# A study to assess the effectiveness of planned health teaching programme using child-to –child approach on knowledge of selected first aid measures among school children in selected schools at Dharapuram in Tamil Nadu, India

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## ABSTRACT

"All citizens – All health workers" Everyone, even the children also have responsible to involve in health services & act as change agents for health promotion. The study was to assess the effectiveness of teaching programme using child-to-child approach on knowledge of selected first aid measures in children. The aim of the study to assess effectiveness of planned health teaching programme on selected first aid measures among school children using child-to-child approach. Quasi experimental design was adopted. The present study was conducted at Dharapuram in Erode district, Tamil Nadu India. The samples were 200 selected by simple random sampling method. The results showed that ('Z' value =1.96) mean pre and post-tests value were 10.26 and 21.55. The study concluded that about 68.5percent of students gained adequate knowledge after teaching programme using child-to-child approach.

Keywords: Effectiveness, Planned Health teaching programme, Child-to-Child approach, Knowledge, First Aid Measures, School children, Tamil Nadu.

## Introduction
### *"All citizens – All health workers" –UNICEF*
The real joy, fun, lovable movements are not in expressing out to the external world but in enjoying with each and every movement of our life. This real joy, fun and favorable moments become more enjoyable if the source of all these comes from the future pillars and ever green children.

As children are more sticked to their parents, the parents are also seemed to be more intimated with their children. The parents admire each and every purposeful and unpurposeful acts of their children with full of immense happiness. They also try to learn more things from their children.

Children during their early stages of development and initial stage of learning process will take up all the new things in the way of fast track. So if they expresses any purposeful messages, the people especially their parents and relatives never neglect them instead, accept them and of their full aspirations of speech.

Children are equipped with new knowledge, skills and information's in order to make the growing buds to spread health related messages to community in preventing many health problems.

As health research continues to discover more pathways to disease prevention and health promotion, it becomes clearer that health workers alone cannot accomplish all the work a head. It is important for the communities to be involved in achieving desirable goals.

Child-to-child approach, as a model of healthy environment at school, became an entry point for the community to improve the overall environment in the villages.

***"Health and disease are the two sides of the coin"***

Even though we take more actions for maintaining health, some of the health problems are still emerging it out as a big question. The existing problems are communicable diseases, nutritional problems, accidents and poisoning etc. Accidents and poisoning are the top most among children due to their inherent anxiety, careless attitudes and innocence. We are losing young buds due to accidents and poisoning without giving first aid measures.

Children are always precious to their parents. Even though more care is taken to protect the child at home by family members, accidentally an emergency crisis may occur to the children in the home settings, and schools or in external environment.

Cross sectional survey in rural Tamil Nadu Report showed that the rate of accidents and poisoning among children in 0-14 years are drowning 7.2%, falls 81.67 % , animal bites 0.76%, burns 3.81% and poisoning 40.3%. Injury rate in children in 0-14 years was 341.89/1000 child-years and mortality rate of 39.16/100,000 child-years due to injuries. (Indian journal of community medicine) Parents and elder children may not be adequately knowledgeable to take care of an accidental situation at home and other settings.

First aid is an immediate and temporary treatment of victims of sudden illness or injury while awaiting the arrival of medical aid. Proper early measures may be instrumental in saving life and ensuring a better and more rapid recovery. The top leading causes of injury to infants were falls, ingestion injuries and burns. Constant vigilance, awareness and supervision are essentials as the child gains increased loco motor function and manipulation (Canadian survey 2003).

Even in the schools, the child may face accidental falls and injury, for which immediate first aid measures to be given to prevent complications. During picnic and educational tour, children are exposed to life threatening emergencies and to save the life of the children and adult, children also must have enough knowledge about emergency measures to be taken in emergency situation.

Nurse as a community agent, has the responsibility to educate the teachers and school children as part of health education and school health services.

## NEED FOR THE STUDY

Substantial proportion of the world's population 35–45% constitutes young children. Children are prone to get accidents and accidental poisoning due to their development and learning process. Almost 40% Indians are below 15 years of age and the Tamil Nadu total population for children is 62,405,679.

Incidence of domestic injury was 55/1000 in the age group of 0-14 years and drowning was one of the top 10 killers among children 5-14 years of age 7.2% and two third the total poisoning deaths were in the age group of 15-44 years. Food poisoning / accidental intake of insecticides (40.3%), consumption of spurious liquor (2.45%), snake /animal bite (27.6%) and others (29.4%) were the commonest types of poisoning ,and incidence of rabies was 1.4/1000 and 1.8/1000 in urban and rural areas respectively, (Burden of diseases in India).

**Mitch Stroller, President of Safe Kids Worldwide (2008)[40],** Reports to the nation after the survey conducted in the year 2007 on Childhood Injury Mortality and Parental views on child safety. They have ranked the causes according to accidents and poisoning as motor vehicle accident stood first rank, drowning as 2nd , airway obstruction as 3rd, poisoning as 4th, un Intentional fire arm injury as 5th, pedestrian accident as 6th, bicycle accidents as 7th, fire / burn as 8th, falls as 9th rank.

**Martin C.B, et.al., (2008)[38]** conducted a study aimed to analyze accident involving foreign bodies among children less than 15years of age in terms of first aid at Brazil. Data were obtained from the general hospital records and the municipal mortality data base. A total of 434 accidents were analyzed, with 0.7% mortality boys predominated (53.7%), incidence rate highest among children 1-3 (7.2/1000children), foreign body penetration (eyes, nostrils and ear) 94%, inhalation / ingestion of objects (2.5%), aspiration of gastric contents (0.7%). These results contribute to epidemiological knowledge on such accidents and indicate the need of education regarding first aid measures to children.

**Howe L.D, et. al., (2006)[32]** conducted a study of risk factors for injuries in young children in four developing countries. Injury occurrence was studied in cohorts of 2000 children of age 6-17 months at enrollment, in Ethiopia, Peru, Vietnam and India. Occurrence of child injury was high in all countries. This report provides further evidence of the importance of child hood injury in developing countries and emphasis the importance of including infant in injury research and prevention strategies.

## STATEMENT OF THE PROBLEM

A study to assess the effectiveness of planned health teaching programme using child-to-child approach on knowledge of selected first aid measures among school children in selected schools at Dharapuram in Erode district in Tamil Nadu state.

## OBJECTIVES

- To assess the demographic variables of school children.
- To assess the pretest knowledge of students regarding selected first aid measures among school children.
- To assess the post test knowledge regarding selected first aid measures among school children.
- To determine the effectiveness of planned health teaching programme on selected first aid measures among school children using child-to-child approach.
- To find the association between post test knowledge scores of selected first aid measures among school children with their selected demographic variables.

## OPERATIONAL DEFINITIONS

**Assess -** Estimate the value. In this study, it refers to estimate or evaluate the knowledge regarding selected first aid measures among school children.

**Effectiveness –** Producing an intended result. In this study, it refers to determine extent to which the teaching programme has brought about the results which is measured in terms of significant difference in knowledge using statistical measurement.

**Planned health teaching -** It is a systematically organized instruction developed to help the people to learn. In this study, it refers to a planned health teaching programme for 45 minutes to create an awareness on knowledge regarding first aid measures of foreign body (in the eye, nose, ear and mouth) Burns (chemical, electrical, flame) Bites and stings (dog bite, bee sting, snake bite, scorpion bite), poisoning (ingested poison), seizure, drowning, and fainting by using compact disc laptop.

**Child-to-child approach -** It is an educational status that links children's learning with taking action to promote the health, well- being and development of themselves, their families and their communities. In this study, it refers to school children as agents of change to transmit messages on selected first aid measures from the investigator to their own peer group.

**Knowledge -** Information gained through experience or education. In this study, it refers to the level of understanding of children about selected first aid measures which is measured by self -administered knowledge questionnaire.

**Selected first aid measures -** It is an immediate treatment given to the victim of an accident or sudden illness, before the medical aid is available. In this study, it refers to impart knowledge regarding first aid measures such as foreign body (in the eye, nose, ear and mouth) Burns (chemical, electrical, flame) Bites and stings (dog bite, bee sting, snake bite, scorpion bite), poisoning (ingested poison), seizure, drowning and fainting.

**School children -** Children who are going to an institution for basic education. In this study, it refers to children who are studying 8th standard between the age group of 12 – 13 years.

## ASSUMPTIONS

The students may have some knowledge of first aid measures.
Child-to-child approach may enhance the knowledge on first aid measures among students and communities.
Child-to-child approach may be one of the appropriate methods to educate the school children.

## RESEARCH HYPOTHESES

**H1** - The mean post test knowledge score is significantly higher than the mean pre test knowledge scores of selected first aid measures among school children.

**H2** - There will be significant association between knowledge regarding selected first aid measures with their selected demographic variables.

### DELIMITATIONS

The study is delimited to: Data collection period was 5 weeks. Only selected schools and Sample size was 200.

### PROJECTED OUTCOME

The planned health teaching programme will improve the knowledge among children on selected first aid measures which will help them to practice, disseminate the knowledge to others and save the life of the people by using first aid measures.

### CONCEPTUAL FRAME WORK

### MODIFIED DANIEL .L. STUFFLE BEAM'S EVALUATION MODEL

Conceptual framework refers to concepts that offer a frame work of proposition for conducting research.

The conceptual framework set up for the study is modified model of stuffle beam's evaluation model of planned programme. Stuffle beam's "CIPP Model" prescribes four types of evaluation, context, input, process and product. It provides a comprehensive, systematic and continuously ongoing framework for programme evaluation.

The model is adopted in a modified form for the present study. According to the model content identifies discrepancies between intended and actual programme outcome and the evaluators can develop casual explanation for the discrepancies. Step I: Context evaluation Step II: Input evaluation Step III: Process evaluation    Step IV: Product evaluation.    The core value for present study is enhancing knowledge regarding first aid measures among school children.

## CONTEXT EVALUATION

The context evaluation assess needs, problems, assets and opportunities to help decision makers define goals and priorities and help the broader group of users to judge goals, priorities and outcomes.

The goal of a present study is imparting knowledge to school children regarding first aid measures. The context evaluation is well defined and clearly stated general objectives and specific objectives.

## INPUT EVALUATION

It involves the steps and resources needed to meet the goals and objectives and might include identifying successful external programmes and materials as well as gathering information. The Input evaluation assess alternative approaches, competing action plans, cost effectiveness to meet targeted needs and achieve goals.

Planning is to develop planned health teaching programme, using child-to-child approach, and preparation of compact disc. The Input evaluation are collective demographic variables (age, sex, religion, type of family, area of residence, order of the child in their family, academic performance), and selecting change agents based on their academic performance, assessment of pretest knowledge of school children with structured self-administered questionnaire.

## PROCESS EVALUATION

Process evaluation asses the implementation of plans to help the investigator to carryout activities and later help the broad group of user judge programme performance and interpret outcomes.

Actions are structured teaching programme to teach the change agents and then rehearsal by change agents under the supervision of investigator. The knowledge is assessed using self-administered questionnaire and rehearsal done until they score 100% on their respected topics of first aid measures. The process evaluation includes using the change agents to impart knowledge to peer groups by using compact disc and lap top under the supervision of the investigator.

## PRODUCT EVALUATION

The Product evaluation identify and assess outcomes of short term and long term both intended and unintended, which help the investigator keep an enterprise focused on achieving important outcomes and ultimately to

help the broader groups in meeting targeted needs. Outcome is assessment of post knowledge regarding first aid measures with structured self-administered questionnaire. The product evaluation is the knowledge regarding first aid measures. Moderately adequate and inadequate knowledge needs context evaluation.
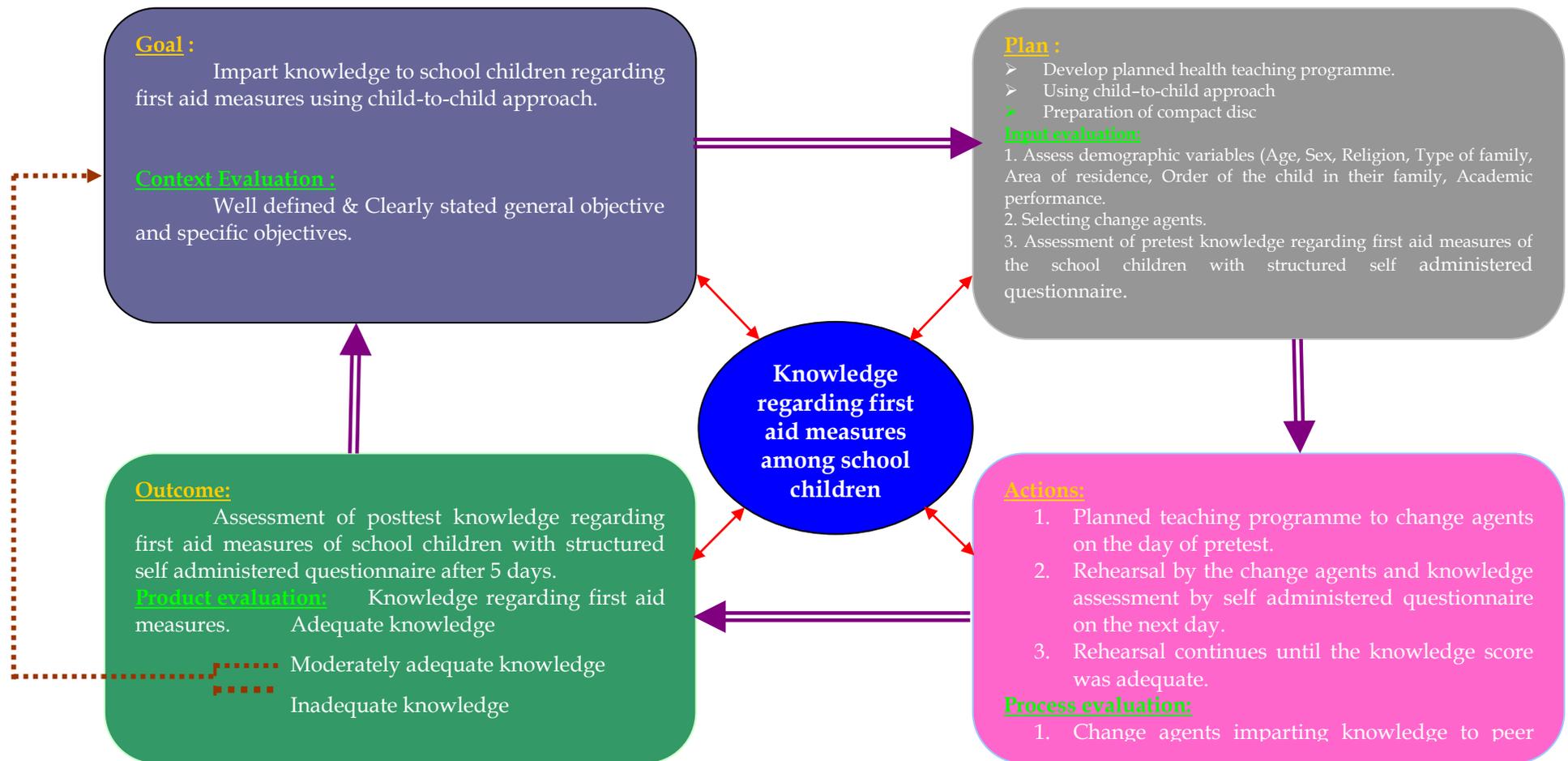
**Goal** :
      Impart knowledge to school children regarding first aid measures using child-to-child approach.

**Context Evaluation :**
      Well defined & Clearly stated general objective and specific objectives.

**Plan** :
➢    Develop planned health teaching programme.
➢    Using child–to-child approach
➢    Preparation of compact disc
**Input evaluation:**
1. Assess demographic variables (Age, Sex, Religion, Type of family, Area of residence, Order of the child in their family, Academic performance.
2. Selecting change agents.
3. Assessment of pretest knowledge regarding first aid measures of the school children with structured self administered questionnaire.

**Knowledge regarding first aid measures among school children**

**Outcome:**
      Assessment of posttest knowledge regarding first aid measures of school children with structured self administered questionnaire after 5 days.
**Product evaluation:**    Knowledge regarding first aid measures.    Adequate knowledge
                Moderately adequate knowledge
                Inadequate knowledge

**Actions:**
1.   Planned teaching programme to change agents on the day of pretest.
2.   Rehearsal by the change agents and knowledge assessment by self administered questionnaire on the next day.
3.   Rehearsal continues until the knowledge score was adequate.
**Process evaluation:**
1.   Change agents imparting knowledge to peer

**FIG.1 MODIFIED DANIEL.L STUFFLE BEAM'S EVALUATION MODEL**

## REVIEW OF LITERATURE

### Part-A : Over view of child-to-child approach

In 1989 the consultative group on early childhood care and development, long been receptive to the ideas inherent in the child-to-child approach. One reason why Child-to-Child has found such fertile ground in India is that the twin concerns of the programme to preventive health care for children and to encourage activity based approaches to learning support the goal to design more effective health and educational services throughout India.

### Part-B : Over view of child hood accidents and first aid

Childhood injury is a major public health problem that requires urgent attention. Injury and violence is a major killer of children throughout the world, responsible for about 950000deaths in children and young people under the age of 18 years each year (WHO Global Burden of Disease : 2004 update). Unintentional injuries account for almost 90% of these cases. They are the leading causes of death for children aged 10-19 years. Road traffic injuries alone are the leading cause of death among 15-19 year old and the second leading causes among 10-14 year olds.

### Importance of first aid

➢ To preserve the life, To promote recovery, To prevent worsening of the casualty, general condition, To arrange for transport of the casualty to the nearest medical if required.

### Part-C : Studies related to first aid measures

**Mahony P.H et.al, (2008)[37]** conducted a study to investigate the knowledge on CPR, first aid and perceived level of confidence. The study was conducted at New Zealand on 35 cabin crew. The results showed that 33 subjects failed to use the bag mask correctly, 18 performed chest compressions at the incorrect side, and only 13 achieved correct compression depth. While theoretical first aid was high, and low levels of self confidence in skills. The study concluded that the existing approaches to training of cabin crew required further investigation and modification.

**Morringiello B.A, et.al, (2008)[42]** conducted a study to assess the knowledge, attitudes, cognitions, and injury experiences. The aim of the study to examine children's safety attitudes and cognitions and assess how these factors, along with children's safety knowledge and injury experiences, relate to children's safety practices. The study was conducted at Canada among school age children. The study results showed that fewer safety practices were reported by older than younger children and boys than girls. This study concluded that there is a need of further education regarding first aid measures.

### Part-D : Studies related to child-to-child approach

**Zohra Nisar Ahmed (2006)[54]** conducted a study to assess the effectiveness of child-to-child approach to identify pupils with poor eye sight. The aim of the study was to identify the eye defect and to educate parents on minor issues that become major defects. It was an experimental study. The study was conducted at Karachi, Pakistan on 450 children. The eye- sight chart was used and collected data. The "Z' test was used to analyze the data,. The study concluded that 30 children's have eye sight difficulties and then their teachers and parents did not know about these difficulties, they arranged for parents meeting to share the findings.

Based on the reviewed reports it is necessary to educate on first aid measures among school children to manage accidental emergencies.

### METHODS

This chapter deals with the methodology used to assess the effectiveness of planned health teaching programme using child-to-child approach on knowledge of selected first aid measures among school children in selected schools.

It includes the research design, setting of the study, population, sampling technique, and sample size, criteria for selection of samples, development and description of the tool, content validity, pilot study, data collection procedure and plan for data analysis.

### RESEARCH APPROACH

Evaluative approach was used for this study.

### RESEARCH DESIGN

The research design selected for this study was **quasi experimental design**, with one group pre-test and post- test.

| Group | Pre test | Intervention | Post test |
|-------|----------|--------------|-----------|
| I | $RO_1$ | X | $O_2$ |

The symbols used:

G I: School children who are studying 8th standard.

$O_1$ = Pre-test was done by structured self-administered Questionnaire.

X = Intervention was done by planned health teaching on first aid measures.

$O_2$ = Posttest was done by structured self-administered questionnaire.

R = Randomization

## SETTING
The study was conducted in all Tamil medium higher secondary schools which are available at Dharapuram in Tamil Nadu. The schools are 1 kilo meter away from Bishop's College of Nursing. The student strength in 8th standard is between 50-65 per section.

## POPULATION
The populations of the study were school children studying in Higher Secondary Schools.

## SAMPLE
The samples consist of children studying in 8th standard.

## SAMPLE SELECTION CRITERIA
**Inclusion Criteria**
1. Both males and females.
2. 8th standard students.

**Exclusion Criteria**
1. Students who are absent on the day of data collection period.
2. Sick children

## SAMPLE SIZE
Sample size comprised of 200 school children who met inclusive criteria was selected as samples.

## SAMPLING TECHNIQUE
Change agents are selected based on their academic performance by using purposive sampling. The samples are selected by stratified random sampling technique using lottery method. Each section is considered as a strata, and 12-13 students were selected by lottery method. In each school 50 samples were selected and 200 samples from 4 schools using the same method.

## DEVELOPMENT AND DESCRIPTION OF THE TOOL
The tool constructed in this study consists of two parts

**Section –I** : Demographic variables

**Section-II** : Structured self- administered questionnaire

## DESCRIPTION OF THE TOOL
**Section – I:** It consists of the following demographic data

❖ Age, Sex, Religion, Type of family, Area of residence, Order of child in their family, Academic performance

**Section – II:**

Structured self -administered questionnaire consists of 30 multiple choice questions with four options among one is the correct response.

## SCORING PROCEDURE AND SCORE INTERPRETATION
The multiple choice questionnaire was used to assess the knowledge on first aid measures. i). Correct answer was given a score of (1) one and wrong answer was scored as (0) zero. The total score on knowledge was 30. Score were interpreted as follows.

| Level of Knowledge | Score | Percentage |
|---|---|---|
| Inadequate | 0-10 | 0 - 33% |
| Moderately adequate | 11-19 | 34 - 66% |
| Adequate knowledge | 20-30 | 67 - 100% |

## VALIDITY AND RELIABILITY OF THE TOOL

### Validity

The validity of the tool was established by consultation with guide, five experts in the field of child health nursing and one medical expert. The tool was modified according to the suggestions and recommendations of experts.

### Reliability

The reliability of the tool was established by split half method. The spearman's brown prophecy formula was used to find out the internal consistency of the tool and found to be reliable (R=0.9). The test retest method was done to find the stability of the tool. Karl Pearson coefficient formula was used and found to be reliable (r=0.8).

## PILOT STUDY

The pilot study was conducted in Ponnu Government Girls High School at Dharapuram.

Formal permission was obtained from the Head Master of the school. The change agents were selected by purposive sampling technique those who are excellent in academic performance with the help of class teacher and referring their progress record. School children who are fulfilling the inclusion criteria were chosen as samples. The stratified random method was used to select the school children. There was only one stratum (one section). The investigator selected 20 study subjects by using lottery method out of 40 students.

The self-introduction about the investigator and information regarding nature of the study was explained.  Samples were gathered in one place and pretest questionnaire was administered which also includes demographic details on the first day. After the pretest change agents were imparted the teaching on selected first aid measures for 45 minutes by the investigator using compact disc and laptop without disturbing the study group. At the end of the session each change agents was assigned for 4-5 topics and taught about operating mechanism of compact disc and laptop.

Change agents knowledge was assessed by making them to do rehearsal to the investigator and the same questionnaire was given to determine their adequate level of knowledge on the next day.  If the knowledge was moderate and inadequate, the change agents were encouraged to do the rehearsal again until the knowledge score was adequate.

On the 3rd and 4th day, the samples were assembled in one place and change agents imparted the knowledge regarding first aid measures to the samples for 45 minutes by using compact disc and laptop on the basis of 10 students per day.   Change agents were allotted with 10 students per day for 3rd, 4th day. The post test was conducted for all the students after 5 days using the self-administered questionnaire.

The mean pre-test of knowledge score is 10.65 and post test score is 24.55.  So the pre- test score is significantly higher than the post test score. This shows that the study is feasible and practicable to proceed with main study.

## DATA COLLECTION PROCEDURE

The data collection was done in all Tamil medium higher secondary schools at Dharapuram.  Formal approval was obtained from the Headmasters Headmistresses and data collection was done for a period of one month.

The change agents are selected by purposive sampling technique those who excellent in academic performance with the help of class teachers. Based on the selection criteria, the school children studying in 8th standard were selected by stratified random sampling technique. Each section was considered as a stratum. The investigator selected the samples from each stratum by using

lottery method. To obtain 200 samples from 4 schools 50 samples were selected from each school.

Self -introduction about the investigator and information regarding nature of the study was explained. In each school samples were combined together to administer the pre-test self-administered questionnaire. Which also include demographic details on the first day. After the pretest the change agents were imparted the teaching on selected first aid measures for 45 minutes by investigator using compact disc and laptop without disturbing the study group.

At the end of the session each change agents was assigned for 4-5 topics and taught about operating mechanism of laptop. Change agents knowledge was assessed by making them to do rehearsal and the same questionnaire was given to determine their adequate level of knowledge on the next day. If the knowledge was moderate and inadequate, the change agents were encouraged to do rehearsal again until the knowledge score was adequate.

From $3^{rd}$ day to $6^{th}$ day, the samples were assembled as a small group in a common place and change agents were imparted knowledge regarding first aid measures to the samples for 45 minutes by using compact disc and laptop. The change agents were assigned with 12 to 13 students per day for 4 days.

Evaluation of planned health teaching programme using child-to-child approach was assessed by conducting post- test using self- administered questionnaire after 5 days to all the samples in a school. The same procedure was followed for each school and data was collected.

## PLAN FOR DATA ANALYSIS

| S. No | Date analysis | Methods | Remarks |
|---|---|---|---|
| 1. | Descriptive statistics | Frequency percentage | To assure the demographic variables of $8^{th}$ standard school children. |
| | | Mean, standard deviation. | To assess the pre and post-test knowledge. Score of selected first and measures |
| 2. | Inferential statistics | "Z" test | To evaluate the effectiveness of PTP on selected first aid measures using child-to-child approach. |
| | | Chi-square test | To find association between post-test knowledge with their demographic variables. |

## PROTECTION OF HUMAN SUBJECTS
The research was approved by dissertation committee prior to conducting the pilot study and the main study. The written permission was obtained from Head masters and Head mistress of Higher Secondary Schools. The verbal consent was obtained from the school children to assess the knowledge regarding selected first aid measures.

## DATA ANALYSIS AND INTERPRETATION
This chapter deals with the description of sample characteristics, analysis and interpretation of data collected from eighth standard school children with their demographic variables.

The present study was designed to assess the effectiveness of planned health teaching programme using child to child approach on knowledge of selected first aid measures among school children. The collected data was organized and interpreted using descriptive and inferential statistics and was coded and analyzed as per objectives of the study under follow headings.

## ORGANIZATION OF DATA
The data has been tabulated and organized as follows:

**Section A :** Distribution of demographic variables.

**Section B:** Assess the pretest knowledge of students regarding selected first aid measures among school children.

**Section C:** Assess the post-test knowledge regarding selected first aid measures.

**Section D :** Determine the effectiveness of planned teaching programme on knowledge of

selected first aid measures by using child-to-child approach.

**Section E:** Association of post-test knowledge scores of school children with their selected demographic variables.

**SECTION A: Distribution of demographical variables**

Table 1: Frequency and percentage distribution of demographic variables of school children N=200

| S. No | Demographic variables | Frequency (f) | Percentage (%) |
|---|---|---|---|
| 1. | **Age** | | |
| | a) 12 years | 44 | 22 |
| | b) 13 years | 156 | 78 |
| 2. | **Sex** | | |
| | a) male | 100 | 50 |
| | b) female | 100 | 50 |
| 3. | **Religion** | | |
| | a) Hindu | 162 | 81 |
| | b) Christian | 28 | 14 |
| | c) Muslim | 10 | 5 |
| 4. | **Types of family** | | |
| | a) joint | 67 | 33.5 |
| | b) nuclear | 133 | 66.5 |
| 5. | **Area of resident** | | |
| | a) Rural | 84 | 42 |
| | b) Urban | 82 | 41 |
| | c) Hostel | 34 | 17 |
| 6. | **Order of the child in their family** | | |
| | a) $1^{st}$ child | | |
| | b) $2^{nd}$ child | 93 | 46.5 |
| | c) $3^{rd}$ child | 79 | 39.5 |
| | d) $4^{th}$ child | 22 | 11 |
| | | 6 | 3 |
| 7. | **Academic performance** | | |
| | a) excellent | 17 | 8.5 |
| | b) good | 88 | 44 |
| | c) average | 95 | 47.5 |
| | d) poor | 0 | 0 |

**Table 1** describes the distribution of demographic variables age, sex, religion, type of family, area of residence, order of the child in their family, academic performance. The school children who belonged to the age group of 12 years were 22%, majority of school children were (78%) in the age group of 13 years. With regard to sex, 50% male and 50% female school children were equally distributed. With regard to religion, 81% of school children were Hindus, 14% of school children were Christiana and only 5% of school children were Muslims.

With regard to type of family 66.5% of school children belongs nuclear family, and only 33.5% of school children belongs to joint family. With regard to area of residence 42% of school children were from rural area, and 41% of school children were

from urban area, 17% of school children were from hostel. With regard to order of the child in their family 46.5% school children were first child in their family, 39.5% of school children were second child, 11% of children were third child, only 3% children were fourth and above in the order of the child in their family.

With regard to academic performance 47.5% of school children were average in their performance,

44% of school children were good 8.5% of school children were excellent in their academic performance.

**SECTION – B** : **Assess the pretest knowledge regarding selected first aid measures among school children.**

**Table 2. Frequency and percentage distribution of knowledge regarding selected first aid measures in pre-test, N = 200**

| S. No | Level of knowledge | Frequency | Percentage (%) |
|-------|--------------------|-----------|----------------|
| 1. | Inadequate | 140 | 70 |
| 2. | Moderately adequate | 52 | 26 |
| 3. | Adequate | 8 | 4 |
| | Total | 200 | 100 |

Table 2 is on the frequency and percentage distribution of pretest level of knowledge among school children. It reveals that majority of [140 (70%)] of school children had inadequate

knowledge, 52 (26%) school children had moderately adequate knowledge, and 8 (4%) school children had adequate knowledge.
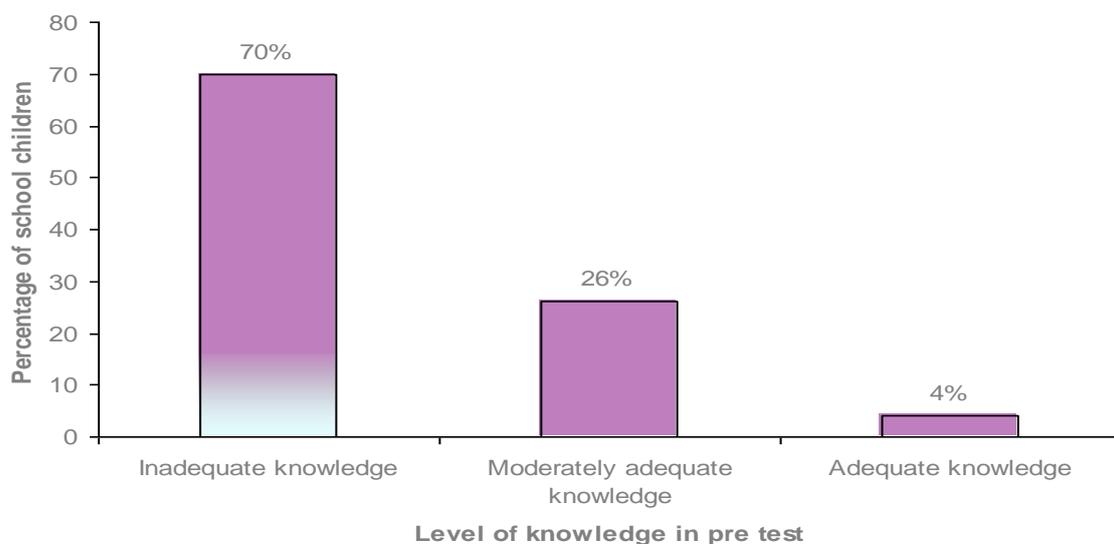


*Fig: 9 Percentage distribution of school children knowledge regarding selected first aid measures*

**SECTION – C   : Assess the post- test knowledge regarding selected first aid measures.**

**Table 3: Frequency and percentage distribution of post-test knowledge regarding selected first aid measures, N=200**

| S.No | Level of knowledge | Frequency | Percentage (%) |
|------|--------------------|-----------|----------------|
| 1. | Inadequate | - | - |
| 2. | Moderately adequate | 63 | 31.5 |
| 3. | Adequate | 137 | 68.5 |
| | Total | 200 | 100 |

Table 3 is on the frequency and percentage distribution of posttest level of knowledge among school children. It reveals that majority of **[**137 (68.5%)**]** school children had adequate knowledge and 63 (31.5%) school children had moderately adequate knowledge.
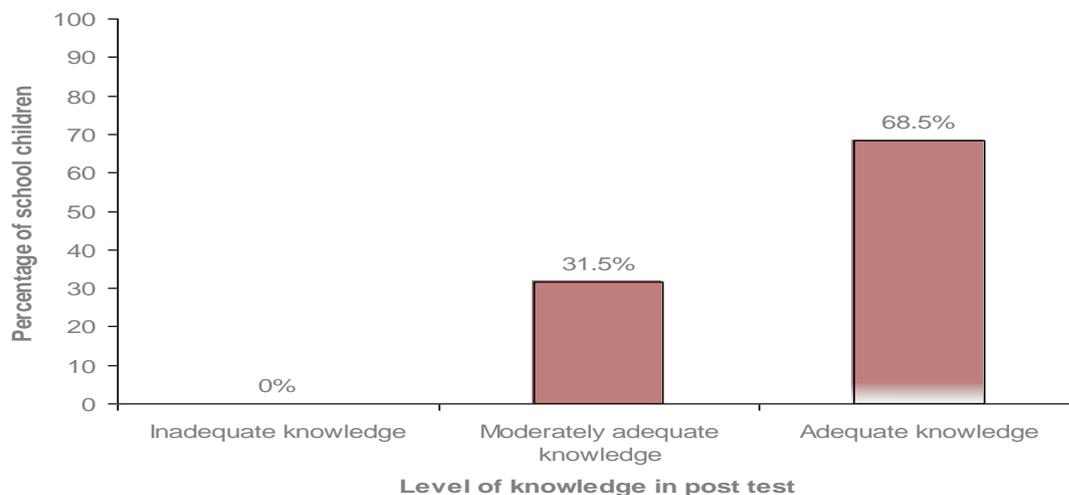


**Figure: 10 Percentage distribution of school children knowledge regarding selected first aid measures**

**Table 4:        Mean and Standard deviation of pre-test and post-test knowledge regarding selected first aid measures among school children,N=200**

| Variable | Mean | Standard Deviation |
|----------|------|--------------------|
| Pre test | 10.43 | 4.13 |
| Post test | 21.55 | 3.96 |

Table 4 reveals that the mean, standard deviation of pre-test and post-test knowledge regarding selected first aid measures. It shows that the mean

Value of pretest is 10.43 and standard deviation is (SD $\pm$ 4.13) and the mean value of post-test is 21.55 and standard deviation is (SD $\pm$ 3.96)

**SECTION D: Determine the effectiveness of planned teaching programme on knowledge of selected first aid measures among school children using child-to-child approach.**

**Table 5: Comparison of mean standard deviation and 'z' value scores of school children knowledge in pre- and post-test.**

N=200

| S. No | Variable | Mean | SD | 'z' | Table value |
|-------|----------|------|-----|------|-------------|
| 1. | Pre test | 10.26 | 4.13 | 28.15 | 1.96 |
| 2. | Post test | 21.55 | 3.96 | | |

Table 5 showed that mean score of pre-test and post-test of school children knowledge regarding selected first aid measures here 10.26 (SD ± 4.13) and 21.55 (SD ± 3.96) respectively. Post-test mean score was higher than the pre-test mean scores the 'z' value is 28.15 which was significant at 0.05 level

**SECTION - E: Association of post-test knowledge scores of school children with their selected demographic variables.**

**Table 6 : Association of post-test knowledge scores regarding selected first aid measures among school children with their demographic variables**

| Demographic variables | Level of knowledge | | | | | | $\chi^2$ Value | Table value |
|---|---|---|---|---|---|---|---|---|
| | Adequate | | Moderately adequate | | Inadequate | | | |
| | No | % | No | % | No | % | | |
| **Age:** | | | | | | | | |
| a) 12 years | 14 | 7 | 30 | 15 | - | - | 0.000056 | 3.814 NS |
| b) 13 years | 50 | 25 | 106 | 53 | - | - | | |
| **Sex** | | | | | | | | |
| a) Male | 30 | 15 | 70 | 35 | - | - | 0.367 | 3.814 NS |
| b) Female | 34 | 17 | 66 | 33 | - | - | | |
| **Religion :** | | | | | | | | |
| a) Hindu | 51 | 25.5 | 111 | 55.5 | - | - | 0.105 | 3.814 NS |
| b) Christian | 10 | 5 | 18 | 9 | - | - | | |
| c) Muslim | 3 | 1.5 | 7 | 3.5 | - | - | | |
| **Type of family** | | | | | | | | |
| a) Joint family | 21 | 10.5 | 46 | 23 | - | - | 0.019 | 3.814 NS |
| b) Nuclear family | 43 | 21.5 | 90 | 45 | - | - | | |
| **Area of residence** | | | | | | | | |
| a) Rural | 28 | 14 | 56 | 28 | - | - | 0.118 | 3.814 NS |
| b) Urban | 26 | 13 | 56 | 28 | - | - | | |
| c) Hostel | 10 | 5 | 24 | 12 | - | - | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Order of the child in their family** a) 1st child b) 2nd child c) 3rd child d) 4th and above | 27 27 8 2 | 13.5 13.5 4 1 | 66 52 14 4 | 33 26 7 2 | - - - - | - - - - | 2.06 | 3.814 NS |
| **Academic performance** a) excellent b) good c) average d) poor | 2 18 44 0 | 1 9 22 0 | 15 70 51 0 | 7.5 35 25.5 0 | - - - - | - - - - | 17.533 | 3.814 S |

*NS- Not Significant,          S- Significant*

p<0.05 level

The Chi square values were calculated to find out the association (table 7) between knowledge of children with age association with sex of the child association with religion association with type of family association with area of residence association with order of the child in their family and association with academic performance (17.533) regarding selected first aid measures.

There was no association found between knowledge score when compared to age, sex, religion, type of family, area of residence, and order of the child in their family.

Hence it can be interpreted that the difference in mean scores related to their demographic variables were not true difference only by chance. However, significant association was found between knowledge scores of school children with their academic performance.

**DISCUSSION**
This chapter attempts to discuss the findings of the study as per objectives. These findings are discussed under the following headings.
  ➢ Demographic characteristics of standard school children.
  ➢ Assess the pretest knowledge regarding selected first aid measures among standard school children.
  ➢ Assess the post-test knowledge regarding selected first aid measures among school children.
  ➢ Determine the effectiveness of planned health teaching programme on knowledge selected first aid measures among school children using child-to-child approach.
  ➢ Find association between post-test knowledge of children with their selected demographic variables.

**The first objective of the study was to assess the demographic characteristics of standard school children.**
  • Distribution of school children according to their age group depict that the higher percentage (78%) of children were in the age group of 13 years.
  • Highest percentage (81%) of school children were Hindus.
  • Majority of (66.5%) school children were from nuclear family.
  • Most of the (42%) children from rural areas.
  • Majority (46.5%) of children were first child in their family.
  • Most of the (47.5%) children were average in academic performances.

**The second objective of the study was to assess the pre-test knowledge regarding selected first aid measures among school children.**
An in-depth investigation into assessment of knowledge regarding selected first aid measures 70% had inadequate knowledge in pre-test.

**Third objective of the study was assess the post-test knowledge regarding selected first aid measures among school children**

The assessment of knowledge score of school children after being exposed to planned health teaching programme showed that knowledge score have been markedly 137 (68.5%) increased as evidenced by the post-test analysis.

**Fourth objective of the study was to determine the effectiveness of planned health teaching programme on knowledge of selected first aid measures using child-to-child approach.**

Table 4 reveal that knowledge level of school children in post-test had mean score of 21.55 (S.D = 3.96%), which was an excellent score compared to the mean score of 10.26 (S.D = 4.13%) in the pre-test. This is highly significant at $p \leq 0.05$ level. Hence Research hypothesis ($H_1$) the mean posttest knowledge score is significantly higher than the mean pretest knowledge scores of selected first aid measures among school children was accepted. The results of the study supported by Johanna Mahr (2004) conducted the study effectiveness of Child-to-Child approach on nutrition education in school on 55 (6-14 years) students. The study result that the mean knowledge score pre- test and post -test was 43% and 78% respectively.

**Fifth objective of the study was to determine the effectiveness of planned health teaching on knowledge of selected first aid measures by using child-to-child approach.**

Chi square values were calculated. The study shows that there was statistically significant association between post-test knowledge with academic performance (17.533) and there was no association found between knowledge score when compared to age, religion, type of family, area of residence, order of the child in their family.

**MAJOR FINDINGS OF THE STUDY**

Higher percentage of school children (78%) were in the age group of 13 years. Majority of (81%) school children were Hindus. Higher percentage of (66.5%) school children were fall in nuclear family. Most of (42%) school children were from rural areas. Highest percentage of (46.5%) school children were the first child in the order of their family. Majority of (47.5%) school children were fell in average academic performance.

During pre-test 70% of school children had inadequate knowledge. The highest percentage of (68.5%) school children were had adequate knowledge after the planned teaching programme.

Significant association was found between post-test knowledge score of school children with academic performance.

The study revealed that the knowledge score regarding first aid measures was highly significant after administration of planned health teaching programme. Findings showed that planned health teaching programme using child-to-child approach played an important role in improving the knowledge of school children regarding selected first aid measures.

**CONCLUSION**

The present study assessed the effectiveness of child-to-child approach in improving the knowledge of selected first aid measures. The results showed that significant improvement in knowledge among school children was seen. There for child-to-child approach could also be used for disseminating the health massages among the peer group and community.

**IMPLICATIONS**

The findings of the study have certain important implications for nursing service, education, administration and nursing research.

**Nursing service**
 ➤ Children must be encouraged to attend the health teaching programme in wards.
 ➤ Nurse as the change agent, can introduce child-to-child approach in school health programme to impart knowledge on health related conditions.

**Nursing education**
 ➤ Imparting the concepts of child-to-child approach to nursing students.
 ➤ Nursing students can utilize child-to-child approach to give health education in the schools, hospitals, and community.

**Nursing administration**
 ➤ Nursing personnel can organize continuing nursing education programme on child-to-child approach in all health sectors.

**Nursing research**
- ➤ This study finding can be effectively utilized by the emerging researchers.
- ➤ Child-to-child approach may also be used in imparting knowledge regarding disease conditions among peer groups.

## RECOMMENDATIONS

1. Child-to-child approach can be initiated in primary school children by the middle school students are change agents.
2. The concept of the child-to-child approach such as child-to-siblings child-to-mothers and child-to-community approach could be initiated in schools/community.
3. A longitudinal study can be undertake to assess the changes in health on knowledge and practices of the community / family to which the change agents belong to, after training the change agents on a felt topic.
4. Child-to-child approach can also be evaluated by other methods like role play, puppet show, storytelling and demonstration, etc.

## LIMITATION
- ❖ Researcher experienced difficulties during allotting the hours for conducting study in schools because of class hours.

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