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Planned Teaching Programme on Knowledge regarding Prevention of Accidents in Under-five Children among Mothers in selected villages, Gwalior, Madhya Pradesh.

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Abstract:

Children live in a world constructed by and for adults. From infancy to adulthood, children undergo developmental changes that influence their curiosity, perceptions, risk-taking behavior, and reactions, affecting their susceptibility to injuries. India accounted for 11.1% of all unintentional injury deaths globally. Nearly 7% of all deaths in India, considering all age groups, are accounted by injuries (723178), and nearly 10% of these deaths (1 out of 10 deaths) occur among children aged 0-14 years. Keeping this scenario in mind, the investigator conducted a planned teaching programme on knowledge regarding the prevention of accidents in under-five children among mothers in a selected village, Gwalior, to reduce global and national burden. The study result shows that pre and post test difference mean value was 13.42 with a standard deviation of 3.74, and the calculated t value was 25.32. The standard error of the mean was 0.53. It was statistically significant at $P<0.05$ level. This result shows the significant improvement of knowledge on the prevention of accidents in under-five children among mothers.

Key words:

Planned teaching programme, Prevention of accidents, Under-five children, Mothers

1. INTRODUCTION

The complex interplay of globalization, lifestyle changes, socioeconomic conditions and greater exposure to the unsafe environment has led to increased deaths and disabilities due to injuries among children in India. The child's community includes several places like homes, playgrounds, gardens, fields, ponds, waste dumps, etc. However, their relative importance depends on a child's way of life [Chaudhari V P, et al., 2009]. According to World Health Organization (WHO), "an accident is an event independent of human will, caused by an outside force acting rapidly and resulting in bodily or mental injury" [WHO, 2004].

During the first year of life, accidents are a common source of injury and death because of an infant's rapid motor and sensory development, as well as their insatiable curiosity about their surroundings. The parents and other caregivers must always be on the lookout for potential hazards in the environment. The toddler with the highest curiosity to explore, investigate, and with the ability to run and walk are more prone to a variety of injuries like burns, scalds [Dorothy R. Marlow, et al., 2006]. Accidental death in children, particularly during playing, while flying kites, fall from the terrace, injury from sharp objects, injury from firecrackers particularly during the festive seasons, improper use of electrically operated toys, sharp toys, scissors, knives, blades are not uncommon [Ravinder K Gupta, 2004].

1.1. Significance of study

Unintentional injuries in the age group of 0-14 accounted for 652,664 deaths globally in 2017, accounting for nearly 10.6% of all deaths in that age group. Aside from the deaths, tens of millions of children require hospitalization for ailments that are not lethal. Million Death Study (MDS), a large-scale population-based study, indicated that falls accounted for 10% of all child injury-related deaths in the age group of 0-14 [Jagnoor, et al., 2012].

Hospital-based studies indicate that falls accounted for 17-27% of pediatric hospital admissions in orthopedics and pediatric surgery departments respectively [Babu A, et al., 2016]. Drowning is a prevalent and preventable problem, particularly among children, where it is the second most common cause of death by accident among children aged 0 to 3, accounting for 22% of drowning deaths. [Calvin G. Lowe, 2005]. Accidental poisoning was commonly involving 50-90 percent of children below five years of age. Chemicals, disinfectants, and kerosene are most frequently inadvertently consumed by children in a tiny dwelling with little room [S.P. Goel, 2005].

According to a report from the Ministry of Road Transport and Highways, 11168 minors died in road accidents in 2019, an increase of 11.94 percent over the previous year. The 11,168 child fatalities equate to an incredible 31 deaths per day and account for nearly 8% of all traffic fatalities. [2020, Priya Kapoor]. Data from hospitals reveal that scald injuries (43-48%) are the most common type of burns attended to in hospitals, followed by flame burns (38-41%), thermal burns (12-43%), electrical burns (7-10%) and chemical burns (0.6- 2.5%) [Dhopte A, et al., 2017].

As per the India Global Burden of Disease data estimates (GBD) report of the year 2017, 72,268 deaths occurred in the year 2016 due to unintentional injuries [GBD, 2017], while the National Crime Records Bureau (NCRB) reports indicating that 18,115 children aged 0-14 years, died due to unintentional injuries, indicating a four-fold under-reporting in national statistics. It is also estimated that nearly 1.81 million children suffered serious injuries and 4.23 million children suffered from mild injuries in 2015 [NCRB, 2015]. Nearly 41% of all fatal injuries among children were reported to have occurred on roads, followed by 31% at home. Around 11% of fatal injuries occurred in areas of water sources, such as wells and lakes [NIMHANS, 2019].

Negligence and ignorance of parents and caretakers regarding safety measures make the children face an unsafe environment, leading them into accidents. So, the investigator decided to conduct the planned teaching programme on knowledge regarding prevention of accidents in under-five children among mothers in a selected village, Gwalior.

1.2. Statement of the problem

A study to evaluate the effectiveness of planned teaching programme on knowledge regarding the prevention of accidents in under-five children among mothers in a selected village, Gwalior.

1.3. Objectives

- To assess the level of knowledge regarding prevention of accidents in under-five children among mothers before the planned teaching programme.
- To assess the level of knowledge regarding prevention of accidents in under-five children among mothers after the planned teaching programme.
- To find out the effectiveness of planned teaching programme on the prevention of accidents in under-five children.

1.4. Variables

Independent variable:

The Independent variable of this study is a planned teaching programme regarding the prevention of accidents in under-five children.

Dependent variable:

The dependent variable of this study is the level of knowledge regarding the prevention of accidents in under-five children among mothers.

1.5. Hypothesis

The mean post-test knowledge score of mothers regarding the prevention of accidents in children under five will be significantly higher than the mean pre-test knowledge score.

1.6. Assumptions

- The mothers are having inadequate knowledge regarding the prevention of accidents in under-five children.
- Mothers are interested to know about the prevention of accidents in under-five children and are willing to attend the PTP.
- Mothers require accurate information regarding the prevention of accidents in under-five children.

1.7. Delimitations of the study

- The sample size of the study was delimited to only 50.
- The study was delimited to mothers in Piproli village, Gwalior district, M.P.
- The data collection period was delimited to four weeks.

2. MATERIALS AND METHODS

2.1. Research approach and design

An evaluative approach was adopted for the study to evaluate the effectiveness of planned teaching programme on knowledge regarding the prevention of accidents in under-five children among mothers. In this study, pre experimental “one group pre and post test design” was used to evaluate the effectiveness of planned teaching programme on knowledge regarding prevention of accidents in under-five children among mothers.

2.2. **Setting**

This study was conducted at Piproli village, Gwalior district, M.P. Piproli has 170 houses with a 997 population. Moreover, under-five children are 182. It is situated 12 kilometers away from Gwalior city.

2.3. Population

The population of the present study consists of mothers who were having under-five children.

2.4. Sample and sample size

The sample of this study comprised mothers who were having under-five children and residing in Piproli village and the sample size was fifty.

2.5. Sampling technique

The samples for this study were chosen using a convenient sampling technique, a type of non-probability sampling in which the sample is drawn from the closest segment of the population.

2.6. Criteria for sample selection

Inclusion criteria:

1. Mothers who were having children under-five years of age.
2. Mothers who were willing to participate in the study.
3. Mothers who were understand and communicate in the Hindi language.

Exclusion criteria:

1. Mothers who were not available during the study.
2. Mothers those who were in a health profession.

2.7. Description of the tool

The tool consists of two parts, namely:
PART- I: Demographic variables
PART- II: Structured interview schedule on knowledge regarding prevention of accidents in under-five children.

Part-I

Part-I describes the demographic variables, including the mother's age, mother's educational status, occupation, monthly income, number of children, type of family and source of information regarding the prevention of accidents in under-five children. The investigator developed this part by referring to various textbooks, the internet and literature reviews.

Part-II

The structured interview schedule was developed based on the review of literature, discussion with the experts and personal experience of the investigator. This part has 30 questions regarding the prevention of accidents in under-five children and is divided into three sections like,

Section A: General aspects of accidents in under-five children: It contains 06 questions regarding definition, incidence and places of getting an accident.

Section B: Types and causes of accidents in under-five children: It contains 9 questions regarding falls, suffocation, aspiration or swallowing of foreign material, drowning, burn, poisoning, road traffic accidents and cuts & punctures.

Section C: Prevention of the accident in under-five children: It contains 15 questions regarding prevention of falls, suffocation, aspiration or swallowing of foreign material, drowning, burn, poisoning, road traffic accidents and cuts & punctures in children.

Scoring procedure of structured interview questionnaires:

The possible score for this tool were 0 and 1. That was 'score 1' for the right answer and 'score 0' for the wrong answer. The scores were interpreted as given below. The total score was 30.

0-50 % (0- 15) -- Inadequate knowledge
51-75 % (16- 23) -- Moderately adequate knowledge
Above 75 % (24-30) -- Adequate knowledge

2.8. Testing of the tool

The prepared tool and content of the planned teaching programme were validated. Six mothers were administered the instrument to determine its reliability. Reliability was obtained by the spearman correlation method. The reliability of the tool was 0.95. Thus the tool was found highly significant and reliable.

2.9. Description of the structured teaching programme

The content of the planned teaching programme was prepared with the basis of a literature review and expert opinion. The final draft of the planned teaching programme included the following components; definition of accidents, the incidence of accidents, places of getting accidents, types of accidents, causes of accidents, and prevention of accidents in under-five children.

2.10. Data collection procedure

The study was conducted d in Piproli village, Gwalior (M.P). The data collection period was 02.03.2020 to 28.03.2020. The fifty mothers were selected by using a convenient sampling technique. The interview was carried after taking the willingness of the mothers by a consent form. After the self-introduction, the investigators explained the purpose of the interview and requested to give

frank replies. The investigators collected the demographic variables and monitored the existing level of knowledge of mothers regarding the prevention of accidents in under-five children using a structured interview schedule (pre-test). After that, a planned teaching programme was conducted for the mothers regarding the prevention of accidents in under-five children. After seven days, the post-test was conducted using the same structured interview schedule as the same samples. The data were analyzed statistically and the outcome was interpreted.

3. RESULTS

3.1. Distribution of demographic variables of mothers

In the age of mothers, 21(42%) were in 18 – 24 years, 20(40%) in 25 – 30 years, 5(10%) in 30-35 years and 04(08%) in 36 and above. With regards to educational status, most of the mothers were in secondary 15(30%), 19(38%) had primary school education, 12(24%) had an education of higher secondary and above and four (08%) mothers were illiterate. Out of 50 selected mothers, most of them 20(40%) doing their own milk business. Twelve (24%) were housewives, 2(4%) were employees, and 13(26%) were cooley. The monthly income of 12(24%) mothers was less than Rs. 1500, 13(26%) had an income of Rs. 1501 to Rs. 3000, 23(46%) had an income of Rs. 3001 to Rs. 5000, 2(4%) had an income of above Rs. 5000.

Out of 50 selected mothers, 15(30%) mothers had only 1 child. Twenty four (48%) mothers had 2 children, 09 (18%) mothers had 3 children and 02 (04%) mothers had more than 3 children. Most of the mothers belong to a joint family 30(60%), 14 (28%) mothers were in the nuclear family and 06 (12%) mothers were in an extended family. Considering the source of information regarding the prevention of accidents in under five, 14 (28%) mothers were in family members and relatives, 21(42%) mothers got information from mass media, 8(16%) from PHCs and hospitals and 7(14%) from village health guide. Table 1 shows the distribution of demographic variables of mothers of under-five children.

Table 1: Distribution of demographic variables of mothers

Sl. No.	Demographic variables	N=50	
		Frequency	Percentage
1.	Age of mothers		
	18 - 24 years	21	42
	25 - 30 years	20	40
	30 - 35 years	05	10
	36 and above	04	08
2.	Mother's educational status		
	Illiterate	04	08
	Primary	19	38
	Secondary	15	30
	Higher secondary and above	12	24
3.	Mother's occupation		
	Housewife	12	24
	Business	20	40
	Employee	05	10
	Cooley	13	26
4.	Monthly income		
	Less than Rs. 1500	12	24
	Rs. 1501 to Rs. 3000	13	26
	Rs. 3001 to Rs. 5000	23	46
	Above Rs. 5000	02	04
5.	Number of children		
	1	15	30
	2	24	48
	3	09	18
	More than 3	02	04
6.	Type of family		
	Nuclear	14	28
	Joint	30	60
	Extended	06	12
7.	Source of information regarding prevention of accidents in under-five children		
	Family members and relatives	14	28
	PHCs and hospitals	08	16
	Mass-media	21	42
	Village health guide	07	14

3.2. Distribution of the level of knowledge regarding prevention of accidents in under-five children among mothers during pre and post test.

The pre test result revealed that 36 (72%) mothers had inadequate knowledge, 14 (28%) had moderately adequate knowledge and none had adequate knowledge. In post test, Out of 50 mothers, 15 (30%) mothers had moderately adequate knowledge, 35 (70%) had adequate knowledge and none had inadequate knowledge. Table 2 and figure 1 show the distribution of the level of knowledge regarding the prevention of accidents in under-five children among mothers during pre and post test.

Table 2: Distribution of the level of knowledge regarding prevention of accidents in under-five children among mothers during pre and post test.

Sl. No.	Level of knowledge	Pre test		Post test	
		Frequency	Percentage	Frequency	Percentage
1.	Inadequate knowledge (0 – 50%)	36	72	00	00
2.	Moderately adequate knowledge (51 – 75%)	14	28	15	30
3.	Adequate knowledge (above 75%)	00	00	35	70

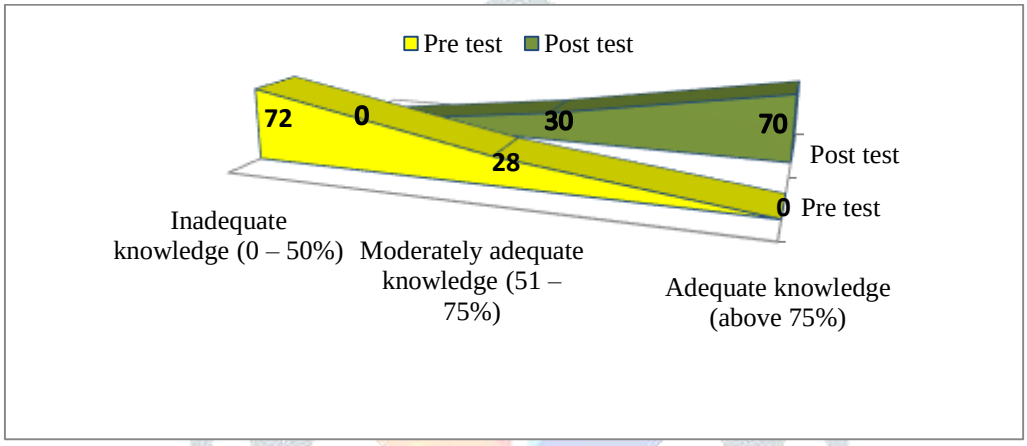

Fig. 1: Distribution of the level of knowledge regarding prevention of accidents in under- five children among mothers between pre-test and post-test.

3.3. Comparison of the level of knowledge between pre test and post test

Regarding general aspects of accidents in under-five children, the mean difference and standard error of the mean were 2.58 and 0.14, respectively, with SD of 1.01 and a calculated t value was 18.02. It was significant at 0.05 level. The level of knowledge about types and causes of accidents in under-five children was significant at 0.05 level. The mean difference and standard error of the mean were 3.70 and 0.19, respectively, with SD of 1.33 and a calculated t value was 19.69. In terms of accident prevention in children under the age of five, the mean difference was 7.14 with SD 2.54 and the standard error of the mean was 0.36 with a calculated t value of 19.88. It was statistically significant at the 0.05 level.

When the total level of knowledge was compared between pre and post test, the mean difference was 13.42, the standard deviation was 3.74, and the calculated t value was 25.32. The mean's standard error was 0.53. It was statistically significant at $P<0.05$ level. This result demonstrates a significant increase in mother's knowledge regarding accident prevention in under-five children following a planned teaching programme. Table 3 show the comparison of level of knowledge regarding prevention of accident in under-five children among mothers between pre-test and post-test.

Table 3: Comparison of the level of knowledge regarding prevention of accident in under-five children among mothers between pre-test and post-test.

Sl. No.	Classification of knowledge	Difference mean (d)	Standard deviation (s)	Standard error of the mean	't' test value & p-value
1.	General aspects of accidents in under-five children	2.58	1.01	0.14	t = 18.02 P<0.05 (S)
2.	Types and causes of accidents in under-five children	3.70	1.33	0.19	t = 19.69 P<0.05 (S)
	Prevention of accident in under-five children	7.14	2.54	0.36	t = 19.88 P<0.05 (S)
3.	Total	13.42	3.74	0.53	t = 25.32 P<0.05 (S)

Note: S – Significant

4. DISCUSSION

This study result revealed that 36 (72%) mothers had inadequate knowledge, 14(28%) had moderately adequate knowledge and none had adequate knowledge, while in post test, 15 (30%) mothers had moderately adequate knowledge, 35 (70%) had adequate knowledge and none had inadequate knowledge which correlates with another study. That study results show that, in pre test, 82.00% of the sample had inadequate knowledge (score: <50%) regarding the prevention of childhood accidents, while moderately adequate (score: 50-75%) was observed in 18% of the sample and 0 % have adequate knowledge (score >75%). In the post test, there was a marked improvement in the knowledge of the sample, with a majority (78.00%) gained adequate knowledge. Moreover, (22%) gained moderately adequate knowledge [Janki Patel et al., 2014].

Comparison of the total level of knowledge between pre test and post test, the difference mean value was 13.42 with a standard deviation of 3.74 and calculated t value was 25.32. The standard error of the mean was 0.53. It was statistically significant at $P<0.05$ level. This result was correlated with the other research study, the overall mean pre test knowledge score was 13.34 (SD-2.379) and post test knowledge score was 22.66 (SD-2.430). The calculated paired t value was 25.762 (df - 99), which is greater than the tabulated t value (1.982), indicates a gain in knowledge statistically significant at $P < 0.05$ level [Pradeep M Suryawanshi, 2018]. Also, this study result was supported by other study which shows the t-test value 19.72 at the degree of freedom 60 and level of significance 0.05 [Wale Pratiksha, et al., 2018].

5. CONCLUSION

The children of today are the adult of tomorrow, it is essential to make the life of children safer. It is the responsibility of the nurse to enlighten the knowledge of mothers of 'under-five' children with various types of accidents and its prevention. The ultimate goal of study is to improve the knowledge level of mother regarding prevention of accidents in under-five children and thereby prevent the morbidity and mortality rate of children. It was successfully achieved through planned teaching program.

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CONFLICT OF INTEREST

The author has no conflict of interest to declare.

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