

Examining First-Aid Knowledge Level of Mothers Living in Rural Areas and Factors that Affect this

Kırsal Alanda Yaşayan Annelerin İlk Yardım Bilgi Düzeyleri ve Bunu Etkileyen Faktörlerin İncelenmesi

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ABSTRACT

Aims: This study was conducted to determine the first-aid knowledge level of mothers living in rural areas and factors affect this.

Methods: This descriptive study was carried out in 14 villages in the province of Zonguldak and its sample consisted of 681 mothers. Data was collected using the Personal Information Form and First-Aid Knowledge Level Scale which were developed by the researchers.

Results: The mean age of participating mothers was 42.105±10.75 years, and 45.4% had two children, 64% were primary school graduates, and 95.7% were housewives. The majority of the mothers (86%) had not received education about first-aid and 44.9% of their information sources on this issue were television and radio. This study determined that these mothers had adequate knowledge on common injuries, but their knowledge about life-threatening injuries was insufficient. A higher education level, younger ages, having two children, and receiving first-aid education from health staff significantly raised the mothers' first-aid knowledge mean scores.

Conclusions: This study found that there is a need for health staff to give education to mothers living in rural areas about first-aid for serious injuries and that their current knowledge levels are inadequate.

Key Words: First Aid, Rural Population, Mothers, Health Knowledge

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ÖZET

Amaç: Bu çalışma, kırsal alanda yaşayan annelerin ilk yardım konusunda bilgi düzeyini ve bunu etkileyen faktörleri belirlemek amacıyla yapılmıştır.

Yöntem: Tanımlayıcı nitelikte olan bu çalışma Zonguldak İline bağlı 14 köyde yürütülmüş olup örneklemini 681 anne oluşturmuştur. Veriler araştırmacılar tarafından oluşturulan Kişisel Bilgi Formu ve İlk Yardım Bilgi Düzeyi Ölçme Formu aracılığıyla toplanmıştır.

Bulgular: Araştırmaya katılan annelerin yaş ortalaması 42,105±10,75 yaş; %45,4'ü iki çocuk sahibi, %64'ü ilkokul mezunu, %95,7'si ev hanımıdır. Annelerin %86'sı ilk yardım konusunda eğitim almamış ve ilkyardım konusundaki bilgi kaynaklarının %44,9'unun televizyon ve radyo olduğu görülmüştür. Annelerin sık karşılan yaralanmalara yönelik ilk yardım bilgilerinin yeterli olduğu ancak hayati tehlikeye neden olabilen yaralanmalardaki ilk yardım bilgilerinin yetersiz olduğu belirlenmiştir. Eğitim seviyesinin yüksek olması, genç yaş, iki çocuğa sahip olma ve sağlık personelinin ilk yardım eğitimi alan annelerin ilk yardım bilgi puan ortalamaları anlamlı olarak daha yüksektir.

Sonuç: Kırsal alanda yaşayan annelerin özellikle ciddi yaralanmalardaki ilk yardım bilgi düzeylerinin yetersiz olduğu ilk yardım konusunda sağlık personeli tarafından eğitim verilmesinin gerekliliği görülmüştür.

Anahtar Sözcükler: İlk Yardım, Kırsal Nüfus, Anne, Sağlık Bilgisi

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INTRODUCTION

“First-aid” is the range of interventions made to preserve a victim’s life, to maintain life functions, to prevent the condition from worsening, and to promote recovery on the scene and at the time of incident (1). An “accident” is defined as an event that can be avoided and prevented by taking certain measures. According to World Health Organization data, falls, burns, and drowning are among the most important causes of morbidity and mortality under the age of 15 (2). However, Turkish Health Statistics found the rate of death resulting from injury in Turkey to be 4.27% (3). While the number of home accidents is predicted to be greater than other accident types, records about these are inadequate (4).

The World Health Organization has aimed to reduce deaths and injuries resulting from violence and accidents in the young by at least 50% by 2020 (5). First-aid education is an important aspect of achieving this aim. Improper first-aid practices can delay recovery, cause injured people to become permanently disabled, or to die. With effective first-aid that is administered in the first minutes on the scene of the accident or event, it is possible to cut mortality rates by about half (6).

It is the responsibility of adults to create secure environments and develop preventive behaviors in children to prevent home accidents. In Turkish society, this is the mother’s responsibility because the female population is higher than the male population and mothers generally look after babies, children and elderly people. Studies conducted in Turkey found that families had inadequate knowledge about accident prevention and the risk of accidents to children was high (7). Also, it is well known that road conditions in rural areas mean that access time to hospital is longer in case of emergency. Study results showed that the hospitalization rate of children living in rural areas due to disability resulting from injury was higher than children living in urban areas (8,9,10).

First-aid knowledge, values, and habits of most people are outcomes of their accidental learning and it is unknown what level of information this represents, what erroneous information has learned and whether there is a need for a first-aid education (11). The protection and support of children and initiating healthy practices is a prerequisite of social development and a healthy society. In the light of this, administering proper first-aid and raising the awareness of mothers and families are important responsibilities of nurses. In the literature, there are limited studies that examine the first-aid knowledge of mothers living in rural areas and this study aimed to address that.

MATERIAL and METHODS

Type of the Study: This study was descriptive to determine the first-aid knowledge level of mothers living in rural areas and factors that affect this. **Place, Population, and Sample of the Study:** This study was conducted in 14 villages in the province of Zonguldak, which is mostly comprised of forest areas. Thus, these villages show dispersed settlement. The sample of this study comprised mothers living in the specified fourteen villages. The researchers thought to access the entire population of these 14 villages, so did not select a study sample. A total of 681 mothers from these villages who agreed to participate comprised the sample of this study. This study was carried out between March 2015 and May 2015.

Data Collection Tools: By reviewing the relevant literature, the researchers developed a 14-question Personal Information Form to determine the mothers’ sociodemographic characteristics (seven questions) and their first-aid experiences within the last year (seven questions), and a 23-question First-Aid Knowledge Level Questionnaire to determine mothers’ first-aid knowledge. And, this study collected data using these Total first-aid knowledge level was calculated according to the correct answers given to the 23 questions (9, 10, 11, 12, 14, 19 statements were false statements) of the First-Aid Knowledge Level Questionnaire. While assessing the Knowledge Level Questionnaire, “1 point” and “0 point” were given to each correct answer and each wrong answer or “I don’t know” statement, respectively. In this way, this study calculated total knowledge levels of mothers. First-Aid Knowledge Level Questionnaire is minimum score 1 and the maximum score is 23.

This study was conducted within the frame of ethical rules. Written permission was obtained from the relevant institutions. The researchers explained the purpose of this study to the mothers and received their verbal permission. Feedback was provided to the mothers about incorrect or incomplete answers. Responding to the questionnaire took about 15 minutes. The researchers administered the developed questionnaire form using the face-to-face interview method.

Statistical Analysis

Data analysis was conducted using SPSS for Windows 16.0 software. This study summarized numeric variables as means \pm SD, and categorical variables were summarized as counts and frequencies. One-way variance analysis and the t-test were used for statistically analyses and independent groups, respectively. The significance level was accepted to be $p < 0.05$.

RESULTS

The sample of this study comprised 681 mothers. The mean age of participating mothers was 42.105 ± 10.75 (Min: 22- Max: 65) years, 41.1% (n=280) were 45 or older, and 98.5% (n=671) were married. Nearly half (45.4% (n=309)) of the mothers had two children and 25.6% (n=174) had three children. The majority (64% (n=436)) of mothers and 49.4% (n=310) of their husbands were primary school graduates, and 95.7% (n=652) of mothers were housewives, while 47.1% (n=314) of their husbands were laborers. (Table 1)

Table 1: Sociodemographic Characteristics of Mothers

Characteristics	n	%
Age (y) (n=681)		
≤ 24	19	2.8
25-34	182	26.7
35-44	200	29.4
45≥	280	41.1
Marital Status (n=681)		
Married	671	98.5
Single	10	1.5
Number of Children (n=681)		
One child	91	13.4
Two children	309	45.4
Three children	174	25.6
Four children	107	15.7
Educational Status (n=681)		
Illiterate	133	19.5
Primary School	436	64.0
Secondary School	44	6.5
High School and above	68	10.0
Educational Status of Husbands (n=628)		
Illiterate	36	5.7
Primary School	310	49.4
Secondary School	123	19.6
High School and above	140	25.3
Profession (n=681)		
Employed in the home	652	95.7
Employed outside of the house	29	4.3
Profession (n=666)		
Not working	19	2.9
Officer	20	3.0
Laborer	314	47.1
Retired	208	31.2
Self-employment	105	15.8

Most of the mothers (90.3%) said that their children had not experienced an accident within the last year, and of those who had had an accident 77.3% (n=51) had had one accident in the past year. In the event of an accident, 72.7% of mothers (n=48) administered first-aid, however, 86% (n=586) had not received first-aid education, and 91.3% (n=622) thought that they had inadequate knowledge on this issue. While 60.1% (n=409) kept first-aid materials at home, nearly half (44.9%) relied on television and radio for their first-aid information. (Table 2)

Table 2. Distribution of some variables regarding first-aid and whether children of the mothers had had an accident

Characteristic	n	%
Children (n=681)		
Children who had an accident	66	9.7
Children who did not have an accident	615	90.3
The frequency of children having an accident (n=66)		
Once	51	77.3
Twice	11	16.7
Three times or more	4	6.1
First-aid interventions (n=66)		
Mothers who made first-aid interventions	48	72.7
Mothers who did not make first-aid interventions	18	27.3
Receiving first-aid education (n=681)		
Mothers who received first-aid education	95	14.0
Mothers who did not receive first-aid education	586	86.0
Feeling adequate regarding first-aid (n=681)		
Mothers who felt adequate	59	8.7
Mothers who did not feel adequate	622	91.3
First-Aid knowledge sources (n=681)		
Television and radio	306	44.9
Friends, relatives	118	17.3
Internet	176	25.8
Health staff	81	11.9
Keeping first-aid materials at home (n=681)		
Mothers who kept first-aid materials at home	409	60.1
Mothers who did not keep first-aid materials at home	272	39.9

Answers given by mothers to the first-aid knowledge questions are given Table 3. This study found that, in terms of general first-aid knowledge, the emergency call number was known by 94.7% of mothers, but 48.2% did not know poison information hotline number. Most of the mothers (80.2%, 88.7%, 99.6%, and 85.2% respectively) did not know the intervention for an unconscious patient, how to complete the shock table, the intervention for penetrating chest injuries, and the intervention for drowning. Participating mothers mostly gave correct answers to the questions about the intervention for joint dislocation (99.4%) and for external bleeding (96.6%) (Table 3).

This study examined the first-aid knowledge levels of mothers according to some variables and found that first-aid knowledge level mean scores of mothers ($F=12.026$; $p=0.000$) and their husbands ($F=7,176$; $p=0,000$) who had high school or above education were significantly higher. Mothers having two children ($F=16.237$; $p=0.001$), and 24-year old or younger mothers ($F=42.084$; $p=0.000$) had significantly higher first-aid knowledge level mean scores. This study determined that there was no significant difference in first-aid knowledge level mean scores ($t=0.552$; $p=0.581$) whether the mothers had prior first-aid education ($F=3.406$; $p=0.065$), and whether their children had had an accident. It was also demonstrated that mothers who received first-aid education from health staff as an information source ($F=5.033$; $p=0.002$), and mothers who keep first-aid materials at home had significantly higher first-aid knowledge level mean scores ($t=2.443$; $p=0.015$) (Table 4).

DISCUSSION

Until healthcare professionals arrive at the scene following an accident or injury, first-aid interventions can be life saving, or prevent the condition from worsening. However, interventions by untrained people can also result in secondary injuries resulting in life-threatening situations (12, 13). This study determined that most of the mothers living in rural areas were housewives and had not received first-aid education. It was also found that the number of participants who correctly answered the first-aid knowledge questions was less

than desired. In the literature, studies which were conducted with housewives revealed that they did not have adequate first-aid knowledge, (10, 14) but educational level was correlated to first-aid knowledge, and first-aid knowledge increased with increasing educational level (13,15,16).

In this study, as in the literature, it was found that mothers and their husbands who had high school education and above had significantly higher first-aid knowledge level mean scores. Having basic first-aid knowledge constitutes the main structure in developing appropriate skill and attitudes. It was seen that as the parents' education level increases, their desire to protect children from home accidents also increases (17).

Being able to get help is the first step in general first-aid knowledge. This study questioned whether the emergency call and poison information hotline numbers were known. And it was found that almost all mothers knew the emergency call number, while about half of them did not know the poison information hotline number. Poisonings that can be experienced in rural areas are different to those in urban areas and interventions using traditional methods are common (18). This study showed the importance of knowing the poison information hotline number in saving lives in rural areas considering its difficulties.

In this study, almost no accidents were experienced within the last year, and those who had an accident administered first-aid intervention. Cuts/injury, falls, contusions, sprains, strains, burns, animal bites and poisoning are common childhood household accidents (14,15,17,19). This study showed the home accident incidence within the last year of children under 12 living in rural areas to be 38.3% (16). A study on falls, one of the common accidents, determined that 87.1% of mothers had not received education on this and the number of mothers who administered first-aid after falls was low (7). While it was reported that in Southern India, only 30% of mothers with children under 15 correctly responded in many cases where first-aid was required (10), it was shown that in the center of Taiwan, 72% of parents with children between 0–4 years of age had correct general first-aid knowledge, but their knowledge on drowning and CPR was low (20). A study by Kendrick and Marsh with 2125 parents found that although they knew the correct intervention methods for joint dislocation and external bleeding, only 16.4% felt that they had adequate knowledge in general first-aid for babies and only 15.7% had adequate knowledge for cases of drowning (21). A study was conducted in the southeast Turkish province of Mardin with 1000 mothers having children between 1–6 years of age and found that 21.6% of children had suffered burns, 81.4% of which had occurred at home, and mothers had inadequate knowledge about treating burns (6). It was determined in the southwest Turkish province of Muğla that among mothers with children between 0–6 years of age, the most known first-aid issues were burns, heat stroke, and frostbite, while the least known first-aid issues were animal bites and insect stings. There was a significant relationship between the variable of encountering a situation requiring first-aid and the first-aid knowledge level (11). In line with the literature, this study determined that mothers correctly knew the intervention method for joint dislocation, the most frequently encountered dislocation type, and that they could correctly get external bleeding under control. On the other hand, they did not know how to intervene in serious life-threatening situations such as shock, penetrating chest injuries, drowning, and injuries causing unconsciousness.

This study determined that first-aid knowledge level mean score of mothers who were in young age group, had two children, and whose children had had an accident was significantly higher. Studies show that having a sibling increases accidents by 1.5 times (22,23). In Egypt, it was shown that there was a significant relationship between the first-aid knowledge level of mothers living in rural areas and early age, educational status, and working in a business (16). It was found that after education given to mothers, the rate of traditional applications that mothers administered to injuries requiring first-aid decreased, (24) and another study found that educating mothers about home accidents had positive effect on children's accident situations (14). In contrast to the literature, this study did not find a significant difference between the status of mothers who had received first-aid education and their first-aid knowledge level mean scores. This revealed the need for a question about where and how the first-aid education was received.

Table 3. First-Aid Knowledge Questions and Answers

First-Aid Knowledge Questions		True n	%
1	In Turkey, the telephone number 112 should be called to send a patient/injured person to the nearest health institution.	645	94.7
2	In the event of poisoning, the telephone number to be called for information/consulting is 114.	56	8.2
3	A first-aider is a person or people who received first-aid education.	576	84.6
4	Until medical assistance is provided, a person, who is unconscious, but who still has respiratory and circulatory signs, should be placed in the coma position.	135	19.8
5	The first intervention for a person suffering from external bleeding is applying pressure on the wound.	658	96.6
6	Burns can cause severe fluid loss and a shock state resulting from pain.	146	21.4
7	Shock is a clinical syndrome that is defined as inadequate oxygen-carrying to organ and tissues and inadequate blood flow.	77	11.3
8	Burns caused by acidic substances, such as sulfuric acid, nitric acid, and hydrochloric acid, etc. and alkaline substances, such as anhydrous lime, sodium hydrochloride, etc. are chemical burns.	325	47.7
9	In penetrating abdominal injuries, it is necessary to put organs dislodged from the wound back into place and cover with a clean cloth.	218	32.0
10	In finger amputation occurring as the result of an accident, the amputated finger should be directly placed in a plastic bag filled with ice and the patient and bag should be sent to a health institution within 6 hours.	29	4.3
11	For sprains, the sprained area is kept warm and massaged.	207	30.4
12	The dislocated joint should not be fixed in its own position, and it should be relocated.	677	99.4
13	Sunburns are among first-degree burns.	190	27.9
14	In burns, water-filled blisters which occur in addition to redness should be popped and dressed.	603	88.5
15	Breathing of a person is checked using look, listen and feel method.	196	28.8
16	In penetrating chest injuries, the wound should be covered in a way that allows only one side of the wound to be open.	-	-
17	The first-aid for drowning is artificial respiration, and cardiac massage.	99	14.5
18	The Heimlich maneuver is a method that exerts pressure on the abdomen of a person with complete airway obstruction due to a foreign body.	126	18.5
19	In venomous animal bites, including bee sting, snake bites and scorpion stings, either a tourniquet should be applied or the bitten area should be sucked or bitten to prevent spread of venom.	205	30.1
20	In dog bites, the bitten area should be washed using soapy water for 5 minutes and covered. Then the patient is sent to a health institution.	582	85.5
21	In snake bites, the bitten area should be placed below the level of heart in a fixed position.	117	17.2
22	A tick on the body should not be touched with bare hands and any chemical substance should not be spilled on it.	568	83.4
23	In the event of tick bite, if possible, a patient should go to a nearby health institution. If the health institution is too far to go, the tick should be directly and firmly removed from the patient's skin using an appropriate tool, such as pliers or tweezers without being crushed or popped.	390	57.3

Table 4. First-aid knowledge level means of mothers by some variables

Variables	N	Mean	SD	Test	p-Value
Educational Status					
Illiterate	133	7.44	3.15		
Primary School	436	8.87	3.47	12.026	0.000*
Secondary School	44	8.84	3.82		
High School and above	68	10.39	3.17		
Educational Status					
Illiterate	36	7.38	3.04		
Primary School	310	8.33	3.43	7.176	0.000*
Secondary School	123	9.08	3.26		
High School and above	159	8.74	3.44		
Number of children					
One child	91	8.08	3.17		
Two children	309	9.03	3.56	16.237	0.001*
Three children	174	8.39	3.22		
Four children	107	8.20	3.70		
Age (y)					
≤ 24	19	10.21	3.01		
25-34	182	9.82	3.19	42.084	0.000*
35-44	200	8.44	3.35		
45≥	280	8.16	3.61		
Marital Status					
Married	671	8.74	3.47	-0.144	0.885
Single	10	8.90	4.48		
Profession					
Unemployed					
Employed outside the home	652	8.71	3.48	0.054	0.816
	29	9.37	3.55		
Receiving first-aid education					
Mothers who received first-aid education					
Mothers who did not receive first-aid education	95	8.72	3.78	3.406	0.065
	586	8.74	3.44		
Children having an accident					
Children who had an accident					
Children who did not have an accident	66	8.96	3.48	0.552	0.581
	615	8.72	3.49		
Making first-aid interventions					
Mothers who made first-aid intervention					
Mothers who did not make first-aid intervention	48	9.25	3.23	-1.405	0.160
	18	8.22	4.08		
First-Aid Knowledge Sources					
Television and radio					
Friends, relatives	306	8.63	3.42		
Internet	118	9.28	3.61	5.033	0.002*
Health staff	176	8.12	3.41		
	81	9.70	3.44		
Keeping first-aid materials at home					
Mothers who kept first-aid materials at home	409	9.00	3.34	2.443	0.015*
Mothers who did not keep first-aid materials at home	272	8.34	3.65		

*p<0.05

At the end of this study, it was determined that the first-aid knowledge level mean score of mothers who received first-aid education from health staff as an information source, and mothers who keep first-aid materials at home was significantly higher. Studies have shown that the media has an important role in preventing home accidents and for women obtaining knowledge and experiences about home accidents (10, 15, 25). Mothers get first-aid information from radio, television, doctors, nurses, and rarely from books, in that order (19).

A study in a rural area revealed that 22.3% of mothers had never heard the term "first-aid" and most were illiterate. They used television as an information source at the rate of 38.5% (26,27,28). Using mass media, including television and radio, as a first-aid information source can be effective in raising awareness, but considering the importance of first-aid education, the risks to survival or becoming permanently disabled cannot be ignored

CONCLUSION

In Turkish society, women play important traditional roles in the family. It is quite important for a healthy future that women living in rural areas are conscious of, and understand the importance of, first-aid. This study found that the first-aid knowledge of mothers was not at a desired level and that there is a need to design and deliver curricula, and evaluating their consequences.

Conflict of interest

No conflict of interest was declared by the authors.

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