



EFFECT OF STRUCTURED TEACHING PACKAGE ON KNOWLEDGE OF FIRST AID SKILLS AMONG HEALTH EDUCATORS IN SCHOOLS OF HIMACHAL PRADESH: A QUASI EXPERIMENTAL STUDY

Vineet Kumar^{*}, Abhishek Sharma², Anjali Mahajan¹ and Rahul Gupta¹

^{*}Department of Community Medicine, IGMC Shimla

²Department of Cardiac Anesthesia, U.N. Mehta Institute of Cardiology and Research Center, Ahmedabad

¹Department of Community Medicine, IGMC Shimla

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ABSTRACT

Introduction: - Injuries in childhood are an emerging major public health problem that requires urgent attention. Childhood and adolescence is the most vulnerable stage of life prone to injuries. Present study aimed at assessing the basic knowledge of the health care educators on first aid and subsequently the effect of structured teaching package on it.

Methodology: - We conducted a quasi experimental study in the month of August 2016 on all freshly recruited health educators in schools of Himachal Pradesh. A self designed, structured, self administered questionnaire was used for data collection. After completing the pre test questionnaire a one and half hour training was given to the participants. A post test was taken immediately after completion of training.

Results: - There were total 60 female participants in the study. Median pretest score (IQR) came out to be 10.0 (10.0-11.0) where as median post test score (IQR) came out to be 14.0(13.0-14.8). Difference between Pretest and Post test scores was found to be statistically significant with p value < 0.001.

Conclusion: - There is urgent need of training regarding First Aid skills of health educators before their appointment in the schools.

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INTRODUCTION

According to American Heart Association, first aid is defined as helping behavior and initial care provided for an acute illness or injury, and that may be performed by any individual, not only by health professionals. The aim of providing first aid is to preserve life, alleviate suffering, prevent further illness and promote recovery^[1] Childhood injuries is a major killer of children throughout the world, responsible for about 950,000 deaths in children and young people under the age of 18 years annually, the major proportion of which can be avoided given that the first aid is available as soon as possible.^[2] Children are more vulnerable to injuries because of developmental and behavioral changes including unawareness of hazards and being active as well as physical properties including narrower airways, smaller body mass and thinner and more vulnerable skin. Children spent most of their day time in the schools giving school staff a significant chance to be present there and act during a situation in which first aid is required. Various studies conducted in schools both in India and other countries has revealed that most of the teachers had poor knowledge

is an effective method of coping with emergencies to enhance the overall health of children. Mortality, morbidity and treatment cost due to injuries can be significantly reduced due to timely administration of first aid.

Government of India under National Vocational Education Qualification Program has started vocational training for students in healthcare to train them in basic health care techniques including first aid care. Himachal Pradesh has also started this program in the state. Under this project trained nursing personal are employed in the schools to teach the students on healthcare (Health care educators).^[6] Present study aimed at assessing the basic knowledge of these health care educators on first aid and subsequently effect of structured power point and demonstration based package on it.

MATERIAL AND METHODS

We conducted a quasi experimental study during the month of August 2016. All teachers freshly recruited under National Vocational Education Qualification Program as health educators were included in the study. Objective of the study was to determine the effect of structured teaching package on knowledge regarding first aid skills among these health educators.

Study tool: - A self designed, structured, self administered questionnaire was used for data collection. Questionnaire

**Corresponding author: Vineet Kumar*

Department of Community Medicine, IGMC Shimla

included socio demographic information, details about prior training in first aid, and knowledge on first aid of the participants. Participant’s knowledge about muscle and bone injuries, fainting and unconsciousness, animal bites and other relevant first aid techniques was tested through the questionnaire.

Study strategy: - Participants were firstly told about the detailed objectives and methodology of study and after taking informed consent pre test questionnaire was given to them. After filling pretest questionnaire a one and half hour training using power point presentation and demonstration was provided to the participants. A post test was taken immediately after completion of teaching package.

Statistical analysis: - Data was entered in Microsoft excel spread sheet, cleaned for errors and analyzed using SPSS software version 20.0. As the pre-test and post-test score data was found to be non normal by shapiro-wilk test association between pre-test scores and different variables was checked by Mann-Whitney U test. We used Wilcoxon Signed Ranks test to compare pre and post test scores. McNemar test was used to compare differences in pretest and post frequencies of good and bad score. A two tailed p value of < 0.05 was taken as statistically significant.

Ethical justification: - Study was carried out after taking ethical permission from institutional ethics committee of IGMC Shimla. Informed consent was taken from all the participants.

RESULTS

There were total 60 female participants in the study. Median age (Inter Quartile Range) of the group was 25.0 (24.0-26.0) years. We compared the pretest score according to the age group, educational qualification, subject taken in senior secondary education and whether previous first aid training was attended or not. The results are shown in Table 1.

Table 1 Comparison of pre test scores according to different variables

Characteristics	Number (n = 60)	Median (IQR) ¹	Mean Rank	Z value	p-value
Age Group					
1. ≤ 25	37	10.0 (8.0-11.0)	32.80	-1.313	0.189
2. > 25	23	9.0 (8.0-10.0)	26.80		
Qualification					
1. Degree	27	10.0 (9.0-11.0)	32.67	-0.883	0.377
2. Diploma	33	10.0 (7.5-11.0)	28.73		
Higher Secondary stream					
1. Medical	36	10.0 (9.0-11.0)	34.17	-2.023	0.043
2. Others	24	8.5 (7.0-10.8)	25.00		
Previous training					
1. Yes	4	10.5 (9.3-11.0)	39.75	-1.114	0.265
2. No	56	10.0 (8.0-10.8)	29.84		

Participants who had medical stream in secondary education had significantly higher knowledge than other streams. Age and previous first aid training showed no significant association with the knowledge of first aid skills. Table 2 shows the comparison of pretest and post test scores of the first aid knowledge.

Table 2 Shows the comparison of pretest and post test scores of the first aid knowledge

Category	Pre Test Score Median (IQR) ¹	Post Test Score Median (IQR)	Z value	p-value
Animal bite	2.00(2.0-2.0)	4.00(4.0-4.0)	-6.891	<0.001
Life saving skills	2.00(2.0-3.0)	2.00(2.0-3.0)	-0.787	0.431
Seizure and Unconsciousness	2.00(2.0-3.0)	3.0(2.0-3.0)	-4.028	<0.001
Accidental Injuries	2.0(1.0-2.0)	3.00(3.0-3.0)	-5.568	<0.001
General First aid skills	2.00(1.0-2.0)	2.00(2.0-2.0)	-4.379	<0.001
Total	10.00(10.0-11.0)	14.00(13-14.75)	-6.554	<0.001

¹ IQR = Inter Quartile Range

Median pretest score (Inter Quartile Range) came out to be 10.00 (10.0-11.0) where as Median post test score (Inter Quartile Range) came out to be 14.00 (13.0-14.8), this difference was found to be statistically significant. Table 3 shows the comparison of participants having good and poor knowledge before and after the interventional teaching package. Before the training only 8% of the participants had good knowledge which was increase to 88% after the training and found to be statistically significant.

Table 3 Shows the comparison of participants having good and poor knowledge before and after the interventional teaching package.

Category	Poor knowledge (%)	Good knowledge (%)	p- value
Pre test	54 (90%)	6 (10%)	<0.001
Post test	7 (12%)	53 (88%)	

DISCUSSION

We found that majority of the participants had poor baseline knowledge regarding the first aid skills. Participants who had medical stream in secondary education had significantly higher knowledge than other streams. Age and previous first aid training showed no significant association with the knowledge of first aid skills. Reason behind that age has no effect on the knowledge would be that in our study age range of participants was very narrow. In a study conducted by Nayir *et al* (2011), they find that there was significantly negative correlation between age and knowledge on first aid⁷, while a study conducted by Sönmez *et al* shows that there was no relationship between age and knowledge score⁸. No effect of previous first aid training on current knowledge would be due to long time elapsed after the training and we do not enquire about time since previous first aid training in present study. Also it was found that there was no significant difference in the knowledge of the participants whether they had obtained a degree or a diploma in nursing.

Majority (90%) of health educators in school had poor knowledge regarding first aid skills in our study. Lee *et al* (2012) in China also concludes that only 3.7% of school teachers had good knowledge about first aid skills.⁹ In a study conducted by Vishma VK *et al* (2014) in South India on nursing students they find that knowledge and practices about first aid was significantly poor among them.¹⁰ similar findings were observed in a study conducted on medical students conducted in Mangalore, India. Nitin Joesph *et al* (2015) conducted a study where they find that the current competency level among teachers to administer first aid was inadequate. Measures need to be taken at schools to ensure initiation of first aid training followed by periodic training for teachers in first aid.^[3] A similar study by Chandrasekaran S *et al* (2010)

on awareness of basic life support among medical, dental, nursing students and doctors, they find that majority of them, that is, 84.82% had secured less than 50% marks. Awareness of BLS among students, doctors and nurses of medical, dental, homeopathy and nursing colleges is very poor. [1] The poor knowledge of health educators in the present study can be attributed to the fact that, in nursing curriculum, very little importance is given to education on first aid.

After the intervention knowledge of health educators improved significantly. This increase was present in all categories of first aid except life saving skills. The reason behind non improvement regarding knowledge of life saving skills may be that it requires more time and frequent training to fully understand the domain.

CONCLUSION

Children are the most vulnerable age group who are prone to injuries and the timely intervention with the effective first aid can significantly reduce the mortality and morbidity. There is an urgent need for training the nursing students early in their careers. It is, however, imperative that the health educators also be provided with the first aid training before their appointment in the schools and further at regular intervals. These measures will serve to make schools a safer environment for children.

Strengths and limitations of study: - Our study was carried out before posting in the schools, so there is no effect of length of service on their knowledge. Limitation of study is that our participants were not representative of all teachers recruited for health care teaching. Our study was based on a quasi experimental design and further studies are needed with randomized control design to strengthen our hypothesis.

References

1. Singletary EM, *et al.* First Aid: American Heart Association and American Red Cross Guidelines Update for First Aid Circulation. 2015; 132(Suppl 2):18:574-89.
2. World Health Organization, UNICEF World report on child injury prevention. 1st ed. Geneva, Switzerland: World Health Organization; 2008.
3. Joseph N, *et al.* Awareness, attitudes and practices of first aid among school teachers in Mangalore, south India. *J Prim Health Care.* 2015; 7(4):274-81.
4. Awad S, *et al.* Primary school teachers' knowledge about first aid. *Med. J. Cairo Univ.* 2015; Vol. 83, No. 1, June: 541-547.
5. Masih S, *et al.* 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.
6. Competency Based Curriculum National Vocational Education Qualification Program. PSS Central Institute of Vocational Education, Bhopal 2013. accessed from http://educationhp.org/Files/healthcare.pdf31_25_2015_02_08_04.pdf [Last accessed on December 1st 2017]
7. Nayir T, *et al.* The first-aid information and attitudes of teachers in the sparta provincial center. *SDU Faculty of Medicine Journal.* 2011; 18: 123-7.
8. Sönmez, *et al.* First-aid knowledge of pre-school teachers. *Türk Ped Arş.* 2014; 49: 238-46.
9. Li, *et al.* Pediatric first aid knowledge and attitudes among staff in the preschools of Shanghai, China. *BMC Pediatrics.* 012;12:121.
10. Vishma B K, *et al.* Perception and practices regarding first-aid among nursing students in Mandya. *Int J Health Sci Res.* 2014; 4(12): 84-88.
11. Chandrasekaran S, *et al.* Awareness of basic life support among medical, dental, nursing students and doctors. *Indian Journal of Anaesthesia.* 2010 Mar-Apr; 54(2): 121-126.

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