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A RETROSPECTIVE COMPARATIVE ANALYSIS OF 'CODE WHITE' REPORTING IN A UNIVERSITY HOSPITAL ON THE EXTENT OF VIOLENCE IN HEALTHCARE SETTINGS

SCAN ME

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Abstract

The objective of this study was to examine and contrast the incidence of violence reported by White Code in a university hospital in Turkey and to analyse the phenomenon of workplace violence in terms of related variables. The study included 477 cases of violence against health workers reported between 2018 and 2023. The data were collected using a complete census method. Descriptive statistics and a chi-square test were employed for the statistical evaluation.

Results: The majority of those subjected to violence were doctors (69.6%). The emergency services were the setting in which violence was encountered most frequently (51.6%). It was observed that physicians were exposed to verbal violence more than other occupational groups. There was a difference between years according to the type of violence, and violence was mostly caused by miscommunication. Consequently, it would be beneficial to adopt a multidisciplinary approach to the evaluation of the consequences of violence on healthcare professionals.

1. Introduction

The term "violence" is defined as any form of aggressive behaviour that occurs between two or more individuals. This can include shouting, belittling comments, withholding relevant information, being rude, ignoring and humiliating behaviour (Mento et al., 2020). The concept of violence has a complex structure with many social and individual elements, and it is challenging to define and uncover its full nature (Esen and Aykal, 2020). The prevalence of violence in society is on the rise, with an increasing number of incidents occurring in settings that provide public services, such as schools and hospitals (Uzuntarla et al., 2019).

The World Health Organization (WHO) defines workplace violence as comprising three categories: physical (e.g., kicking, slapping, pushing), psychological (e.g., emotional abuse, humiliation, swearing, mobbing, name-calling), and sexual (e.g., molestation, harassment). This encompasses forms of violence such as rape, as well as racial violence (Batı et al., 2021; Mento et al., 2020; Esen and Aykal, 2020; Uzuntarla et al., 2019).

Violence in healthcare is defined as a violent incident between patients, relatives, other employees and external aggressors and healthcare workers (Albay and Nizam, 2022; Esen and Aykal, 2020; Uzuntarla et al., 2019). Workplace violence against healthcare workers is defined as abuses, intimidation and attacks in work-related conditions (Mento et al., 2020). A review of the literature reveals that healthcare workers are 16 times more likely to be subjected to violence than employees in other sectors (Uskun et al., 2022; Batı et al., 2021; Esen and Aykal, 2020; Uzuntarla et al., 2019; Oral et al., 2018).

A number of factors may contribute to violence in health institutions. These include patients and/or their relatives requesting immediate care, a perception of their situation as more urgent, high expectations of the institution, a belief that things do not work regularly and that they are not treated fairly in the order of patient care. It can be argued that the perpetrators of violence in health institutions may be individuals who are themselves victims of alcohol or substance abuse, with low educational attainment, who fail to adhere to the rules of the hospital, suffer from mental illness or behavioural disorders (Esen and Aykal, 2020). In addition to these factors, there is a lack of communication between healthcare workers and patients, high stress levels, gaps in the judicial system, inadequate security measures, deficiencies in legislation for the protection of healthcare workers, publications that damage the reputation of healthcare workers, 24-hour uninterrupted service, insufficient number of employees, and working in overcrowded environments. In addition to these factors, crowded environments and working alone, as well as inadequate training of employees in dealing with violence, have been identified as causes of violence against healthcare workers in healthcare institutions (Uskun et al., 2022; Akbaş et al., 2016; Akça et al., 2014).

The incidence of violence in healthcare settings is on the rise, both in our country and globally. This poses a significant occupational risk (Batı et al., 2021). In response to this alarming trend, the Ministry of Health has taken decisive action to implement regulations aimed at enhancing the safety of healthcare workers. A circular on the application of Code White was published on 14 May 2012 to address violence in healthcare. In order to monitor incidents of violence against healthcare workers, the 113 Code White Call Centre, which provides 24-hour, seven-day-a-week service, and the internet address 'www.beyazkod.saglik.gov.tr' were implemented. Furthermore, technical and administrative infrastructure related to the Code White system was provided to all hospitals (Aygün and Metin, 2022; Doğanay, 2014; T.C. Official Gazette, 2012; Circular on Ensuring Employee Safety, 2012). The application is activated by dialling 1111 on the institutional phone when the healthcare worker is subjected to violence. Once the security forces have taken control of the situation and initiated legal proceedings, the code white form is completed and submitted to the relevant authorities. Even if the healthcare worker does not file a formal complaint, the incident is reported to the relevant judicial units and the relevant procedures are initiated. The healthcare worker who has been subjected to violence is provided with psychological, medical and legal support (Güven and Kurt, 2023).

The objective of this study was to evaluate the incidence of violence against healthcare workers in accordance with the White Code data from our hospital. This was done in order to ascertain whether there were any significant differences according to age, occupation, gender, department and clinics where the incident occurred. Additionally, the study aimed to evaluate whether there was a difference in the number of violence cases reported over the years.

2. Material and Methods

2.1. Research model

The study is a retrospective study.

2.2. Research sample

The study population consisted of White Code units of healthcare professionals working in Izmir Provincial Dokuz Eylül University Application and Research Hospital between January 2018 and December 2023. During the specified period, 477 Code White applications were submitted, and no sample selection was made; all applications were included in the study.

2.3. Data collection tools and processes

The data for this study were obtained by analysing the notifications made to the Code White unit.

2.4. Analysing the data

The data were recorded and evaluated in the SPSS.29 programme. Following the transfer of the data to the computer environment, error controls were made and summarised as mean, standard deviation and percentage.

2.5. Ethics

This study was conducted in accordance with the principles of the Declaration of Helsinki. Prior to commencing the study, written permission was obtained from the administration of DEUUAH. In addition, ethics committee approval was obtained from the Dokuz Eylül University Social and Human Sciences Scientific and Publication Ethics Committee on the 27th of February 2024, with the approval number 39.

3.Results

Table 1. Sociodemographic Characteristics of the Healthcare Workers Participating in the Study

	n	**%**
Gender (n=477)		
Female	270	56.6
Male	207	43.4
Occupation		
Doctor	332	69,6

Nurse	71	14,9
Medical Secretary	22	4,6
Administrative Personnel	18	3,8
Paramedic	4	,8
Technician	5	1,0
Technologist	7	1,5
Security Officer	17	3,6
Other	1	,2
Place of Violence		
Polyclinic	132	27,7
Service	79	16,6
Emergency Services	246	51.6
Other	20	4,2

Of the 477 health workers who participated in the study, 56.6% (n=270) were women. The majority of the group consisted of doctors (69.6%, n=332) and nurses (14.9%, n=71). When the location of violence was analysed, emergency services accounted for 51.6% (n=246), polyclinics 27.7% (n=132), wards 16.6% (n=79) and other units 4.2% (n=20) (Table 1).

Table 2. Characteristics of the Health Worker Related to the Incident of Violence

	n	**%**
Type of Violence		
Physical	7	1,5
Verbal	393	82,4
Physical and Verbal	77	16,1
Threat Presence Status		
Yes	415	87,0
No	62	13,0
Blasphemy Presence Status		
Yes	403	84,5
No	74	15,5
Time of Violence (Hours)		
08:00-17:00	245	51,4
17:01-00:00	163	34,2
00:01-07:59	69	14,5
Time of Violence (Day)		
Weekdays	400	83,9
Weekend	77	16,1
Time of Violence (Year)		
2018	52	10,9
2019	111	23,3
2020	43	9,0
2021	82	17,2
2022	107	22,4
2023	82	17,2
Causes of Violence		
Treatment Dissatisfaction	140	29,4
Refusal of Treatment	42	8,8
Miscommunication	179	37,5
Treatment Delay	15	3,1
Illegal requests of the patient	19	4,0
Inappropriate Behaviours of Patient Relatives	82	17,2
Who is responsible for the attack		
Patient	143	30,0
Patient Relatives	334	70,0
Gender of the Attacker		
Female	187	39,2
Male	290	60,8

Table 2 presents data on the characteristics of health workers involved in violent incidents. Verbal violence was reported by 82.4% (n=393) of healthcare workers. Threats and swearing were present in 87% (n=415) of violent incidents and 84.5% (n=403) of incidents included swearing. The time interval in which the violence occurred was analysed, and it was found that it occurred most frequently during daytime hours (08:00-17:00), representing 51.4% (n=245) of cases. It was also concluded that violence occurred most frequently on weekdays, representing 83.9% (n=400) of cases. When the incidence of violence against health workers is evaluated according to the year in which the incident occurred, it is evident that the highest prevalence of violence was observed in 2019 (23.3%), while the lowest prevalence was observed in 2018 (10.9%). Upon analysis of the reasons for violence, it was found that the most prevalent reason was miscommunication (37.5%), while the least common reason was delayed treatment (3.1%). When the identity of the perpetrator was examined, it was observed that the frequency of patients' relatives exhibiting violence towards healthcare workers was higher (70%, n=334). Upon analysis of the gender of the perpetrators, it was determined that males were more likely to engage in violent acts than females (60.8%, n=290) (Table 2).

Table 3. Comparison of Health Workers According to the Type of Violence They Experienced

Variables	Type of Violence				
	Physical (n)	**Verbal (n)**	**Physical and Verbal (n)**	**χ^2**	**p**
Gender of the Victim					
Female	2	224	44	2,273	,321
Male	5	169	33		
Occupation of the Victim					
Doctor	2	289	41	18,583	**0.01***
Nurse	2	51	18		
Other	3	53	18		
Attacker					
Patient	4	123	16	5,891	,053
Patient Relatives	3	270	61		
Gender of Attacker					
Female	2	162	23	3,818	,148
Male	5	231	54		
Threat Presence Status					
Yes	5	338	72	4,727	,094
No	2	55	5		
Blasphemy Presence Status					
Yes	6	325	72	5,748	,056
No	1	68	5		
Place of Violence					
Polyclinic	1	112	19	6,284	,615
Service	1	63	15		
Emergency Services	4	204	38		
Other	1	14	5		
Causes of Violence					
Treatment Dissatisfaction	2	121	17	12,341	,263
Refusal of Treatment	1	35	6		
Miscommunication	3	149	27		
Treatment Delay	0	14	1		
Illegal requests of the patient	0	16	3		
Inappropriate Behaviours of Patient Relatives	1	58	23		
Time of Violence (Hours)					
08:00-17:00	6	206	33	6,577	,160
17:01-00:00	0	133	30		
00:01-07:59	1	54	14		
Time of Violence (Day)					
Hafta İçi	6	330	64	,053	,974
Hafta Sonu	1	63	13		
Time of Violence (Year)					
2018	0	38	14	43,018	**0.00***
2019	3	90	18		
2020	2	35	6		
2021	0	55	27		

2022	2	96	9		
2023	0	79	3		
Before and After the Covid-19 Pandemic					
2020 and before	5	162	38	4,242	,374
After 2020	2	230	39		

Table 3 presents a comparison of healthcare workers according to the type of violence they were subjected to. As demonstrated in Table 3, the type of violence did not vary according to the gender of the victim, the gender of the perpetrator, the presence or absence of a threat in the attack, the use of profanity in the attack, the location of the violence, the cause of the violence, the temporal distribution of the violence in hours and days, and the period before and after the pandemic. Conversely, it is evident that the nature of violence experienced by healthcare professionals varies according to the victim's occupation ($\chi2=18.583$, $p<0.05$) and the time of the violence ($\chi2=43.018$, $p<0.05$). Consequently, physicians are more likely to be subjected to violence. The years in which violence increased the most were 2019 and 2022.

Table 4. Comparison of Healthcare Workers According to the Reason of the Violence They Suffered

	Causes of Violence							
Variables	**Treatment Dissatisfaction**	**Refusal of Treatment**	**Miscommunication**	**Treatment Delay**	**Illegal requests of the patient**	**Inappropriate Behaviours of Patient Relatives**	**χ^2**	**p**
Occupation of the Victim								
Doctor	104	32	126	12	10	48	24,692	,006
Nurse	23	9	22	2	3	12		
Other	13	1	31	1	6	22		
Gender of Attacker								
Female	67	17	60	7	8	28	8,151	,148
Male	73	25	119	8	11	54		
Place of Violence								
Polyclinic	37	10	56	5	3	21	24,013	,242
Service	23	5	24	4	4	19		
Emergency Services	76	24	90	6	12	38		
Other	4	3	9	0	0	4		
Time of Violence (Year)								
2018	18	4	17	0	1	12	70,827	**,000***
2019	31	16	48	0	1	15		
2020	6	6	19	0	2	10		
2021	17	10	36	0	6	13		
2022	42	5	33	5	3	19		
2023	26	1	26	10	6	13		

Table 4 presents a comparison of healthcare workers according to the reasons for being subjected to violence. The table indicates that there is no significant difference between the cause of violence and the occupation of the victim, the gender of the aggressor, or the place of violence. However, when a comparison was made according to years, a significant difference was found between the reasons for violence and years ($\chi2=70.827$, $p<0.05$). Accordingly, it was observed that the violence was mostly caused by miscommunication and the least by the patient's illegal

requests. Violence caused by miscommunication was encountered most frequently in 2019 and 2021.

4. Discussion

The findings of our study indicate that physicians are the healthcare professional group most likely to experience violence. A review of the literature reveals that physicians are the healthcare team members most frequently exposed to violence in numerous other studies (Güven and Kurt, 2023; Uskun et al., 2022; Aygün and Metin, 2022; Albay and Nizam, 2022; Bekar and Çalış, 2021; Mutlu et al., 2021; Torun, 2020; Esen and Aykal, 2020; Polat and Çırak, 2019; Oral et al., 2018; Devebakan, 2018). Physicians are the first healthcare team members to interact with patients and their relatives, particularly in emergency services and outpatient clinics. Consequently, they may be more vulnerable to violence than other health personnel.

A review of the literature reveals that emergency services and outpatient clinics are the units where violence against health workers is most prevalent (Güven and Kurt, 2023; Mutlu et al., 2021; Bekar and Çalış, 2021; Esen and Aykal, 2020; Esen and Uysal, 2020; Torun, 2020; Oral et al., 2018). The results of our study align with those of previous research. The majority of healthcare workers are exposed to violence in emergency departments due to the critical health status of incoming patients and the high anxiety levels of patients and their relatives. Additionally, long waiting times for examination due to high emergency department application rates, which exceed hospital capacities, contribute to an increase in violence. The elevated incidence of violence directed towards healthcare professionals in outpatient clinics is believed to be attributable to two key factors: the high number of applicants seeking care at these facilities and the prolonged nature of examinations, which often cannot be conducted within the allotted appointment times. This is particularly pertinent to surgical branch physicians, who frequently require urgent surgical intervention and whose outpatient clinic examinations may be disrupted as a result.

It is evident that the forms of violence experienced by healthcare workers differ according to the occupation of the victim and the duration of the violence. Upon examination of the existing literature, no study was identified in which the occupation of the victim and the type of violence were compared. Consequently, our study concluded that physicians were most frequently exposed to verbal violence. This may be attributed to the sociocultural level, social life and social environment of the aggressor. Those with a low sociocultural level may be unaware that verbal violence constitutes a form of aggression. Furthermore, it is postulated that their lack of awareness that verbal violence is a criminal act may also be a contributing factor.

Despite the absence of a statistically significant difference in the incidence of violence before and after the pandemic according to the type of violence, there is a significant difference between the years when the research results are evaluated on a yearly basis. In 2019 and 2022, it is evident that the number of white code notifications is higher than in other years. It is postulated that the restriction of hospital bed capacity during the ongoing Covid-19 pandemic, which is expected to continue into 2020-2021, and the corresponding decrease in the number of patients admitted to the hospital, may be effective in reducing the violent incidents observed during this period. Some studies also support this assumption (Çelik et al., 2022; Nourazari et al., 2021; Yıldız and Bulut, 2021). A comparable study conducted by Güven and Kurt (2023) found a similar result when white code notifications were evaluated on a yearly basis. In their study, there was a decrease in white code notifications in 2020 compared to other years. Furthermore, another study demonstrated a decline in violent incidents in 2020 compared to previous years (Mutlu et al., 2021). The findings of the research conducted by Albay and Nizam (2022) also indicate a decline in the number of white code notifications in 2019 and 2020.

The results of our study indicate a statistically significant difference between the reasons for violence experienced by healthcare workers and years. A review of the literature revealed no studies examining the relationship between the reasons for violence and years. Similarly, Aygün and Metin (2022) compared the causes of violence before and after the Covid-19 pandemic and found a statistically significant difference between the two periods.

5. Conclusions and Recommendations

The global pandemic of coronavirus has brought to the fore the crucial role of health institutions and organisations. However, the unfortunate reality is that incidents of violence against health workers are on the rise. Such violence has a detrimental impact on the victims, both physically and psychologically. The occurrence of violence can lead to errors in judgement and a decline in the willingness of health workers to perform their duties. This is reflected directly in the patient group they care for. Furthermore, as a result of these violent incidents, there is an increase in the desire of people to change the institution and even the country where they work. Therefore, it is imperative that patients and their relatives who want to receive quality health care services avoid violence. The findings of our study indicate that women healthcare workers are more likely to experience violence than their male counterparts. Physicians were found to be the occupational group most exposed to violence, with incidents occurring predominantly in emergency services. Verbal violence was encountered more frequently than physical violence, and the

majority of incidents occurred on weekdays and during working hours. The majority of violence was found to be caused by miscommunication, and the aggressor was most often a male patient relative.

In order to reduce the incidence of violence against healthcare workers, it is recommended that training on effective communication techniques should be provided for healthcare workers, security measures should be increased in units where violence is prevalent, legally deterrent penalties should be developed, public service announcements should be prepared for the prevention of violence against healthcare workers, and all healthcare workers who are subjected to violence should utilise the code white application and follow the legal processes in order to gain a more accurate understanding of the extent of violence.

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