



# Retrospective Assessment of Forensic Facts Under 18 Years of Age in İzmir

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## Abstract

**Aim:** The aim of this study was to examine the cases under the age of 18 who applied to the forensic medicine outpatient clinic of our hospital in İzmir.

**Material and Methods:** Among the 6,492 reports prepared for the patients who applied to İzmir Katip Çelebi University, Atatürk Training and Research Hospital Forensic Medicine Polyclinic between January 2019 and January 2022, 471 final reports prepared for forensic cases under the age of 18; age, gender, type of incident, area of injury, according to TCK 86 law clause; It was examined retrospectively with parameters such as whether it is life-threatening or not, and whether it can be eliminated with a simple medical intervention or not.

**Results:** In our study, 471 reports were examined; The most common age was 18, the mean age was 14, the number of girl cases was 203 (43.1%), the number of male cases was 268 (56.9%), the most common type of event was the assault, while traffic accidents were the second most frequent, the most frequently injured body area in cases under 18 years old was the extremities in 154 (32.7%), followed by head injuries in 101 (21.4%) cases, and life-threatening injuries in 19 (4%) cases. It was found that it was seen most frequently in July and least in April.

**Conclusion:** The data determined in our study were in parallel with similar studies in the literature, while the most common cause of death in autopsy series was determined as traffic accident, it was seen that the most common cause of injury in outpatients who applied to our polyclinic was assault.

**Keywords:** Forensic reports, child, İzmir, forensic medicine

## INTRODUCTION

İzmir is the third most populous city of the Republic of Türkiye in terms of population, which has a coast to the Aegean Sea in the westernmost part of the Republic of Türkiye. It is one of the leading cities of the country in economic, socio-cultural terms. According to the results of the Address Based Population Registration System (ADNKS); As of the end of 2021, Türkiye's population is 84 million 680 thousand 273 people, of which 22 million 738 thousand 300 are children. 51.3% of the child population is boys and 48.7% are girls. According to the estimated data of İzmir for 2022, it is 4,455,294 and its population under the age of 18 is; 783,993 species. When the child population ratios of 27 European Union (EU) member countries are examined; It has been observed that

Türkiye's child population rate is 26.9% higher than that of EU member states (1).

According to the Convention on the Rights of the Child, which has been implemented by our country since 1995, "Every person under the age of 18 is considered a child, except for being considered a minor at a younger age by national laws." According to the Turkish Penal Code, a person who has not completed the age of 18 is defined as a child (2).

The World Health Organization defines child abuse as "behaviors involving physical and/or emotional maltreatment, neglect, use of the child for all kinds of commercial interests, which may harm the health, life, development and value of the child in his or her general state of responsibility, trust and ability" (3). Although sexual

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abuse comes to mind when child abuse is mentioned in Türkiye, physical abuse, emotional abuse and neglect are other types of abuse that should be emphasized. Although there is no descriptive study to give an idea about the whole of Türkiye, it is estimated that the frequency of physical abuse is 30-35%, and 13% for sexual abuse (4).

Every event that causes deterioration of health, injury or death as a result of will, negligence, carelessness and carelessness of the person himself or another is defined as a judicial case. Another common cause of forensic incidents involving children and adolescents is juvenile delinquency. According to the Child Protection Law, a juvenile delinquent is defined as a juvenile for whom an investigation or prosecution has been made with the allegation that he has committed an act defined as a crime in the law, or for whom a security measure has been decided for the act he has committed (5).

According to TUIK data, the number of incidents involving children who came or were brought to security units in 2020 was 450 thousand 803. In these incidents, 37.9% of the children were accused of committing an act defined as a crime in the law (driving into a crime), 18.5% of them were alleged to have committed a misdemeanor, and 13.0% of them were seeking information. It was determined that 5.0% of them came to the security units because of missing (about which a loss application was made and found later) and 0.2% of them came to the security units for reasons other than these reasons (6).

When the total number of children dragged into crime in criminal courts in 2019 is analyzed on a provincial basis; it was seen that the highest number of juvenile delinquents was in Istanbul with a rate of 17.6%, followed by Ankara with a rate of 5.8%. When the regions are examined in terms of the number of children driven to crime in 2019; it is seen that the number of children dragged into crime in a population of 100000 is in the Aegean Region with the highest 1973 children. When the crime types of the children dragged into crime in İzmir are examined; The crime of theft takes the first place with a rate of 68.6% among the lawsuits filed against the crimes against property. In the cases filed for crimes against public health, the crime of purchasing, accepting or possessing drugs or stimulants or using drugs or stimulants is taken in the first place with a rate of 80.3% (7).

Forensic incidents occurring in childhood are among the leading preventable health problems all over the world. Detection of forensic cases in the region we live in is important in terms of taking appropriate measures. The aim of this study; The aim is to provide data that will provide the basis for the practices that will ensure the elimination of the victimization of the children who are the subject of forensic cases and prevent them from being dragged into crime.

## MATERIAL AND METHOD

Before the study, ethical approval was obtained from the İzmir Katip Çelebi University Health Sciences Non-

Interventional Clinical Research Ethics Committee (No: 2022/0281).

Out of 8,492 reports prepared for the patients who applied to İzmir Katip Çelebi University Atatürk Training and Research Hospital Forensic Medicine Polyclinic between January 2019 and January 2022, 471 reports prepared for forensic cases under the age of 18, according to age, gender, type of incident, injury region, TCK Article 86. according to; It was examined retrospectively with parameters such as whether it is life-threatening or not, and whether it can be eliminated with a simple medical intervention or not.

The obtained data were evaluated statistically. Statistical analyses were conducted using IBM SPSS Statistics for Windows 29.0 software. The Mann Whitney U test was employed to compare non-normally distributed variables across two groups. A p-value less than 0.05 was deemed statistically significant.

## RESULTS

Examining 471 final reports prepared for forensic cases under the age of 18, among the 8,492 reports prepared for the patients who applied between January 2019 and January 2022, it was determined that 268 (56.9%) of the patients who applied were male.

In forensic reports, the most common type of incident was found to be assault with 286 (60.7%) cases, and traffic accidents were the second most frequent with 90 (19.1%) cases. The gender and event type distributions of the cases are given in Figure 1. When the injured body parts of the cases were examined, it was seen that the most frequently affected body area was the extremities with 154 (32.7%) cases, and the head was the second most frequently injured with 101 (21.4%) cases. The number of cases with 2 body parts affected was 91 (19.3%), and the number of cases with 3 or more body parts affected was 91 (19.3%).

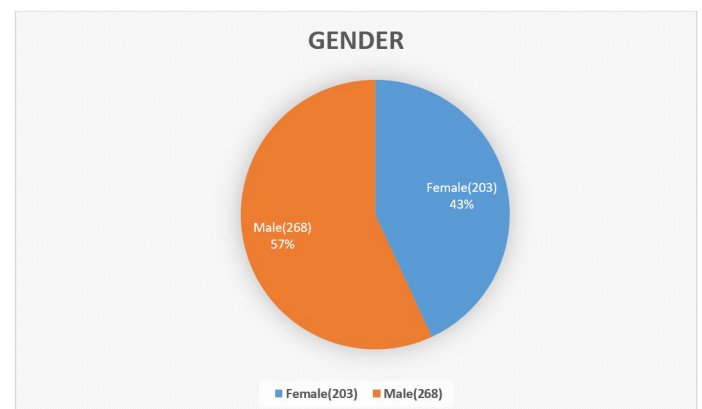


Figure 1. Distribution of cases by genders

When the cases that could be resolved with simple medical intervention were examined, it was found that 346 (73.5%) cases could be resolved with simple medical intervention, and 100 (21.2%) cases could not be cured. When the life-threatening status of the cases was examined, it was found

that there was life-threatening in 19 (4.0%) cases, and no life-threatening situation in 450 (95.6%) cases (Figure 2).

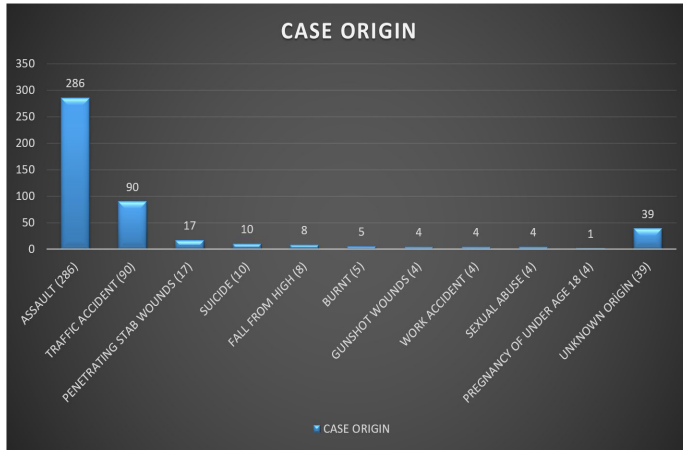


Figure 2. Distribution of event types

The injured body parts and numbers of the cases, their ability to be healed with simple medical intervention, and life-threatening situations are given in Table 1.

Table 1. Injured body parts and numbers of cases, recoverability with simple medical intervention, life-threatening situations

Injured body areas	Female	Male	Total
Extremity	59	95	154 (32.7%)
Head	42	59	101 (21.4%)
Body	7	13	20 (4.3%)
Neck	1	4	5 (1.1%)
Back	0	5	5 (1.1%)
No lesions	32	37	69 (14.6%)
2 areas	68	23	91 (19.3%)
3 and more areas	6	20	26 (5.5%)
<b>Recoverability with simple medical intervention</b>			
Curable	138	208	346 (73.5%)
Incurable	27	73	100 (21.2%)
Unspecified	18	7	25 (5.3%)
<b>Vital endangered status</b>			
Yes	5	14	19 (4.0%)
No	125	325	450 (95.6%)
Unspecified	0	2	2 (0.4%)

The median age of the cases was 15 (interquartile range 6) and the most common age of the cases was 18. The mean age of the cases included in the study was calculated as 13.7. When the cases were grouped according to their age, 33 (7%) between the ages of 0-5, 64 (13.6%) between the ages of 6-10, and 155 (32%) between the ages of 11-15, 9, and 219 (46.5%) between the ages of 15-17. The median age of male and female subjects was 15 (interquartile range 6) for both groups, and no statistical significance

was found between the groups ( $p > 0.05$ , Mann Whitney U test). The distribution of the cases according to their ages is shown in Figure 3.

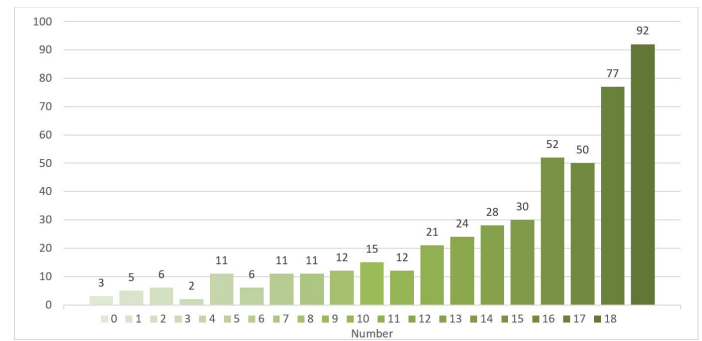


Figure 3. Distribution of cases by age groups

## DISCUSSION

Forensic cases have an important place in the applications of health institutions. Evaluation of juvenile cases from these cases and revealing risky situations will prevent juveniles from being dragged into crime and from being harmed, together with the measures to be taken (8).

When the literature is examined, it has been determined that male gender is more common in forensic cases in the pediatric age group. Sever et al. In their study, the rate of male cases was found to be 66.3% (9). Çetinel et al. In the study in which he evaluated pediatric forensic cases, the rate of male cases was determined as 58%. Consistent with the literature, it was determined that 56.9% of the forensic cases in our study were male.

When the cases were evaluated according to age groups, Özdeş et al. In his study evaluating the forensic cases in Kastamonu, it was determined that the most common forensic cases were between the ages of 11-15, followed by the cases between the ages of 15-17 (10). In the same study, it was stated that the highest number of cases were 15 and 16 years old. Esen et al. In his study in which he evaluated the forensic cases who applied to the pediatric emergency clinic, it was determined that 37.94% of the cases were between the ages of 11-18 (11). In our study, the median age of forensic cases was 15 (SCA 6) and it was determined that forensic cases were frequently seen in the 15-17 age group. Consistent with the literature, it is seen that the frequency of forensic cases increases with age. We think that the reason for this is that with the increasing age, the child is involved in social life, and accordingly, he/she may face more situations such as assault and traffic accidents.

When the types of events that the cases were exposed to were examined, Özdeş et al. In the study, assault was found to be the most common with 35.44%, sexual events were the second most common with 24.05%, and traffic accidents were the third most common with 22.78%. Demir et al. In the study, traffic accidents (76%) were the first, falling (12.7%) and battering (6.1%) were the third (12). In our study, it was observed that the most common type of event was assault with 286 (60.7%) cases, and

traffic accidents were found to be the second most frequent with 90 (19.1%) cases. When the literature was examined, it was seen that the frequency of different types of events was found to be high in different studies. We think that this situation develops due to the difference in the type of event in the relevant centers. For this reason, it can be generalized for our region that assault and traffic accidents are common causes of forensic cases.

When examining body injuries encountered in forensic cases, Korkmaz et al. found that the most frequently injured body region was the head and neck region, followed by the upper extremity (13). Sever et al. In the study of, the frequency of head, neck and lower extremity traumas was found to be high (9). In our study, however, the extremities were not evaluated as upper and lower, but were evaluated together. However, in accordance with the literature, extremity and head injuries were found with a high frequency in our study.

## CONCLUSION

As a result of our study, we found that male gender and increasing age were high in pediatric forensic cases, consistent with the literature. We determined that assault is the most common cause of forensic cases in our region, followed by traffic accidents. We concluded that the extremity and head region are frequently injured in forensic cases.

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**Conflict of Interest:** The authors declare that they have no competing interest.

**Ethical approval:** The study protocol was approved by the Ethics Committee of the İmir Katip Çelebi University Health Sciences Non Interventional Clinical Research (No: 2022/0281).

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