

Full Length Research Paper

Evaluation of childhood autopsies in Sivas, Turkey

**Celal Butun^{1*}, Fatma Mutlu Kukul Guven², Halis Dokgoz³, Sevki Hakan Eren², Ilhan Korkmaz²
and Fatma Yucel Beyaztas¹**

¹Department of Forensic Medicine, Medical School, University of Cumhuriyet, Sivas-Turkey.

²Department of Emergency Medicine, Medical School, University of Cumhuriyet, Sivas-Turkey.

³Department of Forensic Medicine, Medical School, University of Mersin, Mersin, Turkey.

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The aim of this study is to determine the features and changes in the medicolegal childhood deaths that occurred in Sivas, Turkey; and to contribute in the establishment of a database on childhood deaths. The authors evaluated the deaths of children aged to 0 to 18 years, whose autopsies were performed in Sivas Cumhuriyet University between 2006 and 2009. The childhood deaths were reviewed with respect to sex, age, event region, event date, event type, crime scene, cause of death. The evaluation of 90 cases was made by use of Chi-square test in SPSS (Ver: 10.0). During four years, of 547 forensic death cases that underwent autopsy, 90 were aged between 0 to 18 years. 57 (63.3%) of the cases were male. The main cause of death was traffic accident in 24 (26.7%) cases. In order to avoid children deaths, the preventive and curative health services should be strengthened, and the training programs must be provided for parents. To avoid child abuse, it should be a concern of the government bodies and civil society. As a result, the child protection programme is needed in our regions and new regulations should be enacted to protect children against accidents, injuries, hazards and abuse.

Key words: Childhood deaths, accident, abuse, autopsy, forensic medicine.

INTRODUCTION

Criminal childhood death is a major public health problem all over the world as well as in Turkey (Cekin et al., 2005). Suspicious and unnatural deaths are evaluated as forensic death cases. The forensic autopsy process performed by judicial authorities is an operation that demonstrates the physical evidence and causes of deaths, in order to prevent problems which may arise in the future, who die as a result of accidents, suicides, murder or who die alone and unexpectedly (Tokdemir et al., 2008).

It must be focused also on childrens health, education and development rights, not only to the fundamental children's rights agreement. In this context, it is very important to record the data about the childhood death causes (Beyaztas et al., 2007). Establishment of the death mechanisms, the recording and reporting of the obligation of all death causes in childhood will contribute

to uncovering the death causes (Aksoy et al., 1995).

Severes neglect may result in death. However, due to neglect, child mortality can be evaluated as a natural death or accident deaths. Therefore, in cases with suspected neglect or abuse, crime scene, event format, a detailed medical and family history should be investigated. The autopsy should include the detailed external and internal examination, postmortem examination and appropriate ancillary tests. Crime scene investigation is especially important to distinguish accidents from natural deaths. Child's medical history is especially important to distinguish the growth retardation due to organic disease from development retardation by neglect, and also it is important in orientation of genetic and metabolic disease researchs (Pakiş et al., 2008).

The aim of this study is to discuss the demographic features results (gender, age, event region, event date, event type, crime scene, cause of death and etc.) of the autopsies done between the 2006 to 2009 years, who were under 18 years and sent from inner and outer of Sivas city.

*Corresponding author. E-mail: celalbutun@yahoo.com,
cbutun@cumhuriyet.edu.tr. Tel: 0 346 2580044-42.

MATERIALS AND METHODS

Legal death examination files of Sivas public prosecutor's and the autopsy reports of Sivas Cumhuriyet University Hospital between 1st January 2006 and 31st December, 2009 were separated into six groups (zero to one month, one month to one year, 2 to 5 years, 6 to 10 years, 11 to 15 years, 16 to 18 years). 90 cases under the age of 18 of the forensic medical records of total 547 cases were evaluated retrospectively.

In this study, the results about gender, age groups, event region, event date, event type, crime scene, type of poisoning, the cause of death, questions asked about death by a prosecutor and the postmortem examinations were recorded. The data obtained in the researchs was evaluated through use of SPSS (Ver: 10.0) Chi-square test.

RESULTS

In a period of four years (2006 to 2009), 547 medicolegal deaths were investigated in Sivas. 90 (16.45%) of all cases comprised by our study population were children (0 to 18). 57 (63.3%) of those children were male of gender.

When the childs were separated to six groups according to their ages, 12.2% (n = 11) of them were between 0 to 1 months, 15.6% (n = 14) between one month to one year, 20% (n = 18) between 2 to 5 years, 18.9% (n = 17) between 6 to 10 years, 20% (n = 14) between 11 to 15 years and 13.3% (n=12) between 16 to 18 years (Figure 1).

When the cases were evaluated according to their event regions, 33.3% (n = 30) were sent from the province of Sivas, 62.2% (n = 56) were from district and villages.

When the cases were evaluated according to dates, with 14.4% (n = 13) they occurred mostly in September, with 13.3% (n = 12) cases in May and with 13.3% (n = 12) in October.

When the cases were distributed according to event types, 26.7% (n = 24) of cases were traffic accidents, 11.2% (n = 10) suffocation in water, 8.9% (n = 8) found dead in the cradle, 8.9% (n = 8) poisoning (Table 1).

According to the crime scenes, the results were determined as follows: 37.8% in homes, 15.6% in highways, 14.4% in open area, 11.1% on the street and 10.0% in lakes, rivers and pools.

Three of poisoning cases (37.5%) were with drugs, two (25%) cases were with mushroom, two (25%) cases with carbon monoxide and one (12.5%) case was because of the food (fish) poisoning.

According to the causes of death, 17 (18.9%) cases had bone fractures, internal organ and major vascular injuries, 15 (16.7%) cases had asphyxia, 10 (11.1%) cases had skull fractures and intracranial hemorrhage, 7 (7.8%) cases had internal organ injuries, nevertheless 34 (37.8%) cases requested further examination to determine the cause of death. The most frequently asked questions from a prosecutor were as follows: In 76 (87.4%) cases, the cause of death, in 5 (5.7%) cases, the cause of death and death time, in other cases together

with the cause of death, the identity, firing range, the medical application error (medical malpractice) and sexual assault were questioned.

When the requested postmortem examinations were evaluated; in 45 (51.1%) cases, histopathological and toxicological examinations, and in 4 (4.5%) cases, respectively toxicological-physical examinations, histopathological-toxicological-biological examinations and toxicological examinations were detected.

DISCUSSION

These cases of 0 to 18 age group, 63.3% were male. Also, the male ratios in other studies pointed out as 62.8% (Canturk et al., 2007) and 62.0% (Aydin and Karaarslan, 2005). It was outcome that the number of boys than girls was due to take place to be more boys and men in society, more extroverted the training of the men.

The childhood injuries and the related deaths are the most important issues of forensic medicine (Canturk et al., 2007). In this study, child cases between the 0 to 18 age constituted the 16.45% of all forensic autopsies made in Sivas. According to the Turkey Statistical Institute data in 2004, the death rate for children 0 to 18 years was 8.8%, in a similar study made in Konya, the criminal death rate for this age group was determined as 22.5% (Demirci et al., 2007).

The child injuries and deaths are seen usually within the first five years of life. The children start in the first 3 to 5 months and reach the highest values in the 15 to 17 months. Between 42 to 44 months, the values decreases. With the start to walk, gain mobility, perception of changes and lack of protection on its own in the group of first five years carry a serious risk of injury (Çekin et al., 2005; Hall et al., 1989; Bannon et al., 1992). During the literature scanning, the rate of childhood deaths at 0 to 4 age group was 35% in Konya (Demirci et al., 2007), at 0 to 6 age group was 36.4% in Istanbul (Beyaztas et al., 2007). Also in our study, as similar, the death rate related to childhood injuries in the 0 to 5 age group was found to be 47.8%.

The most frequent crime scene was home or its surroundings (26.1%), followed by places with water such as the sea, pool and lakes (11.3%), and the streets (9.8%) (Canturk et al., 2007). According to the crime scenes, our results resembled upper literature with the majority rate (37.8%) in home.

Traffic accidents inside or outside of vehicles take a major place (40.8%) among the childhood (0 to 18 years) medicolegal deaths (Aydin et al., 2005). In another study, it is determined that traffic accidents in all the deaths occurred in the age group of 0 to 18 years comprised 49.0% (Demirci et al., 2007). As like as in our study, the majority of the childhood deaths constitutes the traffic accidents with 26.7% (Table 1).

Exhumation process can be performed in order to get new information about the cause of death, when case is

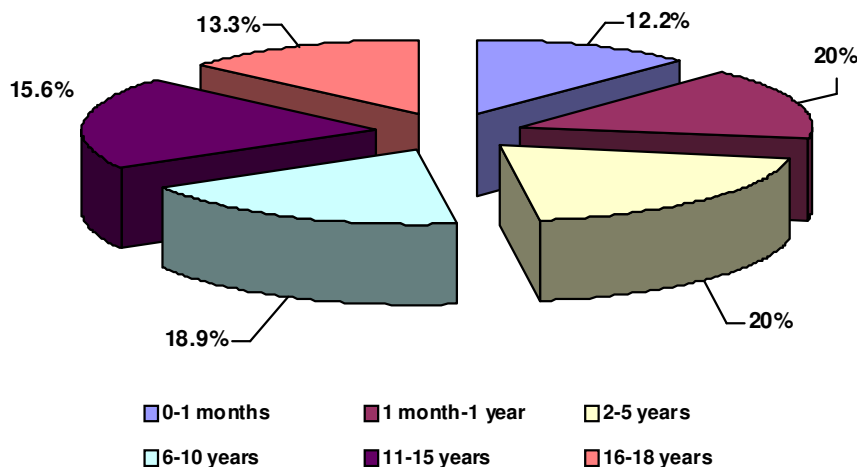


Figure 1. Distribution according to age of the case.

Table 1. Distribution according to the event types.

Event types	Number of case	Percentage
Traffic accident	24	26.7
Stab waunds	2	2.2
Firearm wounds	4	4.4
Blunt travma	1	1.1
Hanging	1	1.1
Suffocation	1	1.1
Poisoning	8	8.9
Stroke of lightning	1	1.1
Falling	3	3.3
Exhumation	4	4.4
Stillborn	5	5.6
Sudden infant death sendrom	9	10.0
Water drowning	10	11.2
Explosive wounds	1	1.1
Medical malpractice	3	3.3
High fever disease	1	1.1
Indeterminate	12	13.4
Total	90	100.0

buried without any autopsy after killing, to get some claims and new evidences, to the cases who are buried without any permission, in the legal cases such as physician error, inheritance, compensation and insurance (Demirci et al., 2008; Ortman et al., 2000; Grellner et al., 1998; Butun et al., 2006). In our study, stillbirth and postnatal death occurrence (murder, accident or natural causes) and burying without a death certificate were seen to be among forensic cases reasons.

Falling from a height, drug or carbonmonoxide poisoning, foreign body aspiration, drowning in their water, electric strikes, burns can be avoided with simple precautions that is why it is thought that they occurred because of negligence and it must be emphasized that this should be considered as a component of child abuse (Pakiş et al., 2008; Aksoy et al., 1995; Collins and Nichols, 1999). In our study, we evaluated the importance

of child neglect that occurred in similar cases (drug intoxication, falls from height, drowning in water).

In conclusion, while childhood deaths occur because of preventable reasons, the medical issues should not be evaluated only, but also, the social aspects must be managed, while regional and broader social solutions need to be created.

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