Research Article

A Study to assess the Effectiveness of Health Education on Knowledge Regarding Prevention of Home Accidents among Mothers of Preschooler in Selected Community Area of Dehradun, Uttarakhand

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Abstract

Background and Purpose: *Accidents are undoubtedly among the chief causes of morbidity and mortality. Accidents are the main cause of injury and even death in children. People only relate accidents to traffic accident or accidents in outdoor activities. However, as a matter of fact, the place where people regard as the safest place – home – hides many hazards. The main cause of home accident is general negligence of safety at home. No matter how loving and careful you are, it's impossible to shield your children from all of life's little injuries. But by taking some important precautions, you can help ensure your child avoids serious home accidents. The incidents of accidental injury are increasing in India especially home accident in children; hence the knowledge of mothers is essential for undertaking measures to prevent them.*

Methodology: *A quantitative research approach was used to assess the knowledge level of mothers of pre- schooler. The research design selected was pre experiment one group pre-test post-test design, non-probability sampling technique was used and sample size was 60. The study was conducted at Soda Saroli village Raipur Dehradun. The conceptual framework was based on Nola Pander health promotion modal. The self-structured questionnaire used as a tool for data collection. Reliability is 0.75. The collected data was analyzed and interpreted by using descriptive and inferential statistics by the help of SPSS software.*

Result: *The frequency and percentage distribution of mothers depicts that the majority (42%) of subjects are of above 30 age, (30%) are of 26-30 age and remaining (28%) are of 21-25 age. All the samples are 60 in number out of which maximum percentage (38%) of subjects are having education up to high school level, (28%) up to Intermediate, (25%) up to primary level, (3%) are graduates and no one is illiterate. After the intervention post-test level of knowledge score 53.3% of mothers are having average level of knowledge, 46.7% of them having good level of knowledge, none of them are having poor level of knowledge. In 60 samples majority (81.7%) of mothers had good knowledge regarding prevention of home accidents in children.*

Conclusion: *The present study concluded that majority of mothers had poor knowledge on prevention of home accidents and health education was effective in improving the knowledge of mothers how to prevent home accidents of preschoolers and what are the safety measures they can take after accidents.*

Keywords: *Prevention of Home Accidents, Preschooler, Health Education.*

Introduction

Home accident among the children is a big issue in our life. They are a leading cause of death and different type of disabilities among the children. We can define home accidents as "Any damage to a child whether it is physically or mentally, which had occurred unintentionally at home by any type of outer force" is called home accident among children. These days people only take accident as an event which can only took place outside their home. They take their home as the safest place in planet. But they don't get the dangers which are inside their own home like many "hazards" which hides in their home and other dangers like falls, poisoning, burnings, cuts, sports injuries, drowning, ingestion and aspiration of foreign bodies etc.

According to a study of The Center for disease control statistics in the US says that every hour a child dies from injury and each year more than 50,000 children get hospitalized due to home accident-related injuries. Likewise, the safety Report card Summary for 18 countries in the European Union says that each year over 10,000 children and adolescents less than 20 years old die as a result of unmeant accidents. Which is almost one child losing life each hour of each day. Besides, the studies took place in Oman, the UAE, Saudi Arabia, Greece, and the UK, found that home accidental injuries are higher among the children aged less than five years.

In general, we can say that we can't avoid the home accidents completely, but we can prevent its occurrence. To prevent accident to children, adults must pay more attention to home safety. They should also make sure that there are no "hazards" at home and teach children about safety. If accidents happen then don't panic, just keep calm and call for help immediately and give the first aid to children.

The community health nurse will try to ensure that people know how to prevent accidents. When home visiting is done accidents hazards will be identified and advice is given to correct them. Community health nurse is responsible to prevent injuries in their communities at home, schools and work place. Injury prevention requires acute observation skills in noticing potential safety hazards and collaborative skills in working with others to rectify unsafe conditions to promote personal safety. Also, community health nurses are in key position in educating families about how to promote home safety, eliminating hazards before exposure occurs and screening for environmental hazard that may threaten the health. In 1993 Armstrong and Barker mentioned that the main role of the nurse is to prevent accidents and educate the people how to prevent them and then to know how to manage and educate the people about management of home accidents.

40% of deaths due to home accidents are preventable if prevention measures are taken to avoid accidents. So, it is important to improve the mother knowledge, attitude and practice to prevent accidents at home.

Problem Statement

"A study to assess the effectiveness of health education on knowledge regarding prevention of home accidents among mothers of preschooler in selected community area of Dehradun."

Objectives

1. To assess the pre-test and post-test knowledge of mothers regarding prevention of home accidents in preschoolers that includes falls, poisons, burn, choking andcut.
2. To compare pre-test and post-test level of knowledge regarding prevention of home accidents among mothers of preschooler.
3. To find out the association between pre-test knowledge score regarding prevention of home accidents and selected demographic variables of mothers of preschoolers.

Hypothesis

H_1: There is a significant difference between the pre-test and post-test Knowledge of mothers of

pre- schooler regarding prevention of home accidents.

H₂: There is a significant association between pre-test knowledge of mothers of preschooler with selected demographic variables regarding prevention of home accidents.

Material and Method

Data collection is the process of acquiring subject and collecting information needed for the study. The written permission was obtained from principal of state college of nursing. The data collection was scheduled from 24aug 2020 – 25sep 2020. The researcher informed the sample about purpose of the study, consent was taken from samples and assured confidentiality.

60 mothers of preschooler were selected by purposive sampling technique. Pre-test was given to the samples to assess the knowledge level regarding prevention of home accidents. The time taken by the samples to answer the questionnaire was around 5-10 minutes. After pre-test health education was executed to the samples. Post-test was conducted after 14 days by administering the same tool.

Section A: Description of demographic variable among mothers of preschooler.

Section B: Assessment of knowledge level of mothers regarding prevention of home accidents in pre- test and post-test.

Section C: Comparison of pre-test and post-test knowledge scores by using paired 't' test.

Section D: Association between pre-test knowledge score with their selected demographic variable.

Results and Discussion

Table no. 1 - depicts that 25 participants (41.66%) were in the age group of more than 30 years, age group of 21-25 years had 17 participants (28.33%), 18 participants (30%) were in the age group of 26-30 years.

As per the data collected, 17 (28.33%) middle age adults were having intermediate, 5 (35) were graduated, 23 (38.33%) were having high school, 15 (25%) were having primary education and no one is illiterate.

The data accentuates that 3 (5%) were self employed where as 13 (21.66%) were having private job and 44 (73.33%) were housewife. The data projects that the most 31 (51.66%) were from joint family while 29 (48.33) belongs to nuclear family.

The distribution of respondents according to previous knowledge regarding accidents revealed that 34 (56.66%) had previous knowledge regarding accidents and 26 (43.33) did not have any previous knowledge regarding accidents. As per the data collected, 10 (16.66%) mothers have been a witness to Burn, 12 (20%) have faced Fall, 2 (3.33%) mothers suffered cut kind of accidents and 26 (43.33%) mothers haven't faced any sort of accidents sofar. Majority of mothers have not yet witnessed any kind of accident and a small number of mothers have witnessed chocking as a type of accident.

As per the data collected, Majority of mothers that is 40 (66.66%) have 2 children in the family and minority is of 20 (33.33%) mothers have one single child.

Section A
Table 1- Frequency and Percentage distribution of demographic variables

Demographic Variables	Frequency	%
Age in Years		
21-25	17	28.33
26-30	18	30
More than 30	25	41.66
Educational Status		
Illiterate	0	0
Primary school	15	25
High school	23	38.33
Intermediate	17	28.33
Graduation	5	3
Occupation		
Housewife	44	73.33
Self employed	3	5
Govt Employee	0	0
Private	13	21.66
Type of Family		
Nuclear	29	48.33
Joint Family	31	51.66
Previous History of Accident		
Yes	34	56.66
No	26	43.33
Type of Accidents		
Burn	10	16.66
Fall	12	20
Poison	0	0
Chocking	2	3.33
Cut	10	16.66
None	26	43.33
Number of Child		
1	20	33.33
2	40	66.66
More than 2	0	0

Section B
This section deals with findings related to pre-test and post-test knowledge scores regarding prevention of home accidents in preschoolers, mean and standard deviation of knowledge as pacts in dimensions in pre-test, and post-test.

Table 2- Percentage of pre- test& post test knowledge scores regarding prevention of home accidents for children among mothers

Level of Knowledge	Pre-Test		Post-Test	
	Number of Mothers	%	Number of Mothers	%
Poor	43	66.7	0	0
Average	16	26.7	32	53.3
Good	4	6.7	28	46.7
Total	**60**	**100**	**60**	**100**

The table- 2 depicts the overall pre-test and post-test level of knowledge on prevention of home accidents among mothers.
66.7% of mothers are having poor knowledge, 26.7% of the having average knowledge and 6.7% of them having good knowledge. In 60 samples majority of them had poor Knowledge regarding prevention of Home accidents in preschoolers.
53.3% of mothers are having average level of knowledge, 46.7% of them having good level of knowledge, none of them are having poor level of knowledge. In 60 samples majority (81.7%) of mothers had good knowledge regarding prevention of home accidents in children.
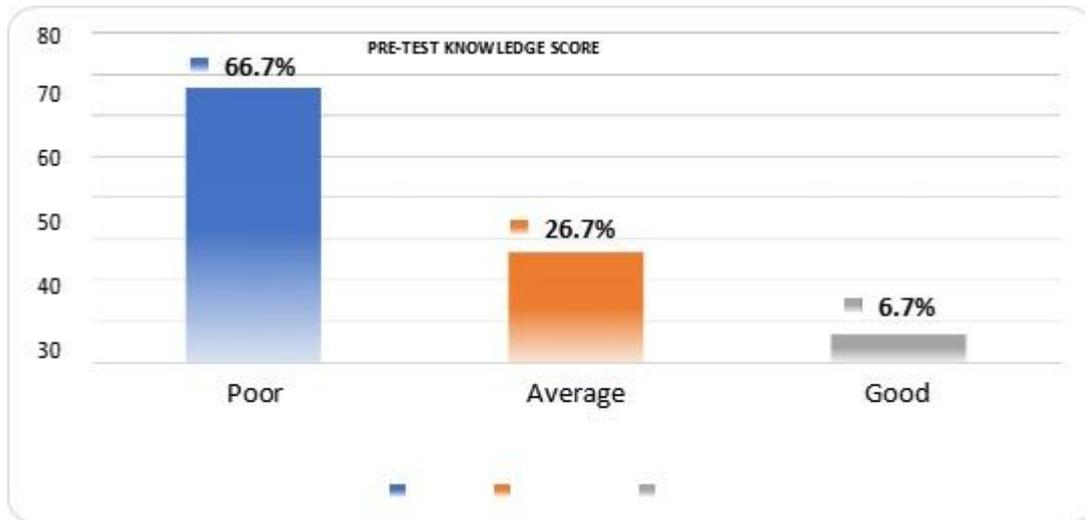
Figure for Table 2: A Simple Bar Diagram depicting the distribution of study subjects according to pre-test level of knowledge regarding prevention of home accidents in children
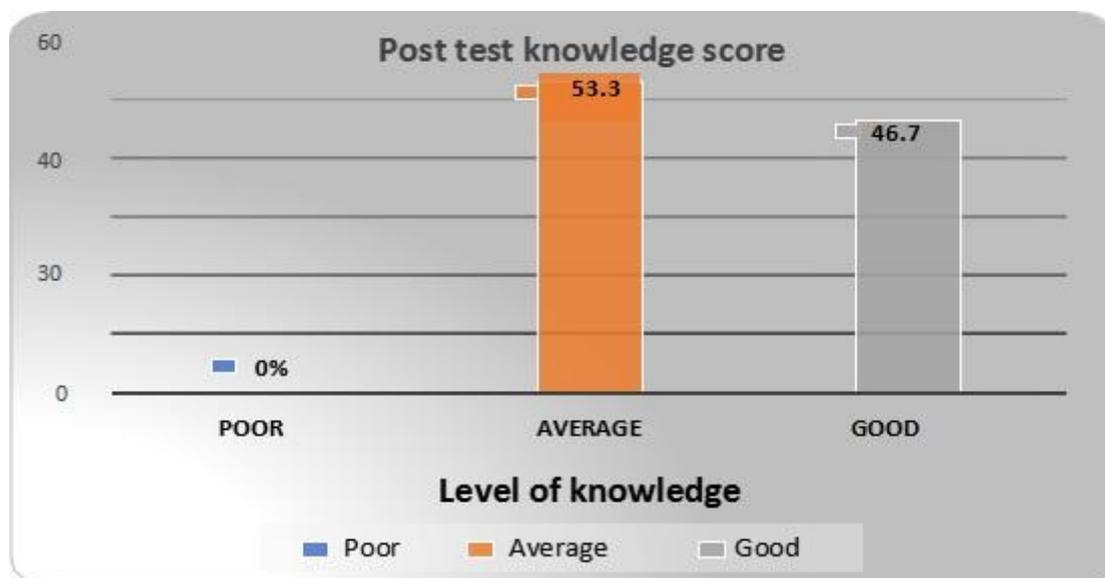

Figure of Table 2: A Simple Bar Diagram represents the distribution of study subjects according to post-test level of knowledge regarding prevention of home accidents in children

Section C

Table 3- Comparison of Pre-Test and Post-Test Knowledge Regarding Prevention of Home Accidents in Children in Various Dimensions by Paired T-Test

N= 60

Knowledge Score	Mean	SD	DF	T-Value	P-Value
Pre-Test	13.71	8.53	59	35.29	<0.001
Post-Test	22.25				

In the above table we compared the pre-test knowledge to the post-test knowledge of the mothers regarding prevention of home accident in children and after carefully examining the scores we calculated the t-value. The calculated 't' value is 35.29(df 59) which is greater than tabulated 't' value (3.46). This indicates that gain in knowledge is statistically significance at P <0.001 level.

Statistic significant was calculated by using statistical paired 't' test.
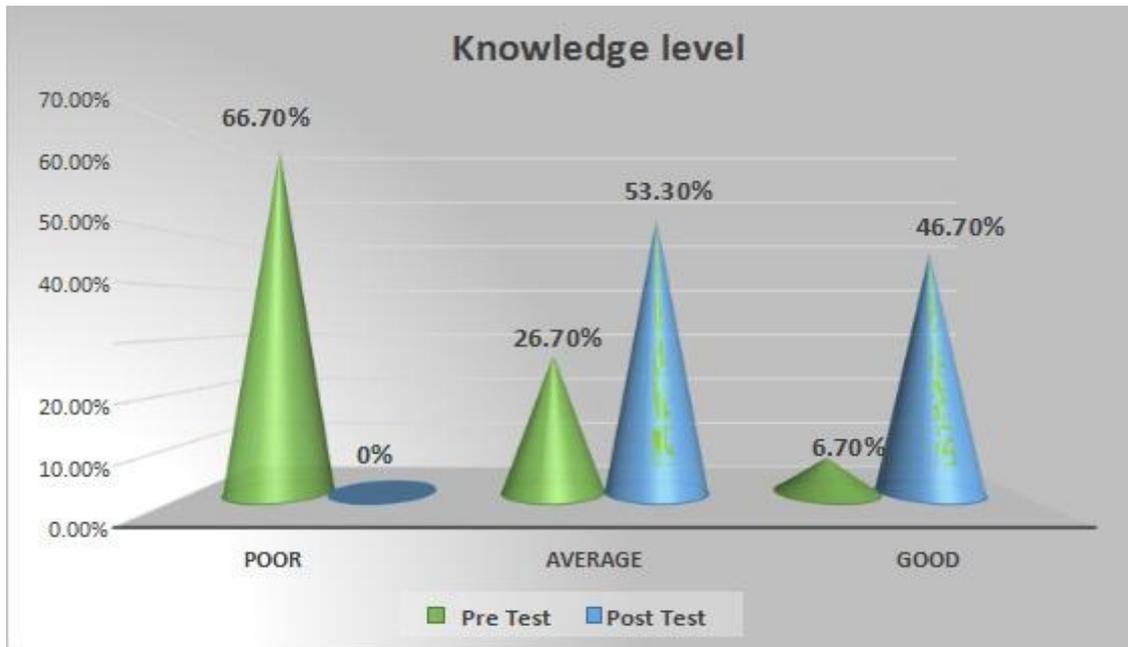
Figure of table 3: Comparison of Pre-Test and Post-Test Knowledge Regarding Prevention of Home Accidents in Children in Various Dimensions by Paired T-Test.

Section D

Findings related to association between pre-test knowledge score regarding prevention of home accidents among mothers of preschooler with selected demographic variables.

Table 4- Association between pre-test knowledge score with the selected demographic variables (N= 60)

Demographic Variables	F	Knowledge Poor	Average	Good	Chi square & df	T value	P value	Inference
Age in Years								
21-25	17	13	4	0				
26-40	18	11	4	3	4.918,	9.49	0.296	NS
More than 30	25	16	8	1	df=4			
Educational Status								
Illiterate	0	0	0	0				
Primary School	15	15	0	0				
High School	23	21	2	0	55.97,	12.59	0.000	S
Intermediate	17	4	12	1	df=6			
Graduate	5	0	2	3				
Occupation								
Housewife	44	31	10	3				
Self Employed	3	1	2	0	3.006,	9.49	0.557	NS
Govt Employee	0	0	0	0	df=4			
Private	13	8	4	1				
Type of Family								
Nuclear	28	21	5	2	2.093,	5.99	0.351	NS
Joint family	32	19	11	2	df=2			
Previous History of Accident								
Yes	34	26	7	1	3.852,df=2	5.99	0.146	NS
No	26	14	9	3				
Type of Accidents								
Burn	10	7	2	1				
Fall	12	9	3	0				
Poison	0	0	0	0	5.379,	15.51	0.716	NS
Chocking	1	1	0	0	df=8			
Cut	11	9	2	0				
None	26	14	9	3				
Number of Child								
1	20	13	6	1				
2	40	27	10	3	0.263,	5.99	0.87	NS
More than 2	0	0	0	0	df=2			

The given table 4 portrays the association between pre-test level of knowledge e and their demographic variables. There is no significant association between post-test knowledge score and age with p value 0.296, Occupation with a p value of 0.557*, Type of family with a p value 0.351, previous history of accidents with a p value 0.146, type of accident with a p value 0.716 and no. of child with a p value 0.877. Hence, the research hypothesis H2 is rejected and null hypothesis is accepted for this.

The obtained chi–square value for Education with p value 0.001 which is less than 0.05 which indicates that there is a significant association between pre-test knowledge score and with selected demographic variable. Hence, the research hypothesis H2 is accepted and null hypothesis is rejected for this.

Discussion

The discussion was done on the basis of the objective of the study

1. To assess the pre-test and post-test knowledge of mothers regarding prevention of home accidents in preschoolers.

The level of knowledge regarding prevention of home accidents was done by using self- structured tool which was distributed among mothers of preschooler in soda Saroli village of Raipur Dehradun and scoring was achieved after collecting the data from the participants .in this study the pre-test means and standard deviation was 13.71±3.91 and post-test mean and S.D was 22.25±4.55. The post-test mean score is more than pre-test which implies that in post-test the knowledge score was enhanced among mothers of preschooler.

The present study was supported by finding of the study conducted by **Hema V.H et.al** regarding assess knowledge about management of domestic accidents among mothers of under five children at Chennai. Finding revealed that about 56% mothers had inadequate knowledge

2. To evaluate the effectiveness of health education on knowledge regarding prevention of home accidents among mothers of preschoolers.

The level of knowledge among mothers in the post test: in the present study it was observed that out of 60 subject's majority 53.3% of mothers had average knowledge, 46.7% mothers had good knowledge.

The comparison of mean and SD of knowledge variables of mothers, regarding prevention of home accidents in preschooler. The pre-test total knowledge mean score was found 45.7% and SD was 3.91 and the overall mean score for level of knowledge among mothers in the post test mean was 74.16% and SD was4.15%.

The above finding states that research hypothesis H1 there was significant difference in the knowledge of mothers regarding prevention of home accidents in preschooler before and after administration of health education as stated by the investigator earlier was accepted. This indicates that health education which was administered by the investigator to the subjects was effective since the subjects had significant improvement in knowledge source regarding prevention of home accidents in preschooler.

The study was supported by **Sophia Mothukuri 2013** which intended to assess the effectiveness of STP on knowledge regarding prevention of home accident in children among mothers at Karnataka. Finding of the study shows that the pre-test total knowledge was found 40.48% and SD was 6.62, and the overall mean score for the level of knowledge among mothers in the post -test mean was 77.06% and SD was 4.99.hence the STP was an effective strategy for providing information and to improve knowledge of mothers.

3. Comparison of level of knowledge regarding prevention of home accidents in preschooler among mothers in pre-test and post-test

From the results of pre-test and post-test: the pre-test knowledge scores were considerably less compared to post-test performance in all aspects of knowledge under the study. The finding showed that the enhancement of mean percent score in found in the aspect of regarding

prevention of home accident in preschooler. The pre-test total knowledge mean score was found 13.71 and SD was 3.19, about 45.70 had knowledge about prevention of home accidents. However, the post-test total knowledge means score was found 22.25 and SD was 4.15, about 74.17 had knowledge about prevention of home accidents. The enhancement of knowledge percentage is 28.46. This indicated that knowledge of mothers was very poor and it was necessary of the investigator to improve the knowledge of subjects by giving specific information regarding prevention of home accidents in pre- schooler. This would enable them to identify the various measures to prevent home accidents in pre- schooler.

In present study coincided with the study of **Janki Patel et.al** conducted in 2014   regarding to assess the effectiveness of STP on prevention of home accidents among mothers residing in Vadodara. The results showed that the mean post test score 24.14 was higher than the mean pre- test knowledge score 13.84. the comparison of pre-test and post-test knowledge score showed that there was significant gain in knowledge scores of mothers after STP.

4. Association between the pre-test knowledge score and socio demographic variables.
There is significance difference between pre-test and post-test knowledge score. The t-value 35.29 is highly significant at p<0.05. there is significance association between knowledge of mothers with mothers education($\square$2=55.67)as the calculated value > tabulated value at p<0.05 hence the research hypothesis H2 is accepted and null hypothesis rejected and there is no significance association between other demographic variables with Age($\square$2=4.918), occupation ($\square$2=3.006) types of Family($\square$2=2.093), previous history of accidents($\square$2=3.852), types of accident($\square$2=5.379), number of child($\square$2=0.263) as tabulated value is greater than calculated value at significance level of 0.05. hence the research hypothesis H2 is rejected and null hypothesis accepted.

The present study was in conformity with the finding of the pre-experimental study conducted by **Pradeep M Suryawanshi et.al** in 2017 regarding assessment knowledge about prevention of home accident in preschooler among 100 mothers. The result showed that the level of knowledge of prevention of home accident was positively associated with education of mothers (χ2 = 26.05).

Implications
The finding of this study has implemented for: Nursing Practice, Nursing Education, Nursing Administrationn, and Nursing Research.

Nursing Practice
Nurses play an important role in health promotion. They should focus on other health care providers on prevention of home accidents in children to promote the health status and to minimize the morbidity among children. Nurses can improve the nursing care, impart knowledge and increase the knowledge regarding prevention of home accidents in children. Community health nurse are in key position in educating families about how to promote home safety, eliminating hazards before exposure occurred and screening for environmental hazards that may threaten the health.

Nursing Education
The study emphasizes on the enhancement of knowledge regarding prevention of home accidents in children. The health care providers are the key personnel to imparting knowledge to the community that how to prevent home accidents of children and encouraging use of appropriate use of child safety devices. Community health nurse can use educational intervention when teaching safety precaution about home accidents in community. Educational intervention should provide information and encouraging the client, families to participate and improving their lifestyle.

Nursing Administration

The main focus of nursing administration is to organize seminars, workshops and other educational activities for nurses, student nurses by which they can gain the knowledge on types, causes and safety measures used on prevention of home accidents in children and can give this knowledge to community people. Necessary administrative support should be provided to conduct awareness programme regarding home accidents in children in any setting as required. Cost effective health education material should been courage. A Community policy should be adopted to provide health education or written information to all nursing professionals. Health education materials such as leaf lets, pamphlets, should be made that available to public.

Nursing Research

The study will serves valuable reference material for further investigation. The study finding can be utilized for conducting for there search on group discussion or any other teaching method. This study can improve the knowledge of students and clarify their queries. It can be done in different setting as community, hospital.

Limitations

1. The study was limited to mothers who have 3-5 years of child.
2. The study was limited to the particular rural area of Raipur Dehradun (Soda Saroli village).

Recommendations

The following recommendations were made since the study was carried out on small sample size. The results can be used only as a guide for studies.

1. The study can be conducted by doing on large samples to validate and generalize the result.
2. The similar study can be conducted among health personnel's in community setting.
3. An experimental research design with control group can be carried out to find.
4. Effectiveness of health education on prevention of home accidents.

5. A similar study can be done by using others teaching strategies i.e., video teaching programme, comic books, audio cassettes etc.

Conclusion

It was concluded that most of the mothers were having poor knowledge about prevention of home accidents and use of safety measures and health education was found the effective intervention to improve the knowledge of mothers. researcher draws that the demographic variables such as age, occupation, type of accidents, previous history of accidents, type of family had no significant association with their knowledge score while educational status had significant association with their knowledge score about prevention of home accidents, this study also concluded that mothers knowledge is more important to prevent the home accident to their child and knowledge about safety measures can prevent the home accident in children.

References

1. Hema V. H.1 & Dilli Babu M2, A Descriptive Study To Assess The Level of Knowledge Regarding First Aid Management of Domestic accidents Among Mothers of Under Five Children and Safety Practices At Home In Rural Village, Chennai, Apr 30, 2016.
2. Suryawanshi, Pradeep M et al. "A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge of Mothers Regarding Prevention of Accidents among Preschoolers in Selected Anganwadi at Karad." (2018).
3. Rezapur-Shahkolai, Forouzan et al. "Home-related injuries among under-five-year children and mothers' care regarding injury prevention in rural areas." International journal of injury control and safety promotion vol. 24,3 (2017): 354-362. doi:10.1080/17457300.2016.1200628
4. Jeethu, K R (2016) A study to assess the knowledge of mothers in safety of under

five children regarding prevention of accidents at PSG hospital, Coimbatore. Master's thesis, PSG College of Nursing, Coimbatore.

5. Banerjee S., Paul B., Bandyopadhyay K., and Dasgupta A. "Domestic Unintentional Injury of 1 to 5-Year-Old Children in a Rural Area of West Bengal, India: A Community-Based Study". Tanzania Journal of Health Research, Vol. 18, no. 3, Aug. 2016, doi:10.4314/thrb.v18i3

6. Ahmed, WAM et al.: Home Accidents Rate Among Under-Five Children and Predisposing Factors in Khartoum, Vol. 1, No. 5, 2015, pp. 267-269.