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Evaluation of the Level of Basic First Aid Knowledge of Parents Applying to Paediatric Emergency Department

Çocuk Acil Servise Başvuran Ebeveynlerin Temel İlk Yardım Bilgisi Düzeylerinin Değerlendirilmesi

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Abstract

Introduction: First aid is a set of practices that all members of society should know under all circumstances. Our aim was to evaluate the level of basic first aid knowledge of parents of patients admitted to the pediatric emergency department and to raise awareness about first aid knowledge.

Methods: The study was conducted in University of Health Sciences Türkiye, İzmir Tepecik Education and Research Hospital, Clinic of Pediatric Emergency between December 15, 2017 and March 15, 2018. A descriptive and cross-sectional questionnaire was applied to question the socio-demographic characteristics of the parents who participated in the study, the situations requiring first aid encountered by their children and their level of first aid knowledge. Ethics committee approval was obtained (2017-30).

Results: The mean age of the 350 parents included in the study was 35.57±8.21 years and 157 of them were male. Sixty-one (17.4%) of the parents had first aid training. It was found that 32.9% of university graduates had first aid training (p<0.001). There was no statistically significant difference between the working status of the mother and the caregiving parent and the event requiring first aid (p=0.133, p=0.930, respectively). A significant relationship was found between the educational level of the parents and first aid, and between first aid training and finding oneself competent (p<0.001 and p<0.001, respectively).

Conclusion: The results of the study showed that there was a relationship between the level of education and first aid, first aid training and self-perception of adequacy and the importance of education. First of all, the level of education in the society should be increased, accidents frequently encountered by children should be identified and first aid training should be given to parents.

Keywords: Child, parent, education, awareness, first aid

Öz

Giriş: İlk yardım, toplumun tüm bireylerinin her koşulda bilmesi gereken bir uygulamalar bütünüdür. Amacımız çocuk acil servisine başvuran hastaların ebeveynlerinin temel ilk yardım bilgi düzeyini değerlendirmek, ilk yardım bilgisi konusunda farkındalık yaratmaktır.

Yöntemler: Araştırma, Sağlık Bilimleri Üniversitesi, İzmir Tepecik Eğitim ve Araştırma Hastanesi, Pediatri Acil Kliniği'ne 15 Aralık 2017-15 Mart 2018 tarihleri arasında gerçekleştirildi. Tanımlayıcı ve kesitsel tipte olan çalışmaya katılan ebeveynlerin sosyo-demografik özelliklerini, çocuklarının karşılaştıkları ilk yardım gerektiren durumları ve ilk yardım bilgi düzeylerini sorgulayan anket uygulandı. Etik kurul onayı alındı (2017-30).

Bulgular: Çalışmaya dahil edilen 350 ebeveynin yaş ortalaması 35,57±8,21 yıl, 157'si erkekti. Ebeveynlerin 61'inin (%17,4) ilk yardım eğitimi vardı. Üniversite mezunu olanların %32,9'unun ilk yardım eğitimi aldığı saptandı (p<0,001). Annenin çalışma durumu ve bakım veren ebeveyn ile ilk yardım gerektiren olay arasında istatistiksel olarak anlamlı bir fark bulunmadı (sırasıyla p=0,133, p=0,930). Ebeveynlerin eğitim düzeyi ile ilk yardım arasında, ilk yardım eğitimi ile kendini yeterli bulma arasında anlamlı ilişki bulundu (sırasıyla p<0,001; p<0,001).

Sonuç: Çalışmanın sonuçları eğitim düzeyi ile ilk yardım, ilk yardım eğitimi ile kendini yeterli görme arasındaki ilişki saptandığını ve eğitimin önemini göstermiştir. Öncelikle toplumda eğitim düzeyi yükseltilmeli, çocukların sık karşılaştığı kazalar saptanarak ebeveynlere bunlara yönelik ilk yardım eğitimi verilmelidir.

Anahtar Kelimeler: Çocuk, ebeveyn, eğitim, farkındalık, ilk yardım

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Introduction

Parents have an important role in providing a safe environment for children, preventing accidents and providing first aid in case of accidents. Although some conscious or unconscious behaviors may cause accidents, it is important to educate family members, to prevent accidents or to provide first aid in case of accidents and to raise awareness on this issue.[1] Despite protective measures, accidents can still occur and cause injuries and deaths of children. Therefore, correct and effective first aid at the time of an accident or life-threatening event is very important to reduce death and disability.[2]

In a sudden accident, illness or life-threatening situation, first aid is defined as the interventions made with the facilities available in the environment without medical equipment and without the use of drugs in order to save the life of the person and/or prevent the situation from getting worse until medical support arrives.[3] First aid is a set of practices that all members of the society should know under all conditions, regardless of whether they receive health education or not, and situations that require first aid can be encountered at any time throughout life. The aim of this study is to evaluate the level of basic first aid knowledge of parents of patients admitted to the pediatric emergency department, to determine the relationship with various factors, to raise awareness about first aid knowledge, and to ensure that the necessary steps are taken in terms of knowledge, attitude and behavior.

Materials and Methods

The study was a descriptive and cross-sectional study planned to evaluate the level of basic first aid knowledge of the parents of patients admitted to the Pediatric Emergency Clinic of University of Health Sciences Türkiye, İzmir Tepecik Education and Research Hospital between December 15, 2017 and March 15, 2018. The study included 350 parents who met the inclusion criteria and agreed to participate in the study without time limitation and after explaining the purpose of the study. The personal information form included a total of 8 questions about demographic characteristics; gender, age, number of children, education level, income level, employment status, and the person who undertakes child care.

The form that evaluates first aid knowledge consists of 23 questions on the parameters such as the first aid training status, the person who applied the first aid, having any previous experience on a situation requiring first aid and if so, what this situation is, the first intervention after encountering with the situation requiring first aid, the approach to head trauma, the approach to the case of obstruction of the trachea, the approach to the case of foreign body in the ear, the approach after nosebleed, the approach to bee sting, the approach after cat or dog bite, the approach after foreign body sting, the approach to bleeding after any incision, the approach to drug poisoning, the approach to fainting, the approach to drowning, the approach to swelling in the body after trauma, the approach to burn, the approach to electric shock, and the approach to foreign body in the eye (Supplementary Table 1). Parents admitted to the emergency department due to accidents, parents who agreed to participate in the study and parents aged 18-65 years were included in the study. Parents who presented to the emergency department for reasons other than accidents, parents who refused to participate in the study, and parents outside the age range of 18-65 years were excluded from the study.

Ethical approval was obtained from the Ethics Committee of University of Health Sciences Türkiye, İzmir Tepecik Education and Research Hospital to participate in the study (decision no: 30, date: 11.12.2017). Informed consent forms were obtained from the subjects included in the study.

Statistical Analysis

The data obtained were coded and saved in SPSS for Windows (Statistical Package for Social Sciences for Windows) 24.0 package program and statistical analysis was performed. Descriptive statistics were given as arithmetic mean ± standard deviation and median (minimum-maximum) for numerical variables and as numbers and percentages for categorical data. The compatibility of numerical variables with normal distribution was analyzed with the Shapiro-Wilk test. Differences between groups in terms of categorical variables were analyzed with the chi-square test and Fisher's exact exact test. Variables were analyzed at 95% confidence level and $p \leq 0.05$ was considered significant.

Results

The mean age of the parents (n=350) participating in the study was 35.57±8.21 years and 157 were male (44.9%) and 193 were female (55.1%). Demographic characteristics of the study group are presented in Table 1. Of the parents who participated in the study, 61 (17.4%) stated that they had first aid training, while 289 (82.6%) stated that they did not receive any training. Of the parents who participated in the study, 8% (n=28) considered themselves adequate in first aid, 45.7% (n=160) did not consider themselves adequate, and 46.3% (n=192) considered themselves partially adequate. Among the children of the parents who participated in the study, 47.7% stated that they encountered a situation requiring first aid at least once. The most frequently encountered events requiring first aid by the children of the parents participating in the study are presented in Table 2. After encountering

a situation requiring first aid, 46.1% (n=77) of the parents stated that they took their children to the hospital without any intervention, and the first interventions made by the parents are presented in Table 3. When the educational status of the parents and first aid training status were examined, it was found that 32.9% of those with a university degree received first aid training, which was statistically significant (p<0.001) (Table 4). When the distribution of parents' first aid training and first aid competence status was examined, the competence of those who received training was found to be significantly related (p<0.001). There was no statistically significant difference between the educational level of the parents and the situation requiring first aid (p=0.146).

Table 1. Socio-demographic features of the parents

Demographic features	Number (n=350)	%
Gender		
Male	157	44.9
Female	193	55.1
Educational status		
Illiterate	15	4.3
Primary school	75	21.4
Secondary school	65	18.6
High school	122	34.9
University	73	20.9
Number of children in the family		
1	148	42.3
2	121	34.6
3	57	16.3
4	21	6.0
5	3	0.9
Income level of the family		
Below minimum wage	16	4.6
Minimum wage	74	21.1
Between minimum wage and 2000 ₺	96	27.4
Over 2000 ₺	164	46.9
Mother's employment status		
Working	110	31.4
Not-working	240	68.6
The person who gives care to the child		
Mother	250	71.4
Father	3	0.9
Grandmother	46	13.1
Caregiver	21	6.0
Other	30	8.6

*The minimum wage was set at 1604.12 ₺ in the working year

No statistically significant difference was found between the number of children and income status of the parents participating in the study and the situation requiring first aid (p=0.711, p=0887, respectively). There was no statistically significant difference between the employment status of the mother and the caregiver and the situation requiring first aid (p=0.133, p=0930, respectively). The accuracy distribution of the events requiring first aid and the first interventions performed by the parents are presented in Table 5.

Table 2. Distribution of situations requiring first aid in children

Event requiring first-aid	Number (n=167)	%
Poisoning	13	7.8
Head trauma	30	18
Fainting	16	9.6
Nose bleeding	15	9
Bleeding due to incision anywhere in the body	4	2.4
Cat or dog bite	12	7.2
Foreign body in the ear or nose	12	7.2
Burn	12	7.2
Electric shock	2	1.2
Drowning	5	3
Post-traumatic swelling in any part of the body (arm, hand, leg, foot, etc.)	15	9
Foreign body in the eye	5	3
Bee and insect stings	1	0.6
Nail puncture	5	3
Swallowing a foreign body (coin, bead)	20	12

Table 3. Distribution of parents' first interventions after an incident requiring first aid

Intervention	Number (n=167)	%
I take him/her to the hospital	77	46.1
I make him/her vomit	3	1.8
I put a tampon in his/her nose	9	5.4
I press on the bleeding area	5	3
I wash the eye with water	4	2.4
I wash the bite site with soap and water	6	3.6
I apply cold	28	16.8
I remove the foreign body	6	3.6
I pour water on his/her face	1	0.6
I wash with cold water	6	3.6
I hit him/her in the back	2	1.2
Other	10	6
I take it out of his/her mouth	2	1.2
I cut the power	2	1.2
I intervene and take him/her to hospital	6	3.6

Table 4. Distribution of parents' level of education and first aid training status

		First-aid training				
		Yes		No		p
		Number	%	Number	%	
Educational status	Illiterate	1	6.7	14	93.3	<0.001
	Primary school	7	9.3	68	90.7	
	Secondary school	3	4.6	62	95.4	
	High school	26	21.3	96	78.7	
	University	24	32.9	49	67.1	

Table 5. Distribution of accuracy of first aid provided by parents at the time of the incident

Intervention	Giving the correct answer (n=350)	%
Head trauma	246	70.3
Respiratory distress/aspiration	143	40.9
Cuts	229	65.4
Foreign body in the ear	181	51.7
Cat/dog bite	107	30.6
Bee sting	114	32.6
Nose bleeding	195	55.7
Nail punctuation	238	68
Poisoning	172	49.1
Burns	248	70.9
Fainting	129	36.9
Swelling due to trauma	289	82.6
Electric shock	198	56.6
Drowning	192	54.9
Foreign body in the eye	146	41.7

Discussion

The results of this study showed the importance of education and that parents were more likely to receive education as their level of education increased. It was shown that encountering situations requiring first aid was not associated with educational level, socio-economic level, number of caregivers and number of children.

It has been reported that parents who received first aid training were similar in terms of mean age, educational status and socio-economic level.[4-6] Mothers are the most common caregivers and they have to intervene in case of an event requiring first aid.[7] Similarly, mothers were the caregivers in our study and more than half of the participants were women. This may be related to the average age at marriage, having children and the similar likelihood of encountering situations requiring first aid. The attribution of the duty of taking care of children to mothers may be due to women's working rate, cultural approach, and the idea that this is the natural thing to do.

Parents' interest in receiving first aid training is low. In studies, while the rate of parents who received first aid training was reported to be between 5.9% and 9%, higher rates (17.4%) were found in our study.[7-10] It is known that education is related to low socio-economic status.[11] In the literature, the importance of adding first aid training to the curriculum for pre-school and primary school teachers and parents has been reported.[12] In addition to low rates of first aid training, it has been shown that the rates of updated training are also low, and the rates of being able to perform cardiopulmonary resuscitation are very low.[13] In our study, the rates of first aid training were found to be higher, and in addition, the self-sufficiency of those who received first aid training was significantly higher than those who did not receive first aid training. These results may be due to the fact that our study was conducted in the west of the country, in a region where education is relatively high and women play a more active role in business life. Therefore, providing and updating first aid training starting from the primary education period may increase the number of parents who receive first aid training and the number of parents who feel competent.

In our study, the rate of parental referral to the emergency department in case of an event requiring first aid was observed in approximately half of the cases (46.1%). In one study, the rate of seeking help from a physician in case of a situation requiring first aid was found to be quite high (70%) and burn cases were evaluated.[4] The rate of encountering a situation requiring first aid was found to be similar to the literature.[4,14] One study showed high rates because it was conducted in a physical education and sports teaching department.[14] Among the situations encountered, the most common situations requiring first aid were reported as falls and nosebleeding.[4,10,15,16] In our study, head trauma was found to be the most common condition requiring first aid. Different results may have been found due to the region where the study was conducted and the socio-cultural characteristics of the region.

Approximately half of the parents who encounter a situation requiring first aid take their children to the hospital. In only one study in the literature, the rate of application to a health institution was found to be low.[9] It has been reported that approximately half of the parents who were questioned about head trauma gave correct answers, and this rate was found to be as high as 70.3% in our study.[17] In our study, head trauma was found to be the most common condition requiring first

aid, and this may be due to the fact that parents think that it is a high-risk situation and that they have knowledge about it from the information and experiences on this subject because it poses a life risk.

Working mothers are less likely to encounter a situation requiring first aid than non-working mothers. Spending less time with the child reduces the likelihood of encountering a situation requiring first aid.[5] The frequency of accidents is high in children who receive care from people and institutions other than the mother.[18] It has been shown that first aid training should be widespread in the society and the use of training videos for this purpose is effective.[19] In our study, considering the fact that the caregiver parent was a mother, that the level of education was low, that the level of first aid training was low, and the characteristics of the region, the lack of basic and first aid training of mothers emerged as an important factor.

Study Limitations

The fact that the study was single centered and conducted in a province in the west of Türkiye is a limitation of the study. It cannot be generalized to all parents without multicenter studies with high numbers of participants.

Conclusion

First aid training of parents is important for children to receive first aid in accidents. First aid training of mothers seems to be a priority. Our study showed that parents were more prone to receive training as their level of education increased. Raising public awareness about first aid, creating awareness, brochures, social media and establishing a national policy are important for providing first aid to children.

Ethics

Ethics Committee Approval: Ethical approval was obtained from the Ethics Committee of University of Health Sciences Türkiye, İzmir Tepecik Education and Research Hospital to participate in the study (decision no: 30, date: 11.12.2017).

Informed Consent: Informed consent forms were obtained from the subjects included in the study.

Footnotes

Authorship Contributions

Concept: İ.D., U.G.B., M.A., Design: İ.D., U.G.B., M.A., Data Collection or Processing: İ.D., Analysis or Interpretation: İ.D., U.G.B., N.H., Literature Search: İ.D., U.G.B., M.A., Writing: N.H.

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Supplementary Table 1. Questionnaire on the approach of parents of pediatric patients brought to the emergency department for basic first aid

1.	Name/Surname	
2.	Gender	
3.	Age	
4.	Educational status	1. Illiterate 2. Primary school 3. Secondary school 4. High school 5. University
5.	Number of children in the family	
6.	Income level of the family	1. Below minimum wage 2. Minimum wage 3. Minimum wage of 2000 ₺ 4. Over 2000 ₺
7.	Mother's employment	1. Working 2. Not working
8.	The person who gives care to the child	1. Mother 2. Father 3. Grandmother 4. Caregiver 5. Other
9.	What is first aid?	
10.	Who are the first aid practitioners?	Doctor Nurse Those having first aid certificate Other
11.	Do you consider yourself competent in first aid?	Yes No I know a little Other
12.	Have you experienced an incident at home or on the street that required first aid to your child?	a) Yes b) No
13.	If yes, which of the following events did you experience?	a) Poisoning b) Head trauma c) Fainting d) Nose bleeding e) Bleeding due to cut f) Cat/dog bite g) Foreign body in the ear h) Burn ı) Electric shock j) Drowning k) Swelling due to trauma l) Foreign body in the eye m) Traffic accident n) Multiple trauma
14.	What was your first intervention?	
15.	Which health facility did you contact after the intervention?	a) Emergency unit of a hospital b) Health Center c) Polyclinic d) Did not apply

Supplementary Table 1. Continued		
16.	Suppose that your child fell down while playing at home and hit his/her head, and his/her forehead was swollen, what would your first intervention be?	a) I would put ice on his/her forehead b) I would wrap his/her head in a cloth c) I would take him/her to the hospital without doing anything. d) Other
17.	Suppose you were feeding your child and suddenly he/she started coughing and turning purple, what would you do first?	a) I would hit him/her hard on the back b) I would put my hand in his/her mouth c) I would pass behind him/her and pull my hands in front of his/her abdomen d) I would give water
18.	What would you do if you saw your child swallowing coin?	a) I would put my hand in his/her mouth to check b) I would have him/her eat bread c) I would give water to drink d) I would observe the child and act accordingly
19.	What is your first intervention when a bead gets in your child's ear?	a) I try to pull it out with tweezers or a Q-tip. b) I drip Vaseline or glycerin to make the bead come out. c) I never intervene, thinking that I will damage the eardrum. d) Other
20.	Suppose your child was bitten by a cat while playing on the street, what are the first things to do?	a) I would wash the bite with soap and water b) If the bite site is bleeding, I try to stitch it up c) I would press tobacco on the bleeding area d) I would not intervene at all
21.	In the case of bee sting in the garden, what are the first things to do?	a) If the bee-sting is left, I remove it b) I apply ammonia to the bee sting c) I apply cold to the bee sting d) I apply salt to the bee sting
22.	What do you do for the first treatment of nose bleeding?	a) I squeeze the wings of the nose and tilt the head forward b) I put cotton in the nose c) I clean his/her nose d) I wash his/her nose with cold water
23.	Suppose your child was pricked by a nail while playing in the street, what would you do in the first intervention?	a) I would remove the nail immediately b) I would not remove the nail c) I would wipe the wound with tincture of iodine d) I would take him/her to the hospital immediately
24.	You see your child at home with a medicine box in his/her hand and chewing medicine in his/her mouth, what is your first intervention?	a) I make him/her vomit b) I put my finger in his/her mouth and try to get any leftovers c) I make the child drink water d) I call poison counseling
25.	Suppose hot water was spilled on your child's hand, what would you do as a first intervention?	a) I would wash his/her hand with cold water b) I would wash his/her hand with warm water c) I would put ice in his/her hand d) I would cut the child's contact with hot water
26.	What do you do in case of your child's fainting?	a) I check his/her consciousness b) I control his/her breathing c) I pour cold water on him/her d) I give him/her water in his/her mouth
27.	Your child has a fever, what is the first thing to do?	a) I give antipyretics b) I wash with vinegar water c) I cover the child with a wet sheet d) I undress the child and apply cold to the groin and armpit with wet cotton
28.	What do you do as the first intervention in case of drowning in water?	a) I get him/her out of the water safely b) I inform the lifeguard c) I do not intervene at all d) I start CPR after I get him/her out of the water
29.	You pulled your child out of the water, what is your first intervention?	a) I check if he/she is breathing b) I press on the abdomen to let the excess water out c) I start CPR immediately d) I do not intervene at all
30.	What is the first thing you do when you see your child's foot hit the table and swell up?	a) I apply cold to the swollen area b) I rub the swollen place with olive oil c) I bandage his/her foot tightly d) I elevate his/her foot up

Supplementary Table 1. Continued		
31.	What is the first thing to do in case of your child's being exposed to electric shock?	a) I cut the electricity b) I immediately remove from the place of electric shock by holding him/her with my hands c) I check the child's breathing after removing him/her d) I do not intervene at all
32.	What do you do for your child who comes with a cut on his/her hand and says that a toy cut him/her while playing?	a) I apply tobacco on the injury b) I wash with water c) I apply pressure with a clean cloth d) I pour cologne on the injury