

A STUDY TO ASSESS THE EFFECTIVENESS OF COMMON FIRST AID MANAGEMENT TRAINING PROGRAM ON KNOWLEDGE AND PRACTICE AMONG SCHOOL CHILDREN IN SELECTED SCHOOLS OF MEERUT

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ABSTRACT

Introduction: First aid is the immediate care provided to an injured or suddenly ill person before professional medical help arrives. School children frequently encounter emergencies such as minor cuts, nose bleeding (epistaxis) and superficial burns. Adequate first aid knowledge and practice can reduce complications and improve outcomes.

Objective: to assess the effectiveness of Common First Aid Management Training Program on knowledge and practice among school children in selected schools of Meerut.

Methodology: A quantitative true-experimental pre-test and post-test control group design was adopted. 60 children (30 experimental, 30 control group) aged 9–14 years were selected using simple random sampling from selected schools of Meerut. Data were collected using a structured knowledge questionnaire and observational practice checklist. The intervention consisted of a Common First Aid Management Training Program including lectures, discussions, demonstrations, and return demonstrations. Descriptive and inferential statistics were used for analysis.

Result: The training program significantly improved the knowledge and practice of school children regarding common first aid management. Post-test scores were higher than pre-test scores among participants who received the intervention, indicating the effectiveness of the training program. 70% of the participants had average knowledge, while 30% had poor knowledge regarding common first aid management. No participant demonstrated good or excellent knowledge. Statistical analysis showed no significant association between knowledge level and age ($\chi^2 = 3.8$, $p = 0.15$), gender ($\chi^2 = 2.86$, $p = 0.09$), class/grade ($\chi^2 = 0.94$, $p = 0.63$), religion ($\chi^2 = 3.33$, $p = 0.34$), father's education ($\chi^2 = 6.19$, $p = 0.10$), mother's education ($\chi^2 = 2.33$, $p = 0.51$), and type of family ($\chi^2 = 0.24$, $p = 0.62$). Association could not be computed for type of school and area of residence because all participants belonged to the same category for these variables.

Conclusion: The Common First Aid Management Training Program was effective in improving knowledge and practice regarding first aid management among school children. Incorporating regular first aid training into school health programs can enhance emergency preparedness and safety.

KEYWORDS: First Aid, School Children, Knowledge, Practice, Training Program, Emergency Management.

INTRODUCTION

First aid refers to the immediate and temporary care given to a person suffering from an injury or sudden illness before professional medical assistance becomes available. School children are particularly vulnerable to accidents due to their active participation in sports, recreational activities, and daily school routines. Common emergencies include cuts, burns, fractures, choking, fainting, and nosebleeds. Timely and appropriate first aid can prevent complications, reduce morbidity, and save lives.

Despite the increasing incidence of childhood injuries, many children lack adequate knowledge and practical skills related to emergency management. Structured educational interventions can improve their ability to respond effectively during emergencies and contribute to a safer school environment.

OBJECTIVES

1. To assess the pre and post-test level of knowledge and practice regarding common first aid management among school children in selected schools of Meerut.
2. To evaluate the effectiveness of common first aid management training program on knowledge and practice among school children.
3. To find the relationship between level of knowledge and practice regarding common first aid management among school children.
4. To find the association between level of knowledge and practice regarding common first aid management among school children and their selected demographic variables.

METHODOLOGY

The study adopted a quantitative research approach with a true-experimental pre-test and post-test control group design to assess the effectiveness of a Common First Aid Management Training Program among school children. The study was conducted in selected schools of Meerut, Uttar Pradesh, and the target population comprised school children aged 9–14 years. A total of 60 school children were selected as the sample, with 30 participants assigned to the experimental group and 30 to the control group through a simple random sampling technique. Data were collected using a demographic questionnaire, a structured knowledge questionnaire, and an observational practice checklist. The intervention consisted of a Common First Aid Management Training Program covering the principles of first aid and the management of superficial burns, minor cuts, nose bleeding, along with demonstration and return demonstration of first aid procedures. Data analysis was performed using both descriptive and inferential statistics. Descriptive statistics included frequency, percentage, mean, and standard deviation, while inferential statistics comprised paired t-test, unpaired t-test, chi-square test, and Karl Pearson correlation coefficient to determine the effectiveness of the training program and the association between study variables.

RESULT

The findings of study are presented according to the objectives of the study. The data is prepared under the subsequent sections.

SECTION-I Distribution of selected demographic variables among children in experimental and control group

**Table 1.1 Description of demographic variables of the samples
(N = 60)**

Demographic variables	Background information	Experimental		Control	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Age in years	9 to 10	4	13.33	0	0
	11 to 12	10	33.33	12	40
	13 to 14	16	53.34	18	60
Gender	Male	20	66.67	17	56.67
	Female	10	33.33	13	43.33
	Other	0	0	0	0
Class/Grade	6th	4	13.33	0	0
	7th	10	33.33	12	40
	8th	16	53.34	18	60
	9th	0	0	0	0
Type of school	Government	30	100	0	0
	Private	0	0	30	100
	Semi government	0	0	0	0
Area of residence	Urban	0	0	0	0
	Rural	30	100	30	100
	Semi Urban	0	0	0	0
Religion	Hindu	18	60	16	53.33
	Muslim	10	33.34	6	20
	Christian	1	3.33	5	16.67
	Sikh	1	3.33	3	10
Father's Education	Illiterate	2	6.67	2	6.67
	Primary	8	26.67	5	16.67
	Secondary	12	40	14	46.66
	Graduate	8	26.66	9	30
Mother's Education	Illiterate	11	36.67	6	20
	Primary	9	30	8	26.67
	Secondary	8	26.67	10	33.33
	Graduate	2	6.66	6	20
Type of Family	Nuclear	18	60	23	76.67

	Joint	12	40	7	23.33
Ever received first aid training before	Yes	0	0	0	0
	No	30	1	30	100

SECTION II: Distribution of pre and post-test level of knowledge and practice regarding common first aid management among school children.

Table 1.2: Findings related to pre and post-test level of knowledge regarding common first aid management among school children in experimental group. (n=30)

Level of knowledge	Range	Experimental group			
		Pre-test		Post- test	
		f	%	f	%
Excellent	13-15	0	0%	4	13%
Good	10-12	0	0%	14	47%
Average	7-9	21	70%	8	27%
poor	Below 7	9	30%	4	13%

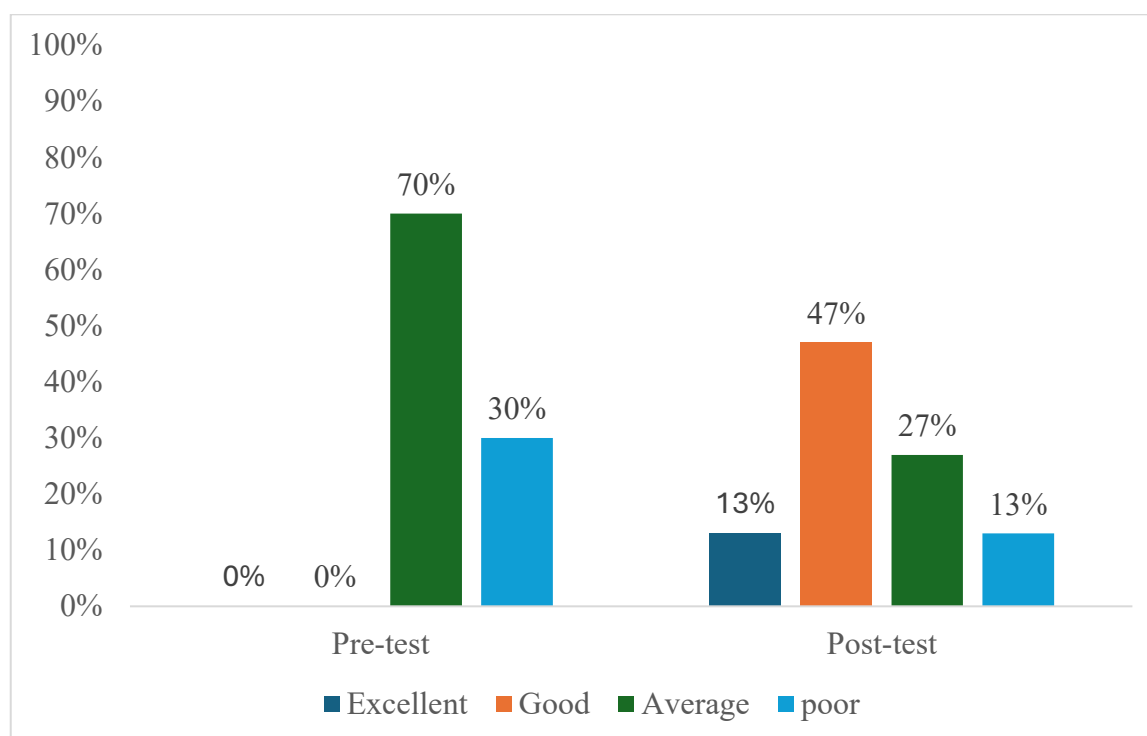


Figure :1 percentage distribution of pre-test pre and post-test level of knowledge regarding common first aid management among school children in experimental group.

Table 1.2: Findings related to pre and post-test level of knowledge regarding common first aid management among school children in control group. (n=30)

Level of knowledge	score	Control group			
		Pre-test		Post- test	
		f	%	f	%
Excellent	13-15	0	0%	0	0%
Good	10-12	0	0%	0	0%
Average	7-9	17	57%	21	70%
poor	Below 7	13	43%	9	30%

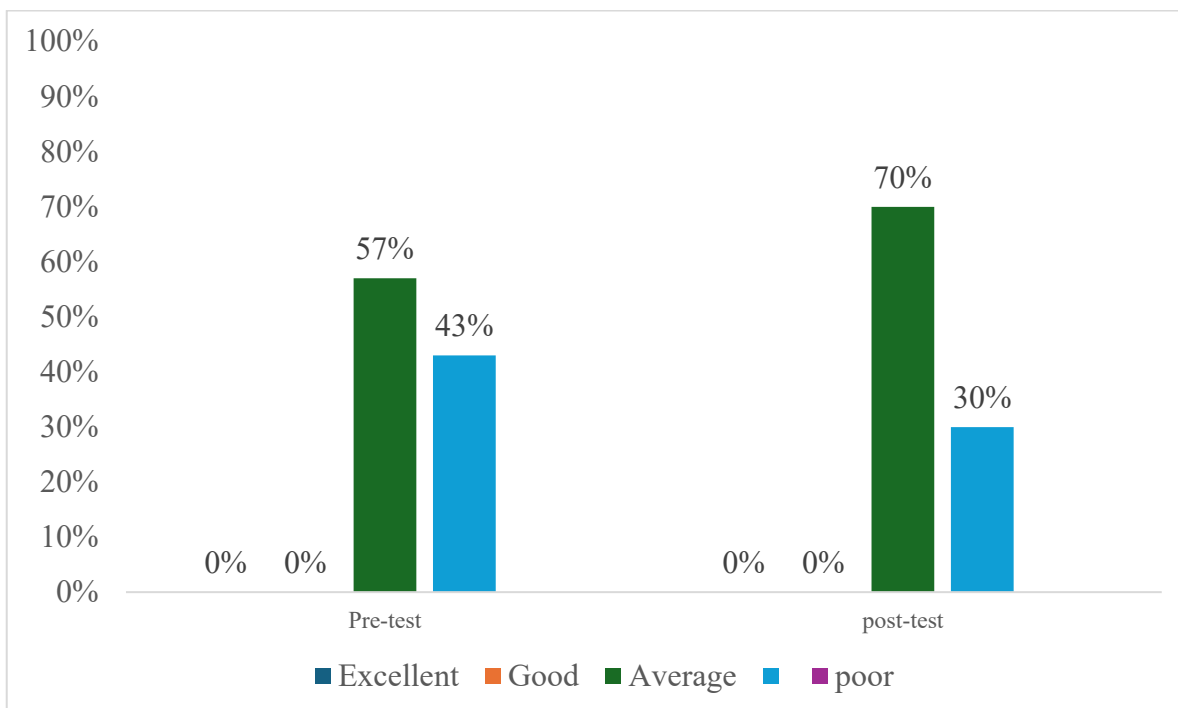


Figure :1.2 percentage distribution of pre-test pre and post-test level of knowledge regarding common first aid management among school children in control group.

Table 1.3: Findings related to pre and post-test level of practice regarding common first aid management among school children in experimental group. (n=30)

Level of practice	score	Experimental group			
		Pre-test		Post- test	
		f	%	f	%
Excellent	24-30	0	0%	4	13%
Good	16-23	0	0%	14	47%
Average	8-15	21	70%	10	33%
poor	Below 7	9	30%	2	7%

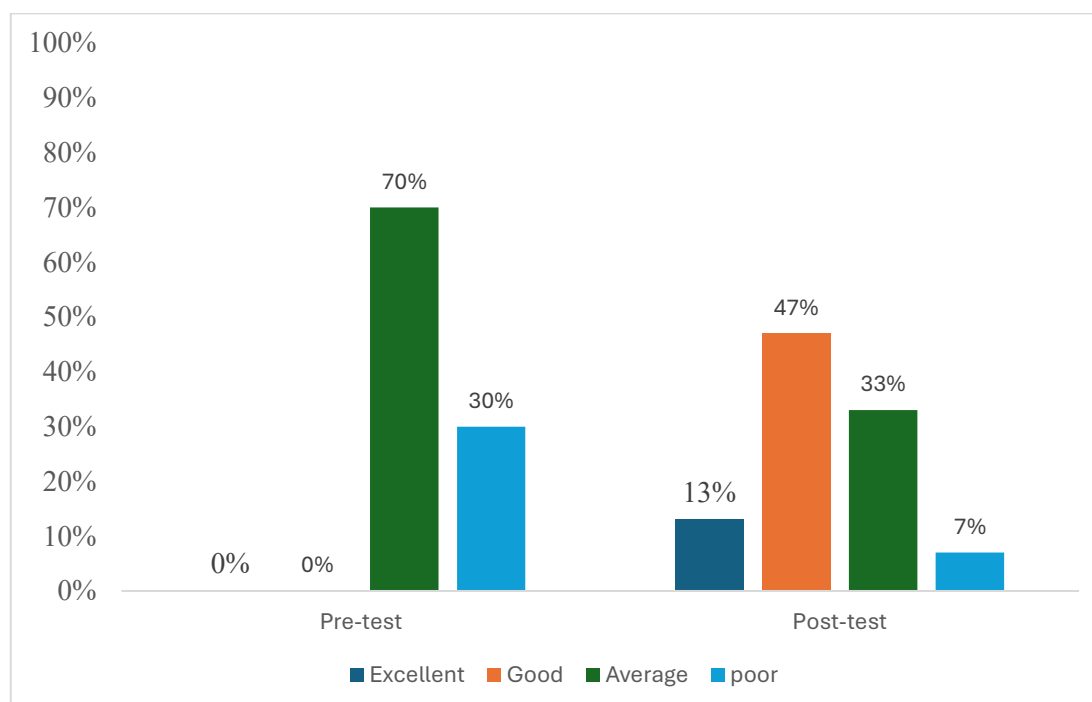


Figure :1.3 percentage distribution of pre-test pre and post-test level of Practice regarding common first aid management among school children in experimental group.

Table 1.4: Findings related to pre and post-test level of practice regarding common first aid management among school children in control group. (n=30)

Level of practice	score	Control group			
		Pre-test		Post- test	
		f	%	f	%
Excellent	24-30	0	0%	0	0%
Good	16-23	0	0%	0	0%
Average	8-15	21	70%	24	80%
poor	Below 7	9	30%	6	20%

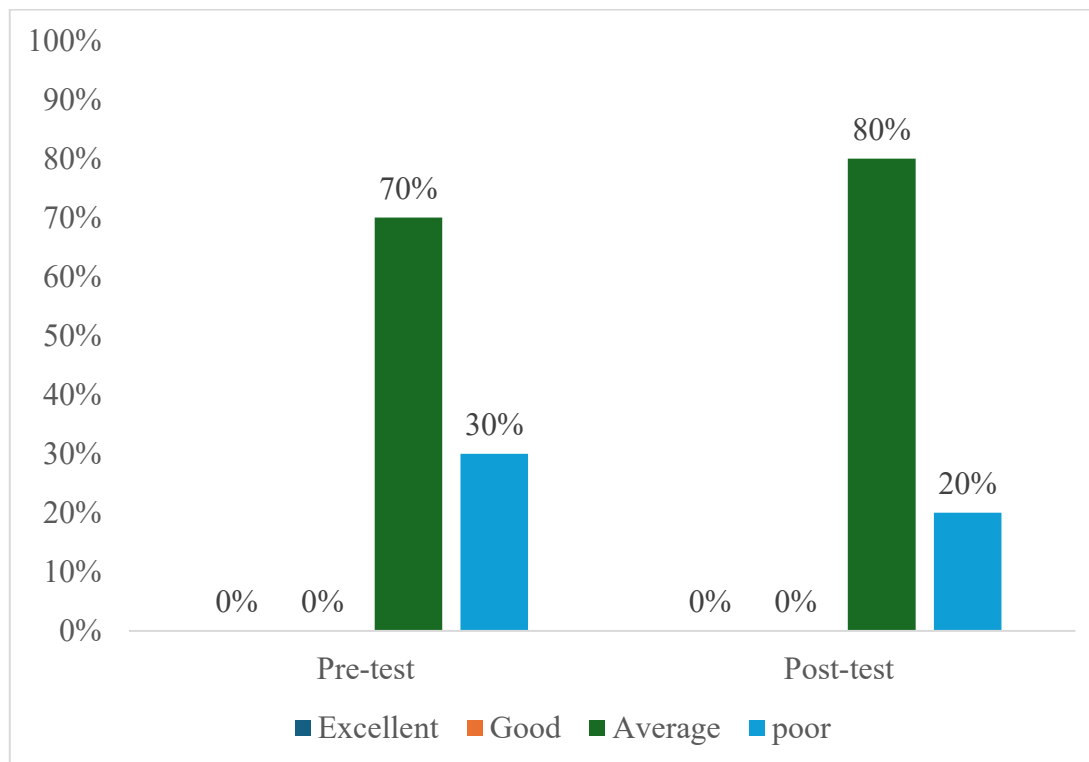


Figure :1.3 percentage distribution of pre-test pre and post-test level of Practice regarding common first aid management among school children in Control group.

SECTION III: Effectiveness of common first aid management training program on knowledge and practice among school children.

TABLE 1.5: Description of Effectiveness of common first aid management training program on knowledge within the group among school children. (n=30)

GROUPS	PRE-TEST	POST-TEST					
	Mean±SD	Mean±SD	Mean difference	df	Paired t-value	p-value	Significance
Experimental	7.1±1.3	9.8±2.5	2.7	29	8.6738	0.001	significant
Control	6.5±1.7	6.9±1.7	0.4	29	1.9435	0.0617	Not significant

P<0.05 significant level

TABLE 1.6: Description of Effectiveness of common first aid management training program on knowledge between the group among school children. (n=30)

GROUPS	Mean±SD	Unpaired t-value	df	p-value	Significance
Experimental	9.8±2.5	5.2539	58	<0.0001	significant
Control	6.9±1.7				

P<0.05 significant level

TABLE 4.17: Description of Effectiveness of common first aid management training program on Practice within the group among school children. (n=30)

GROUPS	PRE-TEST	POST-TEST					
	Mean±SD	Mean±SD	Mean difference	df	Paired t-value	p-value	Significance
Experimental	9.3±3.1	16.3±5.2	7	29	12.473	0.0001	significant
Control	9.3±2.6	9.8±3	0.46	29	1.7557	0.0897	Not significant

P<0.05 significant level

TABLE:1.8 Description of Effectiveness of common first aid management training program on practice between the group among school children. (n=30)

GROUPS	Mean±SD	Unpaired t-value	df	p-value	Significance
Experimental	16.3±5.2	5.930	58	<0.0001	significant
Control	9.8±3				

P<0.05 significant level

SECTION IV: Relationship between level of knowledge and practice regarding common first aid management among school children.

TABLE:1.9 Description of co-relation between post-test score of knowledge and practice in experimental group. (n=30)

S.NO	Variable	Mean±SD	Mean difference	r value	P Value	Interpretation
01	Knowledge	9.8±2.5	6.5	0.925	<0.001	significant
02	Practice	16.3±5.2				

P<0.05 significant level

TABLE:1.10 Description of co-relation between post-test score of knowledge and practice in control group.

S.NO	Variable	Mean±SD	Mean difference	r value	P Value	Interpretation
01	Knowledge	6.9±1.7	2.9	0.01388	0.942	Not significant
02	Practice	9.8±3				

P<0.05 significant level

SECTION V: Association between level of knowledge and practice regarding common first aid management among school children and their selected demographic variables.

TABLE: 1.11 Association between level of knowledge regarding common first aid management among school children in experimental group and their selected demographic variables.

school children in experimental group and their selected demographic variables.									
S.no	Demographic Characteristics	Poor	Average	Good	Excellent	df	X ²	P-value	Inter-pretation
1	Age in years								
	9-10	0	4	0	0	2	3.8	0.15	NS
	11-12	5	5	0	0				
	13-14	4	12	0	0				
2	Gender								
	Male	4	16	0	0	1	2.86	0.09	NS
	Female	5	5	0	0				
	Other	0	0	0	0				
3	Class/grade								
	6th	1	3	0	0	2	0.94	0.63	NS
	7th	2	8	0	0				
	8th	6	10	0	0				
	9th	0	0	0	0				
4	Type of school								
	Government	9	21	0	0				NA
	Private	0	0	0	0				
	Semi-government	0	0	0	0				
5	Area of residence								
	Urban	0	0	0	0				NA
	Rural	9	21	0	0				
	Semi-urban	0	0	0	0				
	Religion								

6	Hindu	6	12	0	0	3	3.33	0.34	NS
	Muslim	2	8	0	0				
	Christian	0	1	0	0				
	Sikh	1	0	0	0				
7	Father education					3	6.19	0.1	NS
	Illiterate	2	0	0	0				
	Primary	1	7	0	0				
	Secondary	3	9	0	0				
	Graduate	3	5	0	0				
8	Mother education					3	2.33	0.51	NS
	Illiterate	4	7	0	0				
	Primary	1	8	0	0				
	Secondary	3	5	0	0				
	Graduate	1	1	0	0				
9	Type of family					1	0.24	0.62	NS
	Nuclear	6	12	0	0				
	Joint	3	9	0	0				
10	Have you ever received first aid training before								NA
	Yes	0	0	0	0				
	No	9	21	0	0				

TABLE: 1.12 Association between level of knowledge regarding common first aid management among school children in control group and their selected demographic variables.

S.NO	Demographic characteristics	Poor	Average	Good	Excellent	df	X ²	P-value	Inter-pretation
1	Age in Years					1	0.02	0.89	NS
	9--10	0	0	0	0				
	11--12	5	7	0	0				
	13--14	8	10	0	0				
2	Gender					1	3.09	0.08	NS
	Male	5	12	0	0				
	Female	8	5	0	0				
	Other	0	0	0	0				
3	Class/Grade					1	8.15	0.004	S
	6th	0	0	0	0				
	7th	9	3	0	0				
	8th	4	14	0	0				
	9th	0	0	0	0				
4	Type of school								
	Government	0	0	0	0				
	Private	13	17	0	0				
	Semi-government	0	0	0	0				
5	Area of residence								
	Urban	0	0	0	0				
	Rural	13	17	0	0				
	Semi-urban	0	0	0	0				
6	Religion					3	6.94	0.07	NS
	Hindu	8	8	0	0				
	Muslim	1	5	0	0				
	Christian	1	4	0	0				
	Sikh	3	0	0	0				
7	Father education					3	5.7	0.13	NS
	Illiterate	0	2	0	0				
	Primary	2	3	0	0				
	Secondary	9	5	0	0				
	Graduate	2	7	0	0				
8	Mother education					3	1.72	0.63	NS
	Illiterate	2	4	0	0				
	Primary	5	3	0	0				

	Secondary	4	6	0	0				
	Graduate	2	4	0	0				
9	Type of family					1	0.81	0.37	NS
	Nuclear	11	12	0	0				
	Joint	2	5	0	0				
10	Have you ever received first aid training before								
	Yes	0	0	0	0				
	No	13	17	0	0				

TABLE:1.13 Association between level of Practice regarding common first aid management among school children in Experimental group and their selected demographic variables.

S.NO	Demographic Characteristics	Poor	Average	Good	Excellent	df	X ²	P-value	Inter-pretation
1	Age (in years)					2	3.81	0.15	NS
	9--10	0	4	0	0				
	11--12	5	5	0	0				
	13--14	4	12	0	0				
2	Gender					1	2.86	0.09	NS
	Male	4	16	0	0				
	Female	5	5	0	0				
	Other	0	0	0	0				
3	Class/grade					2	0.95	0.62	NS
	6th	1	3	0	0				
	7th	2	8	0	0				
	8th	6	10	0	0				
	9th	0	0	0	0				
4	Type of school								
	Government	9	21	0	0				
	Private	0	0	0	0				
	Semi-government	0	0	0	0				
5	Area of residence								
	Urban	0	0	0	0				
	Rural	9	21	0	0				
	Semi-urban	0	0	0	0				
6	Religion					3	3.52	0.32	NS
	Hindu	6	12	0	0				
	Muslim	2	8	0	0				
	Christian	0	1	0	0				
	Sikh	1	0	0	0				
7	Father education					3	6.68	0.08	NS
	Illiterate	2	0	0	0				
	Primary	1	7	0	0				
	Secondary	3	9	0	0				
	Graduate	3	5	0	0				
8	Mother education					3	1.96	0.58	NS
	Illiterate	4	7	0	0				
	Primary	1	8	0	0				
	Secondary	3	5	0	0				
	Graduate	1	1	0	0				
9	Type of family					1	0.24	0.62	NS
	Nuclear	6	12	0	0				
	Joint	3	9	0	0				
10	Have you ever received first aid training before								
	Yes	0	0	0	0				
	No	9	21	0	0				

TABLE: 1.14 Association between level of Practice regarding common first aid management among school children in control group and their selected demographic variables.

S.NO	Demographic	Poor	Average	Good	Excellent	df	X ²	p-value	Inter-pretation
1	Age in years					1	2.12	0.14	NS
	9-10	0	0	0	0				
	11-12	2	10	0	0				

	13-14	7	11	0	0				
2	Gender								
	Male	5	12	0	0	1	0.01	0.91	NS
	Female	4	9	0	0				
	Other	0	0	0	0				
3	Class/grade								
	6th	0	0	0	0	1	0.12	0.73	NS
	7th	4	8	0	0				
	8th	5	13	0	0				
	9th	0	0	0	0				
4	Type of school								
	Government	0	0	0	0	—		—	NA
	Private	9	21	0	0				
	Semi-government	0	0	0	0				
5	Residence								
	Urban	0	0	0	0	—		—	NA
	Rural	9	21	0	0				
	Semi-urban	0	0	0	0				
6	Religion								
	Hindu	4	12	0	0	3	2.82	0.42	NS
	Muslim	1	5	0	0				
	Christian	2	3	0	0				
	Sikh	2	1	0	0				
7	Father education								
	Illiterate	0	2	0	0	3	5.62	0.13	NS
	Primary	1	4	0	0				
	Secondary	7	7	0	0				
	Graduate	1	8	0	0				
8	Mother education								
	Illiterate	1	5	0	0	3	7.82	0.05	S
	Primary	5	3	0	0				
	Secondary	3	7	0	0				
	Graduate	0	6	0	0				
9	Type of family								
	Nuclear	6	17	0	0	1	0.79	0.37	NS
	Joint	3	4	0	0				
10	Have you ever received first aid training g before								
	Yes	0	0	0	0		—	—	NA
	No	9	21	0	0				

DISCUSSION

The findings revealed that 21 (70%) participants had average knowledge and 9 (30%) had poor knowledge regarding common first aid management, while none demonstrated good or excellent knowledge. The majority belonged to the 13–14 years age group (53.34%), were males (66.67%), studying in 8th grade (53.34%), Hindu (60%), from nuclear families (60%), and had fathers with secondary education (40%) and mothers who were illiterate (36.67%). Statistical analysis showed no significant association between knowledge level and age ($\chi^2=3.8$, $df=2$, $p=0.15$), gender ($\chi^2=2.86$, $df=1$, $p=0.09$), class ($\chi^2=0.94$, $df=2$, $p=0.63$), religion ($\chi^2=3.33$, $df=3$, $p=0.34$), father's education ($\chi^2=6.19$, $df=3$, $p=0.10$), mother's education ($\chi^2=2.33$, $df=3$, $p=0.51$), and type of family ($\chi^2=0.24$, $df=1$, $p=0.62$). As all participants belonged to government schools and rural areas, association could not be computed for these variables.

NURSING IMPLICATIONS

Nursing Education

First aid education should be integrated into school health programs and nursing curricula.

Nursing Practice

School health nurses should organize regular first aid training and emergency preparedness sessions.

Nursing Administration

Administrators should ensure availability of first aid resources and training opportunities in schools.

Nursing Research

Further studies with larger samples and longer follow-up periods are recommended.

CONCLUSION

The study concluded that the Common First Aid Management Training Program effectively improved the knowledge and practice of school children regarding first aid management. Regular training and reinforcement programs are recommended to strengthen emergency response skills and promote a safer school environment.

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