

Accident cases of children between 0-6 years brought to the emergency service

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Abstract

Aim: Childhood accidents can lead to consequences threatening the health of child. Especially, the accidents encountered by the child in early childhood are among the causes of death and serious disability. This study aimed to investigate what kind of accidents caused 0-6 age group children to be brought to pediatric emergency services and the frequency of these accidents increase in which age range.

Material and Methods: In this study, the files of children, brought to the Pediatric Emergency Service of a Training and Research Hospital due to an accident between the dates of 01.06.2017 and 31.12.2017, were scanned and then examined retrospectively. Obtained data were assessed with SPSS 22.0 program and the frequency and percentage analysis were conducted.

Results: 1409 children files that could be accessed in the hospital archive were examined; and it was seen that 0-2 age group children formed the 61.2% part of the cases brought due to accidents, % 57.7 of children were male according to gender data of accident data, while falling and poisoning cases were high in July and August, burn cases were high in December. It was found that the number of children with a diagnosis of falling was higher than other diagnoses.

Conclusion: It is identified that adequate measures have not been taken for childhood accidents and the number of children having an accident is quite high for a 6-month period. It is important to inform parents to prevent accidents and to create a safe environment.

Keywords: Accident; 0-6 years old children; falling, burn; poisoning.

INTRODUCTION

According to the World Health Organization, accidents are unexpected events that occur outside human control, which can result in sudden psychological and physiological damages (1,2). Accidents are a public health problem and they have individual, social and economic consequences (3-5).

A baby's first attempts at crawling on all fours to discover his/her environment would also increase the likelihood of him/her encountering accidents. Given the developmental characteristics of children in early childhood, it can be observed that they cannot protect themselves against accidents. Childhood accidents can result in health threatening outcomes for children. Especially in early childhood, the accidents encountered by the children are among the causes of sudden death and serious disabilities (1,6). Today, because of the increasing awareness

regarding accidents and the high frequency of childhood accidents, quick and right treatment approaches have gained importance (7). Although the importance of timely and correct treatment approaches increases, the number of child deaths caused by accidents also increases day by day. According to the 2017 data of Turkish Statistical Institute (8), 19,275 children between ages 0 to 14 died and 1,378 children (869 males and 509 females) died from external injuries and intoxication. External injuries and intoxication, which are the second most common causes of child deaths, indicate a serious social health problem. As in our country, external injuries and intoxication are among the leading causes of child death in the world. In addition to death, accidents can also lead to disabilities (1).

The possibility of disability as a result of injuries and intoxication is a health problem that can be seen in all ages (1). However, the frequency of injury and death after an

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accident is higher in children compared to adults. Because children are usually very curious with an insufficient ability to comprehend the risks and the outcome of their curiosity (9). Children usually are active, curious, high in their desire to discover, but they also lack the necessary movement, behavioral, cognitive skills of fully grown adults and are not fully developed anatomically. Therefore, they cannot fully perceive the risks of the actions that they do, thus, they are exposed to accidents more frequently than adults (1, 9). Childhood accidents as a social and health issue should be taken seriously and the necessary precautions should be taken. Because the consequences of childhood accidents have a social, psychological and physical impact on the health of children, and these accidents disrupt the balance and even lead to disability or death (6).

In early childhood, the child needs an adult to design his/her environment in order to protect him/her from accidents. At this point, training and safety recommendations given to families for the home environment play an important role in the prevention of accidents (10, 11). Taking the necessary precautions by being aware of the accidents the children are mostly exposed to will undoubtedly lead to lesser accidents in the future (12). Furthermore, it should be emphasized that the training are given to families, especially the mothers in order to prevent child accidents will reduce the number of accidents in everyday life (13, 14).

In this study, we aimed to determine the type and extent of childhood accidents and to be of help in the preparation of programs for the prevention of accidents, by providing statistical data regarding the children between ages 0 to 6 who visited the emergency services due to accidents.

MATERIAL and METHODS

This study was conducted with the approval of the Ethics Committee of İnönü University 2018/628. In this retrospective and descriptive study, 1,409 child patients derived from within the hospital archives accessed via the internet for a time frame between July 1st and December 31st 2017 were examined. The key words entered to create the population included first-degree burns, soft

tissue disorders, toxic effects of gases, fumes and vapors, sequela of the toxic effects of non-medicine substances, counseling for drug abuse, toxic effects of soap and detergents, some early complications of trauma and information about the accidents experienced by children were collected. The population of the study consisted of children aged 0 to 6 who were admitted to the emergency service of Malatya Training and Research Hospital due to accident.. The data were evaluated with SPSS 22.0 program and the frequency, percentage analysis was held.

RESULTS

As a result of the study, it was revealed that 1409 children had accidents and these cases were investigated. Only a duration of 6 months of the term was investigated for this study which included children between 0 to 6 years of age who were admitted to the emergency services of a training and research hospital, however, that does not mean that the number of children who had accidents in Malatya between the dates is 1409. As a matter of fact, private hospitals and other state hospitals were not included in this study.

When the age distribution of the accident data of 6 months was examined, it was seen that 1 year old children had significantly more accidents compared to children of other ages (25.3%). The second most accidents were in the 0-1 age group with a frequency of 18.6%, and children of age 2 had accidents with a frequency of 17.3%. These data were derived from hospital databases (Table 1).

When we look at the gender distribution of the accident data, it is seen that the rate of male children was higher compared to females (57.7%). According to the results of the research, it is seen that the children who come to the hospital for falling hazards are more than the two other accident types (1120) (Table 2).

According to the distribution of the accident data by months, it can be seen that falls and intoxication hazards were more frequent in summer months; especially in July and August, and burning incidents were higher in December (Table 3).

Table 1. Percentages of the ages of patients depending on the accidents they had

	Fall	Burn	Intoxication	n	%
Age 0	221	35	6	262	18.6
Age 1	267	64	25	356	25.3
Age 2	188	34	22	244	17.3
Age 3	126	22	22	170	12.1
Age 4	107	18	8	133	9.4
Age 5	95	8	7	110	7.8
Age 6	116	13	5	134	9.5
Total	1120	194	95	1409	100.0

According to the examination types of the accident data, the number of children examined in the outpatient clinic was higher compared to the other two types of examinations (94.1%) (Table 4).

It has been observed in the examination of final diagnosis of accident data for 6 months that children are taken to hospital principally due to soft tissue disorder (51.2%), subsequently some early complications of trauma (fall)

with a rate of 17.3%. These two groups are higher in proportion to other groups. While 5.6% of children taken for the reason of burn get diagnosed with burn, corrosion and frostbite sequela (burn), 4.3% of them get diagnosed with first degree burn (burn). It is observed that 4.4% of children taken for the reason of poisoning get diagnosed with Consultation (Intoxication) for drug abuse, 1.3% of them get diagnosed with contact with a poisonous animal or plant (Intoxication) (Table 5).

Table 2. Percentages of the gender of patients depending on the accidents they had

	Fall	Burn	Intoxication	n	%
Male	648	107	58	813	57.7
Female	472	87	37	596	42.3
Total	1120	194	95	1409	100.0

Table 3. Percentages of accident types depending on the month of admittance

	Fall	Burn	Intoxication	n	%
July	294	32	40	321	22.8
August	259	36	26	173	12.3
September	156	16	11	214	15.2
October	182	27	5	183	13.0
November	108	36	8	152	10.8
December	121	47	5	366	26.0
Total	1120	194	95	1409	100.0

Table 4. Examination data depending on the reason the patients are brought to the hospital

	n	%
Outpatient	1326	94.1
Referral	20	1.4
Inpatient	63	4.5
Total	1409	100.0

Table 5. The definitive diagnosis data of children who were brought to the hospital

	n	%
Soft tissue disorder (Fall)	722	51.2
Some early complications of trauma (Fall)	244	17.3
Other soft tissue disorder (Fall)	137	9.7
Sequela of burns, corrosion and frostbite (Burns)	79	5.6
Consultation for drug abuse (Intoxication)	62	4.4
First degree burn (Burn)	60	4.3
Burns classified according to their coverage of the body surface (Burns)	30	2.1
Contact with a poisonous animal or plant (Intoxication)	18	1.3
Other joint disorders (Fall)	12	0.9
Burns that cover 10-19% of the body surface (Burn)	12	0.9
Burns that cover less than 10% of the body surface (Burns)	8	0.6
Toxic effect of soap and detergents (Intoxication)	7	0.4
Fall (Other)	4	0.3
Burns that cover 40-49% of the body surface (Burns)	4	0.3
Other toxic effects of gases, smoke and vapors (Intoxication)	4	0.3
Sequela of the toxic effects of non-medicine substances (Intoxication)	3	0.2
Other intoxications (Intoxication)	2	0.1
Other	1	0.1
Total	1409	100.0

DISCUSSION

In this study, the accident data for all types of accidents was analyzed. In addition, different age groups of early childhood (infant, toddler and pre-school ages) have been handled separately. The occurrence of accidents is largely dependent on children's development and areas of influence (3).

When we look at the gender distribution, we can see that 57.9% of the children who were admitted to the hospital for falling hazards were males and 42.1% of them were females, 55.2% of the children who were admitted for burning hazards were males and 44.8% of them were females. 61.1% of the children who were admitted to the hospital due to intoxication were males and 38.9% of them were females. When we look at the distribution according to the months, the falling hazards were mostly seen in July with a frequency rate of 26.3% and in August with a frequency rate of 23.1%. Burn hazards were mostly seen in December with a frequency of 24.2% and intoxication was mostly seen in July with a frequency of 42.1%.

According to the data in this study, it can be seen that the 0-6 age group is the high risk group for accidents. It was also revealed in this study that the 0-2 age group had more accidents compared to other age groups (61.2%) (Table 1). In the research carried out by Özmen et al. (15), the rate of household accidents for children between 3

to 24 months was found to be 90.4%. In some studies, it was emphasized that there is a parallel between the ages of children and the frequency of household accidents (16, 17). It is thought that the probability of accidents may increase due to the fact that children at this age are very curious and explorers in their nature in regard to their environment and their movement skills are not fully developed compared to older ages. Atak et al. (18) found in their study that mothers with children under one year of age encounter greater amounts of accidents in their homes compared to mothers with older children. For this reason, it was emphasized that mothers with one-year-old children should be more careful in regard to minimizing the risks of accidents at the household. 45.4% of all household accidents in Turkey are seen in children between ages 0 to 6 (19).

In the study, the rate of male children having accidents was revealed to be 57.7%. This may be due to the fact that male children are less skillful and less agile in their nature and love to play games that depend on violent bodily movements. In a study carried out by Karatepe and Akış (20), it was revealed that the boys had more accidents. In the literature, it can also be seen that male children have more accidents compared to females, which proves the findings in this study (14,20, 21).

This study also revealed that 79.5% of the children who were admitted to the hospital were admitted due to

falling hazard. There is a significant difference between the children who were admitted due to falling hazards compared to other types of accidents. The literature also backs up our findings as falling hazards are among the most common types of accidents encountered (3,16,21).

The cases of intoxication admitted by the pediatric emergency service were found to be the third most frequent. Biçer et al. (22), in their study, found that cases of intoxication were most common between ages 1 to 6 with a frequency of 74.5%.

According to the distribution of the accident data by months, it was revealed that falls and intoxication occurred more frequently in summer months. This can be explained by the fact that children are more outgoing in summer months thus are exposed to more risks of accidents because of a less protective environment. The literature states that the most falling hazards recorded for children did happen in parks (23).

CONCLUSION

As a result of this study, it has been observed that not enough measures are taken to prevent childhood accidents and the number of children who experience accidents is quite high. Home accidents are the most common childhood accidents. Falls, burns and poisonings are the most important causes of home accidents. In order to minimize the number of childhood accidents, primarily the parents and other family members, school management, teachers and municipalities should take precautions and establish safe environments for children. Seminars and public service announcement are required to be organized in order to create awareness of how a safe environment can be provided and how childhood accidents can be prevented. Through such seminars and public service announcements, all people around children can be given messages and their awareness in regard to potential dangers can be increased in order to prevent accidents and to create a safe environment. Development and effective implementation of childhood accident prevention programs are also very important.

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