sample

The population of the study consists of 688 health care employees which work in a training and research hospital located in the Cappadocia region of Turkey. Complete count method was preferred and used as the sampling method. The questionnaire forms were conducted between April 2016 and October 2016. Through the hospital management, questionnaire forms were sent to various wards and departments in a number which matched up with the number of employees. Due to some limiting factors in this study, such as voluntary participation to the survey and time/cost overrun, total 245 participants were replied to the questionnaire during the survey process. Also, 8 questionnaire forms were not included in the analysis due to various reasons and evaluations were made using 237 questionnaire forms (left).

3.3. Scales

Violence: The Violent Incident Form-VIF developed by Arnetz (1998) was used in order to determine the frequency of being exposed to violence and the correspondent factors. This form is used extensively in Turkish literature (Aytac, Bozkurt, Bayram, Bilgel, 2009). This form with 13 items includes 6 demographic questions regarding to gender, age, marital status, occupation, work duration and total work experience of the people who were exposed to violent act. Besides, it includes some other questions such as the frequency of being exposed to violence, kind of violent act, gender and identification of the perpetrator, location where violence occurs, reactions to violence, consequences of violence, status of victim (working alone or not) and anticipating violence or not.

Stress, Anxiety, Depression: In order to determine the mood status of health care professionals following violence acts, the Depression, Anxiety and Stress Scale (DASS) which was developed by Lovibond and Lovibond (1995) and adapted into Turkish by Uncu, Bayram and Bilgel (2006) was used. The scale consists of 42 items and measures depression, anxiety and stress symptoms of the workers who were exposed to violence. Each symptom in the scale is measured with 14 items.

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Participants gave their replies regarding their mood state in 4 categories ranging between "never" and "almost always". (Reliability: Stress 0,90 – Anxiety 0,75 - Depression 0,91)

4. Results

4.1. Participants and Violents Acts

The majority of the participants (67.1%) consist of female workers and the rate of married respondents is 49.8%. The health workers who replied to the questionnaire are mostly aged in 31-40 ranges with a rate of 62.4%. The total work experience of the participants is as follows: 32.9% for less than 5 years; 33.3% for 6-10 years; 16.1% for 11-20 years; 17.7% for 20 years and more. Of the respondents, the biggest occupational group was doctors with a rate of 29.5%. The biggest rate for the years of work in the hospital is 47.3% in the 1-5 years group. Socio-demographic characteristics of the participants were given in Table 1.

Table 1. Sociodemographic characteristics of the participants

CATEGORIES	f	%	CATEGORIES	f	%
Gender			**Marital Status**		
Male	78	32.9	Single	119	50,2
Female	159	67.1	Married	118	49,8
Age Group			**Total Experience (years of work)**		
18-30 years	51	21.6	Shorter than 5 years	78	32,9
31-40 years	148	62.4	6-10 years	79	33,3
41-50 years	37	15.6	11-20 years	38	16,1
51+ years	1	0.4	Longer than 21 years	42	17,7
Occupation			**Institutional Experience (years of work)**		
Physician	70	29.5			
Nurse	47	19.8	Shorter than 1 year	48	20.3
Medical secretary	40	16.9	1-5 years	112	47.3
Administrative Personnel	11	4.6	6-10 years	6	2.5
Health Technician	37	15.6	Longer than 10 years	71	30.1
Other	32	13.6			

The findings of exposure to violence, frequency of violence, kind of violence, gender and identification of perpetrator were given in Table 2. According to the data given in this table, it is clear that 85.2% of the participants were exposed to violence in the past year. This finding matches up with the other findings obtained in similar studies (Artnev et al., 1996; Şenuzun and Karadakovan, 2005). Of the participants experienced violence at workplace, 47.5% stated exposure to verbal abuse, 34.7% stated exposure to physical assault and 17.8% stated exposure to both verbal abuse and physical assault. And the most striking finding from our research is that 82.7% of the perpetrators were male. This data can be commented as males have more tendencies to commit violence and trust their physical power than females. On a separate note, it is clear from the table that violence by co-workers is very low with a rate of 2.0%.

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Table 2. Findings of violent acts

	f	%		f	%
Frequency of exposure (to violence in the past year)			**Kind of violent act**		
No exposure	35	14.8			
1 time	134	56.6	No violence	35	14.8
2 times	65	27.4	Verbal abuse	96	40.5 (47.5) *
3 times	2	0.8	Physical assault	70	29.5 (34.7) *
4 times	-	-	Verbal + Physical	36	15.2 (17.8) *
5 times or more	1	0.4			
Gender of Perpetrator/Offender			**Identification of Perpetrator/Offender**		
Male	167	82.7	Patient	99	49.0
Female	35	17.3	Patient's Relative	99	49.0
			Co-worker	4	2.0

* When the 35 participants who didn't experience any violence were excluded.

When the kind of violent act and the gender of victim are evaluated (see Table 3), it will be seen that male workers (62) are exposed to verbal abuse and female workers (66) are exposed to physical violence. The number of female workers who were exposed to verbal abuse is 34 and the number of male workers who were exposed to physical assault is 4. All of 36 workers who were exposed to both verbal abuse and physical assault are women. The main reason of this situation can be that women are more vulnerable to violence than men.

Table 3. Association between gender of victim and kind of violent act.

	Verbal Abuse		Physical Assault		Verbal Abuse and Physical Assault		TOTAL	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Male	62	64.6	4	5.1	0	0	66	32.7
Female	34	35.4	66	94.9	36	100	136	67.3
TOTAL	96	100	70	100	36	100	202	100

4.2. Mean, Standart Deviation and Reliability Values of Study Variables

This study was carried out in order to establish the association between exposure to violence and the health workers' stress, anxiety and depression levels. Accordingly, exposure to violence is the independent variable of the study and stress, anxiety and depression are the dependent variables of the study. The descriptive statistics and the reliability values of the study were given in Table 4. The reliability values of the scales are over 0.70 and these values meet minimum acceptable standards of such a study. Although the minimum limit of reliability is determined as 0.70 in the literature, there are also some exploratory studies setting this limit as low as 0.60 (Hair et al., 1998: 118).

Table 4. Mean, Standart Deviation and Reliability Values of the Variables

Variables	Mean	Standard Deviation	Reliability
Stress	2.08	0.52	0.90
Anxiety	1.80	0.61	0.75
Depression	1.99	0.42	0.91

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4.3. Findings regarding the association between the frequency of violence and stress, anxiety and depression levels.

One-way ANOVA analysis was run in order to determine the significant differences between the frequency of exposure to violence and the stress, depression, anxiety levels of health care workers. As seen in Table 2, the numbers of the participants who were exposed to violence 3 and 5 times are 2 and 1 respectively. In the past year, there have been no participants who were exposed to violence 4 times. On a separate note, the number of the participants who were exposed to violence 3, 4 or 5 times were not included in the analysis due to very small numbers and lack of their representativeness.

Table 5. One-way analysis of the study group in terms of frequency of exposure to violence and stress level

Frequency of exposure (to violence)	Variance Source	KT	Sd	KO	F	p
No exposure Once Twice	Between the groups	29,137	3	9,712	64,495	,000 **
	Within the group	35,087	233	0,151		

** p<0.01

Finding presented in table 5 suggests that there is a significant difference between frequency of exposure to violence and stress levels (F=64,495; p<0.01). Therefore, the hypothesis 1 was accepted. In order to test the homogeneity of the variances Levene's test was made and it was found that the variances were not homogeneous (L=6,986; p<0.05). After finding this result, Games-Howell multicomparison test was run in order to compare the variables due to the fact that the variances are not homogeneous and the samples were not equal (Games, Keselman and Clinch, 1979).

Table 6. Games –Howell test comparing frequency of violence and stress levels.

	Frequency of Violence	Mean Difference	p
No exposure	Once	-0,99616	0,000
	Twice	-0,60659	0,000
Once	No Exposure	0,99616	0,000
	Twice	0,38957	0,000
Twice	No Exposure	0,60659	0,000
	Once	-0,38957	0,000

According to the data in Table 6, there is a significant difference between the stress levels of the workers who weren't exposed to violence and the stress levels of the workers who were exposed to violence once and twice. The stress levels of the participants who weren't exposed to violence are lower than the stress levels of the participants who were exposed to violence. Also, it is understood from the data that the stress levels of the workers who were exposed to violence twice are lower than the ones who were exposed to violence once.

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Table 7. One-way ANOVA analysis of anxiety levels and frequency of violence

Frequency of violence	Variance Source	KT	Sd	KO	F	p
No exposure Once Twice	Between the groups	34,924	3	11,641	50,979	,000**
	Within the group	53,207	233	0,228		

** p<0.01

According to the data in Table 7, there is a meaningful difference between frequency of violence and anxiety levels (F=50,979; p<0.01). This finding supports the hypothesis 2. In order to establish the source of this meaningful difference, homogeneity test of group variances was performed with Levene's test and it was found that the variances were not homogeneous (L=31,576; p<0.05). Due to the fact that the samples are not equal (Games, Keselman and Clinch, 1979), Games-Howell, a post-hoc multiple comparisons technique, was performed in order to make multiple comparisons between the variables.

Table 8. Games –Howell test comparing frequency of violence and anxiety levels.

	Frequency of violence	Mean Difference	P
No exposure	Once	-0,92968	0,000
	Twice	-0,29074	0,000
Once	No exposure	0,92968	0,000
	Twice	0,63895	0,000
Twice	No exposure	0, 29074	0,000
	Once	-0,63895	0,000

Table 8 shows that there is a meaningful difference between the anxiety levels of the workers who weren't exposed to violence and the ones who were exposed to violence once or twice. The stress levels of the workers who were not exposed to violence are lower than that of the ones who were exposed to violence. Also, the anxiety levels of the workers who were exposed to violence once are different than that of the ones who were exposed to violence twice.

Table 9. One-way ANOVA analysis of depression levels and frequency of violence

Frequency of violence	Variance Source	KT	Sd	KO	F	p
No exposure Once Twice	Between the groups	21,000	3	7,000	76,628	,000
	Within the group	21,285	233	0,091		

Table 9 presents that there is a significant difference between the variable of frequency of violence and the variable of depression levels (F=76,628; p<0.01). This finding supports the hypothesis 3. In order to establish the source of this meaningful difference, homogeneity test of group variances was performed with Levene's test and it was found that the variances were not homogeneous (L=27, 521; p<0.05). Due to the fact that the samples are not equal and the variances are not homogeneous (Games, Keselman and Clinch, 1979), Games-Howell, a post-hoc multiple comparisons technique, was performed in order to make multiple comparisons between the variables.

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Table 10. Games–Howell test comparing frequency of violence and depression levels.

	Frequency of violence	Mean Difference	p
No exposure	Once	-0,86988	0,000
	Twice	-0,69513	0,000
Once	No exposure	0,86988	0,000
	Twice	0,17474	0,000
Twice	No exposure	0, 69513	0,000
	Once	-0,17474	0,000

Table 10 indicates that there is a significant difference between the depression levels of the ones who were not exposed to violence and the depression levels of the ones who were exposed to violence once or twice. The depression levels of the ones who were not exposed to violence are lower than that of the ones who were exposed to violence. Furthermore, the same table shows that the depression levels of the workers who were exposed to violence twice is lower than that of the workers who were exposed to violence once.

5. Conclusion, Discussion and Recommendations

Violence is a major concern in today's work life. And health sector is the leading one among the sectors, which work-related violence is frequently observed. Violence creates negative effects especially on victim's psychological health. Also, psychological problems can affect victim's physical health afterwards. Furthermore, health care professionals are on a knife-edge due to the probability of violence by patients and patient's relatives in hospitals. As a result, all these things affect negatively the work commitment of health care professionals, the examination and treatment procedures of patients and the service quality offered to patients (Pınar, 2012: 322).

This study was conducted in order to investigate the effects of violent acts on stress, anxiety and depression levels of health care workers. The sample of the study consisted of the employees who worked in a state hospital located in the Cappadocia region of Turkey.

In a systematic review of total 29 studies investigating violence committed to health care professionals with the samples from various parts of Turkey, Özcan and Bilgin (2011:1449) found that the frequency of verbal abuse varied between 46.7% and 100% and the frequency of physical assault varied between 1.8% and 52.5%. This study covered the ones, which were conducted between the dates of January 1999 and July 2010. Taylor and Rew performed a similar systematic review on the same topic in order to collect the findings of total 16 studies, which carried out in various hospital EDs of the USA, Europe and Australia between January 2004 and June 2009. Due to the different purposes of the studies reviewed, various findings were found. These can be summarized as "% 50 of the nurses stated that workplace violence was just a routine of their professions", "Nurses feel their selves less safe than any other staff", "There is 2-5 times higher assault rate in small hospitals when compared to large ones", "Nurses faced 27% physical assault and 70% verbal assault during the study period", "Over study period, 67% of nurses and 51% of doctors stated at least one physical assault", "81% of nurses faced verbal assault and 26% faced physical assault", "Rate of sexual assault/rape reported by nurses is 8.6%", "88.2% of assailants are patients and 64.7% are male", "the contributing factors in violent acts, cited by the staff are 52.3% alcohol, 5% illegal substances, 11.9% wait time and 13.8% suicidal ideation", "Most doctors experienced verbal and physical assaults with the rates of 74.9% and 28.1% respectively", "Female Doctors, which had less experience, reported more workplace violence", "Doctors reacted to workplace violence with calling security escort (31%), purchasing gun (18%), knife (20%), providing concealed handgun license (13%), and mace (7%)", "unarmed threats in ED generally

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occur on Saturdays between 2400 to 0400" (Taylor and Rew, 2010: 1075-1077). In our study, it was found that 40.5% of health care workers were exposed to verbal abuse; 29.5% of health care workers were exposed to physical assault; and 15.2% of health care workers were exposed to both verbal abuse and physical assault. These findings prove that 85.2% of the health care professionals who replied to the questionnaire were subjected to violence in the past year. So, our study yields similar results with the ones carried out on the same issue.

82.7% of the perpetrators are male. Moreover, female workers, when they are compared to male workers, are subjected to much more physical violence. In our study sample, 66 of 70 physical violent acts and all of 36 verbal abuse and physical assaults committed to female health care workers in the past year. As stated before, the main reason of this situation can be shown as women's high vulnerability to violent acts. Our findings are similar with the ones obtained by other studies in the corresponding literature (Artnev et al., 1996; Şenuzun and Karadakovan, 2005; Ayrancı et al., 2006).

Our findings suggest that stress, anxiety and depression levels of the participants who were exposed to violence are much more higher than the ones who were not exposed to violence. Moving from this fact, it can be said that every kind of violence, regardless of its form, leads to psychological problems of stress, anxiety and depression on individuals. An interesting point is that stress, anxiety and depression levels of the participants who were exposed to violence twice are found lower than the ones who were exposed to violence once. This situation can be explained by the psychological preparation of the victims to violent acts, professional assistance they get, learning how they react to a violent act, and experience of tolerating such kind of acts.

Differences suggested in this study between frequency of violence and stress, anxiety and depression levels are similar to the ones provided by other studies in the literature (Wieclaw et al., 2006; Kamchuchat et al., 2008; Gates et al., 2011). For example, Dursun et al. (2011) carried out a study on taxi drivers and found that the stress, anxiety and depression levels of the drivers who were exposed to verbal abuse were higher than the ones who were not exposed to such kind of violence. But, these authors stated that the difference was not statistically significant. However, the same authors established that there was a statistically meaningful difference between the stress, anxiety and depression levels of the drivers who were exposed to physical assault and the ones who were not exposed to such kind of violence.

When the negative impacts of violence on individuals and institutions are taken into consideration, the importance of strategy policies minimizing or eliminating violent acts will become prominent. These policies should be evaluated as a whole including individual, institutional and national aspects of the issue. Cooper and Swanson (2002: 64-68) gathered these policies under the titles shown below.

Measures for preventing the violence by patient and patient's relative

Establishing a written program and policy for occupational safety: Within this context, a clear definition should be made for violence, the nature and extent of violence should be determined, top management should establish a zero-tolerance policy to violence, violent acts should be immediately reported to police, a security plan should be prepared for preventing workplace bullying, employees should be educated on how they react to violence, reporting violent acts should be encouraged and finally an intervention (anti violence) team should be organized.

Setting up anti-violence groups: These groups to be set up should examine security problems, make risk evaluations, investigate violent acts and suggest recommendations to top management for preventing violence.

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Training programs for employees: The content of these programs should be prepared in a way that it should provide the participants knowledge and skills to learn how to defense themselves without giving any harm to the perpetrator; anticipate a potential violent act and cut down on violent acts in workplace.

Identifying and declaring potentially violent patients and other individuals: The people who are inclined to assault health worker should be monitored and the individuals who are involved in previous violent acts should be identified and declared.

Determining and preventing physical risk factors:

Using metal detectors, panic and alarm buttons, proper lightening, security access cards; keeping aggressive people in secure rooms; watching high-risk areas such as patient entrance, patient admittance, waiting rooms and other areas 7/24 with security cams, removing materials which can be used as a weapon by patients and patient's relatives such as oxygen tubes, vases, and stabbing materials are some of the things which could be done in this context.

Managerial control and performance monitoring: All the violent acts should be reported to the police and recorded appropriately. Other than these routine procedures, a secure working environment should be provided for health care staff, standard policies and procedures should be established for risky situations, patient waiting time should be decreased, patient's relatives should be informed about the status of their patients, hospital management should provide support to employees in any situation violent act occurs, patient's relatives shouldn't be allowed to enter in high-risk areas such as emergency rooms.

Redesigning positions for minimizing stress factors: Heavy workload, understaff, long patient waiting times, the negative perception of patient and patient's relatives regarding the corresponding institution can trigger the violent acts in health sector. Therefore, health service should be redesigned in a way that it satisfies everyone from patients/patient's relatives to health care professionals.

Measures for preventing violence by coworkers

Establishing a written policy including zero-tolerance to violence:

The policy should clearly states which behaviors will be accepted as violent acts. In the case of violence, all the actions, including but not limited to, reporting procedures, conflict resolving process, legal sanctions for the perpetrators should be written in general terms. Furthermore, within this policy, there should be the rights of victims and the support provided by the institution.

Communicating with the people who can resolve problems: In order to provide a professional counseling and guidance to victim, counselor should be authorized and have legal and educational qualifications in the corresponding field.

Changing job design: Improving autonomy and flexibility in job, establishing clear job descriptions and an internal control process, developing a coordination and support unit for the newcomers and the rotating staff are the things which should be assessed under this topic. One more point is that employees should take an active role in this job design process.

Providing leadership training to hospital officers: The contents of this training should be the importance of early intervention, conflict resolution techniques or skills, and coaching in patient management.

Determining and preventing physical risk factors: Most of the recommendations suggested for preventing violence by patients and patient's relatives are also valid for this title.

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