

# Medical and legal evaluation of injuries due to dog bites: a Türkiye study

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## ABSTRACT

**BACKGROUND:** Dog bites are the most common type of injury related to animal bites in our country and worldwide. Dog bite wounds pose significant public health concerns and have medico-legal implications. In this study, we aimed to assess the problems associated with dog bites and propose potential solutions.

**METHODS:** We conducted a retrospective analysis of 149 cases submitted by judicial authorities to our institution, the Istanbul Council of Forensic Medicine, between 2015 and 2021, to obtain medicolegal expert opinion reports. Information regarding the cases included in the study was obtained from our archives and the National Judicial Network Project (UYAP) system. Data were recorded using Microsoft Excel 2016, and statistical analysis was performed using SPSS 25.0 for Windows (SPSS Inc., Chicago, IL).

**RESULTS:** The mean age of the cases was 33.7 years, with 57% being male. 56.4% of the incidents occurred in the city center, and 30.9% took place during the summer months. 65.8% (n=98) of the cases were attributed to stray dogs. Superficial injuries without muscle tissue involvement were observed in 54.4% (n=81) of all cases, while 22.8% (n=34) had deep tissue defects or flap injuries, 4.7% (n=7) involved vascular-nerve injuries, 16.1% (n=24) included bone fractures, and 2% (n=3) featured visceral injuries. Surgical treatment was performed on 37.5% (n=56) of the cases. Impairments were reported in 22.1% of the cases, with permanent facial scars affecting 16.7% of them. Psychiatric evaluations were required for 48.9% (n=89) of the cases, and 57.5% of them received a diagnosis of post-traumatic stress disorder.

**CONCLUSION:** People attacked by dogs may experience serious physical or psychological sequelae. Therefore, it is crucial to evaluate all victims using a multidisciplinary approach, addressing their physical, social, and psychological needs, and providing rehabilitation when necessary. Non-governmental organizations, such as those dedicated to the prevention of cruelty to animals, in collaboration with local veterinary services, should play a role in national initiatives to provide objective and humane solutions for both victims and animals.

**Keywords:** Dog bites; legal regulations; physical and psychological injuries.

## INTRODUCTION

Dog bites are the most common type of injury related to animal bites in our country as well as in the whole world.<sup>[1]</sup> Injuries related to dog bites emerge as an important public health problem.<sup>[2]</sup> There is no official record of the dog population for Türkiye; no official record of the number of owned (domestic) and stray dogs in Türkiye.<sup>[3]</sup> However, some studies state that there are approximately 1.5-2 million owned and

approximately 10 million stray dogs in Türkiye.<sup>[4,5]</sup> In recent years, there has been a significant increase in the number of both owned and stray dogs.<sup>[6]</sup> Especially the serious increases in the number of stray dogs seemingly lead to an increase in the number of dog attacks, causing serious safety and health problems.<sup>[7]</sup> Although there is no certain data for worldwide dog assaults, it is reported that there are about 4-5 million assaults in the USA and about 10 million assaults globally; millions of injuries are stated.<sup>[8,9]</sup>

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Dogs have strong tooth and jaw structures. Therefore, in dog bite wounds with the effect of the pressure; serious wounds of muscles, nerves, veins, arteries, bones, deep tissues, and internal organs may be seen.<sup>[10]</sup> In addition to the serious anatomical and functional losses that occur as a result of dog attacks, psychopathological sequelae such as post-traumatic stress disorder (PTSD) may occur. Learning disabilities and language developmental disorders may also be seen due to dog assaults in childhood.<sup>[11,12]</sup>

The person who has been attacked by a dog can file a lawsuit in criminal, civil, or administrative courts depending on whether the dog is owned. If the assailant dog is a house pet, the owner will be considered responsible according to articles 67 and 68 of the Turkish Obligations Code and; according to articles 177, 86, and 89 of the Turkish Penal Code.<sup>[13-15]</sup> Municipalities and governorships are jointly held responsible for the damage caused by the stray dog.<sup>[16,17]</sup>

### Physical and psychological injuries caused by dog bites

Among the prominent injuries caused by dog bites, especially in children, are facial injuries which may end up with permanent facial scars. The permanent facial scars were defined as easily recognizable scars (after 6 months of the wound healing process ended) seen on the face at first sight from a social distance in daylight both from the front and from the profile according to our national guide, causing psychological problems which may be considered as a disability defined by the World Health Organization.<sup>[18,19]</sup> According to the World Health Organization, disability is briefly defined as; difficulties encountered in body function or alterations in body structure (impairments), difficulties in executing activities (activity limitations), and problems with involvement in any area of life (participation restrictions); disability refers to any or all three areas of functioning.<sup>[19]</sup>

In our study, by conducting forensic and medical evaluations of patients who apply to our institution for a medico-legal expert report after dog bites, we aimed to raise awareness that these injuries can cause psychiatric problems, especially in children, with permanent scar injuries on the face, to contribute to the literature, and also to offer solution suggestions to protect human health and humane approaches to the problem in terms of dogs.

## MATERIALS AND METHODS

### File Review, Clinical Examination and Grouping

We retrospectively evaluated the medical records of cases sent by the judicial authorities to our institution between January 2015 and December 2021. The cases for which the Council of Forensic Medicine Institute 2nd Specialization Board was asked to prepare a medico-legal report were examined by conducting final status examinations from different regions of Türkiye. The cases that had applied to our institution for the determination of sequelae due to dog assaults were included in our study. The cases were categorized according to the age

and sex of the individuals, place of the assault, anatomical regions of the wounds, number of dogs involved, status of the involved dog (being a house pet or a stray animal), severity of the injuries, treatment methods (medical, surgical), presence or absence of impairments, presence or absence of permanent facial scars, and findings of psychiatric examinations.

### Statistical Analysis

The analysis of the data was performed with SPSS 25.0 for Windows (SPSS Inc., Chicago, IL). Descriptive statistics for categorical variables were given as numbers and percentages, for numerical variables as means, standard deviation, minimum, and maximum. Invariable groups were compared with Chi-Square Tests (Pearson Chi-Square, Fisher's Exact Test), and the statistical alpha significance level was accepted as  $p < 0.01$ .

## RESULTS

Within the scope of our study, 149 cases were examined. 57% (n=85) of the cases were male, 43% (n=64) were female, and the mean age was 33.7 (SD:19.6; min:3-max:83). 30.9% (n=46) of the cases were in the group of 0-18 years, 28.9% (n=43) were in the group of 19-39 years, 34.2% (n=51) were in the 40-65 age group, and 6% (n=9) were in the age group over 65. 56.4% (n=84) of the incidents occurred in the city center, while 43.6% (n=65) occurred in rural areas. The season distribution was as follows: 30.9% (n=46) in summer, 29.5% (n=43) in spring, 22.8% (n=34) in autumn, and 16.8% (n=25) in winter. Of the dogs involved, 34.2% (n=51) were house pets (domesticated), and 65.8% (n=98) were stray dogs. For 86.6% (n=129) of the attacks, single dogs were involved, while in 13.4% (n=20), multiple dogs were reported to attack (Table 1).

A total of 232 injuries were detected, with 38.4% (n=89) of the injuries isolated to a single anatomical region (one bite site), and 61.6% (n=143) found on multiple anatomical regions combined (multiple bite sites). The distribution of injuries by anatomical region, without distinguishing between isolated and combined injuries, was as follows: 34.5% (n=80) upper extremities, 28% (n=65) lower extremities, 13.3% (n=31) face, 8.6% (n=20) head-neck region, 7.4% (n=17) gluteal-dorsal region, 6.9% (n=16) thorax-abdomen, and 1.3% (n=3) genital region (Table 2). It was observed that 58% (n=18) of the 31 facial injuries occurred in children across all age groups.

In 54.4% (n=81) of all lesions, superficial injuries without muscle tissue were seen. Deep tissue defects-flap injuries accounted for 22.8% (n=34), vascular-nerve injuries for 4.7% (n=7), bone fractures for 16.1% (n=24), and visceral injuries for 2% (n=3) (Table 3).

Surgical intervention was necessary for 37.5% (n=56) of the cases, while simple medical treatments were applied to 62.5% (n=93) of the cases. Impairments were observed in 22.1% (n=33) of the cases, and although there were local skin lesions (scatterings, discolorations) and no sequelae that would cause disability, permanent facial scars were found in 16.7% (n=25) of the cases (Table 4). No statistically significant dif-

**Table 1.** Demographic features of cases

Groups	% (n)
Age	
0-18	30.9 (46)
19-39	28.9 (43)
40-65	34.2 (51)
>65	6 (9)
Sex	
Male	57 (87)
Female	43 (64)
Place	
Urban	56.4 (84)
Rural	43.6 (65)
Season	
Spring	29.5 (43)
Summer	30.9 (46)
Fall	22.8 (34)
Winter	16.8 (25)
Dogstatus	
House pet	34.2 (51)
Straydog	65.8 (98)
Numberof dogsinvolved	
Single	86.6 (129)
Multiple	13.4 (20)

ference was found between the type of treatment and the status of impairment between adults and children ( $p>0.05$ ). A statistically significant difference was noted between children and adults in terms of permanent facial scars ( $p<0.05$ ) (Table 4). The impairment rates of our cases ranged from 3% to 32.3%, with an average rate of 13.6%.

While 48.9% ( $n=89$ ) of the cases underwent final state psychiatric examinations, no psychopathology was detected in 57.5% ( $n=42$ ) of the psychiatrically examined cases, and PTSD

was detected in 42.5% ( $n=31$ ) of the cases. There was no statistically significant relationship between PTSD and the age, gender, impairment status, or the number of assailant dogs ( $P>0.05$ ). However, a statistically significant correlation was found between permanent facial scars and PTSD ( $P<0.05$ ) (Table 5).

In 1.3% ( $n=2$ ) of the cases, the individual was attacked by their own dog, in 2.6% ( $n=4$ ) the individual was both the victim of a blunt injury and a dog assault, and in 8.5% ( $n=12$ ) the person was injured after falling while escaping from the dog.

## DISCUSSION

Dog bites are the most common type of injury due to animal bites in Türkiye as well as all over the world.<sup>[1]</sup> In recent years around the world, remarkable increases have been seen in the population of both owned and stray dogs. Along with this increase, injuries due to dog attacks are increasing day by day, and many health, economic, and legal problems arise with it.<sup>[4,5,7,20,21]</sup>

Our institution serves all of Türkiye and cases from all regions and cities of the whole country apply, so it is thought that our study reflects the problem of dog bite wounds well enough to gain an opinion in the country.

When the studies on injuries due to dog bites are examined in the literature, it is stated that there are differences between age groups and gender groups. In some studies, it is stated that it is more common in children (under 18 years of age),<sup>[22]</sup> while other studies report that adults over the age of 18 were injured the most.<sup>[21-23]</sup> Although some studies report that dog bite injuries were mostly seen among the male population,<sup>[23,24]</sup> some studies report these kinds of injuries were mostly observed among the female population.<sup>[21]</sup> In our study, as in correlation with what mainly the literature reported; the cases were 57% males, and 69.1% of the cases were in the adult group. It was thought that since 50.1% of Türkiye's population are males and since 73-75% of the population is over 18 and since we see the adult male popula-

**Table 2.** Distributions of wounds according to the anatomical regions

Anatomical	Isolated (Single) Anatomical Region <sup>a</sup>		Combined (Multiple) Anatomical Region <sup>b</sup>		Total % (n)
	%	(n)	%	(n)	
Head/Neck	0.9	(2)	7.7	(18)	8.6 (20)
Face	6	(14)	7.3	(17)	13.3 (31)
Thorax/Abdomen	1.3	(3)	5.6	(13)	6.9 (16)
Upper extremities	15.5	(36)	19.3	(44)	34.8 (80)
Lower extremities	13.3	(31)	14.5	(34)	27.8 (65)
Gluteal/dorsal	0.9	(2)	6.5	(15)	7.4 (17)
Genital region	0.4	(1)	0.9	(2)	1.3 (3)
Total	38.3	(89)	61.7	(143)	232 (100)

a: Isolated wounds of one anatomical region; b: Wounds of multiple anatomical regions.

**Table 3.** Severity of injuries

Groups	% (n)
Superficial lesions containing no muscletissue	54.4 (81)
Deep tissue defects-flapinjuries	22.8 (34)
Nerve-artery/vein injuries	4.7 (7)
Bone fractures	
Primary <sup>a</sup>	6 (9)
Secondary <sup>b</sup>	10.1 (15)
Internal organ injuries	2 (3)
Total	100 (149)

a: Directly because of the dog bite; b: Because of a blow injury caused by the dog owner (3) or injuries due to falling down while running away from dogs (12).

tion more active in social-working life, these people are more prone to these kinds of wounds.<sup>[25]</sup>

In a study conducted in Türkiye, it is stated that injuries are high in rural areas,<sup>[24]</sup> while in another study it is stated that injuries are high in the city center.<sup>[23]</sup> In our study, we found that 56.4% of the injuries were in the city center. It is stated that the number of dogs in some big cities in Türkiye even exceeds the population of some districts.<sup>[7]</sup> Populations of provincial and district centers are increasing day by day in Türkiye, and the population of rural areas is decreasing.<sup>[26]</sup> The populations of urban areas are increasing along with the increase in dog populations. Therefore, dog bite injuries are more common in cities due to the increase in both the human and the dog populations in cities.

Although injuries due to dog bites show seasonal changes, they

**Table 4.** Comparison of adults and children

Groups		Children % (n)	Adults % (n)	Total % (n)	p value
Treatment method	Surgery	13.4 (20)	24.2 (36)	37.5 (56)	0.08
	Medical	17.4 (26)	45.0 (67)	62.5 (93)	
Impairment	Present	6.7 (10)	15.4 (23)	22.1 (33)	0.09
	Absent	24.2 (36)	53.7 (80)	77.9 (116)	
Permanent facial skar	Present	10.0 (15)	6.7 (10)	16.7 (25)	0.01
	Absent	20.8 (31)	62.5 (93)	83.3 (126)	

**Table 5.** Final psychiatric examinations were performed for 73 cases.

Groups	Normal psychiatric examination % (n)	Post Traumatic Stress Disorder % (n)	p value
	57.5 (42)	42.5 (31)	
Age			
0-18	16.4 (12)	13.7 (10)	0.11
19-39	15.1 (11)	10.9 (8)	
40-64	23.3 (17)	16.4 (12)	
>65	2.7 (2)	1.4 (1)	
Sex			
Male	31.5 (23)	20.5 (15)	0.07
Female	26.0 (19)	21.9 (16)	
Permanent facial scar			
Present	9.6 (7)	19.1 (14)	0.01
Absent	47.9 (35)	23.2 (17)	
Impairment			
Peresent	13.7 (10)	16.4 (12)	0.09
Absent	43.8 (32)	26.0 (19)	
Dogs involved			
Multiple	15.0 (11)	9.6 (7)	0.09
Singledog	43.8 (32)	31.5 (23)	

often occur in the spring-summer months.<sup>[21,23]</sup> In our study, we found that injuries occurred frequently in the spring-summer months at a rate of 60.4%, in correlation with the literature. It is stated that injuries are more common on days with longer daylight duration and heat.<sup>[21,27]</sup> It was thought that the increased activeness in social life during summer seasons leads to an increase in potential contact with dogs, an increase in the excitation of dogs, and the negative effects of seasonal factors on dogs such as hot weather may be reasons why dogs become more offensive during spring-summer times.

Contrary to Europe and America, there are approximately five times as many stray dogs as owned dogs in our country.<sup>[4,5,7]</sup> In some studies in the literature, it has been stated that injuries are often caused by owned dogs.<sup>[23,28]</sup> In our study, in contrast with other studies in the literature, 65.8% (n=98) of the cases were attacked by stray dogs, which is thought to be due to the higher population of stray dogs in Türkiye. Although there is no similar study in the literature, we found that 86.6% of the dog attacks were carried out by a single dog in our study.

Dog bite wounds were mostly found on upper extremities.<sup>[21,23]</sup> In correlation with the literature, we found that in 34.5% of our cases, wounds were found on upper extremities, and in 28% of our cases, wounds were found on lower extremities. It was thought that since the extremities, especially the upper extremities, are used as defense organs, we see wounds mostly on extremities and especially the upper extremities.

It is reported that lesions are mostly superficial not requiring any sutures or surgical interventions, which are treated with local injury care with simple medical treatment.<sup>[21,23,29]</sup> In our study, we found that superficial injuries were common at a rate of 54.4% and simple medical treatment (localized wound care) was applied to 62.5% of our cases.

In the literature, there are many studies on especially infective complications after dog bites.<sup>[2,21]</sup> However, there is no sufficient study about disabilities where impairment ratings were determined with final examinations after sufficient time has passed for the follow-up and treatment of people. Our cases applied between 0.6 and 3.8 years after the events, and their final status examinations were performed in our board. Impairment rates in 22.1% of our cases ranged from 3% to 32.3%, and the average impairment rate was 13.6%, which shows us the fact that dog bite wounds may cause serious anatomical and functional sequelae.

Dog bite wounds may be seen on the face, especially among children, more than adults, due to their low heights and facial structures.<sup>[2,21,30,31]</sup> Facial wounds may cause serious problems, either physical or psychological, and facial deformities.<sup>[2,23,24]</sup> The face area is the first area of the body that stands out as a window in the person's communication with the outside world. Therefore, permanent scars on the face cause serious psychological problems.<sup>[34]</sup> The permanent facial scars are defined as easily and clearly noticeable scars (after 6 months of the wound healing process has ended) seen on the face at first glance from a distance of 1-2 meters of social dialogue in daylight both

from the front and from the profile. In our study, for 16.7% of all cases, permanent facial scars were found. It was seen that permanent facial scars are significantly found more frequently among children than among adults. We attribute this to the fact that the most wounded region among children is the face.

In addition to physical trauma, serious psychological problems occur in dog bite-related injuries. PTSD is one of the most important pathologies.<sup>[2,21,33]</sup> In some studies, it is stated that even if there are no psychiatric symptoms, it is necessary to apply to psychiatry clinics. In the literature, generally, children were reported to be evaluated psychiatrically.<sup>[24,34]</sup> In our study, 48.9% of the cases had final state psychiatric examinations, and we found PTSD in 42.5% of these cases. We see that the last psychiatric examinations were not present for 51.1% of the cases and this was the limitation of our study since we were retrospectively evaluating the cases and it was thought that routine psychiatric examinations of all cases should be performed. Contrary to literature studies, we did not detect a significant difference between age groups in terms of PTSD, which may be due to the missing psychological evaluations. However, there was a significant relation between permanent facial scars and PTSD. We see that injuries on the face area, which is the window of the person to the outside world, cause serious psychological problems as well and such a scar on the face was thought to make people more prone to PTSD.

The new Turkish legal system started to develop starting from 1850 and took its place in the Continental European legal system.<sup>[35]</sup> In the Constitution of the Republic of Türkiye, the system of judicial separation was adopted and a distinction was made between the judicial and administrative jurisdictions. Dog bite wounds may either be an issue for judicial courts or administrative courts.<sup>[36]</sup> If the assailant dog has an owner, the owner of the dog is held responsible. Under Articles 67 and 68 of the Turkish Obligations Code (TOC), it is stated that the person who undertakes the management and care of the dog temporarily or permanently is obliged to compensate for the damage caused by the dog to someone else. In such a case, a compensation lawsuit is filed against the dog owner.<sup>[13,14]</sup> However, if the dog has been provoked by the victim, no compensation will be awarded, and the amount of compensation will also be reduced (Turkish Republic 3rd Civil Chamber of Supreme Court Merits: 2016/21918, Decision: 2018/9278). In addition, if there is a permanent scar on the face due to a dog bite, non-pecuniary damage is also awarded (Turkish Republic 3rd Civil Chamber of Supreme Court Merits: 2016/19378, Decision: 2018/58663).

Under Article 177 of the Turkish Penal Code (TPC), it is defined as a crime to release a dog in a dangerous way and the person is punished with imprisonment up to six months and a fine. Dogs can also be used by the owner as a tool to damage property (TPC 151), for threat-to-threat with a gun (TPC 106), for deliberate injury (TPC 86), and injury may happen because of recklessness (TPC 87). It is stated that even if the dog owner did not instruct his dog to bite the victim, he will be punished with a prison sentence of three months to one

year or a judicial fine.

It is stated that the person who makes his/her dog attack another person will be punished between one year and three years for the crime of intentionally injuring under Article 86 of the TPC. As the dog is considered a weapon in accordance with the provision of Article 6 of the TPC, the penalty to be imposed will be increased. Penalties to be imposed on individuals will be increased if aggravated situations arise as a result of injury, such as permanent scars on the face, bone fractures, life-threatening conditions, loss of any sense/organ, or weakening of any sense/organ.<sup>[13,15]</sup>

The Animal Protection Law No. 5199 was adopted in 2004 for the care and protection of animals in Türkiye. In 2006, the Implementing Regulation on the Protection of Animals was put into effect within the framework of this law. The duties of collecting stray animals, sterilization, vaccination, providing necessary medical care, returning them to the environment where they were taken, and recording the adopted ones are assigned to municipalities. Controlling stray animals was given to the provincial directorate of the environment and forestry within the governorships.<sup>[16,37,38]</sup> In Türkiye, injuries due to stray dog attacks are considered as service faults. The responsibilities arising from this have been assigned to the governorships, metropolitan, and district municipalities. Municipalities and governorships are jointly responsible for the damage caused by the stray dog.<sup>[21]</sup> We have detected that reports are requested from our board by both the prosecutor's office and the judicial jurisdiction (law and criminal courts) and the administrative jurisdiction (administrative courts). This shows us that injuries due to dog attacks fall under the jurisdiction of all judicial branches and create an important judicial burden.

## CONCLUSION

We see that there is a great increase in injuries due to dog attacks in proportion to the increasing number of dogs all over the world and in Türkiye. Serious sequelae occur. To reveal the importance of the problem, an official archiving system should be established at the international level, and both the number of animals and the frequency and severity of injuries should be revealed. Necessary arrangements should be made and implemented for the protection, care, and supervision of all owned and unowned animals, especially stray dogs, with international conventions and domestic legal regulations to be made. Legal arrangements should be made to eliminate the material and moral damages of individuals within the scope of both judicial and administrative justice, and the grievances of individuals should be satisfactorily eliminated. All dog attack victims should be included in physical, social, psychological, and cognitive rehabilitation programs with a multidisciplinary approach, whether they are involved in judicial processes or not. Non-governmental organizations, such as the Society for the Prevention of Cruelty to Animals, should also take place in these studies, which should also include local veterinary services with national regulations and assignments to provide more objective solutions both for the victims and animals.

Internet applications for the detection and mapping of stray dogs have also been developed, but animal rights advocates have raised great reactions. In order to solve the problem, it is thought that the situation should be evaluated together with animal rights defenders, municipalities, governorships, victims, local veterinary services, and non-governmental organizations. It is thought that it would be very useful to develop controllable mapping systems, social media applications with a more humane approach, rather than prohibiting and blocking them.

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## REFERENCES

- Gündüz T, Elçioğlu Ö, Balcı Y. An evaluation of dog and cat bites over a five-year period: a sample case from Eskişehir. *Ulusal Travma ve Acil Cerrahi Dergisi* 2011;17:133–40. [CrossRef]
- Karakaş A, İlhan H, Turhan V. Hayvan ve insan ısırıkları: profilaksi ve tedavi yaklaşımı. *Türk Hijyen ve Deneysel Biyoloji Der* 2010;67:153–60.
- Ünal A. A study on the factors affecting the food preferences of cat and dog owners. *Oltu Beşeri Sos Bil Fak Der* 2022;3:27–36. [CrossRef]
- Fediaf. European pet food. Facts and figures 2021. Available from: <https://europeanpetfood.org/about/statistics/>. Accessed Jun 01, 2022.
- Independent Türkçe. Available from: <https://www.indyturk.com/node/319846/>. Accessed Jun 06, 2022.
- Salırlı Y, Emre B, Besgül K, H Öztürk, V Sagmanlıgil. A pilot study on assessment of dog owners' attitude towards their dogs. *Ankara Üniv Vet Fak Derg* 2012;59:11–5.
- Kırışik F, Öztürk K. From violence news to animal rights, stray dog problem. *Dumlupınar Üni Sos Bil Derg* 2021;69:360–88. [CrossRef]
- World Health Organization. Available from: <https://www.who.int/news-room/fact-sheets/detail/animal-bites>. Accessed Aug 01, 2022.
- Dog Bite Fatality Statistics. 2020. *Dogsbite.org*. Available from: <https://www.dogsbite.org/dog-bite-statistics-fatalities-2020.php>; Accessed Aug 22, 2022.
- Çınar C. Isırık yaralanmaları. In: *İstanbul Üniversitesi Tıp Fakültesi Sürekli Tıp Eğitimi Etkinlikleri. Cilt Hastalıkları ve Yara Bakımı Sempozyumu*. İstanbul: 2001. p. 189–201.
- Mills LD, Lilley J. Assessing and managing mammal bites. *Emerg Med* 2009;41:35–40.
- Peters V, Sottiaux M, Appelboom J, Kahn A. Posttraumatic stress disorder after dog bites in children. *J Pediatr* 2004;144:121–2. [CrossRef]
- Yargıtay Karar Arama. Available from: <https://karararama.yargitay.gov.tr/YargitayBilgiBankasiIstemciWeb/>. Accessed Aug 30, 2022.
- Türk Borçlar Kanunu. Available from: <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6098.pdf>. Accessed Sep 01, 2022.
- Türk Ceza Kanunu. Available from: <https://www.mevzuat.gov.tr/mev>

- zuatmetin/1.5.5237.pdf. Accessed Sep 01, 2022.
16. Hayvanları Koruma Kanunu. Available from: <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.5199-20100611.pdf>. Accessed Sep 10, 2022.
  17. Danıştay 8. Dairesi. 2020/7528 Esas ve 2021/1532 sayılı karar. Available from: <https://www.resmigazete.gov.tr/eskiler/2021/07/20210701-14.pdf>. Accessed Sep 15, 2022.
  18. Adli Tıp Derneği. Evaluation of injuries as crimes defined in the Turkish criminal code for forensic experts. Available from: [tckyaranlama24-06-19.pdf](https://www.tckyaranlama24-06-19.pdf) (atk.gov.tr) Accessed Dec 27, 2022.
  19. World Health Organization. Available from: [www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health](http://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health). Accessed Dec 27, 2022.
  20. Edens MA, Michel JA, Jones N. Mammalian bites in the emergency department: recommendations for wound closure, antibiotics, and postexposure prophylaxis. *Emerg Med Pract* 2016;18:1–20.
  21. Kang DH, Choi JY, Choi WS, Jang JH, Cho JS, Hyun SY. Age group analysis of patients with dog bite injuries who visited a single regional emergency medical center and factors affecting wound infections. *J Trauma Inj* 2022;35:84–91. [CrossRef]
  22. Toure G, Angoulangouli G, Meningaud JP. Epidemiology and classification of dog bite injuries to the face: A prospective study of 108 patients. *J Plastic, Recon & Aesthetic Surg* 2015;68:654–8. [CrossRef]
  23. İğde M, Yaşar B, Ünlü RE. Epidemiology and reconstruction options of dog bite injuries. *Akdeniz Tıp Derg* 2017;3:185–9. [CrossRef]
  24. Gürsoy K, Üstün GG, Demircan FBG, Koçer U. Head and neck injuries due to animal attacks: Our clinical experiences. *Ankara Eğt Arş Hast Derg* 2019;52:101–7.
  25. Türkiye İstatistik Kurumu. Available from: <https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Kadin-2021-45635>. Accessed Sep 27, 2022.
  26. Türkiye İstatistik Kurumu. Available at: <https://data.tuik.gov.tr/Bulten/Index?p=Adrese-Dayali-Nufus-Kayit-Sistemi-Sonuclari-2020-37210>. Accessed Dec 28, 2022.
  27. Park JW, Kim DK, Jung JY, Lee SU, Chang I, Kwak YH, et al. Dog-bite injuries in Korea and risk factors for significant dog-bite injuries: A 6-year cross-sectional study. *PLoS One* 2019;14:e0210541. [CrossRef]
  28. Van Derhoef K, Jeffrey PL. Current Concepts: Pediatric dog bite injuries. In: *Wound Healing – Recent Advances and Future Opportunities*. Maurício AC, Alvites RD, Gönül M, editors. Intech Open, 2022. [CrossRef]
  29. Zhang QB, Zhang B, Zhang ZQ, Chen Q. The epidemiology of cranio-facial injuries caused by animals in southern-central China. *J Cranio-Maxillofacial Surg* 2012;40:506–9. [CrossRef]
  30. Akhtar N, Smith MJ, McKirdy S, Page RE. Surgical delay in the management of dog bite injuries in children, does it increase the risk of infection?. *J Plastic, Reconstructive & Aesthetic Surg* 2006;59:80–5. [CrossRef]
  31. Golinko MS, Arslanian B, Williams JK. Characteristics of 1616 consecutive dog bite injuries at a single institution. *Clin Pediatrics* 2017;56:316–25. [CrossRef]
  32. Kaymaz S. Kasten yaralama sonucu yüzde sabit ize neden olma (TCK m. 87/1-C). *Türkiye Adalet Akademisi Derg* 2022;49:29–52. [CrossRef]
  33. De Munynck K, Van de Voorde W. Forensic approach of fatal dog attacks: a case report and literature review. *Intl J Legal Med* 2022;116:295–300. [CrossRef]
  34. Jakeman M, Oxley JA, Owczarczak-Garstecka SC, Westgarth C. Pet dog bites in children: management and prevention. *BMJ Paediatrics Open* 2020;4:e000726.
  35. Erbay H. Eski hukuk sisteminden yeni hukuk sistemine geçiş süreci, nedenleri ve Türk Hukuk Devrimi. *Sinop Üni Sosl Bilim Derg* 2018;2:211–38.
  36. Türkiye Cumhuriyeti Anayasası. Available from: <https://www.mevzuat.gov.tr/mevzuatmetin/1.5.2709.pdf>. Accessed Nov 15, 2022.
  37. Hayvanların Korunmasına Dair Uygulama Yönetmeliği. Available from: <https://www.resmigazete.gov.tr/eskiler/2006/05/20060512-7.htm>. Accessed Nov 25, 2022.
  38. MSN. Available from: <https://www.msn.com/en-in/lifestyle/smart-living/why-bark-map-app-which-locates-stray-dogs-is-stirring-up-controversy-in-turkiye/vp-AA11zm43>. Accessed Mar 30, 2022.

## ORİJİNAL ÇALIŞMA - ÖZ

### Köpek ısırıklarına bağlı yaralanmaların tıbbi ve hukuki yönleriyle değerlendirilmesi: Türkiye çalışması

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**AMAÇ:** Tüm dünyada olduğu gibi ülkemizde de hayvan ısırıklarına bağlı en sık görülen yaralanma türü köpek ısırıklarıdır. Köpek saldırılarına bağlı yaralanmalar, adli ve tıbbi boyutuyla tüm dünyada ve ülkemizde önemli bir halk sağlığı sorunudur. Çalışmamızda; adli rapor düzenlemesi için kurumumuza başvuran hastaların adli ve tıbbi yönden değerlendirilmeleri yapılarak çözüm önerileri sunulması amaçlandı.

**GEREÇ VE YÖNTEM:** İstanbul Adli Tıp Kurumu Başkanlığı'na 2015-2021 yılları arasında adli rapor düzenlemesi için yargı mercileri tarafından gönderilen 149 olgu retrospektif olarak incelendi. Çalışmaya dahil edilen olgular hakkında bilgiler arşiv kayıtlarımızdan ve Ulusal Yargı Ağı Projesi (UYAP) sisteminden elde edildi. Veriler Excel 2016 for Microsoft programına kaydedildi ve verilerin biyoistatistiksel değerlendirmesi SPSS Programı Sürüm 25 ile analiz edildi.

**BULGULAR:** Olguların %57'si erkek ve ortalama yaş 33.7 idi. Olayların %56.4'ü şehir merkezinde, %30.9'u yaz aylarında, %65.8'i sahipsiz (sokak) köpekler tarafından meydana geldi. Lezyonların %54.4'ünde kas dokusu içermeyen yüzeysel yaralanmalar, %22.8'inde derin doku defektleri-flep yaralanmaları, %4.7'sinde damar-sinir yaralanmaları, %16.1'inde kemik kırıkları ve %2'sinde iç organ yaralanmaları bulundu. Olguların %37.5'ine cerrahi işlem yapıldı. Olguların %22.1'inde ciddi sekel (maluliyet), %16.7'sinde yüzde sabit (kalıcı) iz ve psikiyatrik değerlendirilmesi yapılan (%48.9; n=89) olguların %57.5'inde post travmatik stres bozukluğu (PTSB) tespit edildi

**SONUÇ:** Köpek saldırılarına bağlı yaralanmalar sonucunda kişilerde gerek psikolojik (PTSB gibi) gerekse fiziksel (yüzde kalıcı iz, maluliyet gibi) olarak ciddi sekeller ortaya çıkmaktadır. Tüm köpek saldırısı mağdurlarının multidisipliner bir yaklaşımla fiziksel, sosyal, psikolojik ve kognitif açıdan rehabilitasyon programlarına dahil edilmelidir. Yapılacak uluslararası sözleşmeler ve hukuksal düzenlemeleri ile hem kişilerin maddi ve manevi zararları giderilmeli hem de başta sahipsiz köpekler olmak üzere tüm hayvanların korunması, bakım ve gözetimi için gerekli düzenlemelerin yapılarak uygulamaya konulmalıdır.

**Anahtar sözcükler:** Köpek ısırığı; fiziksel ve psikolojik yaralanmalar; yasal düzenleme.

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