

## Effect of Mothers' Empowerment Program on Knowledge, Practices and Attitude toward their Children Scalds Injury

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### Abstract

**Background:** Children are extremely vulnerable to scalds injury, so empowering mothers regarding scalds injury make them able to play an important role in targeting interventions to those at greatest risk. **The study aimed** to evaluate the effect of mothers' empowerment program on knowledge, practices, and attitude toward their children scalds injury. **Research design:** A quasi-experimental research (one group pre/post test) design was used. **Setting:** Maternal and Child Health Center in Kafrelsheik city and the Pediatric Outpatient Clinics at Kafrelsheik general hospital. **Sample:** A convenient sample of 113 mothers were participated in the study. **Tools:** Two tools were used in data collection, first tool, structured interviewing questionnaire consisted of mothers' demographic characteristics, mothers' knowledge about scalds injuries, mothers' reported Practices. Second tools, mothers' attitudes toward scalds injury. **Results:** Study finding represents that pre program implementation about 6.2% of mothers had a good level of knowledge and improved to 57.5% post-program implementation ( $P= 0.001$ ), there were highly significant differences between mothers' reported practices, pre & post empowerment program with  $p < 0.001$ , according to mother' attitude, there were highly significant differences between mothers' attitudes about scalds injury pre /post empowerment program at ( $< 0.001$ ). **Conclusion:** The current study indicated that, there were highly significant improvement of mothers' knowledge, practices and attitude post empowerment program. **Recommendations:** Periodic counseling program should be done for mothers of children about scalds injury prevention at Maternal and Child Centers.

**Key words:** Empowerment, Mothers' knowledge, practice, attitude, Scalds injury

### Introduction

Scald injury is a serious health problem that affects communities all over the globe. When some or all of the layers in the skin or other tissues are damaged by hot liquids, hot water, or steam, It is referred to a thermal trauma injury to the skin or other organic tissue.

It's regarded as a severe health condition that has several effects on children's physical and emotional health. Scalds can be excruciatingly painful and may result in white or charred skin, blisters, swollen skin, or skin that is red or flaking (Azzam, 2018).

Among all types of burns, scalds have unique epidemiological and predisposing

risk factors. Although scald impacts affect individuals of all ages, the younger age groups suffer the most harm. Significant physical disabilities and academic achievement could be lost as a consequence. Major scalds injury may compromise the general development of the affected children in addition to placing a financial strain on the family. The majority of scalds injury happen at home and can be avoided. Even though living circumstances have improved, scalds injury incidents have not gone down (*Sahu et al., 2016*).

As children, grow and explore the world around them, they face the possibility of becoming harmed. Numerous factors, such as low maternal education, young mothers, substandard housing, and large families, are linked to an increased risk of child injury. The most frequent causes of injuries at home are scalds (*Mohammed et al., 2019*).

To avoid children from suffering scald injuries, it is necessary to make changes to the household and to family members' behavior. This can be done by educating mothers about scald hazards and promoting safe family practices. Additionally, it is important to handle child scald injury prevention through educational initiatives that emphasize fostering the development of measurable knowledge, abilities, and attitudes (*Dhopte, 2017*).

All mothers of children should put their attention toward expanding their understanding of the measures that must be taken at home. This material relates to

the dangers of child injury and safe child protection measures. Early guidance also focuses on giving the mother information about a child's typical growth and development, including details about home security as children mature and safety precautions that need to be taken early to minimize risks (*Cevik, 2017*).

Mothers should have the skills and habits necessary to safeguard their children. When appropriate safety precautions are considered, mothers can prevent scald injuries. Children and their mothers are the main target groups of interventions, learn how to keep the child safe from accidents by talking with their children about injury prevention and safety promotion (*Elashry et al., 2019*).

Thus empowerment program is essential for mothers in order to gain information regarding scalds injury, as it considered a central component of health promotion and disease prevention, which people can gain greater control over the decisions affecting their lives and health. So empowerment is to educate and enable individuals have the knowledge, action and resources to stay healthy, to self-care, and to seek health services appropriately (*Siu et al., 2016*).

Community and pediatric health nurses play a significant role in preventing scalds injury in children through health education for first-time mothers on how to care for their child, improving mothers' knowledge regarding prevention of home injuries, particularly scalds injury, and safety measures, and it's crucial to teach them the proper first

aid after-for scalds injury (*Halvorsen et al., 2017*).

### Significance of the study:

The third Sustainable Development Goal (SDG) of excellent health and well-being, which addresses child health, is primarily concerned with preventing child injuries. Health safety for children must be prioritized, and this includes educating parents, particularly mothers. The SDGs emphasize this age range because it is the one most affected by child mortality globally (*Ma et al., 2020*).

In Egypt, scalds injury is prevalent in children (67.5%). Most of the cases (more than 70%) were indoor burns *Taha et al., (2018)*. Children are exposed to an unsafe environment due to the caretakers' and parents' negligence and ignorance of safety precautions, which can result in injuries. Children of today will be tomorrow's citizens. They should inherit a society that is more secure, equitable, and wealthy. The preservation of their environment is the most vital task. Therefore, the researchers decided to perform empowerment program on mothers' knowledge, practices and attitude toward their children scalds injury.

### Aim Of The Study

This study aimed to to evaluate the effect of mothers' empowerment program on knowledge, practices and attitude toward their children scalds injury through:

1. Assessing mothers' knowledge regarding children scalds injury.
2. Assessing mothers' practices regarding children scalds injury.
3. Assessing mothers' attitude regarding children scalds injury.
4. Design and implement an empowerment program for mothers' regarding children scalds injury.
5. Evaluate the effect of an empowerment program on mothers' knowledge, practice and attitude towards children scalds injuries among their Children.

### Research Hypothesis:

Mothers will exhibit improvement in knowledge, practice and attitude post empowerment program towards scalds injuries among their children compared to their pre- empowerment program implementation.

### Subjects & Methods

#### Research design

A quasi-experimental research (one group pre/pos test) design with a pre/post-test was adopted in the study.

Quasi-experiments are studies that aim to evaluate interventions but that do not use randomization. It aim to demonstrate causality between an intervention and an outcome. In research, scientists try to understand cause-and-effect relationships between two or more conditions. To identify how specific conditions affect others. An independent variable is a condition in a research study that causes an effect on a dependent variable.

In this research an independent

variables are knowledge, practice and attitude of mothers which have an impact on children scalds injury, which considered dependent variables.

### Research setting

The study was conducted at the Maternal and Child Health Center in Kafrelsheik city which provide preventive and curative service and it is available to families of children from birth to school age. MCH has support available relating to health and safety, parenting, development, and growth, and the Pediatric Outpatient Clinics at Kafrelsheik general hospital. These setting was selected due to the high prevalence of recipients in the selected and also it serves the biggest region of the population in this governorate.

### Subjects

A convenient sample of 113 mothers included from the previous setting to achieve the aim of the study. These mothers have children and approved to participate in empowerment program

### Sample size:

Based on data from the literature (*Mohammed et al., 2019*), to calculate the sample size with a precision/absolute error of 5% and type 1 error of 5%, the Sample size is calculated according to the following formula,

$$n = \frac{(Z_{1-\alpha/2})^2 \cdot P(1-P)}{d^2}$$

where,  $Z_{1-\alpha/2}$  at 5% type 1 error ( $p < 0.05$ ) is 1.96, P is the expected proportion in population based on

previous studies and d is the absolute error or precision. Therefore, the sample size

$$n = \frac{(1.96)^2 \cdot (0.286)(1-0.286)}{(0.0835)^2} = 112.5.$$

Based on the formula, the total sample size required for the study is 113.

### Tools of data collection:

#### Two tools were used in data collection

#### Tool I: Structured Interview questionnaire

It developed by the researchers after reviewing related literature and consisted of three parts:

- **Part I.** Mothers' demographic characteristics and their children such as age, educational level, occupation, residence, number of family members, monthly income, age of children, number of children in the family, and child history of scalds, degree of scalds, and previous participation in scalds injury prevention program,.
- **Part II.** Mothers' knowledge about scalds injuries among their children was developed by the researchers after reviewing related literature (*Mengistu, 2018*). It included 9 main sections of multiple choices and open ended questions as the meaning of scalds injury (2 questions), Causes (3 questions), Signs (4 questions), risk factors of scalds injury (5 questions), vulnerable family members for scalds (4 questions), scalds injury care (4 questions), complications of scalds (4 questions), and treatment

of scalds injury (4 questions),

**Scoring system:** Knowledge score of mothers regarding scalds injury classified as a correct answer was scored 1 and incorrect was scored zero. It contained 30 questions. The total knowledge classified as Good >75%, Average 50% - <75% and Poor <50%.

- **Part III:** Mothers' reported practices regarding scalds injury developed by the researchers after reviewing related literature (*AlQahtani, 2019*) and it includes mothers' reported practices regarding first-degree scalds injury included 5 items, check list of dressing care regarding the second degree of scalds injury included 8 items questions and precaution practice at home regarding scalds injury included 5 items.

**Scoring system** for the mothers' practices was classified as correct answers scored as 1 for each item, zero for each incorrect answers which represent: 60% and more considered done and less than 60% was considered not done.

**Tool II: Scalds injury attitude measuring scale** was developed by the researchers after reviewing related literature (*AlQahtani, 2019*). It contained 9 questions.

Scoring system: The scalds injury attitude has a 3-point Likert scale ranging from 1 Disagree, 2 Neutral, and 3 Agree. The total attitude score is classified as the following:

Positive attitude, when the total score was greater than or equal to 60%. Negative attitude, when the total score was less than 60%.

### Procedures

**Tool Content validity** :was ascertained by a group of five experts from the pediatric nursing department (two experts), and three experts from the community health nursing department, their opinions were elicited regarding the format, layout, consistency, accuracy, and relevancy of the tools' content.

**Reliability:** The internal consistency was measured to identify the extent to which the items of the tools measure the same concepts and correlate with each other by using alpha Cronbach's test for reliability test – retest was done 0.887 for knowledge, the reliability of the practice questions was 0.90, concerning attitude measuring scale internal consistency was = 0.920.

**Ethical Considerations:** The research approval was obtained from the Faculty of Nursing, Kafrelsheik University Scientific Research and Ethical Committee before starting the study. The researchers clarified the objectives and the aim of the study to the mothers included in the study before starting. Verbal approval was obtained from the mothers before participation in the study. The researchers were assured be maintaining the anonymity and confidentiality of the subjects' data. The mothers were informed that they can choose to participate or not in the study

and they have the right to withdraw from the study at any time.

**The pilot study** was carried out on 13 mothers representing 10% of the sample at the previously mentioned setting to test the applicability and the clarity of the included tools and the feasibility of the research process. The pilot has also served to estimate the time needed for each subject to fill in the questionnaires.

### **Fieldwork**

The study consumed 6 months which began from January 2020 to the end of September 2020 (Data collection took a longer time due to the suspension of meetings and interviews with the sample during the Corona pandemic, according to the instructions issued by the Egyptian Ministry of Health, from March 2020 until the end of May 2020), standard precautions and preventive measures were followed during empowerment program implementation, in order to reduce the risk of transmission of covid 19 and other pathogens from both recognized and unrecognized sources, and it implemented through many stages.

The researchers plan and implement empowerment program based on actual needs assessment of the studied sample. Each mother was assessed twice pre/post implementation of empowerment program using the previously mentioned tools.

The researches saw mothers every Saturdays and Tuesdays. In the first meeting, the mothers were welcomed before the program's objectives were explained. In the next session, the

previous session was summarized, and then the topic of the new session was discussed. Subjects and materials used had been sequenced through 3 sessions (90 minutes) (time of each session ranged between 20 to 30 minutes). Lectures ended within 6 months weekly meeting with the mothers based on the program implementation. The discussion came to an end with a question asking the mothers for their perspectives.

### **Empowerment program is applied through four stages:**

#### **First stage (knowledge enhancement):**

The researchers reviewed the relevant literature related to preparing the tools for the study. An official written approval letter clarifying the title, aim, and setting of the study was obtained from the director of the predetermined settings. The researchers interviewed each mother individually and explain the aim of the study.

The study sample was given a pretest questionnaire to determine their level of knowledge and reported scalds injury prevention strategies before the planned empowerment program began. The data collected during this stage was regarded as the basis for future health education.

#### **Second stage (self-efficacy enhancement):**

The researchers developed a program about the care and prevention of scalds injury in children based on a literature review, characteristics of the sample, and the obtained results from the assessment phase, the researcher planned the intervention sessions' content. It was

emphasize knowledge about scalds injury meaning, causes, signs & symptoms of scalds injury, and methods of prevention, first aid, and management of Scalds injury.

### **General objective:**

The general objective of the mothers' sessions was to improve the mother's knowledge, practices, and attitude regarding children scalds injury.

### **Specific objectives:**

By finishing the sessions, mothers would be able to identify the following:

- Definition of scald injury.
- Causes of scald injury and its prevention.
- Signs of scalds injury.
- Risk factors of scald injury
- Identify vulnerable family members for Scalds.
- Scalds injury care.
- Nutrition of children with Scalds injury.
- Complications of scalds.
- Treatment of scalds injury.
- Mothers' practices to the child suffering from scalds injury.

### **Third stage (self-esteem enhancement through participatory training):**

Education is a powerful tool for self-empowerment. It enables to access knowledge, explore different perspectives and gain insight into life. During the meetings, a variety of teaching and learning methods were used,

including lectures, discussions, brainstorming, Powerpoint presentations, and instructional videos. Additionally, these mothers received booklets with clear illustrations and simple language to serve as guides after the session. The empowerment program was supported with educational sessions which provided in an accessible manner so that it could be used as a future reference. Each meeting ended with a discussion of mothers to clear up any misunderstandings.

### **Fourth stage Evaluation (post-intervention phase):**

The researchers evaluate the mothers' knowledge, practices and attitude. The researchers determine the extent to which the mother's understanding and reported behaviors had changed and evaluate their Self-efficacy, while self-esteem was assessed by the level of the mother's cooperation in the participation in empowerment program.

**Statistical analysis:** Statistical Package for Social Sciences (SPSS) V.26 was used to analyze the acquired data after proper organizing, categorizing, and coding. Numbers, percentages, averages, and standard deviations were used to portray data in tables and charts. Chi-square Test were used. P-value considered statistically significant when ( $p < 0.05$ ).

### **Results**

**Table (1):** Reveals the frequency and percentage distribution of mothers and children sociodemographic characteristic that 59.3% of mothers were in the age

group from 18 to less 25 years with mean age  $25.5 \pm 6.2$ . 52.2% of mothers had a technician education. Concerning mothers' work, 69.0 % of mothers were housewives, and 61.1% of them were from rural areas. As for age children, 46.0% were in the age group from 2 to 3 years. More than two third of children 64.6 % had scalds injury before with second degree of scalds representing 62.8%. Most of the mothers 95.6% didn't participate in scalds injury prevention training.

**Table 2:** Reveals highly significant differences between mothers' knowledge regarding meaning, causes, signs, risk factors, vulnerable family members, care, complications, and treatment of scalds injury pre & post empowerment program with  $p < 0.001$ .

**Table 3:** Represents the comparison of total mothers knowledge pre and post program implementation. Pre program implementation about 6.2% of mothers had a good level of knowledge regarding scalds injury which improved significantly to 57.5% of them post-program implementation ( $P = 0.001$ ).

**Table 4:** Elaborates highly significant differences between mothers' reported practices, dressing care, and precaution practices regarding scalds injury pre & post empowerment program with  $p < 0.001$ .

**Figure 1:** Displays that 21.2 % of mothers done reported practice before the program, and this improved to 80.5% after the program ( $P = 0.001$ ).

**Table 5:** Shows highly significant differences between mothers' attitudes about scalds injury pre /post empowerment program at ( $< 0.001$ ).

**Table 6:** Demonstrates 37.2 % of mothers had a positive attitude pre-program toward scalds injury while 86.7% of them could exhibit this total positive attitude post program with a statistically significant difference between the two study phases.

**Table 7:** Reveals a positive correlation between mothers' knowledge, attitude, and reported practice levels with a statistically significant relationship between the three study variables post-program ( $P = 0.000$ ).

<b>Table (1): Frequency and percentage distribution of Socio-Demographics Characteristics of Mothers and Their Children (N=113)</b>		
	<b>N</b>	<b>%</b>
<b>Age of mother</b>		
18 – <25	67	59.3
25 – <35	34	30.1
35 – <40	12	10.6
<b>Mean ±SD</b>	25.5 ±6.2	
<b>Educational status</b>		
Cannot read and write	5	4.4
Primary school	9	8.0
Secondary school	17	15.0
Technician	59	52.2
University degree/ above	23	20.4
<b>Occupation</b>		
House wife	78	69.0
Employed	35	31.0
<b>Residence</b>		
Rural	69	61.1
Urban	44	38.9
<b>Family members</b>		
< 3	64	56.6
> 3	49	43.4
<b>Monthly income</b>		
Sufficient	17	15.0
Insufficient	96	85.0
<b>Child age per years</b>		
< 2	23	20.4
2 – 3	52	46.0
>3	38	33.6
<b>Number of children in the family</b>		
1	18	15.9
2 – 4	55	48.7
>4	40	35.4
<b>Child had scalds injury before</b>		
Yes	73	64.6
No	40	35.4
<b>Degree of scalds</b>		
First degree	42	37.2
Second degree	71	62.8
<b>Participated in scalds injury prevention training</b>		
Yes	5	4.4
No	108	95.6

**Table (2): Comparison of Mothers' Knowledge About Scalds injury Pre & Post Program (N=113).**

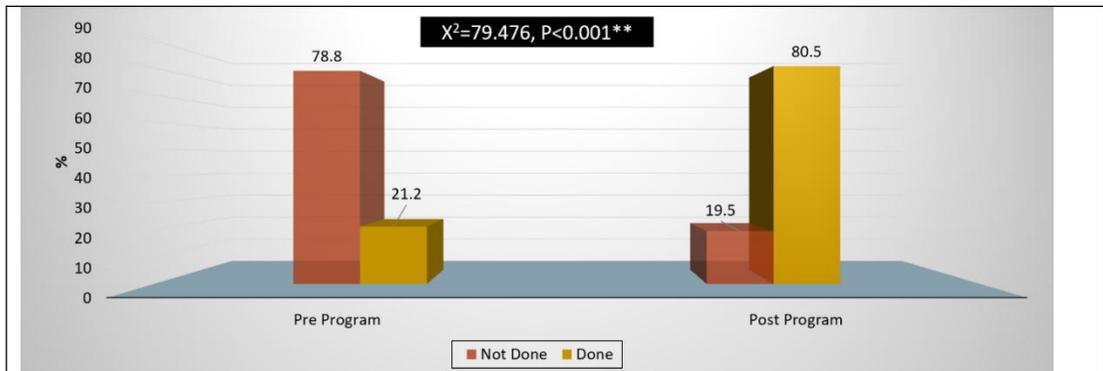
	Pre – Intervention						Post – Intervention						Chi – Square	
	Poor		Average		Good		Poor		Average		Good		X <sup>2</sup>	P
	N	%	N	%	N	%	N	%	N	%	N	%		
Meaning of scalds injury	69	61.1	41	36.3	3	2.7	17	15.0	32	28.3	64	56.6	88.088	<0.001**
Causes of scalds injury	71	62.8	39	34.5	3	2.7	24	21.2	27	23.9	62	54.9	78.988	<0.001**
Signs of scalds injury	69	61.1	42	37.2	2	1.8	18	15.9	25	22.1	70	61.9	98.432	<0.001**
Risk factors of scalds injury	64	56.6	39	34.5	10	8.8	21	18.6	27	23.9	65	57.5	64.268	<0.001**
Vulnerable family members for Scalds	66	58.4	33	29.2	14	12.4	16	14.2	32	28.3	65	57.5	63.427	<0.001**
Scalds injury care	67	59.3	39	34.5	7	6.2	16	14.2	33	29.2	64	56.6	77.597	<0.001**
Nutrition for Scalds injury	65	57.5	41	36.3	7	6.2	24	21.2	23	20.4	66	58.4	71.635	<0.001**
Complications of scalds	74	65.5	37	32.7	2	1.8	25	22.1	25	22.1	63	55.8	83.821	<0.001**
Treatment of scalds injury	72	63.7	35	31.0	6	5.3	18	15.9	33	29.2	62	54.9	78.576	<0.001**

**Table (3): Comparison of Mothers' total Knowledge regarding Scalds injury between pre and post program**

Items	Pre – Intervention		Post – Intervention		Chi – Square	
	N	%	N	%	X <sup>2</sup>	P
<b>Mothers total Knowledge</b>						
Poor Knowledge	<b>69</b>	<b>61.1</b>	<b>20</b>	<b>17.7</b>		
Average Knowledge	<b>37</b>	<b>32.7</b>	<b>28</b>	<b>24.8</b>		
Good Knowledge	<b>7</b>	<b>6.2</b>	<b>65</b>	<b>57.5</b>	<b>74.946</b>	<b>&lt;0.001**</b>
<b>Mean ±SD</b>	<b>5.4 ±2.6</b>		<b>10.6 ±4.0</b>		<b>11.586</b>	<b>&lt;0.001**</b>

**Table (4): Comparison of mothers' Reported Practices regarding scalds injury pre and post program(N=113).**

Items	Pre – Intervention				Post – Intervention				Chi – Square	
	Done		Not Done		Done		Not Done		X <sup>2</sup>	P
	N	%	N	%	N	%	N	%		
<b>Mothers' reported practices</b>										
Remove the injured person directly from the source of the fire	15	13.3	98	86.7	98	86.7	15	13.3	121.929	<0.001**
Putting the scalds injury area under cool running water for at least 20 minutes	10	8.8	103	91.2	94	83.2	19	16.8	125.682	<0.001**
Remove clothing or accessories from the injured area	16	14.2	97	85.8	93	82.3	20	17.7	105.069	<0.001**
Give analgesic	11	9.7	102	90.3	95	84.1	18	15.9	125.366	<0.001**
Use moisturizers for the skin	12	10.6	101	89.4	100	88.5	13	11.5	137.072	<0.001**
<b>Dressing care</b>										
Hand hygiene	12	10.6	101	89.4	97	85.8	16	14.2	128.036	<0.001**
Remove old dressing	10	8.8	103	91.2	102	90.3	11	9.7	149.817	<0.001**
Notice the site of wound for any secretion	15	13.3	98	86.7	94	83.2	19	16.8	110.598	<0.001**
Avoid remove bubbles	16	14.2	97	85.8	95	84.1	18	15.9	110.494	<0.001**
Rinse with solution	9	8.0	104	92.0	101	89.4	12	10.6	149.910	<0.001**
Put ointment	11	9.7	102	90.3	95	84.1	18	15.9	125.366	<0.001**
Put sterile dressing	16	14.2	97	85.8	101	89.4	12	10.6	128.036	<0.001**
Hand washing after the procedure	13	11.5	100	88.5	97	85.8	16	14.2	124.973	<0.001**
<b>Precaution practice</b>										
Keep children away from fire and cooker	13	11.5	100	88.5	93	82.3	20	17.7	113.710	<0.001**
Keeping panhandles outside the stove	12	10.6	101	89.4	89	78.8	24	21.2	106.134	<0.001**
Placing candles, hot food, and cigarette out of the reach of children	13	11.5	100	88.5	83	73.5	30	26.5	88.733	<0.001**
Carry hot utensils and walk in the path of children	13	11.5	100	88.5	88	77.9	25	22.1	100.693	<0.001**
Checking the temperature of bathwater	12	10.6	101	89.4	95	84.1	18	15.9	122.273	<0.001**



**Figure (1): Percentage distribution of Mothers' total Reported Practices regarding scalds injury at pre and post empowerment program**

**Table (5): Comparison Of Mothers' attitude About Scalds injury Pre & Post Program (N=113).**

	Pre – Intervention						Post – Intervention						Chi – Square	
	Disagree		Neutral		Agree		Disagree		Neutral		Agree		X <sup>2</sup>	P
	N	%	N	%	N	%	N	%	N	%	N	%		
Home remedies can reduce pain and infection	44	38.9	41	36.3	28	24.8	3	2.7	23	20.4	87	77.0	71.098	<0.001**
Applying water is the most commonly recommended scalds injury first aid measure?	59	52.2	29	25.7	25	22.1	4	3.5	22	19.5	87	77.0	83.298	<0.001**
Applying dough, oil, mud and toothpaste etc. on the wound delay healing process?	56	49.6	29	25.7	28	24.8	5	4.4	36	31.9	72	63.7	62.753	<0.001**
It is important for you to learn scalds injury first aid?	45	39.8	34	30.1	34	30.1	11	9.7	34	30.1	68	60.2	31.976	<0.001**
Do you think that s calds injury can cause bad scars?	43	38.1	37	32.7	33	29.2	6	5.3	31	27.4	76	67.3	45.431	<0.001**
Do you think that scalds first aid is a basic skill that everyone has to know?	44	38.9	41	36.3	28	24.8	7	6.2	23	20.4	83	73.5	59.157	<0.001**
Scalds injury care training is mandatory not only for health professionals but also for everyone.	59	52.2	37	32.7	17	15.0	5	4.4	26	23.0	82	72.6	90.159	<0.001**
Most of scalds injuries are preventable	42	37.2	39	34.5	32	28.3	7	6.2	22	19.5	84	74.3	53.048	<0.001**
Do you think that applying traditional remedies are good for care before going to the health facility?	47	41.6	44	38.9	22	19.5	4	3.5	27	23.9	82	72.6	74.940	<0.001**

**Table (6): Comparison of Mothers' total Attitude regarding Scalds injury between pre and post program**

Items	Pre – Intervention		Post – Intervention		Chi – Square	
	N	%	N	%	X <sup>2</sup>	P
<b>Mothers total Attitude</b>						
Negative attitude	71	62.8	15	13.3		
Positive attitude	42	37.2	98	86.7	58.865	<0.001**
<b>Mean ±SD</b>	24.1 ±8.7		34.6 ±8.6		9.124	<0.001**

**Table (7) : Correlation between Mothers' total knowledge, Attitude and Practices regarding scalds injury post program (N=113).**

Items	Total Knowledge		Total Attitude		Total Practices	
	r	p	r	p	r	p
Total Knowledge	-	-	0.258	0.002*	0.378	<0.001**
Total Attitude	0.258	0.002*	-	-	0.270	0.004*
Total Practices regarding scalds injury	0.378	<0.001**	0.270	0.004*	-	-

## Discussion

Scald injuries continue to be a major global health problem, particularly in underdeveloped nations. Due to an infant's rapid motor and sensory development and insatiable curiosity about their environment, it is a frequent cause of injury and mortality. The toddler who has the greatest desire to discover and learn as well as the ability to run and walk is more likely to sustain various injuries. Mothers and other caregivers must constantly be alert for possible dangers in the surroundings. *Azzam, (2018)*. So, The researchers' aim in the current study was to evaluate

effect of mothers' empowerment program on knowledge, practices and attitude toward their children scalds injury

According to the study's findings, more than half of the mothers were between the ages of 18 and 25, most of the women get their technical education at a young age and the time of marriage is early before the age of twenty. these findings are supported by a study by *Elashry et al., (2019)*, which examined the "Effect of Teaching Intervention on Mothers' Awareness about Preventive Precautions of scalds among Children at Home" and discovered that

approximately half of the mothers were between the ages of 18 and 26. According to the researchers opinions, the result were similar that these mothers married in early stage.

More than half of the mothers in the study had a technician education. This research contradicts *Saad et al., (2015)*, who discovered that more than half of the mothers in their study on "Assessment of Knowledge and Practice of Mothers toward Home Accidents among Children Under Six Years in Rural Areas" cannot read or write. This may be due to the differences between setting and economic factors.

Concerning mothers' occupations, the current study reveals that more than two-thirds of studied mothers were housewives. These results concur with those of *Hossein, (2019)*, who observed that the majority of the examined mothers did not work. Hossein's study, "Effect of Mother's Education about Home Accident Prevention among Preschool Children in Rural Area in El-Minia Governorate," focused on this issue. This is may be due to the level of education which did not supported them to found a chance for working in addition to fewer chances of work for women in the rural areas.

According to mothers' residence, more than two-thirds of studied mothers were from rural areas. According to a study by *Stewart et al., (2020)* entitled Comparison of childhood household to scalds injury and risk factors between urban and rural communities in Ghana,

more than two-thirds of participants came from rural areas. This result is consistent with the study's findings. This finding contradicts a study performed in Bangladesh by *Bailey et al., (2019)*, which claimed that half of the mothers who participated in the study lived in an urban area.

Regarding children's age, the current study shows that less than half of children were in age between 2 to 4 years. This finding is consistent with a study performed by *Elrod et al., (2019)* of study titled Incidence, severity, and pattern of scalds in children and teenagers in Switzerland. Research suggests that because of this age group's natural curiosity about the world around them and their failure to recognize the risks of their actions, scald injuries are more likely to occur. This is may be due to children age group which more likely to exposed to injury. In the researchers point of view minor injuries are unavoidable as children learn through experience, but by creating a secure environment, closely monitoring children, and establishing safety guidelines, the risks can be minimized.

The current study reveals that more than half of children had scalds injury before with second-degree scalds. This finding was in agreement with *Lami & and Al Naser, (2019)* who found that second-degree scalds affected half of patients. According to the current research, the majority of mothers did not take part in efforts to prevent scalds injury. This is in accordance with a study by *Nageh et al., (2020)* that searched at

mothers' knowledge of and practices surrounding the most common scalds injury among children under the age of five. They found that only a small percentage of mothers attend health education programs about scalds. From the researchers' point of view, the majority of the studied mothers were from rural areas and had technician education, so they didn't have the interest or the time to engage in educational sessions.

The current research reveals that there were highly significant differences between mothers' knowledge of the meaning, causes, signs, risk factors, vulnerable family members, care, complications, and treatment of scalds injury before and after the empowerment program. This proves the efficacy of the empowerment program for mothers. These findings were confirmed by *Elashry et al., (2019)*, who found that mothers' awareness of preventive precautions for scalds varied significantly before and after the teaching intervention. This may be due to effective education which helped in increase of mothers' awareness through acquiring knowledge and information.

According to the current research, fewer mothers pre-program had good overall knowledge about scald injuries, whereas more mothers post-program had good knowledge. This finding is supported by *Khalil et al., (2018)*. 's study of rural mothers' knowledge, attitudes, and practices regarding home injuries in children under the age of five in Menouf District-Menoufia

Governorate, Egypt. They discovered that participants' knowledge of home injuries (causes, prevention, and first aid) significantly improved after the program's implementation compared to that before it. Another study conducted by *Silva et al., (2016)* about The Effect of Educational Intervention On the Knowledge of Mothers on the Prevention of Accidents in Childhood showed a significant increase in knowledge about the prevention of accidents in childhood after the educational intervention. This portrays the important role of empowerment programs in scald injury prevention.

The current study's results showed highly significant differences between mothers' reported practices, dressing care, and precaution practice regarding scald injury Pre & Post Empowerment Program. This conclusion was supported by *Megahed et al., (2017)* Knowledge, Attitude, and Practice of Rural Mothers towards Home Injuries among Children Under 5 Years of Age in Menouf District study, which showed that mothers' first aid practices with regard to scalds were clearly improved after the intervention.

According to the study's findings, there were statistically significant changes in mothers' overall practices between the pre-and post empowerment program periods. The significance of giving mothers the teaching intervention helps to explain this. According to the researchers, mothers' stated practices have improved because empowerment programs help mothers change harmful scalds attitude and customs while also

teaching them effective scalds first aid. This result is consistent with *Elashry et al. (2019)* which reported that his finding that the majority of mothers changed their practice after instructor class.

The vast majority of study participants had a positive overall attitude toward scalds injuries following the program. These findings were somewhat in line with *Mobayen, (2020)*, who conducted research on evaluating the knowledge and attitudes of the medical community mobilization members on first aid for scalds injuries in Guilan, Iran. found that participants had positive attitudes toward receiving the right training courses and that both quality and quantity could be very helpful. These findings are supporting the current research hypothesis

Regarding the relationship between the mother's pre- and post empowerment program's overall Knowledge and practice. The current study's findings shows a statistically significant difference between the pre-and post-program levels of mothers' knowledge, attitude, and reported practices. This conclusion agreed with that made by *Forjuoh et al., (2019)* The researcher claims that increasing mothers' level of education has a positive effect on how many scalds prevention strategies they implement at home. That's may be explained by the fact that the mothers had readiness or willingness to act and follow knowledge, practices and attitude gained from implementing empowerment program.

## Conclusion

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The current study indicated that, there were highly significant improvement between mothers' knowledge, practices and attitude pre and post empowerment program. Regarding mothers' attitude the study participants had a positive overall attitude improvement toward scalds injury following empowerment program.

## Recommendation

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Based on the findings of this study, the following recommendations were suggested:

- 1- Periodic counseling program should be done to all mothers of children who attended to the maternal and child centers and outpatient clinics about scalds injury prevention among their children.
- 2- Establishing first aid guidelines and strategies to improve Community and pediatric nurses knowledge and practice regarding preventive measures of scalds injury among children.
- 3- Further research: Designing and implementing in-service training programs for nurses working in maternal and child health centers and Out patients to enrich their knowledge regarding care of scalds injury.

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