

# A Study to Evaluate the Effectiveness of Information Booklet on Knowledge regarding First Aid of Children with Common Accidents among Teachers at Selected Primary Schools in Tumkur

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**Abstract:** *The research design of this study was a pre experimental one group pre test post test design. The study population was primary school teachers who are working in Sri Renuka Vidhya Peeta, S. M. English school and Siddhaganga Primary School were selected by convenience sampling technique. Data collection instrument was structured questionnaire to assess the knowledge. The content validity of the tool was established by giving six experts in the field of nursing and medicine. Data gathered were analyzed by using descriptive and inferential statistics. The findings showed that the mean post test knowledge score of the teachers was 24.97 and which was higher than the mean pre - test score 16.12. The study was said to be significant when the calculated 't' value 22.583 was higher than the table value. The chi - square test at a level of significance of 5% was applied to check the association of demographic variables with knowledge score. The association between knowledge score and demographic variable of school teachers such as educational status was significant at  $p < 0.000$  level.*

**Keywords:** Research Design, Convenience sampling Technique, Structured questionnaire, Inferential statistics, The chi - square test

## 1. Introduction

In India, as per the 2009 estimation about 1.17 billion people are there. About 31.1% of total population is children below 14 years of age. Today's children are tomorrow's citizens of our country. Having large number of young children in one place often can mean that accidents and illnesses are common. When child starts attending school, can be sure that they will at some point come home having picked up some kind of virus or with a scrapped knee.<sup>1</sup>

A school has a very large duty to take care to avoid child having an accident at school. Child is expected to be inquisitive, not fully aware of the dangers of many activities and not to take proper care of his own safety. Precaution should be taken to keep child safe at all time.<sup>1</sup>

An accident has been defined as "an unexpected, unplanned occurrence, which may involve injury". A WHO advisory group defined accident as an "unpremeditated event resulting in recognizable damage. "Accidents in school children are very common and are the leading cause of morbidity and mortality world wide. According to WHO report 2002, injuries were 6th leading cause of morbidity and mortality in childhood. Most commonly seen accidents in school children and needs first aid are sports injuries [falls, bruises, abrasions, fracture, contusions], dental evulsions and epilepsy etc.<sup>2</sup>

"First aid is the temporary and immediate treatment given to

a person who is injured or suddenly becomes ill, using facilities are material available at that time before regular medical help is imparted". First aid is the most important branch of medical science. An organized world wide effort came in 1877 though first aid was being practiced from ancient times. It was the famous German surgeon who first conceived idea of "First aid", he was General Esmarch [1823 - 1908].<sup>3</sup>

The National First Aid Science Advisory Board defined first aid as assessments and interventions that can be performed by a bystander (or by the victim) with minimal or no medical equipment. A first aid provider is defined as someone with formal training in first aid, emergency care, or medicine who provides first aid. First aid assessments and interventions should be medically sound and based on scientific evidence or, in the absence of such evidence, on expert consensus. Administration of first aid must not delay activation of the emergency medical services. (EMS) system or other medical assistance when required. The board recognizes that certain conditions that can be treated with first aid may not require EMS involvement or assistance by other medical professionals. The National First Aid Science Advisory Board strongly believes that education in first aid should be universal: everyone can learn first aid and everyone should.<sup>4</sup>

Accidents" denotes a random event that cannot be prevented where as most "injuries" occur under fairly predictable circumstances to high risk children and families. In many

countries around the world, injuries are the leading cause of death accounting for 44% and 65% of death in the 1 - 4 year and 5 - 19 year age groups respectively. The National Crime Records Bureau (NCRB) is the principal nodal agency under the Ministry of Home Affairs, Government of India, and is responsible for the collection, compilation, analysis and dissemination of injury - related information and the injury mortality rate was 40/1000, 000 population during 2000.

The mortality rate among children <14 years was 8.2%.<sup>5</sup>

In today's high - tech world, there are dangers for children everywhere, on roads, at home, at school and on play grounds. In India, injury accounts for the second most common cause of death in the age group 5 - 14 years (16.2%). Injuries are of two types –unintentional and intentional. Unintentional injuries includes injuries at home, sports injuries and road injuries and intentional injuries such as homicide and suicide which are rare in children but common in adolescents. About 21% of injuries are unintentional injuries and are more common among school aged children and which may cause more number of deaths and disabilities in children than other causes.<sup>6</sup>

Epilepsy is one of the most common and widespread neurological disorders. Recent estimates suggest that it accounts for 1% of the global burden of disease and affects over 65million people. In addition, because the relatives and friends of people with epilepsy also bear the burden of this condition, more than 500 million people are indirectly affected by epilepsy. Thus, epilepsy imposes a large economic burden on global health care systems and is a major public health problem in low - and middle - income countries.<sup>7</sup>

Injuries of the teeth of children present unique problems in diagnosis and treatment. Majority of fractures and displacements result from simple accidents and involve a little more than local oral tissues. Since time is such an important consideration in the treatment of fractures or displacements of teeth, every effort should be made to seek treatment immediately. Boys are more prone to sustain a fracture of a permanent anterior tooth than girls, the ratio being approximately 2: 1. When the child is 8 - 11 years, injuries involve permanent dentition particularly when the anterior teeth are protruding which can be called 'Injury - Prone Profile'.<sup>7</sup>

"A stitch in time saves nine", similarly first aid can save lives and prevent minor injuries becoming major ones. Under health and safety legislation employers have to ensure that there are adequate and appropriate equipment and facilities for providing first aid in the workplace. It is for schools and Local Education Authorities (LEAs) to develop their own policies and procedures, based on an assessment of local need. It provides advice for schools on drawing up first - aid policies and ensuring that they are meeting their statutory duties. In particular, it includes a checklist of issues which schools may find helpful when undertaking a risk assessment, and also lists the items which should be in a standard first - aid kit<sup>8</sup>

A comprehensive school health programme has three

components: health education, health services, and health environment. School health is a part of community health programme through which comprehensive care of health and well - being of children throughout the school years is taken care of. In order to improve the knowledge of teachers regarding the health aspect, the appropriate information and technology can be added to the existing school curriculum by health professionals or research workers.<sup>9</sup>

For children accidents in school premises are the major problems that interfere with their health and school attendance. School health programmes can be a powerful influence for shaping health behavior. There is a unique opportunity to promote, maintain and improve health and well - being since teachers reach most people early in life where attitudes and values are most readily developed. More than any other member of the health team, nurse have the most frequent and direct contact with teachers; therefore, they can provide teachers with education regarding first aid for common accidents in school children.<sup>10</sup>

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## 2. Need for the Study

School is an important institution for imparting child health. School health services are commonly neglected due to lack of awareness and education about common ailments and first aid care. Cross sectional interventional study was conducted to strengthen the school health services by involving teachers and training them to take appropriate action in the school hours. About 185 schools were included in the study out of which 6 % of schools had health care/first aid kits in pre - intervention phase which increased to 87% in post intervention. Basic health equipment in schools also increased variably post interventional. It was noticed that 65% of schools were having facility for referring sick children to Govt. health centers and 16% to private clinics.65% of teacher in charge, health and medicine were not sure of taking appropriate action or decision initially which subsequently decreased to nil in post intervention. Study concludes that sensitization of school administrators, educators and explaining the relevance of school health

resulted in significant improvement and preparation of health kit and strengthening of school health services.<sup>11</sup>

In India, about 60.8% injuries occurred at home, 16.8% in street and 16.4% in playground. Most of the injuries were falls (64%), road traffic injuries (16.4%). Injuries mostly consisted of fractures (32%), bruises (17.3%), and lacerations (15.5%). A descriptive study was conducted in Nepal to describe detailed mechanisms and activities at the time of unintentional injuries among school children. As a result most of the common injuries were falls (65%) and cuts 63% followed by transport related injuries 36% and burns 22%. The reported injury mechanisms and activities posing injury risks have implications for future interventions.<sup>12</sup>

A study was conducted regarding immediate care of school sport injuries. A random sample of 450 schools in Northern Ireland and the Republic of Ireland was studied using a postal questionnaire. Current management of sport injury, with particular interest in the expertise and training of teachers and coaches, was explored. Replies were received from 333 (74%) schools. There was no physical education teacher with up to date first aid training in 37% schools. Immediate care in terms of mechanisms and equipment to deal with injury was available in 35%–81% of schools responding. Correct response ranged from 65%–90% to four scenarios. This study demonstrated deficiencies in sport injury care. In addition to concern about current training, a need for basic life support training is highlighted. These findings have implications for the prevention of school sports injuries.<sup>13</sup>

WHO estimates that 80% of people with epilepsy live in low and middle income countries. The crude prevalence rates for females and males were 11.3 and 11.1 per thousand populations. A study was conducted to assess the knowledge, attitude and practice about epilepsy among school teachers in Uttar Pradesh. Study reveals 97% of school teachers were aware of epilepsy with majority including it as a brain disease, 38.2% was uncertain about relation of epilepsy and insanity. Only 27.8% of the respondents had given first aid measure to a seizing patient with only 16.3% giving it properly.<sup>14</sup>

Epilepsy is one of the most common neurologic disorders of childhood. However, in Thailand, as well as in most of other developing countries, little attention has been paid to improve the public knowledge regarding epilepsy. The study was conducted by sending simple self-administered questionnaires to 360 schools all over Thailand. The questionnaires contained 14 questions relating to epilepsy awareness, attitudes, and first-aid management of seizures. We found that 38% of respondents had not heard of or read about epilepsy, and 46.6% believed that epilepsy is a chronic incurable disease. Fifteen percent of the respondents preferred to place all children with epilepsy in a special classroom. Furthermore, half of the respondents who had experience with first-aid management of seizures used improper and potentially harmful measures. Besides the proper management of epilepsy, a general public education campaign for epilepsy and the need to address and correct the existing biases are necessary to improve the quality of life of children with epilepsy in Thailand.<sup>15</sup>

Dental traumatism may occur mainly as domestic, automobile or bicycle accidents, sports in general, collisions, falls, fights, and systemic disorders like epilepsy. A study was conducted in Israel, to measure the prevalence of trauma in anterior permanent teeth among children. As a result the total prevalence of dental trauma was 29.6%, severe trauma was found among 13.5% of children. Based upon this findings a community effort is being planned and initiated with the aim of educating sports teachers, teachers, health personnel regarding awareness of dental trauma prevention.<sup>16</sup>

A study was conducted in the Bangalore city to assess the attitude and practice of physical education teachers regarding emergency management of dental injuries. About 580 teachers from 700 selected schools in Bangalore city were participated. Among the population 70% were males physical education teachers 30% were females. 95% of the teachers had physical education training and 5% did not have the training. 95% of the population had first aid component and 5% did not have. Only 25% of trained physical education teachers had correct knowledge about tooth identification and 17% among untrained teachers. 81% of trained teachers answered correctly regarding management of fractured anterior teeth. The present report indicates that there is lack of knowledge and practice among physical education teachers in Bangalore city regarding emergency management of dental trauma. Educational programs to improve the knowledge and awareness among the teachers have to be implemented.<sup>17</sup>

From the above studies and the outcomes of survey conducted by the researcher, it was felt that there is a need to conduct a study which could increase the knowledge of teachers regarding the first aid and immediate care of children with common accidents.

#### A. Statement of the problem

“A Study To Evaluate The Effectiveness Of Information Booklet On Knowledge Regarding First Aid Of Children With Common Accidents Among Teachers At Selected Primary Schools In Tumkur”

#### B. Objectives of the study

- 1) To assess the pre-test knowledge of teachers regarding the first aid of children with common accidents.
- 2) To assess the post-test knowledge of teachers regarding the first aid of children with common accidents
- 3) To assess the effectiveness of information booklet on first aid of children with common accidents.
- 4) To find the association between pre-test knowledge score of teachers with selected demographic variable.

### 3. Literature Review

Review of literature is a key step in research process. It is an extensive, exhaustive, and systematic examination of earlier/contemporary publications relevant to research study. It is essential for the researcher to analyse the existing knowledge before going into a new area of study, this will help make a stepping stone in the progress of the study.

“Literature review is a critical summary of research on a topic of interest, often prepared to put a research problem in context or as the basis for an implementation project” Polit and Hungler For the present study the researcher has made an extensive review of literature to collect information related to the research topic. The researcher has made use of various journals, texts, MEDLINE search and Internet to avail the information pertaining to the related study.

The literature reviewed for the present study is organized and presented under the following headings: -

- 1) Review of literature related to sports injuries.
- 2) Review of literature related to epilepsy.
- 3) Review of literature to dental avulsion
- 4) Review of literature related to knowledge of school teachers regarding first aid children with sports injuries, epilepsy and dental avulsion,

#### A. Review of literature related to sports injuries

A prospective study of 212 schools was conducted to measure the rates of school injuries. The results showed an annual incidence rate of 5.4 injury events per 100 children. Of all the injury events 28.7% resulted in serious injuries. Boys were injured significantly more often than the girls. Most of the injuries occurred during athletic activities. This study indicates that the present level of first aid training among school personnel is inadequate.<sup>18</sup>

A study was conducted among 13, 335 students to determine the incidence of school related injuries among adolescents in Taiwan. A total of 3, 640 injuries were reported. Over all injury rate was 27.3 injuries per 100 students. Injury rates were higher for boys than for girls at all grade levels. The 7th grade students had the highest incidence rate. Injuries not involving other students accounted for nearly 64% of all injuries. Contusions, abrasions and swelling are most frequently reported types of injuries. Injury rates were higher in unsupervised areas of the schools.<sup>19</sup>

A one year study was conducted including children between 5 and fourteen years of ages who sustained their injuries during sporting activities and were treated at Trondheim Regional and University Hospital. Sports accidents accounts for 27%, 53% of the injured were boys, and 47% were girls. Finally the study concludes that a more widespread use of protective guards, better technique and body control, better coaching and not allowing the younger children to take part in technically advanced sporting activities might reduce the number and severity of the sport injuries in children.<sup>20</sup>

A study was conducted in the 5 - year - period 1988 - 1992; about 6096 children aged 6 - 17 years (54.5% boys and 45.5% girls) were treated at the Emergency Department at Esbjerg Central Hospital after having sustained a sports injury. The data were registered according to the European Home - and Leisure - Accident Surveillance System protocol. Boys were most often injured in soccer, skateboard, 32 handball, gymnastics and basketball, and girls in handball, horse riding, gymnastics, basketball and roller - skating. The types of injuries were contusions 37.1%, fractures 22%, sprains 24.8%, wounds 9.5%, strains 5.0% and luxations 1.4%. The hospitalisation rate was 3.8%. Compared to other studies the total incidence rate was

high.<sup>21</sup>

A 12 month retrospective study was conducted in Scottish adolescents to measure the age and sex distribution of self reported sports and leisure injuries and to examine the characteristics (gender, age, handedness, and level of sports participation) of sports related injuries in relation to injuries sustained during other activities. Self completion questionnaire survey administered in schools during April June 1994. About 4710 pupils aged 11, 13, and 15 years drawn from a representative sample of 270 classes with returns from 224 classes (83% completion rate). Sport related injuries accounted for 32.2% of all medically attended injuries. Frequency was greater in boys than girls at all ages, and there are differences in the pattern of lesions in sports and nonsports injuries. Lower limb injuries were more frequent than upper limb injury in sports. Study concludes that reducing sports injury among adolescents should be a priority, but research into the injury profiles of different sports is needed before detailed injury prevention strategies can be developed.<sup>22</sup>

## 4. Research Methodology

Research methodology involves systematic procedures which the researcher starts from initial identification of the problem to its final conclusion. The role of methodology consists of procedures and techniques for conducting a study. For every piece of research work the methodology of investigation is of vital importance. The success of any research depends upon the suitability of method. This chapter deals with the type of research approach used, the setting of the study, the different variables used, the population, sampling technique, sample selection, the inclusion criteria, exclusion criteria, the development of tool, the validity and reliability of tool, the description of tool, collection of data, pilot study, procedure of data collection and plan for data analysis which was used to find out the effectiveness of Information Booklet on knowledge regarding first aid of children with common accidents among primary school teachers.

### a) Research Approach

The research approach used for this study was experimental research approach, since the purpose of the study was to find out the effectiveness of Information Booklet on knowledge regarding first aid of children with common accidents among primary school teachers.

### b) Research Design:

Pre experimental One group pre - test post - test design was used for this study to find out the effectiveness of Information Booklet

### Variables of the study

- **Dependent Variable:** Knowledge of teachers on first aid of children with common accidents.
- **Independent Variable:** Information Booklet on first aid of children with common accidents.

### c) Study Setting

Study was conducted at three primary schools at Tumkur district.1) Sri siddhaganga primary school 2) Sri Renuka



Vidhya Peeta and 3) S. M. English School, Tumkur. All of these schools are occupying number of primary school teachers. In all of these schools nearly 20 - 30 primary school teachers were working. Samples were selected from all the above mentioned schools.

**d) Population**

A population is the entire aggregation of cases in which a researcher is interested. The population of this study was Primary school teachers in Tumkur.

**e) Sample**

A sample is a small portion of population selected for observation and analysis. Sample of this study was primary school teachers who were working in Sri Siddhaganga Primary school, Sri Renuka Vidhya Peeta and S. M. English School in Tumkur.

**5. Results and Discussions**

The data analysis contains four major sections. The first is frequency and percentage analysis which was used to describe characters of school teachers. The second section include the descriptive analysis such as mean, standard deviation, and mean score percent was used to assess the knowledge regarding first aid of children with common accidents among school teachers at selected primary schools in Tumkur

**Table 1:** Demographic variables of school teachers

SECTION I

TABLE 1. DEMOGRAPHIC VARIABLES OF SCHOOL TEACHERS

Demographic variables		No. of Teacher's(n)	Percentage %
Age	Below or equal to 25	6	10.0
	26-30 years	7	11.7
	31-35 years	14	23.3
	36-40years	33	55.0
Sex	Male	13	21.7
	Female	47	78.3
Education Status	T.C.H	28	46.7
	Graduate(B.Sc, B.A)	19	31.7
	Graduate with B.Ed	13	21.7
Marital Status	Married	49	81.7
	Unmarried	11	18.3
Working experience	Below 5 years	4	6.7
	6-10 years	27	45.0
	11-15 years	29	48.3
Source of health information	Mass media	33	55.0
	Health personnel	27	45.0

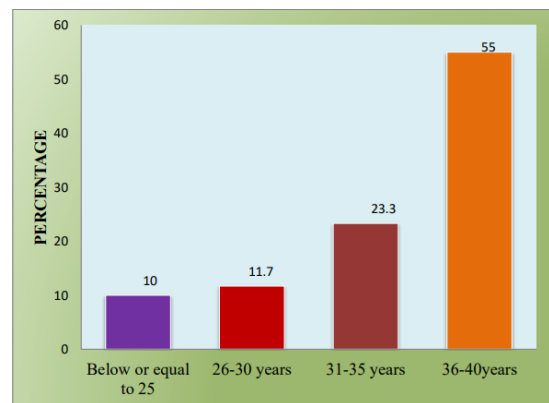
The above table - 1 depicts the frequency and percentage distribution of adolescents according to age, sex, educational status, marital status, working experience and source of health information.

According to age, about 6 (10.0%) were between the age below or equal to 25 years, 7 (11.7%) were between the age of 26 - 30 years, 14 (23.3%) were between the Demographic variables No. of Teacher's (n) Percentage % Age Below or equal to 25 6 10.0 26 - 30 years. This is illustrated in Figure 1 as a bar graph.

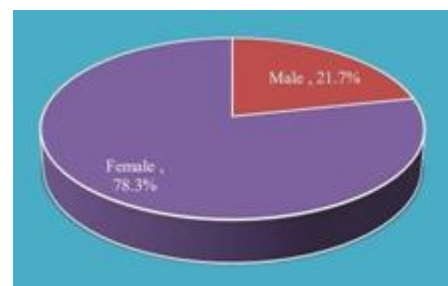
According to sex, 13 (21.7%) were males and 47 (78.3%) were females. Of teachers about 28 (46.7%) were qualified with T. C. H, 19 (31.7%) were qualified with B. Sc, B. A and 13 (21.7%) were graduates with B. Ed. This is illustrated in Figure 2 and Figure 3 as a column chart.

According to marital status about 49 (81.7%) were married and 11 (18.3%) were unmarried. Of teachers, 4 (6.7%) have got the working experience below 5 years, 27 (45.0%) have got the 6 - 10 years of experience and 29 (48.3%) have got the 11 - 15 years of experience. This is illustrated in Figure 4 as a bar graph.

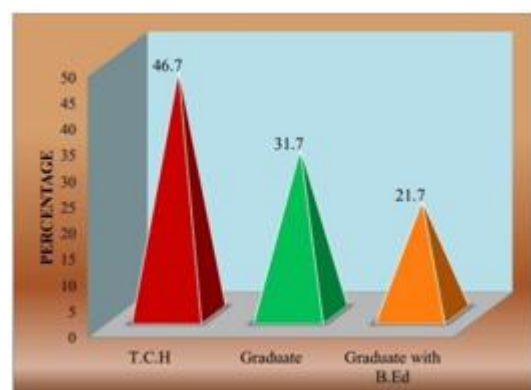
Regarding the source of health information 33 (55%) were got the information from mass media and 27 (45%) got information from health personnel.



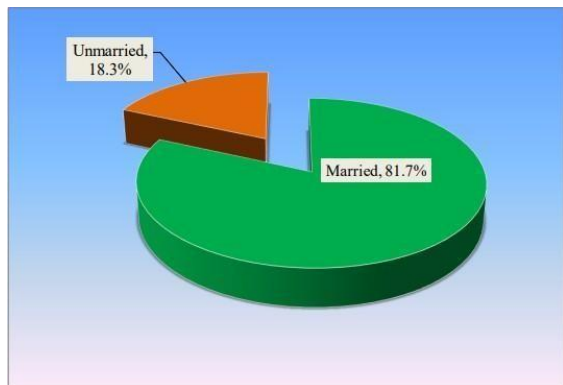
**Figure 1:** Distribution of the Teachers according to age



**Figure 2:** Distribution of the Teachers according to Sex



**Figure 3:** Distribution of the teachers according to educational status



**Figure 4:** Distributions of the teachers according To Marital Status

## 6. Conclusions

The importance of this research and reveals that there was a significant lack in knowledge regarding first aid of children with common accidents among teachers at selected primary schools in Tumkur and Information Booklet had a significant role in improving the knowledge. The study also reveals that, there was significant association between knowledge with educational status among teachers at selected primary schools in Tumkur.

### The data were analyzed on the bases of objectives of the study:

- 1) To assess the pre - test knowledge of teachers regarding the first aid of children with common accidents.
- 2) To assess the post - test knowledge of teachers regarding the first aid of children with common accidents.
- 3) To assess the effectiveness of information booklet on first aid of children with common accidents.
- 4) To find the association between pre - test knowledge score of teachers with selected demographic variables.

### Implications of the study

The findings of the study have implications for Nursing Education, Child Health Nursing Practice, Nursing Research and Nursing administration

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