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Original Article

Three-Year Assault Cases Performed on the Emergency Trauma Center

Acil Travma Merkezine Başvuran Üç Yıllık Darp Olgularının Analizi

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ABSTRACT

Objective: This study aims to compare the results of cases with a history of assault presented to our emergency department over a period of three years with literature data and to share our experiences with colleagues.

Methods: Demographic characteristics, trauma findings, clinical conditions, surgical interventions, mortality, and outcomes of patients with a history of assault to the emergency department between 2020 and 2022 were retrospectively examined. The results were analyzed using the Number Cruncher Statistical System 2007 Statistical Software package program (Utah, USA).

Results: A total of 2900 patients, including 1850 males (63.79%) and 1050 females (36.21%), with an average age of 35.53±12.46 years, were included in the study. Most admissions (31.28%) occurred during the summer months and outside working hours. Males inflicted all injuries. The most common injuries occurred in the head-neck region (63.31%) and upper extremities (47.97%) in both sexes. Facial injuries were significantly more common in males (p=<0.05), whereas spinal and pelvic injuries were common in females (p<0.05). Tenderness, edema, hematoma, abrasion, ecchymosis, and soft tissue laceration were the most frequently observed findings. Female patients were more likely to be discharged home (p=0.0001), whereas male patients had a higher hospitalization rate (p=0.0001). Life-threatening ailments were discovered in 23 patients (0.79%). Surgical intervention was performed in 50 patients (1.72%). No patient experienced fatal outcomes.

Conclusions: All assaults were committed by males. Males are more frequently and severely assaulted than females. The victims were mainly from young people, and assaults predominantly occurred during the summer months and outside working hours. Head-neck and extremity injuries were the most common. There were no fatal outcomes. Nine of the 10 patients were discharged to home from the emergency department.

Keywords: Assault, emergency, sex, education, age

ÖZ

Amaç: Bu çalışmanın amacı acil servisimize üç yıllık süre içinde başvuran darp öyküsü olan olguların sonuçlarını literatür verileri ile karşılaştırmak ve deneyimlerimizi meslektaşlarımızla paylaşmaktır.

Yöntemler: 2020-2022 yılları arasında 3. basamak bir hastane acil servisine saldırı öyküsü ile başvuran olguların demografik özellikleri, travma bulguları, klinik durumları, cerrahi müdahaleleri, mortaliteleri ve hasta sonuçları retrospektif olarak incelendi. Sonuçlar Number Cruncher Statistical System 2007 Statistical Software paket programı (Utah, ABD) kullanılarak analiz edilmiştir.

Bulgular: Yaş ortalaması 35,53±12,46 yıl olan 1850 erkek (%63,79) ve 1050 kadın (%36,21) olmak üzere toplam 2900 hasta çalışmaya dahil edildi. Başvuruların çoğunluğu (%31,28) yaz aylarında ve çalışma saatleri dışında gerçekleşmiştir. Tüm yaralanmalar erkekler tarafından gerçekleştirilmiştir. Her iki cinsiyette de en sık yaralanmalar baş-boyun bölgesinde (%63,31) ve üst ekstremitelerde (%47,97) meydana gelmiştir. Yüz yaralanmaları erkek hastalarda istatistiksel olarak daha sık görülürken (p=<0,05), omurga ve pelvis yaralanmaları kadın hastalarda daha sıktı (p<0,05). Hassasiyet, ödem, hematom, abrazyon, ekimoz ve yumuşak doku laserasyonu en sık gözlenen bulgulardı. Kadın hastaların eve taburcu edilme olasılığı daha yüksekken (p=0,0001), erkek hastaların hastaneye yatış oranı daha yüksekti (p=0,0001). Hayati tehlike 23 hastada (%0,79) tespit edildi ve 50 hastaya (%1,72) cerrahi müdahale uygulandı. Hiçbir hastada ölümcül sonuç görülmedi.

Sonuçlar: Çalışmamız, tüm saldırı olgularının erkekler tarafından gerçekleştirildiğini ve erkeklerin kadınlara kıyasla daha sık ve ağır saldırıya uğradığını ortaya koymuştur. Mağdurlar çoğunlukla genç yaş grubundandır ve saldırılar ağırlıklı olarak yaz aylarında ve mesai saatleri dışında gerçekleşmiştir. Saldırılarda en sık baş-boyun ve ekstremite yaralanmaları görülmüş, ölümle sonuçlanan olgu olmamış ve on hastadan dokuzu acil servisten eve taburcu edilmiştir.

Anahtar kelimeler: Saldırı, acil durum, cinsiyet, eğitim, yaş

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INTRODUCTION

The World Health Organization (WHO) defines violence as "events that involve the intentional use of physical force or power, threatened or actual, against oneself, another person, or a group or community, resulting in injury, death, psychological harm, poor development, or deprivation or with a high likelihood of occurrence". "Assault" is a form of interpersonal violence and ranks as the fourth leading cause of injury-related deaths[1]. There was an observed increase in emergency department admissions due to intentional inflicted injuries related to domestic violence, friend violence, and, notably, violence against women. These events not only disrupt victims' sense of security and quality of life but also lead to psychological and emotional consequences for family members, friends, and the community at large[2,3]. Materials such as fists, kicks, stones, weapons, and sticks are commonly used as attack tools to harm other objects[4]. Recognizing the significance of injuries in this context is crucial for evidence-based approaches to prevent death and disability and mitigate harm. These cases are assessed as "medico-legal cases" in emergency department admissions.

Globally, the mortality rate of assault cases varies, with males having double the mortality rate of females. One in three women aged above 15 years is reported to have been assaulted by an intimate partner[5]. More than 90% of interpersonal violence cases occur in low-and middle-income countries[6]. Assault cases tend to present more frequently to emergency departments during the summer months and outside working hours[7]. The head-neck regions are most commonly attacked, with bruises, swelling, fractures, contusions, soft tissue lacerations, and bleeding being the most prevalent findings[8]. The severity of an incident may not be directly proportional to the extent of the lesions[9]. Applying the advanced trauma life support algorithm is essential in patient management. Global reactions to such cases have been increasing in recent years, and these actions are raising awareness.

Emergency physicians play a significant role in the clinical evaluation and management of patients with a history of assault. The pattern of presentation of assaulted patients to the emergency department, their physical and psychological conditions, injury localisations and epidemiological characteristics of the victims help to understand and manage such incidents more accurately. The level of education and awareness of healthcare professionals also play a vital role in managing such cases[10]. It is of utmost importance for healthcare professionals, especially emergency physicians, who first encounter this patient group clearly and transparently document injuries and treatment management, which is crucial to ensure that the rights of the parties involved are not violated[11]. In this study, a retrospective evaluation was performed on the demographic characteristics, presentation patterns, trauma localizations, clinical conditions, treatments, and out-comes of patients with a history of assault admitted to the emergency department of tertiary hospital with a history of assault between 2020-2022. This study aimed to share our clinical experiences with emergency physicians and to raise awareness of assault both clinically and socially.

METHOD

Study and Location

Cases: Presented to the emergency department of tertiary hospital with a "history of assault" were retrospectively examined between January 01, 2020 and December 31, 2022. This study was approved by the H.S. Istanbul Medeniyet University Göztepe Training and Research Hospital Clinical Research Ethics Committee (decision no :2023/0219, date: 29.03.2023). The study was conducted in accordance with the ethical standards of the 1964 Helsinki Declaration (Appendix 3 of the Helsinki Declaration) and its subsequent amendments. The location of the survey, emergency department of tertiary hospital in Istanbul, is among the neighborhoods with the highest educational levels in the metropolitan city.

Data collection: Between the specified dates, cases with ICD codes W50 (assault by another person, striking, stomping, bending, biting) and W51 (assault by another person) were screened. Clinical and forensic case information found in the digital files of the cases were accepted as data. The data were recorded in an Excel file under main headings. After data collection, the data were transferred to an NCSS file for analysis.

Parameters screened: The data recorded for analysis in this study are as follows:

1. Demographic data of patients: age, sex, date, and time of admission
2. Glasgow Coma scale at the time of admission
3. Life-threatening situation
4. Localization of assault (including sub-regions in the head such as nasal, maxilla, mandible, zygoma, frontal, orbital, temporal, parietal, occipital, neck, and spinal injuries, thoracic injuries, abdominopelvic injuries, extremity injuries)
5. Physical examination findings related to the assault (tenderness, edema, hematoma, abrasion, ecchymosis, presence of cuts, fractures, lacerations, etc.)

6. Imaging results (X-ray, computed tomography)
7. Consultations requested.
8. Treatments performed (surgery, dressing, incision suturing, bone reduction, and splint application, prescription only, no treatment)
9. Outcomes (discharged home, outpatient follow-up, hospitalization, exists, treatment refusal, and unauthorized abandonment).

Inclusion criteria:

1. Patients aged 18 years who presented between January 01, 2020 and December 31, 2022
2. Patients diagnosed with a diagnosis entered digital files with codes W50 and W51.

Exclusion criteria:

1. Patients who were admitted to the emergency department with the request of "being assaulted" but were later identified as "victims of verbal violence only" during the investigation, and cases in which an entry-exit report under police supervision was requested due to an unspecified crime were excluded from the study.

2. During the three-year data screening phase, 3515 patient files were accessed. Of these, 2900 patients who satisfied the study criteria were recorded.

Statistical Analysis

In this study, statistical analyses were performed using the NCSS (Number Cruncher Statistical System) 2007 Statistical Software package program (Utah, USA). Descriptive statistical methods (mean, standard deviation) were employed to evaluate the data. Additionally, the Shapiro-Wilk normality test was used to assess the distribution of variables. For variables with a normal distribution, one-way analysis of variance was used for intergroup comparisons, Tukey's multiple comparison test for subgroup comparisons, and the chi-square test for comparisons of qualitative data. The results were evaluated at a significance level of $p<0.05$.

RESULTS

Among the patients included in our study, 1850 (63.79%) were male and 1050 (36.21%) were female. The mean age of all patients was determined to be 35.53±12.46 (minimum 18, maximum 92) years. The distribution of patients who presented in 2020, 2021, and 2023 was 29.00 (n=841), 33.62 (n=975), and 37.38 (n=1084), respectively. The highest number of presentations occurred during the summer months (June, July, and August), at 31.28%. More than half of the patients (54.14%) were admitted to the emergency department pm 03.00.

When the region and localization of the trauma were examined, the head (63.31%) and upper extremities (47.97%) were most commonly injured, respectively. The maxilla (16.79%) within the head region showed the highest injury rate. The recorded patient findings included tenderness, edema, hematoma, abrasion, ecchymosis, and soft tissue laceration. Tenderness was the most frequently observed sign in the trauma region (62.45%). Among the 2900 patients included in the study, 23 (0.79%) were considered life-threatening, and 50 (1.72%) were hospitalized in surgical clinics (Table 1). Patients were predominantly consulted in the plastic surgery (8.31%) and orthopedic (7.48%) departments (Table 1).

Nasal ($p=0.0001$), mandibular ($p=0.045$), frontal ($p=0.0001$), orbital ($p=0.0001$), and temporal ($p=0.025$) trauma occurred at higher rates in male patients than in female patients. The incidence of spinal ($p=0.006$), pelvic ($p=0.0001$), lower extremity ($p=0.0001$), and upper extremity ($p=0.0001$) trauma was higher in female patients (Table 2). Surgical hospitalization and out-patient follow-up were higher in male patients, whereas the discharge rate in female patients was higher ($p=0.0001$) (Table 2). Tenderness ($p=0.001$) and ecchymosis ($p=0.0001$) were more prevalent in female patients, whereas laceration ($p=0.0001$), edema ($p=0.0001$), hematoma ($p=0.007$), and abrasion ($p=0.002$) were more prevalent in male patients (Table 2). Discharge rates were higher among patients arriving during the day ($p=0.0001$), whereas hospitalizations to surgical departments were higher in patients arriving more toward the evening and night ($p=0.02$). The mean age ratio was lower among patients arriving outside working hours ($p=0.0001$) (Table 3).

Patients who refused treatment and left the emergency department had a higher incidence of nasal ($p=0.0001$) and cervical ($p=0.011$) injuries. Patients with lower extremity and orbital injuries were more likely to be hospitalized and were treated ($p=0.0001$) (Table 4).

DISCUSSION

In Türkiye, the initial assessment of assault cases and the preparation of forensic reports are performed by emergency medicine physicians. Injuries can sometimes lead to dire consequences, including death. To reduce incidents of assault and their associated damages, the

Table 1. Distribution according to trauma location, symptoms, outcome, and ordered consultations.

	n	%
Trauma localization		
Nasal	423	14.59
Maxilla	487	**16.79**
Mandible	242	8.34
Zygoma	217	7.48
Frontal	476	16.41
Orbit	417	14.38
Temporal	303	10.45
Parietal	279	9.62
Occipital	259	8.93
Thoracolumbar vertebrae	152	5.24
Cervical vertebrae	538	18.55
Thoracic	505	17.41
Abdomen	142	4.90
Pelvis	123	4.24
Upper extremity	1391	**47.97**
Lower extremity	632	21.79
Symptoms		
Vital danger	23	0.79
Sensitivity	**1811**	**62.45**
Edema	662	22.83
Hematoma	147	5.07
Abrasion	1519	52.38
Ecchymosis	1093	37.69
Incision	590	20.34
Outcome		
Outpatient discharge	2625	**90.52**
Hospitalization in surgical departments	50	1.72
Outpatient clinic control	187	6.45
Treatment rejection	21	0.72
Unauthorized abandonment	17	0.59
Consultations		
Neurosurgery	38	1.31
General surgery	20	0.69
Obstetrics and gynecology	23	0.79
Eye diseases	107	3.69
Plastic surgery	58	2.00
ENT	**241**	**8.31**
Orthopedics	217	**7.48**
Thoracic surgery	9	0.31
CVS	9	0.31
Neurology	4	0.14
Urology	7	0.24
Social services	5	0.17

ENT: Ears, nose, and throat, CVS: Cardiovascular surgery

WHO, non-governmental organizations, and governments have been compelled to implement specific measures[12].

In developing countries, there is an increase in the number of various assault incidents worldwide. In Türkiye, articles have been published on this issue. In a study conducted by Seviner et al.[13], in the southern part of Türkiye, in which 5870 forensic cases were analyzed, it was determined that the number of male cases was approximately twice that of female cases. In a study conducted by Kanal et al.[14] in another province of Türkiye, the sex ratios were strikingly similar to the findings of this study. Our study was conducted in western Türkiye (Istanbul), and the sex ratios were similar to those observed in these two studies. According to data from the Turkish Statistical Institute, the education level in Istanbul is higher than in the other two locations where the studies were conducted. It was considered particularly interesting that there was no difference in sex ratios between the studies conducted in the three regions with different education levels. This observation suggests that assault incidents are a general issue in Türkiye, regardless of educational level. Our study, conducted in one Istanbul region, which has been officially recorded as the area with the highest education level, aligns with this trend. Despite being in a region with a high education level, assault incidents did not show significant differences between areas with lower educational levels.

The average age of assault victims is a significant factor in cases of assault. In our study, the mean age of assault victims presenting to our emergency department was similar to the results of four studies[14-17] conducted in different regions of Türkiye. These results indicate that assault incidents in Türkiye predominantly affect younger age groups.

In the study by Bennet et al.[18], although the sex ratios were slightly different, they favor males. The study suggests that the reason for the higher involvement of males in assault incidents is their increased risk of violence. There are also hypotheses that the male-favoring ratios result from better interhemispheric connections in females and deficits in the frontal cortex in males[19]. Fazel et al.[20] also emphasized the association between assault incidents and psychiatric disorders. In our study, all 2900 male and female victims were assaulted by males. There were no cases in which the perpetrator was female. Although our research did not specifically investigate the causes of these incidents, we believe that the dominant aggression observed in males cannot be solely attributed to structural and functional differences in the brain. We consider that factors such as family structure, the upbringing of children, the content

Table 2. Distribution of trauma sites according to sex.				
	All patients n (%)	**Male n (%)**	**Female n (%)**	**p+**
Trauma localization				
Nasal	423 (14.59)	340 (18.38)	83 (7.90)	**0.0001**
Maxilla	487 (16.79)	326 (17.62)	161 (15.33)	0.113
Mandible	242 (8.34)	140 (7.57)	102 (9.71)	**0.045**
Zygoma	217 (7.48)	150 (8.11)	67 (6.38)	0.104
Frontal	476 (16.41)	350 (18.92)	126 (12.00)	**0.0001**
Orbit	417 (14.38)	298 (16.11)	119 (11.33)	**0.0001**
Temporal	303 (10.45)	211 (11.41)	92 (8.76)	**0.025**
Parietal	279 (9.62)	189 (10.22)	90 (8.57)	0.149
Occipital	259 (8.93)	173 (9.35)	86 (8.19)	0.292
Thoracolumbar vertebra	152 (5.25)	81 (4.39)	71 (6.77)	**0.006**
Cervical vertebrae	538 (18.55)	332 (17.95)	206 (19.62)	0.265
Thoracic	505 (17.41)	319 (17.24)	186 (17.71)	0.748
Abdomen	142 (4.90)	83 (4.49)	59 (5.62)	0.174
Pelvics	123 (4.24)	49 (2.65)	74 (7.05)	**0.0001**
Upper extremity	1.391 (47.97)	806 (43.57)	585 (55.71)	**0.0001**
Lower extremity	632 (21.79)	340 (18.38)	292 (27.81)	**0.0001**
Outcome				
Outpatient discharge	2625 (90.52)	1631 (88.16)	994 (94.67)	**0.0001**
Surgical departments	50 (1.72)	41 (2.22)	9 (0.86)	**0.006**
Outpatient clinic control	187 (6.45)	150 (8.11)	37 (3.52)	**0.0001**
Treatment rejection	21 (0.72)	17 (0.92)	4 (0.38)	0.122
Unauthorized abandonment	17 (0.59)	11 (0.59)	6 (0.57)	0.827
Signs of injury				
Tenderness	1811(62.45)	1114(60.22)	697(66.38)	**0.001**
Edema	662(22.83)	466(25.19)	196(18.67)	**0.0001**
Hematoma	147(5.07)	109(5.89)	38(3.62)	**0.007**
Abrasion	1519(52.38)	1009(54.54)	510(48.57)	**0.002**
Ecchymosis	1093(37.69)	578(31.24)	515(49.05)	**0.0001**
Laceration	590(20.34)	471(25.46)	119(11.33)	**0.0001**
+:Chi-square test				

Table 3. Comparison of patient outcomes according to arrival time.					
	All Hours	**08:00-15:00**	**15:01-00:00**	**00:01-07:59**	**P**
Age	**35.53±12.46**	**37.53±12.50**	**35.42±12.66**	**33.56±11.54**	0.0001*
Outcome					
Outpatient discharge	2625 (90.52)	650 (92.33)	1431 (91.15)	544 (86.90)	**0.02+**
Surgical departments	50 (1.72)	9 (1.28)	27 (1.72)	14 (2.24)	**0.02+**
Outpatient control	187 (6.45)	34 (4.83)	96 (6.11)	57 (9.11)	**0.02+**
Treatment rejection	21 (0.72)	4 (0.57)	11 (0.70)	6 (0.96)	**0.02+**
Vital danger	23 (0.79)	5 (0.71)	13 (0.83)	5 (0.80)	**0.958+**
*One-Way Analysis of Variance					

Table 4. Association between trauma locations and patient outcomes.						
	Discharge	**Hospitalization in the surgical department**	**Outpatient control**	**Treatment rejection**	**Unauthorized abandonment**	**p-value**
Nasal	325 (12.38)	5 (10.00)	84 (44.92)	7 (33.33)	2(11.76)	**0.0001**
Maxilla	432 (16.46)	14 (28.00)	33 (17.65)	7 (33.33)	1 (5.88)	**0.035**
Mandible	227 (8.65)	8 (16.00)	6 (3.21)	1 (4.76)	0 (0.00)	**0.014**
Zygoma	188 (7.16)	5 (10.00)	23 (12.30)	1 (4.76)	0 (0.00)	0.069
Frontal	432 (16.46)	11 (22.00)	23 (12.30)	5 (23.81)	5 (29.41)	0.173
Orbit	341 (12.99)	15 (30.00)	54 (28.88)	6 (28.57)	1 (5.88)	**0.0001**
Temporal	278 (10.59)	3 (6.00)	20 (10.70)	1 (4.76)	1 (5.88)	0.693
Parietal	256 (9.75)	4 (8.00)	16 (8.56)	2 (9.52)	1 (5.88)	0.949
Occipital	243 (9.26)	5 (10.00)	8 (4.28)	0 (0.00)	3 (17.65)	0.060
Toracolomber	133 (5.07)	5 (10.00)	13 (6.95)	1 (4.76)	0 (0.00)	0.343
Cervical	508 (19.35)	4 (8.00)	22 (11.76)	1 (4.76)	3 (17.65)	**0.011**
Thorax	460 (17.52)	7 (14.00)	31 (16.58)	4 (19.05)	3 (17.65)	0.968
Abdomen	121 (4.61)	5 (10.00)	12 (6.42)	3 (14.29)	1 (5.88)	0.085
Pelvics	110 (4.19)	3 (6.00)	9 (4.81)	1 (4.76)	0 (0.00)	0.859
Upper extremity	1.273 (48.50)	17 (34.00)	88 (47.06)	7 (33.33)	6 (35.29)	0.128
Lower extremity	563 (21.45)	24 (48.00)	37 (19.79)	4 (19.05)	4 (23.53)	**0.0001**

of the education provided, the social fabric of the society, the values and beliefs held, reward mechanisms, and the sanctity attributed to males contribute to these incidents.

The high prevalence of male violence is undoubtedly a global humanitarian issue that must be addressed. The fact that one in three women worldwide have been subjected to domestic violence by their partners confirms the severity of this problem.

As in the rest of the world, in Türkiye, the years 2020-2021 were marked by a unique sociological atmosphere due to the COVID-19 pandemic and the measures taken, including quarantine applications. During this period, there was a decrease in hospital admissions because of the risk of COVID-19 transmission, and hospital operations changed[21,22]. In our study, the lowest number of forensic case reports occurred in 2020. We attribute this to the strict implementation of the COVID-19 pandemic restrictions in our country during that year. A similar result was demonstrated in a study by Kuitunen et al.[23]. This is likely due to the first lockdown implemented in Türkiye on April 10-12, 2020. In the following two years, an increase in cases was observed. Díaz-Faes et al.[24] also noted that lockdowns and curfews decreased hospital admissions for forensic cases. However, it has become controversial whether restrictions on social life increase domestic violence incidents.

It is well-known that the number of trauma admissions to the emergency department increases during the summer months and prolonged vacations[25]. In our study, when the seasonal distribution of assault cases was analyzed, it was observed that approximately one-third of all cases occurred during the summer months. Similar findings have been reported by Küçüker et al.[26], Altun et al.[27] also reported cases in different regions of Türkiye, indicating that forensic cases mainly occur during summer. The increase in forensic cases during the summer months in Türkiye can be attributed to the intensified workload in specific service sectors, particularly agriculture and livestock, during this period. Examining the hours of forensic case admissions have been a subject of interest in both our study and many others. In a study by Korkmaz et al.[28], who screened 47.758 cases, forensic case admissions mainly occurred during afternoon and night shifts. We conclude that factors such as fatigue at the end of the day, heavy traffic during rush hours in large cities leading to stress, higher alcohol consumption and its consequences during late-night hours, conflicts among fans attending late-night sports events, and relatively lower tolerance limits among young partners contribute to triggering assault incidents.

In cases of assault, the localization of injuries is crucial for assessing the victim's risk of mortality, organ damage/function loss, intention of the assailant and the degree of punishment they may face. Therefore, the first responding

physician must handle the situation exceptionally sensitively and maintain accurate records. In a study by Brink et al.[29], which analyzed 1481 cases, more than 95% of the victims were exposed to blunt trauma, and the trauma locations occurred in the craniofacial region in 69% of cases. In Payne-James and Dean's[30] study, craniofacial injuries were identified in at least half of the patients. Our study confirms the literature findings of a high incidence of craniofacial injuries, especially in the nasal, frontal, orbital, and maxillary regions. In attacks involving face-to-face violence, the craniofacial region is often the primary target. The higher incidence of nasal, maxillary, and orbital trauma in male patients than in female patients can be explained in this context. Conversely, women are more likely to find themselves in defensive positions, which may influence the localization of the impact they receive. Spinal injuries have been observed more frequently in women than in men. In our study, statistically significantly higher rates of spinal injuries were observed in female patients than in male patients. In a prospective study conducted in many different centers in Türkiye, examining approximately 150,000 cases, the most frequently identified injury regions were extremities, head-neck region, and abdomen[31]. We believe that the high frequency of extremity injuries, second only to head traumas, is mainly due to the use of extremities as both defensive and offensive tools.

It is well known that the mortality rate of male assault cases is higher. Data for approximately 25 years of assault cases in Scotland revealed that mortality is higher in men than in women[32], no fatal outcomes were observed in our study. However, the proportion of male patients was significantly higher among those in whom life-threatening conditions were detected upon admission and hospitalization to surgical departments. The higher rate of outpatient discharge for female patients compared with male patients also indicates that males tend to sustain more serious injuries during assaults. Consistently, more severe injuries, such as cuts and fractures, were observed in male patients than in female patients.

Generally, nine out of every ten patients in our study were directly discharged from the hospital in a multicenter study conducted by Seviner et al.[13], which involved forensic cases presenting to the emergency department; 56.8% of the cases were hospitalized, and 21.1% were observed to be in a life-threatening condition. In our study, the rate of life-threatening conditions was lower than that in this study (0.71%). A study in Brazil involving 62 centers and 4835 cases emphasized that young males caused more severe and fatal injuries using cutting or stabbing tools and firearms[33]. Some studies demonstrated the influence of sociocultural factors, societal patriarchal norms, and gender roles, suggesting that violence among men can lead to more dangerous consequences[34].

Since the injury locations are generally concentrated in the head and extremities, the need for consultation is usually in the otorhinolaryngology departments, plastic surgery, neurosurgery, and orthopedics. It is important to note that the mean age of patients consulted and hospitalized in surgical departments was higher than that of patients discharged as out-patients. There could be many reasons for this that we could not identify. One of the reasons may be that body tissues become more vulnerable with age, and accordingly, more injuries are sustained during impacts.

Study Limitations

Our study was designed retrospectively, and detailed data regarding the mechanisms of trauma formation could not be collected. The relationship between trauma and specific subgroups, such as the elderly population's abuse or the association with subgroups like partner violence, has not been investigated. Only adult patients (>16 years of age) were included, and incidents of abuse and violence in children were not analyzed. The primary cause of the assault could not be determined. This study is not multicenter and focuses on only one region of Istanbul, which is a metropolitan city.

CONCLUSION

In our study, the following findings were obtained: All assault incidents were committed by male individuals, with males being more frequently and severely assaulted than females. The victims were predominantly from the youth group. Assault incidents primarily occurred during the summer months and outside working hours. The head-neck region and extremities were the most injured areas during assaults. Assault incidents have increased over the years. Except for mortality, our findings demonstrated similarities with the literature. No fatalities were observed, and nine out of ten patients admitted to the emergency department were discharged home.

Ethics

Ethics Committee Approval: This study was approved by the H.S. Istanbul Medeniyet University Göztepe Training and Research Hospital Clinical Research Ethics Committee (decision no: 2023/0219, date: 29.03.2023).

Informed Consent: Presented to the emergency department of tertiary hospital with a "history of assault" were retrospectively examined between January 01, 2020 and December 31, 2022.

Footnotes

Author Contributions

Concept: M.Y.S., B.A., E.T., Design: M.Y.S., B.A., G.A.S., Data Collection and/or Processing: M.Y.S., B.A., V.C., E.T., Analysis and/or Interpretation: M.Y.S., K.A., B. A.C., N.S., Literature Search: K.A., B.A.C., N.S., Writing: M.Y.S., B.A., G.A.S.

Conflict of Interest: The authors have no conflict of interest to declare.

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