EFFECTIVENSS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND ATTITUDE REGARDING MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERS AT NAMAKKAL.

Dissertation Submitted to

THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY

CHENNAI

In Partial Fulfilment of Requirement for Degree of

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CERTIFICATE

This is to certify that, this thesis, titled, "**EFFECTIVENSS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND ATTITUDE REGARDING MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERS AT NAMAKKAL.",** submitted by**, Reg. No. 301718001** (2017-2019 Batch) Arvinth College of Nursing in partial fulfilment of the requirement of the Degree of Master of Science in Nursing from The Tamil Nadu Dr. M.G.R Medical University is her original work carried out under our guidance.

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CHAPTER I

INTRODUCTION

"*Eye sight efficient – life proficient*
Vision defective – future ineffective"

-Garrow

BACKGROUND OF THE STUDY

Children are the ones who are very vital for deciding how the world is going to be after some years. So if one can do some good in the life of a child then there can be change in the world to come.

The emotional, social and physical development of young children has a direct effect on their overall development and on the adult they will become. School children is the most critical educational years since children achieve basic literacy and numeracy during this period. Teacher's knowledge about refractive error play an important role in encouraging students to seek treatment that helps in reducing burden of visual problems.

Refractive errors can impose a heavy financial burden on the society. School children are considered a high risk group because uncorrected refractive errors can negatively affect their learning abilities and physical health. Periodic screening in school should be performed to teachers and their parents should be educated about the effects of uncorrected refractive errors on the learning abilities and development of children.

The school years are a very important time in every child's life. All parents want to see their children do well in school and most parents do all they can to provide them with the best educational opportunities. But too often one important learning tool may be overlooked - a child's vision.

Mohamed Sanaulla(2014)

As children progress in school, they face increasing demands on their visual abilities. The size of print in schoolbooks becomes smaller and the amount of time spent reading and studying increases significantly. Increased class work and homework place significant demands on the child's eyes. Unfortunately, the visual abilities of some students aren't performing up to the task.

American optometric association (2011)

According to prevent Blindness America, one in four school-age children have vision problems that, if left untreated, can affect learning ability, personality and adjustment in school. School-age children also spend a lot of time in recreational activities that that require good vision.

WHO (2014)

The refractive errors are one of the leading causes of visual impairment and blindness, particularly in school children. In order to reduce the occurrence of avoidable visual impairment caused by refractive errors, it is necessary to obtain information on visual acuity and refractive errors among school children.

Muhammad ZahidLatif (2017)

Refractive errors affected approximately more than half of the students. Myopia was the more frequent refractive problem. Most of the children were unaware of their refractive errors. The majority of the students were never examined for visual acuity. Most refractive errors can be corrected early in the life. Therefore, every child should receive eye examination by an ophthalmologist at the time of entry into school.

Jang ju(2015)

Children may not know that they have a vision problem. Changes in a child's vision happen very slowly. A child may think that everyone else sees the same way, especially if a child develops nearsightedness (myopia) and faraway objects appear blurry.

Health Encyclopedia

Globally, uncorrected refractive errors are the main cause of visual impairment in children aged 5-15 years. The prevalence of myopia (short-sightedness) is increasing dramatically among children, Particularly in urban areas of South- East Asia.

WHO (2014)

Nearly 3 % of children younger than 18 years are blind or visually impaired, define as having trouble seeing even wearing glasses or contact lenses, according to the National Health Interview Survey. Due to the survey’s methodology, this estimate may include children with under-corrected, but correctable, vision disorders.

Too many children with vision disorders have unmet needs for care, leaving them vulnerable to negative effects on learning and development. Racial and socioeconomic inequities in assess to care are evident across a variety of measures and studies. Children from families with higher incomes are more likely than other children to have diagnosed eye or vision disorders, suggesting greater access to diagnostic eye care.

National Centre for Children's Vision and Eye Health(2015)

Healthcare providers who specialize in children's eye care say kids usually become near- or farsighted between ages 6 and 12. Farsightedness may be diagnosed even earlier, sometimes in infancy. Even infants can wear glasses if they need help to see well. Experts agree that all children should have an eye screening before they enter school. The American Academy of Ophthalmology (AAO) and the American Optometric Association (AOA) recommend that all infants and children be screened for vision problems

Health Encyclopedia

Among children with special health care needs (CSHCN), an estimated 6 % have unmet vision care needs, but again, rates differ significantly across racial/ethnic and socioeconomic groups. Vision screenings, eye examinations, population- based data systems, and measures of accountability are the cornerstones of a comprehensive system to ensure children's vision and eye health.

Vision screenings usually conducted in a school, primary care practice, or community health centre identify general vision problems at an early stage. Screening results must be recorded and communicated to the child's parents, medical home/primary care provider, and school, along with the necessary state agency, with subsequent referral to an ophthalmologist or optometrist for examination and treatment when indicated.

National Centre for Children's Vision and Eye Health(2015)

Vision impairment in children are common and uncorrected vision problems can impair child development, lead to behaviour problems in the classroom, interfere with early literacy and learning, and lead to permanent vision loss. Early detection and treatment are critical. Additionally, visual functioning is a strong predictor of academic performance in school-age children, and vision disorders of childhood may continue to affect health and well-being throughout the adult years.A comprehensive vision health program is a school

nurse intervention that makes a significant measurable difference in a student's overall and learning.

Institute of Medicine (2010)

The world health organization ensuring strategies to promote school eye – health programmes for the diagnosis and management of common conditions, such as refractive errors, and trachoma and vitamin A deficiency in endemic areas, to promote a healthy environment; and to educate children in looking after their eyes as part of the normal school curriculum.

In areas where significant uncorrected refractive errors affect more than 2% of schoolchildren aged 11-15 years,ensure that children undergo a simple vision screening examination, ideally as part of the school health programme, with provision of spectacles to those who will benefit and ensure that all children in special education establishments are examined by an ophthalmologist and receive medical, surgical, optical or low-vision services to maximize their vision and ensure good linkages between eye-care services and those providing education and rehabilitation services for incurably blind children.

One of the target of world health organization is to reduce the global prevalence of blindness in children from 0.75/1000 to 0.4/1000 by the year 2020.

WHO (2014)

The VISION 2020 global initiative intensively promotes awareness of the extent of uncorrected refractive errors and the means for correcting them. Uncorrected refractive errors are increasingly being addressed in national plans for the prevention of blindness, and low-cost, good-quality spectacles are becoming available the latter does not allow an estimate of the contribution of uncorrected refractive error to the visual impairment.

American Optometric Association (2011)

NEED FOR STUDY

Refractive error in children in India is a major public health problem and requires concerted efforts from various stakeholders including the health care workforce, education professionals and parents, to manage this issue. India by 2020 will have close to 2 million blind children and at this point of time it is close to 1.6 to 1.8 million blind children.To treat these visual impairment or blindness in children we need to detect these diseases very early in life because treating these diseases in children can improve their vision that will also improve the brain and overall development of the child.

Uncorrected refractive error is the leading cause of eye problem and the second cause of blindness worldwide. Among children aged 5-15 years, 12.8 million are visually impaired because of refractive errors.

National eye institute(2018)

SethuSheeladevi, et.al (2018) conducted a systematic review to estimate the prevalence of refractive errors in children $\leq$ 15 years of age. The results showed that prevalence of combined refractive errors and myopia alone in schools was higher among girls than boys.

AbiymaruAlemalehu, et.al., (2018) conducted a cross sectional study to determine knowledge, attitude associated factors among primary school teachers regarding refractive error. The total sample size was 565 primary school teachers and the data was collected by self administered questionnaire. The results study showed that teachers 55.9% had good knowledge and 57.2% had favourable attitude towards refractive error. The study recommended that eye health education and training to primary school teachers directed towards bringing a significant change in the knowledge and attitude regarding refractive error must be stepped up within eye health program.

In India, we do not have any screening protocol as such done in all the hospitals at birth.We need to improve significantly in early detection, by educating our school teachers regarding symptoms of refractive error and its management .so there by we can detect earlier and prevent childhood blindness due to refractive error. So the investigator felt the need of educating school teachers regarding refractive error.

STATEMENT OF PROBLEM

Effectiveness of structured teaching programme on knowledge and attitude regarding management of selected visual problems in primaryschool children among teachers at Namakkal**.**

OBJECTIVES

1. To assess the existing knowledge and attitude regarding management of selected visual problems in primaryschool children among teachers.
2. To evaluate the effectiveness of structured teaching programme on management of selected visual problems in primaryschool children among teachers.
3. To correlate the post test knowledge and attitude regarding management of selected visual problems in primaryschool children among teachers.
4. To find out the association between post test knowledge and attitude regarding management of selected visual problems in primaryschool children among teachers with their demographic variable.

HYPOTHESIS

H_1- There will be a significant difference between pre test and post test level of knowledge and attitude regarding management of selected visual problems inprimary school children among teachers

H_2-There will be a significant correlation between post test level of knowledge and attitude regarding management of selected visual problems in primaryschoolchildren among teachers

H_3-There will be a significant association between of post test knowledge and attitude regarding management of selected visual problems in primaryschoolchildren among teachers with their demographic variables.

OPERATIONAL DEFINITION

EFFECTIVENESS

In means producing an intended result. In this study if refers to determine the extent to which structured teaching program has achieved the desired effect in improving the knowledge and attitude regarding management of refractive errors by using statistical measurement.

STRUCTURED TEACHING PROGRAMME

It is a planned series of information to educate group of people. In this study it refers to a structured set of information provided in sequence by researches to spread knowledge to school teachers regarding refractive error with using of audio visual aids like power point presentation.

KNOWLEDGE

Knowledge refers to the awareness of school teachers on refractive error as elicited by the response to the investigator developed structured questionnaire is validated by the experts.

Level of knowledge	Percentage (%)
Inadequate knowledge	≤50%
Moderately adequate knowledge	51- 75%
Adequate knowledge	>75%

ATTITUDE

An attitude is an expression of favourable or unfavourable response towards a person, place, thing, regarding refractive error.

Level of Attitude	Percentage (%)
Unfavourable attitude	≤50%
Moderately favourable attitude	51-75%
Favourable attitude	>75%

VISUAL PROBLEM

Visual problem is defined as reduction in vision and inability to see objects as clearly as a healthy person. The most common vision problems are refractive errors, more commonly known as near sightedness, farsightedness, astigmatism and presbyopia.

PRIMARYSCHOOL CHILDREN

The children who are the age of six to twelve years old, and Refer to primaryschool children studying 1^{st} - 5^{th} standard in selected school at Namakkal.

TEACHER

A person who is teaching in a school, below the college levels

ASSUMPTIONS

1. The primaryschool teachers may have some knowledge and attitude regarding management of selected visual problems inprimaryschool children.
2. Teachers receiving structured teaching programme may have enhanced knowledge and attitude than those teachers who do not.
3. Adequate knowledge regarding management of selected visual problems in primaryschool children among teachersmay promote favorable attitude among teachers

DELIMITATION

1. The study was delimited to a period of one week
2. The study was delimited from primaryschool teachers

CHAPTER II

REVIEW OF LITERATURE

Review of literature is a broad, comprehensive, systematic and critical view of scholarly publication, unpublished print materials, audio and visual materials and personal communication.

The researcher presents the review of related literature which helps the studying of problems in depth. It also serves as a valuable guide to understand what has been done, what is still unknown and untested

Review of literature is critical summary of research on a topic of interest generally prepared to put a research problem is content to identify gaps and weakness is prior studies so as to justify a new investigation.(Poilet and Back, 2010)

Review of literature consists of two sections:

1. Literature related to refractive error
2. Studies related to refractive error

PART I

LITERATURE RELATED TO REFRACTIVE ERROR

Vision Development in school children focus, tracking, depth perception, and other aspects of vision continue to develop throughout early and middle childhood. Convergence, the ability of both eyes to focus on an object simultaneously, becomes more fully developed by about age seven. This is one reason any problems a child has with focusing or eye alignment should be treated before that age.

David Turbert (2017)

Schoolchildren needs many abilities to succeed in school. A child's eyes are constantly in use in the classroom and at play. When his or her vision is not functioning properly, education and participation in sports can suffer.

As children progress throughout their education, they face increasing demands on their visual abilities. Vision is more than just the ability to see clearly or having 20/20 eyesight. It is also the ability to understand and respond to what is seen. There are many basic visual skills beyond seeing clearly that are important to supporting academic success.

American Optometric Association(2011)

Vision problems are common among school kids. According to prevent Blindness America, one in four school children have vision problems that, if left untreated, can affect learning ability, personality and adjustment in school. School children also spend a lot of time in recreational activities that require good vision. After school team sports or playing in the backyard aren't as fun if you can't see well.

Gary Heiting, OD (2017)

The most common cause of visual difficulties in children is refractive errors. Young Children Naturally Hyperopia(Farsightedness)because the depth of the eye globe is not fully developed until about age 5 years. These children may have blurriness at close range, but by school age this blurriness usually resolves. Estimation that about 25%(1.8 million) of all secondary school children living in poverty cannot clearly see in the classroom, because of refractive error. Impoverished children often do not have access to appropriate vision care.

Usually myopia develops between the age of 5 to 15 years, because of rapid growth of the eyes. They have few early symptoms and the detection is often at school or on routine visual testing.

Generally, a child 12 years of age can demonstrate the responsibility necessary to wear and care for contact lenses. Contact lenses may be used in younger children but are lost or damaged more readily. Because of the continuing refractive development in the child's vision through adolescence, laser surgery for vision correction is not recommended until 18 years of age, though it may be done experimentally in the children.

BT Basavanthappa(2015)

Refractive error is an optical defect in the eye that prevents light rays from focusing on the macula, thus preventing clear vision. Most children are hypermetropic birth however, the eyeball enlarges over time so that the eye becomes emmetropic if the process of enlargement continues, older children will be myopic.

Refractive errors are due to an abnormality in axial length, curvature or index of the optimal media. Thus, longer length, steeper curvature and higher index will cause rays of parallel light to focus sooner, in front of the retina, producing myopia. The reverse situation will cause hypermetropia rays of parallel light are brought to focus behind the retina.

Suspect refractive errors when children report difficulty in reading of the blackboard, eye stain on near work and holding books close to the eyes. Check vision using Snellen's chart; repeat using a pinhole. In refractive errors, vision improves with the pinhole since if prevents spherical aberrations by cutting off peripheral rays. A pinhole can easily be made by creating a hole (<1mm in diameter) in the canter of an opaque is of cardboard.Refractive errors are commonly treated using corrective lenses such as spectacles or contact lenses. Refractive surgery can also correct some refractive errors.

A Parthasarathy(2013)

Proper care of eye to be included in the curriculum of education of the school children. Regular eye examination of pre - school and school children in detection of disease leading to partial or total blindness, teachers and volunteers being trained for screening such cases. Teach and practice principles of good posture, proper lighting, avoid glare, keeping proper distance and angle between the books and eye. Use of suitable types of letter in the text books. Health authorities to be informed if there are large number of cases.

MK.Vasundhara (2008)

The state of refractive error is termed as ametropia. It occurs when the images fail to come to a proper focus on the retina due to discrepancy between the size and refractive power of the eye. The ideal optical state is 'emmetropia' when the parallel light rays coming to a focus on the retina. The refractive errors are presented as myopia (or near sightedness), hyperopia (or far sightedness), astigmatism and anisometropia (inequality in refractive power of the two eyes).

Paruldata(2014)

About 30 % of the blind in India are said to lose their eyesight before they reach the age of 20 years, and many under the age of 5 years. The 19.7% of Refractive error causes of blindness in India.

School should be responsible for the early detection of refractive errors, treatment of squint and amblyopia. Administration of vitamin A to children at risk, has shown gratifying results. In other words, basic eye health services should be provided in schools.

Park's (2015)

Light in the classrooms- to protect the eyes of children, proper lighting in necessary. The blackboard and visual aids should not be a strain on the eyes. The teachers supervise reading, writing and handwork to avoid strain on the eyes.

S.Kamalam(2005)

STUDIES RELATED TO REFRACTIVE ERROR

Ngozika.EEzinne, et.al.,(2018) conducted a cross sectional study to determine the prevalence of refractive error and visual impairment in primary school children. A sample size was 1020 children in 102 clusters were enumerated and 998(97.8%) were examined in Onitsha, Anambra state, Nigeria. The results showed that the prevalence of uncorrected, presenting and best corrected visual acuity of 20/40 or worse in the better eye was 9.7%, 7.7% and 1.3%, respectively. Refractive error accounted for 86.6% of all causes of visual impairment. Myopia was the most prevalent refractive error (46.4%), followed by astigmatism (36.1%) and hyperopia (17.5%). The study recommended that the prevalence of refractive error and visual impairment among primary school in Onitsha was relatively high, highlighting the need for services and strategies to address these conditions in that area.

Nitm.U, et.al., (2018) conducted randomized study to determine the prevalence of refractive error and other eye diseases in school children. The result showed that 957 students aged 6-12years were screened 67 had myopia with visual acuity of 6/12 or were in the better eye. The study recommended that the most common eye defect in the students were refractive error.

R. Vishnuprasad, et.al.,(2017) conducted a cross sectional study to assess visual impairment among 10–14-year school children in Puducherry. The total sample size was 1884 school students. The Results showed that overall prevalence of visual impairment (vision ≤6/12) among the study participants was 6.37% (95% confidence interval = 5.27–7.47). The prevalence of visual impairment increased with age and it was found to be high among male students (6.6%) when compared to female students (6%). Presenting vision of 6/6 was observed in 79.8% of the children while with pinhole correction, the proportion increased to 94.6%.The study recommended that the prevalence of visual impairment population was Children with a positive family history of spectacle use were more likely to have visual impairment.

Adeoti .A, et.al.,(2017) conducted a prospective study to determine the magnitude and pattern of refractive errors in order to provide facilities for its management. The result showed that refractive errors was found in 1824(53.7%) patients there 832 (45.61) males and 992(54.39%) females with a mean age 35.55 myopia was commonest-1412(39.21%) eyes hypermetropia 840(23.33%). The study recommended that refractive error is common in this environment.

Gogate.P, et.al.,(2017) conducted descriptive study to assess the knowledge of primary school teachers regarding eye health needs among school children in selected school of Newdelhi. A sample of 100 children's are random technique. The result showed that the majority of them had poor knowledge on eye health and visual problems. They recommended that teachers needs adequate knowledge of children's eye disorders.

Kabindra Deva Sarma (2016) conducted a cross-sectional study to assess the magnitude of refractive error and assess the degree of myopia among school-going children. The total Sample size was 400 children, the sample selected by randomized method. The 6 to16 years children of selected schools of Guwahati City. The results showed that Prevalence of refractive errors was 23.5%. Myopia was the major refractive error (81.92%) among total refractive errors, followed by astigmatism (14.89%) and hypermetropia (3.19 %). Majority of the myopic children were of low degree myopia. (89.61%). Study reveals that only 24.47% students were already wearing spectacles where as remaining 75.53 % of students are unaware about their problems. The study recommended that prevalence of uncorrected refractive error was also found to be high; therefore students, parents and teachers must be educated about sign and symptoms of refractive errors, so that they can get early detection and correction with spectacles to prevent progression of visual impairment.

UmamaheswariKannan, et.al.,(2016)conducted a cross sectional study to finding the influence of risk factors on refractive error among rural and urban school children and its prevalence. The sample size 1300 (6-12 years) school children, sample collected by cluster sampling and using structured pretested questionnaires. The results showed that the proportion of children with refractive error was significantly more in urban (17.5%) than in the rural area (12%). Myopia (14.6%) was the common RE in rural and urban children. The study recommended that the teachers who play an important role in shaping the child's career and behaviour. The necessity of proper and constant wear spectacles should be emphasized.

RadhikaParanjpe, et. al., (2016) conducted a prospective, cross sectional study, to identify a range of potential issues relating to parental awareness and perceptions of common eye diseases affecting children. The sample size 200 (0-16 years) children parents. The results showed that refractive errors was found to be 103 out of 200 (51.5%). This is followed by 71 (35.5%) cases of squint/strabismus. They recommended that as the number of mothers attending the eye department with the child is high, so there is more need of educating the mothers about the eye conditions of the child. Education and socioeconomic conditions affect the knowledge and awareness levels of the parents regarding eye problems.

Sarah Polack, et.al., (2016) conducted A cross-sectional study to assess the prevalence of refractive errors and visual impairment among schoolchildren among 5,470 schoolchildren from 14 schools in rural central Ethiopia. The result showed that 4,238 children, 405 (9.5 per cent) were visually impaired and of these 267 children were diagnosed as having refractive errors, with an overall prevalence of 6.3 per cent, comprised of 6.1 per cent in boys and 6.6 per cent in girls. Myopia is the most prevalent refractive error; accounting for 6.0 per cent, followed by compound myopic astigmatism 1.2 per cent, then simple myopic astigmatism 0.5 per cent, mixed astigmatism 0.26 per cent and finally hyperopia 0.33 per cent. Reasons for visual acuity of 6/12 or worse in the better eye were found to be refractive error (65.9 per cent), corneal problems (12.8 per cent) and amblyopia (9.6 per cent). The study concluded that uncorrected refractive error is a common cause of visual impairment among schoolchildren in rural central Ethiopia. They recommended thatthe need for regular school-screening programs that provide glasses at low cost or free of charge for those who have refractive errors.

Robaei, et.al.,(2016) conducted a cross- sectional study, to describe the prevalence of hyperopia among 6-12 years children the randomly selected samples in Australian school children. The result showed that prevalence of moderate hyperopic among children 6-12 were13.2% and 5% respectively. The study concluded the moderate hyperopia was strongly associated with many common eye condition. The study has documented a relatively low prevalence of visual impairment in a population of Australian children. Uncorrected astigmatism and amblyopia were the most frequent causes.

Fan, et.al.,(2016) conducted cross sectional to determine the progression of myopia of school children, sample size7560 children in specified random sampling in Hong Kong. The results showed myopia was the most common refractive error and was found in 36.71% of children, incidence of myopia was 144.1 per 1000 primary school children per annum. The study conclude that the prevalence and progression of myopia in Hong Kong children was much higher than those previously reported in western countries. They recommended that the long-term socioeconomic impact of these findings warrants further studies.

Asmaa G. Mohamed, et.al., (2015) conducted a descriptive cross sectional study to assess the refractive error among a school children under 10 years. The total sample size 241 students in Assiut City. The sample selected by stratified random sampling technique. The results showed that 241 students participated in the study but 142 only agreed to perform eye examination with 59% response rate, 95 children (66.9%) had a significant refractive error of 0.50 or worse in one or both eyes. They study recommended that will enable to start corrective measures at the early state and decrease visual disability.

Jang JU (2015) conducted a descriptive study to assess the prevalence of refractive errors among elementary school children. The total sample size was 245073 school children in SouthKorea. The study results showed that conducted visual acuity test5.7% have better eyes, 5.2% of them already wore corrective spectacles. The prevalence of myopia, hyperopia and astigmatism was 46.5% confidence interval 6.2% and 9.4% respectively. So the higher prevalence of refractive error among school children, exceeding 50% of subjects. The study recommended that genetics and educational influences, such as studying and learning, may play a role in the progression of myopia in Korean elementary school children.

Sethis.G, et.al.,(2015) conducted cross sectional study to prevalence of refractive error in school children, the sample size 1647 school children which include 828 males and 819 females at Ahmedabad city. The study result was 25.32% of the students were found to be having refractive errors of these 47% were females and 53% were males. The study concluded that these data support the assumption that vision screening of school children in developing countries. They recommended that to correctable causes of decreased vision especially refractive errors and in minimizing long term visual disability.

Maul, et.al.,(2015) conducted descriptive study to assess the prevalence of refractive errors and visual impairment in school age children on sample size 6,998 children in La Florida, The results showed refractive error was the causes in 56.3% of the 1285 eyes with reduced vision, amblyopia in 6.5%, other causes in 4.3%, with unexplained causes in the remaining 32.9%. Refractive error, associated primarily with myopia, is a major causes of reduced vision in school age children in La Florida. More than 7% of children could benefit from the provision of proper spectacles. Further studies are needed to determine whether the upward trend in myopia continues far beyond 15 years of age.

Elham.R Al-Tamimi, et.al.,(2015) conducted a cross sectional observational study, to determine the distribution and pattern of refractive errors, strabismus, and amblyopia in children. The sample size1350 children (1-15 years) and conducted ophthalmic examination in a private hospital in Saudi Arabia.The study results showed that Refractive errors accounted for 44.4% of the cases, the predominant refractive error being hypermetropia which represented 83%. Strabismus and amblyopia were present in 38% and 9.1% of children, respectively. They concluded that focus was on the frequency of refractive error, strabismus, and amblyopia which were considerably high. Hypermetropia was the predominant refractive error in contrast to other studies in which myopia was more common. They recommended that important to promote public education on the significance of early detection of refractive errors, and have periodic screening in schools.

PART II

CONCEPTUAL FRAMEWORK

Conceptual framework means interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme. It presents logically constructed to provide general explanation of the relationship between the concepts of research design

The conceptual framework of the present study is developed based on the General systems theory pioneered by Ludwig von Betlalaff in 1968. This system is cylindrical in nature and continues to be so, as long as the four components (input, process, output and feedback) keep interacting with each other. If there are any changes in the interacting components there will be alteration in all the parts.Feedback from within the system or from the environment provides information which helps the system to determine whether it is meeting its goal.

INPUT

It consist of information, energy or matter that enters the system. Study the school teachers are a system with input from self and acquired from environment.

In the present study refers to the teacher's characteristics like age, gender, educational qualification, years of experience and sources of knowledge such as mass media, health professional, school health programmes, students and parents. Which may influence the knowledge and attitude on refractive error.

PROCESS

It is the action needed to accomplish the desired task, to achieve the desired output.

In this study process refers to the development of structured knowledge and attitude questionnaire and assessment of knowledge and attitude about refractive errors on various aspects like systems, effects and action to be taken using structured knowledge and attitude questionnaire.

OUTPUT

The output is the product of process. It is the return of matter, energy and information to the environment in an altered state affecting the environment.

In this study, output refers to adequate or inadequate knowledge and thereby the ability or inability to identify the refractive errors in children and take action

FEEDBACK

Feedback is the information of environmental responses to the system's output, which is used by the system in adjustment, correction and accommodation to interaction with the environment feedback is the not assessed in this study.

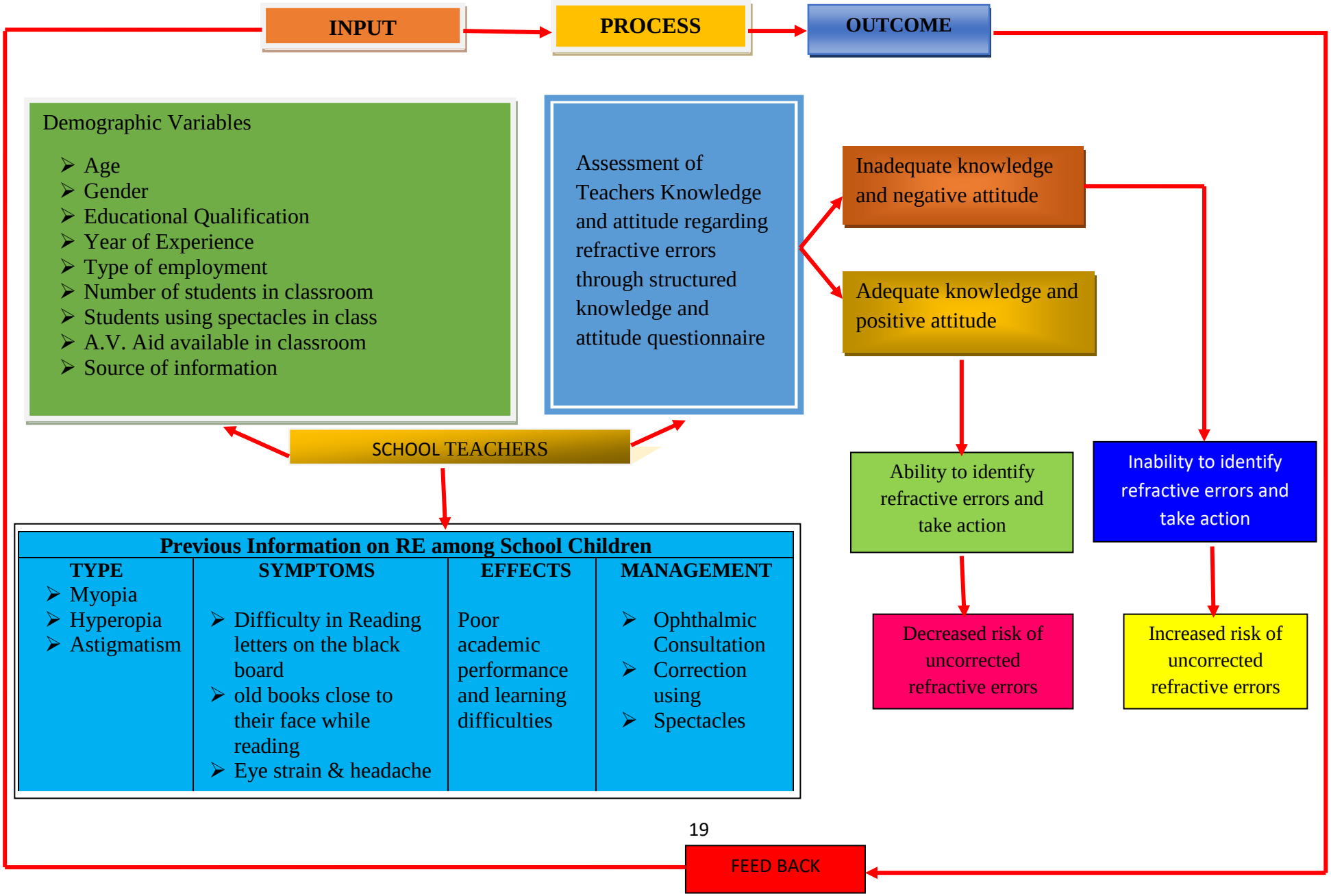


Fig. 2.1: Conceptual Work based on General System of Theory pioneered by Ludwig Von Betlalaff

CHAPTER III

METHODOLOGY

Methodology is a general term and has many meaning. It includes the steps, procedures and strategies for gathering and analyzing data in a research investigation. **(Densie F. Polit, et. al., 2010)**

This chapter deals with the description of methodology and different steps, which were taken for gathering and organizing data for the investigation. It includes description of research approach, research design, study setting, target population, sample, sampling technique, development and description of tool, data collection and plan for data analysis.

RESEARCH DESIGN

Research design is a plan according to which research must be carried out it specific what observations to make, which variables to focus in, how to make them, which measurement, procedures to adopt and when to make. The research design also determines which of any variable will be actively manipulated by researcher and how subjects are to be selected from the target population of interest. (Manfred Stommel, 2004). The research design selected for this study was quasi experimental design - one group pre test, post test design.

RESEARCH APPROACH

A research approach tells the researchers from whom the data is to be collected, how to collect, and how to analyze the data. It also suggests the possible conclusion and helps the researcher in answering specific research question in the most accurate and efficient way possible.[Celia E.Willis, 2004]

The selection of research approach is a basic procedure for conducting research study. In view of the nature of the problem selected for the study and objectives to be accomplished, evaluate research was considered an appropriate research approach for the present study

The research approach used for this study was Evaluative approach. It is used to evaluate the effectiveness of the structured teaching programme. Here the dependent variable is measured at two points of time, before and after the intervention.

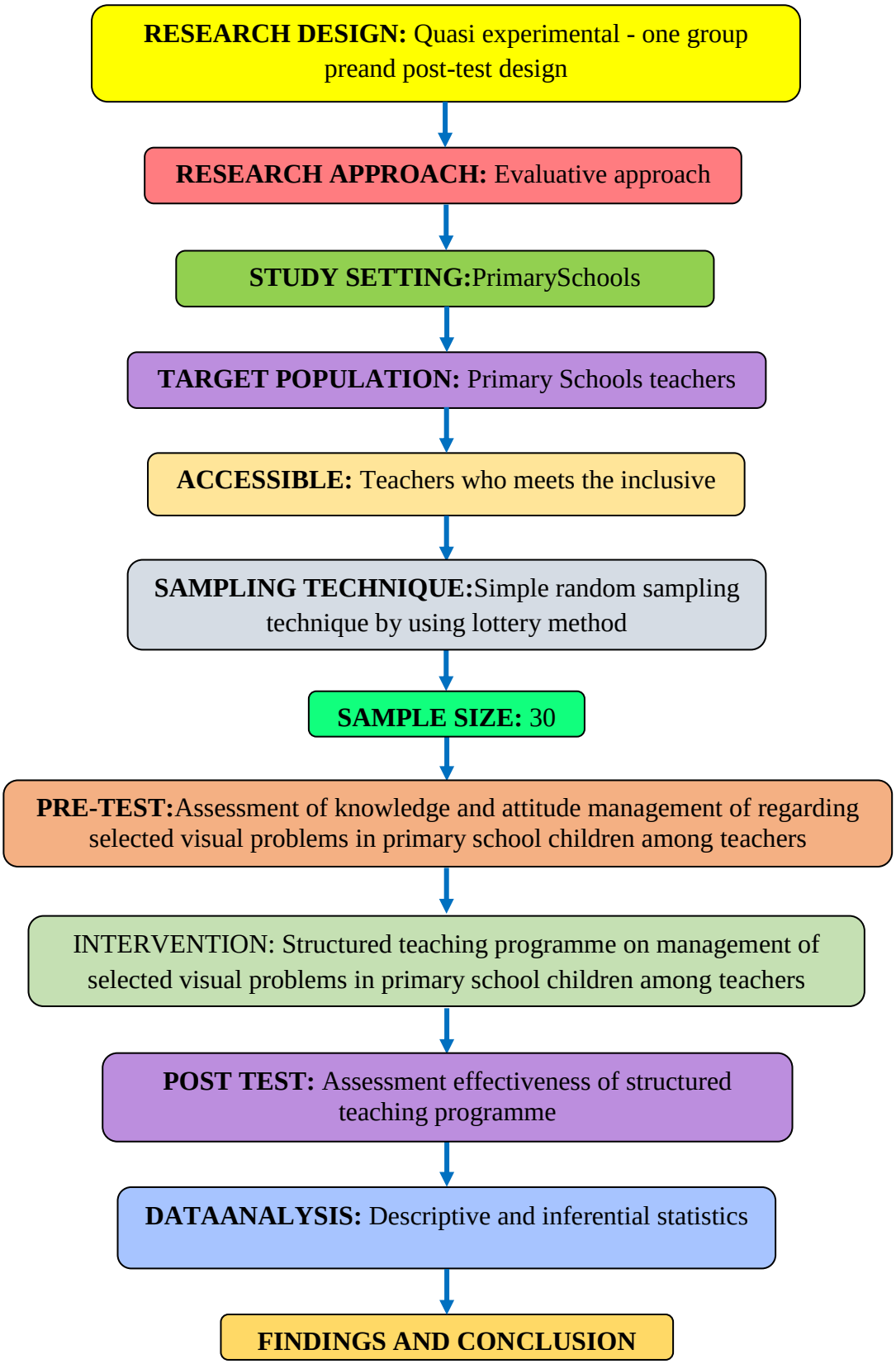


Fig. 3.1: Schematic Representation of Research Design

Group	Pre Test	Intervention	Post Test
Teachers	Assessment of Pre Test level of knowledge and attitude regarding management of selected visual problems in primary school children	Administration of Structured Teaching Programme regarding management of selected visual problems in primary school children	Assessment of Post Test Level of knowledge and attitude regarding management of selected visual problems in primary school children

STUDY SETTING

Setting is the general location and condition in which data collection takes place in the study. (Polit and Hungler, 2003).

This study wasconducted in primary schools at Namakkal. The selection of study set up is based on feasibility of conducting study and availability of sample subject. The study was conducted for 30 school teachers working in Primary School, Namakkal.The school has started on 1977. Total students in this school are 480 and there are 36 teaching staffs.The working hours of this school is 9.00am – 1.00pm and 2.00 pm – 4.00 pm.

VARIABLES

Variables are concept at different levels of abstractions that are concisely defined to promote their measurement or manipulation within the study.

INDEPENDENT VARIABLES

In these study independent variables refers to structured teaching programme on management of selected visual problems in primary school children among teachers.

DEPENDENT VARIABLES

In this study knowledge and attitude score regarding management of selected visual problems in primary school children among school teachers.

POPULATION

Population is defined as the entire aggregation of cases that meet a designed set of criteria. (**Polit and Hungler, 1999**).

Target population comprised of school teachers. All teachers fulfilling inclusion criteria were selected for the study.

SAMPLE

Sample is a subset of the population selected to participate in a research study to generalize population characteristics. Sampling refers to the process of selecting a portion of the population to represent the entire population. (**PolitandHungler, 2003**)

The sample of study comprised of 30 school teachers working in primary schools.

SAMPLE SIZE

The sample of study comprised of 30 school teachers working Primary Schools, Nanakkal. Who fulfilled the inclusion criteria.

SAMPLING TECHNIQUE

Thirty samples were selected by using simple random sampling techniqueby lottery method inprimary schools atNamakkal.

CRITERIA FOR THE SELECTION OF SAMPLE

Inclusion criteria:

1. Teachers who are teaching 6-10 years of children
2. Teachers who are present at the time of study

Exclusive criteria:

1. Teachers who are working in extracurricular activities like sports
2. Teachers who are not working completely minimum of one academic year

SELECTION AND DEVELOPMENT OF TOOL

According to Carol L. Mache, the study methods used to collect data are intended to allow the researcher to construct a description and meaning of the variables under study. Structured questionnaire was used to assess the knowledge and attitude scale to assess the attitude level of school teachers. Since it is considered to be the most appropriate instrument to elicit the response from literate subjects.

DEVELOPMENT ANDDESCRIPTION OF THE TOOL

DEVELOPMENT OF THE TOOL

The instrument selected for research study was a vehicle that would obtain details to draw conclusion pertaining to the study. (**Treece and Treece**).

The investigator prepared structured questionnaire to assess the knowledge and attitude scale to assess attitude of school teachers regarding management of selected visual problems in primary school children.

It was considered to be the most appropriate instrument to elicit the responses from the teachers.

STEPS IN THE CONSTRUCTION OF THE TOOL

The following steps are carried out in preparing the tool

- Literature review
- Expert's opinion

Literature related to the topic available from books, journals, periodicals, published and unpublished research studies and articles were reviewed to develop the tool. Also the investigator discussed the topic with experts in the fields of nursing and medicine, biostatistics and incorporated their valuable suggestion and alteration made accordingly.

DESCRIPTION OF THE TOOL

The tool used for data collection was structured questionnaire to assess the knowledge and attitude scale use to assess the attitude level of school teachers regarding management of selected visual problems in primary school children.

The structured questionnaire comprised of 3 sections.

SECTION – A

Socio demographic data consists of 9 items seeking information about Age, Gender, Educational Qualification, Year of experience, Type of employment, Number of students in classroom, Materials used for teaching, Information regarding students using spectacles inyour classroom andsource of information regarding management of visual problems in primary school children among teachers.

SECTION – B

The knowledge aspect consist of 26 multiple choice questions regarding definition of refractive error and its types, causes, symptoms, treatment, Dietary management, academic problems related to refractive error. Each questionhas four options with one correct answer. Each correct answer was given a score of one and wrong answer carries score zero.

Scoring

- Each correct answer carrying a score of 1 and
- Each incorrect answer carrying a score of 0

The Score was interpreted as

Level of knowledge	Percentage (%)
Inadequate knowledge	≤50%
Moderately adequate knowledge	51- 75%
Adequate knowledge	>75%

SECTION – C

A five point attitude scale was prepared by the investigator to assess the attitude of management of selected visual problems in primary school children among teachers working in government high school. The attitude aspect consists of 10 items with 5 points regarding management of selected visual problems. First five questions of positively worded statements and other five questions contains of negatively worded statement. Maximum score -50, Minimum score -25.

Level of Attitude	Percentage (%)
Unfavourable attitude	≤50%
Moderately favourable attitude	51-75%
Favourable attitude	>75%

Interpretation

Positive Questions	Negative Questions
Strongly Agree -5	Strongly Agree -5
Agree -4	Agree -4
Uncertain -3	Uncertain -3
Disagree -2	Disagree -2
Strongly disagree -1	Strongly disagree -1

CONTENT VALIDITY

Validity is the most important simple methodology criteria for evaluating any measuring instrument. Validity reflects how accurately the measure yields information about the true or real variable being studied. (CarolMacnee 2004)

The experts from the fields of nursing, Biostatistics and transport authority examined the relevancy and accuracy of the tool. Based on the expert's opinion the tool was modified.

The final tool comprised of demographic variables consist of section A had 9 items, section B had 26 items, section C had 10 items.

RELIABILITY OF THE INSTRUMENT

The tool was administered to 30 school teachers working in government high school. The reliability was established by using spearman brown split half technique of knowledge and attitude was found to 'r' =0.95 with indicates reliability.

DEVELOPMENT OF THE STRUCTURED TEACHING PROGRAMME

A structured teaching programme was developed to educate the school teachers regarding management of selected visual problems in primary school children.

Keeping in mind. The objective, literature review and the opinion of the experts developed a first draft of teaching programme. The main factors considered while preparing structured teaching programme included, the method of teaching adopted, simplicity of language, literacy level of the samples and the areas covered in the knowledge assessment and attitude assessment and the relevance of teaching aid.

The structured teaching programme was prepared to enhance the knowledge of teachers regarding management of selected visual problems in primary school children and was given to experts for their comment.

PILOT STUDY

Pilot study is a small scale version or trail run of the major study. The function ofthis to obtain information for improving the project and to assess its feasibility.

A pilot study was conducted in the month of June 07.06.2019, 9 were selected from Primary School, Puthupatti, NamakkalDistrict,Tamilnadu.

The purpose of the pilot study was

- To evaluate the effectiveness of structured teaching programme on management of selected visual problems in primary school children.
- To compare the pre-test and post test scores of teachers regarding management of selected visual problems in primary school children.
- To find out the feasibility of conducting the final study and to determine the method of statistical analysis.

The sample selected for pilot study was 9 school teachers selected by simple random sampling technique by using lottery method and structured questionnaire was used to assess the knowledge and attitude scale was used to assess attitude of teachers regarding definition of refractive error and its types, causes, symptoms, treatment, Dietary management, academic problems related to refractive error. Structured Teaching Programme was administered and then effectiveness of Structured Teaching Programme was evaluated after 7 days using the same tool.

PROCEDURE FOR DATA COLLECTION

The investigator got permission from school head master to conduct the study. Data was collected during the month of Julywith 30 teachers working in Primary Schools at Namakkal teacher selected by simple random sampling technique by using lottery method. Pre test was conducted on 02.07.2019. The investigators established good rapport with the teachers and obtained information regarding demographic data, knowledge and attitude of teachers were assessed and Structured Teaching Programme was given after pre-test.

Power point were used as Audio visual aids and the subjects were very much interested during study period and took active participation in asking question and seeking clarification.Post test was done after 7 days after structured teaching programme nearly one hour with same questionnaire.

S. No.	Date	Name of the School	Number of Samples	Pre Test	Post Test
1	02.07.2019	Little Angels Matriculation School, Aniyapuram, Namakkal.	11	02.04.2019	09.07.2019
2	04.07.2019	Anna Nahru Primary School, S.P. Puthu, Namakkal	10	04.07.2019	11.07.2019
3	08.07.2019	Kalaimagal Primary School, Valaiyapatti, Namakkal.	9	08.07.2019	15.07.2019

PLAN FOR DATA ANALYSIS

The data obtained were analyzed in terms of objectives of the study by using descriptive and inferential statistics.

The plan for data analysis as follows

- Data were organized in master sheet.
- The frequencies and percentage for the analysis of demographic variables like Age, Gender,Educational Qualification, Year of experience, Type of employment, Grades of teaching etc.
- Mean, mean score percentage and standard deviation of pre and post test scores.
- Paired 't' test to find out the effectiveness of structured teaching programme in terms of gain in knowledge and attitudes on management of selected visual problems in primary school children.
- Inferential statistics especially chi – square test find out the association between knowledge and attitude with selected demographic variables.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data collected from 30 teachers working in Primary Schools at Namakkal, to assess the effectiveness of structured teaching programme on knowledge and attitude regarding management of selected visual problems in primary school children among teachers. The data collected for the study was grouped and analyzed as per the objectives set for the study. The findings based on the descriptive and inferential statistical analysis are presented under the following sections.

ORGANIZATION OF DATA

The findings of the study were grouped and analyzed under the following sessions.

Section A: Description of the demographic variables.

Section B: Assessment of pretest and post test level of knowledge and attitude regardingmanagement of selected visual problems in primary school children among teachers.

Section C: Effectiveness of structured teaching programmeon knowledge and attitude regarding management of selected visual problems in primary school children among teachers.

Section D: Relationship between post test knowledge and attitude scores regarding management of selected visual problems in primary school children among teachers.

Section E: Association of post test level of knowledge and attitude regarding management of selected visual problems in primary school children among teacherswith their selected demographic variables.

SECTION A: DESCRIPTION OF THE DEMOGRAPHIC VARIABLES.

Table 1: Frequency and percentage distribution of demographic variables of teachers.

N = 30

Demographic Variables	No.	%
Age		
25 - 35 years	20	66.67
36 - 45 years	9	30.00
46 - 50 years	1	3.33
Above 50 years	0	0.00
Gender		
Male	5	16.67
Female	25	83.33
Educational qualification		
Diploma in teaching education	6	20.00
Graduate	19	63.33
Post graduate	5	16.67
Years of experience		
Less than 3 years	5	16.67
4 - 6 years	18	60.00
7 - 10 years	7	23.33
Type of employment		
Temporary	7	23.33
Permanent	23	76.67

Number of students in classroom		
30 students	28	93.33
40 students	2	6.67
50 students	0	0.00
100 students	0	0.00
What type of A.V. Aids available in your classroom?		
OPH	0	0.00
Posters	15	50.00
Blackboard	13	43.33
Powerpoint presentation	2	6.67
How many students using spectacles in your class?		
Yes	9	30.00
No	21	70.00
Source of information regarding visual problems		
Mass media	7	23.33
Friends and Family	8	26.67
Medical Professionals	0	0.00
None	15	50.00

The table 1 shows that with respect to age, 20(66.67%) were in the age group of 25 – 35 years, 9(30%) were in the age group of 36 – 45 years and only one (3.33%) was in the age group of 46 – 50 years.

With regard to gender, 25(83.33%) were female and 5(16.67%) were male.

Considering the educational qualification, 19(63.33%) were graduates, 6(20%) were diploma in teaching education and 5(16.67%) were post graduates.

Regarding years of experience, 18(60%) had 4 – 6 years of experience, 7(23.3%) had 7 – 10 years of experience and 5(16.67%) had less than 3 years of experience.

Considering the type of employment, 23(76.67%0 were permanent employees and 7(23.33%) were temporary employees.

With respect to number of students in classroom, 28(93.33%) were 30 students and 2(6.67%) were 40 students.

Regarding types of teaching aids, 15(50%) using posters, 13(43.33%) using blackboard and 2(6.67%0 used powerpoint presentation.

Regarding students using spectaclesin classroom in your class, 21(70%) had not noticed and 9(30%) noticed students struggling with blackboard reading.

With respect to source of information regarding visual problems, 15(50%) had no source of information, 8(26.67%) had family and friends with visual problems and 7*23.33%) had mass media as source of information.

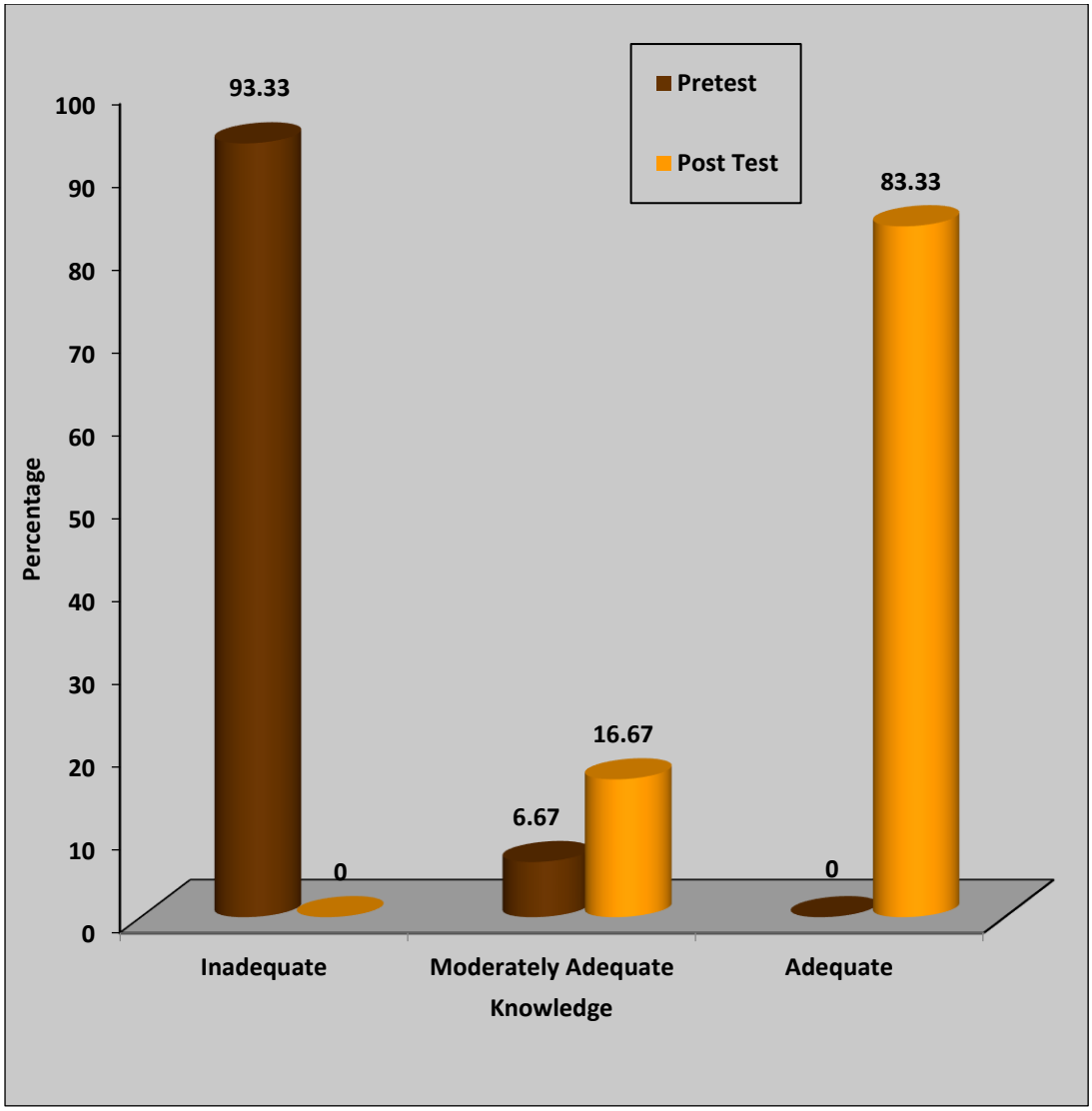
SECTION B:ASSESSMENT OF PRETEST AND POST TEST LEVEL OF KNOWLEDGE AND ATTITUDE MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERS.

Table 2: Frequency and percentage distribution of pretest and post test level of knowledge regarding management of selected visual problems in primary school children among teachers.

N = 30

Knowledge	Inadequate (≤50%)		Moderately Adequate (51 – 75%)		Adequate (>75%)	
	No.	%	No.	%	No.	%
Pre Test	28	93.33	2	6.67	0	0
Post Test	0	0	5	16.67	25	83.33

The table 2 shows that in the pretest, 28(93.33%) had inadequate knowledge and 2(6.67%) had moderately adequate knowledge whereas in the post test after the administration of structured teaching programme, 25(83.33%) had adequate knowledge, and 5(16.67%) had moderately adequate knowledge regarding management of selected visual problems in primaryschool children among teachers.



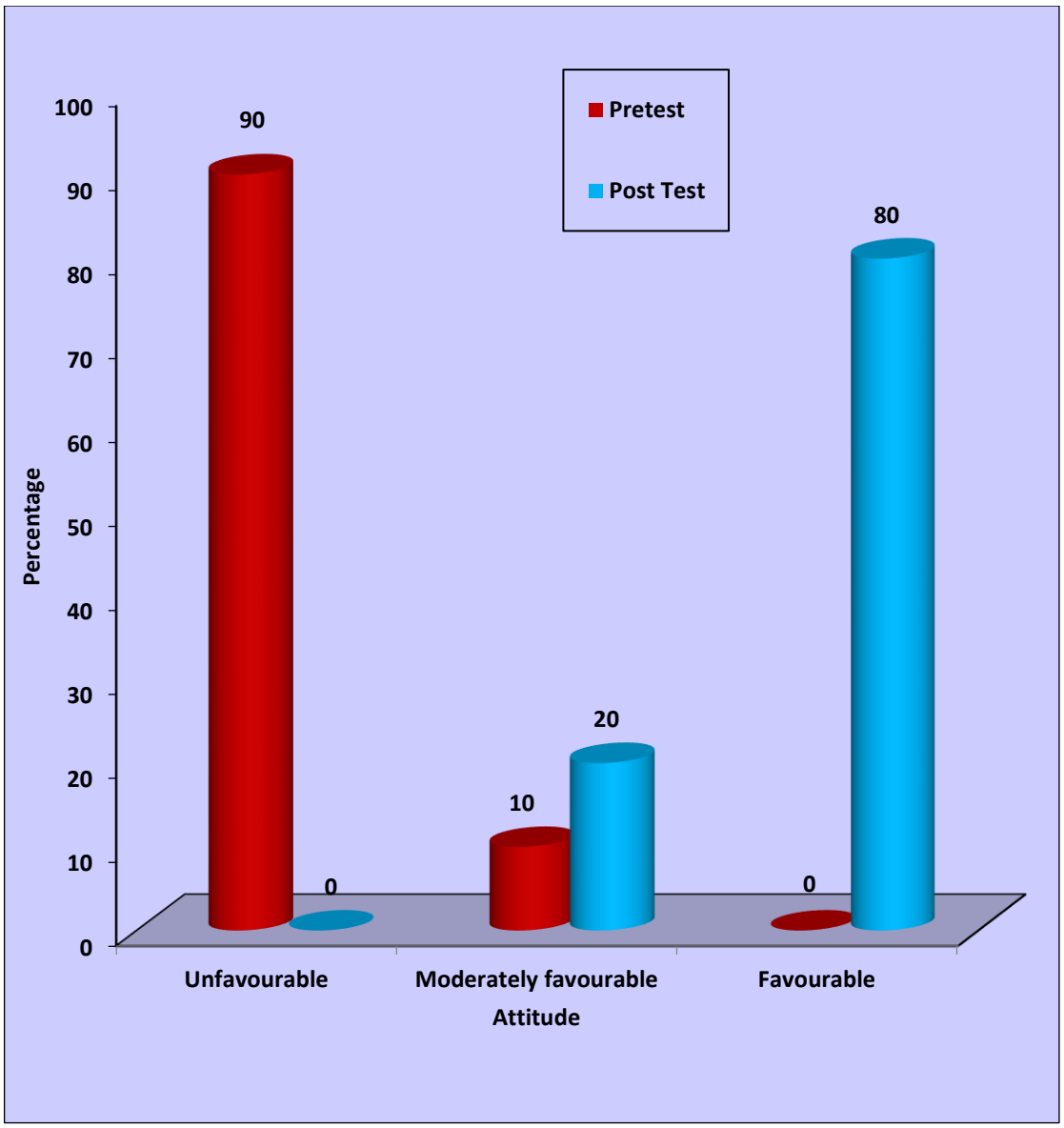
Percentage distribution of pretest and post test level of knowledge regarding management of selected visual problems in primaryschool children among teachers.

Table 3: Frequency and percentage distribution of pretest and post test level of Attitude regarding management of selected visual problems in primaryschool children among teachers.

N = 30

Attitude	Unfavourable (≤50%)		Moderately Favourable (51 – 75%)		Favourable (>75%)	
	No.	%	No.	%	No.	%
Pre Test	27	90.0	3	10.0	0	0
Post Test	0	0	6	20.0	24	80.0

The table 3 shows that in the pretest, 27(90%) had unfavourable attitude and 3(10%) had moderately favourable attitude whereas in the post test after the administration of self-instructional module, 24(80%) had favourable attitude and 6(20%) had moderately favourable attitude regarding management of selected visual problems in primaryschool children among teachers.



Percentage distribution of pretest and post test level of attitude regarding management of selected visual problems in primaryschool children among teachers

SECTION C: EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND ATTITUDE REGARDING MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERS.

Table 4: Comparison of pretest and post test scores of knowledge and attitude regarding management of selected visual problems in primary school children among teachers.

N = 30

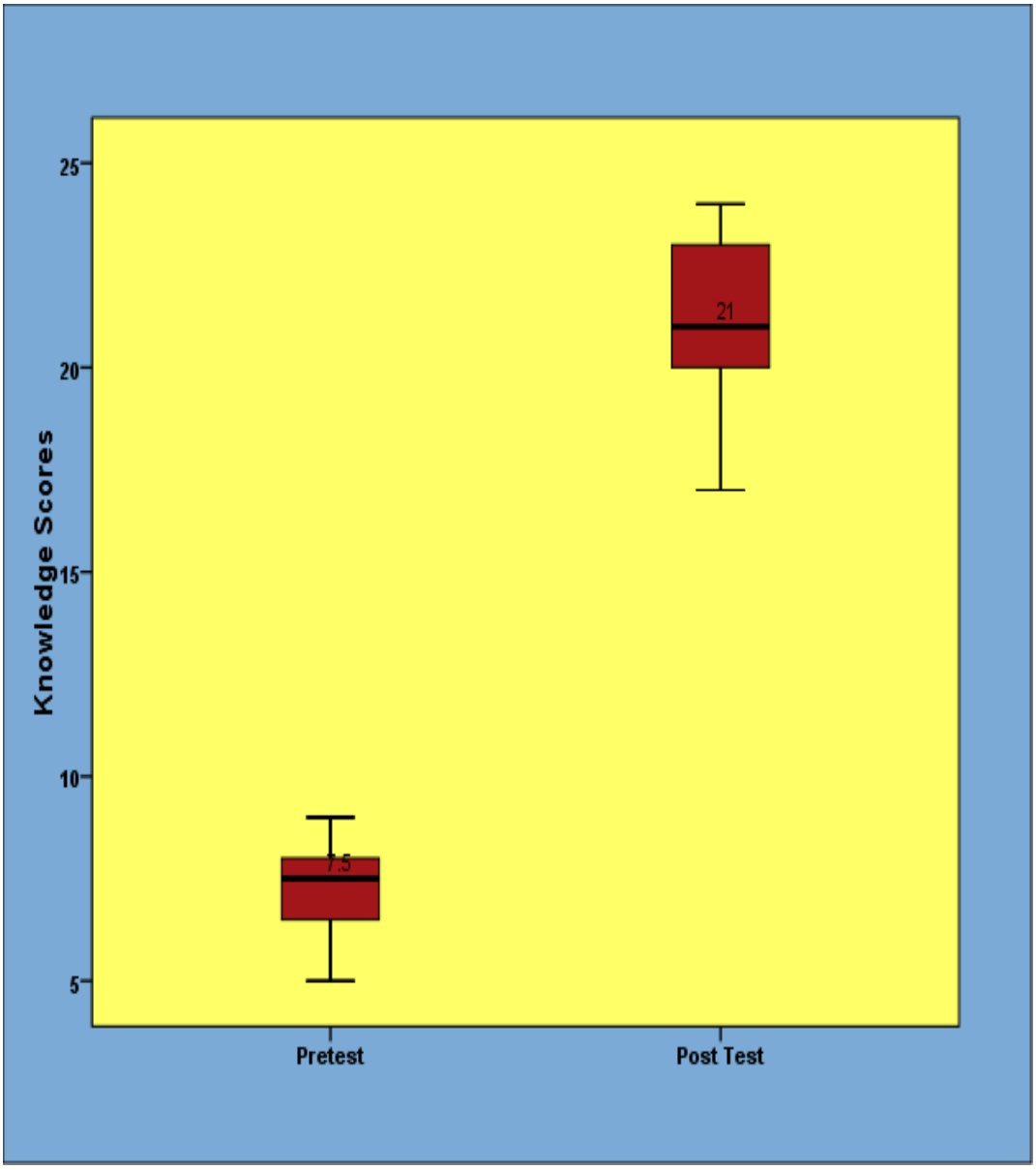
Variables	Pre Test		Post Test		Mean Improvement Score & %	Paired 't' test Value
	Mean	S.D	Mean	S.D		
Knowledge	7.80	2.04	21.06	1.98	13.26 (51.0%)	**t = 26.153 p = 0.0001, S*****
Attitude	20.76	5.84	43.80	5.46	23.03 (46.06%)	**t = 16.473 p = 0.0001, S*****

P***0<0.001, S – Significant

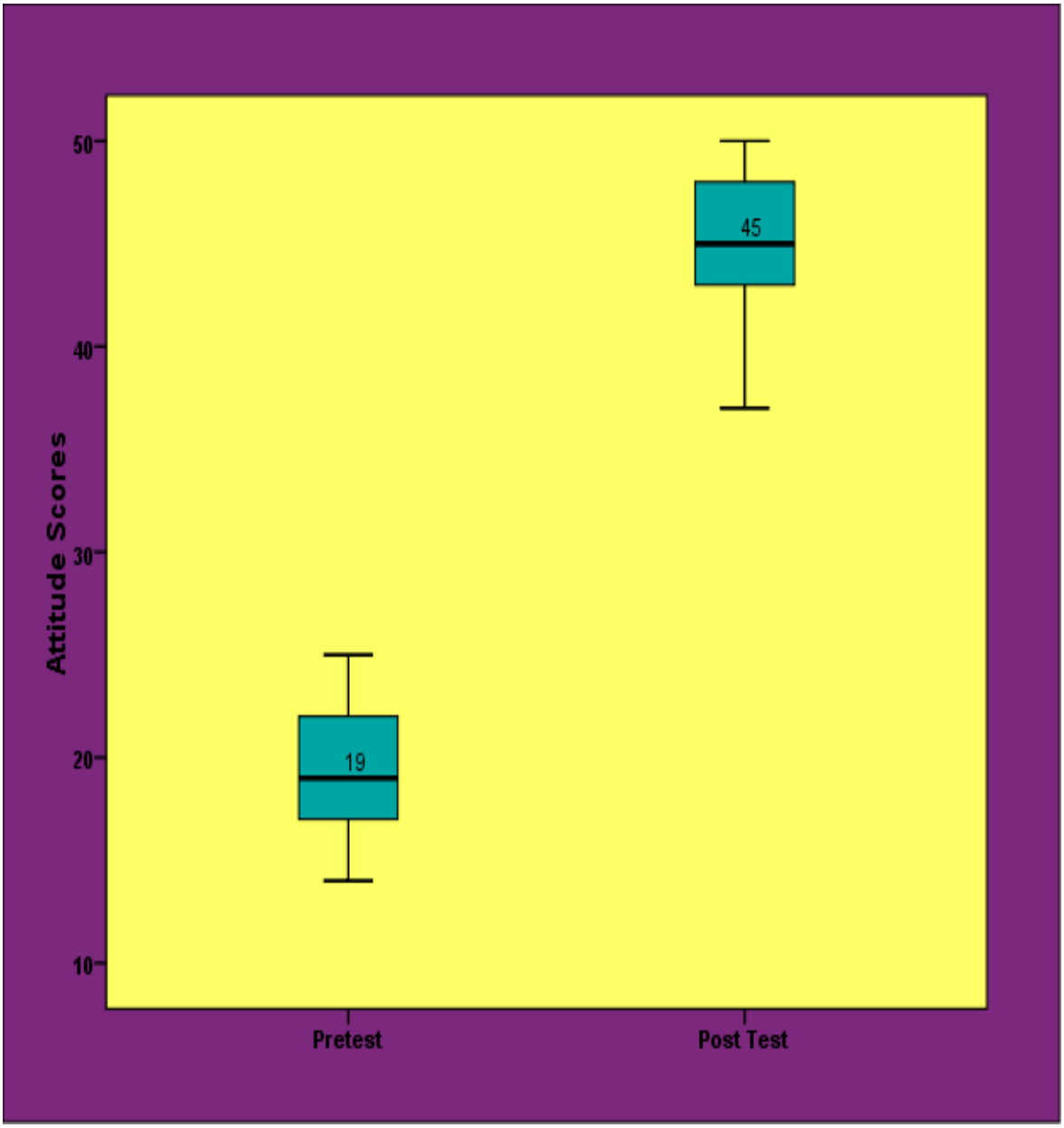
The table 4 depicts that the pretest mean score of knowledge was 7.80±2.04 and the post test mean score was 21.06±1.98. The mean improvement score was 13.26 i.e., 51%. The calculated paired't' test value of t = 26.153 was found to be statistically highly significant at p<0.001 level.

The table also depicts that, the pretest mean score of attitude was 20.76±5.84 and the post test mean score was 43.80±5.46. The mean improvement score was 23.03 i.e., 46.06%. The calculated paired 't' test value of t = 16.473 was found to be statistically highly significant at p<0.001 level.

From the above findings it is indicated that structured teaching programme on knowledge and attitude regarding management of selected visual problems in primaryschool children imparted to teachers was found to be effective in improving the post test level of knowledge and attitude among teachers.



Boxplot showing the comparison of pretest and post test scores of knowledge and attitude management of selected visual problems in primaryschool children among teachers



Boxplot showing the comparison of pretest and post test scores of knowledge and attitude management of selected visual problems inprimaryschool children among teachers

SECTION D: RELATIONSHIP BETWEEN POST TEST KNOWLEDGE AND ATTITUDE SCORES REGARDING MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERS.

Table 5: Correlation between post test knowledge and attitude scores regarding management of selected visual problems in primary school children among teachers.

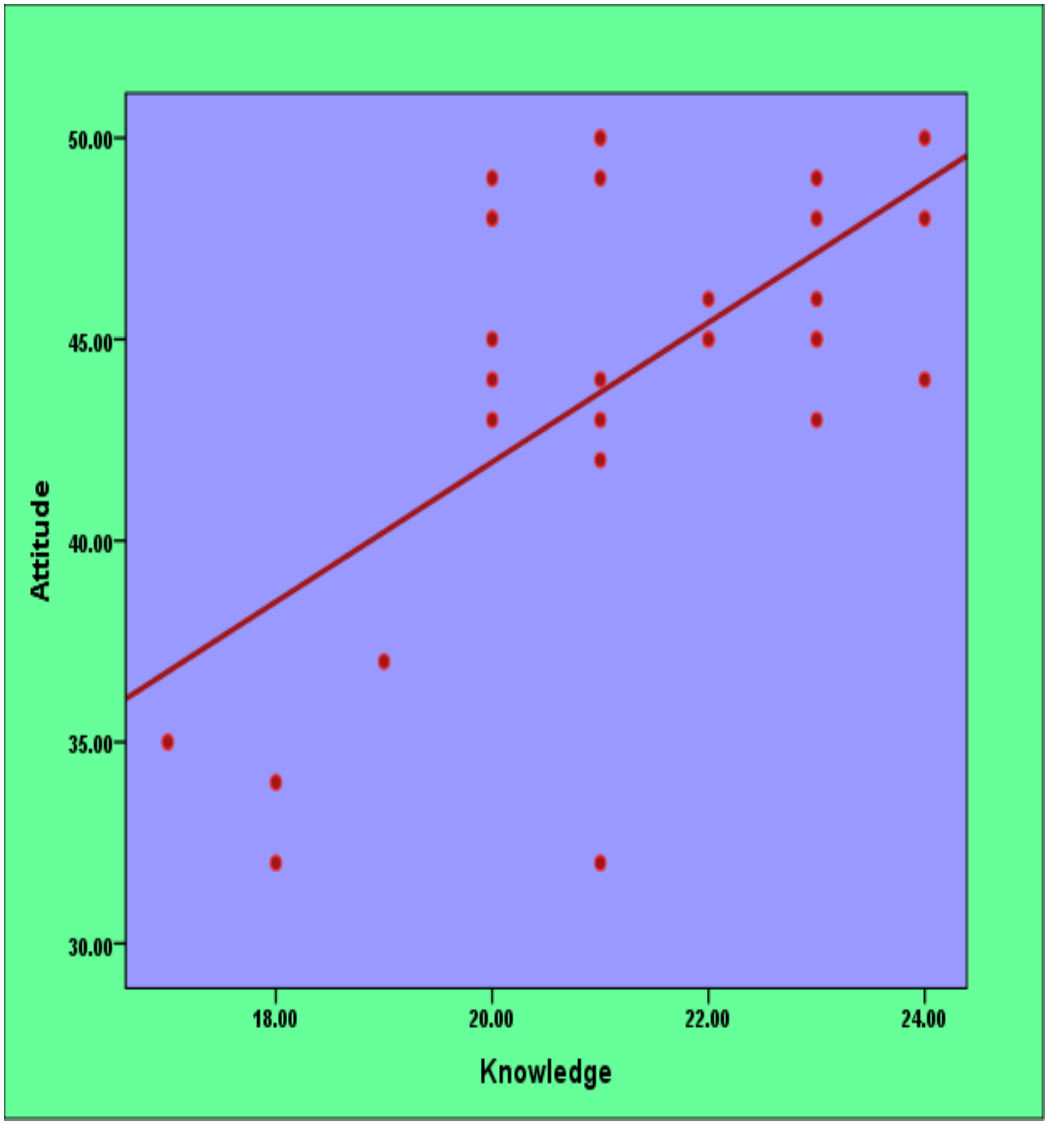
N = 30

Test	Knowledge		Attitude		'r' Value
	Mean	S.D	Mean	S.D	
Post Test	21.06	1.98	43.80	5.46	**r =0.629 p = 0.001, S*****

***p<0.001, S – Significant

The table 5 portrays that the post test mean score of knowledge was 21.06±1.98 and the post test mean score of attitude was 43.80±5.46. The calculated Karl Pearson's Correlation 'r' value of r = 0.629 shows a moderate positive correlation between post test knowledge and attitude score which was found to be statistically significant at p≤0.001 level.

This clearly indicates that when the knowledge regarding management of selected visual problems in primaryschool children among teachers.



Scatter dot diagram showing the relationship between post test knowledge and attitude scores regarding management of selected visual problems in primaryschool children among teachers

SECTION E: ASSOCIATION OF POST TEST LEVEL OF KNOWLEDGE AND ATTITUDE REGARDING MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERSWITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

Table 6: Association of post test level of knowledge regarding management of selected visual problems in primaryschool children among teachers with their selected demographic variables.

N = 30

Demographic Variables	Moderately Adequate (51 – 75%)		Adequate (>75%)		Chi-Square
	No.	%	No.	%	
Age					
25 - 35 years	4	13.3	16	53.3	**χ^2=6.960 *d.f*=2 *p* = 0.031 S***
36 - 45 years	0	0	9	30.0	
46 - 50 years	1	3.3	0	0	
Above 50 years	-	-	-	-	
Gender					**χ^2=8.112 *d.f*=1 *p* = 0.004 S*****
Male	3	10.0	2	6.7	
Female	2	6.7	23	76.7	
Educational qualification					χ^2=3.474 *d.f*=2 *p* = 0.176 N.S
Diploma in teaching education	0	0	6	20.0	
Graduate	5	16.7	14	46.7	
Post graduate	0	0	5	16.7	
Years of experience					χ^2=0.069 *d.f*=2 *p* = 0.966 N.S
Less than 3 years	1	3.3	4	13.3	
4 - 6 years	3	10.0	15	50.0	
7 - 10 years	1	3.3	6	20.0	
Type of employment					**χ^2=4.509 *d.f*=1 *p* = 0.034 S***
Temporary	3	10.0	4	13.3	
Permanent	2	6.7	21	70.0	

Number of students in classroom					
30 students	4	13.3	24	80.0	χ^2=1.714 *d.f*=1 *p* = 0.190 N.S
40 students	1	3.3	1	3.3	
50 students	-	-	-	-	
100 students	-	-	-	-	
What types of A.V. Aids available in your classroom?					
OPH	4	13.3	11	36.7	χ^2=2.234 *d.f*=2 *p* = 0.327 N.S
Posters	1	3.3	12	40.0	
Blackboard	-	-	-	-	
Powerpoint presentation	0	0	2	6.7	
How many students using spectacles in you class? Yes/No, if Yes mention the numbers?					χ^2=0.286 *d.f*=1 *p* = 0.593 N.S
Yes	2	6.7	7	23.3	
No	3	10.0	18	60.0	
Source of information regarding visual problems					
Mass media	2	6.7	5	16.7	χ^2=0.934 *d.f*=2 *p* = 0.627 N.S
Friends and Family	1	3.3	7	23.3	
Medical Professional	-	-	-	-	
None	2	6.7	13	43.3	

***p<0.001, *p<0.05, S – Significant, N.S – Not Significant

The table 6 depicts that the demographic variables age, gender and type of employment had shown statistically significant association with post test level of knowledge regarding management of selected visual problems in primary school children among teachers at p<0.05, p<0.001 and p<0.05 level respectively and the other demographic variables had not shown statistically significant association with post test level of knowledge regarding management of selected visual problems in primary school children among teachers.

Table 7: Association of post test level of attitude regarding management of selected visual problems in primary school children among teachers with their selected demographic variables.

N = 30

Demographic Variables	ModeratelyAdequate (51 – 75%)		Adequate (>75%)		Chi-Square
	No.	%	No.	%	
Age					χ^2=**6.563** ***d.f*=2** ***p* = 0.038** **S***
25 - 35 years	5	16.7	15	50.0	
36 - 45 years	0	0	9	30.0	
46 - 50 years	1	33.	0	0	
Above 50 years	-	-	-	-	
Gender					χ^2=**6.000** ***d.f*=1** ***p* = 0.014** **S***
Male	3	10.0	2	6.7	
Female	3	10.0	22	73.3	
Educational qualification					χ^2=4.342 *d.f*=2 *p* = 0.114 N.S
Diploma in teaching education	0	0	6	20.0	
Graduate	6	20.0	13	43.3	
Post graduate	0	0	5	16.7	
Years of experience					χ^2=0.446 *d.f*=2 *p* = 0.800 N.S
Less than 3 years	1	3.3	4	13.3	
4 - 6 years	3	10.0	15	50.0	
7 - 10 years	2	6.7	5	16.7	
Type of employment					χ^2=2.981 *d.f*=1 *p* = 0.084 N.S
Temporary	3	10.0	4	13.3	
Permanent	3	10.0	20	66.7	

Number of students in classroom					χ^2=1.205 *d.f*=1 *p* = 0.272 N.S
30 students	5	16.7	23	76.7	
40 students	1	3.3	1	3.3	
50 students	-	-	-	-	
100 students	-	-	-	-	
What types of A.V. Aids available in your classroom?					χ^2=3.397 *d.f*=2 *p* = 0.183 N.S
OPH	5	16.7	10	33.3	
Posters	1	33.	12	40.0	
Blackboard	-	-	-	-	
Power point presentation					
How many students using spectacles in you class? Yes/No, if Yes mention the numbers?					χ^2=0.40 *d.f*=1 *p* = 0.842 N.S
Yes	2	6.7	7	23.3	
No	4	13.3	17	56.7	
Source of information regarding visual problems					χ^2=0.863 *d.f*=2 *p* = 0.650 N.S
Mass media	2	6.7	5	16.7	
Friends and Family	2	6.7	6	20.0	
Medical Professional	-	-	-	-	
None	2	6.7	13	43.3	

***p<0.001, **p<0.01, S – Significant, N.S – Not Significant

The table 7 depicts that the demographic variables age and gender had shown statistically significant association with post test level of attitude regarding management of selected visual problems in primary school children among teachers at p<0.05 level and the other demographic variables had not shown statistically significant association with post test level of attitude regarding management of selected visual problems in primary school children among teachers.

CHAPTER V

DISCUSSION

This study was conducted to assess the effectiveness of structured teaching programme on knowledge and attitude regarding management of selected visual problems in primary school children among teachers working in Primary Schools at Namakkal, 30 samples were taken. Pretest and post test was conducted. The Data were collected for a period of six weeks in selected Primary Schools at Namakkal. The discussion was based on the objectives specified in this study.

DESCRIPTION OF THE DEMOGRAPHIC VARIABLES

The analysis revealed that, with respect to age, 20(66.67%) were in the age group of 25 – 35 years, 9(30%) were in the age group of 36 – 45 years and only one (3.33%) was in the age group of 46 – 50 years. With regard to gender, 25(83.33%) were female and 5(16.67%) were male.

Considering the educational qualification, 19(63.33%) were graduates, 6(20%) were diploma in teaching education and 5(16.67%) were post graduates. Regarding years of experience, 18(60%) had 4 – 6 years of experience, 7(23.3%) had 7 – 10 years of experience and 5(16.67%) had less than 3 years of experience.

Considering the type of employment, 23(76.67%0 were permanent employees and 7(23.33%) were temporary employees.

With respect to number of students in classroom, 28(93.33%) were d0 students and 2(6.67%) were 40 students. Regarding types of teaching aids, 15(50%) used posters, 13(43.33%) used blackboard and 2(6.67%) used powerpoint presentation.

Regarding students using spectacles in your class, 21(70%) had not noticed and 9(30%) noticed students using spectacles. With regard to received inservice education programme regarding visual problems of school children 22(73.33%) had not received and 8(26.67%) received inservice education programme.

With respect to source of information regarding visual problems, 15(50%) had no source of information, 8(26.67%) had Friends and Family with visual problems and 7*23.33%) had mass media as source of information.

The first objective was to assess the existing and post test level of knowledge and attitude regarding management of selected visual problems in primary school children among school teachers.

Findings of the pretest level of knowledge revealed that, 28(93.33%) had inadequate knowledge and 2(6.67%) had moderately adequate knowledge whereas in the post test after the administration of structured teaching programme, 25(83.33%) had adequate knowledge, and 5(16.67%) had moderately adequate knowledge regarding management of selected visual problems in primary school children among teachers.

The findings in table 3 shows that in the pretest, 27(90%) had unfavourable attitude and 3(10%) had moderately favourable attitude whereas in the post test after the administration of self-instructional module, 24(80%) had favourable attitude and 6(20%) had moderately favourable attitude regarding management of selected visual problems in primary school children among teachers.

The above findings are consistent with the study conducted by

AbiymaruAlemalehu (2018) conducted cross sectional study to determine knowledge, attitude as associated factors among primary school teachers regarding refractive error school children on 565 primary school teachers in Gondar city. The result these study participants 55.9% had good knowledge and 57.2% had favourable attitude towards refractive error. The study concluded that knowledge and attitude of study subjects were low which needs training of teachers about the refractive error. The study recommended eye health education and training to primary school teachers directed towards bringing a significant change in the knowledge and attitude regarding refractive error must be stepped up within eye health program.

The second objective was to evaluate the effectiveness of post test level of knowledge and attitude regarding management of selected visual problems in Primary School Children among teachers.

The results in table 5 shows that pretest mean score of knowledge was 7.80±2.04 and the post test mean score was 21.06±1.98. The mean improvement score was 13.26 i.e., 51%. The calculated paired 't' test value of t = 26.153 was found to be statistically highly significant at $p<0.001$ level.

The table also depicts that, the pretest mean score of attitude was 20.76±5.84 and the post test mean score was 43.80±5.46. The mean improvement score was 23.03 i.e., 46.06%. The calculated paired 't' test value of t = 16.473 was found to be statistically highly significant at p<0.001 level.

From the above findings it is indicated that structured teaching programme on knowledge and attitude regarding management of selected visual problems in primary school children imparted to teachers was found to be effective in improving the post test level of knowledge and attitude among teachers..

Hence research hypothesis H_1that stated earlier that **"There will be a significant difference between pre test and post test level of knowledge and attitude regarding management of selected visual problems in primary school children among teachers"** was accepted.The above findings are consistent with the study conducted by

Jang JU.,(2015) conducted a descriptive study to assess the prevalence of refractive errors among elementary school children, the total sample size 245073 school children in South Korea. The study results shows, they conducted visual acuity test5.7% have better eyes, 5.2% of them already wore corrective spectacles. The prevalence of myopia, hyperopia and astigmatism was 46.5% confidence interval 6.2% and 9.4% respectively. The present study reveals a considerably higher prevalence of refractive error among school children, exceeding 50% of subjects. They may indicate that genetics and educational influences, such as studying and learning, may play a role in the progression of myopia in Korean elementary school children.

The third objective was to correlate the post test knowledge and attitude regarding management of selected visual problems in primary school children among school teachers.

The analysis revealed that the post test mean score of knowledge was 21.06±1.98 and the post test mean score of attitude was 43.80±5.46. The calculated Karl Pearson's Correlation 'r' value of r = 0.629 shows a moderate positive correlation between post test knowledge and attitude score which was found to be statistically significant at p≤0.001 level.

This clearly indicates that when the knowledge regarding management of selected visual problems in primary school children among teachers.

Hence research hypothesis H_2that stated earlier **"There will be a significant correlation between post test level of knowledge and attitude management of regarding selected visual problems in primary school children among teachers"** was accepted.

The fourth objective was to find out the association between post test knowledge and attitude regarding management of selected visual problems in primary school children among teachers with their demographic variables.

The results showed that the demographic variables age, gender and type of employment had shown statistically significant association with post test level of knowledge regarding management of selected visual problems in school age children among teachers at $p<0.05$, $p<0.001$ and $p<0.05$ level respectively and the other demographic variables had not shown statistically significant association with post test level of knowledge regarding management of selected visual problems in primary school children among teachers.

Hence the research hypothesis H_3 that stated earlier that **"There will be a significant association between of post test knowledge regarding management of regarding selected visual problems in primary schoolchildren among school teachers with their demographic variables"** was accepted for age, gender and type of employment and not accepted for other demographic variables.

The results further showed that the demographic variables age and gender had shown statistically significant association with post test level of attitude regarding management of selected visual problems in school age children among teachers at $p<0.05$ level and the other demographic variables had not shown statistically significant association with post test level of attitude regarding management of selected visual problems in primary school children among teachers.

Hence the research hypothesis H_3 that stated earlier that **"There will be a significant association between of post test attitude regarding management of regarding selected visual problems in primary school children among teachers with their demographic variables"** was accepted for age and gender and not accepted for other demographic variables.

CHAPTER VI

SUMMARY, CONCLUSION, NURSING IMPLICATION, LIMITATION AND RECOMMENDATION

This chapter deals with summary of the study, its findings and conclusions. The implication of structured teaching programme for improving knowledge and attitude also stated. Explanations with regard to objectives and findings are presented briefly followed by recommendations.

SUMMARY

The main aim of the study was to evaluate the effectiveness of structured teaching programme on knowledge and attitude regarding management of selected visual problems in primary school children among teachers at Namakkal.

THE FOLLOWING OBJECTIVES WERE SET FOR THE STUDY

1. To assess the existing knowledge and attitude regarding management of selected visual problems in primary school children among teachers.
2. To evaluate the effectiveness of structured teaching programme on management of selected visual problems in primary school children among teachers.
3. To correlate the post test knowledge and attitude regarding management of selected visual problems in primary school children among teachers.
4. To find out the association between post test knowledge and attitude regarding management of selected visual problems in primary school children among teachers with their demographic variable.

A PILOT STUDY WAS CONDUCTED

1. To find out the feasibility of conducting final study.
2. To determine the method of statistical analysis
3. To test the tool

The study was conducted during the month of July. Non Probability- convenience sampling technique was used to select the sample. The sample consisted of 30 teachers working in primary schools at Namakkal. Confidentiality was assured to the subjects.

Pretestwas conducted to assess the knowledge and attitude of primary school teachers regarding selected visual problems in primary school children and structured teaching programme was given immediately after the pre test. The post test was conducted to evaluate the effectiveness of structured teaching programme one week following the administration of structured teaching programme.

The data gathered were analyzed and interpreted in terms of objectives. Descriptive and inferential statistics were used for the data analysis.

MAJOR FINDINGS OF THE STUDY WERE AS FOLLOWS

- Respect to age, 20(66.67%) were in the age group of 25 – 35 years, 9(30%) were in the age group of 36 – 45 years and only one (3.33%) was in the age group of 46 – 50 years.
- With regard to gender, 25(83.33%) were female and 5(16.67%) were male.
- Considering the educational qualification, 19(63.33%) were graduates, 6(20%) were diploma in teaching education and 5(16.67%) were post graduates.
- Regarding years of experience, 18(60%) had 4 – 6 years of experience, 7(23.3%) had 7 – 10 years of experience and 5(16.67%) had less than 3 years of experience.
- Considering the type of employment, 23(76.67%0 were permanent employees and 7(23.33%) were temporary employees.
- With respect to number of students in classroom, 28(93.33%) were d0 students and 2(6.67%) were 40 students.
- Regarding types of teaching aids, 15(50%) used posters, 13(43.33%) used blackboard and 2(6.67%0 used powerpoint presentation.
- Regarding students using spectacles in your class, 21(70%) had not noticed and 9(30%) noticed students using spectacles in your class.
- With respect to source of information regarding visual problems, 15(50%) had no source of information, 8(26.67%) had neighbors with visual problems and 7*23.33%) had mass media as source of information.

The first objective was to assess the existing and post test level of knowledge and attitude regarding management of selected visual problems in primary school children among teachers.

Findings of the pretest level of knowledge revealed that, 28(93.33%) had inadequate knowledge and 2(6.67%) had moderately adequate knowledge whereas in the post test after the administration of structured teaching programme, 25(83.33%) had adequate knowledge, and 5(16.67%) had moderately adequate knowledge regarding management of selected visual problems in primary school children among teachers.

The findings shows that in the pretest, 27(90%) had unfavourable attitude and 3(10%) had moderately favourable attitude whereas in the post test after the administration of self instructional module, 24(80%) had favourable attitude and 6(20%) had moderately favourable attitude regarding management of selected visual problems in primary school children among teachers.

The second objective was to evaluate the effectiveness of Post test level of knowledge and attitude regarding management of selected visual problem in primary school children among teachers.

The results shows that pretest mean score of knowledge was 7.80±2.04 and the post test mean score was 21.06±1.98. The mean improvement score was 13.26 i.e., 51%. The calculated paired 't' test value of t = 26.153 was found to be statistically highly significant at $p<0.001$ level.

The table also depicts that, the pretest mean score of attitude was 20.76±5.84 and the post test mean score was 43.80±5.46. The mean improvement score was 23.03 i.e., 46.06%. The calculated paired 't' test value of t = 16.473 was found to be statistically highly significant at $p<0.001$ level.

From the above findings it is indicated that structured teaching programme on knowledge and attitude regarding management of selected visual problems in primary school children imparted to teachers was found to be effective in improving the post test level of knowledge and attitude among teachers.

Hence research hypothesis H_1 that stated earlier that **"There will be a significant difference between pre test and post test level of knowledge and attitude regarding management of selected visual problems in primary school children among teachers"** was accepted.

The third objective was to correlate the post test knowledge and attitude regarding management of selected visual problems in primary school children among teachers.

The analysis revealed that the post test mean score of knowledge was 21.06±1.98 and the post test mean score of attitude was 43.80±5.46. The calculated Karl Pearson's Correlation 'r' value of r = 0.629 shows a moderate positive correlation between post test knowledge and attitude score which was found to be statistically significant at $p \leq 0.001$ level.

This clearly indicates that when the knowledge regarding management of selected visual problems in primary school children among teachers.

Hence research hypothesis H_2 that stated earlier **"There will be a significant correlation between post test level of knowledge and attitude management of regarding selected visual problems in primary schoolchildren among teachers"** was accepted.

The fourth objective was to find out the association between post test knowledge and attitude regarding management of selected visual problems in primary school children among teachers with their demographic variables.

The results showed that the demographic variables age, gender and type of employment had shown statistically significant association with post test level of knowledge regarding management of selected visual problems in primary school children among teachers at $p<0.05$, $p<0.001$ and $p<0.05$ level respectively and the other demographic variables had not shown statistically significant association with post test level of knowledge regarding management of selected visual problems in primary school children among teachers.

Hence the research hypothesis H_3 that stated earlier that **"There will be a significant association between of post test knowledge regarding management of regarding selected visual problems in primary school children among teachers with their demographic variables"** was accepted for age, gender and type of employment and not accepted for other demographic variables.

The results further showed that the demographic variables age and gender had shown statistically significant association with post test level of attitude regarding management of selected visual problems in primary school children among teachers at $p<0.05$ level and the other demographic variables had not shown statistically significant association with post test level of attitude regarding management of selected visual problems in primary school children among teachers.

Hence the research hypothesis H_3 that stated earlier that **"There will be a significant association between of post test attitude regarding management of regarding selected visual problems in primary school children among teachers with their demographic variables"** was accepted for age and gender and not accepted for other demographic variables.

CONCLUSION

The above, were the conclusion drawn from the findings of the study. The subject was having inadequate knowledge regarding management of selected visual problems in primary school children. The structured teaching programme was found to be effective in improving the knowledge and Attitude of Primary school teachers regarding management of selected visual problems in primary school children.

NURSING IMPLICATIONS

NURSING PRACTICE

This study emphasis in improving the knowledge and attitude regarding management of selected visual problems in primary school children among teachersthrough educative measures

1. Teaching programme can be conducted for the teachers.
2. More knowledge and attitude regarding management of selected visual problems will helps for early identification of the selected visual problems of primary school children.
3. Health education can also provide with media, pamphlets which will help the teachers to increase the knowledge and attitude regarding management of selected visual problems in primary school children among the teachers.
4. Nurses' active participation in school health programme by providing direct and indirect care helps to achieve the goals of health services. Lack of knowledge among teachers in knowledge and attitude regarding management of selected visual problems indicate the needs for arranging health education in related topics.
5. Nurses should focus on rehabilitation in the community setting by using health teaching regarding management of selected visual problems.

NURSING EDUCATION

1. Nurse Educator should emphasize more on preparing students to impact health information to the public regarding children with selected visual problems.
2. The study has clearly proved that structured teaching programme was effective in improving the knowledge and attitude regarding management of selected visual problems. To practice this, the nursing personal needs to be equipped with adequate knowledge, attitude and practice regarding structured teaching programme.
3. The curriculum of nursing education should enable student nurse to equip themselves within the Knowledge and Attitude of selected visual problems of the primary school children.
4. The nursing education should give more importance to the application of theory in to a practice.

NURSING ADMINISTRATION

1. Nurse as a administrator should take initiative measures in formulating policies and protocols for short and long term health teaching.
2. The nursing administrator should motivate the subordinate for participating in various educational programmes and improve their knowledge and skills.
3. The administrator serve as a resource person for young nursing students, parents and school teachers for providing guidance and counseling for children with selected visual problems.
4. The nurse administrator has the power to formulate pamphlets and flashcards for the awareness of management of selected visual problems in school age children among teachers.
5. Cassettes about management of selected visual problems of primary school children can made available to nurse educator in nursing education institution.

NURSING RESEARCH

1. There is a good scope for nurse to conduct research in this area, to find out the effectiveness of various teaching strategy to educate the teachers and parents.
2. The effectiveness of the research study can be made by further implication of the study.
3. Can be used for evidence based nursing practice as a rising trend.
4. Nurse researcher should be motivated to conduct more studies on management of selected visual problems.
5. Nurse researcher should come forward to develop and validate new strategies and standard tool to develop and create awareness regarding management of selected visual problems.

LIMITATION

1. The study finding can be generalized only to the selected school teachers.
2. The size of the sample only 30 hence the finding should be generalized with caution.
3. Study was limited to only the 1^{st} – 5^{th}std taking teachers and improvement in knowledge and attitude take place slowly.
4. The study did not use any control group. There was a possibility of threat to internal validity such as events occurring between pre-test and post-test session like mass

media or other people can influence the primary school teachers' knowledge and attitude.

RECOMMENDATION

1. Similar study can be conducted in a large group to generalize the study findings.
2. The study can be conducted to assess the Attitude and coping strategy of teachers towards children with visual problems.
3. Comparative study can be done between urban and rural areas.
4. A quasi experimental study can be conducted with control group for the effective comparison.
5. A study can be conducted in term of knowledge, attitude and practice of alternative education methods among primary school teachers of primary school children with management of selected visual problems.
6. A study can be conducted in the community the prevalence and types of visual problems among primary school children.

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APPENDIX I

LETTER SEEKING PERMISSION TO CONDUCT STUDY

Ref:
Date:

From,

Ms. A. Maheswari,

II year M.Sc.,Nursing,
Arvinth College of nursing,
Namakkal.

Forwarded Through

Prof.Mrs.V.Kavitha, M.Sc.,(N)
Principal,
Arvinth College of nursing,
Namakkal.

To

The Principal,
Little Angels Matriculation School,
Aniyapuram,
Namakkal.

Respected Sir,

Sub: Letter seeking permission for conducting the study.

Ms. A. Maheswariis a student of M.Sc.,Nursing, II year in our college. She is conducting a study on, **"Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Management of Selected Visual Problems in Primary School Children Among Teachers at Namakkal."** This is for her research project to be submitted to Dr. M.G.R. Medical University in partial fulfilment of university requirement for the award of M.Sc., Nursing Degree. She needs to conduct her study in higher secondary school with sample size of 30. We request you to kindly allow permission to conduct the study at selected setting.

Please do the needful.

Thanking you

Place:

Date: Yours Faithfully

Principal

APPENDIX II

LETTER GRANTING PERMISSION TO CONDUCT THE STUDY

From

Mrs. A. Maheswari,
II year M.Sc., Nursing,
Arvinth College of Nursing,
2/191, EllaikkalMedu, Metttupatti (Post),
Namakkal Dist.

To

The Principal
Little Angels Matriculation School
Aniyapuram, Namakkal.

Through:

The Principal,
Arvinth College of Nursing,
Namakkal.

Respected Sir,

Sub: Permission to conduct study in Government High School, Namakkal.

"Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Management of Selected Visual Problems in Primary School Children Among Teachers at Namakkal."With reference to the above letter it has been informed that Ms.A. Maheswari, II year M.Sc., (N) student,Arvinth College of Nursing,Namakkal is permitted to conduct a study on the above stated problem statement.

I would request you to kindly grant me permission to conduct the study From 02.07.2019 to 09.07.2019 in your school, Namakkal by collection of necessary information related to the study.

Thanking you.

Yours Sincerely

Place:Namakkal

Date:

Forwarded

THE PRINCIPAL
ARVINTH COLLEGE OF NURSING,
2/191, Trichy Main Road,
Ellaikkalmedu, Mettupatty (Po),
NAMAKKAL-637 020, Tamilnadu.

(A.MAHESWARI)

PRINCIPAL,
LITTLE ANGELS MATRICULATION SCHOOL.
ANIYAPURAM-637 017, NAMAKKAL

The Principal
Little Angels Matriculation School

Aniyapuram, Namakkal.

APPENDIX III

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

Miss. A. Maheswari,
II year M.Sc., Nursing,
Arvinth College of Nursing,
2/191, EllaikkalMedu, Metttupatti (Post),
Namakkal Dist.

To

Mrs. BEULAE, M.Sc., (N),
Reader,
J.K.K.N, College of Nursing,
Komarapalayam.

Respected Madam/Sir,

Sub: Requisition for expert opinion and suggestion for content validity of the tool.

I am a student of M.Sc., Nursing II year, of ArvinthCollege of Nursing, Namakkal affiliated to the Dr.M.G.R. Medical University, Chennai. As a partial fulfilment of M.Sc., Nursing Programme, I am conducting a study on **"Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Management of Selected Visual Problems in Primary School Children Among Teachers at Namakkal."** Here with I am sending the developed tool for content validity and for your expert opinion and possible suggestion. It will be very kind of you to return the same to the undersigned at the earliest possible

Thanking you,

Date: Yours faithfully,

Place:

APPENDIX IV

LIST OF EXPERTS FOR CONTENT VALIDITY

1. Dr.Gokul M.B.B.S.,
   Sanjini Nursing Home,
   Thottiyam,
   Trichy.

2. Dr.Vinoth M.B.B.S,
   Primary Health Center,
   Thottiyam,
   Trichy.

3. Mrs.Beula M.Sc.,(N)
   Reader,
   J.K.K.N College of Nursing,
   Komarapalayam.

4. Mrs. SangeethaM.Sc.,(N)
   Reader,
   Vivekananda College of Nursing,
   Thiruchengode.

5. Mrs.Gowri M.Sc., (N)
   Reader,
   J.K.K.N College of Nursing,
   Komarapalayam.
   .

APPENDIX V

INFORMED CONSENT REQUISITION FORM

I Miss. **A. Maheswari**, II year M.Sc., Nursing student from Arvinth College of Nursing, conducting**"Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Management of Selected Visual Problems in Primary School Children Among Teachers at Namakkal."**Asa partial fulfilment of the requirement for the degree of M.Sc., Nursingunder the Tamil Nadu Dr.M.G.R. Medical University.

I assure that the information provided by you will be kept confidential. So, I request you to kindly co-operate with me and participate in this study by giving your frank and honest responses to the questions being asked.

Signature of the investigator

I ……..hereby consent to participate and undergo the study.

Place: Signature of the Participant

Date:

APPENDIX VI

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by Mss. A. Maheswari, M.Sc.,(N),II year Child Nursing Speciality) student of Arvinth College of Nursing for her study,**"Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Management of Selected Visual Problems in Primary School Children Among Teachers at Namakkal."** is validated by the undersigned and she can proceed with this tool to conduct the main study.

Seal: Signature with Date

APPENDIX VII

LETTER SEEKING CONSENT OF THE SUBJECT FOR THE PARTICIPATION IN THE RESEARCH STUDY

I am voluntarily willing to participate in the study conducted by Mrs. A. Maheswari, II year M.Sc., Nursing student of ArvinthCollege of Nursing, on**"Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Management of Selected Visual Problems in Primary School Children Among Teachers at Namakkal."** I will also co-operate with the researcher in providing necessary information. I was explained the information provided would be kept in confidential and use only for above mentioned study purpose.

Study of the Investigator

Place:

Date:

Signature of the Client

Place:

Date:

APPENDIX VIII

CERTIFICATE FOR ENGLISH EDITION

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the tool developed by **Mrs. A. Maheswari,**II year M.Sc., Nursing Student of Arvinth College of Nursing for dissertation **"Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Management of Selected Visual Problems in Primary School Children Among Teachers at Namakkal."** edited for English language appropriateness by**Mr. SEENIVASA PERUMAL, M.A., B.Ed., M.Phil.,**

Signature

APPENDIX IX

FORMAT FOR CONTENT VALIDITY

Name of the expert :

Address :

Total content of the tool:Adequate/Inadequate

Kindly validate each tool and Tick if it is applicable.

S.No.	No. of Tool/Section	Strongly Agree	Agree	Need Modification	Remarks

Signature of the expert with date

SECTION-A

EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND ATTITUDE REGARDING MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERS AT NAMAKKAL.

Question Number	Answers	Score	Question Number	Answers	Score
1			14		
2			15		
3			16		
4			17		
5			18		
6			19		
7			20		
8			21		
9			22		
10			23		
11			24		
12			25		
13			26		

SECTION-B

EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND ATTITUDE REGARDING MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERS AT NAMAKKAL.

Modified Five Point Likert Scale

S.No.	Statement	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1	1					
2	2					
3	3					
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					

SECTION C

SCORING KEY FOR LIKERT SCALE

SCORING KEY FOR POSITIVE STATEMENT

S. No.	Statement	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1	1	✔				
2	2	✔				
3	3	✔				
4	4	✔				
5	5	✔				
	SCORES	**5**	**4**	**3**	**2**	**1**

SCORING KEY FOR NEGATIVE STATEMENT

S. No.	Statement	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1	1					✔
2	2					✔
3	3					✔
4	4					✔
5	5					✔
	SCORES	**1**	**2**	**3**	**4**	**5**

LESSON PLAN ON REFRACTIVE ERROR

LESSON PLAN ON REFRACTIVE ERROR

PROFILE DATA

NAME OF THE STUDENT	:	MRS. A.MAHESWARI
COURSE	:	M.Sc.,(NURSING) II YEAR
SUBJECT	:	CHILD HEALTH NURSING
TOPIC	:	**REFRACTIVE ERROR**
DATE	:	02.O7.2019
TIME	:	12PM TO 1 PM
DURATION	:	60 MINTUES
NUMBER OF THE TEACHERS	:	30
NAME OF THE SCHOOL	:	GOVT. HIGH SCHOOL
VENUE	:	SCHOOL, NAMAKKAL.
METHOD OF TEACHING	:	LECTURE CUM DISCUSSION
TEACHING AIDS	:	POWER POINT PRESENTATION

GENERAL OBJECTIVE:

At the end of the class the teachers will gain adequate knowledge and develop positive attitude regarding Refractive error.

SPECIFIC OBJECTIVE:

- define the Refractive error
- list the types of Refractive error
- specify the causes of Refractive error
- detect the symptoms of Refractive error
- explain the treatment of Refractive error
- detail about warning signs of Refractive error
- discuss the role of teachers in managing children with Refractive error
- describe the dietary management of Refractive error
- mention the health education about Refractive error

S. No.	Time	Specific objective	content	Teacher's Activity	Learner's activity	Av Aids	Evaluation
1	5 min		**INTRODUCTION:** School age in an initial period when most of the children experience due to refractive error is one of the most common problems in school age children and second leading causes of treatable blindness and frequently remains undiagnosed for long period. Eye disorders that affect vision can be divided into to groups, including the following. **REFRACTIVE ERROR** Refractive errors are eye disorder in which the shape of the eye dose not refract the light that enters the eye properly, resulting in blurred vision **NONREFRACTIVE ERROR** Non refractive errors are eye disorders that are not caused by refractive error, rather they are caused by eye disease.	Explaining	Listening Attentive	PPT	
2	5 min	define the refractive error	**DEFINITION OF REFRACTIVE ERROR** • A refractive error is a very common eye disorders. It occurs when the eye cannot clearly focus is images from the outside world. The result of	Explaining	Listening Attentive		What is refractive error?

3	5 min	list the types of refractive error	refractive errors is blurred vision, which is sometimes so severe that is causes visual impairment. • The four most common refractive errors are **TYPES OF REFRACTIVE ERROR** **MYOPIA:** • Near sightedness difficulty in seeing distant objects clearly. **HYPEROPIA:** • Farsightedness difficulty in seeing close objects clearly. **AGTIGMATISM:** • Distorted vision resulting from an irregularly curved cornea, the clearly covering of the eyeball. **PRESBYOPIA:** • Which leads to difficulty in reading or seeing at arms length, it is linked to ageing and occurs almost universally.	Explaining	Listening	PPT	What is myopia and hyperopia?

4	5min	specify the causes of refractive error	**MYOPIA** • The point of focus is in front of the retina because the cornea is too sleepy curved. The axial length of the eye is too long, or both distant objects are blurred, but near objects can be see clearly. **CAUSES OF MYOPIA** • Myopia is the most commonly suffered vision issue, and while scientists have not pinpointed exact causes of myopia, there are several suggested causes. **EYE FATIGUE:** • Eye fatigue due to prolonged periods of time spent reading a book, typing at a computer, or watching a TV screen are believed to be contributing factors to myopia. **GENETICS:** • The other cause is a genetic predisposition, the refractive e error is passed down as a genetic trait, ad also both combination of genes and environmental such as eye fatigue due to	Explaining	Listening	PPT	What is eye fatigue?

			prolonged period of time spent watching television or reading. **FAMILY HISTORY:** • If one or both parents are nearsighted, the chance of their children developing if increases. **SYMPTOMS OF MYOPIA**				
5	5 min	detect the symptoms of refractive error	1. Dimness of vision for distant object the child usually complaints that he/she cannot see the writing on blackboard in school. 2. If the defect is severe the child complaints of headache on reading. 3. The child is seen holding books closely to eyes, while reading. 4. Rub eyes frequently 5. Seen to be unaware of distant objects 6. Blink excessively **TREATMENT OF MYOPIA**	Explaining	Listening		How to hold the books children with refractive error?
6	5min	explain the treatment of refractive error	• If can be corrected with eye glasses, contact lenses of refractive surgery. • Depending on the degree of child myopia, may	Explaining	Listening Attentive		Which one is commonest treatment?

			need to wear glasses or contact lenses all the time or only when need for clear distance vision, like when seeing a chalkboard or watching TV or movie. • Refractive surgery can reduce or even eliminate need for glasses or contacts lenses. **HYPEROPIA** The refractive error that causes difficulties seeing objects close up is known as farsightedness like myopia, experts believe hyperopia is inherited. **CAUSES OF HYPEROPIA** 1.Exact causes unknown. 2. Other causes of too short an eyeball misshapen lens and cornea in congenital. 3. Family history **SYMPTOMS OF HYPEROPIA** • Nearby objects may appear blurry. • Transient blurring of vision (particularly while reading). • Pain in eyes or eye strain. Heaviness of eyelids and redness of eyes.				

			• Need to squint to see clearly. **TREATMENT OF HYPEROPIA** • Basics eye examination • Eye glasses • Contact lenses • Vision correction surgery can correct the vision. **ASTIGMATISM** It is a type of refractive error is which the eye dose not focus light evenly on the retina. This results in distorted or blurred vision at all distances. **CAUSES OF ASTIGMATISM** • Unclear • Genetic predisposition, however injuries to be the eye's **SYMPTOMS OF ASTIGMATISM** • Blurred or distorted vision in all direction. • Eye discomfort difficulty with night vision. • Squinting excessively				

7	10 min	detail about Warning signs of refractive error	**TREATMENT OF ASTIGMATISM** • Routine eye examination • Correction of injury • Eye glasses or contact lenses. • Laser surgery depends upon degree of astigmatism. **WARNING SIGNS OF VISION REFRACTIVE ERROR** • Holding books close to face when reading. • Sitting close to the television or blackboard. • Complaints of blurred, cloudy or double vision. • Complaints of headache nausea or dizziness. • Closing or covering one eye while reading or focusing on close objects. • Low attention span, fidgetiness and behavioural problems. • Tilts head forward or backward when looking at distant objects. • Problems with reading, low reading comprehension and poor spelling.	Explaining	Listening		What are the complaints says refractive error students?

8	15 min	discuss the role of teachers in managing children with refractive error	• Movements are clumsy. • Is unable to see things that are far off. • Poor spelling. **ROLE OF TEACHES IN MANAGING CHILDREN WITH REFRACTIVE ERROR** 1. Students with visual impairments should move around the classroom or other areas of the school just as their sighted peers do, such training promote safe, efficient, graceful, and independent movement through any environment, indoor, familiar and unfamiliar. 2. Use high contrast writing instruments on board, for example white chalk on a clean chalkboard and dark markers on dry erase boards. 3. Avoid writing in bright colours like red, orange, yellow on paper and smart board because of if increasing eye strain and colour blindness. 4. Use soft lead pencils and felt –tipped pens with black ink on light or tinted paper used for exact finishing of word or sentence. Its helps to avoid double bold letters.	Explaining	Listening		How many feet should need the refractive error children and blackboard?

			5. Allow the student to move seats or adjust the position of his/her work as needed. 6. Verbalize while writing on the board or make demonstrations. 7. Avoid large print materials; some vision conditions may distort those images. 8. Seat student near the board (within 3 to 5 feet). 9. Avoid any terminology that requires visual acuity; such as “over there’ and “like this” one. 10. Try parenting the student with visual problems with another student for help and support. 11. Give extra time to complete work when needed or requested for students with visual problems. 12. Modify physical education class activities such as catching, kicking and throwing as needed. 13. Darken or adjust class room lighting as needed. 14. Strong blue light cause macular degeneration, photo chemical damage, and retinal injury. 15. Strong red and strong green light that will cause myopia. 16. Consult with an orientation and mobility specialist				

			regarding needed/ requested modifications. 17. To conduct eye examination for once in the year, the snellen's chart is a common method to test visual acuity.				
9	5 min	describe the dietary management of refractive error	**DIETARY MANAGEMENT** **Spinach:** Luterin and zeaxanthin are the two most well known active ingredients in spinach the antioxidant effects of prevent macular degeneration **Almonds:** Oxidate stress in the eye often leads to worsening of refractive error. Almonds are rich in protein and antioxidents which slow down this stress. **Coconut:** Coconut oil has been closely linked with a refraction in macular degeneration. Macular degeneration negatively impacts the retina, The part of the eye on which light must be focused in order to process images **Bilberry:** One of the best natural sources of anthocyanin, bilberry has been connected with improving eye health.	Explaining	Listening		What is macular degeneration?

			Improving myopia, and eliminating cataracts for long time, adding bilberry in diet can boost vision health and prevent further degradation of eyesight. **Indian Gooseberry:** It is used in many traditional remedies including the treatment of refractive error. The antioxidant potential of the ascorbic acid, present in gooseberries, can significantly reduce oxidative stress and damage to the retina. This ensures strong vision and doesn't allow refractive over time. **Liquorice:** Inflammation of the eyes is also a source of free radicals and oxidative stress, which can impair vision and compound the problems of refractive error. **Carrots:** The high content of beta carotene makes carrot the best possible vegetable for eye health. It is one of the most important nutrients for eye health and is directly linked with elimination macular degeneration and protecting the retina.				

10	5 min	mention the health education about refractive error	**Chicory** Vitamin A is one of the other crucial nutrients essential for health and is found high concentration is chicory. Vitamin A helps in reducing the presence of cataract, slowing oxidative stress and preventing macular degeneration. **HEALTH EDUCATION** **EYE EXERCISE** Keeping eyes in shape is just as important as any other muscle. Simple eye exercises help keep eye strong, there include depth perception tests, focusing activities and personally examining degree of focus different distances. By keeping eye components fresh and active, it can prevent oxidative stress and maintain strong vision. **CLASSROOM LIGHTING** • Require a uniform distribution of light, avoiding harsh shadows or excessive modelling. • An Iluminance of 300lux is suitable for general tasks among younger students.	Explaining	Listening		How to do the eye exercise?

			SPECTACLES • Glasses with impact –resistant polycarbonate lenses are the safest choice for kids, and options include clear lenses, photo chromic lenses and sunglass lenses. • Insist on polycarbonate lenses for children's eye glasses for safety reasons. **PARENTRAL EDUCATION** • Educate or advice the parents, not to spend so much of time on watching TV, Computer and Laptop , the American academy of paediatrics recommends only 1-2 hours of TV viewing per day for children. • Encourage the mother for play ground activities such as table tennis volley ball, chess etc. And avoid indoor games such as video games, home theatre and mobile games. **COMPLICATION** High refractive error in childhood may lead to amblyopic, resulting in permanent vision loss if it is not corrected during early childhood				

			SUMMARY Though there is no specific causes of refractive error, there are many techniques and strategies that teachers can use to help the students identified with refractive errors. Acquire knowledge and skills and to experience is success. **CONCLUSION** Refractive error needs careful evaluation and preventive care for children which lead to impaired quality of life and interfere with daily lifestyle. Assessing the risk factor which help us to prevent and control the problem of refractive error in future generation which is useful for the students to live a free of life problems.				

APPENDIX X

PART – A

SOCIO DEMOGRAPHIC VARIABLES

Instruction:

The variables consists of a 9 questions and each question consist of multiple options. place a (✔) mark in the corresponding space given below:

1. Age
   - (1.1) 25-35 years [ ]
   - (1.2) 36-45 years [ ]
   - (1.3) 46-50 years [ ]
   - (1.4) Above 50 years [ ]
2. Gender
   - (2.1) Male [ ]
   - (2.2) Female [ ]
3. Educational qualification
   - (3.1) Diploma in teaching education [ ]
   - (3.2) Graduate [ ]
   - (3.3) Post graduate [ ]
4. Year of experience
   - (4.1) Less than 3 years [ ]
   - (4.2) 4-6 years [ ]
   - (4.3) 7-10 years [ ]
5. Type of employment
   - (5.1) Temporary [ ]
   - (5.2) Permanent [ ]
6. Number of students in classroom
   - (6.1) 30 students [ ]
   - (6.2) 40 students [ ]
   - (6.3) 50 students [ ]
   - (6.4) 100 students [ ]

7. What type of A.V. Aids available in your Clssroom?
   (7.1) OPH [ ]
   (7.2) Posters [ ]
   (7.3) Black board [ ]
   (7.4) Power point presentation [ ]
8. How many students using spectacles in your class? Yes / No,
   if yes mention the number?
   (8.1) Yes [ ]
   (8.2) No [ ]
9. Source of information regarding visual problems
   (9.1) Mass media [ ]
   (9.2) Friends and Family [ ]
   (9.3) Medical Professional [ ]
   (9.4) None [ ]

PART- B

KNOWLEDGE QUESTIONNAIRE REGARDING MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERS

Instructions:

The tools consists of a 26 questions and each question consist of multiple options and one is the appropriate answer. Place a (✔) mark in the corresponding space given below:

1. What is refractive error?
   - **(1.1) Eye disorder** [ ]
   - (1.2) Eye ball disorder [ ]
   - (1.3) Retinal disease [ ]
   - (1.4) Eye pressure disorder [ ]
2. What are the types of refractive error?
   - (2.1) Conjunctivitis, myopia, amblyopia [ ]
   - (2.2) Hyperopia, ROP, Retinitis [ ]
   - **(2.3) Myopia, hyperopia, astigmatism** **[ ]**
   - (2.4) Conjunctivitis, myopia, astigmatism [ ]
3. What is myopia?
   - (3.1) Blurred vision [ ]
   - **(3.2)Nearsightedness** [ ]
   - (3.3)Farsightedness [ ]
   - (3.4) Lasy eye [ ]
4. What are the causes of myopia?
   - (4.1) Environmental, genetics [ ]
   - (4.2) Hereditary [ ]
   - (4.3) Eye fatigue, family history [ ]
   - **(4.4) Eye fatigue, genetics, family history** [ ]
5. What are the symptoms of myopia?
   - (5.1) Red eyes [ ]
   - **(5.2) Dimness of vision for distant objects** [ ]
   - (5.3) Increased pressure in eye [ ]
   - (5.4) Tearing eyes [ ]

6. What is hyperopia?

(6.1) Farsightedness [ ]

(6.2) Lasy eye [ ]

(6.3) Nearsightedness [ ]

(6.4) Blurred vision [ ]

7. What are the causes of hyperopia?

(7.1) Injury [ ]

(7.2) Hereditary [ ]

(7.3) Exact causes unknown [ ]

(7.4) Infection [ ]

8. What are the symptoms of hyperopia?

(8.1) Unequal pupil reaction [ ]

(8.2) Increased eyeball size [ ]

(8.3) Tearing of eyes [ ]

(8.4) Transient blurring of vision [ ]

9. What is astigmatism?

(9.1) Eye dose not focus light evenly on the retina **[ ]**

(9.2) Eye ball disorder [ ]

(9.3) Improper eyeball quad nation [ ]

(9.4) Blurred vision at all distance [ ]

10. 10.What are the causes of astigmatism?

(10.1) Injuries [ ]

(**10.2) Unclear** [ ]

(10.3) Genetic cause [ ]

(10.4) All of the above [ ]

11. What are the symptoms of astigmatism?

(11.1) Blurred or distorted vision in all direction **[ ]**

(11.2) Tear eyes [ ]

(11.3) Infection [ ]

(11.4) Redness of eyes [ ]

12. Which one is common treatment of refractive error?

(12.1) Corrective surgery [ ]

(12.2) Contact lenses or eye glasses [ ]

(12.3) Laser surgery [ ]

(12.4) Routine eye examination [ ]

13. How will be farsightedness child read and write?

(13.1) Read and write closely [ ]

(13.2) Write closely [ ]

(13.3) Read and write distantly [ ]

(13.4) Read closely [ ]

14. What are the colours should not be used in the blackboard?

(14.1) Black, White, Yellow [ ]

(14.2) Black, Pink, Red [ ]

(14.3) Red, Orange, Yellow [ ]

(14.4) Blue, Black, White [ ]

15. What are the reasons to use the soft lead pencils & felt tipped pens in notebook for children with refractive error?

(15.1) To avoid double bold letters, exact finishing of word [ ]

(15.2) To avoid double bold letters, stylish letters [ ]

(15.3) Light finishing of word, to avoid double bold letters [ ]

(15.4) Stylish letters, exact finishing of word [ ]

16. How many feet distance should be maintained between child and blackboard?

(16.1) 3-5 feet [ ]

(16.2) 10-12 feet [ ]

(16.3) 1-2 feet [ ]

(16.4) 5-8 feet [ ]

17. What are the diet intakes helpful to reduce the refractive error?

(17.1) Milk, Meat, Egg [ ]

(17.2) Spinach, Chicory, Carrots [ ]

(17.3) Carrots, Milk, Ghee, Meat [ ]

(17.4) Green Leafy Vegetables [ ]

18. What are the academic problems exhibited by child with refractive error?

(18.1) Low attention span [ ]

(18.2) Learning disability [ ]

(18.3) Poor spelling [ ]

(18.4) Disobedient [ ]

19. What are the recommended hours to watch TV at home in children?

(19.1) ½ hour [ ]

(19.2) 1 hour [ ]

(19.3) 1-2 hour [ ]

(19.4) 5 hours [ ]

20. Which eye glass lenses is safety for children eyes?

(20.1) Plastic lenses [ ]

(20.2) Polycarbonate lenses [ ]

(20.3) Fabric lenses [ ]

(20.4) Photo chromic lenses [ ]

21. What are the home remedies for child with refractive error?

(**21.2) Encourage outdoor games, limitation of watching TV** [ ]

(21.2) High nutritional diet, limitation of watching TV [ ]

(21.3) Wearing eye glasses in home [ ]

(21.4) High nutritional diet, Encourage outdoor games [ ]

22. Which type of play helps to reduce the problems of refractive errors in children?

(22.1) Table tennis, chess, betting games [ ]

22.2) Volley ball, horse riding [ ]

(**22.3) Table tennis, chess, volley ball** [ ]

(22.4) Video games, cricket, chess [ ]

23. What are the classroom technique to support the child with refractive error?

(23.1) Avoid writing in bright colours and use soft lead pencils and use contrast writing instruments [ ]

(23.2) Use bright colour while writing and avoid soft lead pencils [ ]

(23.3) Avoid writing in bright colours and use soft lead pencil [ ]

(23.4) Use both high contrast and writing bright colour instruments [ ]

24. What are the complications of refractive error?

(24.1) Eye cancer, permanent vision loss [ ]

(24.2) Amblyopia, permanent vision loss [ ]

(24.3) Changed eyeball size [ ]

(24.4) Recurrent infection [ ]

25. How often eye examination should be carried out for of children with spectacles?

(25.1) Once in a month [ ]

(25.1) Once in a year [ ]

(25.3) Once in 5 year [ ]

(25.4) No need of eye examination [ ]

26. What is the common method to test visual acuity?

(26.1) Snellen chart **[ ]**

(26.2) Laboratory investigation [ ]

(26.3) X-ray [ ]

(26.4) Scan investigation [ ]

Level of Knowledge	Score
Inadequate	1-9
Moderate	10-18
Adequate	19-26

SECTION C

ATTITUDE STATEMENT

Likert Scale to assess attitude towards the regarding management of selected visual problems in primary school children among teachers.

Instruction:

This tool consist of 10 statements seeking information about attitude regarding Management of selected visual problems in primary school children among teachers. Kindly make a (✔) mark in corresponding space.

S.No.	STATEMENT	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1	The children with refractive error can study along with other children in school					
2	The children with refractive error have normal IQ					
3	Refractive error is not a behavioural disorder					
4	A child with refractive error can change their focus quickly from far to near objects but gets frequent headache					
5	The children with refractive error can leave out small words while reading					
6	Refractive errors can be treated with vitamin A					
7	Eye pain and headache are not present in children with refractive error					
8	A children with refractive error will not miss words while reading or do not use finger to guide his eyes when reading					
9	The school teachers can manage the students with refractive error as like other children without refractive error					
10	Refractive error can be preventable one					

SECTION-A

KNOWLEDGE QUESTIONNAIRES SCORE KEY REGARDING MANAGEMENT OF SELECTED VISUAL PROBLEMS IN PRIMARY SCHOOL CHILDREN AMONG TEACHERS AT NAMAKKAL

Question Number	Answers	Score	Question Number	Answers	Score
1	1.1	1	14	14.3	1
2	2.3	1	15	15.1	1
3	3.2	1	16	16.1	1
4	4.4	1	17	17.2	1
5	5.2	1	18	18.3	1
6	6.1	1	19	19.3	1
7	7.3	1	20	20.2	1
8	8.4	1	21	21.1	1
9	9.1	1	22	22.3	1
10	10.2	1	23	23.3	1
11	11.1	1	24	24.2	1
12	12.2	1	25	25.2	1
13	13.1	1	26	26.1	1
				TOTAL	**26**

SECTION D

SCORING KEY FOR LIKERT SCALE

SCORING KEY FOR POSITIVE STATEMENT

S. No.	Statement	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1	1	✔				
2	2	✔				
3	3	✔				
4	4	✔				
5	5	✔				
	SCORES	**5**	**4**	**3**	**2**	**1**

SCORING KEY FOR NEGATIVE STATEMENT

S. No.	Statement	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1	1					✔
2	2					✔
3	3					✔
4	4					✔
5	5					✔
	SCORES	**1**	**2**	**3**	**4**	**5**