# Impact of Domestic Accidents Training Given to Parents with Mentally Disabled Children

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## **ABSTRACT**

**Purpose:** The research is a semi-experimental study with a pre-post testing design that aims to assess the impact of domestic accidents training given to parents with mentally disabled children.

**Methods:** The sample of the study consists of 32 parents whose children were enrolled in a special education center. Data were collected using sociodemographic features, Diagnostic Scale Of Safety Measures For Domestic Accidents In Children Aged 0-6, and training assessment form. Percentiles, averages, standard deviation, Cronbach Alpha internal consistency analysis, t-test, Kruskal Wallis, variance analysis were used to analyze the data.

**Results:** 71.9% of parents had previously received training on domestic accidents, 59.4% of their children had previously had domestic accidents, and poisoning was experienced the most (63.2%). It was determined that one month after training, parents' attitude score on measures to protect them from domestic accidents increased compared to pre-training. There was no significant difference between the rate children had domestic accidents before and after the training. No significant differences were found between parents' behavior before and after the training in taking safety measures at home.

**Conclusions:** It is recommended that families be trained by health professionals at regular intervals to protect them from home accidents and also ensuring continuity and observing the effects of the training by making in-home visits.

Keywords: Parent, Accident, Mentally Disabled

#### Zihinsel Engelli Çocuğu Olan Ebeveynlere Verilen Ev Kazaları Eğitiminin Etkisi

#### ÖZET

**Amaç:** Araştırma, zihinsel engelli çocuğa sahip ebeveynlere verilen ev kazaları eğitiminin etkisini değerlendirmeyi amaçlayan ön-son test desenli yarı deneysel bir çalışmadır.

**Yöntem:** Araştırmanın örneklemini çocukları bir özel eğitim merkezine devam eden 32 ebeveyn oluşturmaktadır. Veriler, sosyodemografik özellikler, 0-6 Yaş Çocuklarda Ev Kazalarında Güvenlik Önlemlerini Tanılama Ölçeği ve eğitim değerlendirme formu formu kullanılarak toplanmıştır. Verilerin analizinde yüzdelikler, ortalamalar, standart sapma, Cronbach Alpha iç tutarlılık analizi, t-testi, Kruskal Wallis, varyans analizi kullanılmıştır.

**Bulgular:** Ebeveynlerin %71,9'u daha önce ev kazaları konusunda eğitim almış, çocuklarının %59,4'ü daha önce ev kazası geçirmiş ve en çok zehirlenme (%63,2) yaşadığı belirtildi. Eğitimden bir ay sonra ebeveynlerin ev kazalarından korunma önlemlerine yönelik tutum puanlarının eğitim öncesine göre arttığı belirlendi. Çocukların eğitim öncesi ve eğitim sonrası ev kazası geçirme oranları arasında anlamlı bir fark bulunmamaktadır. Anne babaların evde güvenlik önlemleri alma konusunda eğitim öncesi ve eğitim sonrası davranışları arasında anlamlı bir fark bulunmamıştır.

**Sonuç:** Ailelerin ev kazalarından korunmaları için düzenli aralıklarla sağlık profesyonelleri tarafından eğitim almaları, ayrıca ev ziyaretleri yapılarak eğitimlerin sürekliliğinin sağlanması ve etkilerinin gözlemlenmesi önerilmektedir.

Anahtar Kelimeler: Ebeveyn, Kaza, Zihinsel Engelli

n accident is an event that is not planned, unexpected, sudden, and can result in injury and be prevented. On the other hand, domestic accidents occur in the home or parts connected to the home (1). According to the World Health Organization (WHO), burns, falls, and getting poisoned are the most important causes of morbidity and mortality in domestic accidents (2). The individuals most at risk for home accidents are the elderly, children, individuals with physical, mental, and social disabilities (3). Accidental injuries are the fifth leading cause of death among infants, and they remain the leading cause of death among children aged 1-19 (4). The causes of children's accidents are related to parental characteristics, behavioral and environmental factors. Due to their developmental characteristics, children will inevitably encounter accidents (5). The continued development of children in terms of neuromotor, physical, sensory, cognitive and psychosocial deceptions are among the causes of accidents (6). Disability is also a major risk factor for accidents. Disability is defined as the restriction or inability to perform the roles expected of a person because of their gender, age, social and cultural factors due to incompetence or disability (7). Children with mental disabilities, in particular, are more likely to experience accidents in their daily lives, such as falls, burns, poisoning, suffocation, foreign body aspiration, more than healthy children (1). Physical and mental problems in children with intellectual disability; increases the risk of home accidents. In particular, it causes more fractures in hand-eye coordination due to falling and burn-type home accidents (1). To protect children from accidents and injuries, it is very important that their parents know about accident prevention, so providing training to families is not something (8).

When the literature is examined, there is no study with a pre-test and post-test designed by providing education to parents with mentally retarded children. It is thought that this study, which was carried out in a special education center, will contribute to the increase of awareness of the parents about the issue and to take precautions by providing training on the prevention of home accidents to parents with mentally retarded children. This study was planned as quasi-experimental to investigate the evaluation of the education given to parents with mentally retarded children on home accidents.

## **MATERIALS AND METHODS**

# Study Design

The research is a semi-experimental study with a pre-post testing design that aims to assess the impact of training given to parents with mentally disabled children on preventing domestic accidents.

# Hypotheses Of the Study

Hypothesis 1: There will be a difference between the scores of parents trained to prevent domestic accidents safety measures for domestic accidents before training and one month after training.

Hypothesis 2: The rate of domestic accidents amongst the children of parents trained to prevent domestic accidents will have decreased one month after the training.

Hypothesis 3: Parents trained to prevent domestic accidents will take more safety measures for domestic accidents in their homes than before the training.

#### Population and Sample

The population of the study consisted of 76 parents with children attending a Special Education Center in Istanbul. The sample of the research; The universe was calculated using the formula for calculating the number of known samples and was found to be 58. Our study consisted of 54 parents who came to the center on the day of the training, participated in the training and lived in the same house with the mentally handicapped child. As 22 parents had to leave the center at the end of the training, the study was completed with 32 parents.

#### **Data Collection Tools**

Data in the study were collected using sociodemographic features, information form on domestic accidents, Diagnostic Scale Of Safety Measures For Domestic Accidents In Children Aged 0-6, training assessment form, and information form on domestic accidents applied 1 month after training. In an experimental study in which educational effectiveness was measured, we collected the data 1 month later because the data were collected 1 month later (9).

**Information form:** A form, which is created by researchers, consisting of 10 questions about the introduction of a parent and the mentally disabled individual, and domestic accidents. Questions include sociodemographic characteristics of the individual and parent, the type of mental disability that the child has, whether he or she has had a domestic accident before, what type of domestic accident he or she has had, and whether the parent had previously received training for domestic accidents or not (9, 10).

**Diagnostic Scale Of Safety Measures For Domestic Accidents In Children Aged 0-6 (MFDA):** The scale was developed by Çınar in 1999 to define the attitudes of

mothers, with children 0-6 years of age measures to protect their children from domestic accidents. It is noted that the scale is suitable for use in all age groups. The 5-type Likert scale (1=Never, 2=rarely, 3=Sometimes, 4=Often, and 5=Always) consists of 40 expressions, 34 of which are positive, 6 of which are negative. Negative statements are scored by reversing. The total score that can be obtained from the scale ranges between 40-200. A high score shows that mothers took measures to protect their children from domestic accidents at the highest level. In Çınar's study, the Cronbach alpha internal consistency coefficient of the scale was determined as 0.82 (8). In this study, the Cronbach alpha internal consistency coefficient of the scale was found to as 0.80.

**Training Assessment Form:** The form consists of 10 statements containing the views of parents about training (meeting expectations, comprehensibility, sufficient time, and are sufficient methods and tools, etc.) and the trainer (being in control, ensuring active participation, answering questions, using time effectively). Participants evaluate each expression based on 3 points (3 - Good, 2 - Medium, 1 - Should be Improved). At the end of the training, parents evaluated the training they received using the training assessment form. The total score received from the form was determined as 2.95+ 0.29.

**Information Form On Domestic Accidents:** The Form consists of two open-ended questions for data on whether the children have had a home accident after the training and whether parents took precautions in the home environment.

#### **Data Collection Method**

Data was collected three times: pre-training, at the end of the training, and one month after training. Before the training, parents were made the fill out information forms and Diagnostic Scale Of Safety Measures For Domestic Accidents through face-to-face interviews. Then, the Domestic Accident Prevention Training was given by one of the researchers. After the training, the participants' contact information was collected, and the training evaluation form was applied. One month after the training, participants were called by phone, and the information form on domestic accidents and the Diagnostic Scale Of Safety Measures For Domestic Accidents were applied.

### **Domestic Accident Prevention Training**

Participants were parents of mentally disabled children who attended the Special Education Center, 10 were fathers, and 22 were mothers. The training, held in the Seminar Hall of the Special Education Center, lasted 45 minutes.

The training aims to raise awareness in the knowledge, attitudes, and behaviors of parents with mentally disabled children about domestic accidents and take measures to prevent domestic accidents. Definition and importance of domestic accidents, types of domestic accidents, and measures to be taken to prevent domestic accidents, etc. was included in this training. Lecturing, question-answer, brainstorming, discussion, card game, PowerPoint presentation, and domestic accident prevention brochure prepared by researchers were used as training methods and materials.

**Performing the Training:** Parents were introduced and taken into the seminar hall. After all, participants arrived, the aim of the training was announced. Subjects were explained with the active participation of the parents, and participants were observed to be interested in the training. Participants shared their experiences on domestic accidents. A brainstorming session was held on measures for domestic accidents. In order to assess at the end of the training, the card game method was used by distributing cards that had written questions and answers. Parents 'questions on the subject were answered. To increase the permanence of the training, brochures containing important points of the training were distributed, and then the training was finished. The training and the trainer participants were evaluated using the training evaluation form.

#### Data Analysis

The data were analyzed using percentile in SPSS-18 (Statistical Package For Social Sciences) package program, averages, standard deviation, Cronbach alpha coefficient calculation, t-test in independent groups, variance analysis, Pearson correlation, Kruskal Wallis test. The Kolmogorov-Smirnov normal distribution test was performed to determine whether the diagnostic levels of security measures showed normal distribution.

## **Ethical Consideration**

Before the research, ethics committee approval (19.10.2016/77), permission from the Special Education Center, and permission for using the scale were obtained from the research that developed the Diagnostic Scale Of Safety Measures For Domestic Accidents Before collecting data, a written and oral announcement was made by the special education center to the parents of students to participate in the training for 1 Week. On the day of the training, parents were informed about the training, and it was stated that participation was voluntarily, the consent form was read to those who wanted to participate in the research, and their permission was obtained. The parents were told that the information they provided would be kept confidential, not used anywhere else and that they had the right to leave the study at any time.

#### **FINDINGS**

Sociodemographic characteristics of parents and children participating in the study are included in Table 1.

Table 1. Distribution of sociodemographic characteristics of parents and children (N = 32)							
Sociodemographic characteristics	n	%					
Parental learning level							
Primary school	6	18.8					
Secondary school	7	21.9					
High school	13	40.6					
College and above	6	18.8					
Degree of Relation to the Child							
Mother	22	68.8					
Father	10	31.2					
Child's Health Problem							
Autism	6	18.8					
Down Syndrome	6	18.8					
Mental Retardation	10	31.2					
Russell Silver	10	31.2					
Age	Average (SD)	Min-Max					
Age of the Parent	49.37+5.74	41-65					
Child's Age	20.75+5.36	10-30					

As shown in Table 1, 40.6% of parents are high school graduates, and 68.8% are mothers. 31.2% of children have Mental Retardation and Russel Silver Syndrome. The average age of parents is 49.37±5 years, and the average age of children is 20.75±5 years.

Table 2. Distribution of data on domestic accidents (N = 32)							
Has your child ever experienced a domestic accident?	n	%					
Yes	19	59.4					
No	13	40.6					
Type of domestic accident your child has experienced							
Burns	1	5.3					
Piercing/ Sharp tool injuries	6	31.6					
Poisoning	12	63.1					
Have you been trained in domestic accidents before?							
Yes	23	71.9					
No	9	28.1					
What sources of information did you use on domestic accidents*							
Internet	5	21.7					
Book	10	43.5					
Brochure	8	34.8					
* Multiple answers were given.							

59.4% of parents stated that their child had experienced a domestic accident before. Poisonings are in the first place in domestic accidents with 63.2%. 71.9% of parents said they had received education about domestic accidents, and 43.5% said they had inquired about domestic accidents from books. The findings of the 1st hypothesis of the study (there will be a difference between the scale scores of parents on safety measures for home accidents before and one month after training) are included in Table 3.

Table 3. Comparison of parents' MFDA scores before and after the training						
	Pre-trai	ning	One month after training		t	р
	Average	SD	Average	SD		
MFDA	157,28	7.21	185.65	3.72	-20.69	0.00

There is a significant difference between the parents' average scores of safety measures scale before training and one month after training (t=-20.69; p=0.000). Parents' scores are higher after one month of training.

There was no significant difference between parents' MFDA scores one month after the training and their child having a domestic accident before the training (t=1.86 p=0.07), their child having a domestic accident after the training(t=-0.75 p=0.26), and making changes to prevent domestic accidents at home(t=-1,09 p=0.28). There is no statistically significant difference between the parent's age, level of education, child's illness, relation to the child (being a mother or father), knowledge of domestic accidents, and MFDA scores before and one month after the training (p>0.05).

Conclusions on the 2nd hypothesis of the research (the frequency of domestic accidents in children of parents trained to prevent domestic accidents will decrease in one month after the training) and the 3rd hypothesis (parents trained to prevent domestic accidents will take more safety measures for domestic accidents in their homes than before the training) are included in Table 4. There is no significant difference between the child's previous domestic accident experiences and his / her accident experiences after the training (p>0.05). There is no significant difference between the child having domestic accidents and making changes at home one month after training (p>0.05).

Table 4. Comparing having had domestic accidents previously and having domestic accidents after training and making changes at home					
Previous domestic accidents	Having domestic accidents one month after training				
	Yes n (%)	No n (%)	x²/ p		
Yes	5 (71.4)	14 (56)	x <sup>2</sup> =0.54		
No	2 (28.6)	11(44)	p = 0.38		
Previous domestic accidents	Making changes at home one month after the training				
	Yes n (%)	No n (%)	x²/ p		
Yes	11(68.8)	8 (50)	x <sup>2</sup> =1.16		
No	5 (31.2)	8 (50)	p=0.23		

When Table 5 is examined; There was no statistically significant difference between the parents' knowledge about their child's disease, closeness to the child, education level, home accidents, and the ICSI scores before and 1 month after the education (p>0.05). There was no significant relationship between parental age and MFDA scores (p>0.05). There was a weak positive correlation between the age of the child and the MFDA score before education (r=0.38 p=0.03). As the child's age increases, the MFDA score increases.

Table 5. Comparison of sociodemographic and home accidents-related characteristics and MFDA scores						
	N	MFDA Before training		MFDA one month after training		
Child's Health Problem		Average	SD	Average	SD	
Autism	6	154	10,37	185,33	2,65	
Down Syndrome	6	156,6	4,41	184,5	3,67	
Mental Retardation	10	157,8	7,46	185,7	4,73	
Russell Silver	10	159,1	6,45	186,5	3,47	
		F= 0,63 p=0	),60	F= 0,35 p=0,78		
Degree of Relation to the Child		Average	SD	Average	SD	
Mother	22	154,63	6,57	185,63	4,042	
Father	10	163,1	4,88	185,7	3,093	
	t= -0,04 p=0,		0,96	t=-0,25 p=0,80		
Parental learning level		Average	SD	Average	SD	
	6	Average	<b>SD</b> 4,85	Average	<b>SD</b> 3,48	
level	6					
level Primary school	_	159	4,85	182,83	3,48	
Primary school Secondary school	7	159 156,85	4,85 11,52	182,83 184,42	3,48 2,5	

Information about home accidents		Average	SD	Average	SD	
Yes	23	158,30	6,94	185,6	3,62	
No	9	154,66	7,64	185,77	4,17	
	t= 1,29 p=0,20			t= -0,11 p=0,91		
Age of the Parent	r= 0,28 p= 0,11			r= -0,06 p= 0,71		
Age of the Child	r= 0,38* p= 0,03			r= -0,07 p= 0,67		

## **DISCUSSION**

Mothers make up most of the parents involved in the study that evaluated the impact of the training given to parents on domestic accidents, and about half of them are high school graduates. The average age of the parents is about 50 years. The fact that participants are willing to participate in research and training suggests that they care about this issue.

Domestic accidents sometimes occur due to the recklessness of families and sometimes due to environmental reasons. Determining the frequency of domestic accidents helps to take protective measures to prevent accidents (11). In our research, it was found that 59.4% of the mentally disabled children had previously had a domestic accident, which is quite high. Mentally disabled children have late motor development, difficulty using information, and memory retention, making them risky in domestic accidents. The findings have been discussed with research on healthy children, as research on home accidents with mentally disabled children could not be found. Studies conducted with healthy children in the 0-6 age group (12-17), 1 - 6 age group (18), and children aged 0-5 years (20), indicate that there are fewer domestic accidents. The frequency of domestic accidents of children aged 0-5 years was 65.6% in only one study (20). Our research finding suggests that mentally disabled children are risk of domestic accidents. The fact that these children have a high frequency of domestic accidents indicates that parents should be more careful about this and shows the importance of training done to prevent domestic accidents.

The research found that domestic accidents suffered by children were poisoning, piercing-sharp tool injuries, and burning, respectively. Mentally disabled children are more likely to have a domestic accident of poisoning, which leads to the impression that parents do not take adequate measures to store medications or cleaning agents. In the same way, leaving piercing-sharp tools such as scissors, knives out in the open can cause injuries to mentally disabled children.

Such accidents can be reduced by taking the necessary precautions. In studies, it is stated that the most common household accident in children aged 0-6 years (12-17), is falling and falling and burning in children and adolescents aged 6-18 years (10). It is believed that falls are seen more frequently in research may be related to the characteristics of the 0-6 age group. The fact that mentally disabled children were less present in playgrounds than healthy children and spent more time at home may have made a difference in the type of accidents.

Most of the parents involved in the study stated that they had previously received training on domestic accidents and used books, the internet, and brochures. It is worth noting that although families are sensitive about this issue, they did not receive training from health professionals on domestic accidents. A study conducted with healthy children aged 0-6 showed that 6.4% of participants had previously received training for domestic accidents (12). In studies conducted with healthy children aged 1 to 4, 35.4% of mothers depended on their own experiences in preventing domestic accidents (21), 30% of families received information from various relatives, 24% from the media, and 17% from other people who had accidents (22). In the literature, family members and the media are the most frequently mentioned sources of information about child safety (23). Ablewhite et al. (2015) noted that mothers prefer to learn about home security measures from other parents rather than professionals (9). In other studies conducted, the insufficiency in families obtaining information from health professionals is also noted (10, 21). Based on our research finding and considering the accident rates, it can be said that parents of children with mental disabilities should be provided with more support and education by health professionals. In the study, the training provided to raise awareness of the prevention of domestic accidents was evaluated by parents, and it gave the impression that they were satisfied with the training. It has been observed that during training, parents are interested, ask questions on things they want to know and participate in activities.

Parents' attitude scores on safety measures to protect the household from domestic accidents before and one month after training were compared in the study. Given that the scale's maximum score is 200 points, it is possible to say that parents' scores before and after education are quite high. This finding shows the sensitivity of families on this issue. The significant difference between the scale scores before and one month after training indicates that the training increased parents' awareness of safety measures to protect the household from domestic accidents. As a result of this finding, our first hypothesis (*There will be a difference between the scores of parents trained to prevent domestic accidents safety measures for domestic accidents before training and one month after training.*) appears to have been confirmed. In a study conducted by Çapık and Gürol with healthy children of 0-6 years, it was noted that there was a difference between the MFDA score before and after the training (24). According to our results and research, it can be said that it is useful to conduct domestic accident protection training.

The study determined that there was no significant difference between the MFDA score of parents one month after the training and the fact that their child had a domestic accident before and after the training, and making changes to prevent domestic accidents at home. This finding means that parents' awareness of security measures. However, this attitude has not yet been reflected in their behaviors. The parent's age, the level of education, the type of illness that their child has, whether they are a mother or father, or whether they are informed about domestic accidents do not affect the attitude score either. Due to the small number of samples, it is not possible to generalize this finding, so it is considered a result specific to our sample group.

In the study, the 2nd hypothesis (the frequency of domestic accidents in children of parents trained to prevent domestic accidents will decrease after the training) was not confirmed due to lack of significant differences between the child's accident experiences before and after the training. Changing behavior is a difficult process that takes a long time. Consistent and long-term training, the use of oneto-one training methods, and monitoring the effects of training can be more useful in changing behavior. In health education, for people's behavior to turn into habits, it is important to constantly monitor people who attended the training (25). Touching bases with parents in a longer process is planned. Although parents expressed satisfaction with the training in the study, the fact that the training was conducted in the form of a single session and the inability to observe the home conditions of the families may have affected the permanence of the training.

As a result of the lack of significant difference between parents making changes to the home to prevent home accidents before and after the training, the 3rd hypothesis of the study (Parents trained to prevent domestic accidents will take more safety measures for domestic accidents

in their homes than before the training) was not verified. This finding is also related to hypothesis 2, the occurrence of domestic accidents cannot be prevented due to the inability to take adequate precautions for accidents. It can be said that the positive attitude of families towards domestic accidents is not enough to make changes in the home. In addition, the fact that even the parents of children who have had accidents can not make changes in the house suggests that this may be associated with different factors other than individual factors. In phone calls that were made to collect data after the training, parents also said they were unable to make some changes due to financial deficiencies. It can be said that families need economic support in this regard. If parents' socioeconomic status were better, we would expect them to take preventive actions against home accidents, such as installing railings on windows, putting rails in front of stove heaters, and relocating electrical outlets higher. In the research of Durduran and Bodur (26). Difficulties in caring for a disabled child are stated as economic problems, inability to devote enough time, stress, fear of the future, inability to be an active member of society, and economic burden.

## **Limitations Of the Study**

Conducting the training in the form of a single session, the inability of participants to observe domestic accidents in a home environment, and the oral statements of parents about domestic accidents being the basis of the study were considered the study's limited aspects.

# **CONCLUSION**

The research aims to evaluate the effectiveness of the education provided to raise awareness of domestic accidents' knowledge, attitudes, and behaviors of parents with mentally disabled children. It has been observed that parents are satisfied with the training and were interested when participating in the training. Parents were sensitive to domestic accidents, with high scores for diagnosing safety measures for domestic accidents. An assessment conducted before and a month after training showed that the attitude of parents increased in a positive direction, but the training did not make a significant difference in the behaviors that affect domestic accidents and taking precautions at home. The training was conducted in a single session in the study, and families could not be visited in home settings. In line with the results from the research, continuous and regular training by health professionals to protect families from domestic accidents, use of one-to-one training and interactive training methods, assessment of the environment in which children live, by making home visits, in terms of domestic accidents and planning of safety measures that can be taken together with the family, and to conduct qualitative studies on the subject are recommended.

#### **DECLARATIONS**

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There is no person or institution supporting the study.

## Conflicts of Interest/Competing Interests

There is no conflict of interest between the authors.

## **Ethics Approval**

Ethical approval was obtained from Okan University Ethics Committee on 19.10.2016, number 19.10.2016/77.

# Availability of Data and Material

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

## **Authors' Contributions:**

Gülsüme SATIR: Idea, research, design, writing, revision. Sevim Ulupınar: Consulting, design, revision.

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