

## Enhancing Mothers' Awareness about Home Accidents and First Aids for Children during Covid-19 Lockdown: A social media Based Nursing Intervention

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### Abstract

**Back ground:** Childhood injury is a significant public health problem in terms of morbidity, mortality and lifelong disability. **Aim:** to evaluate the effect of social media-based nursing intervention on enhancing mothers' awareness of home accidents and first aids for children during COVID-19 lockdown. **Design:** A quasi-experimental design (pre-post) test used and conducted using an online self-administered questionnaire through using Google Form to mothers in Menoufia governorate, Egypt. **Sample:** A purposive sample of 120 mothers obtained from social media such as Facebook and WhatsApp groups. **Tools:** A structured questionnaire for mothers; it includes four parts: Mothers' demographic data, mothers' general knowledge of home accidents predisposing factors and prevention methods, mothers' reported practice & attitude regarding home accidents first aids measures and social media based nursing intervention characteristics. **Results:** The study findings revealed that mothers had a higher mean score of knowledge and practical knowledge post intervention compared to pre-intervention for poisoning, wound/fracture, burn, and choking. There was positive correlation between mothers' total knowledge scores and total practical knowledge scores at the 0.01 level of significance about home accidents prevention and first aid measures post intervention. **Conclusion:** the study concluded that implementation of social media-based nursing intervention achieved significant improvements in the mothers' knowledge, practices, and attitude regarding home accidents prevention and first aid measures during covid-19 lockdown. **Recommendations:** A social media-based intervention should be carefully planned and implemented as a new teaching method for proving health issues to mothers.

**Key Words:** Home accidents, Social media based nursing intervention, First aid measures, Covid-19 lockdown.

### Introduction

Covid-19 had become a global health issue by the end of 2019. A worldwide lockdown was imposed in response to the pandemic, which had an impact on the people and changed many areas of their lives **Sharma et al., (2018)**. Egypt's lockdown began on March 25th and lasted around three months. A total of

25.3 million pupils have been affected by school closures, putting their safety and security in danger (**World Health Organization, 2020**). Long-term home isolation as a result of lockdown measures to prevent the spread of the COVID-19 epidemic carries the danger of increased domestic accidents in children as a side effect of the pandemic (**The**

**Lancet child adolescent health, 2020 & Lazzarini et al.,(2020).**

Children's unintentional injuries are a major source of concern around the world. The consequences can be severe, since the injured youngster may suffer lasting disabilities such as skin burns, amputations, and fractures, or, in the worst-case scenario, death. Accidents account for around 9% of all deaths and nearly 16% of all disabilities worldwide (**World Health Organization, 2020 & Moncatar, 2020**). Accidents can happen anywhere, including on the road, at the office, in the industry, in the market, and at home. Domestic accidents are defined as an unusual occurrence in the house that might result in harm or property damage. Poisoning, cuts, burns, falls, poisoning, electric shock, asphyxia, and choking are all examples of household accidents (**Rezapur-Shahkolai, 2017**).

Children are naturally sensitive and curious, so they examine everything around them, unable to distinguish between dangerous and non-harmful objects. This could result in unintended accidents, which are most likely in the house because they spend so much time there. Stairs, sharp objects, and hazardous items are all potential sources of injury for youngsters. Furthermore, many of these unintended injuries can be avoided if caregivers provide a secure, sanitary, and healthy environment for children as well as teach them basic self-defense techniques. As a result, parents should be encouraged to learn as much as possible regarding right practices that promote child safety (**Silva & Fernandes, 2016**).

First aid is the treatment of a sickness or injury by a non-expert but trained individual until medical assistance can be obtained. Many negative

consequences of injuries can be avoided if parents know what steps to take. Parents' knowledge and practice of first aid is especially crucial in injury treatment for children, preventing deaths due to accidents, and improving children's outcomes. Parents have a responsibility to establish a safe environment for their children and to audit the safety of their children's living areas by maintaining home safety (**Akturk & Erci, 2016**).

Nowadays, modern technical developments and procedures used to decrease illness transmission between people, such as keeping at home, limiting access to nursing homes, and preventing meetings at places, are used to minimize disease transmission between people (**Masonbrink & Hurley, 2020**). Individuals in the community use information technology means like as social media to raise awareness, educate, and track health-related events in the wake of the COVID-19 lockdown (**Kamel Boulos, 2019**).

Social media is defined as websites and programs that enable users to generate and share information or participate in social networking (**Dictionary O Social media Oxford Dictionary, 2019**). Social media tools are platforms and communities, such as Facebook, Whats app, and Facebook Messenger that allow several people to communicate and interact at the same time (**Barrett & Mac Sweeney, 2019**). The number of people using social media is continually rising, with over 3.2 billion active users globally. The role of social media varies according to users and non-users, age groups, and demographic populations. Because technological change is linked to linguistic and cultural shift patterns, the role of social media is changing constantly (**Statsita, 2019**). The

use of social media in healthcare was becoming more common in order to improve communication speed, disseminate accurate information, and promote knowledge of support, treatments, and self-care options (Cherak et al., 2020)

### Significance of the study

Accidents are responsible for around 9% (about 5.12 million) of all deaths worldwide, and approximately 16% of all impairments. Every year, around 3.6 million individuals die as a result of unintended home injuries around the world (World Health Organization, 2020 & Moncatar, 2020).

Prior to the COVID-19 pandemic, 44 percent of all reported injuries in households happened in the home in the United States. During the pandemic, 28% of households experienced a home injury or ingestion, and 13% experienced both. Falls were the most common cause of injury, accounting for 32% of all injuries. Ingestions of medications were reported by 6% of respondents, whereas domestic product ingestions were recorded by 4%. Those with children were substantially more likely than those without to report an injury or ingestion among households spending more time at home (Andrea et al., 2020)

Burns and falls are common among children in rural Egypt, but they are the greatest cause of morbidity and mortality worldwide. In addition, it has a greater impact on individuals, families, and communities, resulting in disability and early mortality (El Seifi, 2018).

Nurses have a critical role in preventing accidents at home. As a result, they should implement an educational

program to improve the knowledge, attitudes, and practices of mothers in order to reduce injuries and disabilities caused by house accidents in various areas. Nurses also teach the moms how to promote home safety, decrease dangers before they occur, and screen for environmental hazards if they are detected in order to avoid home accidents (Sackitey, 2018). Therefore, the purpose of the present study is to evaluate the effect of social media based nursing intervention on enhancing mothers' awareness regarding home accidents and first aids for their children during COVID-19 lockdown.

### Purpose:

To evaluate the effect of social media based nursing intervention on mothers' awareness of home accidents and first aids for their children during COVID-19 lockdown.

### Research hypothesis:

1. Knowledge of mothers will improve after receiving social media based nursing intervention of home accidents and first aids for their children during COVID-19 lockdown.
2. Mothers' practices will improve after receiving social media based nursing intervention of home accidents and first aids for their children during COVID-19 lockdown.
3. Mothers' attitude will improve after receiving social media based nursing intervention of home accidents and first aid measures for their children during COVID-19 lockdown.

## Subjects and Methods

### Research design:

A Quasi-experimental design (pre-post) test was used to achieve the aim of this study.

### Research Setting:

This study was conducted on mothers in Menoufia governorate, Egypt, using an online self-administered questionnaire via Google Form.

### Subjects:

A purposive sample of 120 mothers was drawn at random from social media sites such as Facebook and WhatsApp groups. Who met the inclusion criteria; were between the ages of 18 and 40, had children aged 3 to 12, were educated mothers, and agreed to participate in this study. A total of 120 mothers took part in the study, and all of them took the pre- and post-test.

### Exclusion criteria:

Mothers who had children with acute or chronic conditions, intentional injuries, or mental or physical health problems were excluded from the study.

### The instruments of data collection:

**1- Structured questionnaire for mothers:** it was developed by the researchers after reviewing of related literatures; this questionnaire was divided into four parts:

a. **Demographic characteristics of the participants including;** mothers' age, level of education, occupation, family size, the number of children, the

type and the occurrence of home accidents, time spend at home and employment status during Covid 19 lockdown.

b. **Mothers' general knowledge of home accidents, risk factors, and prevention methods:** It was developed by the researchers. It included 22 items about general knowledge related to home accidents (5 items), predisposing factors and methods of preventing certain types of home accidents (Poisoning 3 items, Wound/ fracture 5 items, burn 5 items and choking 4 items). Each items was scored as two grades for a correct answer, one grade for incomplete answer and zero for the wrong answer with a total score of 44 points, from (0–22) considered poor knowledge, & from 23 –44 considered good knowledge. The reliability of the tool was confirmed by Cronbach's Alpha test  $r = 0.82$ .

c. **Mothers' reported practice regarding home accidents first aids measures:** It was developed by the researchers who were guided by (Abd El-Aty, 2005). It included 29 items about first aid measures used in cases of limb fracture (6 items), poisoning (6 items), burn (7 items), wound (5 items), and suffocation (5 items). Each item was graded as two points for a correct answer reported by the mothers, one point for an incomplete answer, and zero points for a wrong answer, with a total score of 58 points, a range of (0–35) was considered poor practical knowledge and a range of 36–58 was considered good practical knowledge. The reliability of the tool was confirmed by Cronbach's Alpha test  $r = 0.85$ .

d. **Mother's attitude toward home accident prevention and first-aid measures:** It was developed by

researchers who were guided by (El Seifi, 2018) It included six items that were scored using a three-point Likert scale of agreement (agree, neutral and disagree). The total score was 12 points, with 0–6 indicating a negative attitude and 7–12 indicating a positive attitude. The reliability of the tool was confirmed by Cronbach's Alpha test  $r=0.85$ .

**e. Social media based nursing intervention characteristics** :it included five statements , was the social media based nursing intervention contents enough, satisfaction with the Social media based intervention, did Social media based nursing intervention improve knowledge and practices, advantages, and disadvantages of the Social media based intervention.

#### **Ethical consideration:**

An approval of the Faculty of Nursing in Menoufia Ethical Research Committee was obtained. On the first page of the online questionnaire, an informed consent form was included. The cover page of the questionnaire included a brief introduction to the study's objectives, the voluntary nature of participation, declarations of anonymity and confidentiality, and instructions for completing the questionnaire, as well as the link and quick response (QR) code for the online questionnaire. After reading the consent form, mothers completed the questionnaire.

#### **Procedure:**

After lockdown, data was collected from 30 May 2020 to the end of June 2020. Five professors evaluated the instrument for validity assurance after it was developed (two professor of pediatric nursing, and three Professors in

community health nursing). The changes were made to ensure their relevance and completeness. A pilot study with 12 mothers was conducted to test the clarity of the questionnaires. Some of the questions have been changed. The mothers from the pilot study were not included in the final sample. the researchers began by introducing themselves to the mothers and explaining the nature and purpose of the study. A Google Form was created online, and participants were invited to fill it out and submit it. During the COVID-19 pandemic, the Google form link was shared with mothers of children aged 3–12 years via Facebook and WhatsApp groups. To collect baseline data, each mother was assessed using an online-administered questionnaire as a (pretest) before the online videos and presentation. On the first page of the online questionnaire, mothers were informed about the study's purpose and expected outcomes, the tools' contents, and how to respond. The researchers created a guide booklet that included an introduction, causes and risk factors, types of home accidents, the most common home accidents (poisoning, limp fracture, burn, wound, and choking), how to prevent it, and home accident first aid measures. The booklet was distributed through the Facebook and WhatsApp groups of those who took part in the pre-test via the Google Form. To clarify it for mothers, the researchers posted appropriate videos, PowerPoint presentations, and posters about home accident prevention and first aid measures. In addition, the researchers produced online videos and recordings explaining the contents of the booklet in order to improve mothers' knowledge, practice, first aid measures, and attitude toward home accident prevention during COVID 19 lockdown. After one month of sending the booklet, videos, PowerPoint

presentation, and posters, the questionnaire was re-posted to the participants on the Google Form for collection (post-test).

#### Statistical Analysis:

Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using Excel program. Quantitative data were presented by mean (X) and standard deviation (SD). It was analyzed using student t- test for comparison between two means. Qualitative data were presented in the form of frequency distribution tables, number and percentage. It was analyzed by chi-square ( $\chi^2$ ) test. However, if an expected value of any cell in the table was less than 5, Fisher Exact test was used if the total number of table cells were four. If total number of table cells were more than four cells, Likelihood Ratio (LR) test was used. All tests were two-sided, and a p level < 0.05 was considered significant.

#### Results:

**Table (1):** showed that, the mean age of the studied mother was  $28.4 \pm 3.4$  years. Regarding to the occupation, approximately 80% of them were employed (79.2%). less than half of them became unemployed after Covid-19 pandemic (34.2%), while more than one quarter of them start working at home(26.7%), and 15.8% of them worked for part time. Regarding to time spend at home, majority of them spend more time at home (44.2%), while only 14.2% had no change. In relation to education level, about 65.8% of mothers were had secondary education. In relation to family size, most of studied mothers had large families with 5 – 6 members (70%), and

near half of them had more than two children (48.33%) aged between 3 and 12 years old.

**Figure (1):** demonstrated that poisoning occurred pre intervention in 15.8 % of children while post intervention occurred in 2.5 % of children. The majority of children (85.8 %) not subjected to home accidents post intervention while, the rate was 40.8% pre intervention and the difference was high significant statistically ( $\chi^2=53.3$ ,  $P<0.0001$ ).

**Table (2):** Showed that most of the studied mothers (97.5%) reported that the contents were enough and (95 %) of them were satisfied from social media based intervention. In relation to its effect on knowledge, nearly all of them (98.3%) reported that it improved their knowledge. Regarding to disadvantage of social media based intervention; nearly all of them (96.7%) reported that was internet interruption.

**Table (3):** Revealed that the mean score of mothers' general knowledge of home accidents, risk factors, and prevention methods increased post intervention ( $8.4 \pm 1.5$ ,  $5.1 \pm 1.0$ ,  $7.6 \pm 1.5$ ,  $8.2 \pm 1.9$ ,  $6.8 \pm 1.4$  &  $36.1 \pm 5.6$ ) compared to pre-intervention ( $4.6 \pm 1.8$ ,  $2.4 \pm 1.1$ ,  $4.4 \pm 1.1$ ,  $4.3 \pm 0.8$ ,  $2.8 \pm 1.8$  &  $18.6 \pm 5.0$ ) in all variables (general knowledge, poisoning, wound/fracture, burn, choking & total knowledge) respectively. Also, revealed a statistically significant differences between the score of all home accidents' knowledge variables of before and after the intervention p-value <0.001.

**Table (4):** revealed that the mean score of participants' practical knowledge about home accidents first aid measures

increased post intervention ( $8.0 \pm 1.6$ ,  $7.3 \pm 1.4$ ,  $8.7 \pm 2.2$ ,  $7.0 \pm 0.9$ ,  $6.5 \pm 1.2$  &  $37.5 \pm 5.5$ ) compared to pre-intervention ( $4.2 \pm 1.2$ ,  $3.4 \pm 0.8$ ,  $3.8 \pm 2.0$ ,  $4.1 \pm 1.8$ ,  $3.7 \pm 1.1$  &  $19.3 \pm 4.6$ ) in all variables (limb fracture, poisoning, burn, wound, choking & total score). Also, revealed a statistically significant differences between the score of all variables of home accidents' practical knowledge before and after the intervention p-value  $< 0.001$ .

**Figure (2):** showed that mothers' total scores of knowledge improved post intervention as they had good knowledge 90% compare to 15% pre-intervention. Also, the total scores of practical knowledge of mothers improved post intervention 92.5 % compare to 7.5% pre-intervention and the difference was high significant statistically ( $P < 0.0001$ )

**Table (5):** showed that mothers had good attitude toward home accidents prevention & first aid measures post-intervention 94.2% compared to pre-intervention 13.3%. In addition, the Mothers' mean score of attitude towards home accidents prevention and first aid measures increased from  $5.4 \pm 1.1$  pre intervention to  $9.9 \pm 1.2$  post intervention

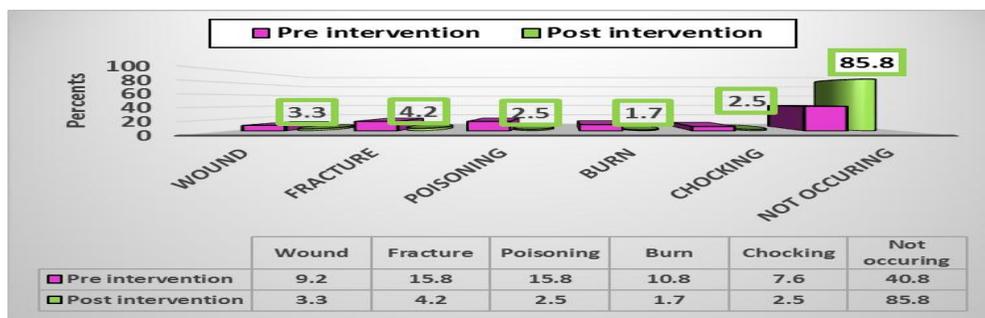
and the difference was highly significant ( $P < 0.0001$ ).

**Table (6):** revealed that all mothers showed good knowledge and good practical knowledge in prevention of poisoning (100%) compared to only 50% poor knowledge. This difference was high significant statistically ( $P < 0.0001$ ). Similar trends were observed about knowledge and practices in prevention of burns, choking, and total knowledge ( $P < 0.0001$  for each). However, this trend was not observed regarding prevention of limb fractures where there was no significant difference between mothers who showed good knowledge and poor knowledge regarding practice of preventing limb fractures ( $P = 0.21$ ).

**Table (7):** revealed that there were a positive high significant correlation between majority of items of mothers' total scores of knowledge and their total scores of practices of home accidents prevention and first aid measures ( $P < 0.0001$ ) regarding poisoning, burns choking and total score of knowledge. However, there was insignificant correlation between knowledge and practice regarding limb fracture with  $r = 0.12$  and p value of 0.18.

**Table (1):** Distribution of studied mothers according to their characteristics (N = 120).

Demographic characteristics		No	%
<b>Age(years)</b>			
	- 20 – <30 years.	88	73.3
	- 30- 40 years.	32	26.7
	<b>Mean ± SD (range) years</b>		
	28.4 ± 3.4 (25 – 38 years)		
<b>Occupation:</b>			
	-Employed	95	79.2
	-House wife	25	20.8
<b>Residence:</b>			
	- Rural	84	70
	- Urban	36	30
<b>Education:</b>			
	-Basic education	3	2.5
	-Secondary school.	79	65.8
	-University & above	38	31.7
<b>Family size:</b>			
	- ≤ 4 members	36	30
	- 5 – 6 members	84	70
<b>No. of children (3-12) years</b>			
	-One	30	25.0
	-Two	32	26.67
	-More than two	58	48.33
<b>Employment status during Covid -19 lockdown:</b>			
•	Becoming unemployment		
•	Start working at home	41	34.2
•	Being furloughed	32	26.7
•	Part time working	28	23.3
		19	15.8
<b>Time spend at home during Covid -19 lockdown:</b>			
•	More time at home		
•	Less time at home	53	44.2
•	No change	40	33.3
•	Varies by person	17	14.2
		10	8.3
<b>Total</b>		<b>120</b>	<b>100</b>

**Fig (1):** Percent distribution of types of home accidents occurred among children pre & post intervention (N= 120).

**Table (2):** Percentage distribution of the studied mothers regarding their feedback about social media based nursing intervention(N=120).

Social media based nursing intervention	N0	%
<b>Is the content enough?</b>		
-Yes	117	97.5
-No	3	2.5
<b>Are you satisfied?</b>		
-Yes	114	95
-No	6	5
<b>Did it improve your knowledge?</b>		
-Yes	118	98.3
-No	2	1.7
<b>Advantages of social media based intervention:</b>		
- Active participation	114	95
-Participants can get a chance for live chat.	110	91.7
-Participants can reach it at any place.	113	94
-They offer calendar scheduling and invites	116	96.7
-Ease of users to stay in touch with intervention providers.	120	100
<b>Disadvantages of social media based nursing intervention:</b>		
-Internet interruption	116	96.7
-Inability of participants to join a social media intervention with a large sample	4	3.3
<b>Total</b>	<b>120</b>	<b>100</b>

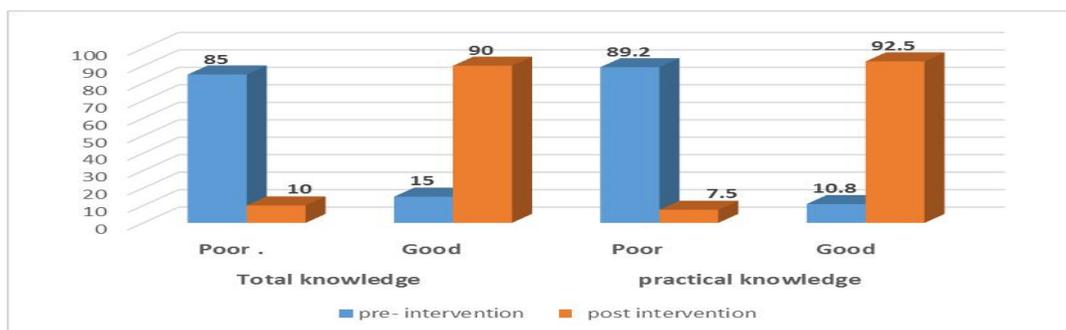
**Table (3):** Mean score of mothers' general knowledge of home accidents, risk factors, and prevention methods pre and post intervention (N=120).

Mothers' general knowledge of home accidents, risk factors, and prevention methods	pre-intervention N=120 Mean± SD	post intervention N=120 Mean± SD	*Paired t test	P value
<b>General knowledge about home accidents.</b>	<b>4.6±1.8</b>	<b>8.4 ± 1.5</b>	<b>17.6</b>	<b>&lt;0.0001</b>
<b>Poisoning</b>	<b>2.4±1.1</b>	<b>5.1±1.0</b>	<b>18.7</b>	<b>&lt;0.0001</b>
<b>Wound/ fracture</b>	<b>4.4±1.1</b>	<b>7.6 ± 1.5</b>	<b>18.2</b>	<b>&lt;0.0001</b>
<b>Burn</b>	<b>4.3±0.8</b>	<b>8.2 ± 1.9</b>	<b>19.9</b>	<b>&lt;0.0001</b>
<b>Chocking</b>	<b>2.8±1.8</b>	<b>6.8 ± 1.4</b>	<b>18.2</b>	<b>&lt;0.0001</b>
<b>Total score of knowledge</b>	<b>18.6±5.0</b>	<b>36.1 ± 5.6</b>	<b>25.3</b>	<b>&lt;0.0001</b>

**Table (4):** Mean score of practical knowledge for studied mothers about first-aid measures for children pre and post intervention (N=120).

Practical knowledge	pre-intervention	post intervention	*Paired t test	P value
	N=120	N=120		
	Mean± SD	Mean± SD		
<b>Limb fracture.</b>	4.2±1.2	8.0 ± 1.6	19.9	<0.0001
<b>Poisoning</b>	3.4±0.8	7.3±1.4	25.3	<0.0001
<b>Burn</b>	3.8±2.0	8.7 ± 2.2	17.6	<0.0001
<b>Wound</b>	4.1±1.8	7.0 ± 0.9	15.7	<0.0001
<b>Choking</b>	3.7±1.1	6.5 ± 1.2	17.8	<0.0001
<b>Total score of practical knowledge</b>	<b>19.3±4.6</b>	<b>37.5 ± 5.5</b>	<b>27.6</b>	<b>&lt;0.0001</b>

**Fig (2):** Distribution of total scores of knowledge and practical knowledge of studied mothers' about home accidents prevention and first aids measures pre and post intervention(N=120).



**Table (5):** Distribution of mother's attitude toward home accident prevention and first aids measures pre and post intervention(N=120).

Items	pre-intervention		post intervention		* $\chi^2$	P value	
	N=120	N=120	N=120	N=120			
	N0	%	N0	%			
<b>Mothers' attitude</b>	Poor attitude .( $\leq$ 6)	104	86.7	7	5.8	157.7	<0.0001
	Good attitude.( $>$ 6)	16	13.3	113	94.2		
	<b>Mean ± SD</b>		5.4± 1.1		9.9 ±1.2	Paired t test= 29.3	<0.0001
<b>Total</b>	<b>120</b>	<b>100</b>	<b>120</b>	<b>100</b>			

**Table (6):** Relation between knowledge and practical knowledge of studied mothers of home accidents prevention and first - aids for children post intervention (N=120).

knowledge (Post intervention)		Practical knowledge (post intervention)				P value
		Poor practice		Good practice		
		N0	%	N0	%	
<b>Poisoning</b>	Poor Kn.(≤ 3) (n=18)	9	50	9	50	Fisher test, P<0.0001
	Good kn.> 3) (n=102)	0	0	102	100	
<b>Fracture</b>	Poor Kn.(≤ 5) (n=10)	0	0	10	100	Fisher test, P=0.21
	Good kn.> 5) (n=110)	21	19.1	89	80.9	
<b>Burn</b>	Poor Kn.(≤ 5) (n=16)	15	93.8	1	6.2	Fisher test, P<0.0001
	Good kn.> 5) (n=104)	17	16.3	87	83.7	
<b>Chocking</b>	Poor Kn.(≤ 4) (n=10)	9	90	1	10	Fisher test, P<0.0001
	Good kn.> 4) (n=110)	17	15.5	93	84.5	
<b>Total mother's knowledge</b>	Poor Kn.(≤ 50%) (n=12)	9	75	3	25	Fisher test, P<0.0001
	Good kn(>50 %) (n=108)	0	0	108	100	

**Table (7):** Correlation coefficient between total scores of knowledge and total scores of practical knowledge of studied mothers toward home accident prevention & first- aid measures post intervention (N=120).

Total score of knowledge	Total score of practice	
	R	P
<b>Poisoning</b>	0.58	Poisoning <0.0001
<b>Limb fracture</b>	0.12	Limb fracture 0.18
<b>Burns</b>	0.55	Burns <0.0001
<b>Chocking</b>	0.60	Chocking <0.0001
<b>Total score of Knowledge</b>	0.72	Total Practice Score <0.0001

### Discussion:

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During the COVID-19 period, social distancing forced people to stay at home for extended periods of time. Because of the pandemic, people may spend more time at home, which may increase the number of home injuries (**Bressan, 2020**).

The current study hypothesized that knowledge of mothers will improve after receiving social media based nursing intervention of home accidents and first aids for children during COVID-19 lockdown. In addition, Mothers' practices will improve after receiving social media based nursing intervention of home accidents and first aids for their children during COVID-19 lockdown. And finally mothers' attitude toward adoption of home safety measures will improve after receiving social media based nursing intervention of home accidents and first aid measures for children during COVID-19 lockdown.

Regarding the distribution of types of home accidents occurred among children pre & post intervention. The present study demonstrated that poisoning occurred pre intervention in more of children compared to post intervention with statistically significant difference. This finding was congruent with **Andrea, (2020)** who reported that more children significantly subjected to an injury or ingestion during the pandemic.

Moreover, this result was in the same line with **Sujyotsna, (2020)** They reported that most of children exposed to wounds fall/fracture, drug or chemical poisoning, burn and choking pre intervention. This is due to spending

more time at home during covid-19 lockdown and children at age 3 years start to move freely exploring their surroundings, but they are still physically and mentally immature and unable to distinguish risk that is why they are exposed to various types of accidents.

The current study revealed that the majority of children not subjected to home accidents post intervention compared to less than one-half pre intervention with statistically significant difference. This result was consistent with **Silva et al., (2016)** who found that before the educational intervention about two thirds of the subjects reported home injuries and after the intervention, the highest percentage of the children not subjected to home injuries. This could be related to the effect of educational program and the interest of studied mothers to follow instructions, perform actions for accident prevention, and maintain home safety.

The current study revealed that that most of the studied mothers reported that social media-based nursing intervention contents were enough and satisfied, and nearly all of them reported that social media based nursing intervention has improved their knowledge. This finding was in accordance with **Ayed et al., (2021)** they reported that most of the studied mothers reported that webinar has improved their knowledge.

Furthermore, this finding was in the same line with **Al-Bshri & Jahan (2021)**. they reported that the majority of the mothers were satisfied with the role of internet websites and social media in the dissemination of health care information as they provide accurate and correct

information about first aid. This improvement could be related to an adequate knowledge base and acquired intervention practice provided by handout booklet, videos online, frequent follow - up and allowing mothers to ask any time on social media.

Regarding disadvantage of social media based intervention; the present study showed that nearly all of them reported internet interruption. This finding is congruent with **Josy et al., (2019)** who reported that the majority of the studied mothers reported internet interruption during webinar intervention presentation. This may be related to that majority of the studied mothers live in rural areas with insufficient network services.

The present study revealed that mothers' total level of knowledge about home accidents and prevention methods improved post intervention with statistically significant difference. This finding was consistent **Nageh et al., (2020)** they reported that the differences in knowledge of the studied mothers before and after webinar education about accidents prevention and first aids in children during coronavirus pandemic had a statistically significant effect on improving both accident prevention and first aid knowledge among mothers after intervention.

Additionally, this result was consistent with **Megahed et al., (2016)** they found that there was a statistically significantly higher percent of satisfactory knowledge among studied mothers and there was a significant improvement in mothers' knowledge after intervention. This result was due to the effect of covid-19 lockdown and

spending more time at home, which allows the mothers to manipulate this time in acquiring knowledge through social media and online videos.

Concerning total practical knowledge, the present study showed that mothers' total level of practical knowledge about home accidents first aid measures improved post intervention as about all of them had good practical knowledge compared to lowest percentage pre intervention. This result was consistent with **Zahedinia et al., (2018)** they reported that there was a significant improvement of knowledge and performance of mothers in relation to first aid measures for home injuries among their children after intervention.

In addition this finding was in accordance with **Afshari et al., ( 2017)** who reported that there was a significant increase in the mean score of all studied outcomes for first aid measures in the post-intervention than pre-intervention with statistically significant difference in most of variables (poisoning, burn, wound and choking, ( $p = 0.00$ ). This indicated that social media-based intervention method which introduced by the researchers occurred improvement in mothers' practices about first aids toward home accidents than before teaching.

Regarding to attitude of studied mothers towards home accident prevention and first aids measures, the present study revealed that the majority of the studied mothers had good attitude toward home accidents prevention & first aid measures post- intervention compared to pre intervention. This result was consistent with **Nour et al., (2018)** they found that the attitude of the mothers regarding prevention of home injuries was significantly higher in

post-test. This reflects the effectiveness of the message provided by the different media platforms in changing the faulty beliefs of mothers that accidents occurred by chance and fear of mothers from subsequent disabilities for their children because of accidents and injuries.

Concerning Relation between knowledge and practical knowledge of studied mothers regarding home accidents prevention and first aids post social media based intervention; the current study revealed that all mothers showed good knowledge and good practical knowledge in prevention of poisoning, fracture, burns and chocking. This difference was high significant statistically ( $P < 0.0001$ ). this finding was consistent with **Carlsson et al., (2016)** they reported that post intervention, the majority of mothers had good responses for knowledge questions about first aid and their practices were correct for first aid for such enough and satisfied social media intervention besides the interest of mothers to follow instructions for optimal health for their children. Therefore, awareness through different kinds of educational programs and implementing multiple approaches targeting home accidents is the best strategy to prevent it. Besides, interventions with assisted devices as videos and booklet help to increase knowledge and improve the practices of first aids.

The present study showed that there were a positive high significant correlation between majority of items of mothers' total scores of knowledge and their total scores of practical knowledge about home accidents prevention and first aid measures post social media based nursing intervention regarding poisoning, limb fracture, burns chocking and total

score of knowledge. This finding was in the same line with **Pathak et al., (2018)** who reported that during the coronavirus pandemic, before and immediately after the webinar presentation a positive highly significant relation was detected between the total knowledge and the total practical knowledge evidenced by ( $P = 0.005$ ). Social media based nursing intervention or mothers introduced highly improvement in mothers' knowledge level about home accidents and their practice about first aids and prevention strategies. Social media based nursing intervention has been shown to be a valuable tool in improving performance.

#### **Conclusion:**

Implementation of social media based nursing intervention achieved significant improvements in the mothers' knowledge, practices and attitude regarding home accidents prevention and first aid measures during covid-19 lockdown.

#### **Recommendation**

Based on the findings of the present study, the following recommendations can be suggested:

- Using social media as a platform to educate the public and raise awareness is a good place to start.
- Various methods of incorporating home safety knowledge, first aid measures, and home accident prevention into nursing curriculum are highly recommended.
- Health care providers should raise public awareness and reach out to

specific groups through public health campaigns in order to improve their knowledge of first aid and home accident prevention methods.

- The same study should be conducted on a large group of mothers to ensure that the results are generalizable.

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The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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