

Research article/Araştırma makalesi

# Frequency of Accidents/Injuries Requiring First Aid Practice and Related Risk Factors Among Parents of Children Aged 0-6 Years

## 0-6 Yaş Çocuğu Olan Ebeveynlerin İlk Yardım Uygulaması Gerektiren Kaza/Yaralanmalar ile Karşılaşma Sıklığı ve İlişkili Faktörler

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#### Abstract

**Aim:** The aim of this study is to determine the frequency of encountering accidents/injuries requiring first aid among parents of children aged 0-6 and the associated factors...

**Method:** The sample of this descriptive study consisted of 336 parents of children aged 0-6. The research data were collected through an online method (Google Forms) using the "Introductory Information Form" and a form including the cases of accidents/injuries requiring first aid intervention in children. "p" value <0.05 was considered statistically significant.

**Results:** It was found that 60.0% of the parents reported an accident/injury requiring first aid in their children. The top three types of accidents/injuries were identified as bumps and scrapes (80.1%), falls (43.7%) and insect/animal bites (34.8%). In the study, there was a statistically significant relationship between the age of the parent (p=<.001), the age of the child (p=.002), the educational level of the parent (p=.010), the family type (p=.027), the total number of people living at home (p=<.001) and the total number of children in the family (p=.001) and the incidence of accidents/injuries in children.

**Conclusion:** It was observed that more than half of the parents reported accidents/injuries in their children and that there was a relationship between parental age and education level, family type, total number of people in the household, total number of children in the family and child age and accidents/injuries in children. It is recommended that nurses identify families at risk, organize accident prevention and first aid trainings to the target group at regular intervals, and add first aid courses to the curriculum of schools

Keywords: 0-6 years old child, Accident/injury, First aid, Nurse.

#### Özet

**Amaç:** Bu çalışmanın amacı, 0-6 yaş çocuğu olan ebeveynlerin ilk yardım gerektiren kaza/yaralanmalar ile karşılaşma sıklığının ve ilişkili faktörlerin belirlenmesidir.

**Yöntem:** Bu tanımlayıcı çalışmanın örneklemini 0-6 yaş arası çocuğu olan 336 ebeveyn oluşturmuştur. Araştırma verileri, "Tanıtıcı Bilgi Formu" ve çocuklarda ilk yardım müdahalesi gerektiren kaza/yaralanmalarla karşılaşma durumlarını içeren anket formu kullanılarak çevrimiçi bir yöntemle (Google Forms) toplanmıştır. "p" değeri <0,05 istatistiksel olarak anlamlı kabul edilmiştir.

**Bulgular:** Ebeveynlerin %60,0'ı, çocuklarında ilk yardım gerektiren bir kaza/yaralanma ile karşılaştığını bildirmiştir. İlk üç kaza/yaralanma türünün, çarpma ve sıyrıklar (%80,1), düşmeler (%43,7) ve böcek/hayvan ısırıkları (%34,8) olduğu belirlenmiştir. Çalışmada ebeveynin yaşı (p=<.001), çocuğun yaşı (p=.002), ebeveynin eğitim düzeyi (p=.010), aile tipi (p=.027), evde yaşayan toplam kişi sayısı (p=<.001) ve ailedeki toplam çocuk sayısı (p=.001) ile çocuklarda kaza/yaralanma sıklığı arasında istatistiksel olarak anlamlı ilişki bulunmuştur.

**Sonuç:** Ebeveynlerin yarısından fazlasının çocuklarında kaza/yaralanma olduğunu bildirdiği ve ebeveyn yaşı ile eğitim düzeyi, aile tipi, hanedeki toplam kişi sayısı, ailedeki toplam çocuk sayısı ve çocuk yaşı ile çocuklarda kaza/yaralanma arasında ilişki olduğu görülmüştür. Hemşirelerin risk altında olan aileleri belirlemesi, hedef gruba düzenli aralıklarla kaza önleme ve ilk yardım eğitimleri düzenlemesi ve okulların müfredatına ilk yardım dersleri eklemesi önerilmektedir. **Anahtar Kelimeler:** 0-6 yaş çocuk, Kaza/yaralanma, İlk yardım, Hemşire

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## 1. Introduction

Unintentional injuries continue to be an important child health problem worldwide and are among the leading causes of death/disability in children (Feng et al., 2022, Zideman et al., 2021). Centers for Disease Control and Prevention (CDC) was reported that unintentional injuries ranked 4th (6.1%) among the causes of death in children under one year of age and ranked first (33.1%) in the 1-6 age group (CDC, 2020). In our country, according to the data of the Turkish Statistical Institute (TURKSTAT), deaths due to injuries and poisonings (14.3%) are among the leading causes of death in children aged 1-4 (TURKSTAT, 2022).

In order to prevent accidents/injuries among children, child safety education for parents is emphasized as part of child health interventions in both high-income and low- and middle-income countries (American Academy of Pediatrics [AAP], 2021; Peden, 2008; United Nations Children's Fund [UNICEF], 2018). UNICEF has work areas and recommendations such as the use of safety equipment, environmental and urban regulation, implementation of community-based education programs, and adoption of effective laws and regulations (UNICEF, 2018). AAP, on the other hand, offers accident/injury prevention trainings and brochures to children and parents through TIPP (The Injury Prevention Program) to prevent accidents/injuries in children (AAP, 2021).

Despite the strategies developed to prevent child accidents/injuries, accident/injury rates in children are still high. Children constitute a riskier group against accidents/injuries such as traffic injuries, drowning, poisoning, burns, insect-animal bites and falls due to their less developed physical, cognitive and motor skills compared to adults (Stehr et al., 2022). Various social, economic, environmental and personal characteristics are among the factors associated with accidents/injuries occurring in children. Factors such as the number of household members, parents' education level, single-parent family, geographical location, gender of the child, economic status of the family, etc. are reported to be associated with accident/injury rates in children (Hogan et al., 2018; Khatlani et al., 2017).

One of a parent's primary duties is to make sure their child grows up in a safe and healthy environment (Choi and Ahn, 2021). In this direction, it is important to provide information parents to organize their children's social environment (such as using safety locks, bed borders, socket covers) and to avoid risky behaviors (such as holding their child in their arms while cooking) to prevent accidents/injuries in children (Ma et al., 2021). Accidents and injuries can be avoided as parents' awareness and consciousness levels will rise, particularly by identifying high-risk children and teaching their parents (Choi and Ahn, 2021; Feng et al., 2022; Ma et al., 2021).

Along with protection and prevention training, it is very important for parents to know the effective first aid practices for intervention to children exposed to accidents/injuries to prevent the dangers that may occur due to accidents/injuries. Although accidents and injuries are among the leading causes of death in children aged 0-6, studies on this subject remain limited. Existing research has primarily focused on specific accident types, parental knowledge of first aid, and general injury prevention strategies



(Al-Bshri and Jahan, 2021; Ma et al., 2021; Santagati et al., 2016). However, there is still a gap in the literature regarding the multifactorial relationship between parental sociodemographic characteristics, household composition, and the frequency of accidents/injuries requiring first aid in children. This study aims to provide comprehensive analysis by examining both accident prevalence and associated risk factors within a broader sociodemographic context. Therefore, it is anticipated that the findings of this study will contribute to the literature by identifying specific risk determinants and guiding targeted accident prevention and first aid education interventions for parents.

## **Research** questions

- What is the frequency of accidents/injuries in children aged 0-6?
- Are child-specific characteristics associated with accidents/injuries in children?
- Are parent-specific characteristics associated with accidents/injuries in children?
- Are family-specific characteristics associated with accidents/injuries in children?

## 2. Method

## 2.1. Type and Sample of the Study

The population of this descriptive study consisted of parents with children aged 0-6 years. MedCalc software program was used to calculate the sample size. The sample size was calculated as 239 with 5%  $\alpha$  error (95% significance) and 20%  $\beta$  error (80% power of the study). The research survey was conducted between May and September 2023 and a total of 336 parents were reached (N=336).

## 2.2. Variables of the Study

The independent variables of this study are the sociodemographic characteristics of children aged 0-6 and their parents. The dependent variable of the study is the accidents/injuries that parents encounter in their children requiring first aid.

## **2.3. Data Collection Tools**

The research data was collected using two-part questionnaires containing multiple-choice questions. These forms were prepared by the researchers in line with the literature (Ma et al., 2021; Nocera et al., 2016; Sampei et al., 2020; Santagati et al., 2016). The first part of the forms included a total of 11 questions including sociodemographic characteristics such as the age, education level, employment status, age and gender of the parents. The second part of the forms focused on the types of accidents/injuries that parents encountered in their children and that required first aid, presented as multiple-choice questions under specific headings. To ensure a standardized classification, these headings were based on internationally accepted guidelines, such as those from the American Academy of Pediatrics (AAP, 2021) and the European Resuscitation Council (Zideman et al., 2021). First aid-required injuries were defined as those necessitating immediate intervention to prevent further harm. These included head traumas, bleeding wounds, fractures, sprains, burns, choking, and poisoning (CDC, 2020). Minor accidents, such as a child falling, crying briefly, and resuming play, were not categorized as first aid-requiring injuries, in line with the defined criteria. Additionally, the second part of the



questionnaire included 12 questions addressing whether parents sought emergency medical care for their child's injuries, whether they had previously received first aid training, and their interest in further first aid education. Furthermore, 4 questions assessed parents' attitudes toward childhood accidents/injuries and first aid training.

The survey forms were presented to a total of 5 experts, 3 academicians and 2 nurses working in the field of child health and disease nursing. In line with the expert suggestions, the option of "simulation learning" was added to two questions. Then, a preliminary application was made to 10 parents (mother or father) in order to test the comprehensibility and applicability of the questions in the forms. Parents who participated in the preliminary application were not included in the study. Minimal adjustments were made to the data collection form after the feedback.

## 2.4. Data collection

Data were collected using the online method (Google Forms). The data collection form was delivered to the participants via social media (Facebook, Instagram and WhatsApp) and e-mail. Parents who received the survey link and agreed to participate in the study filled out the survey forms by entering the link. In order to achieve maximum diversity in the sample, the snowball sampling method, which is one of the non-random sampling methods, was used. In the snowball sampling method, survey forms were sent to parents who met the criteria for inclusion in the study. The parents who were sent the survey forms invited the parents in their circle who met the criteria for inclusion in the study to participate in the study. In this way, the participants were reached through the created chain. Parents with children aged 0-6 years who volunteered to participate in the study were included in the study. At the beginning of the questionnaire, they were asked about their consent to participate in the study. Parents who consented to the study were asked to fill out the forms. The forms were answered in an average of 15 minutes.

The criteria for parents to be included in the study are;

- Having a child between the ages of 0-6 and
- Voluntarily agreeing to participate in the study.

The criteria for parents to be excluded from the study are;

- Being under the age of 18,
- Not knowing the Turkish language.
- 2.5. Statistical Analysis

SPSS (Statistical Package for the Social Sciences, version 25 for Windows, SPSS® Inc, Chicago, IL) program was used to evaluate the data obtained from the study. Normality distribution of data was performed using the Kolmogorov-Smirnov test. The statistics of descriptive data were expressed as number and percentage. Chi-squared test was used to compare categorical data. In the chi-square tests that were found to be significant, the Bonferroni test was performed to determine which group caused the difference. The "p" value < 0.05 was considered statistically significant.



## 2.6. Ethics Approval

The study was carried out in accordance with the Declaration of Helsinki Principles. Ethical approval was received from Hitit University Ethics Committee (31.05.2023-2023-07) to conduct the research. Participating parents were informed about the study and their consent was obtained.

## 3. Results

In the study, the average age of the parents is  $34.01\pm5.11$ , and the average age of their children is  $5.96\pm4.13$ . 53.6% of the children are male. It was determined that 46.4% of the parents have a undergraduate degree, 73.5% work, 53.3% have equal income to expenses, and 78.9% live in a province. The study found that the family type of the majority of the parents is nuclear family (91.3%), the total number of people living at home is three (47.0%), and the total number of children in the family is one (50.6%). It was determined that the children of the parents have a chronic disease diagnosis of 15.3% (Table 1).



Parents age         34.01±5.11         22-54           Child age         5.96+4.13         0-6           Female         155         46.4           Male         15         4.5           Secondary education         40         11.9           Associate's degree         49         14.6           Undergraduate degree         76         22.6           Employed         247         73.5           Unemployed         247         73.5           Unemployed         247         73.5           Income less than expenditure         62         18.5           Income equal to expenditure         95         28.3           Place of Residence         265         78.9           City         265         78.9           County         68         20.2           Vilage         307         91.3           Single-Parent J         10         30.0           3         0.9         3         1.9           3 and	Descriptive Characteristics	<b>Ā</b> ±SD	Min-Max
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n         %           Child Gender         5           Female         155         46.4           Male         181         53.6           Parent's Level of Education         181         53.6           Primary education         40         11.9           Associate's degree         40         11.9           Associate's degree         40         11.9           Associate's degree         76         22.6           Employment Status of Parents         -         -           Employed         247         73.5           Unemployed         89         26.5           Family Income         -         -           Income less than expenditure         179         53.3           Income nore than expenditure         179         53.3           Income nore than expenditure         179         53.3           Income more than expenditure         179         57.3           Vilage         265         78.9           County         68         20.2           Vilage         307         91.3           Single-Parent Family         10         3.0           Vilage         3         0.9         3 <td>Child age</td> <td>5.96±4.13</td> <td>0-6</td>	Child age	5.96±4.13	0-6
Child Gender       155       46.4         Male       155       46.4         Male       15       45.5         Parent's Level of Education       15       4.5         Primary education       15       4.5         Secondary education       40       11.9         Associate's degree       49       14.6         Undergraduate degree       76       22.6         Employment Status of Parents       89       26.5         Employed       247       73.5         Unemployed       247       73.5         Unemployed       247       73.5         Income less than expenditure       62       18.5         Income equal to expenditure       179       53.3         Income equal to expenditure       95       28.3         Place of Residence       179       53.3         City       265       78.9         County       68       20.2         Village       3       0.9         Type of Family       10       3.0         Extended Family       19       5.7         Nuclear Family       307       91.3         Single-Parent Family       10       3.0 </td <td></td> <td>n</td> <td>%</td>		n	%
Female       155       46.4         Male       181       53.6         Parent's Level of Education       15       4.5         Secondary education       40       11.9         Associate's degree       40       14.6         Undergraduate degree       76       22.6         Employment Status of Parents       76       22.6         Employnent Status of Parents       89       26.5         Family Income       62       18.5         Income less than expenditure       62       18.5         Income less than expenditure       79       53.3         Income equal to expenditure       95       28.3         Place of Residence       2       77.9         City       265       78.9         County       68       20.2         Village       3       0.9         Single-Parent Family       10       3.0         Single-Parent Family       10       3.0         Single-Parent Family       10       3.0         Sand more       46       13.7         Total Number of Children in the Family       129       38.4         S and more       37       11.0         Chronic Diseas	Child Gender		
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Parent's Level of Education         15         4.5           Primary education         40         11.9           Associate's degree         49         14.6           Undergraduate degree         156         46.4           Postgraduate degree         76         22.6           Employment Status of Parents         247         73.5           Unemployed         29         26.5           Family Income         62         18.5           Income less than expenditure         179         53.3           Income equal to expenditure         179         53.3           Income more than expenditure         95         28.3           Place of Residence         265         78.9           County         268         20.2           Village         3         0.9           Type of Family         19         5.7           Nuclear Family         307         91.3           Single-Parent Family         10         3.00           Total Number of Poople Living at Home         1         1           2 (Single- Parent)         3         0.9           3         158         47.0           4         12.9         38.4	Male	181	53.6
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Associate's degree       49       14.6         Undergraduate degree       156       46.4         Postgraduate degree       76       22.6         Employment Status of Parents       247       73.5         Unemployed       89       26.5         Family Income       62       18.5         Income less than expenditure       62       18.5         Income equal to expenditure       95       28.3         Place of Residence       76       20.0         City       265       78.9         County       266       78.9         Village       3       0.9         Type of Family       9       5.7         Nuclear Family       19       5.7         Nuclear Family       307       91.3         Single-Parent Family       10       3.0         Total Number of People Living at Home       10       3.0         2       (Single- Parent)       3       0.9         3       129       38.4       5         5 and more       46       13.7         1       170       50.6         2       2       38.4       5         3 and more       37	Secondary education	40	11.9
Undergraduate degree         156         46.4           Postgraduate degree         76         22.6           Employment Status of Parents         247         73.5           Employed         247         73.5           Unemployed         89         26.5           Family Income         62         18.5           Income less than expenditure         62         18.5           Income more than expenditure         95         28.3           Place of Residence         265         78.9           County         68         20.2           Village         3         0.9           Type of Family         19         5.7           Nuclear Family         19         5.7           Nuclear Family         307         91.3           Single-Parent Family         10         3.0           Total Number of Poople Living at Home         2         38.4           2 and more         4         13.7           Total Number of Children in the Family         170         50.6           2         33         0.9         3           3 and more         37         11.0           Chronic Disease in the Child         37         11.0 <td>Associate's degree</td> <td>49</td> <td>14.6</td>	Associate's degree	49	14.6
Postgraduate degree         76         22.6           Employment Status of Parents             Employed         247         73.5           Unemployed         89         26.5           Family Income         89         26.5           Income less than expenditure         62         18.5           Income equal to expenditure         179         53.3           Income more than expenditure         95         28.3           Place of Residence          265         78.9           County         268         20.2         village         3         0.9           Type of Family         19         5.7         80         91.3         307         91.3           Single-Parent Family         10         3.0         91.3         307         91.3           Single-Parent Family         10         3.0         91.3         31.6         47.0           4         129         38.4         5 and more         46         13.7           1         170         50.6         2         2         38.4           5 and more         37         11.0         10.0         10.0           1         129 <t< td=""><td>Undergraduate degree</td><td>156</td><td>46.4</td></t<>	Undergraduate degree	156	46.4
Employment Status of Parents         247         73.5           Employed         247         73.5           Unemployed         89         26.5           Family Income             Income less than expenditure         62         18.5           Income equal to expenditure         179         53.3           Income more than expenditure         95         28.3           Place of Residence          78.9           County         265         78.9           County         265         78.9           County         68         20.2           Village         3         0.9           Type of Family         19         5.7           Nuclear Family         10         3.0           Single-Parent Family         10         3.0           Total Number of Poople Living at Home         1         1           2 (Single- Parent)         3         0.9           3         1.58         47.0           4         1.29         38.4           5 and more         46         13.7           Total Number of Children in the Family         11         170           3 and more         37	Postgraduate degree	76	22.6
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Unemployed         89         26.5           Family Income            Income less than expenditure         62         18.5           Income equal to expenditure         179         53.3           Income more than expenditure         95         28.3           Place of Residence         95         28.3           City         265         78.9           County         68         20.2           Village         3         0.9           Type of Family         19         5.7           Extended Family         19         5.7           Nuclear Family         307         91.3           Single-Parent Family         10         3.0           Total Number of People Living at Home         7         7           2 (Single- Parent)         3         0.9           3         158         47.0           4         129         38.4           5 and more         16         13.7           Total Number of Children in the Family         170         50.6           2         3 and more         37         11.0           3 and more         37         11.0         53.6           2         51 </td <td>Employed</td> <td>247</td> <td>73.5</td>	Employed	247	73.5
Family Income         62         18.5           Income less than expenditure         179         53.3           Income more than expenditure         95         28.3           Income more than expenditure         95         28.3           Place of Residence         265         78.9           City         265         78.9           County         68         20.2           Village         3         0.9           Type of Family         19         5.7           Nuclear Family         19         5.7           Nuclear Family         307         91.3           Single-Parent Family         10         3.0           Total Number of People Living at Home         1         2           2 (Single-Parent)         3         0.9           3         129         38.4           5 and more         46         13.7           Total Number of Children in the Family         170         50.6           2         3.3         1.0         3.6           4         1.29         38.4         3.6           5 and more         37         11.0         3.6           Chronic Disease in the Child         37         11.0 <td>Unemployed</td> <td>89</td> <td>26.5</td>	Unemployed	89	26.5
Income less than expenditure         62         18.5           Income equal to expenditure         179         53.3           Income more than expenditure         95         28.3           Place of Residence             City         265         78.9           County         68         20.2           Village         3         0.9           Type of Family         19         5.7           Extended Family         19         5.7           Nuclear Family         307         91.3           Single-Parent Family         10         3.0           Single-Parent Family         10         3.0           4         129         38.4           5 and more         46         13.7           Total Number of Children in the Family         170         50.6           2         3 and more         37         11.0           1         170         50.6         2           2         3 and more         37         11.0           Chronic Disease in the Child         37         11.0           Yes         51         15.3           No         285         84.7	Family Income		
Income equal to expenditure         179         53.3           Income more than expenditure         95         28.3           Place of Residence         265         78.9           County         68         20.2           Village         3         0.9           Type of Family         19         5.7           Extended Family         19         5.7           Nuclear Family         307         91.3           Single-Parent Family         10         3.0           Total Number of People Living at Home         2         (Single-Parent)           2 (Single-Parent)         3         0.9           3         129         38.4           5 and more         4         129           1         170         50.6           2         2         129         38.4           5 and more         129         38.4           3 and more         137         11.0           Yes         51         15.3           No         285         84.7           TOTAL         336         100.0	Income less than expenditure	62	18.5
Income more than expenditure         95         28.3           Place of Residence            City         265         78.9           County         68         20.2           Village         3         0.9           Type of Family         19         5.7           Extended Family         307         91.3           Single-Parent Family         10         3.0           Total Number of People Living at Home         2         3         0.9           3         4.0         129         38.4           5 and more         46         13.7           Total Number of Children in the Family         1         170         50.6           2         3 and more         37         11.0           Yes         51         15.3           No         285         84.7           TOTAL         336         100.0	Income equal to expenditure	179	53.3
Place of Residence       265       78.9         County       68       20.2         Village       3       0.9         Type of Family       3       7.7         Extended Family       19       5.7         Nuclear Family       307       91.3         Single-Parent Family       10       3.0         Total Number of People Living at Home       1       10         2 (Single- Parent)       3       0.9         3       158       47.0         4       129       38.4         5 and more       46       13.7         1       170       50.6         2       3 and more       37       11.0         Chronic Disease in the Child       37       11.0         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	Income more than expenditure	95	28.3
City       265       78.9         County       68       20.2         Village       3       0.9         Type of Family       3       0.9         Extended Family       19       5.7         Nuclear Family       307       91.3         Single-Parent Family       10       3.0         Total Number of People Living at Home       7       7         2 (Single-Parent)       3       0.9         3       0.9       3       0.9         3       0.9       3       0.9         3       0.9       3       0.9         3       0.9       3       0.9         3       158       47.0         4       129       38.4         5 and more       129       38.4         1       170       50.6         2       3       37       11.0         Chronic Disease in the Child       37       11.0         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	Place of Residence		
County Village         68         20.2           Village         3         0.9           Type of Family         19         5.7           Nuclear Family         307         91.3           Single-Parent Family         10         3.0           Total Number of People Living at Home         10         3.0           2 (Single-Parent)         3         0.9           3         158         47.0           4         129         38.4           5 and more         46         13.7           Total Number of Children in the Family         1         170         50.6           2         3 and more         37         11.0           Chronic Disease in the Child         37         11.0           Yes         51         15.3           No         285         84.7           TOTAL         336         100.0	City	265	78.9
Village         3         0.9           Type of Family         19         5.7           Extended Family         307         91.3           Single-Parent Family         10         3.0           Total Number of People Living at Home         10         3.0           2 (Single-Parent)         3         0.9           3         158         47.0           4         129         38.4           5 and more         46         13.7           Total Number of Children in the Family         170         50.6           2         129         38.4           5 and more         37         11.0           Chronic Disease in the Child         37         11.0           Yes         51         15.3           No         285         84.7           TOTAL         336         100.0	County	68	20.2
Type of Family       19       5.7         Extended Family       307       91.3         Nuclear Family       10       3.0         Single-Parent Family       10       3.0         Total Number of People Living at Home       10       3.0         2 (Single- Parent)       3       0.9         3       158       47.0         4       129       38.4         5 and more       46       13.7         Total Number of Children in the Family       170       50.6         2       129       38.4         3 and more       37       11.0         Chronic Disease in the Child       37       11.0         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	Village	3	0.9
Extended Family       19       5.7         Nuclear Family       307       91.3         Single-Parent Family       10       3.0         Total Number of People Living at Home       3       0.9         2 (Single- Parent)       3       0.9         3       158       47.0         4       129       38.4         5 and more       46       13.7         1       170       50.6         2       129       38.4         3 and more       37       11.0         Chronic Disease in the Child       37       11.0         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	Type of Family		
Nuclear Family       307       91.3         Single-Parent Family       10       3.0         Total Number of People Living at Home       3       0.9         2 (Single- Parent)       3       0.9         3       158       47.0         4       129       38.4         5 and more       46       13.7         Total Number of Children in the Family       1       170       50.6         2       129       38.4       38.4         3 and more       129       38.4         3 and more       37       11.0         Chronic Disease in the Child       37       11.0         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	Extended Family	19	5.7
Single-Parent Family         10         3.0           Total Number of People Living at Home         3         0.9           2 (Single- Parent)         3         0.9           3         158         47.0           4         129         38.4           5 and more         46         13.7           Total Number of Children in the Family         1         170         50.6           2         3 and more         37         11.0           Chronic Disease in the Child         37         11.0           Yes         51         15.3           No         285         84.7           TOTAL         336         100.0	Nuclear Family	307	91.3
Total Number of People Living at Home       3       0.9         2 (Single- Parent)       3       0.9         3       158       47.0         4       129       38.4         5 and more       46       13.7         Total Number of Children in the Family       1       170       50.6         2       129       38.4       38.4         3 and more       170       50.6       38.4         3 and more       37       11.0       50.6         2       129       38.4       38.4         3 nd more       37       11.0       50.6         2       5       15.3       51       15.3         No       285       84.7         TOTAL       336       100.0	Single-Parent Family	10	3.0
2 (Single- Parent)       3       0.9         3       158       47.0         4       129       38.4         5 and more       46       13.7         Total Number of Children in the Family         1       170       50.6         2       129       38.4         3 and more       37       11.0         Chronic Disease in the Child         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	Total Number of People Living at Home		
3       158       47.0         4       129       38.4         5 and more       46       13.7         Total Number of Children in the Family         1       170       50.6         2       129       38.4         3 and more       37       11.0         Chronic Disease in the Child         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	2 (Single- Parent)	3	0.9
4       129       38.4         5 and more       46       13.7         Total Number of Children in the Family         1       170       50.6         2       129       38.4         3 and more       37       11.0         Chronic Disease in the Child         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	3	158	47.0
5 and more       46       13.7         Total Number of Children in the Family         1       170       50.6         2       129       38.4         3 and more       37       11.0         Chronic Disease in the Child         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	4	129	38.4
Total Number of Children in the Family         1         170         50.6           1         170         50.6         129         38.4           2         3 and more         37         11.0           Chronic Disease in the Child           Yes         51         15.3           No         285         84.7           TOTAL         336         100.0	5 and more	46	13.7
1       170       50.6         2       129       38.4         3 and more       37       11.0         Chronic Disease in the Child         Yes       51       15.3         No       285       84.7         TOTAL       336       100.0	Total Number of Children in the Family		
2     129     38.4       3 and more     37     11.0       Chronic Disease in the Child       Yes     51     15.3       No     285     84.7       TOTAL     336     100.0	1	170	50.6
3 and more     37     11.0       Chronic Disease in the Child         Yes     51     15.3       No     285     84.7       TOTAL     336     100.0	2	129	38.4
Chronic Disease in the Child         Ves         51         15.3           No         285         84.7           TOTAL         336         100.0	3 and more	37	11.0
Yes         51         15.3           No         285         84.7           TOTAL         336         100.0	Chronic Disease in the Child		
No         285         84.7           TOTAL         336         100.0	Yes	51	15.3
<b>TOTAL</b> 336 100.0	No	285	84.7
	TOTAL	336	100.0

 Table 1. Sociodemographic characteristics of parents and their children

In the study, 60.0% of the parents encountered an accident/injury requiring first aid in their children. 42.9% of parents who encountered an accident/injury went to the emergency room. It was determined that the majority of the parents (75.9%) had already received first aid training and 34.1% received first aid training during their university education. 60.4% of the parents reported that they received first aid training from written sources such as books/slides and hands-on training on a model with a trainer. It was determined that 80.4% were willing to receive first aid training for their children, 82.2% wanted to receive face-to-face training with a health professional, and 45.4% wanted training from books and on a model with a health professional (Table 2).



Items	n	%
Encountering Accident/Injury in a Child		
No, never	135	40.0
Only once	156	46.4
2-3 times	27	8.0
4 and more times	18	5.6
Emergency Room Admission due to Accident/Injury		
Yes	144	42.9
No	192	57.1
Training Course		
Yes	255	75.9
No	81	24.1
Where First Aid Training was Received (N=255)		
During high school education	18	7.1
During university education	87	34.1
In-service training	65	25.4
Volunteering at a private first aid course	34	13.3
In driving school	50	19.6
How First Aid Training is Received (N=255)		
Written resources such as books/slides with a trainer and hands-on practice on the model	154	60.4
With a trainer, you can only use resources such as books and slides	87	34.1
Practical only on the model	13	5.0
Wanting First Aid Training for their Children		
Yes	270	80.4
No	66	19.6
Option to Receive First Aid Training (N=270)		
Face to face with the health worker	222	82.2
With simulation application in online education	33	12.3
Online sources such as TV, internet	12	4.4
Sources such as newspapers and books	3	1.1
How First Aid Training is Intended to be Received		
Practical applications from books and on the model together with the health worker	133	45.4
Practiced on the model together with health workers	125	42.7
With simulation application in online education	31	10.6
By reading from books myself	4	1.4

## Table 2. Parents' encounters with accidents/injuries requiring first aid and knowledge of first aid

In the study, it was observed that the top three types of accidents/injuries encountered by parents were minor injuries such as bumps, scrapes, etc. (80.1%), falls (43.7%) and insect/animal bites (34.8%) (Figure 1). In the study, it was determined that mostly mothers witnessed the cases of accidents/injuries.

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## Figure 1. Types of accidents/injuries requiring first aid encountered by parents (N=201)

In the study, in case of accidents/injuries, 84.6% of the parents stated that they could perform first aid in injuries/bleeding, 78.6% in foreign body swallowing/choking, 69.9% in burns, 67.3% in falls, fractures, dislocations and 49.4% in poisoning (Figure 2).



## Figure 2. Parents' self-assessments of first aid practices in accident/injury types (N=336)

In the study, parents' opinions about accidents/injuries requiring first aid intervention were examined. It was determined that 10.1% of the parents agreed and 50.9% disagreed with the view that "Injuries to children are due to bad luck". It was found that 34.2% of the parents agreed with the statement "Parents are primarily responsible for the safety of their children, regardless of who takes care of the children" and 46.7% of the parents agreed with the statement "Parents are primarily responsible for their children. In the study, 54.8% of the parents strongly agreed with the statement "Every individual should receive first aid training before becoming a parent".

In the study, the difference between parental age and the frequency of accidents/injuries in children was statistically significant (p=<.001). The difference between children's ages and both the frequency of



accidents/injuries (p=.002) and emergency room visits due to accidents/injuries (p=<.001) was statistically significant. No significant difference was found between the gender of the children and both the accident/injury rates (p=.485), and the emergency room visits due to accident/injury (p=.507). The difference between parental education level and the frequency of accidents/injuries in children was statistically significant (p=.010). It was determined that the difference was because parents with postgraduate education encountered fewer accidents/injuries in their children than expected. The difference between family type and accidents/injuries in children was statistically significant (p=.027). It was determined that the difference was because single-parent families encountered more accidents/injuries in their children than expected. The difference between the total number of people living in the house and the frequency of accidents/injuries in children was highly significant (p = <.001), and it was observed that the difference was because families of three encountered more accidents/injuries than expected. In addition, the difference between the total number of people living in the house and the number of emergency room visits due to accidents/injuries was statistically significant (p=.003), and it was determined that the difference was because families with 5 or more people had more emergency room visits than expected. The difference between the total number of children in the family and both the frequency of accidents/injuries in children (p=.001) and emergency room visits due to accidents/injuries (p=.002) was statistically significant. It was determined that the difference was because families with 1 child had fewer accidents/injuries and emergency room visits than expected (Table 3).



# Table 3. Relation between children's accident/injury encounters and emergency room admissions by descriptive characteristics

Descriptive Characteristics			Accident/Injury Encounter	Emergency Room Admission due to Accident/Injury		
			<b>Chi-square</b>	Chi-square		
			р	р		
	<b>X±SD</b>	Min-Max				
Parants aga	34.01+5.11	22 54	17.548	2.044		
	54.01±5.11	22- 34	<.001	.153		
Child age	5.96±4.13	0-6	16.551	20.979		
	0100-1110	0.0	.002	<.001		
	n	%				
Child Gender	1.5.5	15.1	0.407	0.444		
Female	155	46.4	0.487	0.441		
Male	181	53.6	.485	.507		
Parent's Level of Education	1.5					
Primary education	15	4.5				
Secondary education	40	11.9	15.099	10.179		
Associate's degree	49	14.6	.010	.070		
Didergraduate degree	150	40.4				
Fostgraduate degree	70	22.0				
Employment Status of Parents	247	72 5	1 1 4 4	0.046		
Employed	247	13.5	1.144	0.046		
	89	20.5	.285	.830		
Family Income	(2)	10 5	0.016	0.176		
Income less than expenditure	62 170	18.5	0.216	0.1/6		
Income equal to expenditure	1/9	55.5 28.2	.898	.916		
	95	28.3				
Place of Residence	265	79.0				
City	265	78.9	0.090	4.025		
County	68	20.2	.956	.134		
	3	0.9				
Type of Family	10					
Extended Family	19	5./	7.220	0.040		
Nuclear Family	307	91.3	.027	.980		
Tradel Neurole and Presente Linite and	10	5.0				
2 (Single Depart)	t Home	0.0				
2 (Single- Parent)	5 159	0.9	10 705	12 024		
3	130	47.0	10.705	13.924		
5 and more	46	13 7	<.001	.005		
Total Number of Children in the	Family	15.7				
	170	50.6	14 475	12 278		
2	129	38.4	.001	.002		
3 and more	37	11.0				
Chronic Disease in the Child						
Yes	51	15.3	2.873	1,639		
No	285	84.7	.090	.200		
TOTAL	336	100.0				

X: Mean; SD: Standard Deviation; p<0.05: Statistically Significant

#### 4. Discussion

Accidents/injuries are among the leading causes of death and disability in children aged 0-6 years and are one of the most important health problems in almost all countries (Abbassinia et al., 2020; Feng et

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al., 2022; Zideman et al., 2021). In our study, the frequency of parents' encountering accidents/injuries requiring first aid in their children was 60.0%. In studies conducted in our country on the frequency of accidents/injuries in children aged 0-6 years, accident/injury rates were found to vary between 11.3% and 69.0% (Aydoğdu et al., 2019; Çetintaş et al., 2022; Elmas et al., 2020; Korğalı, 2019; Ozakar Akca et al., 2017; Ozbey & Ener, 2022; Uskun et al., 2022). In studies conducted in various regions of the world, this rate is between 8.61% and 60.6% (Al-Bshri & Jahan, 2021; Al-Johani et al., 2018; Gyedu et al., 2021; Ma et al., 2021; Mahah et al., 2021; Nouhjah et al., 2017; Nour et al., 2018; Santagati et al., 2016). It was observed that the results of our study were among the rates determined in other studies conducted in our country and in the world.

In this study, it was observed that the rate of parents' application to the emergency department due to accident/injury was 42.9%. Santagati et al., (2016) reported that 9.2% of children exposed to accident/injury were brought to the emergency department for intervention. Kılıç et al. (2019) reported that the rate of children aged 0-6 years applying to the emergency department after an accident was 55.0%. Korğali (2019) reported that the rate of accidents/injuries requiring hospitalization in children was 38.9%. The results of our study are similar to other studies conducted in our country. The high rate of emergency department visits due to accidents/injuries shows the need for education for parents to protect their children from accidents/injuries and the importance of preventing accidents/injuries.

In the literature, it is seen that the rates of parents who have previously received first aid training vary between 7.0% and 34.6% (Al-Bshri and Jahan, 2021; Al-Johani et al., 2018; El Awady Bassam, 2022; Gyedu et al., 2021; Harere et al., 2017). In the study, it was determined that the rate of parents who have previously received first aid training (75.9%) is quite high compared to other studies. The fact that the Ministry of Health organizes first aid training for individuals working in the public and private sectors within the framework of protocols signed with other ministries may have been effective in this high rate compared to other studies. Considering that the majority of parents are working (73.5%), the high rate of receiving first aid training is not surprising. The surprising finding was that 80.4% of parents wanted to receive first aid training for their children despite having previously received first aid training. Al-Johani et al. (2018) in their study, 90.3% of parents stated that they would attend a first aid course if they were invited. Within the framework of these findings, it is predicted that the participation and gains of parents will be high when planning a first aid training. First aid training can be planned accordingly. It is observed that parents learn first aid from various sources such as courses, online applications, social media, health and medical personnel (Al-Bshri & Jahan 2021; Choi & Ahn 2021; Feng et al., 2022; Harere et al., 2017; Zedain et al., 2022). In this study, it was determined that 34.1% of the parents received first aid training during their university education. The high rate of accidents/injuries in children aged 0-6 years has shown how important it is to provide first aid training to individuals in the society. In the study, the fact that the majority of parents received first aid training during their university

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education showed that universities have an important role in this issue. For this reason, "First Aid" courses can be added to the curriculum of programs in every department of universities. In addition, it is very important to provide first aid trainings to parents from various sources. This is because reasons such as access to trainings by every society and every individual, the effectiveness of learning methods varying from individual to individual, and the lack of appropriate time for participation in training may affect the level of participation in first aid trainings. As an alternative to these trainings, smartphone applications have great potential for parent-based trainings (Choi & Ahn 2021; Feng et al., 2022; He et al., 2017; Zhang et al., 2017).

The Center for Disease Control and Prevention (CDC) stated that the main cause of injuries in the 0-6 age group is due to falls with a rate of 43.6% (CDC, 2020). Among the main causes of injuries in the 0-6 age group, falls are ranked first in some studies (Al-Bshri & Jahan 2021; Al-Rumhi et al., 2020; Cazacu-Stratu et al., 2023; Elmas et al., 2020; Ma et al., 2021), injuries in some studies (Al-Johani et al., 2018), and cuts in others (Mahah et al., 2021). In this study was in parallel with the findings of Al-Johani et al. (2018), and it was observed that minor injuries such as bumps, scrapes, etc. were the first with a rate of 80.1%, followed by falls with 43.7%. This difference between the findings is thought to be due to the population that constituted the sample of the study.

In case of any accident/injury, first aid practitioners have a very important role in the rapid and correct management of the event. In the study, the majority of parents stated that they could provide first aid to their children in case of any accident/injury. This finding is similar to the study of Mahah et al. (2021). Al-Bshri & Jahan (2021) reported that the majority of mothers were able to administer first aid correctly in suspected fracture and foreign body aspiration, but less correctly in burns and drowning. It is a pleasing finding that parents who spend the most time with children aged 0-6 years have high levels of first aid practice. This is because Pathak et al. (2018) reported in their community-based cross-sectional study that the majority of first aid providers to children exposed to accidents/injuries were family members (n=672). This finding shows how important it is for parents to have the right knowledge and practices about first aid and emphasizes the importance of providing first aid training to every member of the society, especially parents. The level of knowledge and practice of parents about first aid is important in terms of affecting the mortality and morbidity rates that may occur after an accident.

In the study, 54.8% of the parents strongly agreed with the statement "Every individual should receive first aid training before becoming a parent", 10.1% agreed with the statement "Injuries to children are due to bad luck", 34.2% agreed with the statement "Parents are primarily responsible for the safety of their children, regardless of who takes care of them" and 46.7% agreed with the statement "Parents are primarily responsible for their children's development of a safety attitude". These findings show that parents have a positive attitude towards protecting their children from accidents/injuries and first aid, but attitudes towards the importance of first aid can be increased to higher rates. Supporting our research



finding, Abelairas-Gómez et al. (2020) and Ganfure et al. (2018) reported that most parents had a positive attitude towards first aid. El Awady Bassam (2022), on the other hand, found that less than half of the mothers had a positive attitude towards first aid. In this direction, it may be possible to add first aid trainings to the curricula and individuals to learn first aid knowledge and skills during their education. In addition, since the sociocultural characteristics of parents may have an impact on attitudes towards first aid (El Awady Bassam, 2022; Ma et al., 2021) awareness trainings on first aid may positively affect parents' attitudes towards first aid.

In this study, it was seen that the ages of the children and their accident/injury encounters and emergency room admissions were statistically significant. These findings showed us that children of this age constitute a risky group and supported the literature (Al-Rumhi et al., 2020; Cazacu-Stratu et al., 2023; Nouhjah et al., 2017). The desire of children of this age to explore their environment, their passion for thrill-seeking, and the fact that they have not yet completed their physical and cognitive development make them vulnerable to risk. Moreover, in the study, there is a significant relationship between the age of the parents, family type, the total number of people living at home, the total number of children in the family and the children's encounter with accidents/injuries. This finding was in parallel with the study of Halawa et al. (2015) and suggested that as the age of the parents increased, their experience and awareness of childcare may have increased. In addition, in this study, the educational level of the parents and their encounter with accidents/injuries in their children were found to be statistically significant. The findings of this study was supported by studies in the literature that found a relationship between mothers' education levels and safety measures for accidents/injuries (Aydoğdu et al., 2019; Demirköse et al., 2021; Üçüncü et al., 2019; Yorulmaz & Hisar, 2020). This finding was interpreted as an increase in health literacy and behaviors to take precautions to protect their children from accidents/injuries with increasing education level of parents.

## **Study Limitations**

This research is limited to the parents of children aged 0-6 who agreed to participate in the research and the answers they marked as a result of the data collection with the questionnaires. In the data collection process, it was aimed to reach maximum diversity in the sample, however, the fact that the data was obtained through an online method and parents who do not use social media or do not have internet access cannot be reached constitutes another limitation of this study.

## 5. Conclusion

The results of this study showed that more than half of the parents experienced accidents/injuries among their children and that there was a relationship between the age and education level of the parent, type of family, total number of people in the household, total number of children in the family and the age of the child and accidents/injuries among children. To reduce the rate of accidents/injuries among children;



-Providing trainings for parents on protecting and preventing their children from accidents/injuries,

-Organizing first aid trainings for parents to provide proper first aid to their children in case of accidents/injuries,

-In particular, it is recommended that pediatric nurses identify families at risk and provide trainings to the target population at regular intervals to reduce morbidity and mortality due to accidents/injuries and to increase awareness.

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## **Conflict of Interest**

No conflict of interest has been declared by the authors.

#### Ethical Statement

It is declared that scientific and ethical principles have been followed while carrying out and writing this study and that all the sources used have been properly cited.

*Hitit University Ethics Committee Approval has been received. Decision Date: 31.05.2023, Decision Number: 2023/07* 

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