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Effectiveness of health education programme in terms of knowledge regarding first aid management among school going children

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Abstract
First-aid is an immediate and temporary treatment of victims of sudden illness or injury while awaiting the arrival of medical aid. Proper early measure by be instrumental in saving life and ensuring a better and more rapid recovery. To assess and evaluate the level of knowledge and to determine the association of level of knowledge among school going children regarding first-aid management with selected demographic variables.

A Quantitative research approach was used with quasi-experimental research design (One group pretest-post test). The study was conducted at Arya Public Senior Secondary School Mullana, Ambala, Haryana. The data was collected from 120 students regarding first-aid management who were selected by convenient sampling technique. Data was collected by administering structured knowledge questionnaire.

Data was analyzed by using descriptive statistics such as- mean, median and standard deviation, and inferential statistics such as- Chi-square test. In knowledge area majority of school going children have very good knowledge (45%) and least (3.3%) of school going children have below average knowledge regarding first-aid management. The mean post-test knowledge score (32.45) was significantly (t= 15.44) higher than the mean pre-test knowledge score (14.53).To put in the nutshell, present study reveals that most of the school going children had very good knowledge regarding first-aid management.

Keywords: knowledge, effectiveness, health education programme, first-aid management, school going children

Introduction
Background of Study
First aid is the assistance given to any person suffering a sudden illness or injury with care provided to preserve life, prevent the condition from worsening, and/or promote recovery [1, 2].

According to national first aid science advisory board, first aid should be learned by every person for this it is necessary that first aid training and education should be provided to everyone and should be important [3].

According to the national safety council's report (1952), on the location at which injuries occur, it was reported that 57% was school related injuries occurred in the school building, school play ground or while going or coming back from the school and only 43% were non – school injuries and occurred either at home or in public places [4].

In Egypt a study reported that school age children were had higher rates of fracture injuries (37.5%), wounds (31.4%) and burns (15.6%). The least reported injuries in this age group were electric shock and sunstroke. In terms of the setting where the injury took place were more likely to be injured on the road or at school than at home [4].

Glendon *et al.* suggested that the teaching of first aid to students is probably cost-effective in terms of saving lives.3 They also recommended that first aid should be taught within schools. Engeland, Roysamb, Smedslund and Sogarrd studied the implementation of training of first aid to junior high students. The researchers measured the implementation of the program by teachers and the attitudes and knowledge of their students [5].

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Material and Method

A Quantitative research approach with quasi-experimental research design (one group pretest-post test) was used. The study was conducted at Arya Public Senior Secondary School Mullana, Ambala, Haryana. Total 120 students with convenient sampling technique were selected in the study. School going children those were present, studying in 7th, 8th, 9th standard, can read and write Hindi were included in the study. Data was collected by administering structured knowledge questionnaire regarding first aid management. The tool was validated by seven nursing experts and reliability of tool was calculated by using KR20 (Kuder Richardson formula 20) and it was found reliable (0.65).

Formal administrative approval was obtained from Principal of Maharishi Markandeshwar college of Nursing and Arya Senior Secondary School Mullana, Ambala to conduct the final study.

Data was collected on 28 February, 2017. In order to develop rapport, self introduction and introduction of the study was given to the school going children of arya public senior secondary school. Inform consent was obtained from the sample and was assured about the confidentiality of their response. Before giving health education pretest of knowledge was taken. A health education programme was given on first aid management for 40 minutes duration on the same day. On day 7th post test of knowledge were taken.

Result

Raw data was collected from 120 school going children through structured knowledge questionnaire and then the data was entered in Microsoft excel sheet. Data was analyzed and interpreted by employing descriptive and inferential statistics. SPSS version 20.0 was used to analyze the data. Level of significance for the present study was taken as p value ≤ 0.05.

The data presented shows that majority of the subjects (66.6%) belong to the age group 13-15 years. Most of them (62.5%) were males. Majority of them were Hindu (90.8%) by religion. Less than half families (48.3%) had an income below 5000/month. 55.8% of the mothers had educational status up to secondary. 56.6% of the fathers had educational status up to secondary. 92.5% of the mothers were housewives or not working. 55.8% of the fathers were self-employee. Majority of type of family were nuclear (44.8%). Maximum of them (74.2%) had previous knowledge regarding first-aid management. Most of them (75%) never provided first-aid to a person.
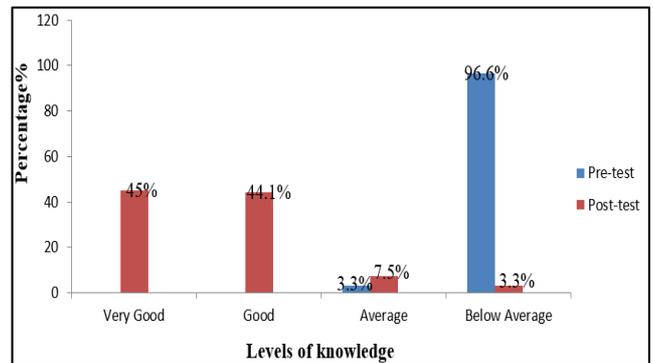

Fig 1: Bar graph showing the frequency and percentage distribution of pretest and posttest knowledge scores in terms of level of knowledge regarding first-aid management among school going children

The data presented in figure 1. shows that in the pre-test none had good and very good knowledge towards first-aid management where as in the post-test 44.1% children had good knowledge and 45% children had very good knowledge towards first-aid management.

Table 1: Mean, mean difference, standard deviation difference, standard error of mean difference and T Value of pre-test and post-test knowledge scores of secondary school going children regarding first-aid management N = 120

Levels of knowledge	Mean	M_D	SD_D	SD_M	t value
Pre-test	14.53				
		17.92	0.872	0.079	15.44*
Post-test	32.45				

Maximum score=44 "t value(119)= 1.96 at 0.05 level of significance   Minimum score=0

The data presented in table 1 shows that computed t value, 't' value (119) = 15.44, 0.05 indicated a significant difference between the pre test knowledge scores and post test knowledge scores was said to be true difference and not by chance.

In pre test, the higher mean percentage was found in the area of first aid for bite (41.6%), and the lowest mean percentage

was found in the area of first aid for fracture. whereas in post test, the highest mean percentage was found in the area of first aid for airway (84.3%) and the lowest mean percentage was found in the area of first aid for bite. The data also indicated that the post test mean percentage knowledge score in all areas was higher than the pre test mean percentage knowledge score. (Table-2)

Table 2: Area wise range, mean, mean percentage, actual gain, possible gain and modified gain among secondary school going children regarding first-aid management N =120

Areas	Range	Pre-test Mean (%)	Post – test mean (%)	Actual gain (%)	Possible gain (%)	Modified gain (%)
Concept of first-aid	8-1	4.8(28.2%)	12.6(74.1%)	7.8(45.8)	12.2(71.7)	156.4%
First-aid for airway	6-0	2.3(32.8%)	5.9(84.3%)	3.6(51.4)	4.7(67.1)	130.5%
First-aid for burn	8-1	4.5(37.5%)	86(66.6%)	81.5(679.1)	7.5(62.5)	9.20%
First-aid for bite	6-0	2.5(41.6%)	4.3(71.6%)	1.8(30)	3.5(58.3)	194.4%
First-aid for fracture	2-0	0.43(21.5%)	1.5(75%)	1.07(53.5)	1.57(78.5)	146.7%

Maximum score=44   Minimum score=0

Discussion

The study shows that in the pre-test none had good and very good knowledge towards first-aid management where as in

the post-test 44.1% children had good knowledge and 45% children had very good knowledge towards first-aid management. The result was in consistent with the studies

that were, in Sri Lanka in 2015 shows similar results as our study that the knowledge of first aid was not widespread among senior school prefects in two schools [6].

Comparable result was found in a Turkish study which emphasized that first aid knowledge among university students were insufficient and were only exposed to theoretical training [7]. In study conducted by Li *et al*, in 2012 in China had similar result among the personals that took care of children [8] However, Deepak and Nayak in 2012 studied the KAP on first aid practices among selfhelp group in India suggest that 62% had good knowledge and 38% had average knowledge which is in contrast of our study findings [9].

It was found by Priyangika and Hettiarachchi in Sri Lanka in 2015 that more than 50% of students knew basic first aid for burn and fracture [10] Further they found that very few had knowledge for first aid for cut injury and epistaxis which is similar to our study findings. Study conducted in Pakistan by Khan *et al*. in 2010 and in UK by in 1998 shows that 7.4% and 11.3% students respectively had knowledge about correct management of epistaxis which was 0.4% in our study [11, 12].

A study carried out in Pakistan revealed that the knowledge on first aid was not adequate even after training and thus, have suggested that training programs should be reinforced periodically [12].

One of the limitations of the study is that as only one school was taken for the purpose of the study hence the findings of the study could not be generalized to the entire school going children. A study can be conducted to assess the knowledge among staff nurses and school teacher's regarding first aid management.

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