Exploring the Relationship between Parenting Stress, Resilience, and Self-Efficacy of First Aid for Home Accidents in Mothers with 0-4-Year-Old Children

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ABSTRACT

Objective: To determine the relationship between parenting stress, resilience, and self-efficacy of first aid for home accidents in mothers with 0-4-year-old children.

Materials and Methods: The study population comprised mothers in Turkey with children between 0 and 4 years old. The effect size was calculated based on existing literature, resulting in a value of 0.31 for Cohen's d. The G*Power 3.1.9.7 program was used to estimate the sample size, which was determined to be 66 individuals. A 20% increase was added to allow for people dropping out, making a final sample size of 80. The data were collected between March and June 2024 using the Information Form, Parenting Stress Scale (PSS), The Brief Resilience Scale (BRS), and the Self-Efficacy of First Aid Scale for Home Accidents (SEFASHA). The data were analysed using the SPSS 22.0 program, employing descriptive statistics and parametric or non-parametric tests for comparative data.

Findings: The study found that the average PSS score was influenced by factors such as age, place of residence, health status, education level, and history of accidents or injuries during the mother's childhood at home (p<0.05). Educational status and education life as a source of information about home accidents-first aid also affected the average SEFASHA score (p<0.05). The correlation between the average PSS and SEFASHA scores was positive and significant (r=0.030, p<0.05).

Conclusion: The study's findings determined that different variables affected mothers' PSS and SEFASHA mean scores and that there was a relationship between PSS and SEFASHA. In this context, the findings obtained on the subject are of great importance for the field of study and also emphasize the need for further research.

Keywords: Mothers with 0-4-year-old, Parenting stress, Resilience, Self-efficacy of first aid for home accidents

INTRODUCTION

An accident is defined as an unintentional or negligent occurrence that develops unexpectedly and is beyond the control of the individual. Such occurrences may result in physical or psychological harm. Accidents are classified into various categories, including those occurring in a traffic context, in the home, and in the workplace. They have a considerable impact on mortality and

morbidity, particularly in the paediatric age group ^[1-4]. Several factors contribute to the elevated incidence of home accidents in children under the age of six. These include the child spending a greater proportion of their time at home during the preschool period, the child's natural curiosity and physical activity, continued growth and development, and a lack of awareness of potential dangers in the home environment. Furthermore, the literature indicates that home accidents are more prevalent in this age group about factors such as the child's age and gender, the parent's age, educational level, socioeconomic status, the family's preventive measures for accidents at home, and the family's knowledge of first aid [1, 5, 6]. It has been documented that the physical characteristics of children, including their smaller size and more fragile bodies, render them more susceptible to injuries and accidents. Even incidents that would not cause significant harm to an adult may result in more severe consequences for a child. It is therefore the responsibility of parents, particularly mothers, to gain an understanding of these distinctive sensitivities and to address them in the context of accident prevention and first aid for children ^[6-8].

The prehospital process and the provision of appropriate and adequate first aid in the context of home accidents have the potential to influence the mortality and morbidity of children. The fundamental basis of first aid is the protection of the right to life, which is considered the most natural right of all human beings. It is of the utmost importance that health professionals and the public possess a fundamental understanding of first aid and the requisite skills to apply it in an emergency ^[9, 10].

Parents must be equipped with the requisite knowledge and skills to administer basic first aid to their newborns, infants, and children to mitigate the risk of mortality and morbidity associated with home accidents. This should be done in collaboration with health professionals who are experts in their field. In cases requiring first and emergency aid for children, psychological factors (stress, anxiety, psychological resilience, etc.) are effective in the management of the process. It is, therefore, essential that the individual who will administer first aid to the child is calm and has knowledge in related fields such as first aid. Only when these conditions are met can one consider the protection and maintenance of the child's health ^[9, 10]. composure Maintaining in such circumstances may prove challenging, mainly when the individual needing assistance is one's child. Parental stress and psychological resilience may be affected in situations other than those involving first aid and accidents. It can, therefore, be posited that training parents in first aid and safety precautions may prove a practical course of action, particularly when the mother's psychological status is considered, especially in instances where parents administer first aid to their children and intervene in accidents and injuries ^[11]. A literature review revealed that numerous studies have been conducted on accidents occurring in the home and the administration of first aid in early childhood ^[5-8, 12]. However, a paucity of studies has addressed the impact of parental stress and psychological resilience on fundamental life processes and first aid procedures. In this context, the objective of this study was to ascertain the relationship between parenting stress, resilience, and selfefficacy of first aid for home accidents in mothers with 0-4-year-old children.

MATERIALS & METHODS

Study Design, Sample and Setting

The study population comprised mothers in Turkey with children between 0 and 4 years old. The effect size was calculated based on the existing literature ^[13, 14], resulting in a value of 0.31 for Cohen's d. The G*Power 3.1.9.7 program was employed to estimate the requisite sample size (effect size 0.31, 80% power, 95% confidence interval), which was determined to be 66 individuals. A 20% increase was incorporated to allow for potential attrition, resulting in a final sample size of 80 individuals. The participants were

selected for the study using the snowball sampling method, a non-probability sampling method. The study population comprised mothers in Turkey with children between 0 and 4 years old who met the following criteria: they were 18 years of age or older, had completed at least primary school, had a child between the ages of 0 and 4, used online data collection methods, and agreed to participate in the study.

Data Collection

Data were collected using the Information Form, Parenting Stress Scale, The Brief Resilience Scale, and Self-Efficacy of First Aid Scale for Home Accidents.

Information Form: The form prepared by the researchers in line with the literature ^{[2, 5,} ^{11, 15, 16]}; consisted of 12 questions addressing the sociodemographic and occupational characteristics of mothers and their basic knowledge and attitudes towards first aid. Before the form was applied to the mother, it was submitted for review by ten experts in the field of nursing. Expert opinions were received using the Polit-Beck Method. The form was finalized after the experts' recommendations. The ten experts' grades analysed using content validity were analysis; the content validity index (S-CVI) was 0.90.

Parenting Stress Scale (PSS): The PSS was created by Aydoğan and Özbay (2017) to measure parents' stress about parenting. The scale consists of 18 items and a single dimension. It looks at the parent, the parentrelationship. child and the child's characteristics. The scale is rated from 0 to 4. The scale score is between 0 and 72. A higher score means more parenting stress. The scale can be used with parents with at least one child and primary education. The scale has a Cronbach's alpha coefficient 0.96^[17].

The Brief Resilience Scale (BRS): The BRS was created so that individuals could understand themselves and measure their potential and psychological resilience ^[18]. Doğan et al. (2015) performed a reliability and validity study to adapt the BRS to Turkish. The BRS has six items on a five-

point Likert scale. Items 2, 4, and 6 are reversed in the BRS. A respondent can get a total of 6 or 30 points on the BRS. High scores show high resilience. Cronbach's alpha for the BRS was 0.79^[19].

Self-Efficacy of First Aid Scale for Home Accidents (SEFASHA): The original scale, developed by Wei et al. (2013), exhibited a Cronbach alpha value of 0.89^[20]. The validity and reliability of the scale in Turkish society were evaluated by Altundag et al. (2020), with a total Cronbach alpha value of 0.86. The first-aid self-efficacy scale comprises 12 items delineating the steps a mother can take in the event of a home accident. A five-point Likert scale is utilized to assess self-efficacy in the context of first aid for home accidents. Responses indicating strong agreement (coded as 100%) or strong disagreement (coded as 0) were excluded from the subsequent analysis. The proximity of the score to the 1 to 5 range indicates a high level of perception. A high score indicates a heightened sense of self-efficacy in administering first aid ^[21].

Data collection forms were prepared using Google Forms and distributed via the online platforms WhatsApp, Instagram, and Telegram.

Ethics approval and consent to participate

Ethical approval was obtained from the University's Non-Interventional Clinical Research Ethical Committee of Nursing Faculty (Meeting Date:07th February 2024; Number of Decision: 2024/13). The researchers informed mothers about the study's aim and method and obtained written consent forms via online platform.

STATISTICAL ANALYSIS

Statistical analysis was performed using IBM SPSS Statistics 22 software. Descriptive statistics, t-tests, Mann Whitney U tests, ANOVAs, Kruskal-Wallis H tests, and correlation were performed. A Gabriel analysis was conducted in the post hoc analysis of the ANOVA, and p-values of <0.05 were considered significant.

RESULT

The mean age of the study participants was 32.53 ± 5.14 years old. The mean PSS score was found to be affected by age, place of

residence, and health status (p<0.05), while the mean SEFASHA score was affected by educational status (p<0.05) (Table 1).

Table 1. Comparison of mothers' sociodemographic and occupational characteristics with the scores ofParenting Stress Scale, Brief Resilience Scale, and Self-Efficacy of First Aid Scale for Home Accidents(n=80).

Variabl	e (n/%)	PSS x±ss	BRS x±ss	SEFASHA x±ss
Age	24-32 years old (41/51.30)	30.76±7.46	20.73±5.55	31.93±13.97
	33-48 years old (39/48.70)	32.87±9.48	21.15±4.58	27.10±14.59
	Test statistics p value	<i>t=-1.106 p=0.025</i>	t=-0.370 p=0.281	<i>t</i> =1.526 <i>p</i> =0.368
Educational status	High school or less (37/46.25)	33.59±9.20	20.84±4.65	28.86±13.00
	University or more (43/53.75)	30.23±7.65	21.02±5.47	30.19±15.37
	Test statistics p value	<i>t</i> =1.785 <i>p</i> =0.156	t=-0.162 p=0.392	<i>t=-0.417 p=0.028</i>
Place of residence	Provincial centre (54/67.50)	29.81±6.85	21.61±5.02	28.22±14.67
	District and town (26/32.50))	35.88±10.19	19.54±4.99	32.38±13.15
	Test statistics p value	<i>t</i> =-2.753 <i>p</i> =0.001	<i>t</i> =1.733 <i>p</i> =0.991	<i>t</i> =-1.228 <i>p</i> =0.290
Employment status	Employed (52/65.00)	30.21±7.68	20.60±4.89	25.92±14.13
	Unemployed (28/35.00)	34.71±9.34	21.57±5.43	36.36±11.99
	Test statistics p value	<i>t</i> =-2.317 <i>p</i> =0.999	t=-0.819 p=0.202	<i>t</i> =-3.315 <i>p</i> =0.213
Income perception	Less than expenses (15/18.75)	33.87±9.40	18.27±4.85	36.13±12.77
	Equal to expenses (45/56.25)	31.11±9.08	21.22±4.81	26.56±13.34
	More than expenses (20/25.00)	29.50±6.05	22.30±5.31	31.45±15.90
	Test statistics p value	<i>F</i> =1.207 <i>p</i> =0.305	F=3.018 p=0.055	F=2.906 p=0.061
Family structure	Nuclear family (70/87.50)	31.34±8.21	21.07±5.13	28.93±14.49
	Extended family (10/12.50))	34.90±10.40	20.00±4.78	34.30±11.98
	Test statistics p value	<i>MW-U</i> =285,5 <i>p</i> =0.347	<i>MW-U=299,0</i> <i>p=0.457</i>	<i>MW-U=255,0</i> <i>p=0.166</i>
Number of children	1 child (32/40.00)	30.34±7.20	20.00±4.93	27.88±14.81
in the family	2 and more (48/60.00)	32.75±9.24	21.56±5.12	30.71±13.90
	Test statistics p value	<i>MW-U=663,5</i> <i>P=0.305</i>	t=-1.357 p=0.334	<i>t</i> =-0.870 <i>p</i> =0.959
Health status	Have health problem (13/16.25)	29.54±3.18	21.38±4.19	22.77±12.28
	No health problem (57/83.75)	32.22±9.15	20.85±5.25	30.90±14.31
	Test statistics p value	MW-U=408,5 P=0.724	MW-U=404,5 P=0.685	$MW-U=\overline{297,5}$ P-0.072

The mean PSS score was found to be affected by education life as a source of information about home accidents and first aid, history of serious accidents or injuries to the mother's childhood at home and secured dangerous items to prevent accidents involving my child (p<0.05). In contrast, the mean SEFASHA score was affected by education life as a source of information about home accidents and first aid (p<0.05) (Table 2).

Table 2. Comparison of mothers' basic knowledge and attitudes towards ho	ome accidents-first aid with
the scores of Parenting Stress Scale, Brief Resilience Scale, and Self-Efficacy	of First Aid Scale for Home
Accidents (n=80).	

Variable (n/%)		PSS	BRS	SEFASHA
		$\bar{\mathbf{x}} \pm \mathbf{ss}$	x ±ss	x ±ss
State of knowledge and sources of in	nformation about	t home accidents-f	ïrst aid	
I have sufficient knowledge of first	Yes	31.33±8.24	21.30±5.11	27.17±14.81
aid for child accidents at home.	(30/37.50)			
	No (50/62.50)	30.06±8.75	20.71±5.09	31.02±13.85
	Test statistics	<i>t</i> =-0.367	t=0.493	t=-1.174
	p value	<i>p</i> =0.631	<i>p</i> =0.600	<i>p</i> =0.320
Sources of information about home	e accidents-first	aid	1	•
Education Life	Yes	28.74±6.82	20.34±4.96	37.10±10.61
	(50/62.50)			
	No (30/37.50)	35.20±9.99	21.93±5.18	25.06±14.32
	Test statistics	<i>t</i> =-2.645	t = -1.368	<i>t</i> =4.295 <i>p</i> =0.027
	p value	<i>p=0.001</i>	<i>p</i> =0.391	
Books and articles	Yes	28.90±7.06	21.86±4.75	30.80±14.14
	(29/36.25)			
	No (51/63.75)	33.43±8.89	20.41±5.22	27.41±14.36
	Test statistics	t=-3.355	t=1.233	t=1.023
	p value	<i>p=0.081</i>	p=0.755	p=0.974
Health care professionals	Yes	31.26±8.06	20.85±4.91	34.03±13.72
	(47/58.75)	22.55.0.21	21.06.5.25	26.45.12.01
	No (33/41.25)	32.55±9.21	21.06±5.37	26.45±13.91
	Test statistics	t=-0.665	t=-0.181	t=2.414
	p value	p=0.324	p=0.425	p=0.900
• Media (TV, social media, radio	Yes (25/42.75)	30.89±7.81	22.31±4.70	30.51±14.04
etc.)	(33/43.73) No $(45/56.25)$	22.40+0.05	10.97 5 14	20 04 14 52
	$\frac{100(45/50.25)}{T_{\text{out}}}$	52.49 ± 9.05	$19.8/\pm 5.14$	28.84 ± 14.52
	rest statistics	l=-0.834	l=2.192 n=0.020	l=0.318
• Social aminorment	<i>p</i> value Vos	p=0.193 33 25±0 24	p=0.929	p=0.339 33 53+14 20
• Social environment	(32/40.00)	55.25±9.24	22.4/±3.21	55.55±14.29
	(32/40.00)	30 81+7 95	10 02+4 77	20 0/+13 75
	Tast statistics	t = 1.250	19.92 ± 4.77	t = 2.060
	n value	n=0.234	n=0.120	n=0.512
History of serious accidents or injur	ies to the mother	s' their own child	hood or their child	ren at home
* Mother's history of serious	Yes	26 08+4 15	22.62+4.70	27 00+15 18
accidents or injuries at home	(13/16.25)	20.0021.10	22.02_1.70	27.00=15.10
during childhood	No (67/82.75)	32.90+8.72	20.61+4.70	30.07±14.13
	Test statistics	MW-U=213.0	MW-U=334.0	MW-U=372.5
	p value	p=0.004	p=0.184	p=0.411
* Their children's history of	Yes	31.70+9.59	20.90+5.55	37.50±14.44
serious accidents or injuries at	(10/12.50)			
home	No (70/87.50)	31.80±8.43	20.94±5.04	28.44±13.96
	Test statistics	<i>MW-U=317,0</i>	<i>MW-U=349,5</i>	<i>MW-U</i> =222,5
	p value	<i>p</i> =0.631	<i>p</i> =0.994	p=0.063
Mothers' precautions against home	accidents and in	iuries		
* I packed a first aid kit.	Yes (38/47 50)	30.79±7.54	22.74±3.99	27.18±14.49
	No (42/52 50)	32 69+9 31	19 31+5 43	31 74+13 85
	$(\pm 2/32.30)$	54.07-7.31	17.31-3.73	51.77±15.05

	Test statistics p value	$MW-U=751,0 \\ p=0.650$	t=3.188 p=0.088	t=-1.437 p=0.909
* I secured dangerous items to prevent accidents involving my	Yes (47/47.75)	30.23±7.12	20.91±5.06	28.45±14.87
child.	No (33/41.25)	32.58±10.25	20.97±5.17	31.18±13.38
	Test statistics	<i>t=-0.650</i>	<i>t</i> =-0.047	t = -0.844
	p value	<i>p=0.010</i>	<i>p</i> =0.481	<i>p</i> =0.205
PSS: Parenting Stress Scale BRS: Brief Resilience Scale SEFASHA: Self-Efficacy of First Aid Scale for				
Home Accidents				

The results of the correlation analysis, conducted to examine the relationship between the mean PSS scores of the mothers

and the mean SEFASHA scores, indicated a positive and significant relationship (r=0.030, p<0.05) (Table 3).

Table 3. Correlation between mother's age, number of children, Parenting Stress Scale, Brief Resilience			
Scale, and Self-Efficacy of First Aid Scale for Home Accidents (n=80).			
Variables	Self-Efficacy of First Aid Scale for Home		
	Accidents		
	R	р	
Age	-0.063	0.577	
Children number	0.179	0.113	
Parenting Stress Scale	0.030	0.006	
Brief Resilience Scale	-0.110	0.331	

DISCUSSION

While the home should be a secure environment for children. physical, chemical, and mechanical hazards in the home expose children to the risk of injury or damage ^[22, 23]. Home accidents, including poisoning, drowning, burns, and falls, represent a significant public health concern, contributing to mortality and morbidity in children ^[4, 24-27]. The literature reveals that the prevalence of home accidents in children ranges from 30% to 70% [22, 28-30]. Studies examining injury-related deaths in children under the age of five have indicated that over half of these incidents occur in the home or near it ^[31]. Additionally, most of these deaths occur in infants ^[32]. In a study conducted by Celep & Yardımcı (2021) with mothers of children aged 0-6 years, it was reported that 70% of the mothers had experienced injuries to their children (mainly falls and burns), 64.3% of the mothers had not received training on home accidents, and 60.5% of the mothers were present at the time of the accident. The same study found that only 50% of mothers whose children had accidents took measures to prevent future accidents^[11].

Dangerous situations that may lead to home accidents include preventable factors such as slippery floors, poor lighting in the house, sharp objects, medicines, chemicals in places accessible to children, etc. ^[22, 24, 28, 32, 33]. In a study conducted with mothers with children aged 0-6 years who applied to the paediatrics outpatient clinic of a hospital, the majority of the mothers (69%) reported that their children had at least one home accident; 67% of the mothers stated that they did not use child locks on the windows, 59% said that there were no covers on the sockets and 44% stated that there was no safety cover on the oven. The same study found that 91% did not receive education about home accidents ^[28]. In addition, different child- and familyspecific conditions affecting home accidents in children have also been reported in the literature. The age and gender of the child, number of individuals in the household, number of children in the household, place of residence. housing characteristics, educational status of the parents, employment status of the mother, income status of the family, level of knowledge about home accidents, first aid knowledge and skills are among these reasons ^[22, 24, 34-37]. In a study conducted with the mothers of

children who had fatal accidents under the age of five, it was found that the low education level of the mother and the financial problems of the family increased the mortality due to home accidents (p<0.05) ^[32]. In a study conducted by Demirköse et al. (2021) with mothers with children aged 0-6 years, it was reported that the number of home accidents experienced by the child increased if the child was three years and older if the child did not have a room of their own if five or more people lived in the house if the house was a detached/gardened house, if someone other than the mother gave daycare to the child and if the child was cared for outside their own home during the day $(p < 0.05)^{[29]}$.

The literature has reported that parental knowledge about protection from home accidents and first aid is inadequate [1, 5, 11, 14, ^{24-26, 29, 36-38]}. A study on the subject reported that more than half of the mothers' responses related to first-aid topics and the essential items that should be included in a first-aid kit were inaccurate ^[6]. Parental knowledge about protection from home accidents and first aid is affected by some factors, such as the age of the mother, the mother's education level, the child's health status, the child's age, the child's gender, the family structure, and the structure of the house. Another study conducted with mothers whose children attended kindergarten demonstrated that the mean SEFASHA score increased among those in the 41-46 age group, those with a nuclear family structure, those without chronic health problems, those who took precautions against accidents, those with first aid knowledge, those with a daughter, and those with a child with a history of three or fewer accidents (p<0.05)^[1].

Parents need to have adequate knowledge about home accident prevention and first aid. In the event of an accident occurring in the home during childhood, it is typically the mother or parents of the child who is present at the time of the accident and performs the initial intervention. A study conducted with the parents of children aged 0-6 years who presented to the emergency department because of home accidents revealed that their mothers accompanied 43.1% of the children, and 71.6% of the children received first aid from their mothers ^[25]. In this context, educating parents and family members on first aid and the measures to be taken to prevent home accidents is crucial. Practical basic first aid skills performed during the accident may reduce the mortality and morbidity risk of the child ^[6, 24, 29, 34, 39-41].

In addition to the inherent risks associated with home accidents during the preschool period, it is also a time of rapid growth and development for the child. Parents are learning their roles as caregivers, developing perceptions of child health and safety, and experiencing stress related to childcare and parenting perceptions. Even in a normal process, parents of children aged 0-6 are likely to experience anxiety related to parenting. Due to their psychological resilience levels, they may exhibit various attitudes and behaviours in coping with stress and adaptation ^[15, 42-44]. In this context, protection from home accidents, which are affected by many different situations and include unknowns (when it will occur, how it will happen, how much the child will be affected, what will cause it, etc.) and uncertainties regarding possible first aid (whether first aid is needed, whether it can be done effectively, etc.) may cause parents to experience anxiety ^[12, 45]. A study reported that most home accidents between the ages of 0-6 are due to neglect and carelessness caused by the family ^[45]; this experience may also affect parents' stress and effective management in the event of an accident. In another study conducted with parents of paediatric patients with burn injuries, it was reported that the experiences of their children during and after the burn accident (pain, defencelessness, change in body image, etc.) caused feelings such as fear, sadness, and guilt in the parents ^[46]. In this context, home accidents and situations that require first aid affect not only the child but also the parents in many ways, both at the time of the accident and in the processes after the accident.

Several factors in this study affected the mean PSS score, including age, place of residence, health status, education, and the source of information about home accidents and first aid. Additionally, the history of serious accidents or injuries to the mother during her childhood at home and the presence of secured dangerous items to prevent accidents involving the child were also identified as significant factors (p < 0.05). Furthermore, the mean SEFASHA score was influenced by educational status, educational life as a source of information about home accidents, and first aid (p<0.05). The results of the correlation analysis, which was conducted to examine the relationship between the mean PSS scores of the mothers and the mean SEFASHA scores, indicated a positive and significant relationship (r=0.030, p<0.05). The study's results demonstrate a correlation with existing literature on the subject. However, the literature also discusses stress disorders and other psychological problems that occur, especially after moments of trauma and crisis. It was established that the number of studies examining the stress status or resilience of mothers/parents in the context of home accidents and first aid is limited, with a particular focus on parents of children with special needs and children with chronic [47-52] diseases Nevertheless, the effectiveness of a mother or parent's intervention and first aid in the event of a child's accident may be influenced by several factors, including the presence of the mother or parent at the time of the accident, the necessity for first aid to the child, the potential urgency of the situation, and the mother's or parent's feelings of inadequacy is and competence. It therefore recommended studies that on home accidents, first aid, and self-efficacy address the stress and psychological resilience status of mothers and parents.

CONCLUSION

Home accidents are a common occurrence across all age groups, with an exceptionally high incidence among children under the age of six. It is reported in the literature that most cases involve mothers and other parents being present at the time of the accident and, thus, the first to administer first aid and provide intervention. The research demonstrates that numerous factors (including education, age, and family structure) influence parental stress levels or self-efficacy in giving first aid for home accidents. These findings align with existing literature, indicating a correlation between parental stress and self-efficacy of first aid for home accidents. Furthermore, there is a lack of literature examining the impact of parental stress and psychological resilience on the Self-Efficacy of First Aid Scale for Home Accidents. In this context, the findings obtained on the subject are of great importance for the field of study and also emphasize the need for further research.

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