



Knowledge of Primary School Teachers Regarding First Aid for Selected Common Injuries in Selected Schools in Bangalore

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Abstract

Every parent will take various measures and actions to keep their child safe and protect them from injury. Especially when they are not around them, like in schools and daycare. Children are spending more time at school; thus, teachers are responsible for their health. School teachers should know that first aid and primary school children come under an endangered group, which means that they are more prone to injuries. The study's objective was to reveal primary school teachers' knowledge regarding first aid in selected Bangalore schools and determine the efficiency of a structured teaching program on knowledge regarding first aid. A pre-experimental pre-post-test design was preferred for this study. The sample consisted of 52 primary school teachers selected using purposive sampling. The score was acquired through self-administered questionnaires using baseline Performa and questionnaires to measure the primary school teachers' knowledge in selected schools in Bangalore, India. Among the 52 participants, 48.1% have poor knowledge, and 51.9% have moderate knowledge. All 100% of the subjects were female teachers, with a pre-test mean knowledge score of 14.52% and a post-test score of 22.63%. The obtained p-value of the mean difference between the pre and post-test is less than 0.001. It is concluded that there is a high relationship between primary and post-test knowledge scores of primary school teachers concerning first aid. The teacher's negligence of the students and their failure to look after the child during school hours is the main reason for the cause of accidents at school. Proper first aid knowledge is important for those teachers to prevent further complications of accidents. It is concluded that a structured teaching programme among those school teachers will help improve their awareness and competency in the prevention and management of First aid.

Keywords: First Aid, Knowledge, Primary School, Teachers

1. Introduction

A temporary emergency and immediate treatment are given to an injured person known as First aid. It is a supply of initial care for illness or injury^{1,2}. First Aid is used to protect lives and prevent further complications which are mainly given by a trained person or people who know about it. Providing First Aid requires only basic and simple techniques, which may or may not involve the use of equipment but can probably be useful in saving lives in many ways. Training for first aid is essential for everyone, including primary school teachers, as a student at this age

comes under a vulnerable group, which means they are more susceptible to injuries at school or home. Every year about 950,000 children <18 years of age die due to injury and violence, of which 90% are due to unintentional injuries. Children at the age of primary school (0-14 years) share one-third of the population in India³.

Children, especially primary schoolers, spend maximum time at school, in which they usually get injured, which may be major or minor, like cuts, foreign body in the nose and ears, falls, fractures, sprains, bites (bees, dogs, and scorpions), nosebleeds, seizures, fainting, poisoning (ingested poisoning and food poisoning) and

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certain other accidents and fever⁴. In this, the teacher has a high responsibility to provide First Aid to the children, where knowledge about First Aid is required for the protection of children and prevention of such injuries and accidents is a must for all teachers at schools, by giving first-hand important treatment known as, "FIRST AID". Even if certain measures and precautions are taken to prevent accidents, due to the carelessness and negligence or recklessness by the teachers which may injure the child⁵. Here, the teachers are the first ones who should deliver first aid and save their lives in the school environment⁶. They should have enough knowledge regarding first aid in a crisis. But, most teachers don't have enough First aid knowledge and correct practices. Recent studies have shown that the highest number of teachers have less awareness about first aid and its application, whereas they should be well trained in applying it to these common injuries.

For primary schoolers, playgrounds are the most common venue for accidents and injuries and if the teacher does not observe the children properly children are more likely to get injured⁵. Nowadays as most schools, mainly private schools have their school nurse for such incidents, it has become less important for the teacher to be aware of First Aid management, The physical and mental abilities of primary schoolers have not developed fully, these children come under defenseless group and are at higher chances to receive injury or casualty. Therefore, the teacher, being the first-hand caregiver for the children, is more important for them to be aware of such and should be able to handle and deal with all these situations and be 100% fully well trained in first aid⁷. In this study, the main aim is to evaluate the teacher's knowledge and their skill performances in providing First Aid to children who are prone to get such injuries and accidents at schools⁸. Thus, a structured teaching programme will give more knowledge to the teachers regarding First aid measures for selected common injuries and hence will give a more effective application of first aid to the students who get injured.

2. Methods and Materials

2.1 Ethical Approval

Written formal permission for conducting a study in the schools was acquired from the Principals of each school. The researcher explained the importance regarding the

need and purpose of first aid knowledge and management for the common minor injuries to the primary teachers and permission was obtained for them to participate in the study. Assurance was given that the information would remain confidential.

2.2 Design and Samples

This pre-experimental study was conducted in August 2019 among the primary schools in Bangalore. With a sample size of 52, determined based on Statistics prevalence (for definite and indefinite populations)

$$\text{Sample Size (SS)} = \frac{N}{1 + Ne^2}$$

Based on this calculation, the final sample size calculated was to be 64⁹. With a total no of 52 participants, 100% were female primary school teachers with an average age of 24 years. All the participants of this study were selected using a purposive sampling technique. The primary school teachers were approached by the researcher in all their respective working schools.

3. Outcomes Measures

With pre and post-test self-administered questionnaires, the score was obtained from the targeted samples. The data collected include socio-demographic information, previous exposure to first aid treatment and their skills in first aid, and types of education provided. Different questions regarding the knowledge of first aid on selected common minor injuries which are encountered mostly among the school children were included as questions in multiple choices. Every first aid knowledge and skills response under each question given has a weighted mark which is based on their appropriate knowledge and management of each particular condition. The maximum mark that could be assured was 30 points and the minimum mark was 0 points. The sum of all the count allocated to the most needed first aid management options for each emergency injury was composed which is based on the categorization of the primary school teacher's general knowledge about the first aid⁵. A score from 23-30 was considered good, whereas from 16-22 moderate and below 15 were considered as poor. A total number of 52 completed questionnaires was obtained out of 60 (targeted sample size) which were distributed to the teachers, yielding a response of 86.67%⁵.

4. Statistical Analysis

The collected data are entered and analyzed by using SPSS. The paired t-test and linear regression coefficient analysis were needed to decide the association between the demographic variables and the level of knowledge on first aid management of common minor injuries, with $p \leq 0.05$ considered a statistically significant association⁵.

4.1 Hypothesis

H_1 : There is a significant difference between pre-test and post-test knowledge scores of primary school teachers regarding first aid.

H_{2a} : There is a statistically significant association between the pre-test knowledge score of primary school teachers regarding first aid and their selected demographic variables.

H_{2b} : There is a statistically significant relationship between the post-test knowledge score of primary school teachers regarding first aid and their selected demographic variables.

5. Results

Table 1 depicts information about the pre-test knowledge score of primary school teachers regarding first aid management on selected common injuries where 48.1% ($f=25$) have poor knowledge of first aid and 51.9% ($f=27$)

Table 1. Description of pre-test knowledge score

N = 52

Knowledge Score	Frequency	Per cent
Poor (<15)	25	48.1
Moderate(16-22)	27	51.9
Total	52	100.0

Table 2. Mean improvement scores to impel the effectiveness of the structured teaching programme

N = 52

Test	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2tailed)
Pre-test number score	52	14.52	3.263	.452	32.088	51	.000*
Post-test number score	52	22.63	2.937	.407	55.565	51	.000

have moderate knowledge¹¹. None of them have a good knowledge score.

Table 2 tries to attempt a comparative analysis between the pre-test score of knowledge (14.52%) and post-test score (22.63%) first aid among the selected common injuries. The total mean distinction between the pre-test knowledge score and the post-test knowledge score is 8.11%. It showed that the obtained p-value is less than 0.001($p=0.000$). Thus, the research hypothesis is acknowledged and ended, it shows a highly significant rise in the knowledge level of the primary school teachers among first aid following administration of structured teaching programme.

Table 3 depicts that there is a significant association between the knowledge score and Educational Qualification among primary school teachers as the computed p-value is lesser than 0.05.

Table 4 represents the association between post-test knowledge score and age (0.19), religion (0.66), educational qualification (0.043), and the experience of giving first aid treatment (0.027) showed a statistically significant association with a p-value less than 0.05. It depicts the post-test intelligence score of primary school teachers regarding first aid highly correlating to their age, religion, educational qualification, and experience of giving first aid treatment.

Table 3. The pre, post-test knowledge score in association with the demographic variables is done using linear regression coefficient

N = 52

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	3.240	2	1.620	4.219	.020 ^b
Residual	18.817	49	.384		
Total	22.058	51			

a. Dependent Variable: Educational Qualification

b. Predictors: (Constant), Pos-Test, Pre-Test

Table 4. The correlation between Primary School Teachers' Knowledge towards First Aid and their Demographic characteristics is computed by using a linear regression coefficient.⁹

N = 52

Model		Unstandardized Coefficients		Sig.
		B	Std. Error	
	(Constant)	-2.243	6.907	.747
	Age	2.280	.932	.019
	Religion	1.264	.670	.066
	Educational Qualification	1.505	.722	.043
	Type of School	2.097	1.674	.217
	Previous Exposure To First Aid Training	.429	.959	.657
	Have You Give First Aid Treatment	2.212	.962	.027
	Place of Residence	-.193	.926	.836
	Type of Education Provided	1.537	2.584	.555
	Teaching Experience	-.983	.868	.264

a. Dependent Variable: POST-TEST

6. Discussion

The knowledge of primary school teachers in regards to first aid management of common minor injuries which are often seen in the primary schoolers was found to be inadequate in most of the schools⁶. There can be different reasons why this lack of knowledge occurs, but the main reason is due to the absence of training on first aid, educational postures, or screenplay that demonstrates how to give first aid and highlights its influence during accidents², among the primary school teachers. Knowing that a research study was conducted among those teachers on how effective the structured teaching programme is in improving their knowledge of first aid.

A previous study has shown that most accidents were among pupils aged between 8 and 9 years with 32 (20.5%) and 34 (21.8%) respectively¹⁰. A study was conducted among the teachers of primary schools to assess their knowledge and prevent further accidents in primary schoolers.

The majority of the school teachers have moderate knowledge (51.9%) of first aid management of common minor injuries and none of them are having a piece of adequate knowledge of first aid management for the common minor injuries. A Structured teaching programme regarding first aid management results in an improved knowledge on first aid management on such injuries which occurs both in school settings and at the home settings.

The research studies also showed that the teachers attending the study showed their interest and attitudes towards the importance of the management of common minor injuries. It has been proved that the teachers have gained adequate basic knowledge on the management of minor injuries occurring in school settings.

6.1 Effectiveness of Structured Teaching Programme

The teaching programme had a great impact on the knowledge of the teachers, and also in the presence of the teacher with good knowledge of first aid, learning first aid management had a supportive approach towards the importance of first aid management¹¹.

The statement revealed that most of the participants improved their awareness about first aid management of selected minor injuries. The pre-test means knowledge score of 14.52% and the post-test score of 22.63% shows a disparity between the pre and post-test scores of 8.11% which showed the effectiveness of structured teaching programmes on first aid management for common minor injuries¹².

A previous study has found that the insight of the teachers regarding first-aid practices has become more and more unlikely as the age of the teacher increases¹³, whereas the current study revealed that as the age increases the knowledge of first aid increases, people with previous experience of first aid, and even religion also

were denoting better knowledge about first aid. And the people who live in rural areas compared to those who live in urban areas have better knowledge in first aid management.

Regarding the correlations between the pre and post-test knowledge score and the educational qualification of the primary school teachers, teachers with Master's degrees have greater knowledge of first aid management. This means that teachers with diplomas and Bachelor's degrees need to be given training in first aid management on common injuries.

The findings of the current studies reveal that the knowledge of the teachers after a structured teaching programme has improved with a highly significant value ($p=0.00$) which shows that an intervention of first aid training through a Structured teaching programme among primary school teachers is effective¹⁴.

However, it was identified that no schools have adequate equipment for first aid kits in the current study. A school nurse was available in only 25% of the schools and only 20% of the schools had first aid kits containing the basic needs for the management of common injuries. However, it is also found that only 25% of the schools have a sick room/ nurse's station to refer sick children. So, first aid facilities are found to be highly needed by the schools, including the sick room fully equipped with the basic first aid kit to make the school environment improve in handling such an emergency.

7. Conclusion

The total outcome of the knowledge of the teacher about first aid was insufficient, that was due to a lack of training programme in this field¹⁴. The overall teacher's contribution and attention were good while providing them with a structured teaching programme. Some teachers were explained how to handle the situation and provide emergency care and some demonstration was also given. Some negative attitude was also received to sample size was reduced. The current study recommends that first aid knowledge among primary school teachers is mandatory along with fully equipped first aid kits as children abide most of the time in school and they tend to get injured or hurt thus first aid kit is also mandatory in schools¹⁵.

8. References

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