

**EFFECTIVENESS OF AUDIO TAPED INSTRUCTION  
ON KNOWLEDGE OF SAFETY MEASURES AMONG  
VISUALLY CHALLENGED CHILDREN AT SELECTED BLIND  
SCHOOL IN MADURAI**

**M.Sc (NURSING) DEGREE EXAMINATION  
BRANCH – IV COMMUNITY HEALTH NURSING  
COLLEGE OF NURSING  
MADURAI MEDICAL COLLEGE, MADURAI – 20**



*A dissertation submitted to*  
**THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY,  
CHENNAI – 600 032.**

*Inpartial fulfillment of requirement for the degree of*  
**MASTER OF SCIENCE IN NURSING**

**MAY – 2013**

**“EFFECTIVENESS OF AUDIO TAPED INSTRUCTION  
ON KNOWLEDGE OF SAFETY MEASURES AMONG  
VISUALLY CHALLENGED CHILDREN AT SELECTED BLIND  
SCHOOL IN MADURAI”**

*Approved by Dissertation committee on.....*

Expert in Nursing Research \_\_\_\_\_  
**Mrs. S. POONGUZHALI, M.Sc (N), M.A, M.B.A, Ph.D.,**  
Principal I/C,  
College of Nursing,  
Madurai Medical College, Madurai-20

Expert Speciality guide \_\_\_\_\_  
**Mrs. ALPHONSA MASCHRENAS, M.Sc (N),**  
Reader in Nursing  
Department of Obstetrics and Gynaecology  
College of Nursing,  
Madurai Medical College  
Madurai.

Medical Expert \_\_\_\_\_  
**Dr. SELVAKUMARI, M.B.B.S., D.P.H**  
Department of Preventive and Social Medicine  
Madurai Medical College  
Madurai.

*A dissertation submitted to*  
**THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY,**  
**CHENNAI- 600 032.**

*In partial fulfillment of the requirement for the degree of*  
**MASTER OF SCIENCE IN NURSING**

**MAY – 2013**

## **CERTIFICATE**

This is to certify that this dissertation titled, **“EFFECTIVENESS OF AUDIO TAPED INSTRUCTION ON KNOWLEDGE OF SAFETY MEASURES AMONG VISUALLY CHALLENGED CHILDREN AT SELECTED BLIND SCHOOL IN MADURAI”** Is a bonafide work done by **Mrs.R.K.Sathya.**, College of Nursing, Madurai Medical College, Madurai - 20, submitted to the Tamilnadu Dr.M.G.R. Medical University, Chennai in partial fulfillment of the university rules and regulations towards the award of the degree of Master of Science in Nursing, Branch IV, Community health Nursing Under our guidance and supervision during the academic period from 2011 – 2013

**Mrs. S. POONGUZHALI M.Sc (N),M.A, M.B.A, Ph.D**

Principal I/C,  
College of Nursing,  
Madurai Medical College,  
Madurai-20

**Dr.N.MOHAN M.S F.I.C.S. F.A.I.S**

Dean,  
Madurai Medical College,  
Madurai-20

## ACKNOWLEDGEMENT

I consider it as a privilege to express my gratitude and respect to all those who guided and inspired me in the completion of this project. The satisfaction and pleasure that accompany the successful completion of any task would be incomplete without mentioning the people who made it possible. Whose constant guidance and encouragement rewards any effort with success.

First of all I thank my **ALMIGHTY** with reverence and sincerity for his heavenly choicest blessings and abundant grace, which strengthened me in each and every step throughout this endeavor.

I would like to express my deep and sincere gratitude to our **Dean Dr. N. Mohan, M.S., F.I.C.S., F.A.I.S., Madurai Medical College, Madurai**, for granting me permission to conduct the study in this esteemed institution.

My sincere thanks to our **Principal Incharge cum Research Guide Mrs. S. Poonguzhali M.Sc.,(N), M.A, M.B.A., Ph.D., College of Nursing, Madurai Medical College, Madurai** for granting me permission to conduct the research and for providing the required facilities and opportunities for the successful completion of this research. I also thank her for having guided me in each and every step towards the completion of my study.

I extend my heartfelt and faithful thanks to my research cum clinical Specialty Guide **Mrs. Alphonsa Maschrenas M.Sc (N), Head of the Department in Obstetrics and Gynecological Nursing, College of Nursing, Madurai Medical College, Madurai** for her effortless hard work, interest and sincerity to mould this study in a successful way and has given her inspiration, encouragement and laid strong foundation in research. It is very essential to

mention that her wisdom and helping tendency has made my research a lively and everlasting one.

My deep sense of gratitude to **Dr. Selva Kumari M.B.B.S., D.P.H.**, Professor and Head of the Department, Preventive and Social Medicine, Madurai Medical College, Madurai for giving permissions and for her valuable suggestions and guidance to complete this study

I thank **all faculties of college of nursing Madurai Medical College**, Madurai for their guidance and support for the completion of my study.

My sincere thanks to our **Former Principal, Ms.Jenette Fernandes M.Sc.,(N), College of Nursing, Madurai Medical College Madurai** for granting permission to conduct the research and for providing the required facilities for successful completion of this research.

This is my privilege to record my deep sense of gratitude and faithful thanks to **Mrs.S.Jahitha M.Sc (N), Lecturer in Community Health Nursing, College of Nursing, Madurai Medical College, Madurai.** for her support, constant encouragement and valuable suggestions which helped in the fruitful outcome of this study.

I wish to express my sincere thanks to **Mr.Mani (Bio Statistician)** for extending necessary guidance for statistical analysis.

I express my thanks to **Mr.Kalaiselven, M.A, Librarian, College of Nursing, Madurai Medical College, Madurai.**

My deepest gratitude to my lovable Parents **Mr.R.Kalimuthu Retd.B.H.S., Mrs.M.Shanthy S.H.N., and my beloved brother**

**Mr. K. Jawahar raj M.Tech.**, who have been the backbone of all my endeavors.

I am greatly indebted to my beloved husband **Mr. A. Saravanan** for his support in bringing out the script of audio very effectively.

I express my deep felt thanks to all **Visually Challenged Children** at Indian Association of Blind in Madurai for their hearty willingness to participate in this study and also for their cooperation to complete this study.

It is My great privilege to thank all my roommates **Ms.Subashree, Ms.Saranya, Ms.Manju and Ms.Rose Infantina** for their cooperation and support in completing this study.

I also express my heartfelt thanks to **Mr. P.Srinivasan, Mrs.G.Selvarani, Mrs.P.Tamilselvi, Mrs.V.Sheela** and all other classmates for having spent their valuable time and energy in giving guidance towards completion of my study.

I owe my great sense of gratitude to **Mr.R.Rajkumar B.Com Sai graphics, and Mr.Samsudeen City Xerox** for their enthusiastic help and sincere effort in typing the manuscript with much valuable computer skills which helped me to complete this study.

I Thank the **faculties of laser point** for having printed and binded my thesis book effectively.

## ABSTRACT

A Study to evaluate the effectiveness of audio taped instruction on knowledge of safety measures among visually challenged children at selected blind school in Madurai.

Visual impairment can be defined as any chronic visual deficit that impairs everyday function and is not corrected by conventional means, such as refractive correction, medication, or surgery. Assistive Technology can be very useful in improving the quality of life of a partially or totally blind individual. The main **objectives** of this study were to evaluate the effectiveness of Audio taped instruction on Knowledge of Safety measures among visually challenged children regarding safety measures and to associate the posttest knowledge scores regarding safety measures among visually challenged children with selected baseline variables. . The investigator adopted general system theory (**Ludwig Von Bertalanffy, 1968**) for developing the **Conceptual Framework**. Quantitative Research approach with **Pre Experimental Design- One Group Pre Test Post Test Design** was selected for this study. **Variables** of the study were **Base line variable** (Age, Sex, Educational Status) **Independent variable** (Audio taped instruction) **Dependent variable** (Knowledge on safety measures). **Purposive Sample** of 60 samples were taken for the study at Indian Association of Blind. The group was assessed with the **Structured questionnaire** through interview schedule and audio taped instruction was played for 15 minutes (10 days) then post test was done with the same tool. **Results:** Descriptive and Inferential Statistics were used to test the hypothesis. The Findings revealed that there was significant increase in Knowledge after intervention which was confirmed by Paired 't' test( $t = 54.20$  and  $P < .001$ ). Highly Significant association was noted between post test score of Knowledge and Educational status of visually challenged children at  $0.01^{**}$  level of significance. **Conclusion:** The findings revealed that there was a significant increase in knowledge after audio taped intervention regarding safety measures. Thus, the intervention has improved the Knowledge of visually challenged Children effectively.

## TABLE OF CONTENTS

<b>CHAPTER NO</b>	<b>TITLE</b>	<b>PAGE</b>
1.	<b>INTRODUCTION</b>	
	1.1 Need for the study	5
	1.2 Statement of the problem	7
	1.3 Objectives	7
	1.4 Hypotheses	8
	1.5 Operational definitions	8
	1.6. Assumptions	9
	1.7 Delimitations	9
	1.8 Projected Outcome	9
2.	<b>REVIEW OF LITERATURE</b>	
	<b>2.1</b> Literature reviews related to benefits of audio for School children.	11
	<b>2.2</b> Literature reviews related to benefits of audio for visually challenged children.	13
	<b>2.3</b> Literature reviews related to safety measures of visually challenged children.	16
3.	<b>RESEARCH METHODOLOGY</b>	
	3.1 Research approach	24
	3.2 Research design	24
	3.3 Variables	25
	3.4 Setting of the study	25
	3.5 Population	26
	3.6 Sample	26
	3.7 Sample size	26
	3.8 Sampling technique	26
	3.9 Sampling Criteria	26



<b>CHAPTER NO</b>	<b>TITLE</b>	<b>PAGE</b>
	3.10 Development and Description of the tool	27
	3.11 Scoring Key	27
	3.12 Testing of the tool	28
	3.13 Protection of Human Rights	28
	3.14 Pilot Study	28
	3.15 Data Collection Procedure	29
	3.16 Plan for Data Analysis	30
	3.17 Schematic Representation of the study	31
4.	<b>DATA ANALYSIS AND INTERPRETATION</b>	32
5.	<b>DISCUSSION</b>	49
6.	<b>SUMMARY AND CONCLUSION</b>	
	6.1 Summary	52
	6.2 Conclusion	54
	6.3 Implication of the study	55
	6.4 Recommendations	56
	<b>BIBLIOGRAPHY</b>	57
	<b>APPENDICES</b>	61

## LIST OF TABLES

<b>TABLE NO</b>	<b>TITLE</b>	<b>PAGE NO</b>
1	Frequency and percentage distribution of base line variables	34
2	Frequency and Percentage distribution of pre test and post test level of knowledge on safety measures among visually challenged children	42
3	Mean, S.D and Mean% of Knowledge on safety measures	44
4	Effectiveness of audio taped instruction on knowledge of safety measures among visually challenged children	45
5	Association between post test level of knowledge and selected Baseline variables	46

## LIST OF FIGURES

<b>FIGURE NO</b>	<b>TITLE</b>	<b>PAGE NO</b>
1	Conceptual framework	23
2	Percentage Distribution of Sample according to Age	37
3	Percentage Distribution of Sample according to sex	38
4	Percentage Distribution of Sample according to Educational Status	39
5	Percentage Distribution of Sample according to Onset of Visual Impairment	40
6	Percentage Distribution of Sample according to Family History of Visual Impairment	41
7	Comparison of Pre test and Post test level of Knowledge	43

## LIST OF APPENDICES

APPENDIX	TITLE
A	Questionnaire
B	Letter seeking permission to conduct the study at Indian Association of Blind
C	Ethical committee approval to conduct the study
D	Content Validity
E	Consent form
F	Script of Audio
G	Photographs

# *Introduction*



www.shutterstock.com · 250501

# CHAPTER-I

## INTRODUCTION

*“There is no better way to thank God  
For your sight than by giving a  
Helping hand to someone in the dark”*

*- Helen Keller*

Visual impairment can be defined as any chronic visual deficit that impairs everyday function and is not corrected by conventional means, such as refractive correction, medication, or surgery. The causes of visual impairment include prematurity, congenital syndromes and childbirth complications. It can also occur in late childhood due to meningitis, brain injury or inherited conditions. (WHO 1992). This functional loss of vision is typically defined to manifest with best corrected visual acuity of less than 20/60, or significant central field defect, significant peripheral field defect including homonymous or heteronymous bilateral visual field defect or generalized contraction or constriction of field, or reduced peak contrast sensitivity with either of the above conditions. In the United States, the terms "partially sighted", "low vision", "legally blind" and "totally blind" are used by schools, colleges, and other educational institutions to describe students with visual impairments. They are defined as follows:

*Partially sighted* indicates some type of visual problem, with a need of person to receive special education in some cases; *Low vision* generally refers to a severe visual impairment, not necessarily limited to distance vision. Low vision applies to all individuals with sight who are unable to read the newspaper at a normal viewing distance, even with the aid of eyeglasses or contact lenses. They use a combination of vision and other senses to learn, although they may require adaptations in lighting or the size of print, and,

sometimes, Braille; *Myopic* - unable to see distant objects clearly, commonly called near-sighted or short-sighted *Hyperopic* - unable to see close objects clearly, commonly called far-sighted or long-sighted.

*Legally blind* indicates that a person has less than 20/200 vision in the better eye after best correction (contact lenses or glasses), or a field of vision of less than 20 degrees in the better eye; and *Totally blind* students learn via Braille or other non-visual media.

Some startling statistics states, 285 million people are visually impaired worldwide- 39 million are blind and 246 million have low vision; cataracts represent 48 percent of world blindness; 60 percent of children in developing countries die within a year of going blind; 153 million people are functionally blind because they can't afford spectacles. WHO (2009)

All children goes through different development stages that have their own opportunities and obstacles, but visually impaired children face additional challenges, and difficulties like face co-ordination, emotional stress, difficulty in learning tradition settings and activities of daily living. The visually impaired persons may lack in the incidental experiences, therefore they need successive interactions with basic experiences and suggestions to arrive at the desired level of grasping the concept. For a visually impaired child, one has to put the learning activities in such an order that the desired learning concepts cannot get affected.

Safety becomes a problem when the child moves outside the home or the day care centre. It is also a problem in schools where the visual impairment may be confusing to a child with low vision and the auditory environment is certainly a problem to both the blind child and the child with the low vision. Supportive devices and technologies have been developed to assist the persons with low vision to perform tasks. Moreover these are cost effective in reducing

the need to provide specialized materials or human interventions (eg.,readers)(WHO 1992).

Over the years, studies in child development, sociology, and special education have enlightened educators to the conclusion that blind children grow, flourish, and achieve greater self and social fulfillment by being nurtured in the least restrictive environment. Visually challenged children can easily assimilate more than 80% of teaching experience in the regular classroom if they are provided with the correct material in the correct form at the correct time. Therefore, provision of the right educational environment will make integration of visually challenged children a reality.

“Human speech is the most powerful and expressive medium the designer has available for use in instructional messages” Speech is naturally expressive, and by varying the qualities of loudness, pitch, pace, and tone, designers can use audio to motivate and inform students. In fact “Audio is so integral as a part of multimedia that most users would recognize its importance only by its absence” Three primary audio elements are used in educational technology—music, speech, and sound effects Through these elements, audio can deliver information, direct attention, convey emotions, and provide feedback.

Students who are visually impaired need a variety of skills to access the general education curriculum and to achieve a maximum level of independence. These Specialized skills known as Expanded core curriculum, which includes.,

- Compensatory Academic Skills
- Daily Living Skills
- Orientation and Mobility
- Social
- Skills
- Self Determination



- Assistive Technology
- Recreation and Leisure

Education must aim at giving the blind child knowledge of the realities around him, the confidence to cope with these realities and the feelings that he is accepted as an individual in his own right. This statement embraces the educational, psychological and social aspects of the visually impaired students' development. Assistive Technology can be very useful in improving the quality of life of a partially or totally blind individual Audio Taped Instruction (ATI) began in 1961 at Purdue University when Postlethwaite was attempting to provide supplementary materials for weaker students in freshman botany. Simple lecture material was made available on a self-study basis through the audiovisual department.

- Audio support-software or hardware that gives information through auditory channel in addition to the primary channel whether it be visual or tactile.
- Text-to-Speech- software that converts digital text into audio. It is implemented in talking programs, like word processors, or is part of read aloud imported text.
- Portable reading devices- Hardware that supports various formats of audio text information may be stored either as audio files on media cards, or as soundtracks on CDs.
- Audio graphic calculator- software or hardware they give students with visual impairments visual and auditory access to graphing capability.

Health education is a widely used term in preventive medicine directed to promote healthy lifestyles. Historically and traditionally, health professionals would define health Education as a *one-way* approach – a sort of information dissemination. Like health education, safety education relied on the techniques of formal education under which most professionals have been trained

especially for visual impairment that are more in care to receive this education to lead their life healthy and acceptance from the world.

## **1.1. NEED FOR THE STUDY**

### **Global Scenario of Blindness:**

Every five seconds a person in our world becomes blind. The reasons include lack of sufficient medical facilities, access to such facilities, high costs of treatment, low levels of literacy, lack of awareness, and rather poor prevention work for eye diseases like cataracts. W.H.O (2009)

Globally 17% of People are totally blind 24% are legally blind 21% have low vision 17% have cortical vision impairment 21% have other diseases National Consortium on Deaf and Blindness (November 2007)

41%—of the over 1 billion population of India is aged younger than 16 years. The prevalence of blindness among children in India is reported to be five times that reported in other developed countries, with an estimated 210,000 children blind. Blindness and visual impairment in children is now recognized as a priority by blindness control programs including VISION 2020—The Right to Sight initiative. A better understanding of the burden of childhood blindness and ocular morbidity in children is essential for planning effective control measures. Kaariapatti Paediatric Eye Evaluation Project (2007).

Over 90% of world's visually impaired persons are found in developing countries and more than half of whom are in Asia. This may vary from 4 million to 14 million. Preliminary survey of low vision children in Tamilnadu reveals about 4% of school going children require low vision care. W.H.O (1997)

Blind students usually learn how to read and write more slowly than sighted students since much learning, concept development, and detailed

discrimination is a function of sight. However, blind or vision-impaired students must learn by other sensory means; feeling, touching, smelling and listening. Anxiety about survival and safety needs cause shyness, lack of confidence, introversion, and moodiness because they cannot see and imitate others (Janaim,;Kittiwattanakul, 2009)

There are many things that a sighted person takes for granted, like crossing a road with heavy traffic, finding the right bus connection, using a telephone or cooking a meal. Visually challenged people have to develop their own strategies for relating with their environment and replacing one missing major sense. Audio-based interfaces can be used to promote blind children learning and cognition. They also have shown that virtual environments (represented through audio) are a powerful incentive for blind children to develop and train cognitive skills and learning specific content. For instance, when virtual environments are represented through 3D sound interfaces they develop a series of cognitive processes that stimulate the development of general domain skills such as tempo-spatial orientation, abstract and short-term memory, and haptic perception.

Environmental needs and experiences are inextricably linked to social and personal needs. Improving the environment in which a blind or partially sighted individual lives can improve the mental attitude of the person and as they learn to cope this can help social relationships gain strength. Two key themes have arisen from the research: assistance for living in the home and coping with alien environments and access and availability of information.

Bramley et al. (2008) found that vision loss increased the risk of being put into managed care rather than attempts being made to help someone make the transition of adapting to living in a sighted environment in their own home.

During My First year of M.sc Nursing Programme, I had an opportunity to visit Indian Association for Blind located at sundarrajanpatti. At that

instance, I have noticed many visually challenged children who accidentally hit around the corridor, walls and upstairs. It was heart throbbing for me to watch such blooming buds finding difficulty to meet their basic needs (safety) Hence I have developed an instinct at that sight to teach some safety measures to prevent themselves from accidents.

The community health nurse is responsible for identifying and helping the individuals to overcome the difficulties in promoting health. The primordial prevention is used to teach the visually impaired about the safety precautions to prevent themselves from accidents. Health education is the main step in preventive aspect to reach the goal that is health promotion. Hence, the researcher tends to find out the effectiveness of audio taped instruction on knowledge of safety measures among visually challenged children at selected blind school in Madurai.

## **1.2. STATEMENT OF THE PROBLEM**

A Study to evaluate the effectiveness of audio taped instruction on knowledge of safety measures among visually challenged children at selected blind school in Madurai.

## **1.3. OBJECTIVES**

- To assess the knowledge of visually challenged children regarding safety measures.
- To evaluate the effectiveness of audio taped instruction among visually challenged children regarding safety measures.
- To associate the posttest knowledge scores regarding safety measures among visually challenged children with selected baseline variables.

## **1.4. HYPOTHESES**

- H<sub>1</sub>- There will be significant difference in post test knowledge scores after audio taped instruction regarding safety measures among visually challenged children.
- H<sub>2</sub>- There will be significant association between posttest knowledge scores regarding safety measures and selected baseline variables.

## **1.5. OPERATIONAL DEFINITION**

### **Effectiveness:**

It is outcome of knowledge regarding safety measures which will be acquired by the visually challenged children after the audio taped instruction.

### **Audio Taped Instruction:**

It refers to recorded format of solely sound, which is a conversation between three persons on safety precautions that is to be followed like road safety measures, fire safety measures and environmental safety measures for the duration of 15 minutes.

### **Knowledge:**

It refers to verbal response of visually challenged children regarding safety measures as measured by correct responses elicited from listening to audio tapes

### **Safety measures:**

It refers to the security measures which the visually challenged children have to adopt for their protection which includes road safety measures, fire safety measures and environmental safety measures.

### **Visually challenged children:**

It refers to children who have total blindness due to visual impairment residing at Indian Association of Blind in Madurai.

### **Selected Blind School:**

It refers to Organization situated at Sundarajanpatti in Madurai especially for visually challenged children (Indian Association of Blind).

### **1.6.ASSUMPTION**

- Visually challenged children will have less knowledge about safety measures
- Adequate education regarding safety with the help of audio tapes will prevent accidents among visually challenged children.
- Teaching will provide opportunity for active learning among visually challenged children
- Community Health Nurse has an important role to play in health education regarding safety measures.

### **1.7. DELIMITATION**

- The Study was confined to visually challenged children residing at Indian Association for Blind in Madurai.
- The study was restricted to short period of time (Four weeks).
- The study was limited to small number of subjects (60).

### **1.8. PROJECTED OUTCOME**

At the end of the study the children will gain adequate knowledge on safety measures such as, Road Safety measures, Environmental Safety measures and Fire Safety measures.

# *Review of Literature*



## **CHAPTER-II**

### **REVIEW OF LITERATURE**

*“Books are the quietest and most constant of friend ;  
They are the most accessible and wisest of counselors  
And the most patient of teachers”*

The Review of literature entails the systematic identification, reflection, critical analysis and reporting of existing information in relation to the problems of interest. The purpose of review of literature is to obtain comprehensive knowledge and in-depth information about effectiveness of audio taped instruction on knowledge of safety measures among visually challenged children at selected blind schools in Madurai.

This Chapter is divided into two parts:

PART-I : Review of related literature for the study

PART-II : Conceptual Framework

The literatures gathered from extensive review of electronic media were depicted under the following headings.

- 2.1** Literature reviews related to benefits of audio for School children.
- 2.2** Literature reviews related to benefits of audio for visually challenged children.
- 2.3** Literature reviews related to safety measures of visually challenged children.



## PART-I

### REVIEW OF RELATED LITERATURE FOR THE STUDY

#### 2.1. LITERATURE REVIEWS RELATED TO BENEFITS OF AUDIO FOR SCHOOL CHILDREN

**Mudasiru olaler yusuf. (2010)** investigated the effect of video tape and audio tape instruction on student's achievement in junior secondary school social studies, Nigeria. The purpose of this study was to provide visual and audio information concerning drug problems in Nigeria. Quasi Experimental design was selected for the study. The sample consisted of 191 junior secondary school students selected from 3 equivalent secondary schools. Social studies achievement test was administered to the subjects. Results were analyzed using Analysis of covariance which revealed that the students taught using videotape and audio tape performed significantly better than their counterpart.

**Adedapo,Y.A.,and Salawu,I.O.,(2009)** assessed the effectiveness of video and audio taped instructional strategies on cognitive learning outcomes in economics. The purpose of this study was to provide empirical backing on the effects of audio and video taped strategies. Quasi experimental design was selected for the study. 364 subjects were selected from senior secondary school. Economic Achievement Test, Video Tape Operation Guide and Audio Tape Operation Guide were administered to subjects. Postulated hypotheses were tested using Analysis of Covariance. The results showed that there was a significant difference in cognitive achievement test and interest in economics after videotaped strategy followed by audio taped strategy.

**Marie Parker,E. ,and Christine curvy. (2009)** conducted a study to find out whether home based reading with audio model is a significant supplement to literacy instructional program of second language learners. The purpose of this study was to enforce learning around readers who spoke English as second language. The study employed single week reversal design

with 9 subjects and 4 replications. Home based repeated reading of books was compared to home reading of books with audiotapes. Audio tapes and story books were used to provide supplement for oral reading. Fluency and self monitoring behaviors were assessed on weekly basis. Results showed that 5 second language learners developed fluency in speech after home based reading with audio.

**Davies, M.A., and Clark, W.D., (2004)** investigated a study in usage of audio tape and self instructional materials in physiology for their effectiveness and acceptability in pre clinical course. Learning effectiveness was determined by post test- pre test on multiple choice tests. Acceptability was found by specially constructed likert scale. The results revealed that, in 3 out of 4 physiology topics audio tape and self instructional materials were significantly effective methods than conventional method of text books.

**Atkinson., and Thomas Joseph. (2004)** conducted a study to compare the achievement, retention, and time to complete the required sequence of activities, of eighth-grade science students receiving instructions by means of audio tapes with those receiving the same instructions by use of printed materials. The sample was formed of 72 students designated as below average, or above average in reading ability and randomly assigned to two groups. The experimental group received instruction for chapters one through five of the Intermediate Science Curriculum Study (ISCS) Level II by use of audio tapes. The control group used the printed materials. After completing each chapter, a chapter self-test and a chapter test were administered. After the completion of all five chapters, a unit achievement test was administered. Three weeks later, an achievement retention test was administered. The analysis of data revealed that the sum of the means of the experimental group was significantly higher than the sum of the means of the control group on the chapter tests, self-tests, unit test, and retention test.

## **2.2. LITERATURE REVIEWS RELATED TO BENEFITS OF AUDIO FOR VISUALLY CHALLENGED CHILDREN**

**Rahihansa Rajapakse et al.,(2012)** conducted a study on audio user interface for visually impaired computers in 2 Dimensional audio environment. A controlled experiment is conducted between prototype and current solutions. The sample was divided in to two groups, For one group, firstly, the linear application was presented to record performance metrics - time taken, number of errors encountered and number of assistance needed. Then they were presented with the proposed solution for home page description and user questionnaire. The other group was presented only with the proposed solution for the entire evaluation procedure and they have not been exposed to the linear application. By Both qualitative and quantitative approaches have been considered in the evaluation procedureThe results highlighted the significance of audio use in 2D environment with spatial information in the context of visually impaired.

**Sánchez, J., Elía. (2009)** have shown that audio-based interfaces can be used to promote blind children learning and cognition. They also have shown that virtual environments (represented through audio) are a powerful incentive for blind children to develop and train cognitive skills and learning specific content.For instance, when virtual environments are represented through 3D sound interfaces they develop a series of cognitive processes that stimulate the development of general domain skills such as tempo-spatial orientation, abstract and short-term memory, and haptic perception.

**Mariana Julieta Lopez., and Sandra Pauletto.(2009)** presented a design of an audio film for the visually impaired and concluded that it is possible to present a clear storyline or information solely through sound by employing sound effects, sound processing and surround sound to convey information eliminating the need of a narrator.

**Issy Colo-Hamilton. (2008)** has conducted a research study on sex education for children and young people with multiple disabilities through models, audio tapes and videos. Finally they suggested that to develop work on teaching sessions on sex education to children and young people with complex disabilities including visually impaired, working with BBC to develop audio drama and audio CD's to teachers and care takers to establish examples of good practice and disseminate these widely.

**Reginald, G., Golledge James, R., Marston,C., and Michael Costanzo. (2008)** investigated a study to evaluate the a new technology - auditory signage - can help make a city more accessible to a particular disabled group, namely those who are blind, vision impaired. They focused on one auditory signage technology (Talking Signs") and, with the help of the parent company, designed experiments: to determine if the Talking Sign" (TS") technology could be effectively used by blind or vision impaired travelers; to evaluate whether that signs could be used in such a way as to improve their mobility skills and the ease with which they identified and used local bus transit; . The first set of tasks involved comparing path following ability of subjects when using TS" technology as opposed to their usual mobility aid (e.g. guide dog, long cane, and echo location). The second experiment tested whether they could identify, find and board specific buses. Again a comparison was made between performance with and without the use of Talking signs technology. Results showed an overwhelming increase in performance on all tasks when auditory signage was used.

**UNICEF.(2008)** has released a booklet on menstrual hygiene management along with audio CD's which is the most important method of teaching visually challenged adolescent girls because menstrual hygiene is a big issue and its management is seen as empowering them with knowledge which enhances their self-esteem and academic performance.( Sreeraman, 2008)

**Thomas Gaudy., Stephane Natkin., and Dominique. (2007)** investigated whether audio games were accessible to visually impaired people. The purpose of this study was to understand how visually impaired people can easily master new accessible audio games. The subjects selected were two group of teenagers. Usability tests were used as instrument. Results were encouraging that, players in the verbal zone managed to play with the help of audio game.

**Flores. (2004)** found out that mathematics can be learnt effectively by visually impaired children through audio. The purpose of this study was to enhance learning and cognition of children with visual disabilities with the help of audio. The Study was conducted with 10 children in Santiago blind school. The instruments used for the study were immediate audio memory test, evaluation of mathematics test and usability evaluation test for end users. The results revealed that sound can be a powerful source to develop, enhance memory and mathematics learning in blind children.

**Jaime Sánchez., and Miguel Elías. (2004)** presented an Audio Link, an interactive audio-based virtual environment for children with visual disabilities to support their learning of science. AudioLink is a Role-Playing Game (RPG) for learning science concepts and scientific reasoning through audio. They analyzed how blind learners can learn science using audio as the main input/output interface and how to develop a challenging and engaging software. The usability of this software and a preliminary study of the cognitive impact were also evaluated. Results indicated that users considered the software was appealing, challenging and encouraging as a science learning tool. AudioLink promoted a free and independent interaction at the users' own paces.

**Issy colo-hamilton. (2004)** has conducted a research study on sex education for children and young people with multiple disabilities through models, audio tapes and videos. Finally they suggested that to develop work on teaching sessions on sex education to children and young people with complex

disabilities including visually impaired, working with BBC to develop audio drama and audio CD's to teachers and care takers to establish examples of good practice and disseminate these widely.

**Mavis Mayo .(1988)** has done a project called the Development Through Radio Project (DTRP) to show how radio has been used with rural women to communicate developmental information regarding hygiene and other issues.

### **2.3. LITERATURE REVIEWS RELATED TO SAFETY MEASURES OF VISUALLY CHALLENGED CHILDREN**

**Källstrand-Ericson et al., (2009)** stated that, Vision impairment can be an independent risk factor but can also occur in combination with intrinsic and extrinsic risk factor such as bad lighting, balance problem, improper footwear.

**Bramley et al., (2008)** found that vision loss due to glaucoma significantly increased risk of falls and/or accidents and injury in the home and there was a direct cost burden of blindness during the first year of managed care.

**Frick et al., (2008)** stated that Help making the home a safer place (e.g. labelling containers, to include cleaning products and prescribed medication, etc.) and allow an individual greater freedom and independence in living (Beer et al., 2006) improving their quality of life.

**Pey, Nzegwu and Dooley. (2007)** investigated that, Providing assistance would allow more partially sighted individuals to assert their independence and become more self sufficient which could improve their personal well-being. The issue of mobility is a key area highlighted by research commissioned by Guide Dogs. In this study, functionality of the blind and needs of 1,428 blind partially sighted adults were studied. over a quarter (27%) of interviewees were not experiencing the minimum acceptable levels of

mobility. The authors found evidence that there was a significant relationship between mobility, independence and well-being. Forty-eight per cent of respondents said they had some difficulty in going out by themselves. Thirty-eight per cent had received mobility training (e.g. long cane training) yet the need for further follow-up training was high.

**Freeman et al., (2006)** found out that, reduction in the ability to detect weak contrasts, to distinguish between changes in surface, to judge distance, and to perceive the relationship between objects and persons in the environment, is associated with this type of fall.

Visually impaired people are not generally able to read the fire escape instructions provided in most buildings, as these are often in very small type faces. Suitable instructions should be made available in Braille, large print or on audio-tape. It can be useful to provide a tactile map of the escape routes and to provide orientation training to visually impaired staff working in the building, so that they are more aware of the options for escape **Scotland Act. (2005)**.

**Ecosse L. Lamoreux et al.,(2005)** researched the associations of visual impairment and the main causes of vision loss with falls in an older Asian population. The population-based Singapore Malay Eye Study examined 3280 Malay adults were taken Presenting visual acuity was measured. The results revealed that,Of the 3280 participants, 3266 (99.6%) provided information about falls. Of these, 14.7% ( $n = 480$ ) reported having fallen in the past 12 months. It showed that severe visual impairment in the worse eye significantly increased the risk of falling. Severe visual impairment in one eye and mild or moderate visual impairment in the other also doubled the risk of falls.

**The Audit Commission. (2005)** reported that, Assistance regarding safety is also a need evident in research . 190,000 blind and partially sighted people were admitted to hospital as a consequence of falls.

**Joan McCormack., Morag MacKay., and Jayne Pivik. (2002)** investigated the effectiveness of virtual reality for pedestrian blind safety. Sixty percent to 70% of pedestrian injuries in children under the age of 10 years are the result of the child either improperly crossing intersections or dashing out in the street between intersections. The purpose of this study was to evaluate a desktop virtual reality program to educate and train children to safely cross intersections. Following focus groups with a number of key experts, a virtual city with eight interactive intersections was developed. Ninety-five children participated in a community trial from two schools (urban and suburban). Approximately half were assigned to a control group who received an unrelated Virtual reality program, and half received the pedestrian safety intervention. Children were identified by group and grade by colored tags on their backpacks, and actual street crossing behavior of all children was observed 1 week before and 1 week after the interventions. There was a significant change in performance after three trials with the Virtual Reality intervention. Children learnt safe street crossing within the virtual environment.

**Dodds, A. G., and Flannigan, H.(1999)** stated Blind or visually impaired people are faced with many challenges, the main aspect is personal safety. Interaction with an environment one cannot see creates potential health and safety hazards. As a result, blind or visually impaired people are at increased risk of injury and death in the event of a fire. Depending on the severity of vision loss, they may be more likely to ignite a fire accidentally through common household activities, while they are less likely to extinguish or escape one. Further, a blind or visually impaired individual is highly vulnerable to sustaining burns by attempting to suppress a small fire.

Sixty percent (60.6%) of blind survey respondents, and one-third (32.8%) of low vision respondents frequently encounter intrusions into the path of travel. The most common obstacles were sidewalks in poor condition, street furniture and signs, construction sites and scaffolding, protruding steps and



street trees, and vehicles blocking the sidewalk. **Blind and low vision project. (1999)**

**Sánchez, J.H., and Oyarzún, C. A. (1999)** introduced AudioTransantiago for visually challenged. A handheld application that allows users to plan trips and provide contextual information during the journey through the use of synthesized voices. The usability and cognitive evaluation of AudioTransantiago was performed using a prototype evaluation in order to identify and solve usability issues, ending up with an intuitive and simple interface. Finally, a cognitive impact evaluation was administered during bus trips taken with the assistance of AudioTransantiago demonstrated that the software provides more autonomy and effectiveness for users' trips, improving their orientation and mobility.

## **PART-II**

### **CONCEPTUAL FRAME WORK**

The conceptual framework for research study serves as a measure on which the purpose of the study is based. It also serves as a springboard for theory development. The framework provides the prospective from which the researcher views the problem under investigation. The Study was based on the concept that audio taped instruction improves the knowledge of visually challenged children regarding safety measures. The investigator adopted general system theory (Ludwig Von Bertalanffy, 1968) for developing the conceptual framework.

According to general system theory, system is a set of interacting parts in a boundary which makes the system to work well for achieving its overall objectives.

General system theory is useful in breaking the whole process into essential task to assure goal realization. The number of parts of the system is totally dependent on what is needed to accomplish the goal or purpose. The goal is necessary for any system to function. Another development which is closely connected with system theory is that of the modern theory of communication. The general notion in communication theory is that of information. The aim of this study was to improve the Knowledge of Visually Challenged Children regarding safety measures.

Bertalanffy explained that the system has four major concepts.

- Input
- Throughput
- Output
- Feedback

## **INPUT**

According to theorist, input refers to the types of information that enters into the system from the environment through its boundaries. In many cases, the flow of information corresponds to a flow of energy, e.g. if light waves emitted by some objects reach the eye or a photoelectric cell, elicit some reaction of the organism or some machinery, and thus convey information.

In this study, the input includes Age, Sex, Educational Status, Residence, Onset of Visual Impairment, Assistive Devices for reading, Special Curriculum Requirements and Family History of Visual Impairment. It includes Assessment of Knowledge of visually challenged children regarding safety measures by through pre test and preparation for audio taped instruction for 15 minutes regarding Road Safety, Fire Safety and Environmental safety measures.

## **THROUGHPUT**

Throughput is the operational phase. It is the process that allows the input to be transformed to the output.

In this study, It is the transformation of knowledge of visually challenged children regarding safety measures that is acquired after administration of audio taped instruction for 30 minutes on Road Safety, Fire Safety and Environmental safety measures.

## **OUTPUT**

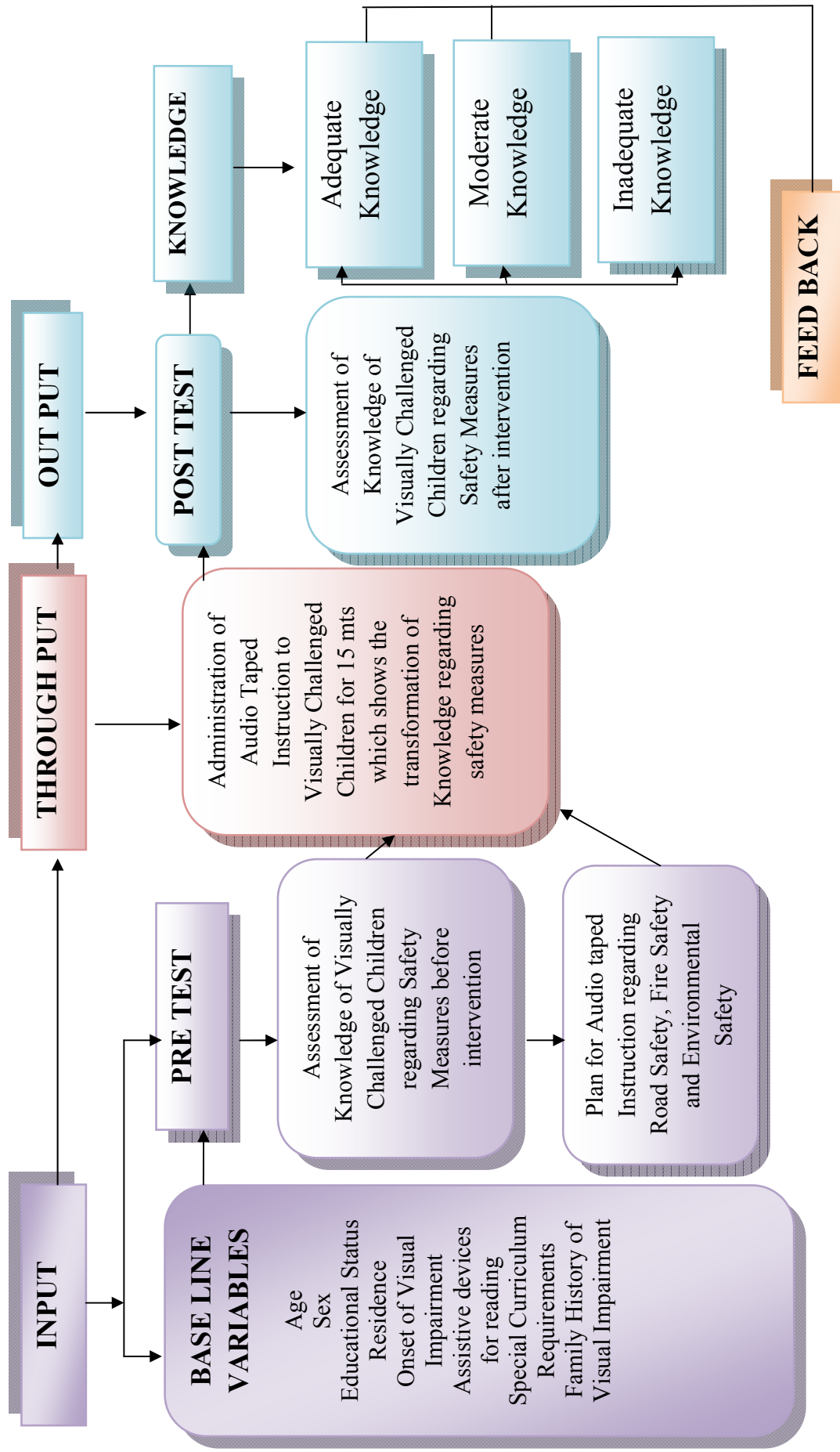
Output is any information that leaves the system and enters to the environment through system boundaries.

It includes assessment of Post test Knowledge regarding safety measures. The Knowledge scores were interpreted as adequate, moderately adequate and inadequate.

## **FEED BACK**

Feedback is the result of knowledge of throughput. It allows the system to monitor its internal function so that it can either increase or restrict its inputs. Feedback arrangements are widely used in modern technology for the stabilization of a certain action, as in thermostats or in radio receivers; or for the direction of actions towards a goal where the aberration from that goal is fed back, as information, till the goal or target is reached.

In this study, it refers to the feedback received after the Post test, which was measured as moderately adequate Knowledge and adequate Knowledge on safety measures.



**Fig-1 MODIFIED LUDWIG VON BERTLANFFY SYSTEM THEORY (1968)**

## **CHAPTER III**

### **METHODOLOGY**

Research Methodology is a pathway by which the researcher intends to solve the research problems systematically. It involves the series of procedures in which the investigator starts from initial identification of the problem to its final conclusion.

This chapter includes research approach, research design, variable, setting, population, sample and sample size, sampling technique, development of the tool, content validity, pilot study, data collection procedure, ethical consideration and plan for data analysis. This study was done to assess the Effectiveness of Audio Taped Instruction on Knowledge of safety measures among visually challenged children at selected blind school in Madurai.

#### **3.1. RESEARCH APPROACH**

Quantitative approach was used in this study.

#### **3.2. RESEARCH DESIGN**

A Researcher's overall plan for obtaining answers to the research questions or for testing the research hypothesis is referred to as the Research design. The Research design selected for the present study was Pre Experimental Study –One Group Pre test Post test Design. Pre experiments involve Manipulation without Randomization and Control Group. The study intended to evaluate the effectiveness of Audio Taped Instruction on knowledge of safety measures among visually challenged children at selected blind school in Madurai. The level of knowledge on safety measures is determined with the structured tool prepared by the investigator and audio taped instruction was given as an intervention on the same topic. To determine the effect of intervention, Post test was done by the researcher.

<b>PRE TEST</b>	<b>INTERVENTION</b>	<b>POSTTEST</b>
<b>O<sub>1</sub></b>	<b>X- AUDIO TAPED INSTRUCTION</b>	<b>O<sub>2</sub></b>

- O1 - Pre test to assess the knowledge of visually challenged children regarding safety measures
- X - Audio Taped Instruction for visually challenged children
- O2 - Post test to assess the knowledge of visually challenged children regarding safety measures

### **3.3. VARIABLES**

Variables included in the study were

**Base line variable -** Age, Sex, Educational Status, Residence, Onset of visual impairment, Use of assistive devices for learning, Special curriculum requirements and Family History.

**Independent variable -** Audio taped instruction

**Dependent variable -** Knowledge on safety measures

### **3.4. SETTING OF THE STUDY**

The study was conducted at Indian Association of Blind in Madurai, which has got Higher Secondary school, Tailoring Institute, Tyre Factory, BPO Centre and a printing centre. It was located at sundarajanpatty in Madurai. The School had separate Special Education Department where 10 Specially Trained Teachers, four assistants and one librarian were working and they provided training and education to special children with Visual Impairment, The total strength of Higher Secondary school was 128 including all types of visual impairment. The school timings were 8.30AM- 3.45 PM. The visually challenged children have to attend regular classes along with that they have to attend Physical Training (P.T) classes between 4-5pm.

### **3.5. POPULATION**

#### **Target population:**

Visually Challenged Children.

#### **Accessible population:**

Visually Challenged Children studying at Indian Association of Blind in sundarrajanpatty.

### **3.6. SAMPLE**

Visually challenged children studying in Indian association of blind who fulfilled the inclusion criteria were included as study samples.

### **3.7. SAMPLE SIZE**

The total sample size was 60 (37 Males and 23 Females)

### **3.8. SAMPLING TECHNIQUE**

Among 128 visually challenged children, 60 samples with total blindness were selected based on Non Probability Sampling Technique- Purposive sampling who visited the library, Playground and cafeteria.

### **3.9. SAMPLING CRITERIA**

The following were the criteria for selection of samples for the study.

#### **Inclusion criteria:**

- Children between 10-20 years of age with Total blindness.
- Children who had good auditory capacity with Total blindness.
- Children who could understand Tamil language with Total blindness.
- Both Male and Female Children with Total blindness.

#### **Exclusion criteria:**

- Children who had chronic illness.
- Mentally challenged children along with visual impairment.
- Children who were absent to the school for long period



### **3.10. DEVELOPEMENT AND DESCRIPTION OF THE TOOL**

The researcher has developed a structured questionnaire to assess the knowledge of visually challenged children regarding safety measures. The data was collected with the Questionnaire through interview schedule, on one to one basis.

The tool consists of following three sections;

#### **Section I :**

##### **Baseline variables**

It has got 9 questions related to personal characteristics of visually challenged children which includes Age, Sex, Educational Status, Residence, Age of Onset of visual impairment, Use of Assistive devices for learning, Special Curriculum Requirements and Family History.

#### **Section II :**

##### **Knowledge on safety measures**

It has got a structured questionnaire with 27 items related to road safety, fire safety and environmental safety.

#### **SECTION - III**

##### **Audio Taped Instruction regarding safety measures**

Administration of Audio Taped Instruction:

The effective use of tapes to deliver materials to students with special needs which is given as a short story that implies measures on road Safety, fire Safety and environmental safety.

### **3.11 SCORING KEY:**

**Section I :** No scoring was allotted for the Baseline variables

#### **Section II:**

Each item has got 4 options. 1 mark is given for all correct responses and 0 mark is given for all wrong responses.

<b>S.NO</b>	<b>Score</b>	<b>INTERPRETATION</b>
1.	19 and Above	Adequate knowledge
2.	10 to 18	Moderate knowledge
3.	9 and Below	Inadequate knowledge

### **3.12 TESTING OF THE TOOL**

#### **VALIDITY:**

The study was validated by 5 experts, including 3 nursing experts and the Director of Department of Preventive and Social Medicine, Madurai Medical College, Madurai. Suggestions were considered. All the experts had given their consensus, and then the tool was finalized.

#### **RELIABILITY:**

Reliability is the degree of consistency that the instrument of the procedure whatever is measuring it does so consistently, after the pilot study, the reliability of the tool was assessed by using split half method and integrator method.  $r$  value is = 0.89.

### **3.13. PROTECTION OF HUMAN SUBJECTS**

After getting permission from the Director, Indian Association of Blind in Madurai, In order to protect the human rights ethical committee approval was obtained on the month of July from Ethical Committee, Madurai medical college, Madurai. Information was given to all the samples about the purpose of the study. Written informed consent was obtained from the samples. The samples had the complete freedom to withdraw from the study for their own reason. No physical or psychological harm was made to the samples.

#### **3.14 PILOT STUDY:**

Before the main study, pilot study was conducted to check the feasibility, practicability, reliability and validity. The pilot study was undertaken from 1.08.2012 to 07.08.2012 at Indian Association of blind for a period of 7 days. Through Purposive sampling, 10 visually challenged children

were selected for the study. Baseline profile was collected from each visually challenged children. A pre test was done with the questionnaire through interview schedule among 10 visually challenged children in the first day. Audio taped instruction was played for 15 minutes for ten students in the same day. Post test was done using the same tool in the seventh day. Data collected was analyzed and tabulated using descriptive and inferential statistical methods and results showed that there was significant improvement in knowledge on safety measures among visually challenged Children. Hence the investigator tends to conduct the main study.

### **FINDINGS OF THE PILOT STUDY**

Pilot study suggested that 70% of the students had inadequate knowledge and 30% of the students had moderate knowledge on safety measures in pre test. In Post test 10% of the students had moderate knowledge and 90% of the students had adequate knowledge Findings of the pilot study revealed that the Study was feasible and practicable, methodology was appropriate and Tool was adequate.

### **3.15 DATA COLLECTION PROCEDURE**

The main study was conducted from 16.08.2012 to 15.09.12 at Indian Association of Blind in Madurai. The formal permission was obtained from the Director of Indian Association of Blind in Madurai. In the Higher Secondary school, Pre Screening was done with the help of medical records, Totally Blind Children (60 samples) were selected those who satisfied the inclusion criteria with the use of Purposive sampling.

A brief self introduction was given to the samples followed by a detailed explanation regarding the purpose of the study and written consent was obtained from each sample giving assurance of confidentiality. With the use of interview method the Base line variables were collected. The data was collected for a period of 4 weeks. A pre- test was done using the questionnaire through interview schedule regarding knowledge of safety measures like road

safety, transportation safety, environmental safety and fire safety for 15 students who visited the library in the first day and for another 15 students who visited the library in the second day. During the third day, data was collected from 15 students who came to the play ground. In the Fourth day, Pre test was done for another 15 students who visited the cafeteria. Then the intervention audio taped instruction was played for all 60 samples for about 15 minutes as per allotted time for 10 days to children in a common library. After 10 days of gap, Post test was conducted using the same questionnaire through interview schedule for all the students in a same day.

### **3.16 PLAN FOR DATA ANALYSIS**

Data was analyzed using both descriptive and inferential statistics. Tests used in this study were,

#### **Descriptive Statistics:**

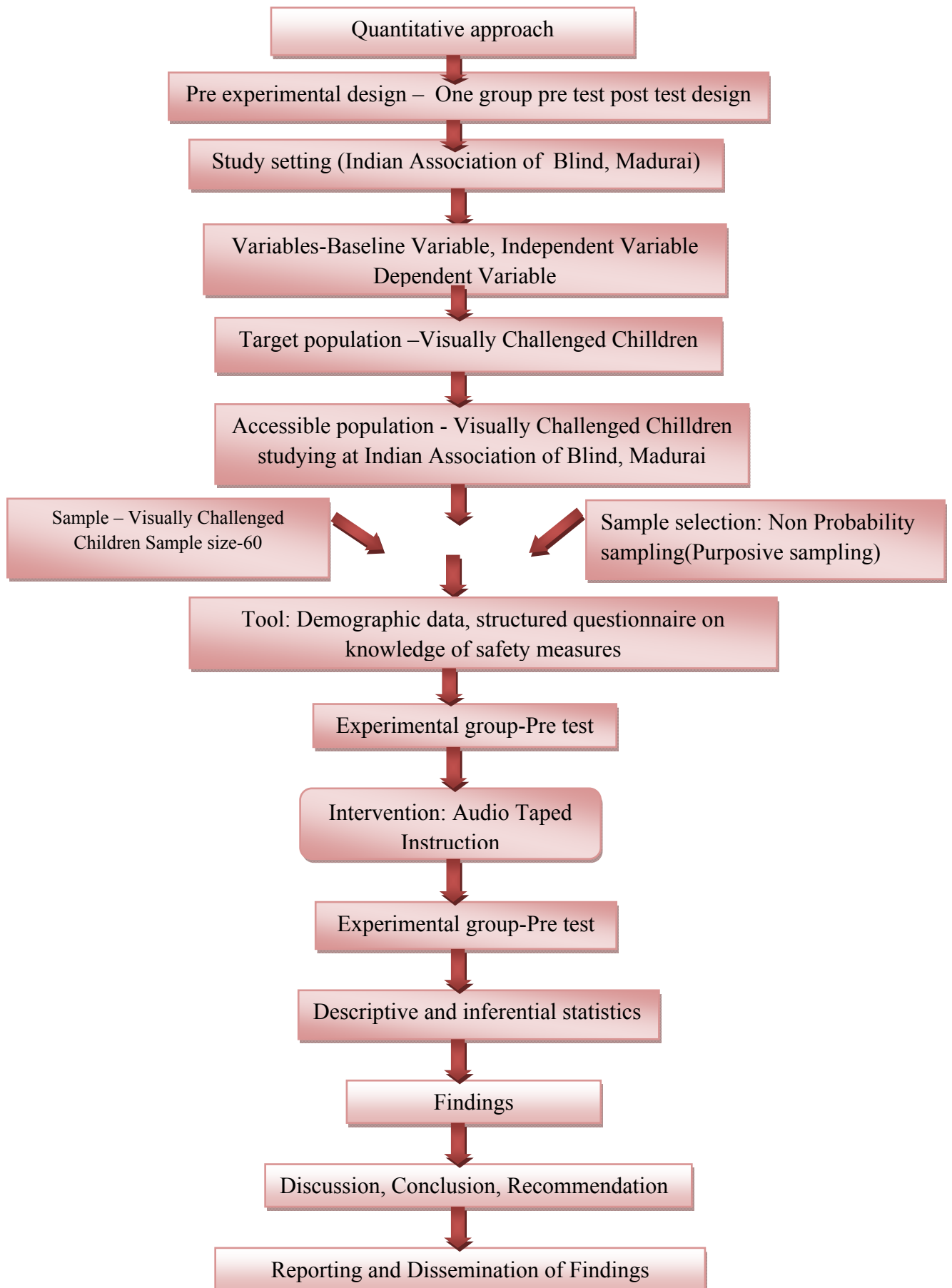
Frequency, Percentage distribution, Standard deviation, mean and mean percentage for analyzing base line variables and comparing pre and post test knowledge.

#### **Inferential Statistics:**

Paired 't' test was used to find out the effectiveness of audio taped instruction on knowledge of safety measures.

Chi square test was used to find out the association between base line variables and Post test Knowledge.

### 3.17. SCHEMATIC REPRESENTATION OF RESEARCH STUDY



# *Data Analysis And Interpretation*



## **CHAPTER IV**

### **DATA ANALYSIS AND INTERPRETATION**

Polit (2004) states that statistical analysis is a method of rendering quantitative information that elicits meaningful and intelligible form to research data. This chapter deals the analysis and interpretation of the data collected from 60 visually challenged children at selected blind school in Madurai. Collected data were statistically analyzed by the researcher to summarize, organize, evaluate, interpret and communicate numeric information. The collected data deals with Baseline variables, pre and post assessment of Knowledge regarding safety among visually challenged children. The data analyzed were tabulated and presented according to the objectives of the study.

#### **OBJECTIVES OF THE STUDY**

- To assess the knowledge of visually challenged children regarding safety measures.
- To evaluate the effectiveness of audio taped instruction among visually challenged children regarding safety measures.
- To associate the posttest Knowledge scores regarding safety measures among visually challenged children with selected Baseline variables.

#### **ORGANIZATION OF THE DATA**

The collected data was organized under the following sections.

#### **SECTION I :**

##### **Baseline variables**

Description about Baseline variables of visually challenged children which includes Age, Sex, Educational Status, Residence, Age of Onset of visual impairment, Use of Assistive devices for learning, Special Curriculum Requirements and Family History of visual impairment.

**SECTION II :**

Description about level of knowledge comparing pre test and post test.

**SECTION – III:**

Description about effectiveness of audio taped instruction on knowledge of safety measures.

**SECTION – IV:**

Description about association between Post test Knowledge and Selected base line variables.



**SECTION I**  
**DESCRIPTION ABOUT BASELINE VARIABLES**

**TABLE : 1**

Frequency and percentage distribution of base line variables

(n=60)

<b>S.No</b>	<b>Baseline variables</b>	<b>Frequency(n)</b>	<b>Percentage(%)</b>
1.	<b>Age</b> a . 10-12 yrs b. 13-15 yrs c. 16-18 years	6 11 43	10 18 72
2.	<b>Sex :</b> a. Male b. Female	37 23	62 38
3.	<b>Educational status:</b> a. VIth –VIIth std b. VIIIth&IXthStd c. IXth&XthStd d. XIth& XII thStd	8 8 11 33	13 13 18 56
4.	<b>Residence:</b> a. Hostel b. Day scholar	58 2	97 3
5.	<b>Onset of visual impairment:</b> a At birth b 0-1 year c 1-3 years d 3-5 years e 6-12 years	46 3 2 5 4	77 5 3 8 7

6.	<b>Assistive devices for reading:</b> a. Spectacles, Löw vision device, Braille b. None	43 17	72 28
7.	<b>Special curriculum requirement:</b> a. Auditory training b. Braille training c. Perceptual training d. Training with the low device e. None	34 25 - 1 -	57 42 - 2 -
8.	<b>Family History of visual impairment:</b> a. Yes b. No	23 37	38 62
9.	<b>visual impairment is present for:</b> a. Mothers b. Father c. sibling d. None	1 4 20 35	2 7 33 58

The above table represents the baseline profile of the subjects. Among 60 visually challenged children, 72% of the subjects were between 16-18 years, 18% of them were between 13-15 years and 10% of them were between 10-12 years. Moreover 97% of them were hostellers and 3% of them were days scholars.

Based on gender perspective, 62% of the subjects were males and 38% of them were females.

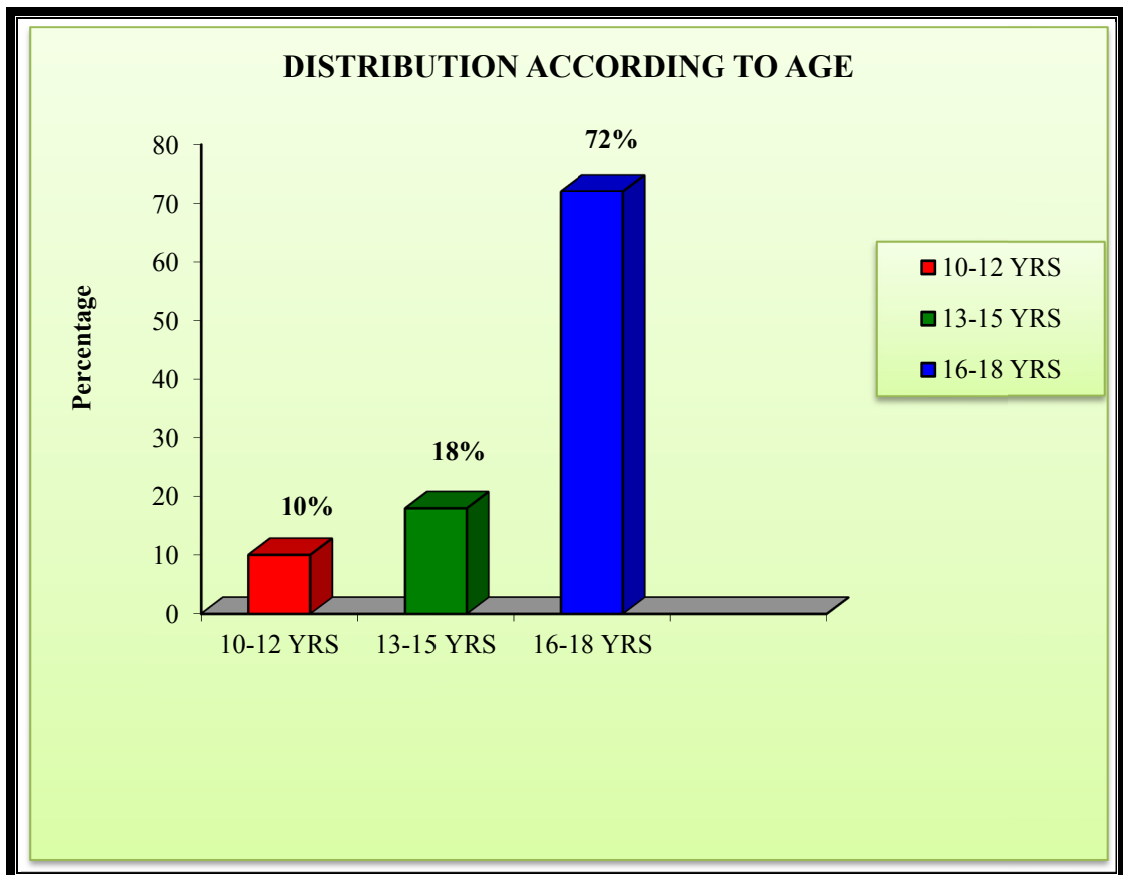
Taking in to account of Educational Status, 13% of the subjects were studying VI and VII Std, 18% of the subjects were studying in IX and X Std, 56% of the subjects were studying in XI and XII Std and 13% of the subjects were studying in VIII and IX Std.

77% of the samples had visual impairment from birth, whereas 5% of them developed visual impairment from 0-1 year, 3% of them developed visual impairment from 1-3 years and 8% of them had visual impairment between 3-5 years and 7% of them developed visual impairment between 6-12 years.

With regard to the use of assistive devices for reading, 72% of the samples used spectacles, low vision device and Braille for reading. 28% of them have not used any device for reading.

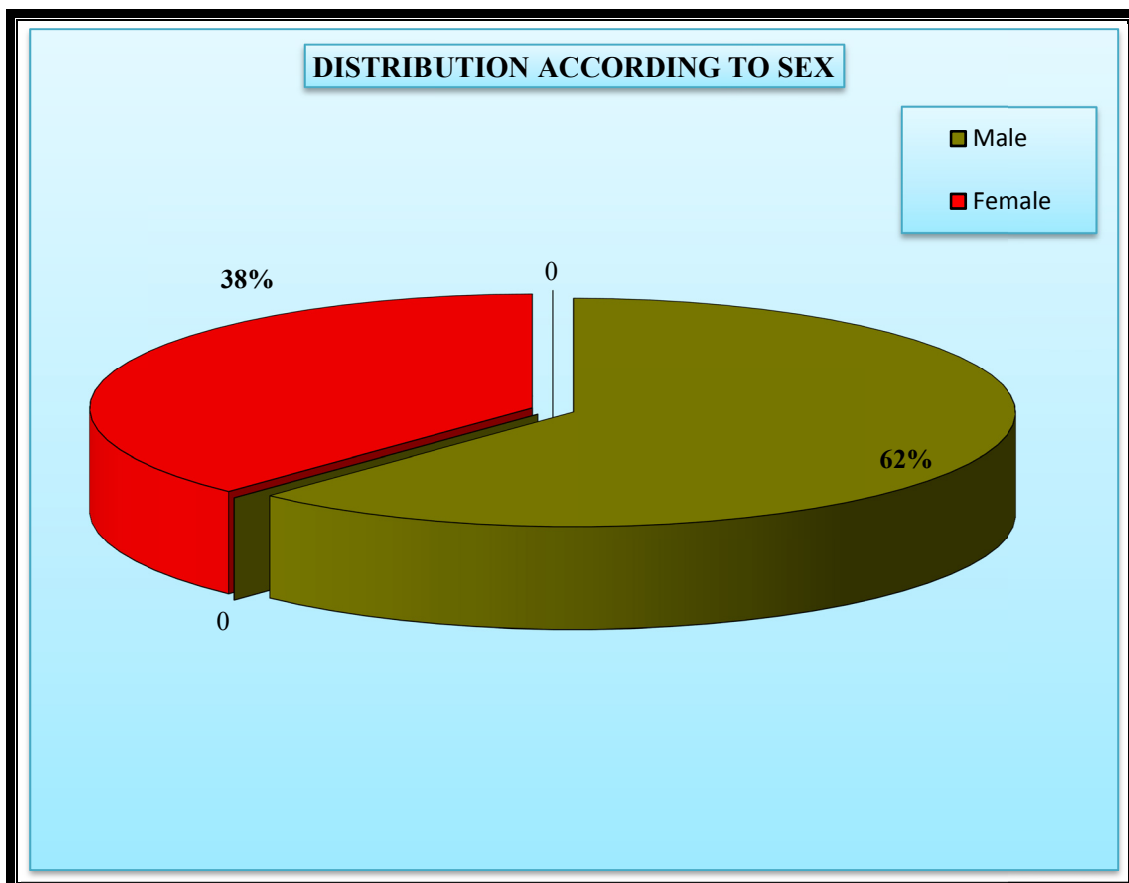
In Reference to special curriculum requirements, 57% of the subjects had auditory training, 41% of them had Braille training and 2% of them had training with the low vision device.

Regarding Family History of visual impairment, 42% of the subjects had the family history of visual impairment, whereas 58% of them did not have family history of visual impairment. Moreover 2% of the subject's mother had visual impairment, 7% of their father had visual impairment and 33% of their sibilings had visual impairment.



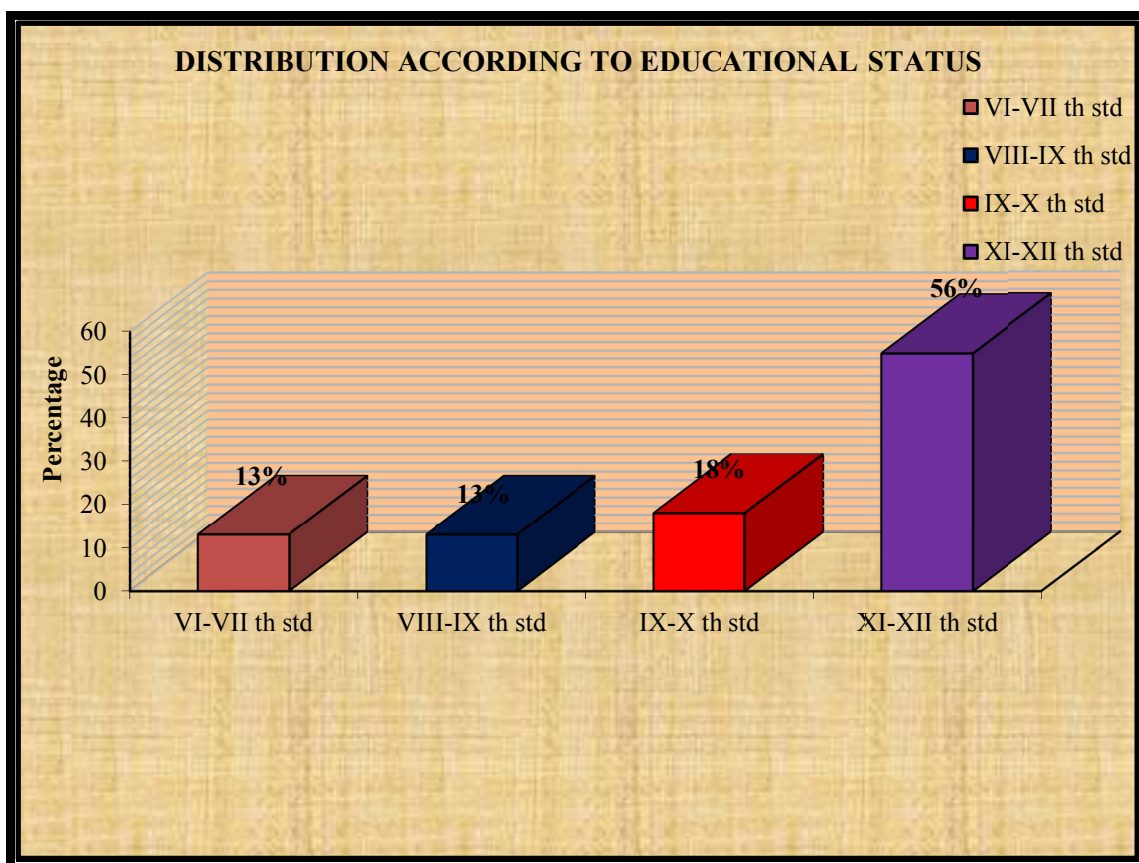
**Fig 2. Percentage Distribution of Sample according to Age**

The above bar diagram reveals that, More than half of the subjects (72%) were in the age group between 16-18 years.



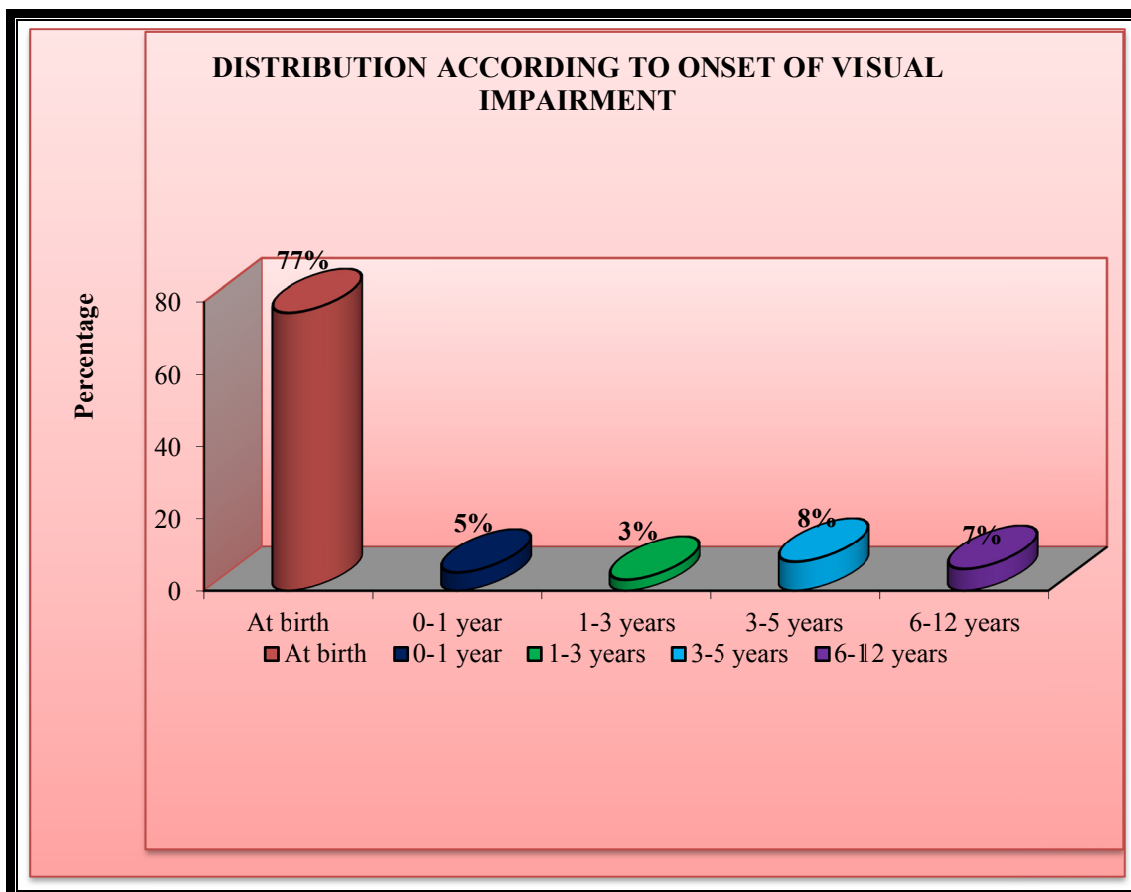
**Fig 3. Percentage Distribution of Sample according to sex**

The above pie diagram reveals that, Majority of the subjects (62%) were males.



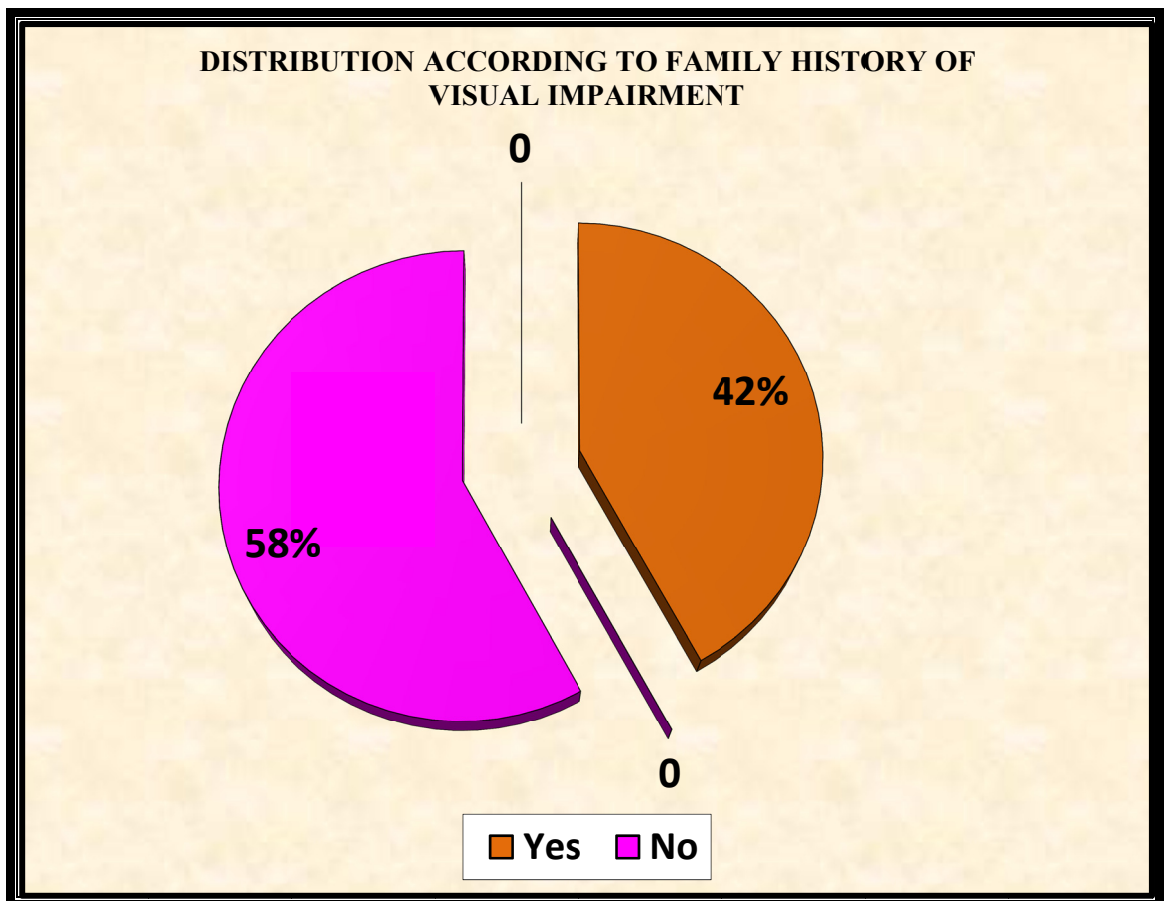
**Fig 4. Percentage Distribution of Sample according to Educational Status**

The above graph illustrates that, Maximum subjects (56%) were studying in XI-XII Standard.



**Fig 5. Percentage Distribution of Sample according to Onset of Visual Impairment**

The above graph depicts that, Majority of the subjects (77%) had visual impairment from their birth.



**Fig 6. Percentage Distribution of Sample according to Family History of Visual Impairment**

The above pie diagram shows that, nearly half of the subjects (42%) had family history of visual impairment.



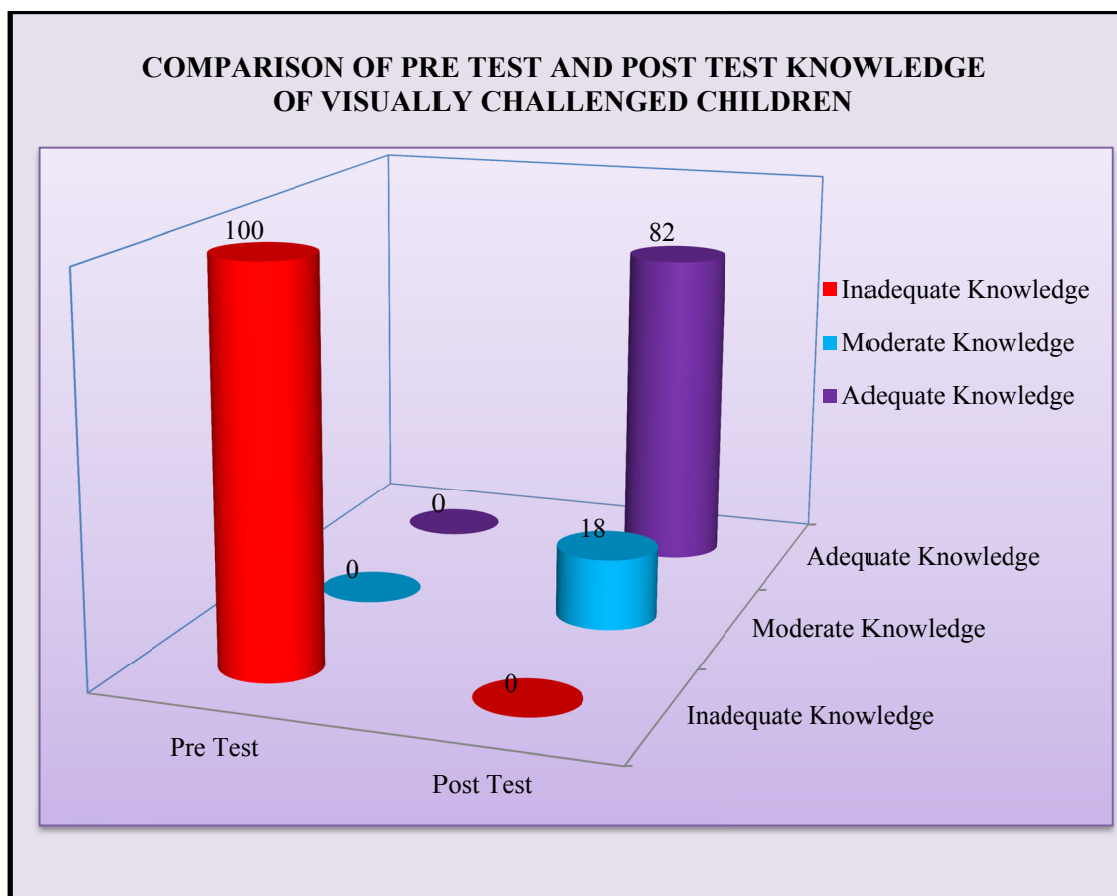
**SECTION II**  
**DESCRIPTION ABOUT LEVEL OF KNOWLEDGE**  
**COMPARING PRETEST AND POSTTEST**

**TABLE-2**

Frequency and Percentage distribution of pre test and post test level of knowledge on safety measures among visually challenged children

Level of Knowledge	Pre test		Post test	
	F	%	f	%
Inadequate	60	100	-	-
Moderate	-	-	11	18
Adequate	-	-	49	82

The above table explains the level of knowledge among visually challenged children residing in selected blind schools before and after music audio taped instruction. The table reveals that before audio taped instruction 100% of the samples had inadequate knowledge and none of them had moderate and adequate knowledge. However after intervention with audio taped instruction, level of knowledge had been improved and shown that 82% of them had adequate knowledge and 18% of them had moderate knowledge respectively. Moreover none of them had inadequate knowledge after audio taped instruction.



**Fig 7. Comparison of Pre test and Post test level of Knowledge**

This graph depicts that, before audio taped instruction 100% of the samples had inadequate knowledge and none of them had moderate and adequate knowledge. However after intervention with audio taped instruction, level of knowledge had been improved and shown that 82% of them had adequate knowledge and 18% of them had moderate knowledge respectively. Moreover none of them had inadequate knowledge after audio taped instruction.

**TABLE-3**

Mean, S.D and Mean% of Knowledge on safety measures

Safety measures	Post test			Pre test			Difference in mean%
	Mean	SD	Mean%	Mean	SD	Mean%	
Road safety Measures	10.22	2.49	73	3.06	1.67	22	51
Fire safety Measures	5.01	1.24	72	1.13	1.12	16	56
Environmental safety Measure	4.58	1.12	76	0.03	0.18	0.5	75.95
Overall	19.81	3.39	73	4.23	2.09	16	57

The above table explains that before audio taped instruction, among 60 subjects, the overall pretest mean was 4.23, standard deviation was about 2.09 and the mean percentage was 16. However after intervention, the overall all Post test mean was 19.81, standard deviation was 3.39 and the mean percentage was 73. Difference in mean% was measured with the mean difference and it was 57.

### SECTION-III

#### DESCRIPTION ABOUT EFFECTIVENESS OF AUDIO TAPED INSTRUCTION ON KNOWLEDGE OF SAFETY MEASURES

**TABLE-4**

Effectiveness of audio taped instruction on knowledge of safety measures  
among visually challenged children

	Post test		Pre test		't'-value	P-value
	Mean	SD	Mean	SD		
Road safety Measures	10.22	2.49	3.06	1.67	27.71	0.000***
Fire safety Measures	5.01	1.24	1.13	1.12	22.86	0.000***
Environmental safety Measure	4.58	1.12	0.03	0.18	30.88	0.000***
Overall	19.81	3.39	4.23	2.09	54.20	0.000***

\*-P<0.05 ,significant and \*\*-P<0.01 &\*\*\*-P<0.001 , Highly significant

This table shows the analysis of knowledge before and after audio taped instruction by means of inferential method. The level of knowledge among the visually challenged revealed that there was a increase in the mean score after audio taped instruction. To prove the significance in the result, paired 't' test was applied. Level of significance s was set at 0.05 level.

The analysis reveals that the calculated 't' value (54.20) was much higher than the table value at 0.001(pre set level of significance was 0.05) level of significance with 59 degrees of freedom. Thus the inferential statistical method proved that the difference in the mean scores showed a significant change in the level of knowledge among the visually challenged.

## SECTION IV

### DESCRIPTION ABOUT ASSOCIATION BETWEEN POST TEST KNOWLEDGE AND. SELECTED BASE LINE VARIABLES

**TABLE-5**

Association between post test level of knowledge and selected Baseline variables

Demographic variables	Moderate		Adequate		$\chi^2$	P-value
	f	%	f	%		
<b>Age</b>						
a . 10-12 yrs	4	7	2	3	0.48	0.512
b. 13-15 yrs	6	10	5	8		
c. 16-18 years	1	2	42	70		
<b>Sex :</b>						
a. Male	6	10	31	52	0.289	0.591
b. Female	5	8	18	30		
<b>Educational status:</b>						
e. VIth –VIIth std	4	7	4	7	20.36	0.01**
f. VIIIth & IXthStd	4	7	4	7		
g. IXth & XthStd	2	3	9	15		
h. XIth & XII thStd	1	2	32	52		
<b>Residence:</b>						
c. Hostel	11	19	47	78	0.465	0.496
d. Day scholar	0	0	2	3		
<b>Onset of visual impairment:</b>						
a At birth	9	15	37	62	7.19	0.206
b 0-1 year	2	3	1	2		
c 1-3 years	0	0	2	3		
d 3-5 years	0	0	5	8		
e 6-12 years	0	0	4	7		

<b>Assistive devices for reading:</b>						
c. Spectacles, Löw vision device, Braille	<b>10</b>	<b>17</b>	<b>33</b>	<b>55</b>		
d. None	<b>1</b>	<b>2</b>	<b>16</b>	<b>26</b>	<b>2.45</b>	<b>0.117</b>
<b>Special curriculum requirement:</b>						
f. Auditory training	<b>6</b>	<b>10</b>	<b>28</b>	<b>47</b>		
g. Braille training	<b>5</b>	<b>8</b>	<b>20</b>	<b>33</b>	<b>0.281</b>	<b>0.869</b>
h. Perceptual training	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		
i. Training with the low device	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>		
j. None	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		
<b>Family members have visual impairments:</b>						
c. Yes	<b>3</b>	<b>5</b>	<b>20</b>	<b>33</b>	<b>0.697</b>	<b>0.404</b>
d. No	<b>8</b>	<b>14</b>	<b>29</b>	<b>48</b>		
<b>visual impairment:</b>						
e. Mothers	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>		
f. Father	<b>1</b>	<b>2</b>	<b>3</b>	<b>5</b>		
g. sibling	<b>3</b>	<b>5</b>	<b>17</b>	<b>27</b>	<b>0.557</b>	<b>0.906</b>
h. None	<b>7</b>	<b>12</b>	<b>28</b>	<b>47</b>		

The level of Knowledge was associated with selected demographic variables based on the literature support. Chi square ( $\chi^2$ ) was used to associate the post test score of knowledge 1 with selected demographic variables after audio taped instruction.

The above table reveals the calculated  $\chi^2$  at 0.05 level of significance. It describes the association of individual demographic variable with level of Knowledge among visually challenged children after audio taped instruction. It

explains that there was significant association between post test score of Knowledge and Educational status of visually challenged children at 0.01\*\* level of significance.

# *Discussion*





## **CHAPTER-V**

### **DISCUSSION**

The present chapter reveals the results and discussion in detail. Based on the objectives and hypothesis, results are discussed which are interpreted from the statistical analysis. The Purpose of this study was to assess the effectiveness of audio taped instruction on knowledge of safety measures among visually challenged children at selected blind schools in Madurai.

#### **DISCUSSION OF BASELINE VARIABLES**

The study illustrated that, More than half of the visually challenged children (72%) were in the age group between 16-18 years and 62% of the samples are males. These findings were in line with the study conducted on 1996 National Health Interview Survey 51% of persons under the age of 18 are visually impaired, defined as blindness in one or both eyes, or have any other trouble seeing even when wearing glasses, representing 448,000 children and youths (Adams, Hendershot, & Marano, 1999). Regarding Educational status, nearly half of the subjects (56%) were studying in XII and XII Std. With regard to the residence, maximum number of samples (97%) were hostellers. Majority of the visually challenged children (77%) had visual impairment from birth. Around three fourth of the subjects (72%) used assistive devices like spectacles, low vision device and Braille for reading. Based on special curriculum requirements, nearly half of the subjects had auditory training. Maximum samples (62%) had family history of visual impairment and majority of their fathers had visual impairment.

## **FINDINGS BASED ON THE OBJECTIVES**

**The First objective was to assess the knowledge of visually challenged children regarding safety measures.**

The findings illustrated that, among 60 visually challenged children, 100% of the samples had inadequate knowledge and none of them had moderate and adequate knowledge.

**The Second objective was to evaluate the effectiveness of audio taped instruction among visually challenged children regarding safety measures.**

Audio taped instruction was given to subjects regarding safety measures and then effectiveness was evaluated through Post test. The findings revealed that, 82% of the subjects had adequate knowledge and 18% of them had moderate knowledge. The mean pre test knowledge score improved from 4.23 to 19.81 in post test. This improvement is statistically highly significant and confirmed by paired 't' test ( $t = 54.20$  and  $P < .001$ ).

The findings were consistent with **Sathya deepa (2008)** who conducted a quasi experimental study to evaluate the effectiveness of audio drama on knowledge and practice of personal hygiene among visually challenged adolescent girls. The mean score of visually challenged adolescent girls was 30.4 before audio drama and it was found to be increased to 38.1 after audio drama thus it implies that there was a positive effect of audio drama in the promotion of knowledge on personal hygiene among visually challenged adolescent girls. The calculated 't' value was 8.02 and it was compared with the table value at ( $P < 0.01$ ) significant level which is 2.44.

The Study results showed that, there was a statistically significant improvement in post test knowledge after audio taped instruction regarding safety measures. Moreover calculated value is higher than the table value.

Thus the Postulated hypothesis, **“There will be significant difference in post test knowledge scores after audio taped instruction regarding safety measures among visually challenged children”** was proved.

**The Third objective was to associate the posttest Knowledge scores regarding safety measures among visually challenged children with selected baseline variables.**

The level of Post test Knowledge was associated with selected Baseline variables based on the literature support. Chi- square was used to find out the association between Post test scores with selected baseline variables. Findings revealed that, there was an association of individual base line variable with level of Knowledge among visually challenged children after audio taped instruction that is, there was significant association between post test score of Knowledge and Educational status of visually challenged children at 0.01\*\* level of significance. Moreover calculated value is higher than the table value.

The findings were consistent with **Sathya deepa (2008)** who conducted a quasi experimental study to evaluate the effectiveness of audio drama on knowledge and practice of personal hygiene among visually challenged adolescent girls. Karl Pearson's coefficient correlation was used to assess the influence of age, education of parents and place of living and family history on knowledge and practice on personal hygiene among visually challenged adolescent girls. It was found that age( $r= 0.46$ ) and education of students ( $r=0.47$ ) was positively correlated on knowledge and practice of personal hygiene which interpreted that age and education progress the knowledge and practice of personal hygiene among visually challenged adolescent girls.

The Study results showed that, there was a statistically significant association between Post test Knowledge scores and selected base line variables. Moreover calculated value is higher than the table value.

Thus the Postulated hypothesis "**There will be significant association between posttest knowledge scores regarding safety measures and selected baseline variables**" was proved.

*Summary,  
Conclusion &  
Recommendations*



# **CHAPTER – VI**

## **SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS**

This chapter deals with the summary of the study and conclusions drawn. It also clarifies the limitations of the study, the implications for different areas like nursing educations, administration, nursing practice, nursing research and recommendations.

### **6.1 SUMMARY**

The present study was aimed to assess the effectiveness of audio taped instruction on knowledge of safety measures among visually challenged children at selected blind schools in Madurai.

The objectives of the study were

- To assess the knowledge of visually challenged children regarding safety measures.
- To evaluate the effectiveness of audio taped instruction among visually challenged children regarding safety measures.
- To associate the posttest Knowledge scores regarding safety measures among visually challenged children with selected demographic variables.

The Following Hypotheses were tested,

- H<sub>1</sub> - There will be significant difference in post test knowledge scores after audio taped instruction regarding safety measures among visually challenged children.
- H<sub>2</sub> - There will be significant association between posttest knowledge scores regarding safety measures and selected baseline variables.

The Investigator adopted Ludwig von Bertalanffy's General System theory. Quantitative approach- One Group Pre test Post test design was used

for the study. The study subjects were selected using Purposive Sampling The data collection tools used were,

Section I : Baseline variables

Section II : Knowledge on safety measures

Section III: Audio Taped Instruction regarding safety measures

The study was validated by 5 experts, including 3 nursing experts, Director of Department of Preventive and Social Medicine, Madurai Medical College, Madurai The reliability of the tool was assessed by using split half method and integrator method.  $r$  value is = 0.89.

Data collection was carried out for four weeks from 16-08-2012 to 15.09.12. Based on the objectives and hypotheses, the data collected were analyzed by using descriptive and inferential statistics.

**Major findings of the study:**

- More than half of the visually challenged children (72%) were in the age group between 16-18 years
- 62% of the samples are males.
- Regarding Educational status, nearly half of the subjects (56%) were studying in XII and XII Std.
- With regard to the residence, maximum number of samples (97%) were hostellers.
- Majority of the visually challenged children (77%) had visual impairment from birth.
- Around three fourth of the subjects (72%) used assistive devices like spectacles, low vision device and Braille for reading.
- Based on special curriculum requirements, nearly half of the subjects had auditory training.
- Maximum samples (62%) had family history of visual impairment and majority of their fathers had visual impairment.

- . The mean pre test knowledge score improved from 4.23 to 19.81 in post test. This improvement is statistically highly significant and confirmed by paired ‘t’ test ( $t = 54.20$  and  $P < .001$ ).
- Highly Significant association was noted between post test score of Knowledge and Educational status of visually challenged children at 0.01\*\* level of significance.

## 6.2. CONCLUSION

*“Everything has its wonders  
Even darkness and silence,  
And I Learn,  
Whatever state I may be in,  
There in to be content.”*

- Helen Keller

Visually challenged Children have quiet a lot of problems and issues such as perception, road safety, transportation safety, environmental safety, play ground safety and so on. People who are blind or visually impaired have devised a number of techniques that allow them to complete daily activities using their remaining senses and recently created accessible technology such as **screen reading software** enables visually impaired people to use mainstream computer applications including the Internet.

Various methods of teaching are available in assistive technology such as lecture, demonstrations, video cassettes, touching through sculptures, Braille .The researcher adopted the best method of teaching and understanding to visually challenged through audio taped instruction was helpful to improve their level of knowledge very effectively and efficiently.

### **6.3. IMPLICATIONS OF THE STUDY**

#### **Nursing Education**

- Assistive learning devices can be used in classrooms. For instance, Studies suggest that amplified classrooms increase on task behaviors than students in unamplified classrooms.
- Nurse Educators can use this method in teaching both visually challenged children and normal school children.
- Nurse Educators can disseminate the importance of this method to caretakers with visual impairment.
- Teachers who are working in special education unit can utilize this method of intervention in teaching visually challenged children.
- Training Programmes can be conducted by nurse educators regarding this intervention.

#### **Nursing Administration**

The Nurse administrators can draw written policies regarding this intervention to promote safety, personal hygiene and communication skills among visually challenged. There by the staff nurses are kept in pace with the evidence based practice.

#### **Nursing Practice**

- Visually impaired clients can be included in nursing practice. Various assistive technology with audio can be given to them.
- For instance, Talking thermometers, talking scales, talking blood glucose monitors, talking Blood Pressure monitors can be given to monitor vital signs.

#### **Nursing Research**

The effect of audio taped instruction for the visually challenged group both girls and boys all age group could be studied. The merits of audio over other methods of teaching could be studied and compared.



## **6.4 RECOMMENDATIONS**

1. The study can be replicated with a larger size for wider generalization of findings.
2. The study can be conducted in different setting.
3. The study can be conducted for all age group.
4. A Comparative study can be undertaken between experimental and control group.
5. Different issues of visually challenged children like social interaction, Communication Skills and general curriculum instructions can be given through Audio.
6. A Comparative study can be undertaken between audio and other methods of teaching.

# ***Bibliography***

## BIBLIOGRAPHY

### Book References:

1. Val Hyde. (2002). Community nursing and health care. (1st ed.). New Delhi: Jaypee Publications.
2. Vidya Ratan. (2002). Preventive and social medicine. (9<sup>th</sup> ed.). New Delhi: Jaypee Publications.
3. Kasturi Sundaar Rao. (2007). Community Health nursing. (4<sup>th</sup> ed.). Chennai: BI Publications.
4. Dianne Watkins. (2003). Community health nursing. (2nd ed.). Philadelphia: Bailliere Tindall Publications.
5. Marcia Stanhope. (2000). Community health and public health nursing. (6<sup>th</sup> ed.). Missouri: Mosby Publications.
6. Basavanthappa BT. (2006). Community health nursing. (2<sup>nd</sup> ed.). New Delhi: Jaypee Publications.
7. Mary A. Nies. (2001). Community Health nursing. (3<sup>rd</sup> ed.). Philadelphia: W.B. Saunders Publications.
8. Seshu Babu V.V.R. (2001). Review in community medicine. (2<sup>nd</sup> ed.). Hyderabad: Paras Publications.
9. Elizabeth Diem. (2006). Community health nursing projects. (1<sup>st</sup> ed.). Philadelphia: Lippincott Williams and Wilkins Publications.
10. Sally Huband, Ethel Trigg. (2000). Practices in children's nursing. (1<sup>st</sup> ed.). Edinburgh : Churchill Livingstone Publications.
11. Jeanne M. Sorrell. (2005). Community based nursing practice. (1<sup>st</sup> ed.). Philadelphia: F.A David's company Publications.
12. Sunder lal, Adarsh. (2011). Text book of community medicine. (3<sup>rd</sup> ed.). New Delhi: CBS Publications.
13. Piyush Gupta. (2010). Text book of community medicine. (3<sup>rd</sup> ed.). New Delhi: CBS Publications.
14. AH Suryakamtha. (2010). Community medicine. (2<sup>nd</sup> ed.). New Delhi: Jaypee Publications.
15. Park K. (2010). Preventive and social medicine. (21<sup>st</sup> ed.). New Delhi: Banarsidas Publications.

16. Kamalam S. (2004). Community health nursing. (1<sup>st</sup> ed.). New Delhi: Jaypee Publications.
17. Tamilnadu Open University(2003). B.Ed. Special Education.
18. Abimbade, A. (1997). Principles and practice of educational technology. Ibadan: International Publishers Limited.

**Journal Reference:**

1. Ajayi-Dopemu, Y. & Talabi, J. K. (1985). Effects of videotape recording on microteaching training technique for education students. *Journal of Educational Television*, 2 (3), 207 - 210.
2. Benedict, N. (1994). Effects of two types of media presentation on the cognitive and psychomotor performance of fine art students. *Journal of Professional Educational*, 3,(95) 108.
3. Barth , J.L., (1994). Factors affecting line tracing in tactile graphs, *Journal of Special Education*,17 (2), 215-226.
4. Crithgley, M., (2004).Tactile thought with special reference to the blind, *Journal of Visual Impairment*,70 (2), 19-35.
5. Cates, D., and Sowell, V., (2000). Using computers to improve Braille reading speed, *Journal of Visual Impairment and Blindness*,83 (7), 361-364.
6. Dixon, J.M., and Mendelbaum., (2002). Reading through technology: involving methods and opportunities for print handicapped, *Journal of Visual Impairment and Blindness*,84 (10), 493-496.
7. Hartley, J.,(1997). Some aspects of current research on text design and its implications for the setting of Braille, *British Journal of Visual Impairment*,5 (1), 17-20
8. Heller, J.,(1996). Active and Passive tactile recognition, *British Journal of Visual Impairment*,24 (3), 201-202
9. Herman, J.F., (1997). Cognitive mapping in blind people acquisition of spatial relationship in a large scale environment, *Journal of Visual Impairment and Blindness*,77 (4) ,161-166.

10. Hustand, E. (1995). Visual reading and cross modal transfer of learning in congenitally blind humans with residual light projection, *Scandinavian journal of educational research*, 29( 1),17-41.
11. Kast, F. E. and Rosenzweig, J. E. (1972) General systems theory: Applications for organizations and management. *Academy of Management Journal*, 15 (4), 447-465.
12. Knowlton, M., (1994). Directional Sensitivity of Visually Handicapped, *Education of the visually handicapped*, 18 (4), 157-164.
13. Karavatos, A., (2002). The effect of orientation on visual and tactual Braille recognition perception, *Journal of Community Eye Health*,16 (3), 293-303.
14. Lewandowski, A., (1994). They read Braille without functional hand, *Journal of Blind Welfare*,26 (2), 2-9.
15. Murray Mc Gavin (1998). How Can Blind Children Be Helped Children in Blind Schools? *Journal of Community Eye Health*, 11( 27) 82-89.
16. Mc Gavin (1998) Optical Services for Visually Impaired Children *Journal of Community Eye Health*, 11. (27) 93-98.
17. Mitchell P et al., (2004). Causes and prevalence of visual impairment among adults in the United States, *Archives of Ophthalmology*, 122(4),477-485.
18. Mitra, R., and Jain, S.C.,( 1996). Switch board interface for the visually impaired. *International Journal of Rehabilitation Research*,11( 5),392- 395.
19. Meyers, R. Ethington., (1994). Readability of Braille as a function of three spacing variables, *Journal of Applied Psychology*,42 (6), 163- 168.
20. Noblet, A., (1995). Equipment for the study of operating process in braille reading, *Nigerian Journal of Technical Education*,17(1), 107-113.
21. Osasona, I. S. (1990). The effect of videotape recording (VTR) presentations on student teachers'attitude. *Nigerian Journal of Technical Education*, 22 (1), 72 - 79.

22. Olsen, R.M., (1997). Cassette Braille, A New Communicating tool for the blind people, *Journal of Visual Impairment and Blindness*, 77 (4), 158-160.
23. Pring, L., (1994). A Comparison of the word recognition process of blind and sighted children, *British Journal of Child Development*, 55( 5), 88-95.
24. Rex, E.J., (1999). Issues related to literacy of legally blind learners, *British Journal of Child Development*, 83 (6), 306-309.
25. Seal, A Bron and J Hay (1998). The Role of Integrated Education for Blind Children, *Journal of Community Eye Health*, 11 (27), 112-115
26. Wilkinson, J.M., and Carr, T.H., (2004). Strategic hand use preferences and hemispheric specialization in tactual reading, *Journal of Community Eye Health*, 32 (1), 97-123.
27. Williams, T., (2006). Interactive Braille Society for computers in psychology behavior research methods instruments and computers, *Journal of Community Eye Health*, 17 (2), 265-267.

**Net References:**

[http:// www.who.org](http://www.who.org)  
<http://www.unicef.org>  
<http://www.jvib.org>  
[http:// www.pubmed.org](http://www.pubmed.org)  
[http:// www.msn.org](http://www.msn.org)  
[http:// www.wikipedia.com](http://www.wikipedia.com)  
<http://www.tn.health.org>  
<http://www.eye health.com>  
<http://www.braille.com>  
[http:// www. assistive technology.com](http://www.assistive technology.com)  
<http://www.community eye health.com>  
[http:// www. vision 2020.net.](http://www.vision 2020.net)  
[http:// www. tn.gov.in](http://www.tn.gov.in)

# *Appendices*

**APPENDIX-A**  
**QUESTIONNAIRE – ENGLISH VERSION**  
**PART-I**  
**DEMOGRAPHIC DATA**

**Sample No**

1. Age

- a) 10-12 years
- b) 13-15 years
- c) 16-18 years

2. Sex

- a) Male
- b) Female

3. Educational Status

- a) VIth&VIIthStd
- b) VIIIth&IXthStd
- c) IXth&XthStd
- d) XIth& XII thStd

4. Residence

- a) Hostel
- b) Daysscholar

5. Age of the onset of visual impairment

- a) At Birth
- b) 0-1 Year
- c) 1-3 Year
- d) 3-5 Year
- e) 6-12 Year



6. Use of Assistive devices for reading

- a) Spectacles, Low vision device, Braille
- b) None

7. Special Curriculum Requirements

- a) Auditory Training
- b) Braille Training
- c) Perceptual Training
- d) Training with the low device
- e) None

8. Whether Any of Your Family members have visual impairments

- a) Yes
- b) No

9. Who is having the visual impairment?

- a) Mother
- b) Father
- c) Siblings
- d) None

## **PART II**

### **KNOWLEDGE QUESTIONNAIRE ON SAFETY MEASURES**

#### **a) Road Safety Measures**

1. The cane is
  - a) Supportive device for older adults
  - b) Device especially made for visually impaired clients
  - c) Supportive device for the clients who have undergone knee surgeries
  - d) Don't Know
2. The Main two types of cane are
  - a) White cane and yellow cane
  - b) Support cane and probing cane
  - c) Yellow cane and Red cane
  - d) Don't Know
3. The indication of a client using white cane is
  - a) Minimal impairment of vision
  - b) Initial visual impairment
  - c) Caution for the drivers
  - d) Don't Know
4. The important use of probing cane is
  - a) Provides physical stability
  - b) Helps to locate obstacles
  - c) Gives indication to the public about visual impairment
  - d) Don't Know
5. This technique is essential for cane usage
  - a) Stability
  - b) Strength
  - c) Hand Eye Coordination
  - d) Don't Know
6. The Technique of cane usage is
  - a) Cane is at right, users forward foot is on left
  - b) Cane is at right, users forward foot is right
  - c) Cane and leg together in front
  - d) Don't Know

7. The Cane Should be Placed at Which Part of the body
  - a) The Person's Chest level
  - b) The Person's Neck level
  - c) The Person's Abdomen level
  - d) Don't Know
8. The Cane Should be in what position while using cane
  - a) Towards Down
  - b) Towards Up
  - c) Towards Centre
  - d) Don't Know
9. How one's wrist should be used, when a person uses the cane
  - a) Towards Front
  - b) Towards inside and outside
  - c) Towards Down
  - d) Don't Know
10. Bow Turning Technique is
  - a) Turning the tip of the cane from left to right
  - b) Pressing the cane in front
  - c) Pressing the cane sideways
  - d) Don't Know
11. The Parts of long cane are
  - a) Two
  - b) Three
  - c) Four
  - d) Don't Know
12. The Number of Techniques involved in using cane is
  - a) Four
  - b) Five
  - c) Six
  - d) Don't Know
13. When Touch and Slanting Technique should be used
  - a) When the Floor is even
  - b) When the Floor is uneven
  - c) When Travelling by Bus
  - d) Don't Know

14. Which Technique Should be used while walking in sand area
- a) Touch and Slanting Technique
  - b) Three Point Technique
  - c) Touch and Drag Technique
  - d) Don't Know

**b) Fire Safety Measures**

15. The First indication of Fire is
- a) Smell of Smoke
  - b) Sense of Heat
  - c) Noise from public
  - d) Don't Know
16. The Best aid which helps in identifying fire accident is
- a) Low Decibel Alarms
  - b) High Decibel Smoke Alarms
  - c) Announcement by Public
  - d) Don't Know
17. How many exits are essential to escape from fire?
- a) One in each room
  - b) Two in each room
  - c) One for entire House
  - d) Don't Know
18. During Fire, the exit door should be checked for fire in this way
- a) Pull out with legs
  - b) Test the door opening with the palm of your hand
  - c) Test the door opening with the back of your hand
  - d) Don't Know
19. While escaping from the exit, it is essential to
- a) Stay high and go
  - b) Move sideways
  - c) Crawl and go
  - d) None

20. When a person is exposed to fire
- a) He has to cover his mouth and nose
  - b) He should not cover his mouth
  - c) He has to breath out
  - d) None

21. Toll Free Number for Fire Service is
- a) 104
  - b) 102
  - c) 108
  - d) 101

### **c) Environmental Safety Measures**

22. The concept needed for orienting to environment is
- a) Language concept
  - b) Listening concept
  - c) Spatial concept
  - d) Don't Know

23. The Sighted Guiding Technique is
- a) Highlighting the edge of stairs
  - b) Familiarizing students with school building
  - c) Making the students to sit in right side of class
  - d) Don't Know

24. The Use of Upper Body Technique is
- a) Saves from hitting Hanging Flower pots and cupboards
  - b) Saves from hitting chairs
  - c) Saves while Travelling by Bus
  - d) Don't Know

25. The Dominant Hand should be at what distance when a person uses lower body technique
- a) 10-12 cm
  - b) 6-8 cm

- c) 15-20 cm
- d) Don't Know

26. When a Person uses guiding technique While crossing the narrow path, the distance between the two is

- a) 1 m distance
- b) 2 m distance
- c) 3 m distance
- d) Don't Know

27. While using Guiding Technique, The Person should hold the guider's hand at which place

- a) Below the Guider's Elbow
- b) Above the Guider's Elbow
- c) At the level of Guider's Palm
- d) Don't Know

Questionnaire - Tamil Version

வினாக்கள்

பகுதி - 1

தன்னிலை விபரக்குறிப்பு

1. வயது

அ. 10 முதல் 12வயது

ஆ. 13 முதல் 15 வயது

இ. 16 முதல் 18 வயது

2. பாலினம்

அ. ஆண்

ஆ. பெண்

3. கல்வித்தகுதி

அ. ஆறு மற்றும் ஏழாம் வகுப்பு

ஆ. எட்டு மற்றும் ஒன்பதாம் வகுப்பு

இ. ஒன்பது மற்றும் பத்தாம் வகுப்பு

ஈ. பதினொன்று மற்றும் பன்னிரெண்டாம் வகுப்பு

4. தங்கியிருக்கும் இடம்

அ. விடுதி

ஆ. வீடு

5. எந்த வயது முதல் பார்வை கோளாறு உள்ளது?

அ. பிறப்பு முதல்

ஆ. 0-1 வயது

இ. 1-3 வயது

ஈ. 3 - 5வயது

உ. 6 -12 வயது

ஊ. 7-12 வயது

6. புத்தகத்தை வாசிப்பதற்காக பயன்படுத்தும் துணை சாதனங்கள்

அ. பார்வை கோளாறுக்கான கருவிகள் (Braille, பெரிதாக்கப்பட்ட அச்சிடு)

ஆ. ஒன்றும் இல்லை

7. சிறப்புக்கல்வி பயிற்சிகள்

அ. கேட்கும் திறன் பயிற்சி

ஆ. ப்ரைலி பயிற்சி

இ. கண்டுணர்தல் சார்ந்த பயிற்சி

- ஈ. பார்வை குறைபாட்டிற்காக பயன்படுத்தும் பயிற்சி
- உ. எதுவும் இல்லை

8. உங்கள் குடும்பத்தில் யாருக்காவது பார்வை குறைபாடு உள்ளதா?

- அ. ஆம்
- ஆ. இல்லை
- ஆம் எனில்

9. பார்வை குறைபாடு யாருக்கு உள்ளது?

- அ. அம்மா
- ஆ. அப்பர்
- இ. சகோதரர்கள் மற்றும் சகோதரி
- ஈ. யாருக்கும் இல்லை



## பகுதி - II

### a. சாலை பாதுகாப்பு வழிமுறைகள்

1. ஊன்றுகோல் என்பது
  - அ. வயதானவர்களுக்கான ஊன்றுகோள்
  - ஆ. பார்வை கோளாறு உள்ளவர்களுக்காக பிரத்யேகமாக உருவாக்கப்பட்ட கருவி
  - இ. மூட்டு அறுவை சிகிச்சை மேற்கொண்டவர்கள் பயன்படுத்தும் ஒரு ஊன்றுகோள்
  - ஈ. தெரியவில்லை
  
2. ஊன்றுகோலின் முக்கியமான இரண்டு வகைகள்
  - அ. வெள்ளை மற்றும் மஞ்சள் ஊன்றுகோல்
  - ஆ. துணை ஊன்றுகோல் மற்றும் ஆய்வு செய்வதற்கான ஊன்றுகோல்
  - இ. மஞ்சள் மற்றும் சிவப்பு ஊன்றுகோல்
  - ஈ. தெரியவில்லை
  
3. வெள்ளை ஊன்றுகோல் உபயோகிப்பது எதனை குறிப்பிடுகிறது.
  - அ. மிதமான பார்வை கோளாறு
  - ஆ. ஓட்டுனர்களுக்கான எச்சரிக்கை
  - இ. பார்வை கோளாறு
  - ஈ. தெரியவில்லை
  
4. ஆய்வு செய்வதற்கான ஊன்றுகோலின் முக்கிய பயன்
  - அ. உடல் உறுதிக்காக
  - ஆ. தடைகளை கண்டறிவதற்கு
  - இ. பொதுமக்களுக்கு பார்வை கோளாறுக்கான அடையாளமாக விளங்குகிறது.
  - ஈ. தெரியவில்லை.
  
5. ஊன்றுகோல் உபயோகப்படுத்துவதன் முக்கிய உத்தி
  - அ. நிலைத்தன்மை
  - ஆ. வலிமை
  - இ. கண் மற்றும் கை ஒருங்கிணைப்பு
  - ஈ. தெரியவில்லை

6. ஊன்றுகோல் உபயோகப்படுத்துவதன் உத்தி
- அ. ஊன்றுகோள் வலதுபுறமும், உபயோகப்படுத்துபவரின் முன்னங்கால் இடது புறமும்
- ஆ. ஊன்றுகோல் வலதுபுறமும். உபயோகப்படுத்தபவரின் முன்னங்கால் வலது புறமும்
- இ. ஊன்றுகோள் மற்றும் கால் இரண்டையும்
- ஈ. தெரியவில்லை
7. கோலின் உயரம் நம் உடலின் எப்பகுதி வரை இருத்தல் வேண்டும்?
- அ. உபயோகிப்பவரின் மார்பளவு வரை
- ஆ. உபயோகிப்பவரின் கழுத்து வரை
- இ. உபயோகிப்பவரின் வயிற்றுப்பகுதி வரை
- ஈ. தெரியவில்லை
8. ஒருவர் கோலை உபயோகிக்கும் போது கட்டைவிரல் எவ்வாறு இருக்க வேண்டும்?
- அ. கீழே இருக்க வேண்டும்
- ஆ. மேலே இருக்க வேண்டும்
- இ. மையத்தில் இருக்க வேண்டும்
- ஈ. தெரியவில்லை
9. ஒருவர் கோலப் பிடித்து நடக்கும் போது மணிக்கட்டை எவ்வாறு பயன்படுத்த வேண்டும்?
- அ. நேர்புறமாக பயன்படுத்த வேண்டும்
- ஆ. உட்புறமாகவும் வெளிப்புறமாகவும் பயன்படுத்த வேண்டும்
- இ. கீழ்புறமாக பயன்படுத்த வேண்டும்
- ஈ. தெரியவில்லை
10. வில் வளைவு என்பது
- அ. கோலின் முனை உடலின் இடது புறத்திலிருந்து வலது புறத்தில் உரசுவது
- ஆ. கோலை அழுத்தி தரையின் முன்பாக வைத்தல்
- இ. கோலை அழுத்தி தரையின் ஓரமாக வைத்தல்
- ஈ. தெரியவில்லை
11. நீண்ட கோலின் பாகங்கள் எத்தனை?
- அ. இரண்டு
- ஆ. மூன்று
- இ. நான்கு
- ஈ. தெரியவில்லை

12. கோலைப் பயன்படுத்துவதில் மொத்தம் எத்தனை உத்திகள் உள்ளன?

- அ. நான்கு   
ஆ. ஐந்து   
இ. ஆறு   
ஈ. தெரியவில்லை

13. தொட்டுச் சறுக்கும் முறையை ஒருவர் எப்பொழுது பயன்படுத்த வேண்டும்?

- அ. தரை சமமாக இருக்கும் பொழுது   
ஆ. தரைமேடு பள்ளமாக இருக்கும் பொழுது   
இ. பேருந்தில் பயணம் செய்யும் பொழுது   
ஈ. தெரியவில்லை

14. மணற்பரப்பில் நடந்து செல்வதற்கு எந்த முறை பயன்படுகிறது?

- அ. தொட்டு சறுக்கும் முறை   
ஆ. மூன்று புள்ளி தொடுதல் முறை   
இ. தொட்டு இழுத்து நடக்கும் முறை   
ஈ. தெரியவில்லை

#### b. தீ பாதுகாப்பு வழிமுறைகள்

15. தீ ஏற்பட்டதற்கான முதல் அறிகுறி

- அ. புகை வாசனை   
ஆ. வெப்ப உணர்வு   
இ. மக்களின் சத்தம்   
ஈ. தெரியவில்லை

16. தீ ஏற்பட்டதை எதன் மூலம் அறியலாம்

- அ. குறைந்த டெசிபல் அலாரங்கள்   
ஆ. உயர் டெசிபல் புகை அலாரங்கள்   
இ. மக்களின் அறிவிப்பு   
ஈ. தெரியவில்லை

17. தீயிலிருந்து தப்பி எத்தனை வெளியேறும் பாதை தேவை?

- அ. ஒவ்வொரு அறையிலும் ஒரு பாதை   
ஆ. ஒவ்வொரு அறையிலும் இரு பாதை   
இ. ஒரு வீட்டிற்கு ஒரு பாதை   
ஈ. தெரியவில்லை

18. தீ ஏற்பட்ட போது வெளிப்பாதை கதவில் தீ ஏற்பட்டுள்ளதை இவ்வாறு அறியலாம்

- அ. கால்களினால் கதவை தள்ளி
- ஆ. உள்ளங்கையை கொண்டு கதவை பரிசோதித்து
- இ. கையின் வெளிப்புறத்தை கொண்டு கதவை பரிசோதித்து
- ஈ. தெரியவில்லை

19. வெளிப்பாதை வழியாக தப்பிக்கும் போது முக்கியமாக செய்ய வேண்டியது

- அ. நிமிர்ந்து கொண்டு வெளியேறுதல்
- ஆ. உடலை சாய்த்து ஒரு புறமாக வெளியேறுதல்
- இ. ஊர்ந்து செல்லவும்
- ஈ. தெரியவில்லை

20. ஒரு நபர் தீ ஆபத்துக்கு ஆளாகும்போது

- அ. வாய் மற்றும் மூக்கினை மூடிக்கொண்டு வெளியேறுதல்
- ஆ. வாயை மூடாமல் வெளியேற வேண்டும்
- இ. மூச்சை வெளியே விட்டு வெளியேறவும்
- ஈ. தெரியவில்லை

21. இலவச தீ பாதுகாப்பு சேவையின் தொடர்பு எண்

- அ. 104
- ஆ. 102
- இ. 108
- ஈ. 101

### c. சுற்றுப்புற பாதுகாப்பு நடவடிக்கைகள்

22. சுற்றுப்புறத்தில் உள்ள பொருட்களை பற்றி அறிவதற்கு தேவையான கோட்பாடு

- அ. மொழி கோட்பாடு
- ஆ. கேட்கும் கோட்பாடு
- இ. இடம் சார்ந்த கோட்பாடு
- ஈ. தெரியவில்லை

23. நோக்குடைய வழிகாட்டி நுட்பம் என்பது

- அ. படிகளின் விளிம்புகளை வெளிச்சப்படுத்துவது
- ஆ. பள்ளி மாணவர்களுக்கு பள்ளி கட்டிடத்தை குறித்து தெளிவு படுத்துவது
- இ. வகுப்பின் வலது புறமாக மாணவர்களை அமர வைத்தல்
- ஈ. தெரியவில்லை

24. மேற்புய பாதுகாப்பு உத்தியின் பயன் என்ன?
- அ. பூச்செடிகள் மற்றும் அலமாறிக் கதவுகள் போன்றவற்றிலிருந்து பாதுகாத்து கொள்வதற்கு
- ஆ. நாற்காலிகள் போன்றவற்றிலிருந்து பாதுகாப்பதற்கு
- இ. பேருந்துகளில் பயணிக்கும் போது பாதுகாப்பதற்கு
- ஈ. தெரியவில்லை
25. ஒருவர் கீழ் புய பாதுகாப்பு உத்தியை பின்பற்றும் போது, வலிமை கரத்தை எவ்வளவு தூரத்தில் வைக்க வேண்டும்?
- அ. 10 லிருந்து 12செ.மீ. வரை
- ஆ. 6 முதல் 8 செ.மீ. வரை
- இ. 15 முதல் 20 செ.மீ வரை
- ஈ. தெரியவில்லை
26. குறுகிய இடங்களைக் கடக்கும் பொழுது வழிகாட்டியின் துணையும் செல்லும் பார்வையற்றோர் எவ்வளவு அடிஇடைவெளி விட்டு அடி எடுத்து வைக்க வேண்டும்?
- அ. 1 அடி இடைவெளி
- ஆ. 2 அடி இடைவெளி
- இ. 3 அடி இடைவெளி
- ஈ. தெரியவில்லை
27. பண்புள்ள வழிகாட்டியின் துணையை உபயோகிக்கும் பொது ஒருவர் தம் வழிகாட்டியின் கையை எவ்விடத்தில் பிடிக்க வேண்டும்?
- அ. வழிகாட்டியின் மூட்டுக்கு கீழே
- ஆ. வழிகாட்டியின் மூட்டுக்கு மேலே
- இ. வழிகாட்டியின் உள்ளங்கையில்
- ஈ. தெரியவில்லை

## APPENDIX-B

### LETTER SEEKING PERMISSION FOR CONDUCTING THE STUDY

From

R.K.Sathya  
I Year M.Sc (N),  
College of Nursing,  
Madurai Medical College,  
Madurai - 20.

To

The Director,  
Indian Association for Blind,  
Sundarrajapuram,  
Alagarkovil Road,  
Madurai.

Through

The principal,  
College of nursing,  
Madurai Medical College  
Madurai- 20.

Respected Sir,

Sub: Requesting permission to conduct a Dissertation study at Indian Association for Blind, regarding.

As per the Curriculum recommended by the Indian Nursing Council and The Tamilnadu Dr. M.G.R. Medical University, all the M.Sc. Nursing Students are required to conduct a dissertation study for the partial fulfillment of the course.

I selected a study topic "Effectiveness of Audio taped instruction on Knowledge of Safety measures among visually challenged children at Selected Blind School in Madurai" for my dissertation.

I kindly request you to permit me to conduct the study in your esteemed Institution.

Thanking You

Date :  
Madurai-20.

S. Valitha  
9/3/12  
Principal  
COLLEGE OF NURSING  
Madurai Medical College  
Madurai-20.

Approved  
M. Ashok  
9/3  
HEADMISTRESS  
IAB Hr. Sec. School for the Blind  
Sundarajampatty,  
Madurai - 625104.

Yours sincerely,  
R.K.Sathya  
(R.K.SATHYA)

## APPENDIX-C

### ETHICAL COMMITTEE APPROVAL

Ref. No. 5336 /E4/3/2012

Govt. Rajaji Hospital,  
Madurai.20. Dated: .08.2012

Institutional Review Board / Independent Ethics Committee.

Dr. N. Mohan, M.S., F.I.C.S., F.A.I.S.,  
Dean, Madurai Medical College & 2521021 (Secy)  
Govt Rajaji Hospital, Madurai 625020.

Convenor  
grhethicssecy@gmail.com.

Sub: Establishment-Govt. Rajaji Hospital, aMadurai-20-  
Ethics committee-Meeting Agenda-communicated-regarding.

The Ethics Committee meeting of the Govt. Rajaji Hospital, Madurai was held at 11.00 Am to 1.00Pm on 28.06.2012 at the Dean Chamber, Govt. Rajaji Hospital, Madurai. The following members of the committee have been attended the meeting.

1. Dr.N.Vijayasankaran,M.ch(Uro.) 094-430-58793 0452-2584397	Sr.Consultant Urologist Madurai Kidney Centre, Sivagangai Road,Madurai	Chairman
2. Dr.P.K. Muthu Kumarasamy, M.D., 9843050911	Professor & H.O.D of Medical, Oncology(Retired)	Member Secretary
3. Dr.T.Meena,MD 094-437-74875	Professor of Physiology, Madurai Medical College	Member
4. Dr. S. Thamilarasi, M.D (Pharmacol)	Professor of pharmacology	
5.Dr.Moses K.Daniel MD(Gen.Medicine) 098-421-56066	Professor of Medicine Madurai Medical College	Member
6.Dr.M.Gobinath,MS(Gen.Surgery)	Professor of Surgery Madurai Medical College	Member
7.Dr.S. Dilshadh, MD(O&G) 9894053516	Professor of OP&Gyn Madurai Medical College	Member
8.Dr.S.Vadivel Murugan., M.D, 097-871-50040	Professor of Medicine Madurai Medical College	Member
9.Shri.M.Sridher,B.sc.B.L. 099-949-07400	Advocate, 2, Deputy collectors colony 4 <sup>th</sup> street KK Nagar, Madurai-20.	Member
10.Shri.O.B.D.Bharat,B.sc., 094-437-14162	Businessman Plot No.588, K.K.Nagar,Madurai.20.	Member
11.Shri. S.sivakumar,M.A(Social) Mphil 093-444-84990	Sociologist, Plot No.51 F.F, K.K Nagar, Madurai.	Member

Following Projects were approved by the committee

SL.NO	NAME OF P.G	COURSE	NAME OF THE PROJECT	REMARKS
1.	Sathya.R.K	M.Sc Nursing	Audio taped instruction on knowledge of safety measures among visually challenged children	Approved

Please note that the investigator should adhere the following: She/he should get a detailed informed consent from the patients/participants and maintain confidentially.

1. She/he should carry out the work without detrimental to regular activities as well as without extra expenditure to the institution to Government.
2. She/he should inform the institution Ethical Committee in case of any change of study procedure site and investigation or guide.
3. She/he should not deviate for the area of the work for which applied for Ethical clearance. She/he should inform the IEC immediately, in case of any adverse events pr Serious adverse reactions.
4. She/he should abide to the rules and regulations of the institution.
5. She/he should complete the work within the specific period and apply for if any Extension of time is required She should apply for permission again and do the work.
6. She/he should submit the summary of the work to the Ethical Committee on Completion of the work.
7. She/he should not claim any funds from the institution while doing the word or on completion.
8. She/he should understand that the members of IEC have the right to monitor the work with prior intimation.

**To**  
**All the above members and Head of the Departmen**  
**All the Applicants.**

  
**DEAN** 11/2/12 .8.12



## APPENDIX-D

### CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A - Baseline Profile

SECTION B - Structured questionnaire on knowledge of safety measures

SECTION C - Audio Taped instruction on safety measures

Prepared for data collection by **R.K.SATHYA**, II year M.Sc (N) student, college of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on Dissertation entitled “**EFFECTIVENESS OF AUDIO TAPED INSTRUCTION ON KNOWLEDGE OF SAFETY MEASURES AMONG VISUALLY CHALLENGED CHILDREN AT SELECTED BLIND SCHOOL IN MADURAI.**” has been validated by me.



**SIGNATURE OF THE EXPERT**

NAME: *Dr. J. John Sam Arun Prabu*  
M.Sc.,(N)M.Sc.(Psy),PGDHM  
DESIGNATION: HOD, Community Health Nursing  
CSI Jeyaraj Annapackiam  
College of Nursing  
Pasumalai, Madurai-625 004  
DATE:

## CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A - Baseline Profile

SECTION B - Structured questionnaire on knowledge of safety measures

SECTION C - Audio Taped instruction on safety measures

Prepared for data collection by **R.K.SATHYA**, II year M.Sc (N) student, college of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on Dissertation entitled **“EFFECTIVENESS OF AUDIO TAPED INSTRUCTION ON KNOWLEDGE OF SAFETY MEASURES AMONG VISUALLY CHALLENGED CHILDREN AT SELECTED BLIND SCHOOL IN MADURAI.”** has been validated by me.

### SIGNATURE OF THE EXPERT

NAME : Dr. C. Selva Kumar MBBS, DPM

DESIGNATION : Director.

DATE : 6, 8.12.

DIRECTOR  
INSTITUTE OF COMMUNITY MEDICINE  
MADURAI MEDICAL COLLEGE  
MADURAI.

## CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A - Baseline Profile

SECTION B - Structured questionnaire on knowledge of safety measures

SECTION C - Audio Taped instruction on safety measures

Prepared for data collection by **R.K.SATHYA**, II year M.Sc (N) student, college of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on Dissertation entitled **“EFFECTIVENESS OF AUDIO TAPED INSTRUCTION ON KNOWLEDGE OF SAFETY MEASURES AMONG VISUALLY CHALLENGED CHILDREN AT SELECTED BLIND SCHOOL IN MADURAI.”** has been validated by me.

  
SIGNATURE OF THE EXPERT

NAME: MRS. BHARATHI SORUSA

DESIGNATION:

R.N.I.S.  
Acct. Professor.

DATE:

17/10/12

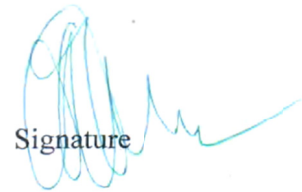
**CERTIFICATE OF VALIDATION**

This is to certify that the dissertation “**EFFECTIVENESS OF AUDIO TAPED INSTRUCTION ON KNOWLEDGE OF SAFETY MEASURES AMONG VISUALLY CHALLENGED CHILDREN AT SELECTED BLIND SCHOOL IN MADURAI.**”, done by R.K.Sathya M.Sc., Nursing II year student, College of Nursing, Madurai Medical College, Madurai - 20 has been edited for English language appropriateness.

Name: *Dr. C. RAJU*

Designation: *ASSOCIATE PROFESSOR IN ENGLISH*

Institution: *YADAVA COLLEGE, Madurai-14*

Signature 

**Dr. C. Raju**  
Associate Professor and Head  
Department of English  
Yadava College (Autonomous)  
Govindarajan Campus, Thiruppalai  
Madurai-625 014.

**CERTIFICATE OF VALIDATION**

This is to certify that the dissertation “EFFECTIVENESS OF AUDIO TAPED INSTRUCTION ON KNOWLEDGE OF SAFETY MEASURES AMONG VISUALLY CHALLENGED CHILDREN AT SELECTED BLIND SCHOOL IN MADURAI.”, done by R.K.Sathya M.Sc., Nursing II year student, College of Nursing, Madurai Medical College, Madurai - 20 has been edited for Tamil language appropriateness.

Name: V. MOHAN

Designation: Associate Prof & Head

Institution: Centre for Advanced Tamil Research  
Yadava college  
Madurai - 625014.

  
Signature

Dr. V. MOHAN, M.A., M.A., M.Phil., Ph.D.,  
ASSOCIATE PROFESSOR & HEAD  
CENTRE FOR ADVANCED TAMIL RESEARCH  
YADAVA COLLEGE (AUTONOMOUS)  
(ACCREDITED WITH 'A' GRADE BY NAAC)  
MADURAI - 625 014

**APPENDIX-E**  
**CONSENT FORM**

**ஒப்புதல் படிவம்**

**ஆராய்ச்சி தலைப்பு**

இசைத்தொகுப்பின் மூலம் பார்வையற்ற குழந்தைகளுக்கு பாதுகாப்பு நடவடிக்கைகள் பற்றிய அறிவுத்திறனை மதிப்பிடுதல்.

**பெயர்:**

**தேதி:**

**வயது:**

**ஆராய்ச்சி சேர்க்கை எண்:**

இந்த ஆராய்ச்சியின் விவரங்களும் அதன் நோக்கங்களும் முழுமையாக எனக்கு தெளிவாக விளக்கப்பட்டது.

எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்து கொண்டு நான் எனது சம்மதத்தை தெரிவிக்கிறேன்.

இந்த ஆராய்ச்சியில் பிறரின் நிர்பந்தமின்றி என் சொந்த விருப்பத்தின் பேரில் தான் பங்கு பெறுகிறேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் பின்வாங்கலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்து கொண்டேன்.

நான் என்னுடைய சுயநினைவுடன் மற்றும் முழு சுதந்திரத்துடன் இந்த மருத்துவ ஆராய்ச்சியில் என்னை சேர்த்து கொள்ள சம்மதிக்கிறேன்.

கையொப்பம்

## APPENDIX-F

### அனைவருக்கும் வணக்கம் !

விழி இருப்போரெல்லாம் !

விழிப்போடு இருந்திருப்பதில்லை !!

விழி இல்லோரெல்லாம் !

விழிப்பில்லாமல் இல்லை !!

நாம் இந்த ஒலிப்பதிவின் மூலம் பார்வையற்றோர் தங்களைப் பாதுகாத்துக் கொள்வதற்கான பாதுகாப்பு உத்திகளைப் பற்றி அறிந்து கொள்வோம்

இந்த நாடகம் ஒரு Super women, பார்வையற்ற குழந்தை மற்றும் அந்தக் குழந்தையின் தாய் பேசிக் கொள்ளும் ஒரு தொகுப்பு ஆகும்.

அம்மா :	சங்கரி, சங்கரி அம்மா Tiffin Box la கீரை சாதம் பண்ணி வெச்சிருக்கேன். Snack டப்பால ஆப்பிள் இருக்கு சமத்தா சாப்பிடனும். பத்திரமா School-க்கு போயிட்டு வரணும்.
சிறுமி:	அம்மா நேத்து Night TV-la Super women பத்தி ஏதோ சொன்னாங்கல மா அதை நான் கேட்டேன்! ஆனா அவர் எப்படி இருப்பாரு எனக்கு தெரியாதே! நான் பார்த்ததில்லையே என்னால பார்க்கவும் முடியாதே !!!
அம்மா:	இப்போ நீ பத்திரமா School-க்கு போயிட்டு வா. சாயந்தரம் வரும் போது அம்மா Super women பத்தி கதை சொல்றேன்.
சிறுமி:	சரிம்மா டா! டா! சிறுமி சாலையில் நடந்து செல்ல அவளது தோளில் யாரோ கை வைப்பது போன்ற உணர்வு ஏற்பட்டு உடனே பதட்டமாகி..... யாரு? யாரு?
Super women:	நான் தான் பாப்பா.
சிறுமி:	நான் தான்னா யாரு நீங்க?
Super women:	நான் தான் Super women
சிறுமி:	நெஜமாத்தானா
Super women:	ம்.. ஆமாம் பாப்பா

சிறுமி	ஹைய்யா... ஹைய்யா... ஜாலி ஜாலி
Super women	சரி, சரி வா பாப்பா Dance ஆடுனது போதும் நான் உன்னை School -ல விட்டுறேன்.
சிறுமி	ஆமா Superwomen பிள்ளைங்களெல்லாம் சொல்றாங்க நீங்க நிறையா Magic எல்லாம் செய்வீங்களாமே! பறந்து கூடபோவீங்களாமே! நிஜமா வா?
Super women:	ஆமாம். பாப்பா என்னை உருவாக்குனவுங்க அது எனக்கு தந்த Gift
சிறுமி	இன்னிக்கு நீங்க Road அ Cross பண்புத்துக்கு Help பண்ணிங்க. இல்லாட்டி எனக்கு ரொம்ப பயமா இருக்கும் Superwomen அதுவும் இல்லாம Traffic னா வேற எனக்கு ரொம்ப பயம்.
Super women	நான் உனக்கு சில உத்திகள் சொல்லி தர்றேன். அது உன்னை நீயே பாதுகாக்க உதவும். உனக்கு பார்வை மட்டும் தான் இல்ல. ஆனா உன்னால நாலா பக்கமும் வர்ற சத்தத்தை நல்லா உணர முடியும். அப்போ Road la வர்ற vehicles ஓட சத்தத்த உன்னால எந்தப் பக்கத்துல இருந்து உணர முடியுதே அந்தப்பக்கம் கை நீட்டி Cross பண்ணணும்.
சிறுமி	ம் சரிங்க Super women ஆமா Super women இந்த Care stick லாம் எப்படி use பண்புதுனு உங்களுக்கு தெரியுமா?
Super women	ம். கண்டிப்பா சொல்றேன். பாப்பா Care னா ஊன்றுகோல்னு சொல்லுவாங்க. இது பார்வை இல்லாதவங்களுக்குனே பிரத்யேகமா உருவாக்கப்பட்ட ஒரு கருவி அதுல ரெண்டு வகை இருக்கு அதாவது துணை ஊன்றுகோல் (Supportive care) மற்றும் ஆய்வு செய்வதற்கான ஊன்றுக்கோல்னு சொல்லுவாங்க
சிறுமி	ஓ-அப்போ இந்த ரெண்டு ஊன்றுகோலோட பயன்தான் என்ன Super women
Super women	துணை ஊன்றுகோல் நம்மல நிலைமைப்படுத்திறதற்கும் ஆய்வு செய்றதுக்கான ஊன்றுகோல் நமக்கு முன்னாடி இருக்கிற தடைகளை கண்டறியத்துக்கும் உதவுது. இந்த கோல் use பண்புது நமக்கு முக்கியமா கை மற்றும் (மூளையோட) கண்ணோட ஒருங்கிணைப்பு அவசியம்



சிறுமி	ஹை Super women நீங்க சொல்ல சொல்ல அந்த Care கூட Magic stick மாதிரி தோணுது அதைப்பத்தி இன்னும் நிறையா சொல்லுவீங்களா?
Super women	ம்... கண்டிப்பா சொல்றேன்டா தங்கம் ! கோலுக்கு மொத்தம் நாலு பாகம் இருக்கு. அதாவத நாம் கைப்பிடிக்கிற இடம் அதை வளைந்த பாகம்னு ரப்பர் கைபிடினு சொல்லுவாங்க அப்டாம் நீண்ட அலுமினியக்கம்பி, அந்த கம்பியோட முனை இப்பி அதுக்கு மொத்தம் நாலு பாகம் டா பாப்பா.
சிறுமி	நான் குட்டியா இருக்கேனே என் Neightக்கு Care இருக்கா super women
Super women	Good. இப்பி தான் Questions கேக்கனும் கண்டிப்பா இருக்கு. அதோட அந்த Stick-அ Use பண்றவுங்க அவுங்களோட மார்பளவு வரை நம்மளோட கட்டைவிரல் மேல் நோக்கியும், மணிக்கட்டை உட்புறமாகவும், வெளிப்புறமாகவும் பயன்படுத்த வேண்டும்.
சிறுமி	Super எப்பி பிடிக்கணும்னு சொல்லிக்குடுத்தாங்க. அதை எப்பி பிடிச்சு நடக்கணும்னு சொல்லித் தருவீங்களா?
Super women	கோலைப்பிடிச்சு நடக்கிறப்போ ஊன்றுகோல் வலது புறமும் உபயோகிக்கிறவரோடு முன்னங்கால் இடது புறமும் இருக்கனும். அதோட ஒவ்வொரு step எடுத்து வைக்கும் போதும் கோலோட முனை உடலோட இடது புறத்திலிருந்து வலது புறத்திற்கு தரையில் லேசா உரசுற மாதிரி எடுத்து வைக்கணும். அதாவது ஊசலாடுவது மாதிரி. இதுக்கு பேரு வில் வளைவு உத்தினு சொல்லுவாங்க. இது மூலமா முன்னாடி இரக்கிறத தடைகளை ஈஸியா கண்டறியலாம். இது மாதிரி கோலை Use பண்றதுக்கு மொத்தம் நான்கு உத்திகள் இருக்கு பாப்பா. பாப்பா இங்க தரை சமமா இல்ல மேடு பள்ளமா இருக்கு. ஒரு ஓரமா வா போயிடலாம்.
சிறுமி	ஆங் super women இந்த மாதிரி மேடு பள்ளமெல்லாம் இருந்தா எப்பி எங்களை நாங்களே பாதுகாத்துக்கிறது. அதுக்கு ஏதாவது technique இருக்கா?
Super women	நிச்சயமா இருக்கு. அதுக்கு தொட்டுச் சறுக்கும் முறைனு பேர். முன்கால் பாதம் தரையை தொடறப்போ நம்மலுடைய கோலும் தரையில் படும் இந்த முறையில் பார்வை குறைபாடு உள்ளவுங்க இரண்டு புள்ளி

	தொடுதல் முறையை உபயோகிக்கனும். அதாவது ஒரு புள்ளியை தொட்டபிறகு கோலால் தரையில் சில அடிதூரம் இழுத்து அடுத்த புள்ளியை தொட்டு நடக்கனும். இதை பார்க்கிறதுக்கு கோலை தரையில் குத்தி குத்தி நடக்கிற மாதிரி இருக்கும்.
சிறுமி	மேடு பள்ளத்துல பாத்து நடக்கிறதுக்கு நீங்க சொல்லிக் கொடுத்த உத்தி use ஆகும். மணற் பரப்புல நடக்கிறதுக்கு ஏதாவது Technique இருக்கா Aunty
Super women	கண்டிப்பா இருக்கு. மணற்பரப்புகள்ல நடக்கிறதுக்கு தொட்டு இழுத்து நடக்கும் முறையை பயன்படுத்தாம். அதாவது மணற்பரப்பு இடது புறத்தில அமைஞ்சிருந்தா நடப்பவர் முனையை இடது புறத்தில தொடங்கி மறுபக்கம் இழுத்து நடக்கனும் திரும்பவும் வலது புறத்தில இருந்து இடது புறத்துக்கு கோலை இழுத்து மணற்பரப்பை அடஞ்ச இதே வழிமுறையைத் தொடரணும். ஒவ்வொரு முறையும் கோலை அசைக்கிறப்போ கோல் உடலின் நடுப்பகுதியில இருக்கிற மாதிரியே, அடி வைக்கிறதையும் ஓசை ஒழுங்கையும் பின்பற்றணும். Alarm Sound (Fire service)
சிறுமி	Super women, Super women இந்த alarm sound accident ஆனவுங்க, உடம்பு சரியில்லாதவுங்க எடுத்திட்டுப் போற Ambulance sound தான்
super owmen	இல்லடா பாப்பா. இது Free service அலாரம் Sound எங்கையாச்சும் திப்பிடிச்சிருந்தா இந்த வண்டி தீயை அணைக்க வெகு விரைவா செல்லும்.
சிறுமி	ஓ. அப்படியா. இந்த மாதிரி தீப்பிடிச்சா செரிசல்கள்ல் பார்வை இல்லாத எங்களால எங்களை நாங்களே எட்டி பாதுகாத்துகிறது
Super women	தீ விபத்து ஏற்பட்டிருச்சுனா முதல்ல அந்த கருகிய வாசனையை உங்களால மோந்து பாக்க முடியும் அதோட உயர் டெசிபல் அலார ஒலியும் கேட்கும் உடனே வாசல் கதவு எங்க இருக்குங்கிறதை தெரிஞ்சு நம்மளோட கை பின்பகுதியை வெச்சு கதவுல நெருப்பு பிடிச்சிருக்கனு தெரிஞ்சிக்கிட்டு கதவு தள்ளி வெளியபோகனும். குறுகிய பாதையாயிருந்தா உடம்பு சாய்ச்சு ஒரு புறமா வெளிய போகனும். அட்டி வெளிய வந்ததும் இலவச தீ பாதுகாப்பு தொடர்பு எண்ணுக்கு

	<p>பக்கத்துல இருக்கிறவங்கள கூட்ட சொல்லலாம்.</p> <p>அந்த தீயணைப்பு சேவை செய்யறவங்க வந்து நெருப்பை அணைச்சு மக்களை காப்பாத்துவாங்க.</p>
சிறுமி	<p>ரொம்ப Thanks super women தீ ஏற்பட்டறப்போ எட்டி நம்மள பாதுகாத்துக்கிறதுன்னு Easyஆ சொல்லிக் கொடுத்தீங்க.</p> <p>அபற்றம் .Schoolல நிறைய நேரம் தொங்குற பூச்செடி மேலேயும், அலமாறிலயும் இடிச்சிட்டீறேன்.</p>
Super women	<p>எப்பவுமே நம்மள சுத்தியிருக்கிற பொருட்கள்ல இருந்து நம்மள பாதுகாக்க நாம எந்த இடத்துல இருக்கோம் அப்டிங்கிற இடம் சார்ந்த கோட்பாட்டை தெரிஞ்சிருக்கிறது அவசியம்.</p> <ul style="list-style-type: none"> <li>➤ தொங்குற பூச்செடி அலமாறில எல்லாம் இடிச்சிகிறாம இருக்கிறதுக்கு நம்மள பாதுகாக்க மேற்பய பாதுகாப்பு உத்தினு ஒன்னு இருக்கு</li> <li>➤ அதை எப்படி செய்யனும்னா வலிமைக் கரத்தை தோள்பட்டை அளவுக்கு உயர்ந்த வேண்டும்.</li> <li>➤ கை மூட்டை 120 டிகிரி கோணத்திலும் முன் கையை முகத்துக்கு எதிரிலும் பிடித்து கொள்ளவும்.</li> <li>➤ கையைத் திருப்பி உள்ளங்கை வெளிப்புறமாக இருக்கிறமாதிரி வைக்கனும். உள்ளங்கையை சற்றே குவிச்சு, விரும்பிற திசையில் நடக்கலாம்.</li> </ul> <p>இப்படி செஞ்சா நம்மளோட உடம்போட மேல் பகுதி, இரு மார்பு மற்றும் தலை போன்ற மேற்பகுதியை பாதுகாத்துக்கலாம். அப்போ நம்ம உடலோட கீழ் பாகங்கள எப்படி பாதுகாத்துக்கனும்.</p>
Super women	<p>Super பாப்பா இப்பி தான் ஆர்வமா கேள்விகளைக் கேக்கனும்.</p> <p>அதுக்கு கீழ் பய பாதுகாப்பு உத்தினு ஒன்னு இருக்கு</p> <p>வழிமுறை:</p> <p>வலிமையான இடது அல்லது வலது கரத்தை நீட்டி உடலின் நடுப்பகுதி வரை கொண்டு வரவும். அந்தக் கரம் உடலின் முன் பக்கம் 10 லிருந்து 12 செ.மீ வரை தூரத்தில் இருக்கட்டும்.</p> <p>விரல்களை சற்றே மடக்கி உள்ளங்கை உடல் பக்கமாக இருக்குமாறு வைக்கவும். நடக்கும்போது கை தளர்ந்திருக்குமாறு பார்த்து கொள்ளவும்.</p> <p>இந்த உத்தியைப் பின்பற்றினால் நமது உடலின் கீழ் பகுதியை நாற்காலி, மேசை வாஷ்பேசின் போன்றவற்றில் மோதிக்கொள்ளாமல் பாதுகாத்துக் கொள்ளலாம்.</p>

<p>சிறுமி</p>	<p>இவ்வளவு நேரம் எனக்கு எவ்வளவு பொறுமையா Explain பண்ணிங்க ரொம்ப Thanks super women இப்போ School வந்தாச்சு பிள்ளைங்களோட சத்தமும் School bell சத்தமும் கேக்குது. Class roomku போறதுக்கு முன்னாடி சில குறுகிய இடங்களும் மாடிப்படியும் இருக்கு அதுல எல்லாம் நான் எப்பி பாதுகாப்பா போறது</p>
<p>super women</p>	<p>உன்னோட ஆர்வத்தை பாக்குறப்ப எனக்கு ரொம்ப பெருமையா இருக்குடா. குறுகிய இடங்களைக் கடக்கிறப்போ நாம வழிகாட்டியோட துணையை பெற்றுக் கொள்ளணும். அந்த வழிகாட்டி தன் கையை மணிக்கட்டை உடம்பில் படியுமாறு வெச்சுக்கணும் பார்வை இல்லாதவங்க வழிகாட்டியோட மூட்டில இருந்து தடவி அவருடைய மணிக்கட்டை பிடிச்சிக்கிட்டு அவருக்கு நேர் பின்னால் ஒரு அடி இடைவெளி விட்டு அடி எடுத்து வைக்கணும். மாடிப்படிகளில் ஏற்ற முன்னாடியோ இறங்குற முன்னாடியே வழிகாட்டி மாடிப்படி இருக்குனு சொல்லிடணும், அப்பறம் ரெண்டு பேருக்கும் நடவுல ஒரு இடைவெளி விடணும். வழிகாட்டி பார்வை குறைபாடு உடையோருக்கு கைப்பிடியைக் கண்டுபிடிக்க அவரது கைகளைத் தன் கைகளுக்கு அடியில் வைத்து கைப்பிடியை பிடிக்கச் செய்யலாம் பார்வை குறைபாடு உடையவங்க உதவியோட மேலே ஏறி இறங்கலாம்.</p>

## APPENDIX-G

### SNAPSHOT OF THE PROJECT



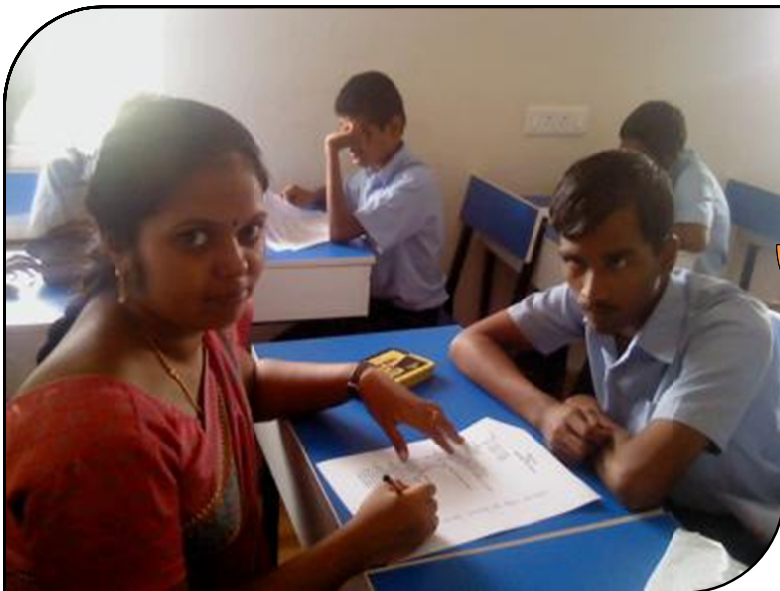
RESEARCHER'S  
SETTING-INDIAN  
ASSOCIATION OF  
BLIND

RESEARCHER IS  
GETTING CONSENT  
FROM SAMPLE

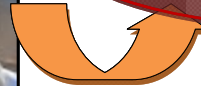




RESEARCHER IS  
CONDUCTING PRETEST



RESEARCHER IS  
CONDUCTING  
POSTTEST







RESEARCHER IS ADMINISTERING AUDIO THROUGH AUDIO DVD PLAYER IN A COMMON HALL

