

# Exploring Societal Perspectives on Healthcare Violence: A Comprehensive Analysis of Twitter Discourse: A Qualitative Research

## Sağlık Hizmetlerinde Şiddete Toplumsal Bakış Açısının İncelenmesi: Twitter Söyleminin Kapsamlı Bir Analizi: Nitel Bir Araştırma

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**ABSTRACT Objective:** Increasing violence against healthcare workers poses significant challenges in service delivery and workforce retention. This study examines the phenomenon of violence against healthcare professionals by analyzing Twitter discussions as a window to public perceptions and attitudes. **Material and Methods:** This research used qualitative content analysis approach. The study aimed to identify common themes, trends and user perspectives on violence against healthcare professionals. Through analysis, the study identified user profiles, trending topics, and violence categories. **Results:** The findings revealed that tweets discussing violence in healthcare came primarily from users associated with the medical professions, healthcare institutions, patients and their relatives. The study identified recurring themes such as fatal attacks against healthcare professionals, non-fatal physical attacks, and incidents of psychological abuse. Tweets often criticized the inadequacy of legal measures and social indifference to healthcare violence. Tags and key terms such as #violence, #doctor, #nurse, #threat and #attack were common in these discussions. **Conclusion:** This research contributes to the limited literature on societal perspectives of violence in health care. It highlights the need for comprehensive data to understand the multifaceted nature of this problem, revealing the diversity of events and user responses. The study highlights the role of social media, particularly Twitter, in facilitating discourse about violence and its consequences in healthcare. These insights can help design effective interventions and policies to address and reduce violence against healthcare workers, and ultimately improve the work environment and quality of patient care.

**ÖZET Amaç:** Sağlık çalışanlarına yönelik şiddetin artması, hizmet sunumunda ve iş gücünün elde tutulmasında önemli zorluklara yol açmaktadır. Bu çalışma, sağlık çalışanlarına yönelik şiddet olgusunu, kamuoyunun algı ve tutumlarına açılan bir pencere olarak Twitter tartışmalarını analiz ederek incelemektedir. **Gereç ve Yöntemler:** Bu araştırmada, nitel içerik analizi yaklaşımı kullanılmıştır. Çalışmada sağlık çalışanlarına yönelik şiddete ilişkin ortak temaların, eğilimlerin ve kullanıcı bakış açılarının belirlenmesi amaçlandı. Araştırma, analiz yoluyla kullanıcı profillerini, trend konuları ve şiddet kategorilerini belirledi. **Bulgular:** Bulgular, sağlık hizmetlerinde şiddeti tartışan tweetlerin öncelikle tıp mesleğiyle ilişkili kullanıcılardan, sağlık kurumlarından, hasta ve hasta yakınlarından geldiğini ortaya çıkardı. Araştırmada sağlık çalışanlarına yönelik ölümcül saldırılar, ölümcül olmayan fiziksel saldırılar ve psikolojik istismar olayları gibi tekrar eden temalar belirlendi. Tweetlerde sıklıkla yasal tedbirlerin yetersizliği ve sağlıkta şiddete karşı toplumsal kayıtsızlık eleştiriliyordu. Bu tartışmalarda; #şiddet, #doktor, #hemşire, #tehdit, #saldırı gibi etiketler ve anahtar terimler yaygındı. **Sonuç:** Bu araştırma, sağlık hizmetlerinde şiddetin toplumsal perspektiflerine ilişkin sınırlı literatüre katkıda bulunmaktadır. Olayların çeşitliliğini ve kullanıcı yanıtlarını ortaya çıkararak, bu sorunun çok yönlü doğasını anlamak için kapsamlı verilere olan ihtiyacın altını çiziyor. Çalışma, sosyal medyanın, özellikle de Twitter'ın, sağlık hizmetlerinde şiddet ve sonuçları hakkındaki söylemi kolaylaştırmadaki rolünü vurguluyor. Bu bilgiler, sağlık çalışanlarına yönelik şiddeti ele almak ve azaltmak için etkili müdahalelerin ve politikaların tasarlanmasına ve sonuçta çalışma ortamının ve hasta bakımının kalitesinin iyileştirilmesine yardımcı olabilir.

**Keywords:** Workplace violence; social media; qualitative research; practice management

**Anahtar Kelimeler:** İş yerinde şiddet; sosyal medya; niteliksel araştırma; uygulama yönetimi

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Workplace violence is currently defined by the World Health Organization (WHO) as incidents where staff are abused, threatened, or assaulted in circumstances related to their work, including commuting to and from work, and involving an explicit or implicit challenge to their safety, well-being, or health.<sup>1</sup> Some of these violent acts are directed towards professionals responsible for healthcare services.

Attacks against healthcare workers have transitioned from being an overlooked and disregarded issue. Indeed, there is evidence indicating that the incidence of such attacks has been increasing globally over the years. Both media and scientific research demonstrate that the violence experienced by healthcare personnel has reached dimensions that are now impacting service delivery. In recent years, an increase in violence towards healthcare services has been reported from several European Union countries. In 2021, it was reported that 23% of the healthcare workforce in the European Union had experienced at least one form of negative social behavior during the past 12 months.<sup>2</sup> Similarly, a systematic review of workplace violence published in 2019 revealed that over 24% of all healthcare workers had been subjected to physical attacks in the preceding 12 months. Similarly, a systematic review of workplace violence published in 2019 revealed that over 24% of all healthcare workers had been subjected to physical attacks in the preceding 12 months. China, Germany, Pakistan and the United States re individually examined, the prevalence of physical attacks against healthcare personnel suggests that this issue has become a global concern.<sup>3-6</sup> Despite varying levels of development and different policies across continents, statistics show consistent trends. However, healthcare workers in emergency and mental health services, as well as those living in conflict-affected countries, face even higher risks of attacks.<sup>6</sup>

While violence is a preventable phenomenon with mitigatable negative effects, due to the influence of multiple factors in its occurrence, it must be addressed within the context of bio-psycho-social integrity.<sup>1</sup> It is important to consider not only physical harm but also potentially more destructive psycho-

logical attacks for the victims. Past research has demonstrated serious consequences of attacks on healthcare workers, including physical injuries, psychological trauma and stress, increased attrition from the healthcare sector, and diminished capacity to fulfill important duties.<sup>7</sup> In fact, some representative associations in Switzerland have reported violence exposure as a reason for healthcare workers leaving the profession.<sup>8</sup> Individual work stress, hospital policies, and the overall organizational culture are believed to be mutually reinforcing elements. The European Observatory on Health Systems and Policies has recognized working conditions in healthcare as a key determinant for improving healthcare quality in Europe.<sup>9</sup> Providing positive working environments is one of the foundational priorities for achieving Health 2020 goals.<sup>10</sup> However, workplace violence directly impedes this objective.

In healthcare, factors like high workload, secure and controlled information flow, increasing demand for health information, and the need for technological adaptation have collectively made the internet an integral part of healthcare services. Societies have adopted a media system that allows interactive sharing rather than one-sided information flow. This new media system is characterized by free expression of ideas, but also presents challenges related to ethical rights and violations, making it distinct from traditional forms of media.<sup>11</sup> Consequently, it has become an important source of information for scientific research and is being increasingly utilized as a data source in various studies.<sup>12</sup>

Upon reviewing the literature, it is evident that there are limited studies that evaluate societal perspectives on violence in healthcare. Furthermore, the need to explore this sensitive issue through more comprehensive data is clear. Therefore, we decided to examine the theme of healthcare violence on "Twitter" (Twitter, Inc., San Francisco, CA), one of the most commonly used social media platforms. Given the complexity of millions of posts and subtopics, this study aims to contribute to the literature by analyzing the agenda set by attacks, types of violence, and the comments of social media users related to the involved parties, in order to provide more understandable insights.

## MATERIAL AND METHODS

Descriptive and content analysis methods were employed for the examination of social media/Twitter data.

### DATA COLLECTION

The Python programming (Python Software Foundation, USA) language was used to extract tweet data. Data scraping was conducted using the Snsrape library within Python. In forming the dataset, tweets posted between September 20<sup>th</sup> and September 27<sup>th</sup>, 2022, containing the intersection of the Turkish words “sağlık” (health) and “şiddet” (violence) were selected. Among these, the top 15 tweets related to healthcare violence were chosen. The following hashtags were utilized in the dataset: beyaz kod (White code), BeyazKod111 (whitecode111), drersinarslan, ekremkarakaya, KatledildiSnKoca (killedMrKoca), SağlıktaSiddeteHayır (SayNotoViolenceinHealthcare), SağlıktaTerör (HealthcareTerrorism), sağlıktaşiddet (ViolenceinHealthcare), SağlıktaŞiddetCanAlıyor (HealthcareViolenceClaimsLives) and TuğrulOkudan. Data for each hashtag was individually retrieved from the time frame January 1<sup>st</sup>, 2022, to February 2<sup>nd</sup>, 2023, and downloaded in CSV file format. These files were consolidated using Microsoft Excel (Microsoft, USA). The Excel file included columns for URL, user information (username), date, tweet text, links (URLs) used within the tweets, and interaction data. The dataset encompasses tweets in the Turkish language from the period January 1<sup>st</sup>, 2022, to February 2<sup>nd</sup>, 2023.

### DATA ANALYSIS

Word and content analysis methods were employed for data analysis. The data was analyzed using Excel formulas in Microsoft Excel. To ensure the reliability and validity of the study, categories derived from a literature review were initially pre-coded and applied to a trial dataset. The trial dataset was formed from tweets posted between September 20<sup>th</sup>, 2022, and October 4<sup>th</sup>, 2022. Pre-coding was performed by one researcher, followed by a data coding specialist conducting a detailed coding review. Finally, two researchers reviewed and finalized the coding. The words identified through pre-coding were searched within the dataset, and the resulting content was subjected to fur-

ther coding. Content analysis was supported by an inductive approach based on the data. Names associated with perpetrating violence were anonymized using abbreviations, links were removed, and offensive language was censored by inserting periods. As the hashtags were provided in bulk, those that did not disrupt the contextual integrity of the text were removed.

### ETHICAL DECLARATION

The study has been approved by the Yozgat Bozok University Ethics Committee (date: February 22, 2023; decision no: 02/21). As this is a retrospective study, the authors state that they did not obtain signed informed consent from the cases. This research was conducted in accordance with the principles of the Declaration of Helsinki.

## RESULTS

### IDENTIFICATION OF USER PROFILE/IDENTITY BASED ON USER ACCOUNT DATA

Using the information users provided in their profiles regarding healthcare violence, a word cloud in [Figure 1](#) was obtained via the Maxqda program (VERBI GmbH, Germany). User accounts other than those with explicitly stated profiles are presumed to belong to patients, relatives of patients, or citizens. A word combination analysis was applied to the professional information users provided in their profiles using the same program, resulting in [Figure 2](#).

### TRENDING TOPICS

When compared based on the number of tweets and interactions, the most prominent topics related to healthcare violence were as follows: the killing of healthcare workers, non-lethal physical attacks on healthcare workers, and psychological attacks on healthcare workers.

In the category of healthcare workers being killed, the five incidents that generated the highest number of shares on Twitter were as follows: the stabbing of a physician by a relative of a patient in 2012, a physician being shot by a patient's relative in 2022, a security guard being stabbed by a patient's relative, a nurse being shot by a former acquaintance, and a dentist being stabbed by a patient. The tweet



**TABLE 1: Posts related to the killing of healthcare workers.**

<p><b>Events (short description)</b></p> <ul style="list-style-type: none"> <li>■ On July 6, 2022, Dr. Ekrem Karakaya was shot and killed with a firearm at Konya City Hospital by security guard H.M.A., who blamed Karakaya for his mother's death.</li> <li>■ Tuğrul Okudan was fatally stabbed in 2022 at Esenyurt State Hospital's emergency department by a patient's relative Ç.K., who stabbed him in the neck in response to a request for silence.</li> <li>■ Dr. Ersin Arslan was fatally stabbed in 2012 in Gaziantep by M.G., who held him responsible for the death of M.G.'s grandfather.</li> <li>■ Nurse Ömür Erez was repeatedly threatened and shot with a firearm in 2022 at Kartal Family Health Center No. 10 by R.U., resulting in her death.</li> <li>■ Dentist Şeyma Biran lost her life in 2022 during a stabbing attack by Z.E. at her friend's clinic in Kadıköy. The attack was provoked by a disagreement over the price charged for the services.</li> </ul>	<p><b>Most retweets samples</b></p> <ul style="list-style-type: none"> <li>■ 1988 Dr. Edip Kürklü, 2005 Dr. Gökşel Kalaycı, 2012 Dr. Ersin Arslan, 2015 Dr. Kamil Furtun, 2017 Dr. Muhammed Said Benilgen, 2018 Dr. Fikret Hacrosman, 2022 Dr. Ekrem Karakaya.</li> </ul> <p>We couldn't protect them from the murderers!</p> <ul style="list-style-type: none"> <li>■ Do you remember 17-year-old PK, who was killed because he didn't fulfill the absurd request of the deceased's relatives when the 92-year-old terminal cancer patient passed away: "Don't issue the death certificate, we're still getting their pension. #DrErsinArslan</li> <li>■ Security Guard# TuğrulOkudan at Esenyurt State Hospital was stabbed to death for warning noisy patient relatives to be quiet! He had just recently gotten married. After the incident, 2 individuals were taken into custody. It was revealed that one of them had 27 separate criminal records, and the other had 11.</li> <li>■ Until an effective, deterrent, and implementable violence law is enacted for healthcare violence, work should be halted. Healthcare non-governmental organizations should urgently convene and make joint decisions. The blood is on the hands of authorities first, then politicians, and then all of us</li> <li>■ Kamil Furtun, Rümeyşa Şen, Melike Erdem, Ersin Arslan, Ömür Erez, and today, Şeyma Biran-healthcare violence is a choice that kills us and destroys public health.</li> </ul>
<p><b>Commonly used hashtags:</b> #TuğrulOkudan, #EmergencyAssault, #CodeWhite1111, #OurFuneralsHere, #HowMuchMoreDoWeHaveToDie, #DoctorEkremKarakaya, #NoMoreDoctorsLeft, #DontTouchMyDoctor, #DrEkremKarakaya, #DrErsinArslan, #EkremKarakaya, #ErsinArslan, #Esenyurt, #EsenyurtStateHospital, #FahrettinKoca, #CantYouSeeFahrettinKoca, #DoYouSeeFahrettinKoca, #NoSecurityPrecautionsENOUGH, #DoctorsAreBeingMurdered, #KonyaCityHospital, #WontBeVictim, #ÖmürErez, #StopHealthcareViolence, #HealthcareViolenceTakesLives, #NoToHealthcareViolence, #NoToHealthcareViolence, #EndHealthcareViolence, #EnoughIsEnough, #IsAnyoneHearingUs, #SeymaBiran, #NoToViolence, #EnoughAlready</p> <p><b>Interactions:</b> Reply (reply): 40,936; Retweet: 190,729; Like: 3,032; Quote: 9,896; Total interaction: 853,012</p>	<p>relatives. In the majority of the content, it was expressed that the existing penalties for violence in healthcare were ineffective in addressing the issues. The total number of tweets on this topic was 3,080, with 240,838 interactions. The content analysis indicated that healthcare workers faced physical violence based on reasons such as not being admitted to the emergency department, not receiving prescriptions, experiencing delays in appointments, receiving a “white code”, not attending to patients, not giving appointments, being reprimanded for not adhering to rules, not receiving priority, and not renewing their medical reports. According to the content, these incidents resulted in outcomes such as broken noses, fractured arms, damage, hospitalization, and being placed under intensive care observation (Table 2).</p> <p>In the category of psychological violence, incidents included a physician being threatened with death by a patient, a professor receiving a death threat from a patient who left a severed tongue in their office, a physician being threatened with physical assault by a patient's relative, and a physician being threatened with legal action by a patient's relative. The total number of tweets on this topic was 1,310, with 106,023 interactions. The content consistently condemned all forms of violence (Table 3).</p> <p><b>TYPES OF VIOLENCE MENTIONED IN TWEET CONTENTS</b></p> <p>The most frequently used words in the category of physical violence were, in order, “killing” (8,154), “attack” (7,856), “assassination” (3,440), “assault” (1,742), and “murder” (1,582). The contents of the most interacted tweets often highlighted the inadequacy of legal sanctions and the lack of societal awareness. The word “weapon” was most commonly found in the context of violent acts in the tweets (Table 4).</p>

TABLE 2: Posts related to non-fatal physical assaults on healthcare workers.

Events (short description)	Most retweet samples
<ul style="list-style-type: none"> <li>■ Specialist Dr. Gaye Alak was physically assaulted in 2022 at Antalya Kepez State Hospital by Gülseren Şimşek, who attacked her because she wasn't admitted to the emergency department.</li> </ul>	<ul style="list-style-type: none"> <li>■ We protested the physical assault against Dr. Gaye Alak at Kepez State Hospital. Let healthcare violence come to an end!</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. Ebru Ergin Bakar was physically assaulted in 2022 at Ankara Training and Research Hospital by F.Y., who attacked her for not prescribing medication.</li> </ul>	<ul style="list-style-type: none"> <li>■ Neurology specialist Dr. Ebru Ergin was physically assaulted in the clinic today. Her head was repeatedly slammed against the table. Our colleague is currently under observation in the neurosurgery clinic. When will you enact effective legislation against healthcare violence?</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. Ali Durmaz was attacked in 2022 at Bingöl State Hospital by a patient and their relative because the examination was delayed.</li> </ul>	<ul style="list-style-type: none"> <li>■ Dr. Ali Durmaz is not alone. Let healthcare violence come to an end.</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. Ekin Hurel Günay was assaulted with sticks by S.A. and their siblings on the street in 2022, two months after a dispute at Torbalı Family Health Center No. 5.</li> </ul>	<ul style="list-style-type: none"> <li>■ Dr. Ekin Günay has reportedly been beaten with sticks. It is said that this happened because he issued a white code. Despite issuing a white code, he couldn't escape. Has Sabim called, saying 'be careful'?</li> </ul>
<ul style="list-style-type: none"> <li>■ Pregnant nurse Gülhan D. was physically assaulted in 2022 at İstanbul Başakşehir Çam and Sakura City Hospital by G.A.'s relatives A.K., N.K., R.K., and H.K. who accused her of neglecting their patient.</li> </ul>	<ul style="list-style-type: none"> <li>■ Apparently not. We were thankful they didn't kill him. Nothing has changed!</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. Sadık Oluk was brutally beaten in 2022 at Gaziantep İslahiye State Hospital by E.Y., the brother of N.Y. who was denied an appointment.</li> </ul>	<ul style="list-style-type: none"> <li>■ In Başakşehir, a pregnant nurse being kicked in the abdomen while on duty horrified us. We remind the ruling party that you are not listening to professional organizations and unions in the laws enacted to prevent healthcare violence, yet the violence continues.</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. İslam Bartu Görgülü was physically assaulted in 2023 at Elazığ Fırat University Hospital by patient M.T. who accused him of making them wait despite arriving late for an appointment.</li> </ul>	<ul style="list-style-type: none"> <li>■ Unfortunately, we almost hear healthcare violence news every day. Dr. Sadık Oluk, serving at İslahiye State Hospital, was brutally beaten just for doing his job. We strongly condemn the attack, and we demand that the perpetrator be severely punished.</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. Mahmut Doğan was punched and kicked in 2022 at Bağcılar Family Health Center when Y.I., a person who repeatedly used the restroom without a valid reason, attacked him despite not being a patient.</li> </ul>	<ul style="list-style-type: none"> <li>■ Dr. İslam Bartu Görgülü, who works in the Internal Medicine Department of Elazığ Fırat University Hospital, was assaulted by another patient while examining a different patient. Healthcare violence incidents have reached very dangerous levels. This situation exhausts, saddens, and humiliates us!</li> </ul>
<ul style="list-style-type: none"> <li>■ Health secretary S.A. was physically assaulted in 2022 at Kocaeli State Hospital's emergency department by patient H.A., who punched her and bit her hand after being directed to the waiting area.</li> </ul>	<ul style="list-style-type: none"> <li>■ Dr. Mahmut Doğan from Bağcılar Çınar Family Health Center was assaulted and injured by a patient. Healthcare violence will never end in this country. If anyone thinks it will, they can wake up from their dream and face reality.</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. Abdullah Erkoç was attacked and his nose was broken by a patient's relative in 2022 at Yozgat Family Health Center No. 25, accusing him of not renewing a medical report.</li> </ul>	<ul style="list-style-type: none"> <li>■ Healthcare workers facing violence and threats: S.A., who works as a secretary in Kocaeli State Hospital Emergency Department, was subjected to violence by a patient and their relative. A patient's relative who threatened a doctor in Trabzon Karadeniz Technical University Farabi Hospital Emergency Department has been taken into custody.</li> </ul>
<p><b>Commonly used hashtags:</b> #DrAliDurmazIsNotAlone, #DrEbruErginIsNotAlone, #DrEkinGunay, #EkinHunerGunay, #Elazig, #HowNoToBeASurgeon, #CanYouSeeFahrettinKoca, #ArrestGuiserenSimsek, #pregnant, #DoctorsSupportingLegalResistanceAssociation, #HowManyIncidentsHowMuchViolence, #Muratcantilidak, #mustafasentop, #HealthMinisterResign, #HealthMinisterResignNow, #StopHealthcareViolence, #NoToHealthcareViolence, #NoToHealthcareViolence, #TurkishNationalAssembly, #enough</p>	<ul style="list-style-type: none"> <li>■ A patients' relative attacked Dr. Abdullah Erkoç, who works at Yozgat No. 25 Family Health Center, alleging that he didn't renew his brother's prescription, and broke his nose.</li> </ul>
<p><b>Interactions:</b> Reply: 6,141, Retweet: 40,936, Like: 190,729, Quote: 3,032, Total: Engagement: 240,838</p>	

**TABLE 3: Posts related to psychological violence experienced by healthcare workers.**

Events (short description)	Most retweet samples
<ul style="list-style-type: none"> <li>■ Dr. Simay Bayrak Öztürk was threatened with death by a patient in 2022 after a white code was issued and a complaint was made about her at Aksaray Training and Research Hospital.</li> </ul>	<ul style="list-style-type: none"> <li>■ On September 14, 2022, I was subjected to insults and threats by a "non-appointment" patient. I issued a white code against him. Following this white code, his statement was taken, and I later learned that he had written my name along with the threat "I WILL KILL THAT DOCTOR" to "CIMER" on the same day.</li> </ul>
<ul style="list-style-type: none"> <li>■ Prof. Dr. Esin Davutoğlu Şenol was followed by an anti-vaccine individual M.Y. in 2022. A cut cow's tongue was left at her house, and she was threatened with death.</li> </ul>	<ul style="list-style-type: none"> <li>■ While the pain of the murder of our colleague Dr. Ekrem Karakaya deeply saddens our hearts, we find it horrifying and condemn in the strongest terms the death threat against Prof. Dr. Esin Davutoğlu Şenol and the release of the person who made the threat.</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. M.S.B. was threatened with physical harm by a patient's relative named F.Ş. in 2022 at Karadeniz Technical University Farabi Hospital's emergency department.</li> </ul>	<ul style="list-style-type: none"> <li>■ In Trabzon, a patient's relative who said "I will hit and kill the doctor" was taken into custody. The patient's relative, who is alleged to have threatened the doctor in the Emergency Department of Karadeniz Technical University Farabi Hospital, was taken into custody. Acts of violence against doctors fall within the scope of crime according to the Violence Against Healthcare Professionals Act and result in delimitation.</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. G.N.K. faced verbal abuse and insults in 2022 at Kocaeli State Hospital's emergency department from a patient named H.A. due to perceived lack of priority.</li> </ul>	<ul style="list-style-type: none"> <li>■ We Condemn the Acts of Violence in Karadeniz Technical University Farabi Hospital and Kocaeli State Hospital! Healthcare violence is a result of the collapsing Healthcare Transformation Policies.</li> </ul>
<ul style="list-style-type: none"> <li>■ Dr. Mehmet Ali Özbek was threatened with legal action by a patient's relative who claimed to be a prosecutor in 2022 at Şırnak State Hospital's emergency department. The threat was in response to the refusal of inserting a requested serum.</li> </ul>	<ul style="list-style-type: none"> <li>■ It is said that Dr. Mehmet Ali Özbek, who serves in the emergency department of Şırnak State Hospital, has been threatened by a prosecutor. Dr. Özbek issued a white code, and @hekimsen is following up on the matter. The days when we were helpless are behind us.</li> </ul>
<ul style="list-style-type: none"> <li>■ Commonly used hashtags: #WhiteReform, #WhiteCode, #DidemDidaBalci, #Doctor, #DontTouchMyDoctor, #DrEsinDavutogluSenol, #EsinDavutoglu, #DrSimayBayrak, #WhoWillProtectTheDoctor, #RedReform, #WeAreDyingForNineYears, #SessionClosedTopicNotClosed, #NoToHealthcareViolence, #NoToHealthcareViolence, #OnDutyForHealthcareViolence, #IfYouAreAPublicProsecutorThenWeAreDoctors, #TheSystemDoesNotProtectUs, #BreakingNews, #Ask, #SimakProsecutorDoctor, #October6Regulation, #Threat, #TTTBDoesNotShareMe, #Close184SABIM</li> </ul>	<ul style="list-style-type: none"> <li>■ Interactions: Reply: 3,245, Retweet: 17,274, Like: 84,509, Quote: 995, Total engagement: 106,023</li> </ul>

In the category of psychological violence, the most frequently used words were, in order, "threatening" (935), "insult" (849), "blocking" (729), "shouting" (545), and "scolding" (529). The most interacted tweets often expressed difficulties in practicing their professions due to healthcare violence and stated a desire to leave their jobs (Table 5).

Furthermore, 23,369 tweets associated healthcare violence with patients and their relatives, 7,784 with legal sanctions, 7,715 with healthcare workers, 4,837 with media coverage, and 1,666 with society and cultural structure.

## DISCUSSION

Violence against healthcare workers is a public health issue that negatively impacts both healthcare professionals and the quality of healthcare services, consequently affecting the community that benefits from those services. Studies conducted have demonstrated that incidents of violence diminish work quality, exacerbate mental health issues, and could lead healthcare workers to leave their jobs.<sup>13</sup>

Among the physical violence actions, identifying the most straightforward type is relatively easier. These encompass all intentional physical behaviors and actions carried out by the perpetrator with the purpose of causing pain and harm to the victim. Intentional actions and behaviors can result in temporary or permanent damage to the victim, and sometimes even lead to death.<sup>14,15</sup> In our study, the most interacted posts in the context of physical violence were related to the killing of healthcare workers. The reason of holding them accountable for the death of

**TABLE 4:** Shares of physical violence in tweet content.

Tweet codes and numbers	Most retweet samples
Killing (8,154), assault (7,856), slaughtering (3,440), beating (1,742), murder (1,582), beating up (1,213), kicking (914), injuring (624), beating (408), hitting (340), fighting (310), dragging (213), punching (201), slapping (130), taking a life (98), scuffle (79), charging at (64), spitting (45), scratching/pinching (37), conflict (32), biting (27), throwing (25), cutting (20), choking (18), sexual assault (16), sacrificing (16), rape (5), slapping (4)	<ul style="list-style-type: none"> <li>■ Just now, in Diyarbakir, Selahaddin Eyyubi State Hospital, our emergency physician was physically attacked by the patient's brother. Our doctor was punched in the chest and has nail marks on their left hand.</li> <li>■ Study for years to become a doctor. Not enough, specialize. Not enough, sub-specialize. Then let a thug come and beat and kill a doctor who has healed thousands of patients. I pray for the mercy of Dr. Ekrem Karakaya, a cardiologist at Konya City Hospital. May he rest in peace.</li> <li>■ Yesterday, two nurses were assaulted in this hospital, they have head injuries and fractures. Did you hear about it? Of course not, because you've become accustomed to violence. I will share the punishments these scoundrels receive extensively.</li> </ul>
<b>Violence tools:</b> Weapon (5,610), stick (236), gun (132), knife (21), piercing/cutting tool (18), object (14)	<ul style="list-style-type: none"> <li>■ Deterrent penalties are a must for healthcare violence!</li> <li>■ At Pamukkale University Hospital, a mobile vendor who held two resident doctors hostage in a room and assaulted one of them was released with judicial control measures.</li> <li>■ Dr. Ebru Ergin, a neurology specialist at Ankara Training and Research Hospital, was repeatedly hit in the head against a table and a wall and was choked and physically assaulted by sitting on her throat and face because she asked her patient for their medical history in order to prescribe medication. Once again, #HealthcareViolence.</li> </ul>

their loved ones was prominently highlighted. The word “killing” was the most frequently encountered term (Table 1). Similar patterns were observed in China, where healthcare workers were held responsible for patient deaths, and the use of weapons in committing violence was also reported.<sup>16</sup> This phenomenon could be related to the concept of survivor’s guilt or the high expectations placed on healthcare professionals. Moreover, the significant attention garnered by the concept of being killed in social media may be attributed to the fear and high level of social sensitivity it generates within the community.

Another prominent theme with high engagement was non-lethal physical assaults. The reasons often revolved around the perception that patients were being neglected. Notably, the incidents ranged from being punched to being admitted to the intensive care unit. The term “attack” was more commonly encountered within this category (Table 2). A similar study conducted in Konya, Türkiye also identified the prevalence of verbal and physical assaults, with the primary reasons being dissatisfaction, long waiting times, and expectations of attention and politeness.<sup>17</sup> In social media discussions in some countries in South Asia as Bangladesh physical violence were frequently mentioned.<sup>18</sup> Similarly, In some Middle Eastern countries, where perpetrators of violence can face severe penalties, including death sentences, reports of both lethal and non-lethal physical violence were limited.<sup>19-21</sup>

A social media study conducted in our country highlighted that kicks and punches, as well as the use of knives and guns, were common methods of physical assault. Incidents of throwing chairs and tables at healthcare workers due to losing control were also observed.<sup>22</sup>

In the social media discourse in Bangladesh, reports of physical violence, both lethal and non-lethal, often followed cases of sexual assault. While sexual assault is a prevalent issue in many countries, countries where discussing sexuality remains taboo may not yield clear findings.<sup>18</sup> Similarly, in Egypt, despite the prevalence of healthcare-related violence, the concept of sexual violence was scarcely mentioned.<sup>23</sup> This led us to speculate that instances of sexual assault might be disguised under the category of physical violence in social media discussions.

TABLE 5: Posts of psychological violence in tweet content.

Tweet codes and numbers	Most retweets
Threatening (935), Insulting (849), Blocking (729), Shouting (545), Scolding (529), Accusing (472), Targeting (379), Annoying (272), Swearing (260), Coercion (223), Discrediting (206), Tiring (203), Defamation (193), Verbal (170), Provocation (118), Injustice (107), Bullying (106), Neglecting (96), Ignoring (91), Pressure (80), Discrimination (59), Imposition (58), Irregularity (53), Humiliation (48), Inequity (46), Torture (42), Belittling (37), Disturbing (37), Indifference (26), Mocking (22), Intimidation (19), Superficiality (17), Offending (17), Offensive/obscene Language (14), Implication (10), Consumption (5)	<ul style="list-style-type: none"> <li>■ <i>With the full-time employment law, many physicians left the public sector. Due to Ministry of Health's Communication Center, healthcare violence, and malpractice laws, thousands of doctors went abroad. Demands from private hospitals turned into corporate pressure, and due to long working hours, transition to private practices occurred. Now even that has a limit. Enough is enough, think about it and let us be.</i></li> <li>■ <i>Look at this service, just look at it. When a non-urgent patient complains about waiting too long in the emergency department, you immediately reprimand them. What happened to the Code White I initiated a couple of weeks ago for the patient's relative who was about to attack me? Can you also show some interest in that situation, if it's not too much trouble?</i></li> <li>■ <i>For those who threaten us instead of taking a single step for our rights and finding a solution to #healthcareviolence, we do not FORGIVE those who try to intimidate us for our rightful struggle...</i></li> <li>■ <i>We're tired, we're worn out, we've been beaten, we've died, we've been killed. #kremkarakaya</i></li> <li>■ <i>I just spoke to my sibling who is a doctor, their voice was shaky. When I kept asking about what happened, they finally told me. A patient and their relative verbally attacked them. They issued a Code White. They got a report after the assault. After explaining, my sibling burst into tears. They're saying they don't want to work anymore. Enough. I don't want to work either.</i></li> <li>■ <i>I was so scared that I couldn't even open my mouth at first, I froze, when he put his hand to his waist, I saw a black object, but I didn't realize what it was, the patient's relatives forced him out, he was still shouting and threatening, hurling insults. When I regained myself, I called a Code White.</i></li> <li>■ <i>I'm so tired of dealing with people that today, I didn't issue a Code White to a patient who verbally abused me. Imagine such a state of exhaustion, in an emergency department where there are only three of us left, this is my last month, I'm resigning too.</i></li> <li>■ <i>Clashes Among Patient Relatives at Çukurova University Balçalı Hospital. Healthcare Workers Were Threatened.</i></li> <li>■ <i>Is it over? Not just once, but twice, how much longer can we continue with this violence? How can we practice our profession like this? We want our voices to be heard!!!</i></li> <li>■ <i>I was taking medical history from a young patient, and they had allergies to a few medications. I was trying not to write down the allergies and instead focusing on which specific medication they were allergic to. Meanwhile, the man with a toothache is still inside, pounding on my desk with his hand, shouting and causing a scene. From now on, it's a Code White immediately, I won't be conducting the examination.</i></li> </ul>

It is important to note that violence incidents within healthcare institutions are not limited to physical violence alone. The exposure to psychological and verbal violence can be likened to the tip of an iceberg theory. The WHO struggles to explicitly define threat and verbal abuse, which are forms of violence similar to physical violence. This type of violence aims to undermine the victim's values, self-esteem, and self-identity, induce fear, and keep the victim under the control of the perpetrator.<sup>24</sup> Unlike other forms of violence, psychological violence lacks concrete evidence. However, it often coexists with other types of violence. For instance, a victim of physical or sexual assault may also experience emotional abuse.<sup>14</sup> Among our findings, psychological violence garnered the least interaction. Threats against healthcare workers were predominantly condemned, and these posts rarely offered reasons for the perpetrators' actions. Words like "threat" and "insult" were frequently used (Table 5). In Pakistan, it was reported that notes containing death threats were left on healthcare workers' desks.<sup>25</sup> The incident of leaving a severed tongue on a professor's desk, which gained substantial attention in our study, highlighted the issue of death threats. A study analyzing online media news in our country also found that psychological violence received less attention.<sup>22</sup> In China, healthcare workers from ethnic minorities were less likely to report psychological violence, and their likelihood to give orders or report to superiors in such situations was lower.<sup>26</sup> In Europe and America, reporting rates for verbal abuse were higher.<sup>27,28</sup>

Compared to other professions, healthcare professions involve sensitive work experiences characterized by emotional burdens in addition to professionalism. When conveying distressing news related to chronic, life-threatening diseases or patient deaths, outbursts of violence may seem inevitable and could be perceived as of lesser importance to authorities. Additionally, doctors who work with patients with psychiatric disorders may often attribute violence incidents to the patients' mental state and avoid reporting such cases.<sup>29</sup>

Martin Seligman's theory of learned helplessness posits that when individuals perceive a lack of control over a situation, they may cease efforts to ef-

fect change. Consequently, many doctors might assess that reporting incidents would yield no meaningful change. Similar sentiments were found in our findings.

Numerous organizations around the world advocate for a zero-tolerance policy towards all forms of violence, as reflected in social media posts.<sup>30</sup> Similar sentiments were evident in our study. Content discussing lenient punishments for culprits often garnered significant interaction. This pattern evoked a sense of negative emotion. This negative sentiment seemed to correlate with an increasing intensity of violence incidents and related posts over time. Concerns have been raised that news headlines appearing in newspapers like "İnci" and "Bourse" have become normalized within society.<sup>31</sup> Our study demonstrates that healthcare-related violence has garnered significant media attention, and the presence of despairing expressions in the content supports this observation. Therefore, we believe that increasing the number of scholarly works that analyze and compile social media content could prove beneficial.

Violence within medical workplaces is a complex issue that cannot be evaluated by individuals or simple strategies alone. Understanding the types and motives of violence, as well as identifying the perpetrators, is essential. In our social media content analysis, patients and their relatives were frequently portrayed as the perpetrators of violent incidents, with discussions often centering on the implementation of legal measures. Healthcare workers, media, and societal structures were all believed to be linked to healthcare-related violence. An online media study conducted in our country highlighted that aggressive individuals, frequently relatives of patients, often attributed their actions to reasons such as excessive waiting times, miscommunication, and dissatisfaction with treatment, justifying both physical and verbal assaults.<sup>22</sup> In fact, in Konya, nearly half of the patients and their relatives believed that healthcare workers sometimes deserved the violence inflicted upon them.<sup>17</sup>

In foreign literature, parties responsible for violence varied. In Saudi Arabia, perpetrators of vio-

lence were often identified as patients and their relatives.<sup>32</sup> In Chinese social media, users were more likely to hold legal consequences accountable, expressing dissatisfaction with light penalties and expecting serious regulatory changes from politicians.<sup>33</sup> While patients and their relatives dominated the discourse in our study, there were also hashtags blaming the Ministry of Health. Legal measures to combat healthcare-related violence have recently been incorporated into our legislation. The “White Code” was introduced in 2011, defining healthcare violence as a work accident, and its content was enacted in 2012.<sup>34</sup> The consideration of attacks against healthcare workers as work-related accidents has become more prevalent in the international literature since the International Labour Statisticians Meeting in 2018.<sup>35</sup>

#### LIMITATIONS OF THE STUDY

One of the most significant limitations of our research is that the data were obtained solely from the Twitter application, which means that the thoughts of participants using other platforms were not included. Another limitation is the sheer volume of posts and our focus on a societal approach, which restricted the presentation of our findings to only the most frequently interacted cases. Consequently, not all posts could be included in our study.

#### CONCLUSION

The social media tool we utilized as a data collection instrument reveals that the concept of violence in healthcare is perceived as a notable threat both qualitatively and quantitatively. Literature findings that commonly cite reasons for not reporting individual acts of violence align with tweets expressing sentiments of “lack of belief in change”, supporting these observations. Based on the results obtained from our study, it is recommended to further develop this concept related to employee health and safety, touching on high-interaction topics in the realm of social media, through various perspectives, complex analy-

sis models, temporal and cross-cultural comparisons, in different periods.

In our study, we believe that our results suggest that individuals perceive social media as an environment in which they can freely express their emotions. In this regard, we are of the opinion that in-depth research techniques examining concepts of societal sensitivity and fear, such as violence in healthcare, from the literature, could be beneficial. Since healthcare-related violence and factors that may be associated with it can be related to various research fields such as physical, sociological, political, managerial, economic, and technological conditions, it is advisable to evaluate this topic from a multidisciplinary perspective in future research. Regarding the solutions to current problems, it could be a positive starting point for researchers to focus on studies that assess tendencies towards violence and educational projects, while institutions could support researchers with financial or non-financial assistance.

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#### Conflict of Interest

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

#### Authorship Contributions

*All authors contributed equally while this study preparing.*

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