ASSESSING THE KNOWLEDGE AND PREPAREDNESS OF PRIMARY TEACHERS' ON FIRST AID

A research project report
Submitted
to

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING
CHENNAI - 600006

Submitted
by
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FOREWORD

Research is part and parcel of the regular academic supportive activities of the DIET Faculty members. The SCERT has been guiding and funding the research activities of the DIET including District Research Project. A district level issue or survey is taken and is executed in a period of six months. The findings are disseminated at the state level program, exclusively convened for this.

Dr. R. Gobalakrishnan, Lecturer has put in his efforts in finding a problem, treating it and helping teachers find new ways. Many newer topics keep emerging from the districts, thanks to research project.

I appreciate the efforts of Dr. R. Gobalakrishnan, is selecting and executing this district research project, entitled “Assessing the knowledge and preparedness of Primary teachers’ on First aid”.

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EXECUTIVE SUMMARY

The First Aid Program for School Teachers is a comprehensive initiative designed to the equip educators with the necessary skills and knowledge to effectively respond to medical emergencies within a school setting. Recognizing the critical role teachers play in ensuring student safety, this program aims to create a safer educational environment by empowering teachers to act promptly and confidently during health crises. The First Aid Program for School Teachers is a vital initiative that underscores the importance of health and safety in educational settings.

By investing in comprehensive first aid training for teachers, schools can create a safer learning environment, ultimately protecting and nurturing the well-being of students. In addition, they will feel more confident in their ability to manage emergencies, leading to a more secure and supportive school environment. And aligning with national and international safety standards and recommendations for schools, it ensures compliance and enhances the school's reputation. It also helps to teachers' professional development.

Therefore, the present research work was undertaken for assessing the knowledge and preparedness of Primary teachers on First aid. The participating teachers could learn more knowledge of information from the first aid orientation workshop. This study represents a proactive approach to emergency preparedness, ensuring that teachers are well-equipped to handle any health crisis that may arise.

In the emergency crisis they will manage in proper manner with confidence for the benefit of the students. I am very happy to make this little contribution to enhancing teachers' confidence and competence related to the first aid and also created more awareness about it. which directly influences student safety.

Principal
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CERTIFICATE

It is certified that the District Level Research Report entitled "Assessing the knowledge and preparedness of Primary teachers' on First aid'' is an original and independent research work done by Dr. R. Gobalakrishnan, Lecturer, DIET Pudukkottai in Pudukkottai District and it has not previously formed basis for any research work or any award.

(Dr. G. Murugan)

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- Dr. R. Gobalakrishnan

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1. Introduction

"First aid is providing of first and emergency care for an illness or injury, by a non-expert but a trained person, till medical treatment can be accessed." Millions of people die or face severe injury in different emergency situations because people around them at that time do not know how they can help them because of their non awareness related to first aid and in the process, they do some terrible mistakes while trying to save someone.

First Aid is the first assistance or aid or treatment given to a patient in an emergency situation before formal and appropriate medical help is available. Any trained person or paramedical staff at any point of time can render First Aid services. An ambulance must also be stationed at a workplace to tackle emergency situations. The purpose of giving first aid is to prevent further deterioration of the patient's health. The responsibility of a First Aider is to help the patient by winning her/his confidence. At the same time, the First Aider must not endanger her/his own life while

providing treatment. She/he must always keep in the mind that the casualty may have more than one injury.

When a person suffers an injury or sudden illness, immediate medical attention or treatment may be provided to her/him in order to reduce the discomfort, pain and deterioration of her/his condition. During these situations, trained doctors may not available on the spot. Therefore, the 'first care', which is provided before professional medical help is available, is called 'First Aid'. As a trained General Duty Assistant, it is necessary to understand the principles and procedures for providing First Aid while awaiting the arrival of 'Medical Aid' (NCERT, 2024).

1. 2. History of First Aids

First aid has been practiced over the course of thousands of years, shifting from rudimentary techniques to a structured approach. The important milestones one can come across in the history of first aid are:

Ancient Civilizations: Ancient civilizations, such as the Egyptians and Greeks, documented some of the rudimentary methods for treating wounds and other medical treatments. Early texts from those times yield insight into the primary forms of first-aid practices.

Middle Ages: During these times, several military orders and religious societies fashioned elementary first-aid techniques to treat their wounded fraternity and sojourners. In such times, primary dressing of wounds, treatment with herbs, and salves of application came into being.

16th -18th Centuries: Gains that the Renaissance made in medical knowledge, along with more organized methods of treating injuries and illnesses, galvanized the military surgeons' drive to start codifying ways of rendering battlefield first aid.

19th Century: Establishment of formal first-aid practices was hugely hastened during the 19th century. It was abetted by such organizations as the Red Cross, founded in 1863 by Henry Dunant, who did much toward standardizing and spreading first-aid techniques internationally.

Late 19th - Early 20th Century: With the establishment of organizations like St. John Ambulance in 1877, first aid manuals could now be written to introduce standardized training in first aid into the civilian community. Widespread use of bandages, splints, and resuscitation techniques followed.

World Wars: The need for great leaps in first aid and emergency medical care was accelerated by the World Wars, especially World War I and World War II. Heavy mass casualties were sustained, and the need to stabilize the wounded rapidly spawned first-aid field techniques, triage systems, the use of tourniquets, and other emergency medical interventions. First aid training became more formalized and available on a broader civilian scale following World War II. Organizations like the American Red Cross and St. John Ambulance expanded their first-aid instruction to ensure that more members of the public could provide immediate care in case of emergencies.

Modern Era: First aid, today, has evolved into a form that continues to move with the progress in medical science and technology. Practices such as CPR, or Cardiopulmonary Resuscitation, defibrillation, and dressing for advanced wounds are very significant constituents of first-aid training today.

1.3. Agencies working for first aid in the World

Several organizations and agencies around the world focus on promoting and teaching first aid skills, as well as providing emergency medical assistance. Here are some prominent agencies and organizations involved in first aid:

International Federation of Red Cross and Red Crescent Societies (IFRC):

The IFRC coordinates the efforts of national Red Cross and Red Crescent societies worldwide. They provide extensive first aid training and disaster response services globally.

American Red Cross:

The American Red Cross is a humanitarian organization in the United States. They offer first aid, CPR, and AED training courses to individuals and organizations.

St. John Ambulance:

St. John Ambulance operates in various countries, including the UK, India, Canada, Australia, and New Zealand. They provide first aid training, ambulance services, and community support.

European Resuscitation Council (ERC):

The ERC focuses on improving resuscitation techniques across Europe. They develop guidelines for first aid, CPR, and advanced life support training.

National Safety Council (NSC):

Based in the United States, the NSC promotes safety and health education. They offer first aid training and resources to individuals and workplaces.

International Committee of the Red Cross (ICRC):

The ICRC provides humanitarian aid in conflict zones and areas affected by disasters. They train local communities in first aid and support healthcare facilities.

British Red Cross:

The British Red Cross provides first aid training and emergency response services in the UK. They also contribute to international disaster relief efforts.

Australian Red Cross:

The Australian Red Cross offers first aid training and emergency assistance across Australia. They respond to disasters and promote community resilience.

World Health Organization (WHO): The WHO sets global health standards and guidelines, including those related to first aid and emergency

medical care. They work with member states to improve healthcare systems and emergency response.

National Red Cross and Red Crescent Societies:

Each country's national Red Cross or Red Crescent society plays a crucial role in providing first aid training, disaster response, and community health services.

These organizations collaborate on a global scale to enhance public health preparedness, improve emergency response capabilities, and empower individuals and communities with life-saving first aid skills.

1.4. Agencies working for First aid in India

In India, several organizations and agencies focus on promoting first aid training and providing emergency medical assistance. Here are some notable agencies working for first aid in India:

Indian Red Cross Society (IRCS):

The Indian Red Cross Society is the largest humanitarian organization in India. It provides first aid training, disaster response, and health care services across the country.

St. John Ambulance (India):

St. John Ambulance Association (India) is part of the global St. John Ambulance movement. They offer first aid training, ambulance services, and community health programs.

National Institute of Health and Family Welfare (NIHFW):

NIHFW is an autonomous organization under the Ministry of Health and Family Welfare, Government of India. They conduct training programs for health professionals, including first aid and emergency medical care.

Indian Medical Association (IMA):

The Indian Medical Association is a voluntary organization representing medical professionals in India. They promote public health awareness and organize first aid workshops and training sessions.

Life Supporters Institute of Health Sciences (LSIHS):

LSIHS is a non-profit organization dedicated to improving emergency medical care in India. They offer certified first aid, CPR, and advanced life support training courses.

Apollo Hospitals:

Apollo Hospitals is one of the largest hospital chains in India. They conduct first aid and emergency response training programs for healthcare professionals and the public.

National Safety Council of India (NSCI):

NSCI is a self-financing, autonomous organization promoting safety and health at workplaces and in communities. They offer first aid training and certification programs across India.

Disaster Management Authorities:

State and district-level disaster management authorities in India also play a significant role in promoting first aid training and emergency preparedness.

Society for Emergency Medicine India (SEMI):

SEMI promotes the practice and advancement of emergency medicine in India and offers training programs that include first aid techniques.

National Institute of Disaster Management (NIDM):

NIDM focuses on disaster preparedness and management, including training in first aid and emergency response for various stakeholders.

National Disaster Response Force (NDRF):

The NDRF is a specialized force under the Ministry of Home Affairs, Government of India, tasked with disaster response and relief operations, including providing first aid in disaster-stricken areas.

State Disaster Response Force (SDRF):

Similar to the NDRF, state-level SDRFs are involved in disaster response and often provide first aid training and services within their respective states.

Public Health Foundation of India (PHFI):

PHFI focuses on improving public health in India and collaborates with various organizations to provide health education, including first aid training.

These organizations work tirelessly to improve public health and safety by equipping individuals with essential first aid skills and ensuring prompt emergency response capabilities across India.

1.5. Definition of First Aids

First aid is the assistance given to someone who is injured or suddenly ill until professional medical assistance arrives. Until they can reach a medical facility.

1.6. What does First Aid mean?

First aid is the provision of initial care for an illness or injury. It is usually performed by a non-expert person to a sick or injured person until appropriate medical treatment can be accessed in a hospital or by going to a doctor. Certain self-limiting illnesses or minor injuries may not require further medical care after the first aid intervention. It generally consists of a series of simple and in some cases, potentially life-saving techniques that an individual can be trained to perform with minimal equipment. The First aid training, therefore, is of value in both preventing and treating sudden illness or accidental injury and in caring for large number of persons caught in a natural disaster. It is a measure both for self-help as well as for the help of others (NCERT, 2024).

1.6.1. Self-help

If you, as a first-aider, are prepared to help others, you are better able to care for yourself in case of injury or sudden illness. Even if your own

condition keeps you from caring for yourself, you can direct others in carrying out correct procedures to follow on your behalf (NCERT, 2024).

1.6.2. Help for Others

Having studied first-aid, you are prepared to give others some instruction in first-aid, to promote among them a reasonable safety attitude and to assist them wisely if they are stricken. There is always an obligation on a humanitarian basis to assist the sick and the helpless. There is no greater satisfaction than that resulting from relieving suffering or saving a life (NCERT, 2024).

1.7. Why First Aid?

The main objective of first aid is not to cure, but to ensure safety until the patient or affected person accesses specialised treatment. It is the initial assistance or care of a suddenly sick or injured person. It is the care administered by a person as soon as possible after an illness or accident. It is this prompt care and attention prior to the arrival of the ambulance that sometimes creates the difference between life and death, or between a full or partial recovery.

The major objectives of first aid are: (i) to ensure that the victim reaches the place of specialised treatment safely and life is not lost in-between; (ii) to prevent further harm, i.e., the injury that has taken place, does not deteriorate further; (iii) to prevent the danger of further injury; and (iv) to promote recovery, i.e., necessary intervening care is taken in a

way that promotes recovery and relieves the victim of pain and uneasiness (NCERT, 2024).

1.8. Principles of First Aid (NCERT, 2024)

The basic principles of First Aid are as follows:

I. Preserve life: This includes preserving the life of the casualty and the rescuer.

II. Ensure protection of the casualty from further harm: The treatment area needs to be safe and must not have excess people.

III. Provide pain relief: This includes the use of ice packs or applying a sling.

IV. Prevent the condition from worsening: Ensure that the First Aid procedures do not worsen the patient's condition.

1.9. Rules of First Aid (NCERT, 2024)

- ✓ Check: Find out what has happened and what is wrong with the person. Comfort the person and arrange for a shelter.
- ✓ Call: Arrange for a professional medical aid.
- ✓ Care: Help the victim, preferably without moving her/him.

1.10. Responsibilities of a first aider (Marak, 2014)

Preserve life and provide initial emergency care and treatment to sick or injured people

- Protect the unconscious

- Prevent a casualty's condition from becoming worse
- Promote the recovery of the casualty.

1.11. Philosophy of First Aid (Marak, 2014)

In the pre-hospital setting, the key contributors to survival and recovery from illness and injury are prompt and effective maintenance of the body's primary functions:

- Airway
- Breathing
- Circulation
- Bleeding control (life threatening)

Medical research data suggests that effective support of these basic functions provides the most significant contributor to positive outcomes for casualties in the prehospital setting.

1.12. Rapid Responses to Disasters and duties of rescuer

When disaster strikes, individuals within the affected community and neighbouring communities are the first to respond. Preparedness can make the difference between life and death.

A damage assessment survey should follow three key principles:

a. Look: Make a thorough visual inspection of the damage-affected area;
b. Listen to all sources of information - the community, government records, and media reports;

c. Understand the gravity of the dangers and the suffering of victims as well as the capacity to respond.

The first job of a rescuer is to remain calm and assess the area to determine the extent and particulars of the damage identify any hazards or obstacles to rescue, and gauge whether further damage is likely. The information collected will be crucial in planning the best approach to rescue. Rescuers can get this information by speaking with local leaders and residents within the locality. It is important that appropriate help as per assessment is called. It is important to understand that first aid has limitations and does not take place of a professional medical treatment (IRCS, 2024).

1.13. First aid and the law (St. John Ambulance, 2019)

Note that St. John Ambulance is not giving legal advice. This guide is not intended to replace advice given by a lawyer or legal professional.

1.13.1. Principles of the Good Samaritan

Across the world Good Samaritan laws and principles protect first aiders from lawsuits. You are a Good Samaritan if you are a bystander who helps a person when you have no legal duty to do so. As a Good Samaritan, you give your help without being paid, and you give it in good faith. Whenever you help a person in an emergency situation, you should abide by the following principles:

- ✓ You identify yourself as a first aider and get permission to help the injured or ill person before you touch them - this is called **consent**

- ✓ You use **reasonable skill and care** in accordance with the level of knowledge and skill that you have
- ✓ You are not **negligent** in what you do
- ✓ You do not **abandon** the person

1.13.1.1. Consent

The law says everyone has the right not to be touched by others. As a first aider, you must respect this right. Always ask if you can help. If the casualty cannot answer, you have what is called implied consent, and you can help. If the casualty is an infant or a young child, you must get consent from the child's parent or guardian. If there is no parent or guardian at the scene, the law assumes the casualty would give consent if they could, so you have implied consent to help.

A person has the right to refuse your offer of help. In this case, do not force first aid on a conscious casualty. If you do not have consent to help, there may be other actions you can take without touching the casualty, such as controlling the scene, and calling for medical help.

Be aware of difficulties in communicating when a casualty:

- Is hard of hearing
- Speaks a different language
- Is visually impaired
- Is a child
- Is in pain
- Shows signs of mood disorder

1.13.1.2. Reasonable skill and care

As a Good Samaritan, when you give first aid you are expected to use reasonable skill and care according to your level of knowledge and skills.

1.13.1.3. Negligence

Give only the care that you have been trained to provide, and always act in the best interest of the casualty.

1.13.1.4. Abandonment

Never abandon a casualty in your care. Stay until:

- You hand them over to medical help
- You hand them over to another first aider
- They no longer want your help—this is usually because the problem is no longer an emergency, and further care is not needed

1.13.2. Indian Good Samaritan Protection Guidelines (IRCS, 2016)

A Good Samaritan in legal terms refers to "someone who renders aid in an emergency to an injured person on a voluntary basis". The Ministry of Road Transport and Highways has published the Indian Good Samaritan and Bystanders Protection Guidelines in The Gazette of India in May 2015 (Notification No 25035/101/2014-RS dated 12 May 2015). The guidelines are to be followed by hospitals, police and other authorities for the protection of Good Samaritans.

Following guidelines are included (sub-selection of the guidelines):

1. A bystander or Good Samaritan, including an eyewitness of a road accident may take an injured to the nearest hospital and should be allowed to leave immediately. The eyewitness has to provide his address. No questions are to be asked.
2. The bystander or Good Samaritan shall not be liable for any civil and criminal liability.
3. A bystander or Good Samaritan who makes a phone call to inform the police or emergency services for the person lying injured on the road cannot be compelled to give his name or personal details on the phone or in person. The disclosure of contact details of the Good Samaritan is to be voluntary.
4. The lack of response by a (medical) doctor in an emergency pertaining to road accidents (where he is expected to provide care) shall constitute 'Professional Misconduct'.

1.14. Importance of the first aid training to teachers

First-aid training thus becomes an imperative for teachers due to the following important reasons:

Instant Response to Emergencies: Able to immediately respond to accidents or other health-related emergencies, trained first-aid teachers can provide care that makes all the difference between stability in the condition of the person who has become ill or injured before professional help from a doctor or the arrival of an ambulance.

Safety of the Student: Schools are zones where children spend a substantial portion of their day. Active children translate to accidents being inevitable. First-aid-trained teachers can deal promptly with injuries and stop them from getting worse.

Potential Life-Saving: In the worst-case scenarios, like cases of choking or severe allergic reactions or cardiac arrest, knowing how to administer first aid can literally mean between life and death.

Minimising Health Risks: Proper and timely first aid helps reduce health risks by controlling infections from wounds, reducing the seriousness of the injury, and efficiently managing cases of medical conditions.

Improved Confidence: First-aid training will help teachers to be more confident and self-assured to deal with situations. This surge in confidence can prove very instrumental in keeping calm and handling situations effectively. The teacher's principal requirement is the legal and ethical duty of care towards students. First aid training will facilitate the performance of this role by ensuring they are able to deliver proper care at the right time.

Improved Culture of School Safety: First aid training will instil a culture of safety and preparedness in the school and motivate the staff and students to be vigilant and ready always against any emergence that may arise.

Empowerment of Teachers and Students: A first-aid-trained teacher can impart basic competencies to the students, thus arming them with self- and other-injury management during emergency situations.

Less Anxiety: The teacher and the students will be less fearful in knowing that someone, at least, is trained to take care of emergencies. This sets the stage for a much more secure and supported atmosphere for learning.

Comprehensive Care: More often than not, teachers spend more time with students rather than other adults. First-aid training enables teachers to offer comprehensive care, including the attention necessary for minor and major health problems.

Being Prepared for All Situations: Emergencies can vary in schools, from playground injuries to natural disasters. First aid training readies the teachers to handle all types of situations.

Encourages Responsibility and Leadership: First-aid-trained teachers become role models, and the students spur one another to take responsibility for health and safety—inspiring future interest in healthcare professions.

First-aid training will help teachers acquire important skills for the management of health and safety in a school environment. Such training provided through a school will be partly beneficial to the immediate school and largely foster a culture of safety and preparedness.

1.15. Need and significance of the Study

First Aid Awareness is an immediate medical assistance given to accident or swooned victims before the arrival of a qualified emergency medical team. The students may need first aid due to various reasons around or in school due to some unexpected incidents which may happen especially while playing games or handling sharp tools like pencil, etc. Therefore, students are affected due to insufficient training or awareness of first aid among teachers. They may get serious injuries, which may sometimes lead to permanent loss So, teachers with good knowledge of first aid are likely to be more alert and active is very critical situation.

They make sure the students are not vulnerable to any accidents or injuries. First aid promotes a sense of safety. It makes them capable of managing incidents and a reducing the impact of the accidents. The more they are aware of accidents, illnesses, and treatments, the more they become conscious of saving them. This research is formulated not only to make employees understand the absolute need for first aid service at workplaces but also to train them to take appropriate actions during any type of accidents, ailments, or injuries before the affected get complete treatment at a hospital.

1.16. Identification of Problem

In school environment and class room situation, crucial for school teachers is need more awareness about first aid for several reasons. In the immediate response aspects, teachers are often the first responders when

accidents or medical emergencies occur in schools. First aid knowledge allows them to provide immediate care that can stabilize the situation until professional medical help arrives. In the safety of students', schools are places where children spend a significant portion of their day. Given their natural curiosity and high energy levels, accidents are bound to happen. Teachers trained in first aid can address injuries promptly, reducing the risk of complications. In the confidence in Handling Emergencies, knowing first aid increases a teacher's confidence in handling various emergencies, from minor cuts and bruises to more serious conditions like asthma attacks, allergic reactions, or even cardiac arrests. In legal and ethical responsibility, Schools have a duty of care to their students. Being trained in first aid helps fulfill this responsibility, ensuring that staff can provide appropriate care when needed.

Promotes a Safe Learning Environment, a safe environment is essential for effective learning. When teachers are trained in first aid, it reassures students and parents that the school prioritizes health and safety. The empowers students, teachers with first aid knowledge can pass on basic skills to their students, empowering them to take care of themselves and others in emergencies. In the reduces Severity of Incidents, Prompt and appropriate first aid can prevent minor injuries from becoming major ones. For example, knowing how to properly clean and dress a wound can prevent infections. Finally, supports mental health, Teachers trained in first aid can better support students experiencing mental health crises, such as panic

attacks or severe anxiety, providing a holistic approach to health and well-being. Overall, first aid training equips teachers with essential skills to manage health and safety in the school environment effectively.

During the inspector's visit to the school, various incidents of Bleeding, Wounds, Blisters, Bruise, Fracture, Strain, Electric shock, Burns, Poisoning, Food Poisoning, Bites and Stings, Choking, Foreign Bodies in the Eyes, Ear and Nose, Fainting etc. were found among the students in the school premises. And in such an emergency environment, school teachers faced various challenges in providing first aid. Therefore, this problem was identified with a view to solving the first aid doubts of the teachers.

1.17. Statement of the problem

The present investigation is entitled “Assessing the knowledge and preparedness of Primary teachers’ on First aid”.

1.18. Objectives of the study

- ✓ To measure the level of knowledge about first aid of Primary school teachers.
- ✓ To measure the level of preparedness about first aid of Primary school teachers
- ✓ To introduce and train the Primary school teachers using various first aid activities with the help of experts.
- ✓ To help them to apply the theoretical knowledge and practical skills about first aid to the Primary school teachers.

- ✓ To assess the post knowledge and preparedness of the Primary school teachers.

1.19. Limitations of the study

- ✓ The present study is limited to district level only.
- ✓ The present experimental study is limited to 100 primary school teachers only.
- ✓ The present study is conducted for class 1 to 5 standard handling teachers.
- ✓ The present study is conducted one day orientation workshop.
- ✓ The study permits to train with first aid tools in limited teachers.

1.20. Conclusion

Conceptual frame work of the study is given in this first chapter. The next chapter deals with the review of related literature.

2. Review of related Literature

2.1. Introduction

In order to get a clear idea and understanding the topic under study, the investigator has research abstract relative to the study. He has also gone through important international studies and relevant study done in India. The investigator has a summer of the result under taken.

2.2. Need for survey of literature

The survey of related implies, locality, studying and evaluating report of relevant researcher's study of published article, going through related portions of encyclopedias and research abstracts, for any worthwhile study in any field knowledge, the research worker need as adequate familiarity with the work was already been done is the area of his choice been needs to acquire update information about what has been through and achieved is the particular area.

The review of related literature is a very useful process for a research, programmer, and every investigator must know what are available is their field or enquiry which of them.

2.3 Review of First Aid Related Studies

Barbara and Ogradnig (2024) studied "Transforming first-aid training: a new lesson study approach for the Red Cross". They aimed to enhance the quality and effectiveness of these courses by implementing modified lesson studies with non-professional trainers. They, around 22 lesson study first-aid courses (14 classes with 2 cycles, 8 with 3 cycles) were conducted and evaluated in different Austrian school types. The research findings demonstrated that lesson studies can significantly enhance the quality and effectiveness of first-aid courses. Inexperienced and experienced first-aid teachers significantly improved their teaching skills. Newly educated first-aid teachers showed substantial improvement, leading to the introduction of an induction period and coaching opportunity within the Youth Red Cross Carinthia and the literature on the application of lesson study in first-aid education and provides insight into the benefits to enhancing the quality of first-aid training.

Efendi et al., (2023) studied that "The effectiveness of first aid education on basic life support knowledge and skill among family members with heart diseases". The purpose of those study was to determine the effect of first aid education on basic life support (BLS) among family members with heart disease in Lingkar Timur Primary

Health Care, Bengkulu City using quasi-experiment with a pre and post-test. Totally 40 respondents who contributed to this study who selected by simple random sampling. The intervention has been done by giving the demonstration, and audio-visual knowledge about basic life survey (BLS). The average age of the respondents was 30.23 years, more than half of the respondents were female by 26 people (65%), and more than half of the respondents graduated from senior high school by 21 people (52.5%). Most of the respondents work as an entrepreneur by 10 people (25%). Most of the respondents' income was <Rp 1,000,000 by 16 people (40%). The results showed that there was an effect of education with audio-visual and BLS demonstration on the skills of doing BLS (p-value 0.000 < 0.05). Training effects increasing the knowledge and skills of BLS respondents. Emergency training needs to be given to all people as a form of early awareness of emergency conditions.

Jin et al., (2022) reported that, the status of first aid skills mastery and training preferences of college students: a cross-sectional survey. They aimed to determine the universality of first aid training and the mastery of first aid skills among college students in order to implement first aid. They concluded finally, college students have a positive attitude towards learning first aid knowledge. However, it was found that the first aid skills were not well mastered, and the training was insufficient. Colleges and universities should provide first aid-related courses, extracurricular intensive training and other methods, Increase the knowledge of college

students to deal with emergencies and improve basic first aid skills. Incorporating first aid skills training into university curricula and implementing it is a long-term strategy. Improve college students' awareness of first aid knowledge to obtain better social benefits.

Minna et al., (2022) reviewed that to explore the variety of the elements of the measuring systems to assess the effects of first aid trainings on different aspects of first aid skills including practical skills, knowledge, and emotional perspectives. Practical skills, especially on the ability to perform cardiopulmonary resuscitation (CPR) and to use an automated external defibrillator, were the most studied first aid skills after first aid training. This evaluation was based on several standardized measurements and assessed often with the help of a combination of resuscitation manikin and observer. Evaluation methods of performance in other emergency situations are not well standardized. Questionnaires used to assess knowledge of first aid, though seemingly based on guidelines, were also not standardized, either. Emotional aspects of first aid (willingness or self-confidence) were evaluated by highly simplified questionnaires, and answers were graded by five-point Likert scale. Conclusion According to their review, the focus of evaluation methods after first aid training has been on practical skills and especially on CPR. Though the evaluation of first-aid knowledge seems to be straightforward, it is not performed systematically. Evaluation methods for emotional

aspects are highly simplified. Overall, standardized measurements and evaluation methods to assess all aspects of first aid skills are needed.

Sutono et al., (2020) studied the Effectiveness of first-aid training in school among high school students in Kulon Progo, Indonesia. These study utilized the quasi-experiment method. The total number of subjects was 124 students who studied in Kalibawang 1st State Senior High School, and in Samigaluh 1st State Senior High School, both of them school is located in Kulon Progo district, Indonesia. The subjects were divided into three groups using three different methods, namely lecturing-discussion, poster demonstration, and audio-visual media. The pre-test and post-test results showed that there was a knowledge improvement after the training using the lecturing (p=0.000), poster (p=0.000) and audio-visual methods (p=0.000). The cardiopulmonary resuscitation skills in the lecturing (p=0.000), poster (p=0.000) and audio-visual methods (p=0.000) groups showed the improvement after the first-aid training in school. They concluded the study proved that the first-aid training in the school gave effect on the improvement of the knowledge and skill in handling the emergency situation, particularly the cardiac arrest through cardiopulmonary resuscitation.

Deepthi et al., (2018) studied that, the effectiveness of First Aid training: Engaging community stake holders in rural India. they aimed to evaluate the effectiveness of health education in improving the knowledge of health workers and teachers regarding the first aid care in a rural

administrative unit. The results, 62% of health workers and 83% of teachers informed that they were not trained in first aid ever before. Overall pretest scores of 3.45 ± 1.43 increased significantly to 7.8 ± 0.97 after the training ($p<0.001$). Pretest scores of teachers (3.5 ± 1.4) and health workers (3.4 ± 1.6) also increased significantly to 7.6 ± 1.2 and 8.0 ± 0.5 respectively. Health workers faired equivalent to that of school teachers. The concluded that the training in first aid improved knowledge of teachers and health workers. Hence a quality education on first aid will facilitate teachers and health workers to save lives in emergency.

Jamaluddin et al., (2018) studied "Knowledge, Awareness, and Attitude of First Aid among Health Sciences University Students". The objective of the study assesses the level of knowledge and awareness of, and attitudes towards, first aid among IIUM Kuantan campus students. A quantitative cross-sectional survey with the stratified random sampling study was conducted among 348 students at the International Islamic University Malaysia (IIUM) Kuantan. A questionnaire was used in this study. The result shows that a total of 42.8 percent participants had a moderate level of first aid knowledge. However, 90.8 percent participants had awareness of and a positive attitude towards first aid knowledge. On the other hand, 55.4 percent of study participants had not taken first aid courses and they had little knowledge of this.

Qureshi et al., (2018) assessed in the study, the First aid facilities in the school settings: Are schools able to manage adequately? Participants

are 209 school teachers of both the public and private sectors at both primary and secondary level. The result of the study revealed that First aid facilities at various schools of Karachi and availability of trained teachers who can provide first aid care are unsatisfactory.

Musa et al. (2017) conducted a research study on "knowledge of first aid skills among medical students at King Khalid University, Abha, Saudi Arabia". The study was to assess the level of knowledge of medical students in providing first aid to the patients. A structured questionnaire was used as a tool. This study revealed that poor knowledge about first aid among the medical students at KKU. There is thus a need for first aid training to be introduced in the medical curriculum to improve the basic skill among all the students.

Magrabi et a., (2017) conducted a study to find out the impact of a training programme regarding first aid knowledge and practices among preparatory school teachers. The quasi-experimental study used with one group pre-post test research design. The study revealed that Mean±SD of teachers' age was 38.78±8.83, 26.7 percent of the teacher attended training programme about first aid, there were statistically significant differences between total score of teachers' knowledge (p-value = .000) in pre and immediate post-test. There were statistically significant differences between the performance level of preparatory schools teachers (p-value = .000*).

Panday et al. (2017) conducted a study in health assigned teachers of primary school about their first aid knowledge. It was a non-experimental survey study. Purposive sampling technique was used. The result shows that the majority of health assigns teachers were having average knowledge about first aid.

Allah et al., (2017) conducted "an intervention study of enhancement of disaster management and first aid rules for primary school teachers in Egypt". The major objective of the study was to asses knowledge and skills regarding first aid and disaster management among school teachers and to check intervention programmes effectiveness also. The sample used for the programme was 43 teachers from two primary schools of Zagazig district. Questionnaire and an observational checklist were used for data collection. The result shows that the first aid knowledge and disaster management knowledge was increased to the teachers after the intervention.

Bakke et al., (2017) conducted a nationwide survey of first aid training and encounters in Norway. They conducted a telephone survey of 1000 respondents who were representative of the Norwegian population. The major findings show that among the respondents, 90 percent had received first aid training, and 54 percent had undergone first aid training within the last 5 years. Of the 43 percent who had been faced in a situation requiring first aid, 89 percent had provided first aid in that situation. Theoretical first aid knowledge was not satisfactory. In the present

scenario 42 percent of respondent would initiate CPR in an unconscious patient not breathing normally, and 46 percent would provide an open airway to an unconscious road traffic victim. Major conclusions of the study were a high proportion of the Norwegian population had first aid training, and Norwegian people were shows willingness to provide first aid. First aid theoretical knowledge was worse than expected. While first aid is part of national school curriculum, few have listed the school as the source for their first aid training.

Holding et al., (2017) conducted a study about first aid intervention in the adult population in Yorkshire. The aim of this study was to conduct a first aid behavior survey of a large adult population in the United Kingdom. Survey method used. Results showed that, of the 13,584 adults who responded, 11.6 percent reported having given first aid to someone in the previous year, of whom three quarters (76.3 percent) knew the recipient. Women, those aged 26-45, those with 2-4 children, and people on higher income were more likely to report having given first aid. Although young people were less likely to provide first aid, they were more likely to have assisted strangers. The findings can be used to inform the development of future population-based interventions such as targeted first aid education, providing a foundation for future research.

Galindo et al., (2017) conducted a study about “First aid in school: construction and validation of an educational primer for teacher”. Major goal was Build and validate an educational primer for early childhood and

elementary school teachers about first aid in school. It is the study carried out from the construction of the educational material, with subsequent validation by 22 judges and evaluation of 22 teachers. The results show that the booklet addresses first aid that must be performed in 15 diseases and has 44 pages. All items were assessed as relevant and the Level Content Validity Index had an average of 0.96. The primer was approved by the teachers with a concordance index of 1.0. The primer was constructed and validated and can be used by nursing in health education with teachers on first aid at school.

Wilks and Pendergast (2017) suggested some important aspects about first aid at school. “The review considers initiatives in various countries to include mandatory first aid and cardiopulmonary resuscitation (CPR) training in schools, key educational considerations and the supporting empirical evidence, in particular the relevance of first aid and CPR training to broader educational goals of student capability, resilience and self-efficacy. Systematic reviews all show evidence to support the provision of first aid and CPR training courses and programmes in schools, with interventions effective in improving first aid knowledge and skills both post-training and in some studies up to 12 months afterwards. Important factors include ensuring the content is relevant and practical for the target group and offering an opportunity for young people to explore and discuss helping behavior in emergency situations. Age-appropriate first aid and CPR instruction should be

integrated into the school curriculum beginning in the primary years and developed/refreshed annually. Topics covered should include calling for help, bleeding, choking, burns, unconsciousness and resuscitation – all within the broader context of being confident and willing to help others. With the right training and support, schoolteachers can effectively deliver first aid instruction to their students. Future research should concentrate on gaps in evidence-based practice, especially measurements to demonstrate the effectiveness of first aid training, in order to advance the case for mandatory first aid education in schools. Young people to explore and discuss helping behavior in emergency situations."

Gore et al., (2017) conducted a study on "knowledge regarding first aid among undergraduate medical students in Bangalore". It was a cross-sectional study, in which a questionnaire was used. The result shows that first aid knowledge of medical students needs improvement. Level of knowledge improved with increasing terms but this was not sufficient and more first aid and basic life support training should be given to the medical students.

Kim et al., (2017) conducted a study in "Development and exploratory testing of a school-based educational programme for healthy life behaviors among fifth-grade children in South Korea. "The purpose of this study was to develop an educational programme to promote healthy life behaviors and to evaluate its potential effects on the health practices of fifth-grade elementary school children. It was an intervention study. The

program, which consisted of six categories (daily life and health, disease prevention and management, prevention of drug misuse and overuse, sexuality and health, mental health, and injury prevention and first aid). A pretest-post-test, one-group, quasi-experimental design was used with 85 elementary school students who voluntarily participated in the program. Results showed that a school-based educational program, called the "Six Kid Keys," referring to the six categories of healthy life behaviors, was developed. Significant pre-post differences in two of the six healthy life behavior categories (disease prevention and management, injury prevention and first aid) were found. The major conclusion of the study is a school-based intervention that was aimed at changing habits related to healthy life behaviors could be effective for elementary school children.

Patrick and Matteson (2017) published an article on "Elementary and middle level biology topics: a content analysis of Science and Children and Science Scope from 1990 to 2014". Science and Children and Science Scope are peer-reviewed science practitioner journals that publish articles for science educators who teach children of ages 5–10 years and 10–13 years respectively. As such these articles are a reflection of the science concepts that are being communicated to science educators. This comprehensive literature review was completed to determine the extent to which the articles included in these journals from 1990 to 2014 focused on biology topics, incorporated other non-science subjects and science disciplines, and encouraged inquiry-based learning. The results indicate

that out of the 2701 total articles, 557 (21 percent) focused on biology. The biology topic covered most often by both journals was annuals. The biology topics covered least often were fungi, photosynthesis, respiration and viruses. The findings are taken into consideration and the educational implications for the journals and educators are discussed Mirza et al. (2016) conducted "a study among secondary school students in Makkah city, an intervention study". The main aim of the study was to assess the effect of a structured training course on students knowledge and behavior regarding first aid in secondary schools. A quasi-experimental pre-post method was used. After the intervention students showed that a possible correlation between first aid knowledge and behavior.

Alhejaili and Alsubhi (2016) studied about "knowledge and attitude of first aid skills among Health science students at Taibah University". The main objective of the study was to assess awareness about first aid knowledge among the female students of health science colleges before and after awareness presentation. A cross sectional study was done among the female students through pre and post test awareness assessment. The study revealed that inadequate knowledge about first aid among the female students. The major recommendation was Health science students at Taibah University need first aid training programme in their curriculum to improve the basic skill about it.

Lenson and Mills (2016) conducted a "First aid knowledge retention in school children: A review of the literature". The researcher conducted a

search of the peer-reviewed and grey literature was conducted from a narrative review. Journal article is also selected. The main result of the study was the search yielded four primary studies of European school children aged 4–12 years trained by professional first aid providers. The subsequent review identified emergent themes of resuscitative first aid and non-resuscitative first aid. Heterogeneity was apparent in training and evaluation methods, and study quality varied. Reported first aid knowledge retention was mixed.

Khatatbeh (2016) conducted a study on the "First aid knowledge among university students in Jordan". The finding was revealed that female students, having previous first aid experience, and being a student of the health sciences and scientific colleges were the only factors had significant statistical associations with better level of first aid knowledge.

Zayapragassarazan (2016) wrote an article "Urgent need to train teachers and students in first aid and CPR". In this article he describes that teachers who are in need and importance of first aid training for students and teachers. He said that first aid training will help a person when face with such emergency situation to save the life of the concerned. This article also stresses the need for policy measures from the government side to include first aid and CPR as a mandatory subject at all levels of education to teach the next generation of life savers.

Reveruzzi et al., (2016) analysed "a school-based first aid training programs: a systematic review". This review examines the breadth of first

aid training delivered to school students and the components that are age appropriate to adolescents. Eligible studies included school-based first aid interventions are used for review. 20 journal article was used. The study concluded that review supports first aid in school curriculum and provides details of key components pertinent to design of school-based first aid programs. The findings suggest that first aid training may have benefits wider than the uptake and retention of knowledge and skills.

Singh et al. (2015) conducted "an interventional study on awareness regarding first aid and fire safety among the second year undergraduate medical students of BJ Medical College, Ahmedabad". The sample was 50 medical college students. The result shows that the awareness among medical students about first aid was poor and fire safety was average before the intervention, it was significantly increased after the intervention.

Joseph et al. (2015) measured "awareness, attitudes, and practices of school teachers and the facilities and available school facilities with respect to the administration of first aid". A questionnaire was used to collect data. Results show that only 47 percent teachers got first aid training previously. 13 percent teachers found to be poor first aid knowledge 87 percent has moderate first aid knowledge. 66 percent teachers willing to administer first aid is provided with the required training. Wounds (36 percent) and syncopal attack (23 percent) were common first aid situation in schools.

Shabani (2015) conducted a study in physical education teachers. The purpose of the study was the evaluation of knowledge of physical education teachers in using first aid in schools sports of the Dezful city in the 2014 academic year. A descriptive survey method was used. The study population has consisted of 210 primary and secondary school physical education teachers in Dezful city. A questionnaire was the tool. The results showed that the level of Knowledge and skills of teachers, respectively with 92 and 48 percent was in a favorable situation. The safety level of physical education classes also with 3.51 percent was favorable. First Aid skills of men were evaluated better than women, but in the knowledge of the application of first aid and safety principles, there was no difference between male and female teachers. Given the important role of physical education teachers in the development of sports and also the inevitability of sports injuries, it seems necessary to teach first aid and safety principles during a scheduled period.

De Buck et al. (2015) revealed evidence-based educational pathway for the integration of first aid training in school curricula. The major objectives were to develop an evidence-based educational pathway to enable the integration of first aid into the school curriculum by defining the goals to be achieved for knowledge, skills, and attitudes, for different age groups. Studies were identified through electronic databases research (The Cochrane Library, MEDLINE, Embase). They included studies on first aid education for children and adolescents up to 18 years old. A

multidisciplinary expert panel formulated their practice experience and expert opinion and discussed the available evidence. Results showed that 5822 references and finally retained 30 studies (13 experimental and 17 observational studies), including studies concerning emergency call (7 studies), cardiopulmonary resuscitation (18 studies), AED (Automated External Defibrillator) use (6 studies), recovery position (5 studies), choking (2 studies), injuries (5 studies), and poisoning (2 studies). Recommendations (educational goals) were derived after carefully discussing the currently available evidence in the literature and balancing the skills and attitudes of children of different ages. The conclusion was an evidence-based educational pathway with educational goals concerning learning first aid for each age group was developed. This educational pathway can be used for the integration of first aid training in school curricula.

Dasgupta et al., (2014) checked the "Effectiveness of health education in terms of knowledge acquisition on first-aid measures among school students in a rural area of West Bengal". Imparting school children with appropriate knowledge on prevention, control, and management of common illnesses and injuries will play a long way in reducing the morbidity and mortality of the population of all ages and sex. Hence, any above related training is unquestionably a sound and logical investment which is the most important objective of this study. About 105 students of a rural school of West Bengal were administered with a self-administered

questionnaire for assessing their baseline knowledge about selected first-aid skills, followed by the on-the-spot demonstration of the skills with the help of a systematically devised teaching module on the same day. Post-intervention evaluation of their knowledge acquisition was done after 2 weeks with the same questionnaire. A scoring system was devised to quantify the knowledge of students on first aid. Significant improvement in post-training knowledge score. Conclusion: Knowledge of school students regarding the management of common illnesses and injuries should be incorporated as a part of school curriculum.

Salminen et al., (2014) conducted a study in School environment and school injuries in Finland. The main goal of the investigation was to examine the effect of environmental factors on school injuries. Methods were used nine comprehensive Finnish schools registered school injuries over a period of two school years. Injuries were classified as being associated with environmental factors, suspected environmental factors, and others. The consensus between two independent classifiers was 81 percent. Results: A total of 722 injuries were classified. In 11.6 percent of these injuries, the physical environment factor was evident, and in 28.1 percent of the injuries, physical environment was suspected of being a contributory risk factor. Thus the physical environment of the school was a contributing factor in over a third (39.7 percent) of injuries occurring in the school, on the school yard or during the journey to, or from school. In this study, conducted in Finland, ice on the ground was mentioned most

frequently as an environmental risk factor. Major conclusion was in Finland, the Nordic weather conditions are not taken into account in the school yard and playground plans as they ought to from the safety point of view. An initiative has been launched on a mandatory wintertime master plan for every school yard.

Emerich et al., (2013) studied Education of Sport University student regarding first-aid procedures after dental trauma. The aim of this survey was to establish the current state of knowledge with regard to first-aid procedures and to compare the effectiveness of an educational lecture and a subsequent educational session. A questionnaire to assess the attitudes and anticipated behaviors of Sport University students related to first-aid procedures following dental injury was administered to the students 3 times (after 3 and 12 months). A lecture on the subject of dental trauma was given just after the first questionnaire survey. The present study revealed a low level of initial knowledge of physical education students concerning first-aid measures in the case of dental trauma. A 30-minute lecture and an extra educational task significantly improved the knowledge level. Even after one year the knowledge level was still high and sufficient to properly react when faced with dental trauma. Conclusion: The research proves that the inclusion of dental trauma as a topic in the Sport University students' curricular training and pedagogical education should be introduced in the form of a clear and concise lecture.

Ozkan (2013) conducted a study on “comparison of peer and self-video modeling in terms of effectiveness and efficiency in teaching first aid skills to children with intellectual disability”. The major finding of the study was, both peer and self-video modeling are equally effective and efficient.

Davies et al., (2013) studied about “How much do parents know about first aid for burns?” With an estimated 19,000 children attending emergency departments (ED) with a burn or scald every year in the UK, a parent's knowledge of first aid is particularly important. This study evaluates the extent and source of this knowledge. A structured questionnaire used as a tool. The result showed that overall, the knowledge of burns first aid among parents is inadequate and correlates with lower socio economic groups. There was a significant association between knowledge and previous first aid training. Results suggest that targeting burns first aid training to all new parents, particularly those in low income households, would be of value.

Graham et al., (2012) conducted a study to “evaluate the knowledge of burns first aid amongst parents in South Yorkshire, United Kingdom”. The sample was Parents who attending outpatient clinics at Sheffield Children's Hospital were interviewed and asked about the first aid they would provide for a child with a large scald. The questionnaire findings highlighted the need for improved parental awareness of burns first aid.

Bollig et al., (2011) conducted a study on the "effect of first aid training in the kindergarten a pilot study". The aim of the study was to evaluate the effects of a first aid course for 4-5 years old kindergarten children given by a first aid instructor and kindergarten teachers. Mixed method was used for the study. The sample was 10 kindergarten children at the age of 4-5 years used for the study. The findings suggest that 4-5 years old children are able to learn and apply basic first aid. Kindergarten aged 4-5 years can learn basic first aid. First aid training should start in the Kindergarten.

Lippmann et al., (2011) conducted a study in school students. Aims of the study were Flexible-learning first aid courses are increasingly common due to reduced classroom contact time. This study compared retention of first aid knowledge and basic life support (BLS) skills three months after a two-day, classroom-based first aid course (STD) to one utilizing on-line theory learning at home followed by one day of classroom training (FLEX). Results: There was no significant difference in theory scores between the STD and FLEX groups immediately after training and after three months. STD participants had significantly higher BLS scores immediately after training ($p = 0.001$) and three months later ($p = 0.046$). Males had significantly higher BLS scores after training (p less than 0.001), but not three months later ($p = 0.02$). Participants older than 46 years had significantly lower BLS scores than younger participants (p less than 0.001). There was no significant difference in combined scores between

the STD and FLEX groups or between genders, education or age groups either immediately after training or three months later. Conclusion: After replacing one day of classroom based training with online theory training, there was no significant difference in the first aid competencies of the study population, as measured by an equally-weighted combined score of basic life support and first aid theory.

Carruth et al. (2010) conducted a collaborative study with first aid for medical emergencies. It was developed to support a TTT (A train-the-trainer) programme to prepare high school students to teach first aid skills. The intervention group included 27 participants. Independent t-test analyses were conducted on post-test scores to evaluate the knowledge acquisition and anticipatory action scores between groups. Focus group sessions assessed attitudes, experiences, and values held following the intervention of teaching peers. Results indicate that the intervention group scored significantly higher on anticipatory action ($t = 2.23$, $p = .03$) but not knowledge acquisition ($t = 1.37$, $p = .18$). Focus group data suggest that the TTT format boost confidence in teaching confirmed that teens enjoy learning from teens, and fostered pride in teamwork.

Bhatia et al., (2010) conducted an interventional study to strengthen the first aid care in schools by involving teachers and training them on first aid. The study was conducted in 100 Govt. schools in Chandigarh, a Union Territory of India. The design adopted was cross-sectional interventional study design and the questionnaire was used to

collect the required information. After the initial data collection, one-day training was given to the school teachers. After one month of training, post-test was conducted. The study reveals that only 6% of schools had healthcare/first aid kits in pre-intervention on phase which increased to 87% in post-intervention. Basic health equipment in schools also increased variably post interventional. It was noticed that 65 percent of schools were having the facility for referring sick children to Govt. health centers and 16 percent to private clinics. 65 percent of teachers in charge of health and medicine were not sure of taking appropriate action or decision initially which subsequently decreased to nil in post-intervention. Availability of common drugs like paracetamol increased from 16 percent in pre-intervention to 71.7 percent later on. Knowledge of teachers about common drugs used in various ailments like fever increased from 71 percent to 86.9 percent.

Fleischhackl et al. (2009) conducted a study in School children sufficiently apply life supporting first aid: a prospective investigation. The main aim of the study was the usefulness of CPR training in schools has been questioned because young students may not have the physical and cognitive skills needed to correctly perform such complex tasks correctly. Methods is in pupils, who received six hours of CPR training from their teachers during a standard school semester at four months post training the following outcome parameters were assessed: CPR effectiveness, AED deployment, accuracy in checking vital signs, correctness of recovery

position, and whether the ambulance service was effectively notified. Possible correlations of age, gender, body mass index (BMI), and outcome parameters were calculated. Results of 147 students (mean age 13 ± 2 years), 86 percent performed CPR correctly. Median depth of chest compressions was 35 mm (inter quartile range (IQR) 31 to 41), and the median number of compressions per minute was 129 bpm (IQR 108 to 143). Sixty nine percent of the students tilted the mannequin head sufficiently for mouth to mouth resuscitation, and the median air volume delivered was 540 ml (IQR 0 to 750). Scores on other life supporting techniques were at least 80 percent or higher. Depth of chest compressions showed a correlation with BMI ($r = 0.35$; $P < 0.0001$), body weight ($r = 0.38$; $P < 0.0001$), and body height ($r = 0.31$; $P = 0.0002$) but not with age. All other outcomes were found to be unrelated to gender, age, or BMI. Conclusions of the study: Students as young as 9 years are able to successfully and effectively learn basic life support skills including AED deployment, correct recovery position and emergency calling. As in adults, physical strength may limit depth of chest compressions and ventilation volumes but skill retention is good.

2.4 Conclusion

The investigator collected and analysed more than 40 studies in the area first aid. Majority of the studies collected are from out side India. An analysis of the studies reviewed shows that knowledge in first aid among students, teachers and even medical experts are not satisfactory. All

studies recommend the improvement of first aid knowledge among the participants. To improve the knowledge in first aid, the facilities of the schools and availability of trained persons are to be improved. Besides, the first aid education should be mandatory in schools. Intervention programmes, conducted in the studies of international level have proved its significance.

The above literature highlighted the significance of first aid knowledge in each emergency situations like CPR, falls, wounds, etc. The investigator found that each emergency situation is to be introduced in school curriculum and all teachers are to be trained in first aid to deal with these situations. Therefore, this study is designed to assessing the knowledge and preparedness of Primary teachers' on First aid and to find out the effectiveness of this programme.

3. Methodology

3.1. Introduction

"All the progress is born of enquiry. Doubt is often better than over confidence, for it leads to investigation "is a famous Hudson maxim in context of which the significance of research can be understood. Research includes scientific and inductive thinking and it promotes the development of logical habits of thinking and organization.

The success of any research depends upon suitable methodology with specific operational steps and well-constructed tools (Suchitha, 2010). The percent study which aims at finding out the assessing the knowledge and preparedness of Primary teachers' on First aid within Pudukkottai District.

3.2. Research design

A research design is the arrangement of condition for collection and analysis of data in manner that aims to combine relevance to research purpose with economy in procedure. In fact, the research design is the

conceptual structure with which research is conducted it constitutes the blue print, for the collection measurement and analysis of data.

The investigator adopted single group for this research. An experiment is split into two phases: the experimental phase and the control phase. The experimental phase is given the experimental treatment (given the hands-on experiences related to the samples in one day orientation workshop for first aid) and the control phase is a standard treatment (without the hands-on experiences related to the samples in one day orientation workshop for first aid).

3.3. Selection of sample

The population meant for the study is the primary school teachers from the Pudukkottai District. The investigator collected totally 100 samples from all the 13 blocks of Pudukkottai District of using the Cluster sampling method (Figure 1).

Pudukkottai district have 2 Educational districts with 13 blocks. 1. Pudukkottai educational district have 7 blocks (Pudukkottai, Kandarvakottai, Thirumayam, Viralimalai, Annavasal, Kundrandarkovil and Ponnamaravathi), 2. Thiruvarankulam educational district have 6 blocks (Thiruvarankulam, Aranthanki, Avodaiyarkovil, Manamelkudi, Karambakudi and Arimalam). From the above 13 blocks, randomly primary teachers were selected for this research study. Out of 100, 48 male primary teachers and 52 female primary teachers were acted as samples for this research study.

Fig. 1. The map showing 13 blocks of Pudukkottai District.

3.4. Tools used

Investigator was adapted the First Aid Awareness Test tool (questionnaire) and used to both control phase and experimental phase. The investigator and resource persons were conducted pre-test at the beginning of the study to the samples of control phase and a post-test was

conducted after providing a suitable first aid orientation workshop (Hands-on training) to the experimental phase of the same sample group.

3.5. Data Collection

The investigator followed the questionnaire method in this present study. The investigator developed and used a partially standardized questionnaire and the items gives in the questionnaire were verified with the help of the subject experts.

During the time of data collection, the investigator got prior permission from the CEO and BEOs of respective blocks. The session of answering to questionnaire the investigator has given proper instruction about the questionnaire to primary teachers. There was a good rapport between the investigator and the respondents. The time taken to complete the tool was approximately 30 minutes. After 30 minutes, the investigator collected in all questionnaires from the primary teachers. This same procedure followed in both the control phase and experimental phase by the investigator.

3.6. Adaptation of Research tool

The investigator adapted the research tool in this study from already validated by Dr. P. Rekha, Assistant Professor, Farook Training College, Research Centre in Education, Calicut, Kerala. Investigator, properly communicated and received permission letter (Appendix) from the expert. The “First Aid Awareness Test tool” was translated and used for this study.

First Aid Awareness Test tool: The test was developed to assess the existing level of Awareness on First Aid among the primary school teachers. The test measures teachers' Awareness on First Aid in various emergency situations. The procedure followed in the construction of First Aid Awareness Test is given below.

3.6.1. Planning and preparation of the test tool

While planning the test the investigator went through the available literature related to First Aid education and read many books related with First Aid. The prominent books referred were First Aid manual - (the authorized manual of St. John ambulance, St. Andrew's ambulance association and the British Red cross), Manual of First Aid by Gupta and Gupta (2000), First Aid manual (Authorized manual St. John ambulance India and Indian red cross society) etc. Experts from emergency medical care, physical education teachers, resource persons at secondary level and health department were consulted before preparing the items in the awareness test.

Earlier there was a text book which dealt with health education at secondary level. Now very short description about First Aid is seen in the text book of physical education. The teachers themselves are witnessed many emergency cases happens in schools. Thus, the content analysis of text books and the opinion from teacher samples gave direction to the items to be included in the awareness test for students.

The items in the following emergency situations are decided to include in the awareness test. For basic Awareness on First Aid some fundamental aspects including Agencies of First Aid and Basic life support procedures were considered in the test. First Aid basics, Agencies of First Aid, First Aid kit, CPR, Recovery position, Heart attack, Bleeding, Wounds, Fracture and immobilization, Dislocation, Sprain and Strain, PRICE method, Electric shock, Burns, Sunburn, Poisoning, Bites and stings, Drowning, Choking, Epilepsy, Foreign bodies in the eye, ear and nose, Fainting and Road accidents were the areas selected in the test.

Since it was an awareness test maximum items were included in the test. Based on the opinion of teachers, the mostly occurred and usually occurred incidents of cases which need First Aid at secondary level are incorporated in the tool. Thus, a draft test was prepared with 60 items with four options each. The prepared draft schedule was presented before the resource persons for expert criticism. Some items were deleted and some others were modified after a careful scrutiny of the items with regard to the language, accuracy and clarity of the questions. The final form of the test consisted of 50 multiple choice test items with four options.

Some examples are shown below.

Example:

What is First Aid?

a) The immediate and temporary treatment given to the victims on site

b) Treatment given in the causality

c) The act of taking the victim to the hospital

d) Self introduced treatment by the victim himself.

Example:

What is the name given to the First Aid in the form of pressing on the chest and artificial respiration on stopping respiration and blood circulation?

a) First Aid

b) Cardio Pulmonary Resuscitation (CPR)

c) Overcoming to dangerous situation

d) Heimlich maneuver

Example:

As a First Aid, what will you do immediately to a burn caused by fire?

a) Cover the area with anything

b) Apply antiseptic ointment

c) Wash with plenty of cold water

d) Apply oil to the affected part

3.6.2. Construction of research tool

The primary teachers fill out the tool was consisted two parts. Part I has personal information of teachers such as name, address etc. Part II has consisted of 50 Multiple Choice Question (MCQ) items related to the present research content of first aid.

3.6.3. Mode of answering

The tool was prepared with necessary instructions to teachers. All questions have four options of A, B, C and D. A separate single response sheet containing four options to answer the items was prepared. A sample copy of the Test (Tamil and English version) and Response Sheet are provided as Appendix.

3.6.4. Scoring procedure

As the test was a multiple choice one, one mark is given for right answer and zero for incorrect answer and attempting all the questions was mandatory although the teachers hadn't answered the question in case, question was considered to no score/ mark and there was no negative score/ mark. Thus, the maximum score in the test was 50. A copy of the answer key is given as Appendix.

3.7. Reliability and validity of the test

Reliability of the test is its ability to yield consistent result from one set of measure to another. In the present study, the investigator checked the reliability of First Aid Awareness Test using Cronbach Alpha and was found to be .66 which shows the test is reliable. The reliability co-efficient by test-retest method was found and it was .72, which shows the test is reliable.

The validity of the present test was ensured by using face validity and content validity. For ensuring face validity the investigator consulted various experts during the development of awareness test. After the test

construction the same was given to the experts for the approval of items and they approved the test is an appropriate tool for measuring primary school teacher's Awareness on First Aid.

Content validity is estimated be evaluating the relevance of the test items, in relation to instructional objectives and actual subject matter studied, individually and as a whole. For ensuring content validity, while preparing the items due weightage was given to select each area of First Aid Awareness Test. Thus, content validity of the tool was ensured (Santhikrishna, 2019).

3.8. Pilot study

A pilot, or feasibility study, is a small experiment designed to test logistics and gather information prior to a larger study, in order to improve the latter's quality and efficiency. A pilot study can reveal deficiencies in the design of a proposed experiment or procedure and these can then be addressed before time and resources are expended on large scale studies (Doug Altman et al. 2006). A well-conducted pilot study, giving a clear list of aims and objectives within a formal framework will encourage methodological rigour, ensure that the work is scientifically valid and publishable, and will lead to higher quality [research] (Lancaster et al. 2004). The investigator conducted a pilot study to select and modify the tool. The investigator administered the tool from 15 primary teachers in Pudukkottai district on the basis of this pilot study, the entire research work was designed and channelized by the investigator.

3.9. Design of the study (Table. 1)

<table>
<tr><th>Sl. No</th><th>Type</th><th colspan="4">Source</th></tr>
<tr><td>1</td><td>Nature of experiment</td><td colspan="4">Single group experiment treatment</td></tr>
<tr><td>2</td><td>Variables</td><td colspan="4">Dependent variables</td></tr>
<tr><td>3</td><td>Tools used</td><td colspan="4">First Aid Awareness Test tool</td></tr>
<tr><td rowspan="3">4</td><td rowspan="3">Samples selected</td><td colspan="3">Primary school teachers</td><td>Total</td></tr>
<tr><td>Blocks</td><td>Control phase</td><td>Experimental phase</td><td rowspan="2">100</td></tr>
<tr><td>13</td><td>100</td><td>100</td></tr>
<tr><td>5</td><td>Data Analysis</td><td colspan="4">Statistical analysis such as mean score and graphical representation.</td></tr>
</table>

3.10. Planning and Intervention

- ✓ Conducting pre-test
- ✓ Planning teaching design
- ✓ Preparing materials by the investigator
- ✓ Execution of activities by the investigator
- ✓ Conducting post test
- ✓ Analysis of data to find out the different between the pre and post test

3.11. Collection of Primary Data

The investigator collects primary data during the course of doing experiments in experimental research and then investigator can obtain primary data either through direct communication with respondents in one form of questionnaires.

3.12. Conducting the experimentation

3.12.1. Control phase

100 primary school teachers were selected from the 13 blocks of Pudukkottai District. The pretest was conducted using the validated tool to the all 100 primary school teachers.

3.12.2. Experimental phase

Already acted, 100 control phase primary school teachers were called for attend the special one-day orientation workshop for first aid. Then the Investigator and Resources persons were executed the plan of action (Table 2). After the execution of the intervention, same tool was used for post test to the all 100 same primary school teachers.

Table 2: Plan of action (Programme Schedule)

DAY	9.30 a.m. – 11.15 a.m.	11.30 a.m. – 01.00 p.m.	2.00 p.m. – 03.15 p.m.	3.30 p.m. – 05.30 p.m.
Day 1	1. Registration and Pre-training activities. 2. Inaugural Session 3. Pre-test 4. **Session 1:** Details introduction about the training programme by Principle Investigator.	**Session 2:** Lecture cum Discussion mode. The session was handled by emergency care expert Dr. V.V. Priyadharshni, Community Health Officer, with the title "Dos and Don'ts during first aid emergency"	**Session 3:** Demo cum hands-on practices session was handled by by Mr. R.Karalmarks, First aid Trainer form Alert NGO, Chennai.	1. **Session 4:** Demo cum hands-on practices session was handled by by Dr. R. Muthukumar, Physical Education Teacher, GMHSS, Perungalur, with the title "Emergency first aid care in school playground" 2. Post-test 3. Feedback and Evaluation of Training 4. Valedictory

3.13. Scoring and consolidation of Data

After collecting of data from the respondents, the investigator evaluates and has given proper score to each questionnaire depended upon on the respondent's answers. Scoring was done as per scoring key of the tool prepared. Incomplete response sheets were eliminated. All the scores were entered in the consolidation sheet (master table) in a systematic way. The consolidated data was used for statistical analysis by applying Microsoft office Excel, SPSS software and some online data calculation web portal.

3.13.1. Statistical technique used

Statistical technique serves the fundamental purpose of descriptive and inferential analysis.

1. Mean

The mean were measured by following formula.

$$\text{Mean} = \sum fx / N$$

Where,

$fx \Rightarrow$ value of the x th item correctly

$\sum \Rightarrow$ Symbol of the summation

$N \Rightarrow$ Total number of item

2. Standard deviation

$$\sigma = \sqrt{\sum fd^2 / N - [\sum fd/N]^2} \times Ci$$

3. Critical ratio test (t – test)

$$t = M1 \sim M2 / \sqrt{\sigma_1^2 / N1 + \sigma_2^2 / N2}$$

Where,

M1 ⇒ Mean of the first group

M2 ⇒ Mean of the second group

σ_1 ⇒ Standard deviation of the first group

σ_2 ⇒ Standard deviation of the second group

N1 ⇒ number of cases in the first group

N2 ⇒ number of cases in the second group

4. Correlation coefficient

The correlation coefficient is a statistical measure of the strength of the relationship between the relative movements of two variables. There are several types of correlation coefficients, but the one that is most common is the Pearson correlation (*r*). This measures the strength and direction of the linear relationship between two variables. The Pearson product-moment correlation coefficient, or Pearson's *r*, is a measure of the strength and direction of the linear relationship between two variables that is defined as the covariance of the variables divided by the product of their standard deviations. This is the best-known and most commonly used type of correlation coefficient.

Pearson's correlation coefficient formula

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Notations:

n- Quantity of Information

Σx - Total of the First Variable Value

Σy - Total of the Second Variable Value

Σxy - Sum of the Product of & Second Value

Σx^2 - Sum of the Squares of the First Value

Σy^2 - Sum of the Squares of the Second Value

The values range between -1.0 and 1.0. A calculated number greater than 1.0 or less than -1.0 means that there was an error in the correlation measurement. A correlation of -1.0 shows a perfect negative correlation, while a correlation of 1.0 shows a perfect positive correlation. A correlation of 0.0 shows no linear relationship between the movement of the two variables. A value of exactly 1.0 means there is a perfect positive relationship between the two variables. For a positive increase in one variable, there is also a positive increase in the second variable. A value of -1.0 means there is a perfect negative relationship between the two variables. This shows that the variables move in opposite directions - for a positive increase in one variable, there is a decrease in the second variable. If the correlation between two variables is 0, there is no linear relationship between them.

5. Box plot

A box plot is a graphical rendition of statistical data based on the minimum, first quartile, median, third quartile, and maximum. They gives a

good indication of how the values in the data are spread out. Although boxplots may seem primitive in comparison to a histogram or density plot, they have the advantage of taking up less space, which is useful when comparing distributions between many groups or datasets. Box plots are used to show overall patterns of response for a group. They provide a useful way to visualize the range and other characteristics of responses for a large group. They enable us to study the distributional characteristics of a group of scores as well as the level of the scores. A boxplot is a standardized way of displaying the dataset based on a five-number summary: the minimum, the maximum, the sample median, and the first and third quartiles.

Minimum : the lowest data point excluding any outliers.

Maximum : the largest data point excluding any outliers.

Median (Q2 / 50th Percentile) : the middle value of the dataset.

First quartile (Q1 / 25th Percentile) : is also known as the *lower quartile* $q_n(0.25)$ and is the middle value between the smallest number (not the **minimum**) and the median of the dataset.

Third quartile (Q3 / 75th Percentile) : is also known as the *upper quartile* $q_n(0.75)$ and is the middle value between the largest number (not the **maximum**) and the median of the dataset An important element used to construct the box plot by determining the minimum and maximum data values feasible, but is not part of the aforementioned five-number summary, is the interquartile range

6. Effect size

Effect sizes are the most important outcome of empirical studies or the quantitative measure of the magnitude of the experimenter effect and it is widely used in meta-analysis. Researchers want to know whether an intervention or experimental manipulation has an effect greater than zero, or (when it is obvious an effect exists) how big the effect is. The larger the effect size the stronger the relationship between two variables. The effect size when comparing any two groups to see how substantially different they are. Typically, research studies will comprise an experimental group and a control group. The experimental group may be an intervention or treatment which is expected to effect a specific outcome.

The meaning of effect size varies by context, but the standard interpretation offered by Cohen (1988). Typically, this is reported as Cohen's *d*, or simply referred to as *"d*. Cohen's d is an appropriate effect size for the comparison between two means. It can be used to accompany the reporting of t-test results.

Cohen's *d* is determined by calculating the mean difference between your two groups, and then dividing the result by the *pooled* standard deviation. The formula is:

$$d = \frac{\textbf{\textit{M2}}\ (\text{group or treatment 1}) - \textbf{\textit{M1}}(\text{group or treatment 2})}{\textbf{\textit{[pooled] SD}}}$$

Where

M_1 = mean of group 1

M_2 = mean of group 2

pooled ***SD*** is = $\sqrt{[SD1^2+SD2^2/2]}$

The result of Cohen's *d* means, use these general "**rule of thumb**" guidelines is below:

Relative size	Effect size	% of control group below the mean of experimental group
	0.0	50%
Small	0.2	58%
Medium	0.5	69%
Large	0.8	79%
	1.4	92%

3.14. Conclusion

In this chapter, the investigator explained the method and procedure followed for the present study under the captions like selection of the tool, sampling technique and collection of data. In the next chapter have in detailed statistical analysis and inference drawn are presented.

4. Statistical analysis and Interpretation of data

4.1. Introduction

However valid, reliable and adequate the data may be, they do not serve any useful purpose unless are carefully processed, systematically sifted, classified and tabulated, scientifically analyzed, interpreted and rationally concluded. Once, the data were collected through valid tools, correct conclusions (Bharathi, 2010).

Interpretation of data is an extremely important and useful branch of science of statistics. Statistical facts by themselves have no utility, but interpretation makes it possible to utilize the collected data in various fields of activity. The usefulness of collected data lies in its proper interpretation. The most essential work in any research problem is the use and application of statistical tools in analyzing and interpreting the research data.

This chapter deals with the statistical analysis of the data, interpretation with relevant tables and diagrams. Thus, interpretation is

the careful, logical and critical examination of the result analysis. This is useful in making statements about what the result analysis indicates.

In this Chapter, the classified data presented in tables are statistically analyzed. A brief interpretation follows each table. Data are described in terms of mean and standard deviation with respect to pre test and post test of both control and experimental groups. A detailed study was done by investigator was explained throughout this chapter. In the study, the following prerequisites are kept in mind for the scientific interpretation of data collected the relevant tools.

i. Accuracy of data

In order to ensure accuracy in data collection, the investigator himself has visited the schools and collected data from the respondents in a perfect way in order to get right conclusion.

ii. Sufficiency of data

In this study, the data was collected from the primary school teachers with help of validated questionnaires in order to achieve objectivity and proper interpretation and analysis. It is felt that data collected are sufficient and reliable.

iii. Classification and Tabulation

This is one of the important steps used by the investigator in data analysis in order to get accurate interpretation. In the present study, the collected data are systematically classified and tabulated.

iv. Applicability of Possible Statistical Treatment

Before analyzing the data, statistical experts are consulted for the Applicability of Possible Statistical Treatment of data. The data are analyzed with the help of Micro Soft Excel software. Hence, relevant statistical techniques are used for analysis and interpretation of data.

4.2. Date Collection and Analysis

Totally 100 samples (primary teacher) were collected from all the block of Pudukkottai District. Pudukkottai district have 2 Educational districts with 13 blocks. 1. Pudukkottai educational district have 7 blocks (Pudukkottai, Kandarvakottai, Thirumayam, Viralimalai, Annavasal, Kundrandarkovil and Ponnamaravathi). 2. Aranthangi educational district have 6 blocks (Thiruvarankulam, Aranthanki, Avodaiyarkovil, Manamelkudi, Karambakudi and Arimalam). From the above 13 blocks, randomly primary teachers were selected for this research study. Out of 100, 48 male primary teachers and 52 female primary teachers were acted as samples for this research study.

The investigator and resources persons were conducted pre-test at the beginning of the study and a post-test was conducted after providing a designed one-day orientation workshop on first aid to the participants using the same test tool for both pre-test and post-tests. The tool (questionnaire) consists Part I has personal information of teachers such as name, address etc. Part II has consisted of 50 MCQ items related to the present research content of first aid. Attempting all the questions was

mandatory although the teachers hadn't answered the question in case, question was considered to no score and there was no negative score. 50 MCQs with a single best response (each question have 1 score) for related to research study concepts.

4.3. Date Analysis

After giving the activities mentioned in the experimental design the pre and post test was conducted to assess the achievement. The marks are tabulated in Table 3 and the comparative graph also depicted in Fig. 2.

Table. 3. The pre and post test score are obtained from the 100 samples.

Sl. No	TEACHER NAME	PRETEST	POST TEST	DIFFERENCE
1	ABIRAMI S	28	43	15
2	ALAGURAJA R	25	31	06
3	ANANTHI K	26	39	13
4	ANJALAIDEVI N	28	38	10
5	ANNOUNCIA M	28	32	04
6	AROCIKYA SAMY G	18	34	16
7	AROCKIA ARUL SELVARAJ M	29	40	11
8	AROCKIA DHANA SELVAM A	30	35	05
9	ARUL PRIYA V	25	38	13
10	ARULANANDU K	20	33	13
11	AYYAPPAN M	16	45	29
12	BALAKRISHNAN M	28	34	06
13	BALASUBRAMANIAN I	30	35	05
14	BASKAR M	26	37	11
15	BHANUMATHI P	33	39	06
16	BHARATHIDHASAN T	29	34	05
17	BHUVANESWARI RP	29	37	08
18	CHITRA T	30	35	05
19	DHANALAKSHMI N	27	40	13
20	DINESHKUMAR K	31	37	06
21	DIVYA C	16	45	29
22	EDISON C	34	41	07
23	ESAKKIYPPAN P	22	35	13

24	EZHIL K	27	31	04
25	GILBERT P	31	38	07
26	JAISANKAR R	26	31	05
27	JANAKIRAMAN M	28	36	08
28	JASMINE A	25	33	08
29	JAYALAKSHMI R	31	40	09
30	JAYANTHI H	27	32	05
31	JEEVARAJ J	32	38	06
32	JERINA B	26	31	05
33	JOTHILAKSHMI A	24	35	11
34	JULIET ELIZABETH RANI S	28	34	06
35	KALAIVANI S	24	39	15
36	KALAIYARASI R	27	40	13
37	KALYANI S	28	34	06
38	KAMALAHASAN M	27	33	06
39	KANIMOZHI C	30	38	08
40	KANNAN T	27	31	04
41	KARIKALAN M	28	32	04
42	KARUPPIAH S	27	36	09
43	KOWSALYA V	16	45	29
44	KRISHNAVENI P	24	36	12
45	MEERA B	24	36	12
46	MERRI NIRMALA L	16	45	29
47	MUREESWARI G	31	36	05
48	MUTHUKUMAR K	30	40	10
49	NAGALAKSHMI K	29	36	07
50	NAVANEETHA KRISHNAN G	32	42	10
51	NIRMALA NACHIAR GM	32	36	04
52	NIVETHITHA P	31	38	07
53	PADMINI S	24	32	08
54	PANDI N	30	38	08
55	PIRAMUTHU S	28	35	07
56	POONGUZHALI R	32	36	04
57	PRABHU A	34	39	05
58	PRAKASH K	28	40	12
59	PRAKASH N	29	37	08
60	RAHMATH BEGAM A	16	45	29
61	RAJA MOHAMEDH S	26	35	09
62	RAMA KRISHNAN S	24	34	10
63	RAMA MURTHI K	29	37	08
64	RAMMOHAN L	16	45	29
65	REVATHI K	30	35	05

66	SAKTHI MURUGAN V	28	34	06
67	SAKTHIVEL A	30	36	06
68	SAKTHIVEL MURUGAN R	30	38	08
69	SANGEETHA M	26	35	09
70	SARAVANAN K	24	36	12
71	SARAVANAN S	29	39	10
72	SASIKUMAR C	20	44	24
73	SATHYA K	35	42	07
74	SATHYA V	16	45	29
75	SELVA DEEPA M	36	42	06
76	SELVANAYAGI A	26	40	14
77	SELVARANI R	21	36	15
78	SENTHILKUMAR K	21	34	13
79	SENTHILKUMAR S	25	40	15
80	SENTHILKUMAR S	26	45	19
81	SHANMUGAM M	27	33	06
82	SHANTHI SARGUNA SEELI S	25	42	17
83	SHOBHA C	28	37	09
84	SIVAKOLUNTHU C	30	37	07
85	SUBBULAKSHMI K	28	37	09
86	SUBHASELVI U	25	35	10
87	SUDHA N	16	45	29
88	SUJATHA M	16	45	29
89	SUNDHARAVALLI P	29	35	06
90	SURESH S	32	44	12
91	SYED IBRAMSHA	30	39	09
92	THOMES KING G	16	45	29
93	ULOGAMBAL M	20	30	10
94	VANITHA PL	32	37	05
95	VELUSAMY S	32	43	11
96	VENKATESH C	27	34	07
97	VIJAYALAKSHMI R	25	31	06
98	VINNARASI A	29	40	11
99	VINO M	34	41	07
100	VISHVANATHAN M	28	34	06
	TOTAL	**2664**	**3747**	**1083**

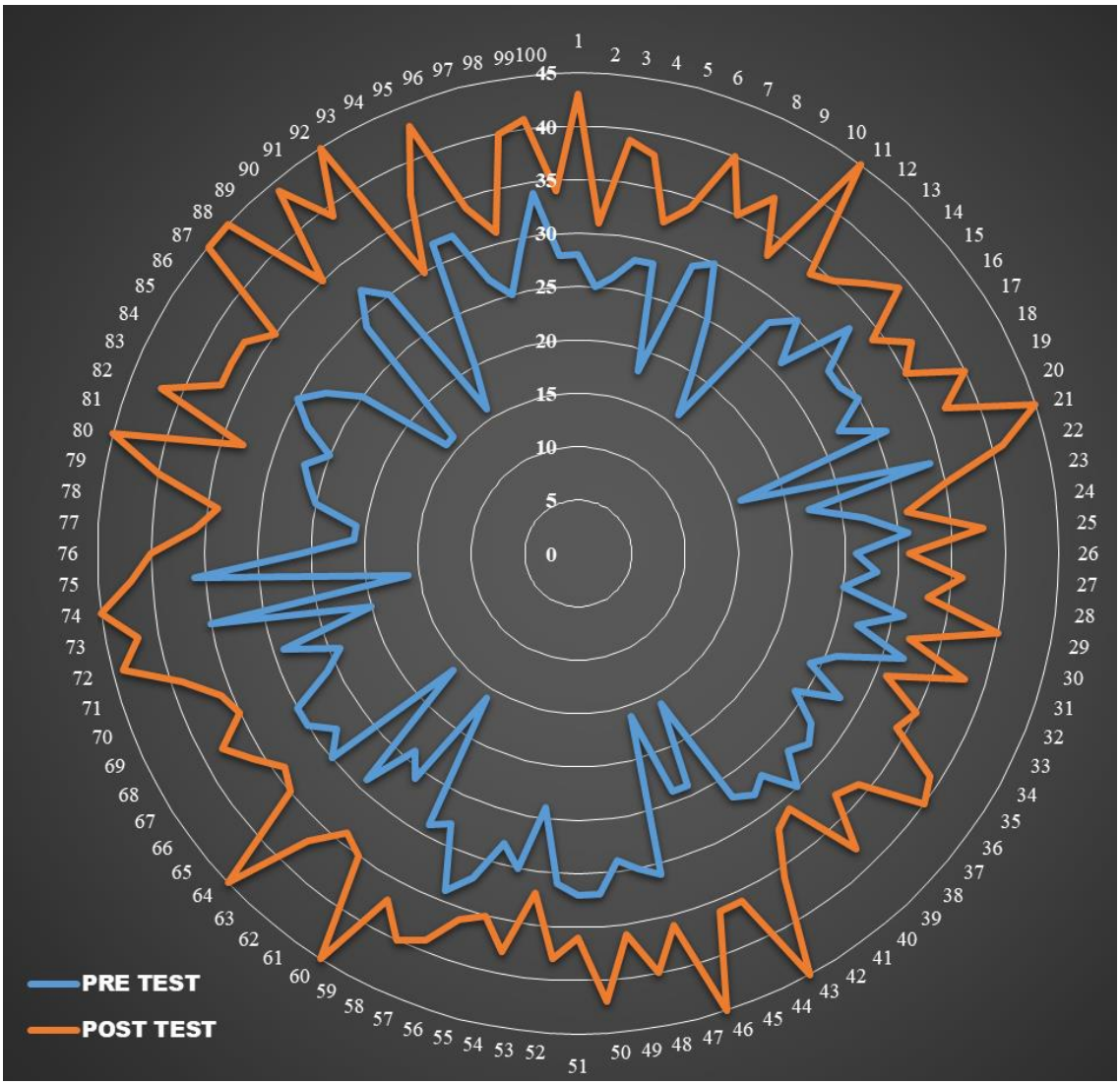

Fig. 2. The radar diagram depicted the pre and post test scores obtained by Primary School teachers.

4.3.1. Descriptive analysis

The teachers' achievements were analyzed and the mean and SD values are tabulated and are shown in Table 4.

Figure 3 - 5 indicates that the post test score is at a maximum level, while compared with pre-test scores. The pre test means score is 26.64 and the standard deviation is 4.88. The post test means score is 37.47 and the standard deviation is 4.11. The pre test marks sum is 2664 and post test marks sum is 3774.

All the above data was obtained from 100 number of primary school teachers. It is inferred that the post test achievement is greater than the pre test score achievements.

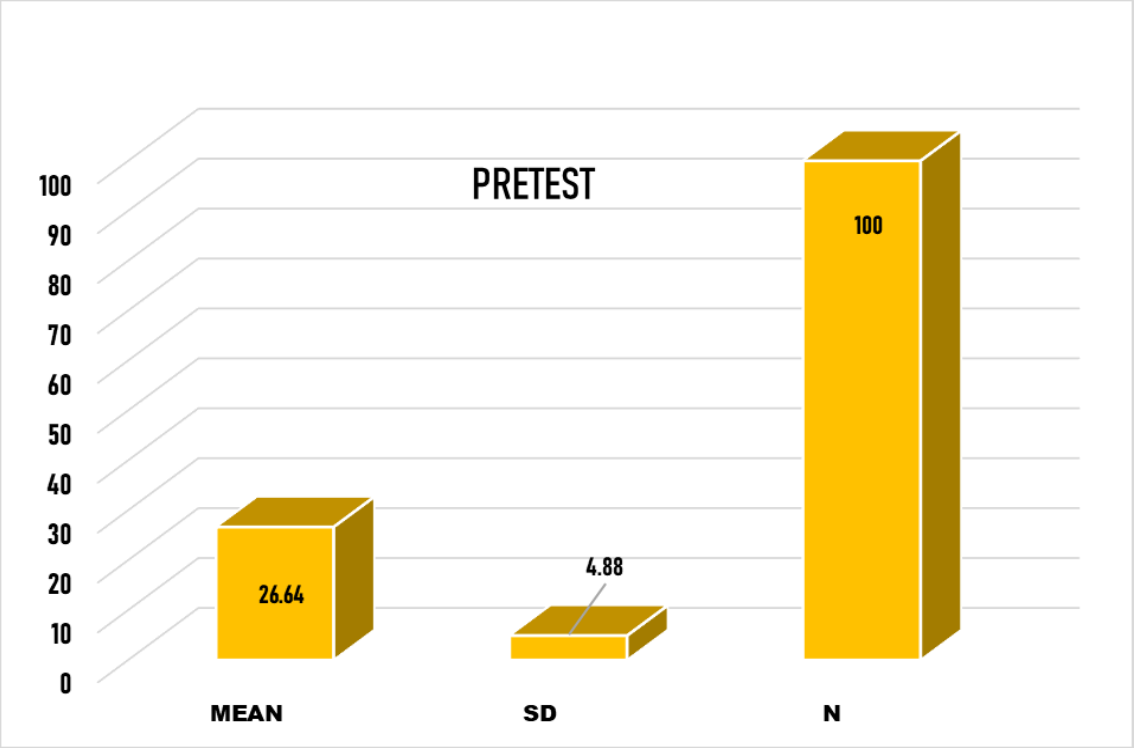

Fig. 3. Descriptive data and scores were obtained from the pre test in primary school teachers.

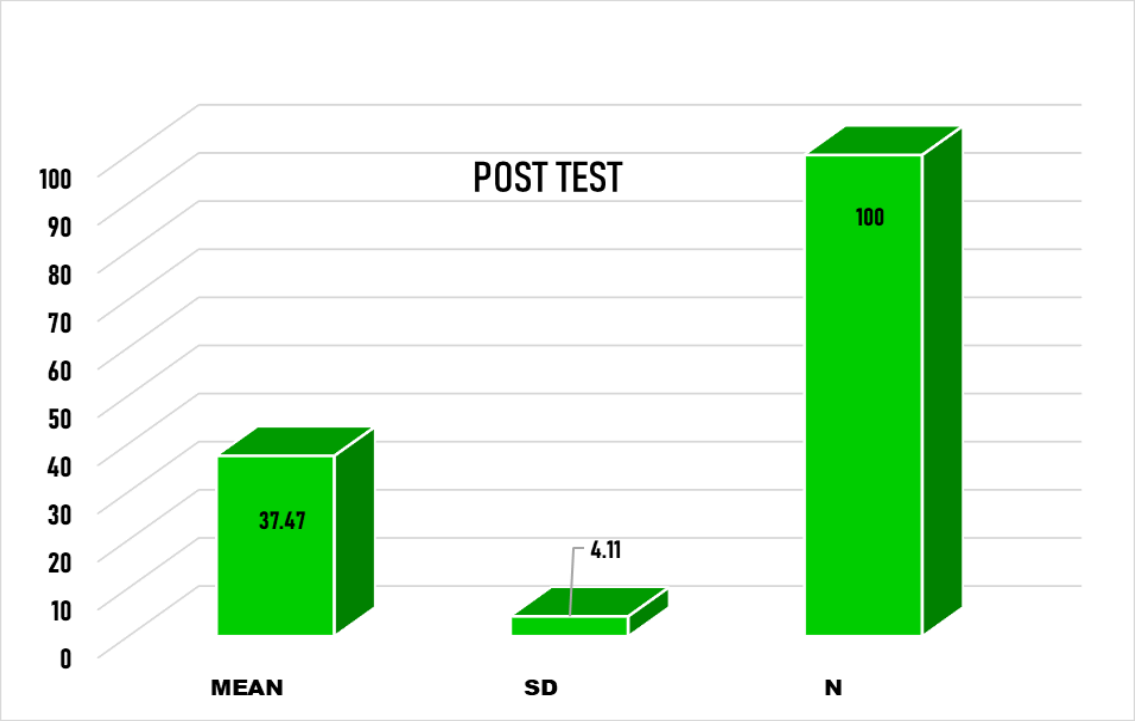

Fig. 4. Descriptive data and scores were obtained from the post test in primary school teachers.

Table.4. Descriptive data and scores were obtained from the pre and post test.

Test	SUM	N	Mean	SD
Pre Test	2664	100	26.64	4.88
Post Test	3747	100	37.47	4.11

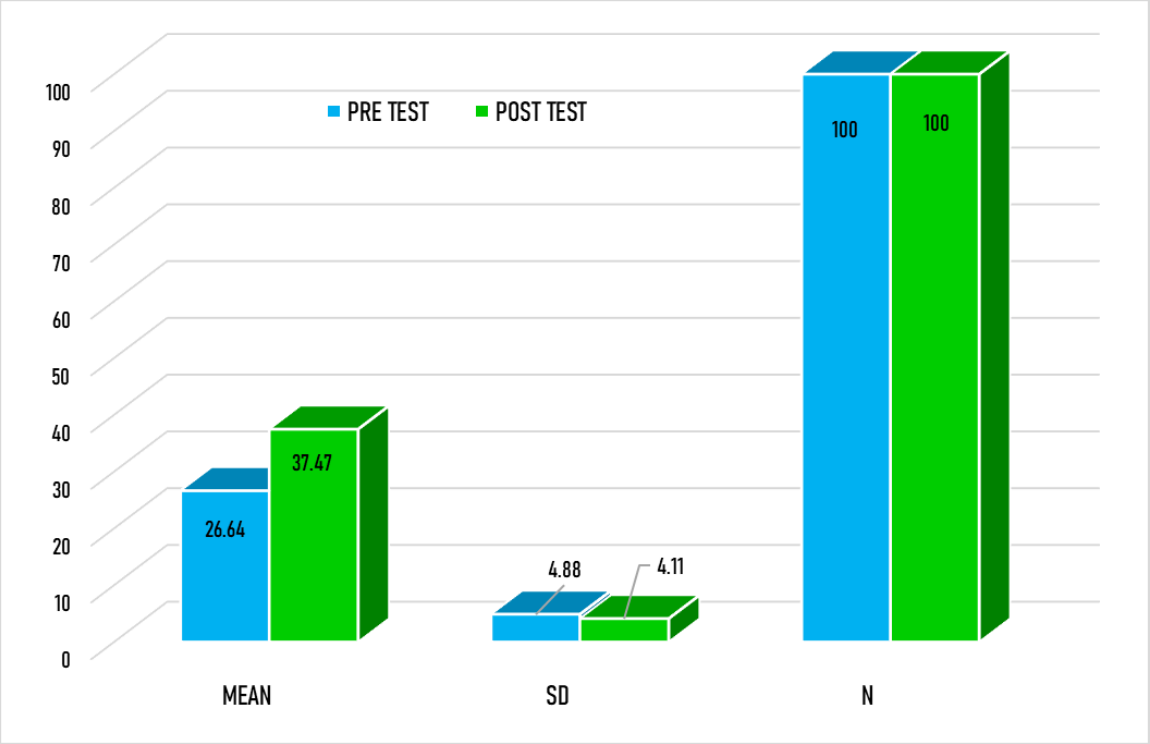

Fig. 5. Comparative descriptive data and scores were obtained from the pre and post test in primary school teachers.

4.3.1.1. Average difference

The Table 5 and Figure 6 indicate that the post test average score are at a maximum level, while compared with pre-test scores. The difference of the average percentage between the pre and post test is 10.83. All the data was obtained from 100 number of primary school teachers. It is inferred that the post test average percentage achievement is greater than the pre test average percentage achievements.

Table.5. Descriptive data and scores were obtained from the pre and post test of control group.

No. of teachers	Pre test average %	Post test average %	Difference in average %
100	26.64	37.47	10.83

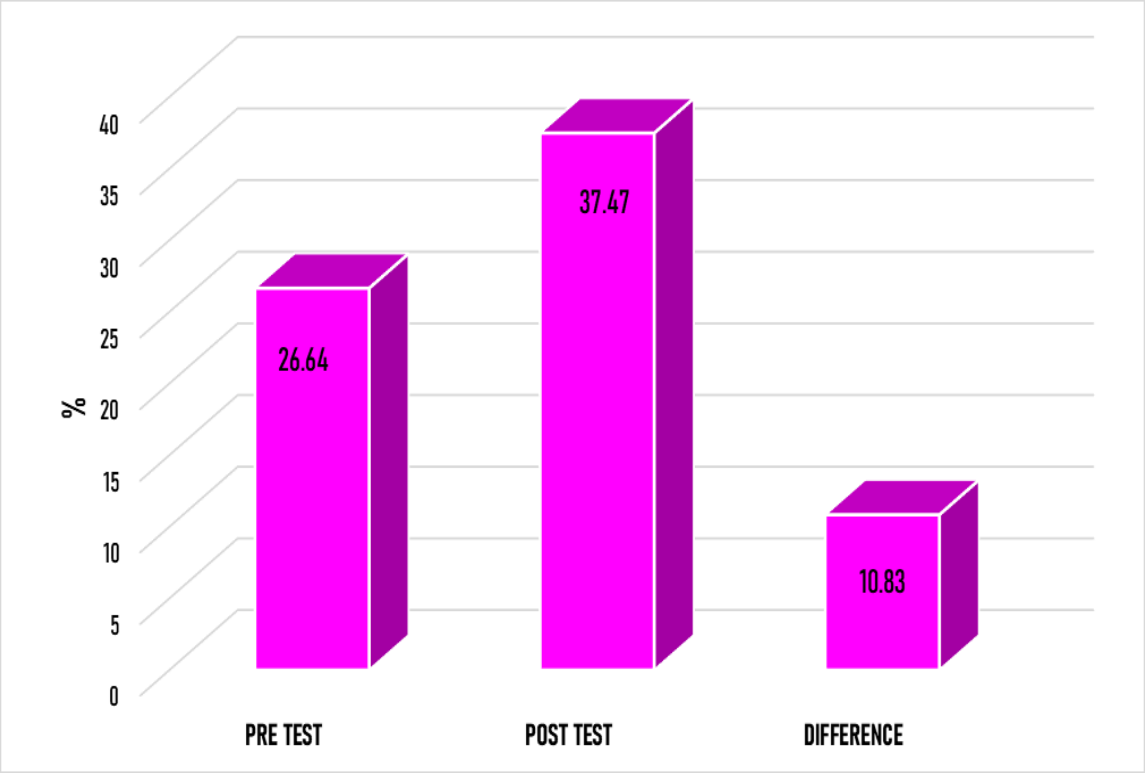

Fig. 6. Graph depicted the achievement average percentage of pre and post test scores.

4.3.2. Differential analysis

4.3.2.1. T-test

Two sample assuming equal variances, so the two-tailed paired *t-test* was conducted to compare the pre and post test scores of the present study. There was a significant different in the score for pre test (M=26.64, SD= 4.88) and post test (M=37.47, SD= 4.11) conditions; the obtained calculated 't' value 15.2972 is greater than the critical table value 1.984 corresponding to the 0.0001 level of significance (Table. 6). The results suggest that the difference is extremely statistically significant. Hence, as per the null hypothesis is not accepted and by conventional criteria, this difference is considered to be extremely statistically accepted in their achievement. It has concluded that there is significant difference between pre and post tests mean scores. This shows that the approach of suitable one day orientation workshop training about first aid among the primary teachers is significant difference between pre and post tests mean scores.

Table. 6. Differential analysis data obtained from the pre and post tests of control group.

Test	N	Mean	SD	The two-tailed P value is t – test value is less than 0.0001 (df)	**Level of significant**
Pre Test	100	26.64	4.88	15.2972 (99)	Extremely statistically significant
Post Test	100	37.47	4.11		

4.3.2.2. Correlation coefficient

A Pearson product-moment correlation coefficient was computed to assess the relationship between the pre and post test scores of experimental groups. There was a positive correlation between the two variables, Pearson correlation coefficient (r) = - 0.2366, P-value = 0.021333, Sample size (n) = 100, p = 0.05, the value of R^2, the coefficient of determination, is 0.056. A scatter plot summarizes the results (Figure 7) Overall, the negative value of r suggests that there is an inverse relationship between pre and post test. However, the magnitude of the correlation is small (close to 0), indicating that the relationship between these variables is weak. This means that changes in pre test are not strongly associated with changes in post test.

The correlation coefficient alone does not imply causation, and further analysis is needed to understand the nature of the relationship. Other factors may also influence the relationship between these variables.

Test	N	Correlation Score (r)	Significant
Pre Test	100	- 0.2366	Negative Correlation
Post Test	100		

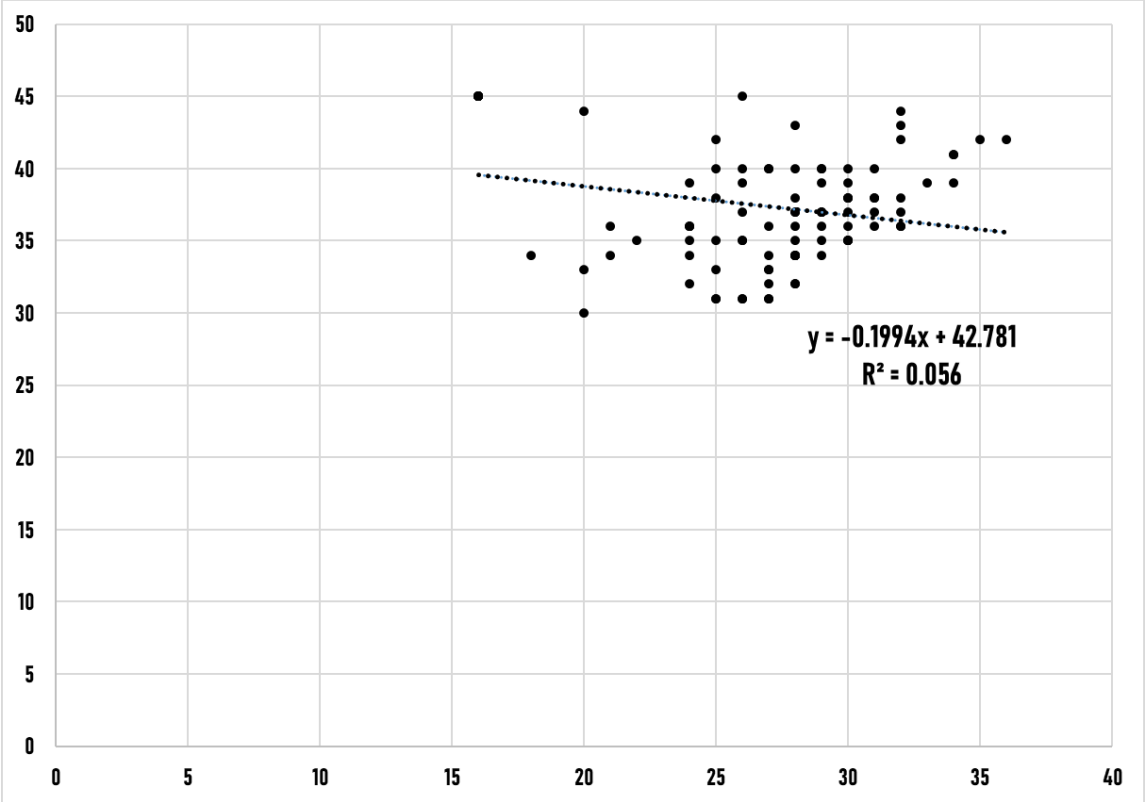

Fig. 7. A scatter plot summarizes the results of correlation coefficient relationship between the pre and post test scores.

4.3.2.3. Box plot range between the pre and post test scores.

Box plots are used to show overall patterns of response for a group. They provide a useful way to visualize the range and other characteristics of responses for a large group. They enable us to study the distributional characteristics of a group of scores as well as the level of the scores. To begin with, scores are sorted. Then four equal-sized groups are made from the ordered scores. Usually, these groups labeled 1 to 4 starting at the bottom.

In post test box plot shows comparatively short than the pre test box plot, which means, lower whisker (Q1) score range is 30 to less than

34.25, lower quartile (Q2) score range is 34.25 to less than 37, mid quartile (Q3) of the post test score range is 37 to less than 40 marks and upper quartile (Q4) score range is 40 to 45. While pretest box plot, lower whisker (Q1) score range is 18 to less than 25, lower quartile (Q2) score range is 25 to less than 28, mid quartile (Q3) of the post test score range is 28 to less than 30 marks and upper quartile (Q4) score range is 30 to 36. (Figure 8). Therefore, this suggests that overall primary school teachers were performed high level in posttest compared than the pretest.

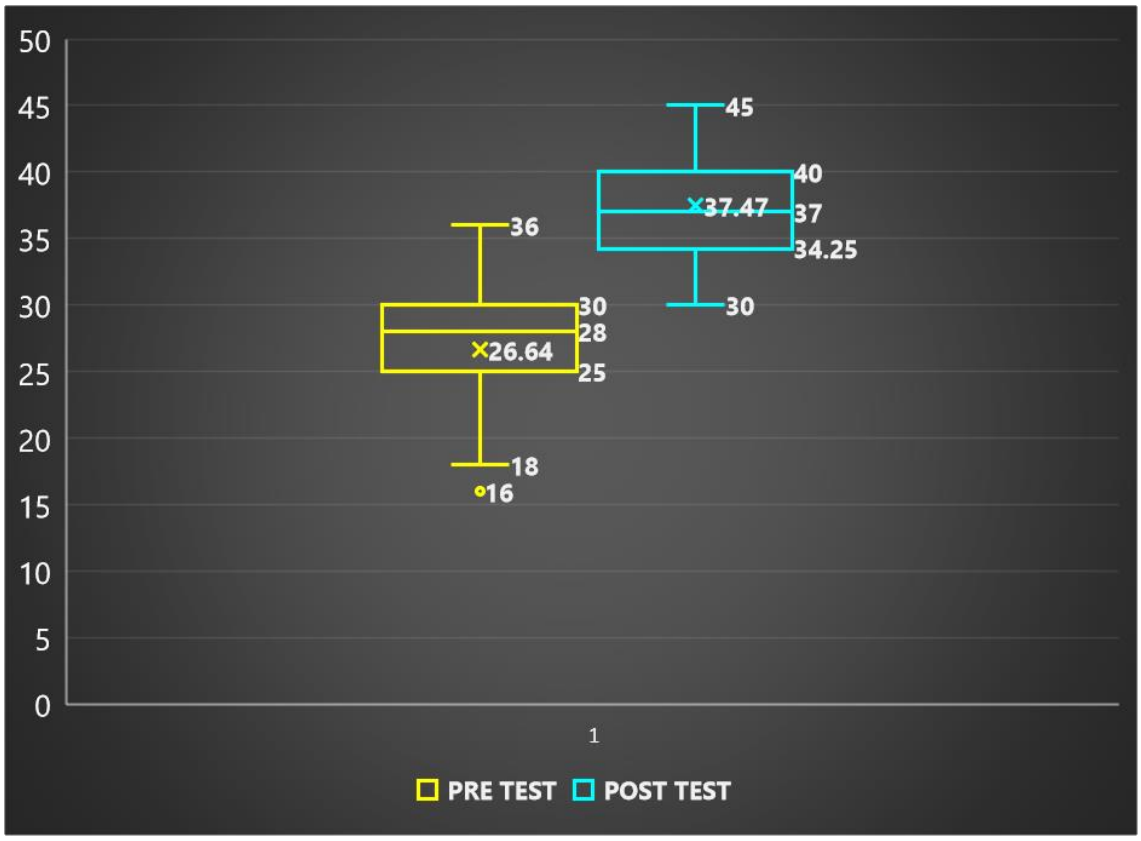

Fig. 8. The box plot range between the pre and post test score are obtained from primary school teachers.

4.3.2.4. Effect size between pre and post tests

Effect size' is simply a way of quantifying the size of the difference between two groups. It is easy to calculate, readily understood and can be

applied to any measured outcome in study. It can be used to accompany the reporting of t-test results. In this study effect size was computed to assess the between the control (pretest) and experimental phases (posttest). In experimental phase, average Mean= 37.47, average SD= 4.11 are values are interpreted with the control phase average Mean= 26.64, average SD= 4.88. Result, Cohen's *d* value *(d)* found to be 2.40055 (Table. 7). As per **Cohen`s rule of thumb** guidelines, which is considered as a **large effect size** (< 92%) the between the pretest and posttest.

Table. 7. Effect size data obtained between the control and experimental phase

Phase	Mean	SD	Cohen's *d* value *(d)*	Effect size
Control phase (Pretest)	26.64	4.88	2.40055	Larger (< 92%)
Experimental phase (Posttest)	37.47	4.11		

4.4. Conclusion

This chapter descripes the different statistical techniques used for the study and also mentioned analysis and interpretation of data. Summary of findings and conclution will be given in the next chapter V.

5. Summary, Finding and Conclusion

5.1. Introduction

The most important part of any research is its finding. The finding leads the investigator in drawing conclusions and in offering appropriate suggestions and recommendations. This is a summary of the research work, including the statement of the problem, objective of the study, sampling procedure, methodology and conclusion of the study and suggestion and recommendations.

The Summary and Findings section is the most important part of the research report, because it reviews all the information that has been presented in its previous sections. This section includes a brief restatement of the problem, a description of the procedure followed and discussion of finding and conclusions of the study.

5.2. Summary of the study

Summary of the study is presented in the following paragraphs:

1. The present investigation is entitled “Assessing the knowledge and preparedness of Primary teachers’ on First aid”.
2. The study comprised of a single group. Totally 100 primary school teacher samples were collected from all the 13 blocks of Pudukkottai District of using the Cluster sampling method.
3. Out of 100, 48 male primary teachers and 52 female primary teachers were samples for this research study.
4. As intervention of this study, an experiment is split into two phases: the experimental phase and the control phase. The experimental phase is given the experimental treatment (given the experience to the primary school teachers in one day orientation workshop for first aid programme) and the control phase is standard treatment (before start the workshop the data was collected from the participants through the pretest).
5. The investigator adapted “First Aid Awareness Test tool” (questionnaire) was used. The investigator and resource persons conducted pre-test at the beginning of the study to the samples of control phase and a post-test was conducted after providing a suitable hands-on experience to the experimental phase of the same sample group.

6. The primary teachers filled out 50 item questionnaires consisting of two parts. Part I has personal information of teachers such as name, address etc. Part II consisted of 50 MCQ items related to the present research content of first aid related.
7. The following statistical techniques were used in the study: Descriptive and inferential analysis mean, standard deviation and t– test, correlation coefficient, box plot and effect size.
8. In the present study, the pre-test total marks are 2664, means score is 26.64 and the standard deviation is 4.88. The post-test total marks are 3747, means score is 37.47 and the standard deviation is 4.11.
9. Between the control and experimental phases, the post-test average score is at a maximum level, while compared with pre-test scores. The difference of the average percentage is 10.83.
10. In the control and experimental phases, the overall descriptive data results inferred that the post-test achievement is greater than the pre-test achievements.
11. In the control and experimental phases, the obtained t- test calculated 't' value 15.2972 is greater than the critical table value 1.984 corresponding to the 0.0001 level of significance. The results suggest that the difference is extremely statistically significant. Hence, the null hypothesis is not accepted and by conventional criteria, this difference is considered to be extremely statistically

accepted in their achievement. It is concluded that there is significant difference between pre and post-test mean scores.

12. This shows that the approach of suitable one day orientation workshop training programme about the first aid among the primary teachers has made significant difference between pre and post tests mean scores..
13. A Pearson product-moment correlation coefficient was computed to assess the relationship between the pre and post test scores of the present study. Pearson correlation coefficient (r) = - 0.2366, P-value = 0.021333, Sample size (n) = 100, p = 0.05, the value of R^2, the coefficient of determination, is 0.056. A scatter plot summarizes the results. Overall, the negative value of r suggests that there is an inverse relationship between pre and post test. However, the magnitude of the correlation is small (close to 0), indicating that the relationship between these variables is weak. This means that changes in pretest are not strongly associated with changes in post test. The correlation coefficient alone does not imply causation, and further analysis is needed to understand the nature of the relationship.
14. In post test box plot shows comparatively short than the pre test box plot, which means, lower whisker (Q1) score range is 30 to less than 34.25, lower quartile (Q2) score range is 34.25 to less than 37, mid quartile (Q3) of the post test score range is 37 to less than 40

marks and upper quartile (Q4) score range is 40 to 45. While pretest box plot, lower whisker (Q1) score range is 18 to less than 25, lower quartile (Q2) score range is 25 to less than 28, mid quartile (Q3) of the post test score range is 28 to less than 30 marks and upper quartile (Q4) score range is 30 to 36. (Figure 8). Therefore, this suggests that overall primary school teachers were performed high level in posttest compared than the pretest.

15. In this study effect size was computed to assess the between the control (Pretest) and experimental phases (Posttest). In experimental phase, average Mean= 37.47, average SD= 4.11 are values are interpreted with the control phase average Mean= 26.64, average SD= 4.88. Result, Cohen's *d* value *(d)* found to be 2.40055. As per Cohen`s rule of thumb guidelines, which is considered as a large effect size (< 92%) the between the control and experimental phase.

5.3. Findings of the study

As per the statistical data, the following are the main findings of the study:

1. In the present study, the pretest total marks are 2664, means score is 26.64 and the standard deviation is 4.88. The post test total marks is 37.47, means score is 37.47 and the standard deviation is 4.11. Between the control and experimental phases, the post test average score is at a maximum level, while compared with pre-test scores. The difference of the average percentage is 10.83.

2. In the control and experimental phases, the overall descriptive data results inferred that the posttest achievement is greater than the pretest achievements.
3. Additionally, the obtained statistical results of t- test, correlation coefficient score and box plot also suggest that the given one-day orientation workshop programme for first aid approach was influenced more in experimental phase (posttest) compared to the control phase (pretest) among the primary teachers.
4. Primary teachers with the experience of orientation workshop programme for first aid (Experimental phase) were more effectively than the without the experience of orientation workshop programme for first aid (control phase), with a more than 92 % of large effect size.
5. This study reveals that Primary teachers with the experience of orientation workshop programme for first aid approach acquired and demonstrated significantly greater gains than in the control phase.

5.4. Educational Implications of the Study

This general first-aid orientation workshop has a number of implications which could be applied at the primary school level. This is often very imperative in improving the safety and welfare of students or any member of the school community. The major educational implications are enumerated as follows:

1. Improved Safety and Better Preparedness

Immediate Response: Equipping teachers with some knowledge on first aid can help them provide instant care in times of emergencies, which at times may save lives or prevent further injuries.

Emergency Preparedness: The school can be better trained and prepared for emergencies and hence improves the safety of students and staff in schools.

2. Boosted Confidence and Competence among Teachers

Confidence Boost: Such training makes teachers confident to handle a medical emergency, thereby reducing panic and increasing the effectiveness of response.

Skill Development: Teachers are empowered with life-enriching skills inside and outside of the school.

3. Students benefit

Role Modelling: The teacher can become a role model for responsible behaviour. If the teacher is modelling responsible behaviour and values first aid, students will learn and develop a proper appreciation for first aid.

Student Safety: First aid can efficiently and effectively reduce the effects of various types of injuries or illnesses, ensuring that students receive the appropriate treatment in time.

4. Greater Knowledge and Prevention

Health Education: First aid and health education can be integrated into the curriculum of schools and therefore help in creating more knowledgeable and careful individuals who can assist themselves and others whenever required.

Risk Reduction: Understanding the most common injuries and how to prevent them may help reduce accidents, health problems, and other undesirable occurrences within the school.

5. School Policy and Environment

Policy Development: Schools can develop or enhance its health and safety policies after the workshop.

Culture of Safety: Cultivate a culture of safety and preparedness that would enhance proactive approaches to health and safety matters.

6. Community Benefits

Extended Reach: The teachers could then take the information from the workshops and extend it out further into the parents and the broader community, thus extending the impact of the workshop outside the confines of the school.

Collaborative Efforts: There could be collaboration between schools and health services and emergency responders in each community, whereby a network would develop that would benefit health and safety.

7. Long-term Educational Outcomes

Less Absence: First aid can prevent a range of injuries and illnesses from becoming more serious. This would mean less absence of students, and hopefully, in that respect, raised standards over time.

Holistic Education: First-aid education is a part of the holistic development of the student, which prepares the pupil for all eventualities in life.

5.5. Research suggestions of the study

This study has a number of important implications for the educational field. The orientation program described will be of great benefit to primary school teachers, parents, and community members since first aid knowledge is very important everywhere at all times.

1. The findings recommend that schools develop a safety culture involving all stakeholders.
2. Schools should provide complete first-aid facilities, with a first-aid room, first-aiders, first-aid boxes/kits, first-aid services, and telephone numbers for emergency contact.
3. Simulation of first-aid situations should be introduced as part of the normal school routine.
4. The textbooks, which are an essential teaching aid, should have full coverage on topics related to first-aid and details of first-aid.
5. There should be special first-aid training packages.

6. First-aid should find a place in pre-service and in-service training programs.
7. First-aid training for the public is quite helpful since disasters require first-aid services.
8. This program shall be very useful to students, teachers, parents, and the general public.

5.6. Suggestions for further research

Many studies are being conducted related to first aid at the international level. First aid, particularly at the school level, is an utterly neglected area in India. Therefore, the present study requires more studies regarding first aid. Some suggestions are made by the investigator for the teachers to pursue further investigation are as follows:

1. The stakeholders of all the schools are to be trained in first aid. Hence a study on school-based intervention on first aid is to be conducted.
2. When a disaster comes the people who witnessed, neighbors, or even the children may help the affected. First aid thus becomes an extensive area, and its knowledge is to be given to all strata of people. Hence, studies are to be conducted to develop intervention programmes reaching all strata of people.
3. The present study is conducted experimentally among primary school teachers. Studies can be conducted in large samples adopting a true experimental design among Upper Primary School Teachers.

4. The same study may be extended to all primary, upper primary, secondary and higher secondary school teachers in other, areas of Tamilnadu.
5. This study focused only one day orientation workshop programme and the same study may also extend more than one day.

5.7. Conclusion

The main principle of first aid is to save life. Every teacher knows the fact that "life is precious". In this context first aid knowledge is very essential to teachers. The knowledge of first aid is very much helpful in and outside the school. This knowledge is also helpful in one's future life. The first aid program for school teachers is a comprehensive initiative designed to equip educators with the necessary skills and knowledge to effectively respond to medical emergencies within a school setting. Recognizing the critical role teachers play in ensuring student safety, this program aims to create a safer educational environment by empowering teachers to act promptly and confidently during health crises.

The present study was found effective in enhancing awareness on first aid among the primary school teachers through the comparison of results between pretest and posttest for the total sample and the impact of the effect size is found large. From this study it is concluded that, special packages on first aid training should be developed to all the school teachers and each school should develop a culture of safety, also mock situations related to first aid should be incorporated in the regular

working of school and this practice should be given to all its stake holders with adequate facilities with regard to first aid.

In sum, a first aid orientation workshop for primary school teachers does encompass broad and substantial educational repercussions that immensely improve the safety, preparedness, and general health status of the entire school community.

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The investigator presenting the final report in front of the District Research Committee.

The investigator presenting the project research tool in the Research Tool preparation and translation team.

The principal investigator setting the tone in the tool administration workshop.

Dr. G. Murugan Principal (i/c) being honoured by the Dr.S.Thangarasu, Lecturer.

Dr. G. Murugan, Principal (i/c) delivering special address on the project.

Dr. G. Anandaraju, Senior Lecturer delivering special address on the tool.

Research tool released by DIET Principal and other Faculty during the work shop.

Research module released by DIET Principal and other Faculty during the work shop.

Copies of research module issued to the participant teachers by DIET Principal.

A batch of participants attending the pre-test.

A batch of participants attending the pre-test.

The Resource Person Dr. VV. Priyadharshini explaining emergency care of school children in workshop.

The Resource Person Mr. R. Karalmarks, first aid trainer, demonstrating the first aid activities.

The Resource Person Dr. R. Muthukumar, performing the about first aid activities at the workshop.

A teacher handling the victim with the help of resource Person.

A teacher handling the victim with the resource Person in first aid workshop.

The Resource Person Mr. R. Karalmarks, first aid trainer, explaining the CPR.

The teachers practising to CPR demo with a mannequin with the resource persons' instruction.

A teacher handling the victim with the resource Person in first aid workshop.

A teacher on the hands-on activity for fracture victim.

A batch of participants attending the post-test.

A batch of participants attending the post-test.

During the valedictory, Resource Persons honored by Principal

A participant teacher giving the feedback at the end of the last session.

ASSESSING THE KNOWLEDGE AND PREPAREDNESS OF PRIMARY TEACHERS' ON FIRST AID

RESEARCH TOOL

(Pre/ Post Assessment Questionnaire)

Principal Investigator

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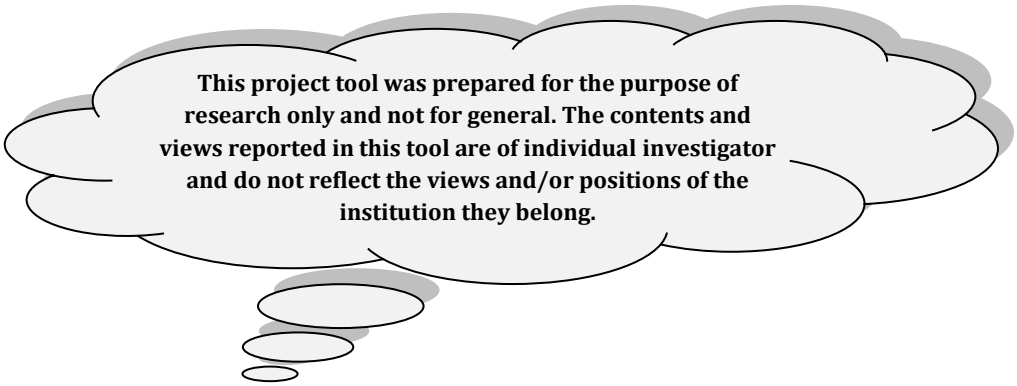
Pudukkottai – 622 004

DISTRICT INSTITUTE OF EDUCATION AND TRAINING

PUDUKKOTTAI – 622 004

2023-2024

Question Booklet No:



Dear Teacher,

I'm **Dr. R. GOBALAKRISHNAN,** Lecturer in District Institute of Education and Training, Pudukkottai. Now, I am doing District Level Research Project with the following title "ASSESSING THE KNOWLEDGE AND PREPAREDNESS OF PRIMARY TEACHERS' ON FIRST AID". This tool consists of two parts. Part I is Demographic data and Part II had 50 numbers of Multiple-Choice Questions (MCQs) about first aid awareness which are to be understood by the teachers, are given below. All the questions were designed in bilingual (Tamil and English) and English version is final one. For each question have a, b, c, and d options are given. **Mark (✓) against correct answer in the response sheet**. Mark only one answer to a question. This is a questionnaire supplied and the data will be utilized only for research purpose. So, I request you kindly co-operate in my endeavor.

PART - I

PERSONAL BIO-DATA OF TEACHER

Name of Teacher :

Designation :

Name of the School :

Block :

Qualification :

Sex : Male / Female

Age (in Years) : 18-30 / 31-40 / 41-50 / 51-60

Subject : Lang./Maths/ Science/Social Sci./ Others

Classes handling : 1/ 2/ 3/ 4/ 5

School locality : Rural / Urban.

No. of Periods/week :

FIRST AID AWARENESS TEST

1. What is First aid?
   a) The immediate and temporary treatment given to the victims on site
   b) Treatment given in the casualty
   c) The act of taking the victim to the hospital
   d) Self introduced treatment by the victim himself.

1. முதலுதவி என்றால் என்ன?

   a) பாதிக்கப்பட்டவர்களுக்கு உடனடியாக மற்றும் தற்காலிக சிகிச்சை அளிக்கப்படுகிறது

   b) பாதிக்கப்பட்டவருக்கு அளிக்கப்படும் சிகிச்சை

   c) பாதிக்கப்பட்டவரை மருத்துவமனைக்கு அழைத்துச் செல்லும் செயல்

   d) பாதிக்கப்பட்டவரால் சுயமாக மேற்கொள்ளப்படும் சிகிச்சை.

2. What is Fracture?
   a) Partial or complete break of the bone
   b) Self bending of the bone
   c) Severe pain in the bone
   d) Deficiency in the synovial fluid on the synovial joints

2. எலும்பு முறிவு என்றால் என்ன?

   அ) எலும்பின் பகுதி அல்லது முழுமையான எழும்பு முறிவு

   b) எலும்பின் சுய வளைவு

   c) எலும்பில் கடுமையான வலி

   d) சினோவியல் மூட்டுகளில் உள்ள சினோவியல் திரவத்தில் குறைபாடு

3. What is to be done immediately as part of first aid given in dressing a wound?
   a) Applying medicine
   b) Covering the wound
   c) Washing the wound
   d) Patting to observation

3. காயத்திற்கு சிகிச்சை அளிக்கப்படும் முதலுதவியின் ஒரு பகுதியாக உடனடியாக என்ன செய்ய வேண்டும்?

   அ) மருந்து பயன்படுத்துதல்

   b) காயத்தை மூடுதல்

   c) காயத்தை கழுவுதல்

   d) கவனிப்புக்குத் தட்டுதல்

4. Expansion of CPR?
   a) Cardio pulmonary rate
   b) Cardio pulmonary resuscitation
   c) Cardio pulmonary rest
   d) Cardio pulmonary respiration

4. CPR விரிவாக்கம்?

a) Cardio pulmonary rate
b) Cardio pulmonary resuscitation
c) Cardio pulmonary rest
d) Cardio pulmonary respiration

5. Which first aid can be given to the drowned person?

a) Replace with warm dress and let him lie sideways and take him to the hospital
b) Press on the stomach and drain out the water
c) Give artificial respiration to the victim
d) None of these

5. நீரில் மூழ்கியவருக்கு என்ன முதலுதவி அளிக்கலாம்?

a) சூடான உடையை மாற்றி, பக்கவாட்டில் படுக்க வைத்து மருத்துவமனைக்கு அழைத்துச் செல்லவும்

b) வயிற்றில் அழுத்தி தண்ணீரை வெளியேற்றவும்

c) பாதிக்கப்பட்டவருக்கு செயற்கை சுவாசம் கொடுங்கள்

d) இவை எதுவும் இல்லை

6. What will you do if you find a friend with something blocked in throat?

a) Telling him to cough strongly
b) Remove it immediately from the throat
c) Giving water to drink
d) Make him eat solid food items

6. உங்கள் நண்பருக்கு தொண்டையில் ஏதேனும் அடைப்பு ஏற்பட்டால் என்ன செய்வீர்கள்?

a) வலுவாக இருமுமாறு கூறுதல்

b) தொண்டையில் இருந்து உடனடியாக அதை அகற்றவும்

c) குடிக்க தண்ணீர் கொடுப்பது

d) திட உணவுப் பொருட்களை உண்ணச் செய்யுங்கள்

7. Partial dysfunction of which organ leads to Epilepsy?

a) Partial dysfunction of Heart
b) Partial dysfunction of Nerves
c) Partial dysfunction of Brain
d) Partial dysfunction of Muscles

7. எந்த உறுப்பின் பகுதி செயலிழப்பு கால்-கை வலிப்புக்கு வழிவகுக்கிறது?

a) இதயத்தின் பகுதியளவு செயலிழப்பு

b) நரம்புகளின் பகுதி செயலிழப்பு

c) மூளையின் பகுதியளவு செயலிழப்பு

d) தசைகளின் பகுதியளவு செயலிழப்பு

8. When and where was first aid society established in the world?
   a) 1956 USA
   b) 1877 England
   c) 1866 France
   d) 1911 India

8. முதலுதவி சங்கம் எப்போது உலகில் முதன் முதலில் எங்கு நிறுவப்பட்டது?

   a) 1956 அமெரிக்கா

   b) 1877 இங்கிலாந்து

   c) 1866 பிரான்ஸ்

   d) 1911 இந்தியா

9. How many times should artificial respiration be given in a minute to ensure effective functioning of heart?
   a) 10-12 times
   b) 5-10 times
   c) 16-18 times
   d) 5-8 times

9. இதயத்தின் சீரான செயல்பாட்டினை உறுதி செய்ய ஒரு நிமிடத்தில் எத்தனை முறை செயற்கை சுவாசம் கொடுக்கப்பட வேண்டும்?

   a) 10-12 முறை

   b) 5-10 முறை

   c) 16-18 முறை

   d) 5-8 முறை

10. If you find a person affected by electric shock; what should you do?
   a) Pull back the person immediately
   b) Switch off the electricity instead of touching the person directly
   c) Try to cover the person with rubber sheet
   d) Waiting for the medical team's arrival

10. மின்சார அதிர்ச்சியால் பாதிக்கப்பட்ட ஒருவரை கண்டால்: நீங்கள் என்ன செய்ய வேண்டும்?

   a) நபரை உடனடியாக பின் இழுக்கவும்

   b) நபரை நேரடியாகத் தொடுவதற்குப் பதிலாக மின்சாரத்தை அணைக்கவும்

   c) நபரை ரப்பர் ஷீட்டால் மூட முயற்சிக்கவும்

   d) மருத்துவக் குழுவின் வருகைக்காகக் காத்திருக்கவும்

11. How would you deal with a patient affected from sunstroke?
   a) Cover with wet cloth
   b) Let the person lie down
   c) Cover the patient with blanket
   d) Give food immediately to the patient

11. சூரிய வெப்பத்தால் பாதிக்கப்பட்ட நோயாளியை நீங்கள் எவ்வாறு கையாள்வீர்கள்?

a) ஈரமான துணியால் மூடவும்

b) பாதிக்கப்பட்ட நபரை படுக்க வைக்கவும்

c) நோயாளியை போர்வையால் மூடவும்

d) நோயாளிக்கு உடனடியாக உணவு கொடுங்கள்

12. Expansion of IRCS?

a) Indian Ribbon Club Scheme
b) Indian Ribbon Cross Society
c) Indian Red Club Society
d) Indian Red Cross Society

12. IRCS என்பதன் விரிவாக்கம்.

a) Indian Ribbon Club Scheme

b) Indian Ribbon Cross Society

c) Indian Red Club Society

d) Indian Red Cross Society

13. The main aim of first aid is?

a) To lessen pain
b) To prevent bleeding
c) To bring the victim to the hospital immediately
d) To save life

13. முதலுதவியின் முக்கிய நோக்கம்?

a) வலியைக் குறைக்க

b) இரத்தப்போக்கு தடுக்க

c) பாதிக்கப்பட்டவரை உடனடியாக மருத்துவமனைக்குக் செல்ல

d) உயிரைக் காப்பாற்ற

14. Which is the signs and symptoms of fracture?

a) Extreme bleeding, fainting
b) Discoloration of skin
c) Pain, swelling of the area, loss of normal movement
d) Head ache and vomiting

14. எலும்பு முறிவின் காரணிகள் மற்றும் அறிகுறிகள் யாவை?

a) அதிக இரத்தப்போக்கு, மயக்கம்

b) தோலின் நிறமாற்றம்

c) வலி, பகுதியின் வீக்கம், இயல்பான இயக்க இழப்பு

d) தலைவலி மற்றும் வாந்தி

15. Immediate step to stop bleeding is

a) Apply pressure bandage
b) Cover the area with a clean cloth
c) Pour water in the wound
d) Give victim plenty of water to drink

15. இரத்தப்போக்கு நிறுத்த உடனடி நடவடிக்கை

அ) அழுத்தமான கட்டு கட்டுதல்

b) சுத்தமான துணியால் அந்தப் பகுதியை மூடவும்

c) காயத்தில் தண்ணீர் ஊற்றவும்

d) பாதிக்கப்பட்டவருக்கு நிறைய தண்ணீர் கொடுங்கள்

16. What will you do as the first aid, when a man on the way faints?

a) Give CPR immediately
b) Check his pulse
c) Immediately taking the victim to the hospital
d) Make the area safe. Check his response

16. வழியில் ஒரு மனிதன் மயங்கி விழுந்தால், முதலுதவியாக என்ன செய்வீர்கள்?

a) உடனடியாக CPR கொடுங்கள்

b) அவரது நாடித்துடிப்பை சரிபார்க்கவும்

c) பாதிக்கப்பட்டவரை உடனடியாக மருத்துவமனைக்கு அழைத்துச் செல்லுதல்

d) உடல்நிலை சீராக உள்ளதா என சோதித்தல்

17. As a first aid, what will you do immediately to a burn caused by fire?

a) Cover the area with anything
b) Apply antiseptic ointment
c) Wash with plenty of cold water
d) Apply oil to the affected part

17. தீயினால் ஏற்பட்ட தீக்காயத்திற்கு முதலுதவியாக, உடனடியாக என்னசெய்வீர்கள்?

அ) பாதிக்கப்பட்ட பகுதியை ஏதேனும் கொண்டு மூடவும்

ஆ) ஆண்டிசெப்டிக் களிம்பு தடவவும்

c) நிறைய குளிர்ந்த நீரில் கழுவவும்

d) பாதிக்கப்பட்ட பகுதிக்கு எண்ணெய் தடவவும்

18. Red Cross Society was founded in India.

a) 1911
b) 1920
c) 1940
d) 1925

18. செஞ்சிலுவை சங்கம் இந்தியாவில் துவங்கப்பட்ட ஆண்டு.

a) 1911

b) 1920

c) 1940

d) 1925

19. Who is a first aider?
    a) Doctor
    b) Nurse
    c) Any person trained in first aid
    d) None of these

19. முதலுதவி செய்பவர் யார்?

    a) மருத்துவர்

    b) செவிலியர்

    c) முதலுதவியில் பயிற்சி பெற்ற எவரும்

    d) இவை எதுவும் இல்லை

20. Which material you should use to cover a wound?
    a) Ordinary cloth
    b) Ordinary gauze
    c) Germless gauze pad
    d) Plaster

20. காயத்திற்க்கு சிகிச்சை அளிக்க நீங்கள் எந்தப் பொருளைப் பயன்படுத்த வேண்டும்?

    அ) சாதாரண துணி

    b) சாதாரண காஸ் துணி

    c) கிருமி இல்லாத காஸ் பட்டை

    d) பிளாஸ்டர்

21. How is pressure applied on nerves to stop bleeding in the wounds?
    a) With cloth
    b) Using fingers
    c) Using palm
    d) With the help of instrument

21. காயங்களில் இரத்தப்போக்கு நிறுத்த நரம்புகள் மீது அழுத்தம் எவ்வாறு பயன்படுத்தப்படுகிறது?

    அ) துணியுடன்

    b) விரல்களைப் பயன்படுத்துதல்

    c) உள்ளங்கையைப் பயன்படுத்துதல்

    d) கருவியின் உதவியுடன்

22. Who is called father of first aid for proposing the concept of first aid?
    a) General Mark
    b) General Felix
    c) General John
    d) General Esmarch

22. முதலுதவி என்னும் கருத்தினை முன்மொழிந்தமையால் முதலுதவி தந்தை என அழைக்கப்படுபவர்?

a) ஜென்ரல் மார்க்

b) ஜெனரல் பெலிக்ஸ்

c) ஜென்ரல் ஜான்

d) ஜெனரல் எஸ்மார்ச்

23. Who started first aid society?

a) Jain George
b) Jain Paul
c) Jain John
d) Jain John Paul

23. முதலுதவி சங்கம் யாரால் துவங்கப்பட்டது?

a) செயின் ஜார்ஜ்

b) ஜெயில் பால்

c) ஜெயின் ஜான்

d) ஜெயின் ஜான் பால்

24. What should not be done against burning?

a) Do remove cloths sticking to the burn
b) Do burst any blushes
c) Do apply lotions, factor adhesive to the burnt area
d) All are right

24. தீக்காயத்திற்கு எதிராக என்ன செய்யக்கூடாது?

அ) தீக்காயத்தில் ஒட்டியிருக்கும் துணிகளை அகற்றவும்

b) கொப்பளங்களை உடைத்தல்

c) தீக்காயத்தின் மீது லோஷன், மருந்து பிசின் தடவவும்

d) அனைத்தும் சரி

25. What is the first aid for eye sore with dust particle in it?

a) Wash the eye with pure water
b) Tell him to wink the eye several times
c) Take out the particle using a cloth piece
d) Instruct to look at an object constantly

25. கண்ணில் தூசி துகள் இருந்தால் என்ன முதலுதவி செய்வது?

a) கண்ணை சுத்தமான தண்ணீரில் கழுவவும்

b) பலமுறை கண் சிமிட்டச் சொல்லுங்கள்

c) துணியைப் பயன்படுத்தி துகள்களை வெளியே எடுக்கவும்

d) ஒரு பொருளை தொடர்ந்து பார்க்க அறிவுறுத்துங்கள்

26. What kind of things are used in making splint?

a) News paper
b) Piece of cloth
c) Wooden pieces
d) All are correct

26. ஸ்பிளிண்ட் தயாரிப்பதில் என்ன வகையான பொருட்கள் பயன்படுத்தப்படுகின்றன?

a) செய்தித்தாள்

b) துணி துண்டு

c) மரத் துண்டுகள்

d) அனைத்தும் சரியானவை

27. What first aid should be done against animal biting (eg: dog, cat etc.)?

a) Clean the wound with hot water and soap
b) Immediately take anti- rabies vaccination
c) Both are correct
d) Both are wrong

27. விலங்கு கடிக்கு எதிராக என்ன முதலுதவி செய்ய வேண்டும் (எ.கா: நாய், பூனை போன்றவை)?

அ) காயத்தை வெந்நீர் மற்றும் சோப்பினால் சுத்தம் செய்யவும்

b) உடனடியாக ரேபிஸ் தடுப்பூசி போடுங்கள்

c) இரண்டும் சரி

d) இரண்டுமே தவறு

28. When would the service of a first-aider end?

a) On getting the affected person completely well.
b) On handing over the affected person to the medical team.
c) On getting him to his senses.
d) On handing over the affected person to his relatives.

28. முதலுதவி சேவை எப்போது முடிவடையும்?

அ) பாதிக்கப்பட்ட நபரை முழுவதுமாக குணமாக்குவது.

b) பாதிக்கப்பட்ட நபரை மருத்துவக் குழுவிடம் ஒப்படைப்பது.

c) பாதிக்கப்பட்ட நபரை சுய நினைவுக்கு கொண்டு வரும்வரை.

d) பாதிக்கப்பட்ட நபரை அவரது உறவினர்களிடம் ஒப்படைப்பது.

29. How is the patient made ready for CPR?

a) Let him lay with the head up.
b) Let him lay on his back.
c) Take him lay in sides.
d) Make him sit.

29. சிபிஆருக்கு நோயாளி எவ்வாறு தயாராகிறார்?

அ) தலையை உயர்த்திய நிலையில் படுக்க வைக்கும்போது

b) அந்த நபரை குப்புற படுக்க வைக்கும்போது

c) அவரை பக்கவாட்டில் படுக்க வைக்கும்போது

d) அவரை உட்கார வைக்கும்போது

30. What is the golden principle of first aid?

a) Not to bring to damages
b) Give water
c) Take over to hospital
d) Ensure proper ventilation

30. முதலுதவியின் முக்கிய குறிக்கோள் என்ன?

அ) பாதிக்கப்பட்ட நபரை மேலும் பாதிப்பு அடையமல் தவிர்த்தல்

b) தண்ணீர் கொடுத்தல்

c) மருத்துவமனைக்கு கொண்டுச் செல்லுதல்

d) சரியான காற்றோட்டத்தை உறுதி செய்தல்

31. What will you do on noticing nose-bleeding of your friend?

a) Make the patient sit with straight neck

b) Thoroughly hold the tip of nose using thumb and little finger for about 10 to 15 minutes.

c) Instruct him to inhale through nose, put ice, and seek medical aid

d) All are correct

31. உங்கள் நண்பரின் மூக்கில் இரத்தம் கசிவதைக் கண்டால் என்ன செய்வீர்கள்?

a) நோயாளியின் கழுத்து நேராக இருக்கும்படி உட்கார வைக்கவும்

b) கட்டை விரலையும் சுண்டு விரலையும் பயன்படுத்தி மூக்கின் நுனியை 10 முதல் 15 நிமிடங்கள் வரை நன்றாகப் பிடிக்கவும்.

c) சுவாசத்தை மூக்கின் வழியாக உள்ளிழுக்க செய்து, ஐஸ் வைத்து, மருத்துவ உதவி பெறவும் அவருக்கு அறிவுறுத்துங்கள்

d) அனைத்தும் சரியானவை

32. What is first action in first-aid?

a) Give water to drink

b) Let him la y

c) Assessing the situation

d) Connect with the doctor immediately

32. முதலுதவியில் முதல் நடவடிக்கை என்ன?

அ) குடிக்க தண்ணீர் கொடுத்தல்

b) நபரை படுக்க வைத்தல்

c) நிலைமையை மதிப்பிடுதல்

d) உடனடியாக மருத்துவரை அணுக செய்தல்

33. What is to be cared if something get to blocked in the ear?

a) Use cotton and match to take it out.

b) Don't try to put something in and remove the particle

c) a is right, b is wrong

d) a is wrong and b is right

33. காதில் ஏதாவது அடைப்பு ஏற்பட்டால் என்ன செய்ய வேண்டும்?

a) காட்டன் குச்சியை பயன்படுத்தி வெளியே எடுக்க வேண்டும்.

b) காதினுல் எதையாவது வைத்து துகள்களை எடுக்க முயற்சிக்காமை

c) a சரி, b என்பது தவறு

d) a தவறு மற்றும் b என்பது சரி

34. How do you deal with the particle pricked in the skin without danger?
a) Without letting it loose and pressing take to hospital
b) Remove it soon and bind the wound
c) Use a plier to remove it
d) none of these

34. தோலில் குத்தப்பட்ட துகளை ஆபத்தில்லாமல் எப்படி சமாளிப்பது?

a) அதை தளர்த்தாமல், அழுத்தி மருத்துவமனைக்கு கொண்டு செல்லவும்

b) விரைவில் அதை அகற்றி காயத்தை கட்டவும்

c) அதை அகற்ற இடுக்கி பயன்படுத்தவும்

d) இவை எதுவும் இல்லை

35. What is the first aid against insect-ridden ear?
a) Use buds and take it out
b) Take it out using a pliers
c) Pour warm water in the ear after moving head to a side and keep it for 10 minutes
d) none of these

35. பூச்சியால் பாதிக்கப்பட்ட காதுகளுக்கு எதிரான முதல் உதவி என்ன?

a) Buds-யைப் பயன்படுத்தி அதை வெளியே எடுக்கவும்

b) ஒரு இடுக்கி பயன்படுத்தி அதை வெளியே எடுக்கவும்

c) தலையை ஒரு பக்கம் நகர்த்திய பின் காதில் வெதுவெதுப்பான நீரை ஊற்றி 10 நிமிடங்கள் வரை வைத்திருக்கவும்

d) இவை எதுவும் இல்லை

36. What first aid will you give if something blocks the throat?
a) Use finger to take it if visible
b) If it is thorn like object, lay him in recovery position and take to hospital
c) Both are correct
d) Both are not correct

36. தொண்டையில் ஏதாவது அடைப்பு ஏற்பட்டால் என்ன முதலுதவி கொடுப்பீர்கள்?

a) தெரிந்தால் அதை எடுக்க விரலைப் பயன்படுத்தவும்

b) முள் போன்ற பொருளாக இருந்தால், அவரை மீட்கும் நிலையில் படுக்க வைத்து மருத்துவமனைக்கு கொண்டு செல்லவும்

c) இரண்டும் சரி

d) இரண்டும் சரியல்ல

37. What emergency attention should be given to patient suffering from Heart attack?
a) Artificial respiration and Resuscitation
b) Immediately take the patient to hospital
c) Give the patient water to drink
d) Rub any ointment on the chest

37. இதய நோயால் பாதிக்கப்பட்ட நோயாளிக்கு என்ன அவசர கவனம் செலுத்தப்பட வேண்டும் ?

a) செயற்கை சுவாசம் மற்றும் புத்துயிர்

b) நோயாளியை உடனடியாக மருத்துவமனைக்கு அழைத்துச் செல்லுங்கள்

c) நோயாளிக்கு குடிக்க தண்ணீர் கொடுங்கள்

d) மார்பில் ஏதேனும் தைலத்தை தேய்க்கவும்

38. What is the name of the scale or wooden piece used to support the fractured part?

a) Sling
b) Tourniquet
c) Splint
d) None of these

38. எலும்பு முறிவு ஏற்பட்ட இடத்தில் support-ஆக் பயன்படுத்தப்படும் மரத் துண்டின் பெயர் என்ன?

a) கவண்

b) டூர்னிக்கெட்

c) ஸ்பிளிண்ட்

d) இவை எதுவும் இல்லை

39. Which is the liquid kept in the first aid box for dressing wound?

a) Spirit contained 2% alcohol
b) Phenol contained 2% alcohol
c) Dettol contained 2% alcohol
d) Iodine contained 2% alcohol or Betadine

39. காயத்தை குணப்படுத்த, முதலுதவி பெட்டியில் வைக்கப்பட்டுள்ள திரவம் எது?

a) 2% ஆல்கஹால் கலந்த ஸ்பிரிட்

b) 2% ஆல்கஹால் கலந்த பீனாயில்

c) 2% ஆல்கஹால் கலந்த டெட்டால்

d) 2% ஆல்கஹால் கலந்த அயோடினில்/ பீட்டாடின்

40. What should be taken care of the most while removing the wounded to hospital from the accident site?

a) Move the patients head, neck, chest and stomach all alike. For this a minimum four persons should work together.

b) Remove the helmet carefully if the patient wears one.

c) On no account he must be hung catching legs or hands. Don’t let head and neck sway from the body.

d) all are right

40. விபத்து நடந்த இடத்திலிருந்து காயம்பட்டவர்களை மருத்துவமனைக்கு கொண்டு செல்லும் போது அதிகம் கவனிக்க வேண்டியவை?

a) நோயாளியின் தலை, கழுத்து, மார்பு மற்றும் வயிறு அனைத்தையும் ஒரே மாதிரியாக நகர்த்தவும். இதற்காக குறைந்த பட்சம் நான்கு பேர் சேர்ந்து வேலை செய்ய வேண்டும்.

b) நோயாளி ஹெல்மெட்டை அணிந்திருந்தால் கவனமாக அகற்றவும்.

c) பாதிக்கப்பட்டவரை எந்த சூழ்லிலும் தலைகீழாக தொங்கவிடக் கூடாது.

d) அனைத்தும் சரி

41. Which is the agency working in the field of first aid?

a) St. John Ambulance
b) Red cross
c) RLSS
d) All these

41. முதலுதவி துறையில் பணிபுரியும் நிறுவனம் எது?

a) செயின்ட் ஜான் ஆம்புலன்ஸ்

b) ரெட்கிராஸ்

c) RLSS

d) இவை அனைத்தும்

42. What care be taken while removing a normally breathing person who is unconscious to hospital?

a) Lay him on recovery position
b) CPR
c) Resuscitation
d) Heimlich maneuver

42. மயக்கமடைந்த நிலையில் சாதாரணமாக சுவாசிக்கும் நபரை மருத்துவமனைக்கு கொண்டு செல்லும்போது எதில் கவனமாக இருக்க வேண்டும்?

a) அவரை சீரான நிலையில் படுக்க வைக்கவும்

b) CPR

c) புத்துயிர் பெறுதல்

d) ஹெய்ம்லிச் சூழ்ச்சி

43. Which are the symptoms of food poisoning?

a) Constipation
b) Nausea and vomiting
c) Feeling of pissing
d) Fever

43. உணவு விஷத்தின் அறிகுறிகள் யாவை?

a) மலச்சிக்கல்

b) குமட்டல் மற்றும் வாந்தி

c) சிறுநீர் கழிக்கும் உணர்வு

d) காய்ச்சல்

44. What is the dangerous side of food poisoning?
a) Dehydration
b) Myopia
c) Swooning
d) Giddiness

44. உணவு விஷத்தின் ஆபத்தான விளைவு என்ன?

a) நீரிழப்பு

b) மையோபியா

c) மயக்கம்

d) தலைசுற்றல்

45. What first aid is to be given on food poisoning?
a) Give nothing to drink
b) Give normal food
c) Give enough water to drink
d) Immediately remove to the hospital

45. உணவு விஷம் ஏற்பட்டால் என்ன முதலுதவி அளிக்க வேண்டும்?

a) குடிக்க எதுவும் கொடுக்க வேண்டாம்

b) சாதாரண உணவு கொடுங்கள்

c) குடிக்க போதுமான தண்ணீர் கொடுங்கள்

d) உடனடியாக மருத்துவமனைக்கு அகற்றவும்

46. Which is the life support to be given for an unconscious person?
a) Try to wake up him immediately
b) ABC (Airway, Breathing and Circulation) check
c) Spray water on the face
d) Give CPR

46. சுயநினைவில்லாத ஒருவருக்கு அளிக்கப்பட வேண்டிய உயிர் ஆதரவு எது?

a) உடனடியாக அவரை எழுப்ப முயற்சி செய்யுங்கள்

b) ABC (காற்றுப்பாதை, சுவாசம் மற்றும் சுழற்சி) சோதனை

c) முகத்தில் தண்ணீர் தெளிக்கவும்

d) CPR ஐ கொடுங்கள்

47. What is the cause of sprain?
a) Broken bone
b) Twitching of ligaments
c) Disorder in bones
d) Bending of bones

47. சுளுக்கு காரணம் என்ன?

a) உடைந்த எலும்பு

b) தசைநார்கள் இழுத்தல்

c) எலும்புகளில் கோளாறு

d) எலும்புகளின் வளைவு

48. What is the result of excessive bleeding?

a) Viral infection
b) pain
c) Swelling
d) State of being swooned

48. அதிக இரத்தப்போக்கின் விளைவு என்ன?

a) வைரஸ் தொற்று

b) வலி

c) வீக்கம்

d) மயக்கமடைந்த நிலை

49. What is the First aid to sprain?

a) Give enough rest to the stricken part
b) Pres the stricken part with ice or cold water
c) Press and raise the stricken part
d) All are right

49. சுளுக்குக்கான முதலுதவி என்ன?

a) பாதிக்கப்பட்ட பகுதிக்கு போதுமான ஓய்வு கொடுங்கள்

b) பனி அல்லது குளிர்ந்த நீரால் தாக்கப்பட்ட பகுதியை அழுத்தவும்

c) தாக்கப்பட்ட பகுதியை அழுத்தி உயர்த்தவும்

d) அனைத்தும் சரி

50. How can we ensure blood circulation of an unconscious person?

a) Through checking pulse rate
b) By checking the movement of chest
c) By checking the movement of legs
d) None of these

50. மயக்கமடைந்த நபரின் இரத்த ஓட்டத்தை எவ்வாறு உறுதிப்படுத்துவது?

a) துடிப்பு வீதத்தை சரிபார்ப்பதன் மூலம்

b) மார்பின் இயக்கத்தைச் சரிபார்ப்பதன் மூலம்

c) கால்களின் இயக்கத்தை சரிபார்ப்பதன் மூலம்

d) இவை எதுவும் இல்லை

ASSESSING THE KNOWLEDGE AND PREPAREDNESS OF PRIMARY TEACHERS' ON FIRST AID

Research Tool Response Sheets

Name of Teacher :

Name of the School :

Question Booklet No :

50

Q. No	Answer			
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cum. prob	$t_{.50}$	$t_{.75}$	$t_{.80}$	$t_{.85}$	$t_{.90}$	$t_{.95}$	$t_{.975}$	$t_{.99}$	$t_{.995}$	$t_{.999}$	$t_{.9995}$
one-tail	**0.50**	**0.25**	**0.20**	**0.15**	**0.10**	**0.05**	**0.025**	**0.01**	**0.005**	**0.001**	**0.0005**
two-tails	**1.00**	**0.50**	**0.40**	**0.30**	**0.20**	**0.10**	**0.05**	**0.02**	**0.01**	**0.002**	**0.001**
df											
1	0.000	1.000	1.376	1.963	3.078	6.314	12.71	31.82	63.66	318.31	636.62
2	0.000	0.816	1.061	1.386	1.886	2.920	4.303	6.965	9.925	22.327	31.599
3	0.000	0.765	0.978	1.250	1.638	2.353	3.182	4.541	5.841	10.215	12.924
4	0.000	0.741	0.941	1.190	1.533	2.132	2.776	3.747	4.604	7.173	8.610
5	0.000	0.727	0.920	1.156	1.476	2.015	2.571	3.365	4.032	5.893	6.869
6	0.000	0.718	0.906	1.134	1.440	1.943	2.447	3.143	3.707	5.208	5.959
7	0.000	0.711	0.896	1.119	1.415	1.895	2.365	2.998	3.499	4.785	5.408
8	0.000	0.706	0.889	1.108	1.397	1.860	2.306	2.896	3.355	4.501	5.041
9	0.000	0.703	0.883	1.100	1.383	1.833	2.262	2.821	3.250	4.297	4.781
10	0.000	0.700	0.879	1.093	1.372	1.812	2.228	2.764	3.169	4.144	4.587
11	0.000	0.697	0.876	1.088	1.363	1.796	2.201	2.718	3.106	4.025	4.437
12	0.000	0.695	0.873	1.083	1.356	1.782	2.179	2.681	3.055	3.930	4.318
13	0.000	0.694	0.870	1.079	1.350	1.771	2.160	2.650	3.012	3.852	4.221
14	0.000	0.692	0.868	1.076	1.345	1.761	2.145	2.624	2.977	3.787	4.140
15	0.000	0.691	0.866	1.074	1.341	1.753	2.131	2.602	2.947	3.733	4.073
16	0.000	0.690	0.865	1.071	1.337	1.746	2.120	2.583	2.921	3.686	4.015
17	0.000	0.689	0.863	1.069	1.333	1.740	2.110	2.567	2.898	3.646	3.965
18	0.000	0.688	0.862	1.067	1.330	1.734	2.101	2.552	2.878	3.610	3.922
19	0.000	0.688	0.861	1.066	1.328	1.729	2.093	2.539	2.861	3.579	3.883
20	0.000	0.687	0.860	1.064	1.325	1.725	2.086	2.528	2.845	3.552	3.850
21	0.000	0.686	0.859	1.063	1.323	1.721	2.080	2.518	2.831	3.527	3.819
22	0.000	0.686	0.858	1.061	1.321	1.717	2.074	2.508	2.819	3.505	3.792
23	0.000	0.685	0.858	1.060	1.319	1.714	2.069	2.500	2.807	3.485	3.768
24	0.000	0.685	0.857	1.059	1.318	1.711	2.064	2.492	2.797	3.467	3.745
25	0.000	0.684	0.856	1.058	1.316	1.708	2.060	2.485	2.787	3.450	3.725
26	0.000	0.684	0.856	1.058	1.315	1.706	2.056	2.479	2.779	3.435	3.707
27	0.000	0.684	0.855	1.057	1.314	1.703	2.052	2.473	2.771	3.421	3.690
28	0.000	0.683	0.855	1.056	1.313	1.701	2.048	2.467	2.763	3.408	3.674
29	0.000	0.683	0.854	1.055	1.311	1.699	2.045	2.462	2.756	3.396	3.659
30	0.000	0.683	0.854	1.055	1.310	1.697	2.042	2.457	2.750	3.385	3.646
40	0.000	0.681	0.851	1.050	1.303	1.684	2.021	2.423	2.704	3.307	3.551
60	0.000	0.679	0.848	1.045	1.296	1.671	2.000	2.390	2.660	3.232	3.460
80	0.000	0.678	0.846	1.043	1.292	1.664	1.990	2.374	2.639	3.195	3.416
100	0.000	0.677	0.845	1.042	1.290	1.660	1.984	2.364	2.626	3.174	3.390
1000	0.000	0.675	0.842	1.037	1.282	1.646	1.962	2.330	2.581	3.098	3.300
z	0.000	0.674	0.842	1.036	1.282	1.645	1.960	2.326	2.576	3.090	3.291
	0%	50%	60%	70%	80%	90%	95%	98%	99%	99.8%	99.9%
	Confidence Level										