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Research Article

Assessment of Facilitating Factors and Barriers Faced by the Mothers for Prevention of Home Accidents among Preschool Children: A Comparative Study in Selected Urban and Rural Community of West Bengal

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A B S T R A C T

Introduction: A comparative survey was conducted from December 2019 to January 2020 to assess and compare facilitating factors and barriers faced by mothers of preschool children for the prevention of home accidents among conveniently selected 120 mothers in the selected urban and rural communities of West Bengal.

Method: Data were collected using semi-structured and structured questionnaires, 3-point rating scale, and an observational checklist.

Result: The study results stated that there was no significant difference in knowledge score and stated practice between urban and rural community mothers ('t' = 0.984 at $p < 0.05$) and ('t' = 1.718 at $p < 0.05$) but there was a significant difference in observed practice between urban and rural community mothers ('t' = 6.505 at $p < 0.05$). There was no significant difference between the barriers of urban and rural community mothers ('t' = -0.833 at $p < 0.05$). In this study, there was a significant association between the knowledge score of participants and information received about home accidents, facilitating factors and type of family, and between barriers and mother's age in the rural community. In the urban community, there was a significant association between the knowledge score of participants and information received about home accidents, and between facilitating factors and mother's age. There was no significant association between the barriers and any demographic variable.

Conclusion: Child safety is a social value that demands attention hence, this study findings therefore call for prompt and target group interventions.

Keywords: Home Accidents, Facilitating Factors, Barriers

Introduction

An accident is an unexplained, unpredicted happening, that may also involve injury and is the leading cause of injury and even death among children. A domestic accident means an accident, which occurs in a house or in its adjacent surroundings. People are only aware of traffic accidents or accidents during outdoor activities, but the place, which is regarded as the safest place, a home, also has many hazards. WHO calls domestic accidents a priority problem.[11] Dramatic changes in lifestyle, relative softness of body parts of children, increased motorisation, psychological characteristics like being instinctive, a tendency for investigation, unawareness of the judgment of situations, and a low level of concentration make children more vulnerable to injuries.[2] According to WHO, in 2011, worldwide 57% of children were affected by unintentional injuries. Among them, 73.7% were male and 40% were female and death from injuries were 6%. The causes of injury were poisoning (6%), falls (6%), drowning (6%), and burn (5%).[7]

As children grow older, their interest in playing also increases, which makes them prone to environmental hazards. Sometimes, parents and other family members are surprisingly unaware of their children's developmental progress. Education to parents on providing a safe environment for children at home and the type of behaviour expected from children at different stages of development will help in the prevention of childhood domestic injuries.[15] About 30% of trauma among children occurs due to domestic and road traffic accidents. As per the World Report on child injury prevention in 2008 by the World Health Organization, the mortality rate of road traffic accidents is 12%, drowning is 12%, burn is 9%, falls is 5%, poisoning is 3%, intentional injuries is 3% and other unintentional injuries is 53%.[8]

In a study on domestic accidents among under-5 year children in peri-urban areas of Aligarh, India conducted by Khan S et al., the result showed that 64.4% of children had one or more domestic injuries in the past one month; while 35.6% of children either did not have any history of domestic injury in the past one month or their parents couldn't remember of any such incident of an accident in the past one month during data collection. So it is very important to collect risk factors and intervene appropriately for home accidents because it's an important health problem, leading to death and disability. [11]

Hema VH et al. conducted a descriptive study to determine the knowledge level about first aid management of domestic accidents among mothers of under-five children and safety practices at homes in rural areas in Chennai and found that 27% of mothers reported that their under-five children had a history of domestic accidents. Among them, 56% of mothers had inadequate knowledge about first aid management. 98% of the houses in those areas were found unsafe. There was a significant association between mothers' age, occupation, education, type of family, socioeconomic status, and knowledge about first aid management.[5]

So it can be summarised that many accidents can be prevented by identifying the environmental risk factors present inside a home beforehand. Some of these accidents can be less serious if parents have the idea of first aid.

Shriyan P et al. conducted a cross-sectional study on the profile of unintentional injury among under-five children in coastal Karnataka, India on 95 participants. The study results stated that the prevalence of unintentional injury was 46.3% among under-five children and more common reasons for injuries were falls, burns, and animal bites. Maximum injuries (72.7%) occurred among boys and the most common site of injury was found to be the lower extremity. 50.5% of mothers were not aware of first aid for children's unintentional injuries. So, it indicated that the prevalence of unintentional injury was found higher among the under-five children and maximum mothers were practising some kind of preventive measures. Only half of the participants knew about first aid related to unintentional injuries.[9]

It is a nurse's responsibility to keep in mind the characteristics of children and also the environment to assess the risk factors of home accidents and combat them appropriately by educating, counselling, and creating awareness among family members for taking preventive measures for home accidents,[14] but, only health education is not enough along with changing human behaviour is also important.[12] Hence, the investigator felt the need to find the facilitating factors present at home and barriers faced by the mothers of preschool children for the prevention of home accidents and to compare them among the selected urban and rural communities. It was seen that home accidents and type of family were facilitating factors, and mother's age was a barrier in the rural community, and in the urban community, information received about home accidents and mother's age were facilitating factors.

Materials and Method

A descriptive comparative survey was conducted in the Jhargram District of West Bengal from December 2019 to January 2020. Three villages (Dakshinsole, Arjundahar, and Kharikasuli) under Mohonpur block of Jhargram District, West Bengal were selected for rural communities and Ward no. 10 and 12 under Jhargram Municipality, Jhargram, West Bengal were selected for urban community purposively, considering feasibility and logistics. All mothers of preschool children in those areas were considered as the study population.

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A home accident is operationally defined as an accident, which takes place inside a home or in its adjacent surroundings. In this study, fall, burn, sharp injury, electrocution injury, chemical injury, choking, and drowning were included as home accidents. Facilitating factors are those factors which help to prevent home accidents among preschool children. In this study, facilitating factors were assessed by a structured knowledge questionnaire, a 3-point rating scale, and a structured observational checklist. Barriers are those factors which facilitate the occurrence of home accidents. In this study, barriers were assessed by a structured questionnaire. Pre-school children means children of 3-6 years of age, verified from immunisation card or birth certificate.

Approval from the Institutional Ethics Committee of Bankura Sammilani Medical College, Bankura, West Bengal and The Joint Director of Health Services (Nursing), West Bengal was obtained. After getting formal administrative permission from CMOH of Jhargram District and BMOH of Mohonpur Block of Jhargram District, West Bengal, the final data collection procedure was conducted by convenient sampling technique from 120 mothers with the help of Anganwadi workers in both rural and urban communities. The data were collected from mothers by visiting house to house and by face-to-face interviews at home after obtaining informed consent. The case definition of a home accident was discussed in detail with the participants to ensure uniform reporting. Mothers who had been diagnosed with a sensory disability and psychological problems were excluded from the study. By a semi-structured questionnaire demographic characteristics and by a structured questionnaire knowledge of mothers was assessed. Practices of mothers for prevention of home accident among their children was assessed by a 3-point rating scale and data about barriers faced by them for prevention of home accident among their children was collected in a structured questionnaire and lastly, mother's practices for facilitating factors for the prevention of home accident were observed by a structured observational checklist.

Results

The knowledge level of mothers was calculated by frequency, percentage distribution and the mean percentage distribution of knowledge under the domain of general information about the prevention, causes, and first aid measures of home accidents (Table 1). Facilitating factors [stated (Table 2) and observed (Figure 1) practice] for the prevention of home accidents in rural and urban communities were calculated by frequency and percentage

Table 1.Distribution of Mothers of Preschool Children according to their Knowledge Level in the Domain of Facilitating Factors n = 120 (nr =60, nu = 60)

Score Categories	Range of Score	Rural		Urban	
		f	%	f	%
Excellent	> 85% (> 11.9)	1	1.67	0	0
Very good	75%-85% (10.5-11.9)	1	1.67	2	3.33
Good	60%-74% (8.4-10.36)	19	31.66	24	40
Average	50%-59% (7-8.26)	36	60	30	50
Poor	< 50% (< 7)	3	5	4	6.67

Table 2.Distribution of Mothers of Preschool Children as per Domain of Facilitating Factors (Stated Practice) for Prevention of Home Accidents in Rural and Urban Communities n = 120 (nr =60, nu = 60)

Domain of Facilitating Factors	Rural		Urban	
	Good Practice (%)	Poor Practice (%)	Good Practice (%)	Poor Practice (%)
House and environment	16.67	83.33	10.00	90.00
Floor and toilet	81.67	18.33	83.33	16.67
Kitchen and cooking	93.33	6.67	96.67	3.33
Hot objects	80	20	86.67	13.33

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Chemicals	83.33	16.67	91.67	8.33
Play materials	88.33	11.67	95	5
Electrical appliances	6.67	93.33	26.67	73.33
Sharp objects	91.67	8.33	98.33	1.67

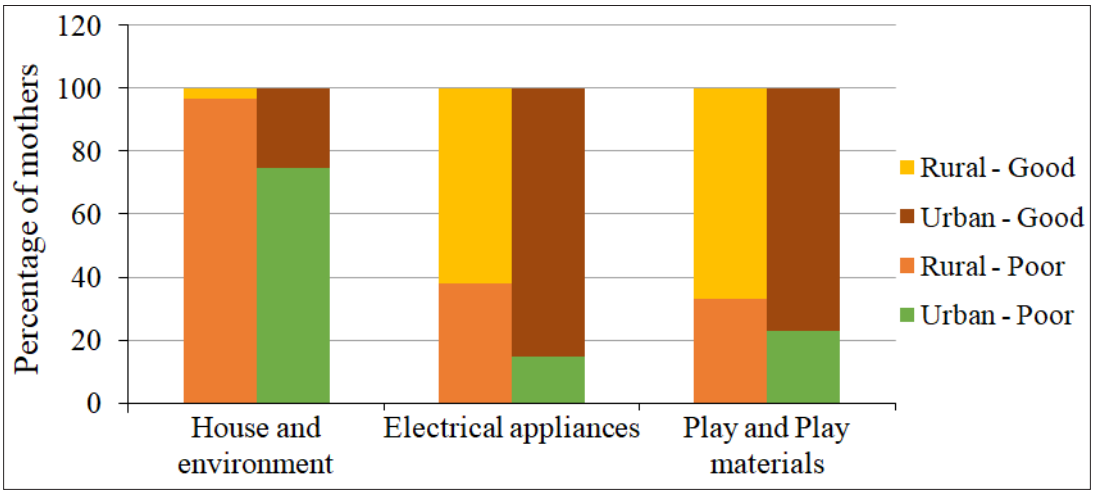

Figure 1.Distribution of Mothers of Preschool Children as per Domain of Facilitating Factors (Observed Practices) for Prevention of Home Accidents in Urban Community n = 120 (nr =60, nu = 60)

distribution under various domains.

The graphical representation of facilitating factors (observed practice) under the domains of house and environment, electrical appliances, play and play materials has been shown in Figure 1.

In this study, the barriers faced by mothers in the prevention of home accidents in rural and urban communities were calculated by frequency and distribution under the domain of economical condition, awareness, support, house ownership status, tradition and family culture, mother's

Table 3.Distribution of Mothers of Preschool Children according to Barriers for Prevention of Home Accidents in Rural and Urban Communities n = 120 (nr =60, nu = 60)

Barriers	Rural		Urban	
	f	%	f	%
Economical condition	51	85	40	66.67
Awareness				
Home accident is dangerous for children	18	30	13	21.67
Home accident is preventable	27	45	21	35
Management is necessary for home accidents	13	21.67	6	10
Attention is required for children after three years	14	23.33	5	8.33
Support				
Supervision of children during cooking by other family members	15	25	24	40
Help from other family members during any problem of child	6	10	20	33.33
High household work pressure	29	48.33	44	73.33
House ownership status	0	0	4	6.67
Tradition and family culture	5	8.33	12	20
Illness of mother	6	10	9	15
Gender discrimination	4	6.67	1	1.67

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illness, and gender discrimination (Table 3).

In the comparison of facilitating factors and barriers faced by mothers of preschool children for the prevention of home accidents between urban and rural communities by frequency polygon, it was found that the knowledge of the rural community mothers about home accidents was a little higher than that of the mothers of the urban community, the stated and observed practices of the urban community mothers about home accidents were better than that of the rural community mothers, and lastly, the mothers of urban community and those of rural community faced almost similar barriers for the prevention of home accidents among children.

The study results revealed that there was no significant difference in the knowledge score and stated practice between urban and rural community mothers ('t' = 0.984 at $p < 0.05$) and ('t' = 1.718 at $p < 0.05$) but there was a significant difference in the observed practice between urban and rural community mothers ('t' = 6.505 at $p < 0.05$) (Table 4), and there was no significant difference in the barriers of urban and rural community mothers ('t' = -0.833 at $p < 0.05$).

In this study, there was a significant association between the knowledge score of participants and information received about home accidents (Table 5), facilitating factors and type of family (Table 6), and between barriers and mother's age (Table 7) in the rural community.

In the urban community, there was a significant association between the knowledge score of participants and information received about home accidents (Table 8), and between facilitating factors and mother's age (Table 9).

Table 4.Comparison of Facilitating Factors (Observed Practice of Mothers of Preschool Children) for Prevention of Home Accidents between Rural and Urban Communities n = 120 (nr =60, nu = 60)

Resident	Mean	Mean Difference	SD	't'	df	'p' Value
Rural Community	3.20	2.3	1.69	6.505	118	0.000*
Urban Community	5.50		2.15			

* refers to Significant 't' test

Table 5.Association between Knowledge Score of Mothers of Preschool Children about Home Accidents in the Domain of Facilitating Factors with their Age, Educational Status, Occupation, Type of Family, Information received about Home Accidents in Rural Community n = 60

S. No.	Demographic Variables	Knowledge Score		Total	χ^2 Value	df	P Value
		<Median	≥Median				
1.	**Age of mother (in years)**						
	≤ 25	14	27	41	0.528	1	0.467
	> 25	4	15	19			
2.	**Mother's educational status**						
	Up to secondary	15	37	52	0.038	1	0.844
	Above secondary	2	6	8			
3.	**Mother's occupation**						
	Homemaker	14	27	41	0.528	1	0.467
	Working	4	15	19			
4.	**Type of family**						
	Joint	15	32	47	0.066	1	0.796
	Nuclear	4	9	13			
5.	**Information received about home accidents**						
	Yes	6	28	34	5.710	1	0.016*
	No	13	13	26			

*refers to significant χ^2 test

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Table 6.Association between Facilitating Factors (Stated and Observed Practice of Mothers of Preschool Children) with their Age, Educational Status, Occupation, Type of Family, and Information received about Home Accidents in Rural Community n = 60

S. No.	Demographic Variables	Stated & Observed Practice		Total	χ^2 Value	df	P Value
		< Median	≥ Median				
1.	**Age of mother (in years)**						
	≤ 25	18	23	41	0.022	1	0.881
	> 25	8	11	19			
2.	**Mother's educational status**						
	Up to secondary	24	28	52	1.994	1	0.157
	Above secondary	1	7	8			
3.	**Mother's occupation**						
	Homemaker	16	25	41	0.107	1	0.742
	Working	9	10	19			
4.	**Type of family**						
	Joint	21	26	47	5.394	1	0.020*
	Nuclear	3	10	13			
5.	**Information received about home accidents**						
	Yes	14	20	34	0.045	1	0.831
	No	10	16	26			

*refers to significant χ^2 test

Table 7.Association between Barriers faced by Mothers of Preschool Children for Prevention of Home Accidents with their Age, Educational Status, Occupation, Type of Family, Information received about Home Accidents in Rural Community n = 60

S. No.	Demographic Variables	Barriers		Total	χ^2 Value	df	P Value
		< Median	≥ Median				
1.	**Age of mother (in years)**						
	≤ 25	14	27	41	4.338	1	0.037*
	> 25	1	18	19			
2.	**Mother's educational status**						
	Up to secondary	15	37	52	0.038	1	0.844
	Above secondary	2	6	8			
3.	**Mother's occupation**						
	Homemaker	13	28	41	1.682	1	0.194
	Working	3	16	19			
4.	**Type of family**						
	Joint	13	34	47	0.109	1	0.740
	Nuclear	3	10	13			
5.	**Information received about home accidents**						
	Yes	7	27	34	1.482	1	0.223
	No	9	17	26			

* refers to significant χ^2 test

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Table 8.Association between Knowledge Score of Mothers of Preschool Children about Home Accidents in the Domain of Facilitating Factor with their Age, Educational Status, Occupation, Type of Family, Information received about Home Accidents in Urban Community n = 60

S. No.	Demographic Variables	Knowledge Score		Total	χ^2 Value	df	P Value
		< Median	≥ Median				
1.	**Age of mother (in years)**						
	≤ 25	8	25	33	0.022	1	0.880
	> 25	7	20	27			
2.	**Mother's educational status**						
	Up to secondary	13	37	50	0.16	1	0.689
	Above secondary	2	8	10			
3.	**Mother's occupation**						
	Homemaker	14	38	52	0.192	1	0.661
	Working	1	7	8			
4.	**Type of family**						
	Joint	12	27	39	0.014	1	0.905
	Nuclear	6	15	21			
5.	**Information received about home accidents**						
	Yes	9	32	41	4.318	1	0.037*
	No	10	9	19			

* refers to significant χ^2 test

Table 9.Association between Facilitating Factors (Stated and Observed Practice of Mothers of Preschool Children) with their Age, Educational Status, Occupation, Type of Family, and Information received about Home Accidents in Urban Community n = 60

S. No.	Demographic Variables	Stated & Observed Practice		Total	χ^2 Value	df	P Value
		< Median	≥ Median				
1.	**Age of mother (in years)**						
	≤ 25	20	13	33	4.423	1	0.035*
	> 25	9	18	27			
2.	**Mother's educational status**						
	Up to secondary	25	25	50	0.053	1	0.817
	Above secondary	4	6	10			
3.	**Mother's occupation**						
	Homemaker	25	27	52	0.144	1	0.704
	Working	5	3	8			
4.	**Type of family**						
	Joint	17	22	39	1.004	1	0.316
	Nuclear	12	9	21			
5.	**Information received about home accidents**						
	Yes	20	21	41	0.030	1	0.860
	No	9	10	19			

* refers to significant χ^2 test

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There was no significant association between the barriers and any demographic variable.

Discussion

In the present study, it was observed that majority (60%) of the mothers of preschool children in the rural community and half (50%) of the urban community mothers of preschool children had average knowledge about the prevention of home accidents which is supported by a study conducted by Hema VH et al. among 100 mothers in rural areas in Chennai in 2016 to determine the knowledge level about first aid management of domestic accidents among mothers of under-five children and safety practices at homes. This study showed that 56% of mothers had inadequate knowledge and 44% of mothers had moderate knowledgeabout first aid management.[5]

In this present study, it was found that most of the mothers of preschool children in the rural (93.33%) and urban (73.33%) communities stated poor practice in the domain of electrical appliances. This is analogous to the result of a community-based epidemiological study conducted by Bhuvaneswari N et al. in 2015 on home injuries among children of 0-14 years in south Delhi. It showed that the environmental risks for home accidents were as follows: unsafe stairs (100%), unsafe electrical outlets (95.3%), and an unsafe kitchen with easy reach to sharp objects (29.3%), but in this present study, only 1.67% of mothers of the urban community and 8.33% of mothers of the rural community stated poor practice in the domain of sharp objects which is much less than the above-mentioned study, and only 12.5% of mothers of preschool children in the urban community and 54.54% of mothers of preschool children in the rural community stated poor practice in the domain of house and environment related to stairs which is also much less than the above-mentioned study.[6]

In the present study, it was found that 35% of mothers in the urban community and 45% of mothers in the rural community did not believe that household injuries can be completely prevented whereas in a study conducted by Inbaraj RL et al. in 2013 on 100 mothers regarding the perception of unintentional childhood injuries among mothers in rural South India, it was found that only 9% of mothers believed that injuries can be fully prevented and 91% of mothers did not believe that injuries can be completely prevented.[10]

The present study is corroborated by a cross-sectional study on the prevalence of home accidents among 238 children of 0-6 years of age and the levels of displaying precaution-taking behaviours by their mothers conducted by Cevik C et al. in Balikesir, Turkey in the year 2015. The mean score obtained by the scale for identification of the safety measures taken by mothers is 67.73 ± 8.53.29, whereas, in the present study, data were also collected by rating scale and checklist. The mean score of facilitating factors (stated practice of mothers of preschool children) of the rural community was 40.96 + 3.41 and that of the urban community was 42.03 + 3.38 and the mean score of facilitating factors (observed practice of mothers of preschool children) of the rural community was 3.20 + 1.69 and that of urban community was 5.50 + 2.15.[16]

Conclusion

There was deficit of knowledge and practice of mothers of pre-school children regarding prevention of home accident in both rural and urban community. Child safety is a social value that demands attention hence, this study findings therefore call for prompt and target group interventions in order to prevent and control the domestic accidents, promotion of household safety measures and creation of awareness among the community using information, education, and communication (IEC) interventions and mass media campaign have to be undertaken.

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Conflict of Interest: None

References

1. Banerjee S, Paul B, Bandyopadhyay K, 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 J Health Res. 2016;18(3):1-8. [Google Scholar]
2. Ray K, Bhattacherjee S, Akbar F, Biswas R, Banerjee R, Chakraborty M. Physical injury: a profile among the municipal primary school children of Siliguri, Darjeeling district. Indian J Public Health. 2012;56(1):49-52. [PubMed] [Google Scholar]
3. Mukherjee T, Roy S, Mandal S, Das DK. Unintentional home injuries among children aged 1–9 years in slums of Burdwan Municipality, West Bengal: a cross-sectional study. Indian J Child Health. 2018;5(3):188-92. [Google Scholar]
4. Adhikari B, Bhattarai S, Gauro P, Mishra R. Awareness and practice of mother having under five children regarding prevention of childhood accident. Int J Health Sci Res. 2017;7(9):134-44. [Google Scholar]
5. Hema VH, Babu MD. 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. Int J Nurs Patient Safety Care. 2016;1(1):31-8.
6. Bhuvaneswari N, Prasuna JG, Goel MK, Rasania SK. An epidemiological study on home injuries among children of 0-14 years in South Delhi. Indian J Public Health. 2018;62(1):4-9. [PubMed] [Google Scholar]
7. List of causes of death by rate. WHO. Available at:

https://en.wikipedia.org/wiki/List_of_causes_of_death_by_rate
8. World report on profile on child injury prevention, Geneva. WHO. 2008. Available at: https://www.ncbi.nlm.nih.gov/books/NBK310641/
9. Shriyan P, Prabhu V, Aithal SK, Yadav UN, Orgochukwu MJ. Profile of unintentional injury among under-five children in coastal Karnataka, India: a cross-sectional study. Int J Med Sci Public Health. 2014;3(11):1317-9. [Google Scholar]
10. Inbaraj LR, Rose A, George K, Bose A. Perception of unintentional childhood injuries among mothers in rural South India. Indian J Public Health. 2017;61(3):211-4. [PubMed] [Google Scholar]
11. Khan S, Tauheed N, Nawab S, Afzal S, Khalique N. Domestic accidents among under-5 children: a study on the modern day epidemic. Int J Community Med Public Health. 2019;6(4):1529-35. [Google Scholar]
12. Radhakrishnan S, Nayeem A. Prevalence and factors influencing domestic accidents in a rural area in Salem district. Int J Med Sci Public Health. 2016;5(8):1688-92. [Google Scholar]
13. Debnath M, Reang T, Tripura A. A study to assess the knowledge of rural mothers regarding common domestic childhood injuries and home-safety measures adopted by them in west district of Tripura, India. J Evol Med Dental Sci. 2014;3(20):5522-8. [Google Scholar]
14. Jaishye S. A study to evaluate the effectiveness of a structured teaching programme on child safety measures among mothers of under five children in a selected village at Kanyakumari district, Tamil Nadu [dissertation]. The Tamil Nadu Dr MGR Medical University; 2012. [Google Scholar]
15. Mothukuri S. Evaluate the effectiveness of structured teaching programme on knowledge regarding prevention of home accidents for children among mothers at Bandihatti village, Bellary, Karnataka [dissertation]. 2013.
16. Cevik C, Selcuk TK, Kaya C, Bayirli BR. Prevalence of home accidents among 0-6-year old children mothers' levels of displaying precaution-taking behaviours. J Res Med Dental Sci. 2017;5(4):90-6. [Google Scholar]

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