

## Guiding Program for Mothers Having Children with Mental Disability Regarding Home Accident Prevention

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### Abstract

**Background:** Children with a mental disability have a higher risk of injury due to cognitive limitations. Injuries are more likely to occur in homes, schools, and busy streets where there is limited parental supervision for children with a mental disability. **Aim:** The study aimed to evaluate the effect of a guiding program for mothers having children with a mental disability regarding home accident prevention. **Study design:** A quasi-experimental design was used. **Setting:** The Intellectual Development Center in El-Matareya District. **Sample:** A Purposive sample of mothers having children with a mental disability which included 71 mothers. **Tools:** An interviewing questionnaire consisting of five parts. **Part I:** To assess demographic characteristics of mothers and their children with a mental disability, **Part II:** To assess the history of children with a mental disability for home accidents. **Part III:** To assess mothers' knowledge regarding home accidents. **Part IV:** To assess mothers' reported practices regarding safe home environment measures and first aid for home accidents. **Tool II:** To assess mothers' attitudes regarding home accident prevention. **Results:** The current study showed that the mean age of the mothers and children with a mental disability was  $35.9 \pm 7.1$  and  $9.2 \pm 1.9$ , respectively. Also, 83.1%, 66.2%, and 78.8% of mothers had satisfactory levels of knowledge, adequate practices regarding safe home environment measures and first aid for home accidents, and positive attitudes about home accident prevention post-implementation of the guiding program, respectively. **Conclusion:** Findings of this study concluded that the implantation of a guiding program for mothers having children with a mental disability has a statistically positive effect on their knowledge, reported practices, and attitude about home accident. **Recommendations:** Develop and apply a similar guiding program for mothers of children with a mental disability including multi-center special education institutions to raise their knowledge and practices regarding home accident prevention.

**Keywords:** A mental disability, Children, Guiding program, Home Accident.

### Introduction

Mental disability is characterized by significant trouble in learning and thinking compared to others their age with related limitations in two or more of the following applicable adaptive skill areas; communication, self-care, home living, social skills, being part of the community, making their own choices, taking care of their health and safety, learning, having fun, and working (Albero, 2020). Negative attitudes toward a mental disability are

widespread and it is linked to the lack of scientific knowledge among the individuals in society. These attitudes may be even more prevalent in developing countries (Vijay & Balaurugan, 2020).

Injuries in children are a serious public health issue, leading to death, disability, and financial burden. Research showed that children with a mental disability are more likely to be injured due to limitations in cognitive

functioning. Children with a mental disability can get injuries easily in areas where child control is limited, such as home, school, and traffic areas. Most of these injuries include falling, drowning, and burning which occur at home where children with a mental disability are thought to be safe. The best way to prevent accidents in children is by implementing appropriate safety measures (*Kilinc et al., 2022*).

Compared to other children, those with mental disabilities have a greater chance of getting hurt unintentionally regularly, such as falls, burns, poisoning, suffocation, and foreign body aspiration (*Kaur et al., 2020*). Children with mental disabilities are more prone to accidents at home due to both physical and mental challenges. In particular, it causes more fractures in hand-eye coordination due to falling and burn-type home accidents (*Satr & Ulupinar, 2023*).

Mothers of children with mental disabilities must be aware of the safe environment for their children regarding risk factors that cause injury, and safety measures to be taken in environments where accidents occur most frequently (rooms, kitchen, bathroom, stairs, garden, etc.), what emergency actions are necessary for different injury levels in case of an accident (*Brenner et al., 2019*).

A community health nurse can empower mothers by equipping them with coping mechanisms and emotional support. This helps families understand that intellectual disability is not caused by poor parenting and equips mothers with knowledge about child development and their child's specific needs, offering resources, support, and training to empower them to keep their children safe. They should emphasize parents' responsibility for creating a safe and secure environment for their children, where they are protected from harm

(*Godson, 2021*). Nurses promote child safety by demonstrating and advocating for safe habits in the home, school, work, and community and Prepare parents and children for potential hazards through age-appropriate safety education (*White et al., 2018*).

#### **Significance of Study:**

Worldwide, the prevalence rate of children diagnosed with mental impairment is 26.3% in every 10000 children and most of them live in low- and middle-income countries (*Kogan et al., 2021*). According to the American Psychiatric Association (*APA, 2022*), a mental disability affects about 1% of the population, and 85% of those have mild intellectual disability.

Childhood accidents are a critical issue in Egypt due to their prevalence and severity. The incidence of home accidents is 33%; it is even higher among mentally disabled children, and this category involves 13.1% of those aged 5 to 14 years (*Satr & Ulupinar, 2023*).

The newly implemented 2030 Agenda for Sustainable Development Goals (SDGs) holds a deep promise for children with disabilities everywhere. The year 2016 marks the first year of implementation. The vision of 2030 will work to promote the mainstreaming of disability and the implementation of the SDGs (*Shatia et al., 2022*).

Among children with mental disability, home accidents are the leading cause of death and one of the most serious health issues that the world is currently facing. These accidents can result in hospital admission and permanent disability (*Kilinc et al., 2022*). Therefore, the purpose of this study was to evaluate the effect of a guiding program for mothers having children with a mental disability regarding home accident prevention.

#### **Aim Of The Study**

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This study aims to evaluate the effect of guiding programs for mothers having children with a mental disability regarding home accident prevention.

### Research Hypothesis

The current study hypothesized that the guiding program will improve mothers' knowledge, practices, and attitudes regarding home accident prevention for their children with a mental disability.

### Subjects & Methods

#### Study design:

A quasi-experimental design was utilized to achieve the aim of this study.

#### 1. Technical Design:

The technical design includes the settings, subjects, and tools used in the study.

#### Settings:

The study was conducted at the Intellectual Development Center in El-Matareya District which is affiliated with the Ministry of Social Solidarity; it serves the largest portion of the children with mental disability and their mothers from slums areas at Cairo Governorate.

#### Sampling:

##### Type:

A purposive sample of mothers having children with a mental disability was recruited and their children were according to the following criteria:

##### Inclusion criteria:

- The mothers agreed to participate in the study.
- The children were diagnosed with mild or moderate degrees of mental disability and both sexes.
- The children's ages range from 6 to 12 years.

##### Sample Size:

The sample size was 71 mothers of children with a mental disability which was calculated according to the sample size equation based on data from the literature (*Ibrahim et al., 2018*),

considering the level of significance of 5%, and power of study of 80%, the sample size can be calculated using the following formula:

$n = \frac{p(1-p)}{d^2} \left( Z_{\alpha/2} + Z_{\beta} \right)^2$  Where,  $p$  =pooled proportion obtained from the previous study;  $d$  = expected difference in the proportion of events;  $Z_{\alpha/2} = 1.96$  (for 5% level of significance) and  $Z_{\beta} = 0.84$  (for 80% power of study). Therefore,  $n = 70.5$ .

Accordingly, the sample size equaled 71 mothers.

#### Tools of the study

Data were collected through:

#### Tool I: A structured Interviewing Questionnaire:

It included four parts:

**Part I:** This part consisted of two sections

- **Section (1):** To assess the demographic characteristics of the mothers having children with a mental disability and consisted of 6 closed-ended questions such as age, level of education, occupation, marital status, family income, and home crowding index which calculated by the number of people living in a home divided by the number of rooms. According to this index, more than 2 person per room are crowded (*Poornima & Shashank. 2018*).
- **Section (2):** To assess the general characteristics of children with a mental disability and consisted of 7 closed-ended questions such as age, gender, number of siblings, child ranking, behavior with siblings and outside family.

**Part II:** This part assesses the history of children with a mental disability for home accidents and consists of 6 closed-ended questions such as the occurrence of home accidents, their types, frequency, number of accidents, types of home accidents (**pre/post program**), surgical interfere for

home accident, rehabilitation for home accident and handicapped from home accident.

**Part III:** This part assesses the mothers' knowledge about home accidents including 18 closed-ended questions such as concept, importance of home accident prevention, causes and types of home accidents, causes and degree of burn, types, and symptoms of poisoning, causes, and symptoms of suffocation and types of fracture, causes and types of wounds, causes of electric shock, Causes of falling and causes of drowning (**pre/post program**).

**Scoring system:**

Researchers compared mothers' responses to pre-determined model answers. One point was awarded for each correct answer and zero was awarded for incorrect answers. The total knowledge score was 52 grades because some of the questions had more than one answer. These scores were summed -up and categorized into two categories: less than 50% (0-25 points) were considered unsatisfactory, and 50% or more (26-52 points) were considered satisfactory.

**Part IV:** This part assesses the mothers' reported practices which consisted of two sections:

- **Section A:** To assess the mothers' practices regarding safety home environment measures for accident prevention. This included 40 statements regarding burns, poisons, suffocation, strangulation, falling, accidents with sharp tools, electrical shock, and accidents with electric heaters. This tool was adapted from (**Sackitey, 2020**), and modified by the researchers (**pre/post program**).
- **Section B:** This section assesses the mothers' reported practices regarding first aid for home accidents which includes 30 statements regarding first aid for burns, poisons, suffocation, strangulation, falling, accidents with

sharp tools, electrical shock, and accidents electric. This tool was adapted (**Raza1, 2021**) and modified by the researchers (**pre/post program**).

**Scoring system:**

Each answer with "done" had one score and the "not done" answer had zero score. The scores of all items were summed- up and converted into a percentage. The total practice score was 70 and categorized into two categories: less than 60% (0-41 points) were considered inadequate, and 60% or more (42-70 points) were considered adequate.

**Tool II: Mothers' attitude regarding home accident prevention for their children with a mental disability:** it includes 10 closed-ended questions such as Taking all precautions to prevent home accidents, The surrounding affects the way to keep the child safe, it not my fault if child gets injured, the more liability of child with a mental disability to accident than other children, child a mental disability could not be practicing normal life, child with a mental disability's accidents are not manageable and easily solved, child with a mental disability's should not play sports, Home accident is usually unexpected and unplanned, Accident affects child psychologically and mother should know about accident prevention and first aid for child with a mental disability. This tool adapted from (**El Seifi et al., 2018**), and modified by the researchers, was used twice (**pre/post-program**).

**Scoring system:**

This part was scored by the Likert scale ranging from 1:3; 3 scores for agree, 2 scores for neutral, and 1 score for disagree. The total scores were summed up which equaled 30 degrees, then categorized into two categories: Less than 50% (0- 14 points) were considered negative attitude, and 50% or more (15-

30 points) were considered positive attitude.

### **I. Operational Design:**

#### **Preparatory phase:**

The researchers explored a wide range of national and international literature, both current and from past eras which included articles, textbooks, and internet searches, helping them become familiar with the research problem and develop the tools of the study.

#### **Content validity:**

It was ascertained by a group of five experts from the family and community health nursing department and pediatric health nursing, at the Faculty of Nursing, Ain Shams University. After gathering feedback on format, layout, consistency, accuracy, and relevance, the tools were updated accordingly.

#### **Reliability:**

By using Cronbach's alpha coefficient test, it was shown that the tool has good internal consistency, meaning its questions measure the same thing. This questionnaire achieved a high Cronbach's alpha score (0.741), indicating consistent and reliable results.

#### **Pilot study:**

To assess the usability, understandability, and practicality of the research methods, the researchers tested it on a small group of 7 mothers (10% of the planned sample size) in the previously mentioned settings. In addition, the pilot test also assessed the completion time for the questionnaires. The pilot study confirmed the tools functioned effectively without needing modification, so these piloted samples of mothers were included in the main study sample. In addition, these mothers needed the guidance program to improve their knowledge, practices, and attitudes regarding the prevention of home accidents.

#### **Fieldwork:**

Once the researchers received permission to conduct the research in the previously mentioned setting, they looked through children's records to identify who met the study's criteria. Then, they met with the mothers of the 71 selected children to introduce themselves. The researchers visited the previously mentioned setting two days a week from 9:00 a.m. to 2:00 p.m. to discuss the study's goals and its importance with mothers. On average, they were able to interview 6 to 7 mothers per day. The researchers met the studied mothers in the seminar room at The Intellectual Development Center in El-Matareya District.

Data were gathered from the studied mothers via questionnaires and interviews over a three-month and two-week period, starting in June 2023 and finishing in the first half of September 2023. The interview questionnaires took between 15 and 30 minutes to complete for each studied mother.

The mothers in the study gave their formal consent to participate. The mothers completed questionnaires after receiving clear explanations from the researchers for each item. To assess the impact of the guiding program, mothers involved in the study took tests before and immediately after completion of the program to evaluate their knowledge, practices, and attitudes.

#### **Ethical considerations:**

Approval was obtained from the Ethical Committee of the Faculty of Nursing at Ain Shams University (Ethical code is 23.07.98). Issues of ethical consideration were discussed with the director's Intellectual Development Center in the El-Matareya District. The researchers provided information about the study's aims to the mothers who were selected. The study involved mothers who gave formal permission to participate. Researchers protected the

privacy of all participants by keeping their data confidential and anonymous.

## **II. Administrative Design**

To gain approval to conduct the study, a formal letter outlining the research and its objectives was sent from the Dean of the Faculty of Nursing at Ain Shams University. The letter was addressed to the director of the Intellectual Development Center in El-Matareya District where the study would take place.

### **Guiding Program Instruction:**

It was implemented through four phases:

#### ***Phase I: Program Development***

An in-depth analysis of scholarly articles, including recent publications from both national and international sources was conducted.

Information came from a variety of sources, including print (books, magazines, articles) and digital (online searches) on various aspects of home accident prevention. Accordingly, the researchers designed the program as well, on the results obtained from the pre-test results.

#### ***Phase II: Assessment***

Researchers assessed the needs of mothers having children with a mental disability by using a pre-test to gather information about their knowledge, practice, and attitudes regarding home accident prevention. The pre-test took women 20-30 minutes to complete and was administered two days a week for six weeks.

#### ***Phase III: Program Implementation***

The program was carried out in the seminar room at the previously mentioned setting taking eight weeks to be implemented.

### **Program sessions:**

Time allowed: 6 hours and 45 minutes has been allocated for health education sessions; Distributed as (3 hours and 15 minutes for theory and 3 hours and 30 minutes for practice).

This involved conducting (8) sessions meticulously planned with diverse educational methods and media. Each session lasted 20-55 minutes and aimed to build trust and ease any anxieties the mothers might have felt.

The program began with an introduction explaining its goals and purpose. Starting from the second session onwards, each session included a clear and concise overview of the previous session's content and the objectives of the upcoming one, ensuring the language used was appropriate for the participating mothers. Each session concluded with a summary of the discussion, time for questions and answers, and a plan for the next session. This was not done for the final session, as it ended with feedback on the overall process.

### **General objectives:**

To increase mothers' awareness about home accident prevention and first aid for home accident.

### **Supportive materials:**

**Teaching methods:** The researchers used a variety of teaching methods, such as brainstorming, group discussion, lectures, demonstrations, and re-demonstration about first aid for home accident.

**An instructional teaching video film:** video clips, PowerPoint slides, and pictures about home accident prevention were prepared by the researchers and included examples of home accidents and preventive measures and first aid for each one.

**An instructional teaching booklet:** in simple Arabic language, using clear and concise words, and an illustrated colored paper booklet was given to each mother with a disabled child entitled "Guiding for mothers having children with a mental disability regarding home accidents prevention" as guidance at home, to ensure that the mothers

understand the information included in the program and to be sure that the mothers can apply it in their homes.

#### **Phase IV: Program Evaluation**

This phase measured how much the mothers learned, their opinions changed, and their practice to act differently after the program. They were tested after the program ended. The researchers also looked for any commonalities, variations, strengths, and weaknesses in the program's effects. This all happened one week after the program was completed.

#### **III. Statistical Design**

The researchers entered the coded data from their study into a computer program called SPSS (version 22) to analyze it. They used basic statistics like frequencies, means, and standard deviations to describe the data. They also used chi-square to compare data from two groups (pre and post program), and chi-square to assess the relationships between two continuous. The Pearson correlation was used to measure the strength of the linear relationship between each of the two variables. They considered results statistically significant at  $p < 0.05$  and highly significant at  $p < 0.001$ .

#### **Results**

**Table (1):** shows that 45.1% of mothers, their age ranged from 30-40 years with mean  $35.9 \pm 7.1$  years. Regarding the level of education, 25.4% of mothers read and write. Also, 64.8% of them were housewives and 77.5% were married. Concerning the home crowding index, 80.3% of them were crowded.

**Table (2):** reveals that 52.1% of children with a mental disability, their age ranged from 8-10 years with a mean  $9.2 \pm 1.9$  years and 77.5% of them were males. Regarding child ranking, 35.2%

of children were 3rd or more in his/her family.

**Table (3):** detects that, 49.3% of the children with a mental disability were exposed to home accidents three times or more. To surgical interference for home accidents, 29.6% of children needed surgical intervention while 31% of them became handicapped as a result of home accidents.

**Figure (1):** reflects a significant reducing the frequency of children's exposure to home accidents post-guiding program regarding falling, wounds, and burns for 54.9%, 52.1% & 40.8% respectively preprogram compared by 18.3%, 10.9% & 14% post-program implementation.

**Figure (2):** illustrates that 25.4% of mothers had a satisfactory level of total knowledge in pre-guiding program implementation which improved to 83.1% post-program intervention with highly statistically significant improvement, ( $p = < 0.001$ ).

**Figure (3):** indicates that 28.2% of mothers had an adequate level of total reported practices regarding safe home environment measures and first aid for home accidents pre guiding program implementation which improved to 66.2% in the post-guiding program with highly statistically significant ( $p = < 0.001$ ).

**Figure (4):** clarifies that 36.4% of mothers had a positive attitude in preprogram, while raised to 78.8 % post-program, with highly statistically significant improvement. ( $p = < 0.001$ ).

**Table (4):** displays that there was a positive correlation between mothers' total knowledge, their total practices regarding safe home environment measures, their total practice regarding first aid, and their total attitude regarding home accident prevention with a highly statistically significant difference.

**Table (5):** reveals that there was a high association between mothers' educational level and their total knowledge, total reported practices, and

total attitude regarding home accident prevention post-guiding program intervention.



**Table (1): Distribution of Mothers According to Their Demographic Characteristics (N= 71).**

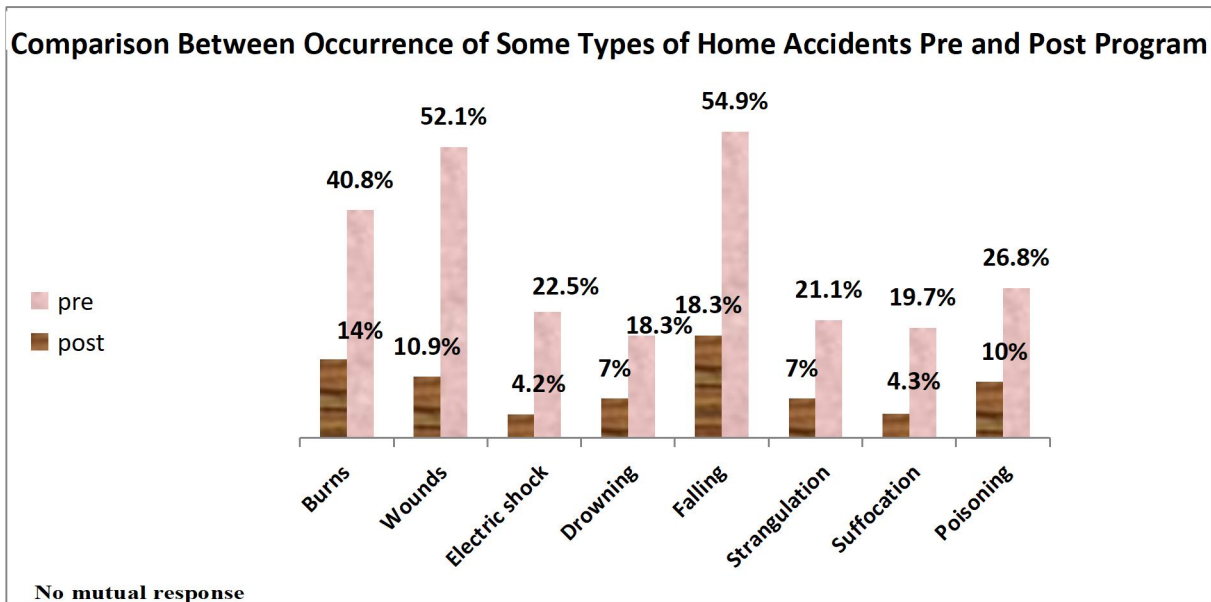
	N	%
<b>Age (Years)</b>		
< 30	16	22.5
30 – 40	32	45.1
> 40	23	32.4
<b>Mean ±SD</b>	35.9 ±7.1	
<b>Educational Level</b>		
Read & write	18	25.4
Primary	10	14.1
Preparatory	14	19.7
Secondary	13	18.3
University	16	22.5
<b>Occupation</b>		
Housewife	46	64.8
Working	25	35.2
<b>Marital Status</b>		
Married	55	77.5
Divorced	9	12.7
Widow	7	9.9
<b>Home crowding index</b>		
Crowded	57	80.3
Not crowded	14	19.7

**Table (2): Distribution of Mental Disabled Children According to Their General Characteristics (N=71)**

	N	%
<b>Child Age (Years)</b>		
< 8	17	23.9
8 ≤ 10	37	52.1
10 ≤ 13	17	23.9
<b>Mean ±SD</b>	9.2 ±1.9	
<b>Gender</b>		
Male	55	77.5
Female	16	22.5
<b>Number of siblings</b>		
< 3	11	15.5
3 – 4	52	73.2
5 or More	8	11.3
<b>Child ranking</b>		
1 <sup>st</sup>	23	32.4
2 <sup>nd</sup>	23	32.4
3 <sup>rd</sup> or more	25	35.2
<b>Behavior with siblings</b>		
Isolated	33	46.5
Social	38	53.5
<b>Behavior outside the family</b>		
Isolated	31	43.7
Social	40	56.4

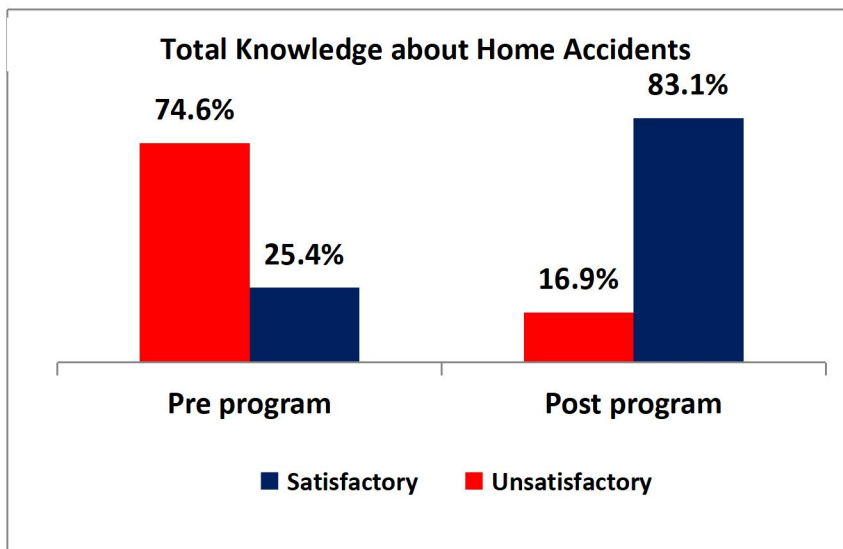
**Table (3): Distribution of Mental Disabled Children According To Their Home Accident History (N=71).**

	N	%
<b>Occurrence of any home accidents</b>		
Yes	71	100
<b>Frequency of exposure to home accidents</b>		
Once	11	15.5
Twice	25	35.2
Three or more	35	49.3
<b>Surgical interfere for home accident</b>		
Yes	21	29.6
No	50	70.4
<b>Rehabilitation for home accident</b>		
Yes	9	12.7
No	62	87.3
<b>Handicapped from home accident</b>		
Yes	22	31.0
No	49	69



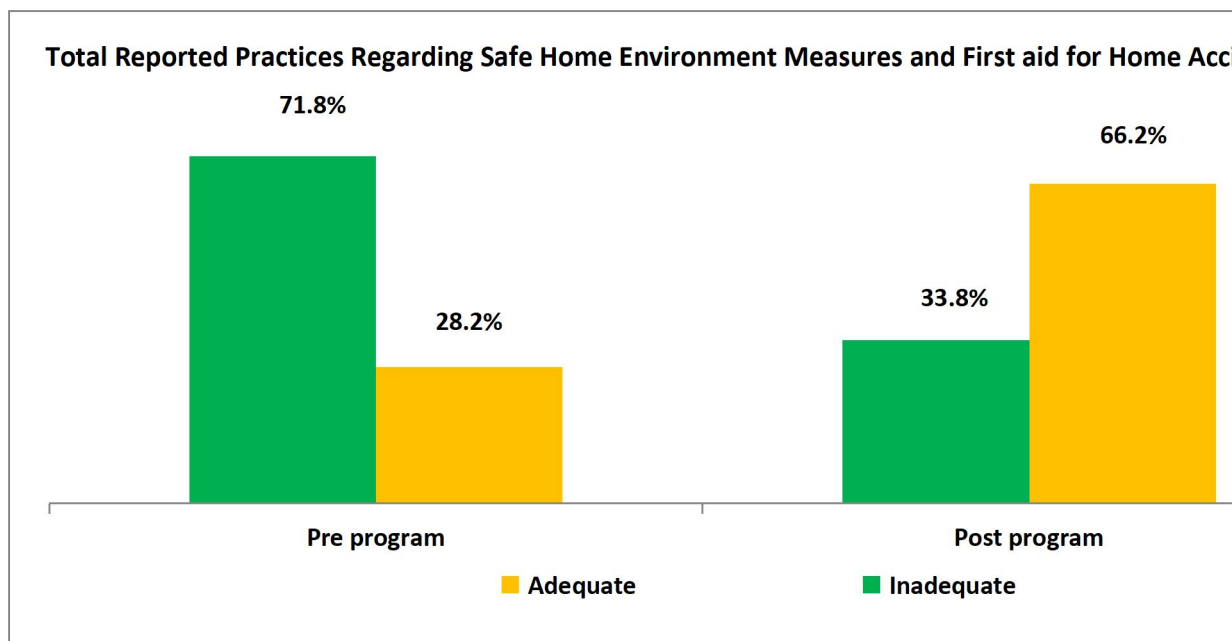
$\chi^2 = 47.692$  *p*-value < 0.001 (HS)

Figure (1): Comparison Between Occurrence of Some Types of Home Accidents Pre and Post Program



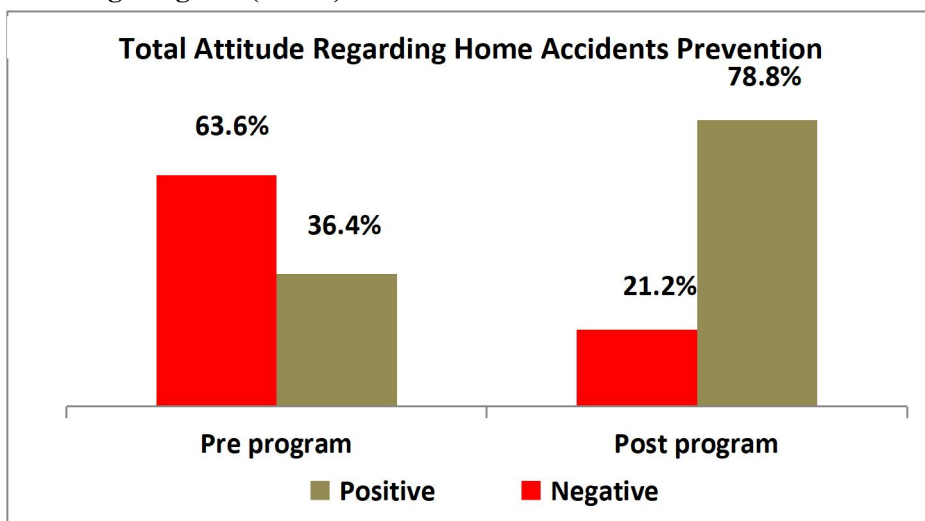
$\chi^2 = 25.975$  *p*-value < 0.001 (HS)

Figure (2): Distribution of Mothers According to Their Total Knowledge about Home Accident Pre & Post Guiding Program (N= 71).



$\chi^2 = 20.60$  *p*-value < 0.001 (HS)

**Figure (3):** Distribution of Mothers According to Their Total Reported Practices Regarding Safe Home Environment Measures and First aid for Home Accidents Pre & Post Guiding Program (N= 71).



**Figure (4):** Distribution of Mothers According to Their Total Attitude Regarding Home Accidents Prevention (N= 71).

**Table (4):** Correlation Between Mothers' Total Knowledge, Total Reported Practices & Total Attitude Regarding Home Accident Prevention Post Guiding Program Intervention (N= 71).

	Knowledge		Reported practices		Attitude	
	R	P	r	P	R	P
Knowledge	-	-	0.353	0.002*	0.499	<0.001**
Reported practices	0.353	0.002*	-	-	0.292*	0.014*
Attitude	0.499	<0.001**	0.292	0.014*	-	-

**Table (5):** Association Between Mothers' Total Knowledge, Total Reported Practices, Total Attitude Regarding Home Accident Prevention Post Guiding Program Intervention and Their Demographic Characteristics (N= 71).

	Knowledge				Reported practices				Attitude			
	Unsatisfactory knowledge (n=12)		Satisfactory knowledge (n=59)		Inadequate practice (n=20)		Adequate practice (n=51)		Negative Attitude (n=15)		Positive Attitude (n=56)	
	N	%	N	%	N	%	N	%	n	%	n	%
<b>Age (Years)</b>												
< 30	1	8.3	15	25.4	5	25.0	11	21.6	5	33.3	11	19.6
30 – 40	5	41.7	27	45.8	9	45.0	23	45.1	4	26.7	28	50.0
> 40	6	50.0	17	28.8	6	30.0	17	33.3	6	40.0	17	30.4
<b>Chi – Square / Fisher's exact test</b>	<b>X<sup>2</sup>=2.711, P=0.258</b>				<b>X<sup>2</sup>=0.124, P=0.940</b>				<b>X<sup>2</sup>=2.753, P=0.252</b>			
<b>Educational Level</b>												
Read and write	10	83.3	8	13.6	12	60.0	6	11.8	9	60.0	9	16.1
Primary	2	16.7	8	13.6	4	20.0	6	11.8	5	33.3	5	8.9
Preparatory	0	0.0	14	23.7	4	20.0	10	19.6	1	6.7	13	23.2
Secondary	0	0.0	13	22.0	0	0.0	13	25.5	0	0.0	13	23.2
University	0	0.0	16	27.1	0	0.0	16	31.4	0	0.0	16	28.6
<b>Chi – Square / Fisher's exact test</b>	<b>X<sup>2</sup>=27.963, P&lt;0.001**</b>				<b>X<sup>2</sup>=25.250, P&lt;0.001**</b>				<b>X<sup>2</sup>=23.419, P&lt;0.001**</b>			
<b>Occupation</b>												
Housewife	9	75.0	37	62.7	15	75.0	31	60.8	13	86.7	33	58.9
Working	3	25.0	22	37.3	5	25.0	20	39.2	2	13.3	23	41.1
<b>Chi – Square / Fisher's exact test</b>	<b>X<sup>2</sup>=0.660, P=0.417</b>				<b>X<sup>2</sup>=1.273, P=0.259</b>				<b>X<sup>2</sup>=3.990, P=0.046*</b>			
<b>Marital Status</b>												
Married	11	91.7	44	74.6	12	60.0	43	84.3	8	53.3	47	83.9
Divorced	1	8.3	8	13.6	4	20.0	5	9.8	3	20.0	6	10.7
Widow	0	0.0	7	11.9	4	20.0	3	5.9	4	26.7	3	5.4
<b>Chi – Square / Fisher's exact test</b>	<b>X<sup>2</sup>=2.015, P=0.365</b>				<b>X<sup>2</sup>=5.179, P=0.075</b>				<b>X<sup>2</sup>=7.684, P=0.021*</b>			
<b>Home Crowding index</b>												
Crowded	9	75.0	48	81.4	16	80.0	41	80.4	13	86.7	44	78.6
Not crowded	3	25.0	11	18.6	4	20.0	10	19.6	2	13.3	12	3
<b>Chi – Square / Fisher's exact test</b>	<b>X<sup>2</sup>=0.254, P=0.614</b>				<b>X<sup>2</sup>=0.001, P=0.970</b>				<b>X<sup>2</sup>=0.490, P=0.484</b>			

## Discussion

Parents of children with mental disabilities face complex and challenging duties as caregivers because they are considered to be more susceptible to unintentional injuries both inside and outside the home (*Kaur, et al. 2020*).

Regarding the demographic characteristics of the studied mothers, the present study showed that; more than two-fifths of the studied mothers were in the age group between 30 –and < 40 years old, and about one-fifth of them could read and write. Also, more than three-quarters of the studied mothers were married. These results were in the same line with *Sackitey, (2020)*, who studied knowledge, attitude, and perception about the prevention of home accidents among mothers in Ghana (n=30) and revealed that; 61.9% of the studied mothers' ages ranged between 25 to 34 years old, and 33.7% of them could read and write, and 73.3% of the studied mothers were married.

Concerning the general characteristics of the studied children, the current study revealed that; more than half of the studied children's age ranged between 8-≤10 years. This result disagrees with *Nageh et al. (2020)*, who conducted a study on mothers' knowledge and subjective practices toward most common domestic injuries among under-fives children in Mansoura, Egypt (100 mothers) and found that; less than 31.0% of the studied children's age ranged between 2 to less than 3.

Regarding the gender of the studied children, the present study revealed that; more than three-quarters of the studied children were males, while less than one-quarter were females. About one-third of the studied children were in the third ranking. These findings are similar to a study done by *Al Rumi et al., (2020)*, who found that 66.4% of the studied

children were male, 33.6% of them were female and 43.2% of them were in the third rank of their siblings.

Regarding the types of home accidents that occur to mentally disabled children, the current study found that the most common type of accident they had been exposed to was falling. According to the results of this study, more than half of those who had an accident were injured due to falling followed by wounds, and about two-fifths of them were injured due to burns. While decreased to less than one-fifth of them in post-program with a highly statistically significant difference (P-value <0.001). Similarly, the study conducted by *Al Rumi et al., (2020)*, declared that the frequency of falling was reported to be the first among home accident types with different rates of 57.2% and 46.3% burn are the three most common types of home accidents in childhood. It is important to educate mothers about safety measures to prevent falls, to determine the cause of falls, and to address and implement prevention initiatives specific to the family.

Concerning the studied mothers' total knowledge level regarding home accident prevention for their children with a mental disability, the present study demonstrated that; about one-quarter of the studied mothers had satisfactory knowledge of pre-program implementation. While improved to the majority of them post program implementation with a highly statistically significant difference (P-value <0.001). These findings are similar to a study done by *Nageh et al., (2020)*, who found that 77% of the studied mothers had good knowledge about the prevention of home accidents. Also, *Thenmozhi et al., (2020)* declared that 63% of the studied mothers had adequate knowledge of the prevention of home accidents. This attributed to improvement in mothers'

knowledge after the implementation of the guiding program would impact the health of their children and prevent lifelong disability.

Concerning of studied mothers' total reported practices level regarding precaution toward a safe environment for home accident prevention for their children with a mental disability, about less than one-third of mothers under study had adequate practices of preprogram implementation. Meanwhile, in the post-program, it raised to more than two-thirds with a highly statically significant difference (P- value <0.001). Similarly, *Thenmozhi et al. (2020)*, concluded that there were highly statistically significant differences (P- value <0.001), related to total practices about home accident prevention for their children with mental disabilities between pre and post-program. This could be attributed to the influence of the theoretical and practical sessions which were given by the researcher to the mothers as well as the educational aids that were also used in this study such as colorful booklets, videos, and photos about home accident prevention that helped to attract the mothers' attention.

As regards to studied mothers' total reported practice level regarding first aid of home accidents for their children with a mental disability, less than one-quarter of mothers under study had adequate practices of preprogram implementation. Meanwhile, in the post-program, it raised to more than three quarters with a highly statistically significant difference (P-value <0.001). these findings are similar to a study done by *Debnath et al., (2021)*, to assess home safety measures adopted by mothers in India ( N= 230) which indicated that 83% of mothers had a satisfactory level of first aid measures practice regarding first aid of burn, and about 59% of them had unsatisfactory practices regarding first aid of fall. On

the contrary, *Nageh et al., (2020)*, confirmed that; all the studied mothers had improper experience regarding first aid in home accidents.

Regarding mothers' attitudes regarding home accident prevention for their children with a mental disability, the present study revealed that there are highly statistically significant improvements after the guiding program as attitude statements such as; Mentally disabled children are liable to accidents more than other children from more than half to less than two thirds, less than two-thirds of mothers with the mentally disabled child agree on the surrounding keep my child safe, and more than half of them disagree, less than two-thirds of the studied mothers agreed that taking all precautions to prevent home accidents, and more than half of them disagreed that it is difficult to take all precaution to prevent home accidents (P-value <0.001). These findings are relatively similar to those of the study conducted by *Sackitey, (2020)*, who declared that; 62% of the studied mothers had a positive attitude toward emergency services is important to prevent complications from accident prevention. The researchers believed that the good knowledge level among the studied mothers.

As regards studied mothers' total attitude level regarding home accident prevention for their children with a mental disability, the present study revealed that; less than one-third of studied mothers had a positive attitude in preprogram, while improved to more than three-quarters of them in post-program with a highly statistically significant difference (P-value <0.001). This result was dissimilar from the result of *Al Rumi et al., (2020)*, who conducted that mothers total attitude level toward their mentally retarded children: an analytical study in Tripura, India, (50 mothers) and found that; 54% of the

mothers have shown a favorable attitude toward their children and 46% of them have shown unfavorable toward their mental retarded children. The researchers believed that improvement in mothers' total attitude level reflects an increase in the awareness level among the studied mothers post implementation of the guiding program.

Regarding the Correlation between total mothers' knowledge and their practices regarding safe home environment measures for accident prevention, the current study found a positive correlation between mothers' knowledge and their preventive practices after the guiding program. This result was in the same line with those of *Jena, (2020)*, which showed significant associations between the knowledge and practice level of the participants. This is due to improvement in mothers' practices after the implementation of the guiding program was due to an improvement in their knowledge about preventive measures regarding home accidents.

Regarding the Correlation between mothers' practices regarding safe home environment measures and their total attitude regarding home accident prevention, the existing study ascertained that; there was a highly statistically significant relation between mothers' total preventive practices and their total attitude level after the guiding program. In the same way with those *Thenmozhi et al., (2020)*, who conducted that there was a statistically significant positive correlation between the level of knowledge, practices, and attitude of studied mothers about mental retardation and prevention of home accidents. This could be attributed to the affection of knowledge level on practices and attitudes of the studied mothers.

Regarding the association between mothers' demographic characteristics and their total knowledge, total reported

practices, and their total attitude regarding home accident prevention, the current study found that; there was a highly statistically significant relation between mothers' educational level and their total knowledge, total reported practice and total attitude regarding home accident prevention post guiding program intervention with a highly statistically significant difference ( P-value <0.001). These findings are similar to a study done by *Debnath et al., (2021)*, who found that there was a statistically significant positive correlation between the level of knowledge, practices, and attitude of studied mothers about mental retardation and prevention of home accidents. This is attributed to reflection of the affection of knowledge level on practices and attitudes of the studied mothers.

### Conclusion

The implantation of a guiding program for mothers having children with a mental disability had a statistically positive effect on their knowledge, practices, and attitudes about home accident prevention.

### Recommendations

This research led to the following recommendations.

- The designed educational materials about safety measures and first aid guidelines should be available at every center for the development of children with special needs.
- As a standard service, Maternal Child Health centers should offer ongoing health education programs for parents on home accident prevention and first aid for it.

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