

A Study to Assess the Effectiveness of Demonstration on Skill of First Aid During Sports Injuries Among School Children in Selected Rural Schools of Bagalkot

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Abstract

Original Research Article

Background: Sports-related injuries, which are quite common among school children. Immediate and appropriate first aid management is crucial in minimizing the severity and promoting faster recovery. Therefore, assessing the effectiveness of Demonstration on the skills of first aid management during sports injuries among school children. **Aims:** The aim of the study was to assess the effectiveness of Demonstration on the skills of first aid management during sports injuries among school children in selected rural schools of Bagalkot. **Methodology:** Quantitative research approach with pre-experimental one-group pretest-posttest research design was used for the study to accomplish the objectives. According to the self-administered structured closed ended questionnaire and checklist were used to collect data from sample of 60 school children was selected by simple random sampling technique. The data collected were analyzed using descriptive and inferential statistics. **Findings:** Difference between mean pre-test [16.16] and mean post-test [45.8] scores, found to be statistically difference at 0.05 level of significant [$t=46.1$ (p value is <0.00001) at the level of significance $p<0.05$]. As Hypothesis H_1 states, H_1 : Mean post-test skill scores of rural school children regarding first aid management on sport injury will be significantly higher than the mean pre-test skill on first aid management on sports injury score among rural school children. **Conclusion:** The overall findings reveal that a significant positive correlation of effectiveness of demonstration on skill of first aid during sports injuries among school children.

Keywords: Effectiveness of demonstration, first aid, school children.

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1. INTRODUCTION

Practical life activities give the child an understanding of his environment and beautiful for all to use. This work builds the child's self-esteem, making him feel of value. In addition, practical life activities also develop manual dexterity [1]. Today's child is tomorrow's citizen. The development of a country can be determined by estimating the health status of children in that country. Children are the major consumers of health care. In India about 35 % total population is children below 15 years of age. This group as they are vulnerable to various health problems [2].

Today research shows that the importance of physical activity in children is stronger than ever. For example, medical researchers have observed that highly active children are less likely to suffer from high pressure, diabetes, cancer of the colon, obesity & coronary heart disease later in life [3].

Injuries become more frequent as the child gets older, bigger and achieves higher skill levels. There is no risk-free sport, and children tend to select the sports, they wish to participate in without considering injuries rates [4]. The most common sports injuries are sprains, knee injuries, swollen muscles, Achilles, tendon injuries, pain along the shin bone fractures and dislocation, less common but more severe types of sports injuries include fracture, cartilage & ligament damage. Accidents poor training practices are improper gear can cause the injuries [5].

Without the basic and correct knowledge for first aid and prevention of injury techniques, sports injury will likely to reduce the original benefits associated with sports activity. Therefore, it is especially critical to instruct knowledge related to "first aid and prevention of sports injury through proper education" [6]. Physical activity plays a major role in promoting and

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maintaining health throughout life. The benefits of sports and physical activity for children includes, increased cardiovascular fitness, better sleep, improved social skills, healthy growth of bones, muscles, ligaments and tendons, improved coordination and balance, a greater ability to physically relax and, therefore, avoid the complications of chronic muscular tension such as headache or back ache [7].

First aid is the initial assistance or treatment given causality for any injury or sudden illness before the arrival of an ambulance, doctor or other qualified person. The aims are to save the life, to ease the pain and to promote recovery [8]. Sports & physical education is fundamental to early development of children and these contribute to the holistic development of children [9].

According to National Crime Record Bureau (NCRB) in Karnataka 2007, there were about 516 deaths and 13% had injuries. In the same one-year period, 4986 persons were brought to the hospital in a ratio of 1:25 for fatal to non-fatal injuries [10].

A study was conducted to determine the effectiveness of Physical Education and Sports in School Children. The study revealed that it helps in the development of character building, reduction of rowdiness and serves on the basis of group unity and solidarity and introduces team work, self-discipline, sportsmanship, leadership and socialization among the youth. Regular physical activity provides numerous health and cognitive functioning [11].

According to BBC News, British Red Cross said that pupils need first aid training. where they asked 1960 adults and among them 90% said, children should learn first aid in schools. Further they said that, pupil's aged 11-14 ages learn basic emergency first aid and ages 14-16 can learn resuscitation techniques [12]. Proper first aid can prevent complications, reduce the severity of injuries, and promote faster recovery. Educating school children, teachers, and coaches about basic first aid techniques empower them to respond promptly and appropriately during sports-related emergencies [13]. First aid management during sports injuries is essential for ensuring the immediate and effective care of injured children, preventing complications, and promoting faster recovery [14].

2. MATERIAL AND METHODS

The present study was pre-experimental one group pretest- posttest design with an aim to assess the effectiveness of demonstration skill on first aid during

sports injuries by comparing pretest and posttest skill scores among school children in selected rural schools of Bagalkot.

Study participants

The study participants were school children studying in 7th, 8th and 9th standard in the selected rural schools of Bagalkot. The data was collected from 60 school children.

Setting of the study

The study was conducted at rural school of Bagalkot.

Sampling technique

Simple random sampling technique was used to select the subjects who were available and willing to participate, by giving consent.

Data Collection Instrument

A self-administered structured closed ended questionnaire and practice checklist was prepared by extensive review of literature and on the basis of suggestions of guide and experts, with an aim to assess the effectiveness of demonstration on skill of first aid during sports injuries among school children. The tool was modified according to the suggestions of the experts before implementing to the subjects.

Data Collection Procedures

Data collection is gathering information needed to address the research problem. Prior to actual data collection, the investigator obtained permission from principle and approval from institutional clearance committee. Purpose of the study was to assess the effectiveness of Demonstration program on knowledge regarding first aid and prevention of sports injuries among school children studying in 7th, 8th, 9th std in the selected rural schools of Bagalkot. The school children were fulfilled the inclusion criteria was approached for data collection. Self-report information from respondents through self-administration of questions in a paper and a print format.

Data Analysis

Descriptive Statistics such as frequency and percentage distribution were used for analysis of demographic variables of school children and Frequency, Percentage distribution, mean and standard distribution for analysis of demonstration on skill of first aid during sports injuries among school children. Inferential Statistics such as Paired 't' test was used to compare pre-test and post test scores for skill score.

3. RESULTS

Table 1: Description of socio-demographic characteristics of sample.

SI No	Socio Demographic	Frequency	Percentage
1	Age		
	a) 12-13 Year	37	61.70%
	b) 14-15 Year	23	38.30%
2	Gender		
	a) Male	33	55%
	b) Female	27	45%
3	Standard		
	a) 7 th	39	65%
	b) 8 th	13	21.70%
	c) 9 th	8	13.30%
4	Education of Father		
	a) No formal education	5	8.30%
	b) Primary education	39	65%
	c) High school education	13	21.60%
	d) Higher secondary and above	3	5%
5	Education of Mother		
	a) No formal education	28	46.7
	b) primary education	31	51.7
	c) High school education	1	1.6
	d) Higher secondary and above	0	0
6	Previous sources of information on sports injuries first aid and prevention		
	a) Books	17	28.3
	b) Margins	0	0
	c) TV and Radio	43	71.7
	d) Health personnel	0	0
7	History of previous sports injury		
	a) Yes	41	68.3
	b) No	19	31.7

Table 1. shows that the Majority (61.70%) of the school children were belongs to age group of 12-13 years and (38.30%) of school children were between the age group of 14-15 years. (55%) were males and remaining (45%) of school children were females. They belong to 7th standard (65%), (21.60%) belongs 8th standard, (13.30%) belongs to 9th standard. the Majority of the fathers of study subjects belongs to primary education (65%), (21.60%) belongs high school, (8.30%) belongs to no formal education and remaining (5%)

belongs to higher secondary education. the Majority of the mothers of study subjects belongs to primary education (51.70%), (46.7%) has no formal education (1.6%) belongs to high school education and no one belongs to higher secondary education. Majority of the study subjects have the previous sources of information through TV and radio (71.70%), and remaining (28.30%) thought books. Majority of them have previous history of sports injury (68.30%), and remaining (31.70%) has no previous history of sports injury.

Table 2: Percentage wise distribution of level of demonstration skill on first aid management during sports injury among school children in pre-test and post-test scores.

SL NO	Level of demonstration skill	Score	Pre-test		Post-test	
			Frequency	Percentage	Frequency	Percentage
1	Poor skills	0 - 16	52	86.7%	0	0%
2	Moderate skills	17--32	8	13.3%	6	10%
3	Adequate skills	33 - 48.	0	0%	54	90%

Table 2. Shows that during pretest Majority of the study subjects 52 (86.7%) were having poor skill scores, 8 (13.3%) study subjects were having moderate skill scores and no study subjects were having adequate skill scores. But after post-test no study subjects were having poor skills, 6 (10%) study subjects were having

moderate skills and 54 (90%) study subjects were having adequate skills. This shows the significant difference between mean pre-test scores (16.16) and mean post-test score (45.8) of level of demonstration skill regarding the first aid management during sports injury among rural

school children. Hence, it's clear that statistically difference is seen in the test.

Table 3: Comparison between pre-test and post-test levels of demonstration on skill of first aid during injuries among school children

Sl.no	Demonstration on skill of first aid	Max. score	Pre-test(O1)		Post-test(O2)		Effectiveness	
			Mean±SD	Mean%	Mean±SD	Mean%	Mean±SD	Mean%
1	Fracture	10	18.2±20.02	17.04%	44.1±9.6	15.3%	25.9±10.42	1.74%
2	Bleeding	13	9.61±11.3	8.99%	39.1±9.9	13.6%	29.49±1.4	4.61%
3	Dental Trauma	9	12.2±16.1	11.42%	45.6±7.7	15.9%	33.4±8.4	4.48%
4	Cut Wound	6	24.6±13.8	22.4%	53±3.4	18.5%	28.4±10.4	3.9%
5	Shoulder Dislocation	4	21.5±19.6	20.1%	52.2±2.5	18.2%	30.7±17.1	1.9%
6	Sprain	6	20.6±20.5	19.2%	52.4±3.4	18.2%	31.8±16.1	1%
	Total	48	16.16±16.53	100%	45.8±9.2	100%	17.6%	

Table 3. Comparison of total mean percentage of the level of skill score in pre-test and post-test reveals in increase of 17.6% mean demonstration on skill of first aid management among school children after the effective demonstration.

The overall findings that the post-test level of skill score (45.8±9.2) which was more when compared to the pre-test of level of skill score (16.16±16.53). The effectiveness of demonstration in this area was 17.6% of total score. Hence it indicates that demonstration was effectiveness in enhancing the skill on first aid management among rural school children in Bagalkot.

Table 4: Assessment of Mean, SD and paired 't' test of Pre and post test scores towards Improving the demonstration on skill of first aid during injuries among school children

Level of demonstration skills	Mean	SD	Mean Diff.	SD Diff.	t-value	p-value
Pre-test	16.16	16.53	29.64	7.33	46.1	P is < 0.00001*
Post-test	45.8	9.2				

The findings related to the significance of the difference between pre-test and post test scores of the skill regarding first aid management on sports injury among rural school children. shows that, difference between mean pre-test [16.16] and mean post-test [45.8] scores, found to be statistically difference at 0.05 level of significant [t=46.1 (p valve is<0.00001) at the level of

significance p<0.05]. As Hypothesis H₁ states, H₁: Mean post-test skill scores of rural school children regarding first aid management on sport injury will be significantly higher than the mean pre-test skill on first aid management on sports injury score among rural school children.

Table 5: Association between the pre-test scores and selected socio-demographic Variables

Sl. no.	Socio-Demographic Variables	DF	Chi-square value	P value	Interpretation
1	Age	1	1.2	0.25	Not Significant
2	Gender	1	0.76	0.9	Not Significant
3	Standard	1	1.83	0.1	Not Significant
4	Education of father	1	4.13	0.042	Significant
5	Education of mother	1	0.07	0.7	Not Significant
6	Previous sources of information	1	0.03	0.8	Not Significant
7	History of sports injury	1	0.18	0.66	Not Significant

Findings related to the association between pre-test scores of rural school children with their selected socio demographic variables reveals that, there was no significant association found between the pre-test level of demonstration skill regarding first aid management on sports injury scores of rural school children except the education of father (0.042).

skill on first aid during sports injuries by comparing pre and posttest skill scores school children in selected rural schools of Bagalkot. In order to active the objectives of the study, pre-experimental one group pretest-posttest research design was adoptive a sample of 60 school children for present study was selected using simple random sampling technique.

DISCUSSION

The main objective of the present study was conducted to find out the effectiveness of demonstration

In this present study there was a significant association between level of demonstration skill

regarding first aid management on sports injury and with their socio-demographic variables.

Finding showed that a significant association was found in education of father [$\chi^2=4.13$ at $p<0.05$], hence the H_2 state is accepted for education of father and there was no significant association found between variables such as age, gender, standard, education of father, education of mother, previous sources of information and previous history of sports injury. The research approach selected for the study was the quasi-experimental nonequivalent control group pre-test -post-test only design) approach. A sample of 140 school children was selected by purposive sampling from selected school of Bareilly. The major findings of the study showed that the mean post-test knowledge scores of school children regarding first aid management was higher than their mean pre -test knowledge scores with a mean difference of 15.88 the mean post-test attitude level of school children regarding first aid management [15]. This quasi-experimental study was carried out on 100 school children in governmental preparatory schools in Egypt. The researchers designed a program for first-aid training, and this was implemented by trained nursing students. The evaluation involved immediate post-test and follow-up assessment after two months. The results showed generally low levels of satisfactory knowledge and inadequate situational practice among the school students before the intervention. Statistically-significant improvements were shown at the post- and follow-up tests [16].

CONCLUSION

On the basis of the findings of the study it is clear that there is a statistically difference between mean pre-test and mean post-test level of demonstration skill regarding first aid management on sports injury among rural school children Bagalkot. Significant association found between level of demonstration skill regarding first aid management on sports injury and with their socio-demographic variables.

Recommendation

A similar study can be replicated on a large sample to generate the findings. A similar study can be conducted on children with disabilities to evaluate tailored approaches to teaching first aid. A study shall be conducted to assess how socio-cultural and geographical differences affect first aid awareness and management practices among children. The Comparative study would be conducted between trained and untrained groups of children across various settings (urban vs rural, private vs public schools) could offer valuable insights into disparities in first aid awareness.

Ethical Clearance: Ethical clearance was obtained from the institutional ethical committee of BVVS Sajjalashree Institute of Nursing Sciences, Bagalkot.

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Conflict of Interest: Nil

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