

Knowledge and practice of primary school teachers about first aid management of selected minor injuries among children

Abstract

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Access this article online

Website: www.ijmedph.org

DOI: 10.4103/2230-8598.144114

Quick response code:



Introduction: Children spend most of the time in school where they are exposed to various types of minor injuries, which influence their present and future state of health. First aid is the treatment of any injury or illness before availability of professional medical aid. Teacher is the key person who can attend the children for minor injuries in school through complete knowledge regarding first aid management. This study was done among primary school teachers to evaluate the effectiveness of teaching program on knowledge and practice regarding first aid management of selected minor injuries in children. **Materials and Methods:** A Quasi-experimental study with one group pre- and post-test research design was conducted among the primary school teachers of Dehradun district of Uttarakhand. Fifty primary school teachers were selected by nonprobability convenient sampling. Data were collected by knowledge questionnaire (maximum possible score 42) and self-reporting checklist (maximum possible score 23). **Result:** Majority (94%) of the teachers were female. Paired sample *t*-test revealed that the mean posttest knowledge score regarding first aid management of selected minor injuries was significantly higher (34.76 ± 4.35) than that of mean pretest knowledge score (27.32 ± 5.73) ($P < 0.005$); mean posttest practice score was significantly higher (18.52 ± 2.63) than mean pretest practice score (14.52 ± 2.39) ($P < 0.005$). There was a significant positive correlation between knowledge score and practice score of participants ($r = 0.9$; $P < 0.001$). **Conclusion:** This concludes that the training program was effective in significant improvement of knowledge and practice score regarding first aid management of selected minor injuries among study participants. Findings stress the need for such training programs, which in turn may enhance the overall health standard of the children.

Key words: Educational package of first aid, first aid management, knowledge and practices of teachers, primary school teachers, selected minor injuries

INTRODUCTION

First aid is the treatment of any injury or sudden illness before professional medical help can be provided. The aim is to prevent the condition getting worse, ensuring fast recovery and preserving the precious human life. Most injuries are minor and can be treated without medical attention such as bruises, minor fractures, sprains, and strain. The knowledge of first aid, when properly applied, can bridge the gap between temporary or permanent injury, rapid recovery, or long-term disability.^[1]

Children spend most of the time in school under the direct supervision of teachers. They are also exposed to various types of epidemiological factors in the school, which influence their present and future state of health.^[2] Hence, first aid should be known by school teachers to meet the urgent needs of these school children during minor injuries. Teacher is the key person in school who attend such type of victims and always in a position to save the life. Healthy safe environment is very important to avoid these hazards beside qualified teachers who can detect any health problem and can give first aid for commonly occurring emergencies in schools.^[3]

During my clinical experience posting in the community, I have treated many school children for minor injuries in our health center and during the visit to many primary schools for health checkup.

The school nurse or any other health worker would not always be at the school when first aid treatment is needed, and also when children have accidents away from the school; consequently it is desirable that teachers and other staff should be properly taught to take care of the minor accidents that occur in and around the school.^[4] The responsibility of school teacher is also to provide a first aid care to children at school campus. Hence, they should be trained adequately to deliver health care to injured children in emergency. The primary purpose of the study was to make school teachers more competent in providing first aid care for minor injured children in primary school through structured educational package. This may apply their knowledge and practice regarding the first aid management of selected minor injuries to encounter the children at primary school, which would further help in reducing the complications and advancement of the problem. Indirectly, it would also help in reducing absenteeism rate of primary school children due to minor injuries.

MATERIALS AND METHODS

A Quasi-experimental study with one group pre- and post-test research design was conducted among the primary school teachers of Dehradun district of Uttarakhand. Fifty primary school teachers were selected by nonprobability convenient sampling was applied for selection of sample [Table 1].

A structured knowledge questionnaire was developed with the following components:

1. Baseline demographic data.
2. Knowledge questionnaire regarding first aid Management of minor injuries among primary school children and
3. Self-reporting practice checklist after validation and reliability of tools.

After obtaining the permission from the Institutional Ethical Committee and District Education Officer and informed consent was obtained from all study subjects, data were collected by using the Knowledge Questionnaire and self-reporting practice checklist. A structured educational package was administered to improve the knowledge and practice of the primary schools teachers.

RESULTS

Table 2 shows that majority (94%) of the school teachers were female, an equal distribution (50%) was seen in age group upto 40 years and above 40 myears. Sixty percent samples were married and 73.33% were having more than one child. Majority (84%) school teachers were having 0-15 years of teaching experience. Most of the school teachers (72%) had previous experience of handling injured children in schools. Majority of primary school teachers did not attend (86%) any specific seminar or workshop related to first aid management of minor injuries, but majority (74%) of school teachers had appropriate information about first aid management through literature like health newspapers,

Table 1: List of primary schools for data collection for main study

Name of primary school	Number of teachers
Rajakiya Prathamik Vidhiyala Keshpuri Basti, Doiwala, Block Dehradun	6
Sweta Public School Premnagar, Doiwala, Block Dehradun	7
Rajakiya Prathamik Vidhiyala Bajawal, Doiwala, Block Dehradun	6
Ahilyabai Holker Smriti Vidyalaya, Premnagar Doiwala, Block Dehradun	8
Ishaat Ul-Uloom Muslim Primary School, Telepura, Doiwala, Block Dehradun	5
Rajakiya Prathamik Vidhiyala Jiwan wala Doiwala, Block Dehradun	6
Rajakiya Prathamik Vidhiyala Bulawala Doiwala, Block Dehradun	6
Rajakiya Prathamik Vidhiyala Telipura Doiwala, Block Dehradun	6
Total	50

Table 2: Analysis of baseline data characteristics of primary school teachers (n = 50)

Sample characteristics	Primary school teachers	
	Frequency	Percentage
Gender		
Male	3	6
Female	47	94
Age		
<40	25	50
>40	25	50
Educational status		
Professional	39	78
Others (BA, B. Ed., MA)	11	22
Marital status		
Married	30	60
Unmarried	20	40
If married then no of children		
One children	8	26.66
More than two children	22	73.33
Years of experience		
0-15	42	84
>15	8	16
Previous experiences of handling injured children in school		
Yes	36	72
No	14	28
Have attended seminar		
Yes	7	14
No	43	86
Information about first aid		
Yes	37	74
No	13	26
If yes than sources of information		
Through literature	32	64
Through health personnel, friends and relatives	18	3

magazines, health-related articles and from friends, relatives and health professional.

Table 3 shows that structured educational package in terms of the knowledge was effective and posttest mean knowledge score was significantly higher (34.76 ± 4.35) than that of pretest mean knowledge score (27.32 ± 5.73). It shows that through education and training primary school teachers can improve their knowledge.

Table 4 shows that the posttest mean practices score was significantly higher (18.52 ± 2.63) than the pretest mean practices score (14.52 ± 2.39). The obtained *t*-value (10.29) was significant at 0.05 level. Hence, above data show that improvement in the practice was not by chance but, it was due to the intervention of structured educational package.

Table 5 shows that there was no association between the pretest knowledge score and selected variables such as gender age, education, marital status, number of children, source of information, previously handling of injured children at school, years of experience, etc.

Table 6 shown that there was a mild correlation ($r = 0.47$) between knowledge score and practice score regarding first aid management before intervention and positive correlation ($r = 0.9$) after the intervention. This shows that when knowledge increases practices also increases.

DISCUSSION

The findings of the study are discussed as below

In this study, the knowledge and practices posttest score of primary school teachers were significantly higher compare to pretest knowledge and practice score about first aid management of selected minor injuries such as minor fracture, burn, scald, epistaxis, minor wounds, etc. Similar studies from other parts of world also shows that teachers agreed the all (90-100%) that epistaxis, dental injuries and minor abrasion due to sports or playing is common in primary school children.^[4,5] Another study also shows that 72-80% primary school teachers have improved their knowledge and continue

practice regarding first aid management for emergency condition in school campus.^[6]

Effectiveness of structured educational package

This study indicate that all participants improved their knowledge and practices after the teaching program based on pretest practices mean score (14.52 ± 2.39) less than posttest practice mean score (18.52 ± 2.63) and pretest knowledge mean score (27.32 ± 5.73) less than posttest knowledge mean score (34.76 ± 4.35). Other similar studies, which has shown that structure educational teaching has improved the knowledge and practice of not only the nursery or primary school teachers, but also mothers of school going children.^[7-8]

Correlations and co-efficiency between level of knowledge and practices score

Study shows correlation coefficient relationship between the pretest knowledge and pretest practices had low correlation, the correlation coefficient relationship between the posttest knowledge and posttest practices were highly correlated it means that the correlation is in a positive direction and when knowledge increases practices also increases.

It will be more important that if first aid management for Minor and major injuries can be added to the syllabus of Bachelor of Education course. All primary schools also need to have first aid box in their premises and classrooms. School management can organize or send the teachers for first aid management training.

CONCLUSION

Most of the time primary school children experience minor injuries such as sprain, strain, minor burn and epistaxis, etc., and they always need first aid care to prevent condition become worse and school teachers are the nearest one's to manage their minor injuries. If school teacher have enough knowledge about first aid management, they may not only help in reducing the complications and absenteeism rate in children, but also save the life of children when needed. Findings showed that in this study structured educational package on first aid management of selected minor injuries was effective. Primary

Table 3: Comparison between pre- and post-test knowledge score (n = 50)

Knowledge score of primary school teachers	Maximum possible score	Range	Mean \pm SD	Mean difference	t value
Pretest	42	11-36	27.32 \pm 5.73	7.4	7.49
Posttest	42	24-39	34.76 \pm 4.35		

P < 0.005, SD = Standard deviation

Table 4: Comparison of pretest and posttest practices scores of primary school teachers among primary school teachers (n = 50)

Practices score of primary school teachers	Maximum possible score	Range	Mean \pm SD	Median	Mean difference	t value
Pretest	23	10-19	14.52 \pm 2.39	15	4.00	10.29
Posttest	23	12-22	18.52 \pm 2.63	19		

P < 0.005, SD = Standard deviation

Table 5: Association between the pretest knowledge score of primary school teachers and their demographic variables (n = 50)

Demographic variables	Above median >29	Below median <29	χ^2	df	P value	Significance
Gender						
Male	2	1	—	—	1.00	NS ^F
Female	25	22				
Age						
Below 40	12	14	1.34	1	0.24	NS
Above 40	15	9				
Education						
Professional trained	19	18	0.40	1	0.5	NS
Others	8	5				
Marital status						
Married	14	16	1.62	1	0.20	NS
Unmarried	13	7				
If married then no of children						
One child	6	2	2.13	1	0.14	NS ^Y
More than one child	8	14				
Years of experiences						
0-15 years	25	17	1.98	1	0.15	NS ^Y
Above 15 years	2	6				
Previous handling of injured children						
Yes	21	15	0.97	1	0.32	NS
No	6	8				
Have attended seminar or workshop						
Yes	4	3	—	—	1.00	NS ^F
No	23	20				
Information about first aid						
Yes	18	19	0.91	1	0.33	NS ^Y
No	9	4				
If yes than source of information						
Through literature	14	18	3.76	1	0.05	NS
Through health personnel, relatives and friends	13	5				

^YYates correction test, ^FFissex exact test, NS = Not significant

Table 6: Correlations and co-efficiency between pretest knowledge score and pretest practice score and posttest knowledge score and posttest practices score for test the significance level (n = 50)

Pre- and post-test knowledge and practice score	Pretest knowledge score	Pretest practice score	Post-test knowledge score	Post-test practice score
Pretest knowledge score	—	$r=0.47$	—	—
Pretest practice score	$r=0.47$	—	—	—
Posttest knowledge score	—	—	—	$r=0.9$
Posttest practice score	—	—	$r=0.9$	—

school teachers became more competent to apply their knowledge to practices regarding the first aid management, which they may encounter among the primary school children.

ACKNOWLEDGMENTS

I would like to express my deepest appreciation to the Dr. Ratna Prakash, Ex-Principal, Himalayan College of Nursing and Dr. Sanchita Pugazhendi, Principal and research consultant of Himalayan College of Nursing for granting the necessary permission and constantly encouraging throughout the research project. In addition, I would like to express my gratitude to Mr. Muthuvenkatchalam S, Assistant professor, HCN for his statistical

guidance, Er. Rupesh Mehrotra for writing this manuscript and the primary school teachers of selected schools for their full cooperation to make this study possible.

ETHICAL CLEARANCE

This study was approved by the Research and Ethical Committee of HIHT and permission was obtained from Principal of Himalayan College of Nursing. Proper permission was obtained from authorities of Department of Primary Education of Dehradun District and written consent from participants of the study. There was no monetary benefit provided to the participants of the study.

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How to cite this article: Masih S, Sharma RK, Kumar A. Knowledge and practice of primary school teachers about first aid management of selected minor injuries among children. Int J Med Public Health 2014;4:458-62.

Source of Support: Nil, **Conflict of Interest:** None declared.