

From Patient Perspective: Violence Against Physician

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ABSTRACT

Objective: Violence has recently increased in almost every facet of life, but more noticeable in workplaces. Doctors and other healthcare professionals are among the most frequently targeted and victimized professionals. Healthcare professionals are in danger due to multiple types of violence that can occur in healthcare institutions, resulting from patients, patients' family, or anyone else; threatening conduct, verbal threats, financial abuse, physical abuse, and sexual assault. The current study aims to understand how patients perceive the violence encountered by healthcare workers and to clarify whether there was or wasn't a connection between the participants' ideas and their levels of aggression. Finding out what the patients believe about violence against doctors is important to create action plans to implement these attitudes in a non-violent way.

Method: The volunteers who applied to Family Health Centers by any reason were required to complete a survey that asked them questions about their demographics, the subject, and the State Trait Anger Scale (STAS). According to the research hypothesis and analysis method, the sample size analysis in the G*Power program determined that a total of 305 participants were the target population for the study.

Results: This study was conducted with 351 women, 456 participants in total. To “approve of violence” men were 1.41 times more likely than women, aged “≤31.5 years” were 2.227 times more likely than those aged “>31.5 years.” and the unemployed were 2.74 times more likely than the employed. The results of the “Phi and Cramer’s V” Test, which indicate the level of correlation between two variables, revealed a significant correlation between “Attributing Violence to Illness” and “Recourse to Violence in Healthcare” (Phi = 0.163, p < 0.001).

Conclusion: The results of our study extensively reveal groups with potential risks and associated parameters, and thus can shed light on measures and counselling services to be taken to address the issue.

Keywords: Patient perspective, healthcare, physician, Turkey, violence

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INTRODUCTION

The World Health Organization describes violence as “the use of physical force, the use of force or threats against oneself, another person, a group or community in a way that may result in death, injury, mental injury, or developmental disability.” Violence occurs in various forms depending on where it arises from and how it is used. person, a group. It is possible to discuss various forms of violence, including verbal, spiritual, and physical (1)

In recent years, nearly every aspect of life has become more violent, and workplace violence has worsened in particular. Most victims and targets of workplace violence are doctors and other healthcare professionals. Violence arising from the patient, patient’s relatives, or any other individual poses a risk to the health worker; threatening behavior, verbal threat, economic abuse, physical abuse, and sexual abuse are examples of violence that can occur in medical facilities. Employees, patients, and their families, as well as other members of the institution, are impacted by this situation (1,2)

Physicians and other healthcare professionals frequently communicate with patients or their families. In developing nations, nearly 88% of health workers have reported that they have been exposed to violence at work (3,4) According to the studies, , only similar crimes like injuries were considered violent in medical facilities, and other incidents were not fully reported (5) These problems have detrimental effects on patients, healthcare professionals, and entire organizations. Anxiety, burnout, anger, absenteeism, a desire to change jobs, and a lack of professional experience are common among healthcare professionals (6)

The “Occupational Violence in the Health Sector” report claims that in our nation, one-fourth of all violence takes place in the health sector and that 3%–17% of health workers experienced physical and 27%–67% verbal abuse (7,8). This rate was 45% in a Turkish Medical Association (TTB) study on the frequency of violence among healthcare workers. Owing to the increase in violence, health workers are affected financially and morally (8).

According to a 2002 joint report by the World Health Organization (WHO), the International Labor Organization (ILO), and the International Council of Nurses (ICN) titled “Workplace Violence in the Health Sector,” more than half of health workers have experienced violence at work (9,10) An examination of the frequency of violence against health workers in different countries in the abovementioned joint report, the percentage range was between 3%–67%, workers experienced physical, verbal, and sexual abuse, respectively (9,10) Incidents of violence among healthcare workers are reportedly 16 times higher than among workers in other sectors (11) In a study on the frequency of violence, more than half of health workers experienced violence, and only % 67 of the victims reported it (12) According to a meta-analysis of 29 studies on violence against healthcare workers in Turkey, 46.7%–100% healthcare professionals experienced verbal violence, whereas 1.8%–52.5% were exposed to physical violence (12)

There are several reasons for the rise in violence in healthcare facilities. Risk factors for violence can be grouped as patient related and health system related. To exemplify, not allocating enough time for patients, not having empty beds in wards, not providing patients with the bare minimum of comfort and safety are patient related factors and being under the influence of alcohol or drugs, having a psychiatric illness, and dissatisfaction with treatment are considered risk factors related to health system (13 - 15)

The purpose of the present study was to investigate the patients’ perspective of the violence experienced by healthcare workers, and to elucidate the presence or absence of a relationship between the thoughts of the individuals participating in the study and their aggression levels. Action plans can be prepared for patients to prefer non-violent ways of expression by learning their thoughts on violence against physicians.

MATERIAL and METHODS

In the present cross-sectional analytical study, participants aged 18 years were included. The volunteers who applied to Dokuz Eylül University Educational Family Health Center for any reason or benefited from health services were instructed

to complete a questionnaire that included demographic information, questions related to the subject, and the State Trait Anger Scale (STAS). This study was held in Izmir in June 2018- December 2018.

This questionnaire evaluated the following parameters: sex, marital status, age, education level, living arrangements, employment status, and place of residence, presence of chronic diseases, ongoing drug use, and psychological disorders.

The questionnaire on the topic included inquiries related to exposure to violence, participation in social violence, domestic violence, justification of violence against one’s own body, use of violence against one’s own body, hearing about violence against one’s own body, seeing violence against one’s own body, being a member of the medical profession in one’s family, and reasons for violence against one’s own body.

After receiving participants’ informed consent, the data for this study were collected via a questionnaire by face-to-face interview by random sampling.

State Trait Anger Scale (STAS): The State Trait Anger Scale (STAS) was developed by Spielberger (1983) and adapted into Turkish by Özer (1994) (16,17) This scale has four subscales and is scored using the 4-point Likert method; furthermore, it has a total of 34 items. The subscale for trait anger (SL-anger) consists of ten items. However, the Anger Expression Styles (anger-style) subscale has 8 items in each of its 24 subscales, which include anger-inside, anger-out, and anger-control subscales. In STAS, there is no reverse item. The SL-Anger subscale offers a range of scores between 0 and 10, with 40 being the highest possible score. The anger-in, anger-out, and anger-control subscales of the anger-style subscale allow them to score between 8 and 32 points (16) In the reliability studies performed by Özer (1994), the internal consistency values of the scales were $\alpha = .67$ and $.92$; anger-control $\alpha = .80$ – $.90$, anger-outside $\alpha = .69$ – $.91$, and anger-inside $\alpha = .58$ – $.76$. The total internal consistency coefficient (Cronbach's Alpha) value for this study was $.72$, and the research subscale values were $.79$ for SL-Anger, $.70$ for anger-in, $.78$ for anger-out, and $.77$ for anger-control (16,17)

Inclusion and Exclusion Criteria for Research

Inclusion criteria: age of ≥ 18 years, agreeing to participate in the study.

Exclusion criteria: the presence of a psychiatric/neurological disease at a level that would affect communication.

Analyses: According to the research hypothesis and analysis method, the sample size analysis in the G*Power program determined that a total of 305 participants were the target population for the study. Our study was approved by the Dokuz Eylül University Non-Interventional Research Ethics Committee on September 28, 2017, with decision number 2017/23-12 and protocol number 3578-GOA.

Data were analyzed using the SPSS 15.0 program. The mean, standard deviation and percentage was used to evaluate participants’ sociodemographic characteristics. Chi-square and student's t-test, “Binary Logistic” model were used and $p < 0.05$ was accepted as significant.

RESULTS

General Descriptive Findings

A total of 456 people participated in this study (105 men and 351 women). Women generally had a higher age variable than men. Men worked at a higher rate than women. Women were more likely to have a healthcare professional in their family. Women had a higher rate of continuous drug use. **Table 1** displays additional descriptive findings.

Violence-Related Results

Women were more likely than men to participate in acts of violence in society. **Table 2** lists additional characteristics connected to violence.

STAS Scores of the Respondents

In the study group, SL-anger, anger-out, and anger-in scores were higher in the female respondents who approved of violence (**Table 3**).

Table 1. General Descriptive Characteristics of the Group

	Men		Women		Total		p
	N	Mean ±SD, (%)	N	Mean ±SD, (%)	N	Mean ±SD, (%)	
Marital status							
Married	75	(71.4)	247	(70.4)	322	(70.6)	0,124
Single	25	(23.8)	66	(18.8)	91	(19.9)	
Widowed	5	(4.8)	38	(10.8)	43	(9.5)	
Age (years)							
Married	75	42.07 ± 9.98	247	42.69 ± 11.24	322	42.55 ± 10.95	0,665
Single	25	29.00 ± 6.78	66	32.70 ± 11.61	91	31.68 ± 10.60	0,065
Widowed	5	41.40 ± 8.32	38	48.97 ± 10.63	43	48.09 ± 10.59	0,135
Total	105	38.92 ± 10.74	351	41.49 ± 12.14	456	40.90 ± 11.87	.038*
Social support							
Family	91	(86.7)	307	(87.5)	398	(87.3)	0,056
Friends	6	(5.7)	6	(1.7)	12	(2.6)	
alone	8	(7.6)	38	(10.8)	46	(19.1)	
Educational Status							
Primary	11	(10.5)	32	(9.1)	43	(9.4)	0,535
Secondary	14	(13.3)	47	(13.4)	61	(13.4)	
Higher	65	(61.9)	196	(55.8)	261	(57.2)	
Bachelor	13	(12.4)	61	(17.4)	74	(16.2)	
PhD	2	(1.9)	15	(4.3)	17	(3.7)	
Accommodation							
Village	3	(2.9)	16	(4.6)	19	(4.2)	0,182
District	15	(14.3)	30	(8.5)	45	(9.9)	
Province	87	(82.9)	305	(86.9)	392	(86.0)	
Working Status/Occupation							
Yes	87	(82.9)	232	(66.1)	319	(70.0)	0,002
No.	18	(17.1)	119	(33.9)	137	(30.0)	
Having a relative who is a healthcare worker							
Yes	48	(45.7)	204	(58.1)	252	(55.3)	0,025
No.	57	(54.3)	147	(41.9)	204	(44.7)	
Diagnosed Chronic Disease							
Yes	19	(18.1)	95	(27.1)	114	(25.0)	0,083
No.	86	(81.9)	256	(72.9)	342	(75.0)	
Continuous medication							
Yes	20	-19	107	(30.5)	127	(27.9)	0,03
No.	85	(81.0)	244	(69.5)	329	(72.1)	
Diagnosed with a Psychological Disease							
Yes	7	(93.3)	9	(97.4)	16	(96.5)	0,089
No.	98	(6.7)	342	(2.6)	440	(3.5)	

Table 2. Violence-Related Characteristics of the Groups

	Men		Women		Total		p
	Number	(%)	Number	(%)	Number	(%)	
Exposure to violence							
No.	76	(72.4)	219	(62.4)	295	(64.7)	0,167
Yes	12	(11.4)	58	(16.5)	70	(15.4)	
Yes (Multiple)	17	(16.2)	74	(21.1)	91	(20.0)	
Being Involved in Violence in the Community							
No.	66	(62.9)	275	(78.3)	341	(74.8)	0,001
Yes	39	(37.1)	76	(21.7)	115	(25.2)	
Case of Domestic Violence							
No.	82	(78.1)	257	(73.2)	339	(74.3)	0,602
Yes	11	(10.5)	46	(13.1)	57	(12.5)	
Justifying Violence in Healthcare							
No.	100	(95.2)	339	(96.6)	439	(96.3)	0,524
Yes	5	(4.8)	12	(3.4)	17	(3.7)	
Using Violence in Health Care							
No.	103	(98.1)	344	(98.0)	447	(98.0)	1
Yes	2	(1.9)	7	(2.0)	9	(2.0)	
Witnessing Violence in Health							
No.	79	(75.2)	246	(70.1)	325	(71.3)	0,592
Yes	12	(11.4)	49	(13.4)	61	(13.4)	
Yes.Multiple	14	(13.3)	56	(16.0)	70	(15.4)	
Sources of News about Violence in Health							
Social environment	1	(1.0)	3	(0.9)	4	(0.9)	0,248
Media	69	(65.7)	199	(56.7)	268	(58.8)	
Healthcare Workers	35	(33.3)	149	(42.5)	184	(40.4)	
Opinion on the Cause of Violence in Healthcare- Patient Attitudes							
No.	18	(17.1)	75	(21.4)	93	(20.4)	0,346
Yes	87	(82.9)	276	(78.6)	363	(79.6)	
Opinion on the Cause of Violence in Healthcare–Inadequate Healthcare Institution							
No.	79	(75.2)	256	(72.9)	335	(73.5)	0,639
Yes	26	(24.8)	95	(27.1)	121	(26.5)	
Opinion on the Cause of Violence in Healthcare–Attitudes of Healthcare Workers /Doctor							
No.	98	(93.3)	330	(94.0)	428	(93.9)	0,798
Yes	7	(6.7)	21	(6.0)	28	(6.1)	
Opinion on the Cause of Violence in Healthcare–Security Gap							
No.	77	(73.3)	253	(72.1)	330	(72.4)	0,801
Yes	28	(26.7)	98	(27.9)	126	(27.6)	
Opinion on the Cause of Violence in Healthcare–Healthcare Policies							
No.	101	(96.2)	327	(93.2)	428	(93.9)	0,257
Yes	4	(3.8)	24	(6.8)	28	(6.1)	
Opinion on the Cause of Violence in Healthcare–General Social Issue							
No.	104	(99.0)	348	(99.1)	452	(99.1)	1
Yes	1	(1.0)	3	(0.9)	4	(0.9)	

Table 3: STAS Scores of Respondents by Approval/Disapproval of Violence in Healthcare

	Disapprv of ViHC		Approving of ViHC		Total		p
	Number	Avg ± SD	Number	Avg ± SD	Number	Avg ± SD	
STAXI-Trait Anger							
Male	100	19.25 ± 6.37	5	22.40 ± 5.94	105	19.40 ± 6.35	.282
Female	339	17.72 ± 5.01	12	26.08 ± 11.12	351	18.00 ± 5.51	.025
Overall	439	18.07 ± 5.38	17	25.00 ± 9.84	456	18.32 ± 5.75	.011
STAXI–Anger-In							
Male	100	17.16 ± 4.32	5	15.40 ± 5.68	105	17.08 ± 4.38	.383
Female	339	16.59 ± 4.42	12	18.50 ± 5.78	351	16.66 ± 4.47	.146
Overall	439	16.72 ± 4.39	17	17.59 ± 5.75	456	16.75 ± 4.45	.431
STAXI–Anger-Out							
Male	100	15.34 ± 4.69	5	18.80 ± 7.19	105	15.50 ± 4.84	.120
Female	339	14.38 ± 5.38	12	19.58 ± 5.87	351	14.56 ± 4.45	.024
Overall	439	14.60 ± 4.36	17	19.35 ± 6.74	456	14.78 ± 4.55	.062
STAXI - Anger Control							
Male	100	23.28 ± 5.44	5	20.80 ± 3.35	105	23.16 ± 5.38	.317
Female	339	22.94 ± 5.45	12	19.58 ± 6.46	351	22.83 ± 5.51	.038
Overall	439	23.02 ± 5.44	17	19.94 ± 5.64	456	22.91 ± 5.48	.585

Analytical Findings

Significance of the Model

A research design aiming to analyze the relationship between "Justification of Violence in Healthcare" (dependent variable) and various independent variables (Gender, Marital Status, Living With, Education, Place of Residence, Chronic Patient, Continuous Medication, Psychiatric Patient, Severe Exposure ,Societal Violence , Domestic Violence ,Witnessing Health Violence, Source of Health Violence , Healthcare Worker in Family,Freq.Health Violence - Soc.Psych., Freq.Health Violence - Soc. Cult. as categorical independent variables, Age, Scale-Trait Anger, Scale-Inward Anger, Scale-Outward Anger, Scale-Anger Control as numerical independent variables) using a binary logistic regression model.

1- Determination of variables that have a marginally significant effect by analyzing the combined effects of "Demographic variables", "Survey variables" and "Scale scores" variables that may influence a. "Justification of Violence in Healthcare" and b. "Violence in Healthcare Application/Non-Application" (Dependent Variable) by using Binary Logistic Regression.

2- To determine the more detailed effect of numerically significant variables in the model, a. first, finding the cut-off values based on sensitivity and specificity values obtained from ROC analysis. b. Subsequently, the numerical variables are divided into two groups based on this value and converted them into categorical variables. c. Examine the relationship between the dependent and converted categorical variables using Chi-Square analysis.

3- The relationship of the categorical variables found to be significant in the model with the dependent variable is planned to be analyzed using the "Chi-Square" method.

Ancillary Analysis

Additional explanatory analyses were performed for the marginal variables, which appeared to have significant effects on the dependent variable "Approval of Violence."

According to the "Chi-Square" analysis result shows that men were 1.41 times more likely to "approve of violence" than women, widowed respondents were 2.19 times more likely to "approve of violence" than single respondents. For the "age" variable, those aged " ≤ 31.5 years" were 2.227 times more likely to "approve of violence" than those aged " > 31.5 years." and also that the unemployed were 2.74 times more likely to "approve of violence" than the employed. Analysis based on the variables "Chronic Illness" and "Approval of Violence", those without any chronic illness were 2.57 times more likely to "approve of violence" than those with a chronic illness. Another result indicated that those not on regular medication were 1.265 times more likely to "approve of violence" than those on regular medication. Individuals whose news source was household members were 32.57 times more likely to "approve of violence" than those whose news source was "media." The respondents whose news source was household members were 32.57 times more likely to "approve of violence" than those whose news source was "healthcare workers." And more over those who resorted to domestic violence were 1.215 times more likely to

"approve of violence" than those who did not. Who resorted to violence in society were 1.651 times more likely to "approve of violence" than those who did not. And that those who did not consider healthcare institutions to be the cause of violence in healthcare were 2.78 times more likely to "approve of violence" than those who considered healthcare institutions to be the cause of violence in healthcare that those who did not attribute violence in healthcare to security gap were 6.36 times more likely to "approve of violence" than those who attributed violence in healthcare to security gap.

In the male respondents group, those who have not witnessed violence in healthcare were 1.33 times more likely to "approve of violence" than those who have witnessed violence in healthcare. And the unemployed were 3.5 times more likely to "approve of violence" compared to employed respondents.

For married respondents, who have witnessed violence in healthcare (once) were 3.07 times more likely to "approve of violence" than those who have not. However, it was the opposite for those who have witnessed violence in healthcare multiple times; all of them (44 and 0) "disapproved of violence."

For single respondents, who have witnessed violence in healthcare (once) were 2.92 times more likely to "approve of violence" than those who have not. However, it was the opposite for those who had witnessed violence in healthcare multiple times; all of them (13 and 0) "disapproved of violence."

Among those who have witnessed violence in healthcare, those respondents (who have witnessed violence in healthcare) who did not blame violence in healthcare on healthcare institutions were 1.6 times more likely to "approve of violence" than those who blamed violence in healthcare on healthcare institutions. All of the respondents who attributed violence in healthcare to the security gap disapproved of violence in healthcare.

Subscale differences

For the variable "Trait Anger," which is one of the subscales of the anger-related scale we administered as part of the study, those with a score of "29.5 and above" were 15.474 times more likely to "approve of violence" than those with a score "below 29.5."

For the variable "Anger-in," which is one of the subscales of the anger-related scale we administered as part of the study, those with a score of "20.5 and above" were 2.79 times more likely to "approve of violence" than those with a score "below 20.5."

For the variable "Anger-Out," which is one of the subscales of the anger-related scale administered as part of the present study, those with a score of "24.5 and above" were 16.55 times more likely to "approve of violence" than those with a score "below 24.5."

Analytical Findings

To analyze the combined effects of "Demographic variables," "Survey variables" and "Inventory scores" that might have an effect on "Recourse to/Non-recourse to Violence in Healthcare" (Dependent Variable) we divided the group into

two depending on “Recourse to/Non-recourse to Violence in Healthcare” and created a “Binary Logistic” model in SPSS.

Significance of the Model

Our analysis showed that the model was generally significant (Omnibus Test $p < 0.001$).

Explanatory Power of the Model

Observed Nagelkerke's R analysis shows that our model has an explanatory power of 0.867 (% 86.7).

Sensitivity and Specificity of the Model

Our model had 88.9% sensitivity, and 99.8% specificity.

Power of the Model

Power analysis performed using GPower 3.1 revealed 88.9% sensitivity, and 99.8% ($1 - SP = 0.02$) specificity. When these values were evaluated in the GPower program, our model achieved a power of 1.00 (100%) at the alpha level of 0.001.

The model's goodness of fit was assessed using the Hosmer and Lemeshow test, where a p-value of 1 (insignificant) indicated that the model provided a good fit.

Variables and Marginal Effects in the Model

Analysis of the effects of significant independent variables on the dependent variable revealed that the variables Approval of Violence in Healthcare, Trait Anger, Psych. Illness and Cause of Violence-Being Ill/Not Being Ill provided a significant marginal effect.

The results for the relevant variables suggest that “Demographic variables,” “Survey variables,” “Inventory scores” had a significant effect on the dependent variable “Recourse/Non-recourse to violence in healthcare.”

Additional analyses were performed for the marginal variables that were significant for the model.

The analysis based on the variables “Approval of Violence” and “Recourse to Violence” for those who approved of violence in healthcare shows that those who approved of violence in healthcare were 29.273 times more likely to “resort to violence in healthcare” than those who disapproved of violence in healthcare. The level of correlation between two variables is significant between “Approval of Violence” and “Recourse to Violence in Healthcare” ($\Phi = 0.471$, $p < 0.001$).

The analysis based on the variables “Psychological Illness” and “Recourse to Violence in Healthcare” shows that those with a psychiatric illness were 8.837 times more likely to “resort to violence in healthcare” than those without a psychiatric illness. There is a significant correlation between variables “Approval of Violence” and “Recourse to Violence in Healthcare” ($\Phi = 0.144$, $p < 0.002$).

The analysis based on the variables “Attributing Violence in Healthcare to Illness” and “Recourse to Violence in Healthcare” shows that those who did not attribute violence in healthcare to illness were 8.276 times more likely to “resort to violence in healthcare” than those who attributed violence in healthcare to illness. The level of correlation between two variables, revealed a significant correlation between

“Attributing Violence to Illness” and “Recourse to Violence in Healthcare” ($\Phi = 0.163$, $p < 0.001$).

For the variable “Trait Anger,” which is one of the subscales of the anger-related scale we administered as part of the study, those with a score of “33.5 and above” were 147 times more likely to “resort to violence in healthcare” than those with a score “below 33.5.” The level of correlation between two variables, revealed a significant correlation between the score “33.5 and above/below 33.5” and “Recourse to Violence in Healthcare” ($\Phi = 0.568$, $p < 0.001$).

DISCUSSION

Although our study was not a prevalence study which involved collecting information from healthcare workers, 28.8% of the respondents (non-healthcare workers) reported having witnessed violence in healthcare in some way. In addition, nearly all of them stated that they had heard about this issue from news sources. The leading source of news was media (Internet, Television, etc.) with 58.8%. A total of 2% of the respondents stated that they were involved in violence in healthcare. When asked about what causes violence in healthcare, they indicated the attitudes of patients (those receiving service) as the major cause with 79.6%. In this group, 249 respondents (68.5%) mentioned the aggressiveness of patients, 178 respondents (49%) mentioned patients believing themselves to be emergency cases, 136 respondents (37.4%) mentioned patients' refusal to wait in line, 19 respondents (5%) mentioned low education/ignorance factor, and 3 respondents (0.8%) mentioned selfishness as the cause of violence. Security gap came in second place with 27.6%. Furthermore, 6.1% of the respondents blamed healthcare workers for violence. These findings show similarities with other studies and reveal the situation.

Violence in healthcare setting has recently been investigated as an issue of concern in numerous studies. A meta-analysis that compiled studies from several countries reported the prevalence of violent incidents in healthcare to be 61.9% worldwide. Prevalence rates were higher in Asia and North America and in psychiatry and emergency departments (18). In addition, this study demonstrated the presence of a security gap and healthcare workers working alone as crucial risk factors. Additionally, it highlighted the fact that patients and their relatives being under stress was a factor. Other factors reported were inadequate communication between patients and the healthcare providers, long waiting times, crowded waiting areas, lack of confidence, dissatisfaction with the treatment, and patients' unrealistic expectations (18). Other studies on healthcare workers in different healthcare places show similar results (4,6, 19).

In our study, 3.7% of the respondents approved of violence in healthcare. The dependent variable “Approval/Disapproval of Violence in Healthcare” was significantly influenced by some of the the demographic variables including “Sex,” “Age,” “Marital Status,” “Employment Status,” “Presence of a Chronic Illness,” and “Being on Regular Medication,” as well as [Sex=1] * [Empl.=1] interaction. The power of our model in explaining the incident with all these variables was 100%.

In terms of sex, men were 1.41 times more likely to approve of violence than women. The rate of approval was 5% for men and 3.5% for women. A study conducted in another city

of Turkey found that 33.8% of women and 28.1% of men considered resorting to violence against healthcare workers (7). In our study, the rate of responses perceived as potential for resorting to violence was generally lower than the former study. Moreover, unlike the former study, the proportion of men in our study considering using violence was higher than that of women. This difference may be attributable to the study being conducted in a specific region.

Outcomes of the present study demonstrated that a younger age was a risk factor. With a cut-off value of 31.5 years, respondents under that age were 2.227 times more likely to approve of violence than those above. As for marital status, those who were widowed were more likely to approve of violence than those who were married or single. Unemployed respondents were 2.733 times more likely to approve of violence than employed respondents. This rate was 3.5 among male respondents. Those without chronic illness were more likely to approve of violence (2.57 times) than respondents without any chronic illness. We could not find any study in the literature that investigated these variables.

The dependent variable "Approval/Disapproval of Violence in Healthcare" was significantly influenced by some of the survey variables including "News Source," "Recourse to Domestic Violence," "Community Violence," "Cause-Healthcare Institution" and "Cause-Security" as well as by interactions of [SEX=1] * [Witnessing VinHC = Yes.Multiple], [Marital=1] * [Witnessing VinHC = Yes.Multiple], [Marital=2] * [Witnessing VinHC = Yes.Multiple], [Witnessing VinHC = Yes] * [HC Inst=0], [Witnessing VinHC = Yes.Multiple] * [scrt=0].

Analysis of the news source as a variable showed that those using household members as their news source were 29.68 times and 23 times more likely to approve of violence than those using the media and healthcare workers as a news source, respectively. The risk was 1.217 times higher among those who resorted to domestic violence than those who did not. Those who considered healthcare institutions to be the cause of violence in healthcare were 2.78 times more likely to disapprove than those who stated other reasons. Those who stated security gap as the cause of violence were 6.367 times more likely to disapprove than those who stated other reasons. For men, those who have never witnessed violence in healthcare were 1.33 times more likely to approve of violence than those who have witnessed violence in healthcare. All of the respondents who have witnessed violence in healthcare multiple times disapproved. Among the married, those who have never witnessed violence in healthcare were 3.07 times more likely to disapprove compared to those who have witnessed violence once, while all of those who have witnessed violence multiple times disapproved. Among respondents who witnessed violence, those who attributed violence to the inadequacy of healthcare institutions were 1.6 times more likely to disapprove than those who did not attribute violence to the inadequacy of healthcare institutions. Again, among respondents who witnessed violence, all of those who attributed violence to the security gap disapproved of violence.

In one study, participants mentioned long waiting times, crowded waiting areas, and lack of trust in connection with the inadequacy of healthcare institutions (18). In our study, respondents who attributed violence to the inadequacy of

healthcare institutions and to the security gap, and not to healthcare workers, disapproved of violence in general and in different subgroups. This finding further elaborated the perspective of previous studies. We could not find any study in the literature that investigated other variables.

A meta-analysis which compiled studies on violence in healthcare reported higher prevalence rates in Asia and North America and in psychiatry and emergency departments (18). Our study obtained similar results. However, it used a different method in revealing the importance of psychiatric illness in resorting to violence in healthcare; it based this conclusion not on reports of psychiatric departments, but those of respondents.

Detailed analysis of the variable "cause of violence in healthcare-patient" revealed that those who did not blame patients for violence were 8.276 times more likely to resort to violence compared to those who blamed patients for violence. 178 (49%) of the 363 respondents who blamed patients for violence stated that "patients consider themselves to be emergency cases."

A study on the exposure of emergency department personnel to violence in Italy reported that healthcare workers with high numbers of nighttime shifts were exposed to violence more than those with low numbers of nighttime shifts (20). In addition, a meta-analysis which compiled studies on violence in healthcare reported higher prevalences in Asia and North America, and in psychiatry and emergency departments (18). Our study obtained similar results in connection with patients considering themselves to be emergency cases, but it used a different method as it based its conclusion on reports of the respondents, not on reports of emergency departments, revealing that (49%) of those who blamed patients for violence mentioned patients considering themselves to be emergency cases.

The "Trait Anger" score, which is one of the scale scores, significantly affected the dependent variable "Recourse/non-recourse to violence in healthcare." Those who had a score of 33.5 and above were 147 times more likely to resort to violence than those who had a score below 33.5. A study in the literature reports that the diagnosis and treatment of drunk or aggressive patients and family members should be managed in a special manner, and units in charge of patient rights should organize more informative and educational activities on responsibilities of patients; it also qualifies violence in healthcare settings as an important risk factor and an important public health problem with adverse impacts on healthcare efficiency, similar to drugs-alcohol-smoking-HIV/AIDS for the workplace (21). Victims of violence reported that violence was "a problem caused by the aggressor. High anger scores are consistent with this finding (22).

Clinical Benefits of the Study

Our study worked with a large sample to extensively reveal direct and indirect effects in approval of violence in healthcare and resorting to violence in healthcare. At the same time, they addressed quite detailed and varied independent variables, and the models executed based on these variables were highly successful in explaining the dependent variables. Thus, considering the very large study sample used, explanation of the issues at a rate of 100% in terms of

approval of violence and at a rate of 86.7% in terms of resorting to violence, and achieving high sensitivity and specificity (100% and 99.6%) thanks to the effect of the subgroups created and advanced analyses, we believe that the present study provides a significant contribution to the literature on this subject.

Our study followed a two-step sequence: it first addressed the variable of approval, which we think is potentially involved in resorting to violence, and then explained recourse to violence based on the effect of the former. Previous studies have discussed the subject mostly in terms of prevalence and risk status of departments in healthcare. Our study, however, investigated the subject through respondents' eyes, mostly non-healthcare workers, i.e., individuals likely to receive healthcare services. Therefore, it sought to reveal factors that motivate perpetrators of violence. Our study included a number of very original factors that we considered relevant. As we emphasized above, some of these factors are very original and have not been reported in previous studies; these include the effects of approval of violence, opinion about the cause of violence, witnessing violence in person, age, marital status, having a chronic or psychiatric illness, and STAS score categories. Our study thus addressed the gap in knowledge on this subject to some extent. We also think the subgroups created were useful in further elucidating the subject.

We think our results can shed light on other studies on violence prevention in healthcare. These include regulating the relationship between patients and healthcare workers, improving healthcare workers' communication skills, duly reporting incidents of violence, and improving the working environment (23). Another study proposed some reporting, security, administrative and educational measures intended to prevent violence in healthcare (24). Our survey results show that respondents mostly consider patients' attitudes as the cause of violence. In this regard, the most frequently blamed factor is aggressiveness of patients. Security gap comes in second place, which confirms this finding. Our study also explains this issue by reporting concrete results on aggressiveness and anger. Based on this finding, one possible action may be to identify people with high risk by also using this scale in educational and counseling activities for healthcare recipients. In determining high risk, using the other demographic variables and survey questions found in our study, especially for high-risk departments (emergency, psychiatry) might also be useful. Paying particular attention to security services should be considered particularly in case of high-risk groups and for high-risk departments.

In patient-related risks, two more reasons stand out in addition to aggressiveness. These are: patients considering themselves emergency cases and refusing to wait in line. Clarification of the difference between believing self to be emergency cases and actually being an emergency case requires increased use of counseling, guidance and consultant physician services. Although patients' reluctance to wait in line is seen as selfish and an unnecessary attitude, it is important not to overlook psychological factors involved. Waiting in an unfamiliar, noisy, stressful environment as well as being in the same space as bleeding and frighteningly injured patients etc. are potential sources of stress for patients who are not healthcare professionals. This issue can be

managed through various interventions such as designing waiting areas in a way to reduce stress, providing a relaxing background sound preferably in a comfortable environment for waiting, offering tea and coffee or other refreshments, avoiding contact with other patients as much as possible, and providing active information as to when it will be their turn. It would also be beneficial to inform patients about various issues of interest, to establish a patient representative office, and to allocate sufficient time and resources on this issue.

The results of our study extensively reveal groups with potential risks and associated parameters, and thus can shed light on measures and counseling services to be taken to address the issue.

Limitations of the Study

Although our study has achieved quite striking results that may be expected from a study, the importance of the subject requires further multi-center studies that include larger cohorts and meta-analyses, and address different populations.

CONCLUSION

Our study addressed violence in healthcare step by step and in detail based on both potential and perpetration. It revealed various parameters involved in both justification of violence in healthcare and recourse to violence through the eyes of respondents who are likely to receive healthcare services. It also extensively explained opinions on the causes of violence in healthcare from the perspective of the respondents. Our results provide useful outcomes for clinical practice and counseling services, and can also shed light on future studies.

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Abbreviations

ICN	International Council of Nurses
ILO	International Labor Organization
OC	Oko CC
ROC	receiver operating characteristic curve
STAS	State Trait Anger Scale
TTB	Turkish Medical Association
WHO	World Health Organization
WPV	Work place violence

REFERENCES

- World report on violence and health [internet]. [a.yer 22 Haziran 2022]. Erişim Adresi. Available from: <https://www.who.int/publications-detail-redirect/9241545615>.
- Zorlu I, Kurçer M. Hasta ve hasta yakınlarına göre hekime yönelik şiddet. *Mersin Univ Sağlık Bilimleri Derg.* 05 Aralık 2020;13418-27.
- Adeoye O, Adeomi A, Akande T. Prevalence and forms of violence against health care professionals in a South-Western city, Nigeria. *OL A.* 2014;2:67-072.
- Njaka S, Edeogu OC, Oko CC, Goni MD, Nkadi N. Work place violence (WPV) against healthcare workers in Africa: A systematic review. *Heliyon* Eylül 2020. 2020;6:e04800. doi: 10.1016/j.heliyon.2020.e04800
- Ankara medical Journal 'submission' hastalar ve Yakınlarının sağlık Çalışanlarına yönelik şiddetin Nedenleri konusunda görüş ve Tutumlarının değerlendirilmesi [internet]. [a.yer 24 Haziran 2022]. Erişim Adresi. Available from: <https://dergipark.org.tr/en/pub/amj/article/409020>.
- Alsmael MM, Gorab AH, AlQahtani AM. Violence against healthcare workers at Primary Care Centers in Dammam And Al Khobar, eastern Province, Saudi Arabia, 2019. *Int J Gen Med* 22 Eylül 2020. 2020;13:667-76. doi: 10.2147/IJGM.S267446
- Framework guidelines for addressing workplace violence in the health sector [internet] [a.yer 22 Haziran 2022]; 2002. Erişim Adresi. Available from: http://www.icn.ch/images/stories/documents/pillars/sew/sew_framework_k_guidelines_for_addressing_workplace_violence.pdf.
- Oğan H. Sağlık Çalışanlarına Yönelik Her Boyutuyla Şiddet. *Çalıştay, Birinci Baskı Eylül.* 2017.
- Er T, Ayoğlu F, Açıkgöz B. Violence against healthcare workers: risk factors, effects, evaluation and prevention. *Türkiye Halk Sağlığı Dergisi* Aralık 2020;22:1-18. doi: 10.20518/tjph.680771.
- Chen WC, Hwu HG, Kung SM, Chiu HJ, Wang JD. Prevalence and determinants of workplace violence of health care workers in a psychiatric hospital in Taiwan. *J Occup Health.* 2008;50:288-93. doi: 10.1539/joh.17132
- Esen H, Aykal G. Sağlık kurumlarında yaşanan şiddetin değerlendirilmesi: eğitim ve araştırma hastanesi örneği. 2020;7:9.
- Karaoğlu N, DemiRbaş N. Hekim ve Hekim Adaylarının hekime yönelik şiddet Algıları: bir ön çalışma. *GenelTıpDer.* 30. Haziran. 2021;31:130-4.
- Özdemir Takak S, Baydar Artantaş A. Evaluation of Patients' and Their Relatives' Opinions and Attitudes About Violence Against Health Care Workers. *Ankara Med J.* 2018;1:103-6.
- Erhan DA, Baysal H. Hasta ve yakınlarını şiddete yönelten sebeplerin araştırılması-Burdur ili örneği. *Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi.* 2017;4:95-118.
- Özdemir MA. Hekime yönelik şiddetin Manisa Celal Bayar Üniversitesi Tıp Fakültesi öğrencilerinin kariyer seçimindeki etkisi. [The effect of violence against doctors on the career selection of students of Manisa Celal Bayar University Faculty of Medicine] [internet] [a.yer 25 Haziran 2022]; Mart 03 2020. Erişim Adresi. Available from: <https://acikbilim.yok.gov.tr/handle/20.500.12812/258263>.
- ofke-ifade-tarzi-ofke-tarz-olcegi-toad.pdf [internet]. [a.yer 27 Haziran 2022]. Erişim Adresi. Available from: <https://toad.halileksi.net/sites/default/files/pdf/ofke-ifade-tarzi-ofke-tarz-olcegi-toad.pdf>.
- Butcher JN, Spielberger CD, Spielberger CD. *Advances in personality assessment.* Vol. 2. Routledge; 2013. p. 209 s.
- Frontiers | Violence against healthcare workers: A worldwide phenomenon with serious consequences | Public. [Erişim adresi]. *Health Communications* [internet]. [a.yer 29 Haziran 2022]. Available from: <https://www.frontiersin.org/articles/10.3389/fpubh.2020.570459/full>.
- Spelten E, Thomas B, O'Meara P, van Vuuren J, McGillion A. Violence against Emergency Department nurses; Can we identify the perpetrators? *PLOS ONE.* 2020;15:e0230793. doi: 10.1371/journal.pone.0230793
- d'Ettoire G, Pellicani V, Vullo A. Workplace violence against healthcare workers in Emergency Departments. A case-control study. *Acta Biomed.* 2019;90:621-4. doi: 10.23750/abm.v90i4.7327
- KARAAĞAÇ H. Sağlık çalışanlarına yönelik işyerinde şiddet: nedenler, politikalar, öneriler. *Tıbbi Sosyal Hizmet Dergisi.* 2014(3):18-22.
- BATMAZ K, USKUN E, AYDIN G. SAĞLIK ÇALIŞANLARINA YÖNELİK ŞİDDET VE İLİŞKİLİ FAKTÖRLER: ARAŞTIRMA UYGULAMA HASTANESİ ÖRNEĞİ. *SDÜ Tıp Fakültesi Dergisi.* 2022;29(1):23-35.
- d'Ettoire G, Mazzotta M, Pellicani V, Vullo A. Preventing and managing workplace violence against healthcare workers in Emergency Departments. *Acta Biomed Atenei: Parmensis.* 2018;89:28. doi: 10.23750/abm.v89i4-S.7113
- Park HW. Preventing workplace violence against healthcare workers. *J Korean Med Assoc.* 17 Mayıs. 2018;61:292-6.