

**COMPARE THE EFFECTIVENESS OF YOGA ON
CONCENTRATION AMONG MENTALLY ABLED Vs
DISABLED CHILDREN IN SELECTED SOCIAL
INSTITUTIONS AT ERODE**



*A DISSERTATION SUBMITTED TO THE TAMILNADU Dr.M.G.R
MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF
THE REQUIREMENT FOR THE DEGREE OF AWARD OF*

MASTER OF SCIENCE IN NURSING

CHILD HEALTH NURSING

BY

30109011

DHANVANTRI COLLEGE OF NURSING

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APRIL 2012

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CERTIFIED THAT THIS IS THE BONAFIED WORK OF

30109011

AT DHANVANTRI COLLEGE OF NURSING

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EXAMINERS,

1.

2.

ABSRTACT

Background: Concentration is a very important skill for a child because it provides an ability to focus and help to control momentary impulses.

Concentration difficulty is a common problem among millions of children.

Yoga therapy helps to increase the concentration through various postures and meditations. **Objectives:** To find out the ratio between the effectiveness of

yoga on concentration among mentally abled Vs disabled children.

Design: Two group pre and post test design. **Setting:** Government Middle school, Puthupalayam, and Kongu Arivalayam Rehabilitation Center, Thindal.

Participants: 30 children fulfilling the inclusion criteria. **Selection**

criteria: Children with IQ between 80 – 89 (Abled) and 50 – 70 (Disabled), age group of 10 – 15 years and both gender were included.

Methods: 15 mentally abled children, 15 mentally disabled children selected by simple random (Lottery) sampling technique. Level of concentration was

measured by Modified James. M. Swanson Assessment Rating Scale before and after yoga. **Results:** The result shows that the most of the mentally abled

and disabled children were males, having no family history of mental retardation. The overall mean ratio in pre test is 61.4: 53.8 and in post test 77.4:

65.2 and the difference between the pre test and post test mean ratio score is 16: 11. However the effectiveness ratio in pre test is 1.14: 1 and in post test

1.2: 1 and the difference between the pre test and post test effectiveness ratio score is 1.5: 1. It seems that the level of concentration among mentally abled

Vs disabled children were same with mild difference of 0.5%. The paired “t” test value was 7.27 in mentally abled children and in mentally disabled children value was 5.71 ($P < 0.05$). Unpaired “t” test value was 3.45 in pre test and in post test it was 4.66 ($P < 0.05$). It seems that Yoga therapy was effective among mentally abled and mentally disabled children. **Conclusion:** Yoga therapy is effective to improve the concentration for mentally abled and disabled children. **Clinical applications:** Yoga therapy can be used to all the humans to improve the concentration and can be avoid the of concentration problems like attention deficit hyperactive disorder and learning disabilities.

CHAPTER I

INTRODUCTION

“Children are great imitators. So give them something great to imitate.”



A child is unique individual, he or she is not a miniature adult, not a little man or woman. The childhood period is vital because of socialization process by the transmission of attitude, customs, and behavior through the influence of the family and community. Family cultural and the religious belief, educational level and way of living influence the promotion and maintenance of child health, **(Parul Dutta, 2010)**.

Worldwide, children make up a one third of the population. In 2004 there were 1,826 million children aged fewer than 15. Africa has the highest percentage of children. In Uganda and Niger half the population is under 15

years old. In Italy, Spain and Japan only 14% of the population is children aged fewer than 15, **(World's Mapper, 2004)**.

Among the Indian states, In Uttar Pradesh approximately 24 million populations were children, it is the highest child population and in Sikkim approximately 47,000 populations were children, it is a lowest child population in India. Approximately 20.16 percent of children were in the age group of 0 to 6 years, **(National census, 2011)**.

Children are the brightest treasures and bring forth into this world, but too large a percentage of the population continues to treat them as inconveniences and nuisances, when they're not treating them as possessions or toys. In Tamil Nadu, the total number of child population is 68, 94,821. In that 35, 42,351 children are boys and 33, 52,470 children are girls. So totally 9.56 Percentage of population is children, **(National census, 2011)**.

School-age children usually have smooth and strong motor skills. However, their coordination (especially eye-hand), endurance, balance, and physical abilities vary. They are very active with lots of energy. Their fine motor and large motor skills have become much better. They have a strong need to feel accepted and worthwhile. They prefer individual achievements over competition. They like encouragement and suggestions over competition, **(University of Illinois Board, 2011)**.

The number of children enrolled in primary school in sub-Saharan Africa grew from 87 million in 2000 to 129 million in 2008, an increase of 48

percent. Today, 28 million or over 40 percent of all children out of school (67 million worldwide) live in developing countries. 116 million or 18 percent of the global population are primary school age (653 million), **(International education statistics, 2009).**

The literacy ratio of India is 65.38% with male literacy at 75.85% and female literacy at 54.16%. Of the 193 million Children in the age group 6 to 14 years, 8.1 million children are out of school as of Sept 2004 as per Government statistics. 35 million children aged 6 - 14 years do not attend school. 53% of girls in the age group of 5 to 9 years are illiterate, **(Smile for children health and education, 2001).**

As per the child rights charter, a universal definition of "child" includes all persons under the age of 18. In Tamil Nadu, the total populations of school age children are 130.20 lakhs, in that 67.11 lakhs children are males and 63.09 lakhs children are females in the age group of 6 – 18 years, **(Department of School Education, Government of Tamil Nadu, 2005).**

Intelligence is a general capacity of an individual consciously to adjust his thinking to new requirements. It is general mental adaptability to new problems and conditions of life. As the child grows in age, Intelligence should be increased. The age of cessation of mental growth varies from individual to individual. In a majority of cases, intelligence reaches at the age of 16 to 20, **(K. Mangal, 2008).**

Normal average intelligence range is 90 to 110. If the children are having IQ range between 70 - 89, they may face difficult in reading, have less memory capacity, etc. If the children are having less IQ range between 25 -50 they will considered as a mentally retarded. Mild mental retardation (50 – 70) children are educable children and below than that children are trainable including normal routine work, **(David Raj, 2002)**.

In school children, many of them having a problem that not able to concentrate their studies and not able to remember the subjects. A study conducted in school to identify their IQ level by verbal IQ test, 56% of them having the 70 – 89 IQ range and remains are having the normal IQ, **(Better medicine, 2006)**.

Mentally retarded children are having a low IQ than the normal child. Their memory and concentration is very poor in the aspects of recollecting the things, remember the past events, not able to concentrate in the class room and most of the (54.6%) children are having the mental irritation, aggressive behavior with other children and difficult to be quite in class room, **(Amy Halliburton, 2004)**.

Mental retarded children at homes are lifelong pain for parents. Proper handling and treatment can make them to live self sufficiently. Mental retardation is a developmental disability that can appear from the very birth of a child. Around 10% of the world's population, 650 million people, live with disabilities. In some countries where IMR rates are high, mortality rates for

children with disabilities is as high as 80% and 90% of children with disabilities worldwide do not attend school, **(Child line 1098 services report)**.

In India children with disabilities mainly comes under the purview of the Ministry of social justice & Empowerment. Some of the issues are dealt with by the health ministry. But no single ministry has been assigned the protection of these children, which leads to varying data about occurrence of mental retardation amongst children. In India, there is 3% of children are mentally challenged in that 20 out of every 1000 children are from rural area, compared to 16 out of every 1000 urban children, **(Child's rights and you, 2003)**.

Mental retardation is a delay in mental development compared to others of the same age. A mentally retarded child learns at a much slower rate than a normal child. At maturity his/her capacity to understand and learn will be less than average. The total population of the disabled children in Tamil Nadu State is 6, 42,497 in that the mentally handicapped children are 1, 27,521, **(Census of India-2001 Report)**.

Concentration is a very important skill for a child, because it provides an ability to focus, drive away distractions and help control momentary impulses that act as obstacles for normal attention and focusing. A child's ability to concentrate depends on several issues like his or her commitment, enthusiasm for the task, skill at doing the task, his or her emotional and physical state and

surrounding environment. However, it is also heartening to note that children do concentrate. Nevertheless, it is always short lived, **(Makarenko AS, 2011)**.

Level of concentration is depends on a combination of such factors like, dedication or commitment to task at hand, interest in the task, skill and ability to perform the task, a appropriate environment with few distractions. It may occur because of under-stimulation if a task is repetitive, routine or boring. Focus in both cases becomes difficult, **(Native remedies, 2010)**.

Concentration difficulties can be due to serious diseases; failure to seek treatment can result in serious complication and permanent changes like developmental delay, failure to thrive, learning disability, and permanent cognitive impairment and personality changes. Recent research shows concentration difficulties may also be caused by dietary problems, e.g. too much coffee. It is often appropriate to find the root cause of a newly acquired concentration difficulty because the strategies below may be inappropriate if just masking bigger issues, **(Better medicine, 2010)**.

Poor concentration is a very spread problem, which can cause lots of problem in school. It because of information overload, unbalanced diet, lack of sleep, mental overloading, and result of physical illness. School environment often represent pure stress to the school children, many children are easily distracted, these children are restless, absentminded, make careless mistakes and forget think easily, **(Esprilityo, 2007)**.

The children who are suffered by concentration difficulty, they may have Change in sleep patterns, Difficulty with memory, thinking, talking, comprehension, writing or reading, impaired balance, coordination and severe head ache, appearing not to listen when spoken to directly, difficulty following instructions, **(Dr. Benarji P, 2011)**.

Low concentration problem is faced by all mentally retarded children, because of the low IQ. People who are mentally retarded function at an intellectual level that is below average and have difficulties with learning and daily living skills. It is a misconception that mental disabilities are related to gender or race. Conceptual skills like language, social skills like interaction with others and practical skills like self care are lacking in people classified as mentally retarded. Children labeled as such need special care to overcome social, intellectual and physical disabilities, **(Saneesh Michael, 2007)**.

Conventional prescription medications are often used to improve concentration in adults and children. There are also alternative treatment options available for treating adults. Making simple changes in diet, sleep, exercise, and routine can help. Even trying more involved approaches like incorporating relaxation therapies like guided imagery, meditation techniques, and yoga can be beneficial, **(Rachel Irving, 2004)**.

Yoga therapy is defined as an approach to the therapy that revolves all around the utilization of yoga poses and other yoga techniques like meditation and breathing. The Yoga therapy can be utilized in a psychotherapy program

and also in the form of a physical therapy program. Yoga therapy can be used for treating the psychological problems like depression, post traumatic stress disorder, grief, stress and so as yoga is combined into the sessions of psychotherapy, **(International Centre for Holistic Healing and Allied Research, 2009).**

Yoga a healing system of theory and practice. It is a combination of breathing exercises, physical postures, and meditation that has been practiced for more than 5,000 years. Yoga therapy can be used for treating like learning disability, attention and concentration problems, depression, post traumatic stress disorder, grief, stress and so as yoga is combined into the sessions of psychotherapy, **(Digarmbarji Swami, 2003).**

The study, which was authored by 13 researchers and led by Katherine MacLean of the University of California, Davis, begins by noting that children gets tired after concentrating. It also notes that research going back to the 1970s has established that Buddhist monks who have regularly meditated, practiced yoga for years perform better than most of us on concentration tests. In the past five years, other studies have shown that meditation also yields substantial gains in concentration for laypeople who take up the practice, **(Time health, 2010).**

The use of yoga for concentration in children is extremely effective because of the meditative practices. Yoga concentration exercises will help children to develop a certain amount of imperviousness to any of the external

influences, and allow your mind to focus solely on the task at hand. It is important to have high levels of concentration - especially when it comes to carrying out very high risk acts, **(Swami Satyanadha, 2002)**.

Yoga programmes implemented with special children have demonstrated that yoga intervention lasting for few weeks to months resulted in increased working efficiency and ability to concentrate in children with special needs (mentally handicapped). Improvement in concentration/focus, organization, relaxation, tolerance for sitting, posture, ability to balance, understanding directions, better gross motor activities, imitate poses without assistance, increased eye contact and intelligence was found after implementation of a yoga program for some children with developmental disabilities, **(SVYASA, 2010)**.

The yoga helps to increase the concentration through various postures and breathing exercise for mentally retarded children. Concentration is the measure of accuracy of work. Memory is a measure of ability to reproduce the knowledge that is known. The concentration, memory and the level of fatigue can be measured from the psychology based tests. Improvement in ability of solving the problems after yoga practice indicates the increase in concentration, **(Yogacharya V. Mandlik (Kulaguru, Yoga Vidyapeeth. Nashik, 2002)**.

NEED FOR STUDY

Children are little members of our society; they have rights and duties. They keep our genes. They can be discussed taking into consideration various aspects of everyday life. Children can be considered full-fledged members of the human society. They represent successive generation which will keep our traditions, customs, and language. Children should receive the best experience of the previous generations. Thereby, it is important to create opportunities and to give chances in order our children could obtain education, **(Dr. Muthulakshmi, DCH, 2007).**

Every year, India adds more people than any other nation in the world, and in fact the individual population of some of its states is equal to the total population of many countries. In the India, approximately 21.7 percent of children were 5 - 14 years, 32.1 percent were in the age group of 0 - 14 years, **(The national population projections survey, 2006).**

School children (between the ages of 6- 13 years) are our most valuable resources. Early elementary school - age 6 or 7, most kids have the physical coordination and attention span, plus the ability to grasp rules, which they need to play organized sports. A few years later- between ages 10 and 12 most can handle the added pressure of team competition, **(Catherine Holecko, 2009).**

Every girl and every boy should complete a quality school education before 14 years. The number of children attending school has gone up many-

fold since the time of India's Independence – increasing from around 19.2 million in 1950-51 to 113.8 million in 2000-01, (**UNICEF, 2001**).

Intelligence is to be multifaceted and as comprising of a number of abilities which are necessary for survival or adjustment of individual. A very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability for comprehending our surroundings—"catching on," "making sense" of things, or "figuring out" what to do. Approximately 95% of the population has IQ between 70 and 130, (**American Psychological Association, 2005**).

Mental retardation (MR) is a common finding, affecting about 3% of the population. The most commonly used definition of mental retardation is a significant sub average general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period, as stated by the American Association on Mental Deficiency. This can be translated as having an IQ below average (<70), causing problems communicating with others and learning the skills necessary for daily living and work and it is apparent before the age of 18, (**Dr. Iannelli, 2000**).

As many as 1 American out of 35 may be mentally retarded. (That's 3% of our population). Every 5 minutes, a child is born with mental retardation

(more than 100,000 per year). 43 - 70% of people affected with various cognitive problems. On average 1 out of every 10 people has a serious memory loss and concentration problem, **(The journal of Xtend life, 2011)**.

In India, out of 1000 children in the rural areas, 31 had some developmental delays, whereas in urban areas 9 out of every 1000 children were developmentally delayed. The survey was conducted on children within the age group of 0-14 years. On an average it is found that 2.5 % of all such children are mild and moderately retarded, and 0.5% have severe or profound retardation. The NSSO survey estimates that in rural areas the prevalence of mental retardation is 3.1% whereas it is much less at 0.9% in urban settings, **(National Sample Survey Organization (NSSO), 2001)**.

Concentration is the ability to focus attention on a task at hand, while blocking out other distracting or unrelated stimuli. When concentration is at optimal levels, we find our work is easier, more readily remembered, takes less time, and we tend to make fewer mistakes, **(Emo Phillips, 2008)**.

When a 5 year old is able to sit still in school, learn letters and numbers, and even acquire pre-reading skills, at even the age of five a child can reflect on his own thinking. The child also learns a command of language, can talk him through tough situations, and doesn't get frustrated and give up. At the ages of 7-9, children's ability to concentrate seems to take a leap forward because of continued brain development. At the ages of 9-12, concentration and brain development continue to progress. They also have achieved

motivation. The child is able to work through a project, step by step, **(Dr. Barbara Price Galvan, 2005)**.

Concentration difficulty is a decreased ability to focus your thoughts on something. Concentration difficulties can be related to difficulty staying awake, impulsiveness, intrusive thoughts or concerns, over activity, or inattention. They can be caused by medical, cognitive or psychological problems or may be related to sleep disorders or medications, alcohol or drugs. It is estimated that 4.4 million children between the ages of 4 and 17 years old are not able to concentrate in their studies. Concentration difficulties may be long-term, established conditions, as in the case of attention deficit disorder, or they may arise as a result of illness or another event, **(Annette Rivlin Guyman, 2003)**.

In school children the concentration difficulties caused by information overload, unbalanced diet, lack of sleep, mental overloading, result of physical illness and as a result of psychiatric illness, **(Engelhard association, 2007)**.

In the United States, around 5-10 per cent of approximately 55 million children and approximately 1.5 million adults are not able to concentrate their studies. In India approximately 90 million school age children are facing the concentration problem, **(Yoga for kid's mission, 2005)**.

Approximately 15-20% of the Indian child population has some form of concentration difficulties, according to figures derived from the latest research conducted under the auspices of the National Institutes of Health. Concentration difficulties impede a person's ability to store, process or recall

information. They can affect a child's ability to read, write, speak, or compute math, and often impact the student's ability to acquire socialization skills, **(Yoga for the special child, 2009)**.

Low concentration and attention levels are a common problem among millions of children. With each passing day, more children are suffering from concentration problems, when they find it extremely difficult and tough to concentrate or focus on a particular issue for too long. Loss of concentration could pose a serious problem to the children, especially in his or her classroom. Estimated to affect 3 to 5 percent of school age children, and occurring three times more often in boys than in girls, **(Andrew Loh, 2004)**.

According to the National Center for Education statistics (2004), stated that 196,000 of the 428,000 students with disabilities enrolled at two-years and four-year postsecondary education institutions reported having concentration difficulties. Of the 6% of all undergraduate students who reported having difficulties in their studies. 29.3% of students with concentration difficulties who received bachelor's degree applied to graduate school compared to approximately 40% in the overall population.

Some school children may show extreme difficulty while concentrating on their studies and other activities. These signs may include fickle mindedness, fidgeting, not paying attention, when someone speaks to them and getting forgetful from time to time. 34% of the Children face difficulties, while completing classroom work, due to lack of productivity or remembering things

needed for attending school. 28% of the Children may try to avoid writing or reading. Children may fail to meet their deadlines, while completing classroom tasks and assignments. Making noises, being disruptive, disturbing his or her peers and looking forlorn and lost, (**Dr. Sandhu, 2007**).

National center for educational testing services (2001), stated that in survey it was found that 35% of students identified with concentration difficulties drop out of high school. This is twice the rate of their non – disabled peers. 50% of all students in the need of special attention in the schools have concentration difficulties. 30% of adults with severe literacy problems have undetected.

The **World Health Report (2002)**, estimated that there were 20.44 million children who are mentally retarded (mild category) facing concentration problem in all the aspects. 17.9% of mentally disabled children having speech difficulties, 24.1% of children having dyslexia, 56.9% of the children facing difficulties in concentrating things continuously more than 40 minutes and 8.9% of the children having aggressive behavior.

Laura Pantoja BA (2003), conducted a study that yoga helps to improve the concentration and overall performance of the school children. Yoga class participation helped improve students' behavior. Findings show there exists significant negative correlations between student yoga participation and bad behavior as measured by school discipline referrals for elementary students ($r = -.463, p < .01$) and for middle school students ($r = -.367, p < .01$).

Thus, those students who had high participation rates in yoga class had improved Concentration and fewer referrals or discipline problems.

In a survey done by **Pathak MP (2003)**, it was found that mildly retarded children were mentally improved by regular practices of sarvangasana after only three months. The regular practices of kunjal and milk-neti up to at least 40 days have been found to improve mental retardation. With the help of asanas, memory, concentration, learning power, curiosity to learn and the way of thinking are improved. Any type of sitting asana provides greater blood circulation in parts above the waist. Thus the vital organs will be energised, giving increased stimulus to brain functioning.

A controlled study was carried out on 90 mentally retarded children, randomly assigned the children to two groups (yoga, control) so that there were equal numbers of mild, moderate and severely retarded children in both groups. The study assessed the effects of yoga practices (breathing exercises, pranayamas, loosening exercises, suryanamaskar, asanas and meditation) for a year. The moderately retarded among the yoga group performed significantly better on testing with the Binet-Kamat test (for general mental ability), Seguin form board (for co-ordination), and in the Vineland social maturity scale (to assess social adjustment and behavior), compared to their initial performance, as well as to that of the control group. The mild and severely regarded subjects of the yoga group had another benefit they showed no deterioration in any score, whereas the mildly retarded subjects of the control group showed

negative scores on retesting. Hence yoga practices, including meditation are useful in the rehabilitation of the mentally handicapped, (**Indian journal of medical sciences, 1999**).

Uma et al., (1998) reported a non-randomized controlled trial of the affects of a 10-month yoga intervention, with 5 hours of yoga a week, on children with mental retardation. The children practiced breathing exercises, postures, and meditation as the intervention. The study included boys and girls from elementary age through adolescents. Compared to the control group, the yoga group showed improvement in IQ and social adaptation after 10 months.

STATEMENT OF PROBLEM

Compare the effectiveness of yoga on concentration among mentally abled Vs disabled children in selected social institutions at Erode.

OBJECTIVE

1. To assess the level of concentration among mentally abled Vs disabled children before and after yoga.
2. To find out the ratio between the effectiveness of yoga on concentration among mentally abled Vs disabled children.
3. To find out the association between the post test scores of concentration among mentally abled and disabled children with their selected demographic variables.

OPERATIONAL DEFINITIONS

Compare the effectiveness

It is refers to improvement in concentration which is determined by significant difference in post test scores of mentally abled Vs disabled children.

Yoga

It refers to the physical practice which includes Arth padmasana (10 minutes), Omkar chanting (10minutes) and Seated forward bend (10 minutes) for stretching the body in different ways intended to improve the children's concentrations in the duration 30 minutes per day for 1 month.

Concentration

It refers to directing of the attention or of the mental faculties towards activities provided by the school. It is measured by the modified James M. Swanson concentration assessment rating scale.

Mentally abled children

It refers to the children with IQ ranges from 80-89.

Mentally disabled children:

It refers to the children with IQ ranges from 50-70.

Selected social institutions

The selected schools are Government middle school, Puthupalayam and Kongu Arivalayam Rehabilitation Centre, Thindal.

HYPOTHESES

- H₁:** There is a significant level of concentration among mentally abled Vs disabled children before and after yoga.
- H₂:** There is a significant difference in ratio between the effectiveness of yoga on concentration among mentally abled Vs disabled children.
- H₃:** There is a significant association between post test scores of concentration among mentally abled and disabled children with their selected demographic variables.

DELIMITATION

The study was delimited to,

- Estimate ratio of the effectiveness of yoga
- Identify the changes in level of concentration.
- Mentally abled and disabled children
- Selected school are
 - Government Middle school, Puthupalayam,
 - Kongu Arivalayam Rehabilitation centre, Thindal.

CONCEPTUAL FRAMEWORK BASED ON DOROTHY E. JHONSON BEHAVIOURAL SYSTEM MODEL

A conceptual framework refers to a framework of preposition for conducting research.

Conceptual frame work provides clear description of variable suggesting ways or method to conduct the study and guiding the interpretation, evaluation and integration of study findings, **(Polit and Hungler, 2003)**.

The conceptual framework set up for the present study is the Dorothy E. Johnson behavioral system model. Johnson's model views the person as a behavioral system continually strives to maintain a steady state by adjusting and adapting to internal and external forces. She identifies seven subsystems that carry out special functions for the system as a whole.

The subsystems are attachment/affiliative, dependency, ingestive, eliminative, sexual, and aggressive and achievement.

CONCENPTS USED BY JOHNSON

Behavior

Behavior "is a coordinated and articulated response to changes in sensory stimulation".

Here, concentration considered as a intellectual behavior that is the act or state of bringing to a fixed point or focus.

System

A system is “a whole that functions as a whole, by virtue of the interdependence of its parts”.

Here, Brain is considered as a whole system where it maintains a balance in organization, interaction and interdependency through, adjustments and adaption to the stimulation.

Behavioral system

A behavioral system encompasses the patterned, repetitive and purposeful ways of behaving.

Here, the system (Brain) co-ordination and organizes the stimulation and exhibits behavior (concentration) as the response of stimulation. The response process is viewed in various subsystems like

1. Attachment – affiliative subsystem

It forms the basis for all social organizations. Its consequences are social inclusion, intimacy and formation of strong social bonds.

In this study, the attachment and affiliative subsystem is affected which is manifested by mental irritation, poor relationship with other.

2. Dependency subsystem

It promotes helping or nurturing behavior from others. Its consequences are approval, attention, recognition and physical assistance.

In this study, the dependency subsystem is affected which is manifested by impaired balance, difficulty in following instruction and restlessness.

3. Ingestive subsystem

It relates to the biological need for food and the psychological meanings and structures of social events surrounding food consumptions.

In this study, the ingestive is affected which is manifested by loss of appetite and increased secretion of HCL.

4. Eliminative subsystem

It involves behaviors surrounding the excretion of waste from the body.

In this study, the ingestive subsystem is affected which is manifested by diarrhea, constipation, urgency in urination and excessive sweating.

5. Sexual subsystem

It involves behaviors associated with procreation and sexual gratification.

In this study, the ingestive subsystem is affected which is manifested by not aware of the development of secondary sexual characteristics.

6. Aggressive subsystem

It involves behaviors related to self-production and preservation of the self and society.

In this study, the ingestive subsystem is affected which is manifested by aggressive behavior, easy cry, adementation and able to quite in the class room.

7. Achievement subsystem

It is attempted to manipulate the environment. Its function is control or mastery of an aspect of self or environment to some standard of excellence.

Areas of achievement behavior include intellectual, physical, creative, mechanical and social skills.

In this study, the individual is not able to master of the environment due to low IQ which is explained in tension health.

Tension

The concept of tension is defined “as a state of being stretched or strained and can be viewed as an end-product of a disturbance in equilibrium”.

Here tension is manifested by makes careless mistakes, forgets thinks easily, difficulty in memory, absentminded, easily distractable and difficulty in reading and writing.

Stressor

Internal or external stimuli that produce tension and result in a degree of instability are called stressors.

Here, the internal and external stimuli produce instability in concentration.

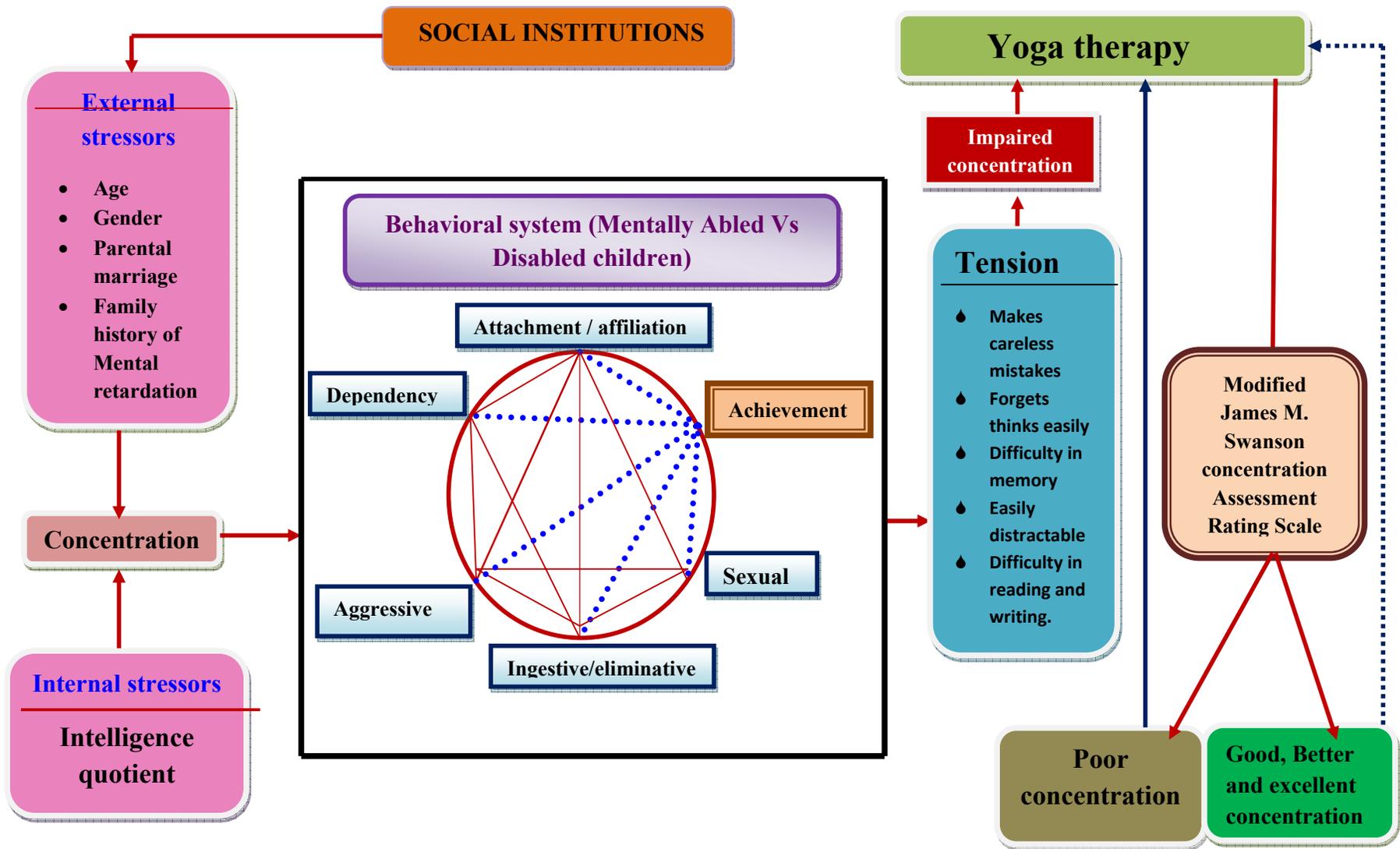


Fig.1.1: CONCEPTUAL FRAMEWORK BASED ON DOROTHY E. JHONSON BEHAVIOURAL SYSTEM MODEL

CHAPTER - II

REVIEW OF LITERATURE

The review of literature was conducted to generate a picture of what is known and not known about a particular situation. Relevant literature is a broad, comprehensive, in depth, systematic and critical review of scholarly publication, unpublished scholarly print materials audio visual material and personal communication.

A literature review is a written summary of the state of existing knowledge on a research problem. The task of reviewing research literature involves the identification, selection, critical analysis and written description of existing information on a topic, **(Polit and Hungler, 2003)**.

The review of literature in this study is organized under following headings:

1. Studies related to yoga on concentration among all age group people.
2. Studies related to concentration among mentally abled children.
3. Studies related to concentration among mentally disabled children.
4. Studies related to yoga on concentration among mentally abled Vs disabled children.

1. STUDIES RELATED TO YOGA ON CONCENTRATION AMONG ALL AGE GROUP PEOPLE

H. Gerry Taylor (2011), conducted a study on hyperactivity and concentration difficulties in kindergarten students. The Objectives of this study was assessing hyperactivity and concentration difficulties in kindergarten students and to identify risk factors. This Cohort study conducted at Children's hospital Cleveland. Participants A cohort of 148 children born between January 1, 2001, and December 31, 2003, with extremely preterm birth, defined as less than 28 weeks' gestation or having a birth weight of less than 1000 g, and 111 classmate control individuals born at term with normal birth weight. Interventions the children were enrolled in the study during their first year in kindergarten and were assessed on measures of hyperactivity and concentration difficulties. Main Outcome Measures Achievement testing, teacher ratings of learning progress, and individual educational assistance. Children with extremely preterm birth had lower mean standard scores than controls on achievement tests of spelling (8.52; 95% confidence interval, 4.58-12.46) and applied mathematics (11.02; 6.76-15.28). They had higher rates of substandard concentration progress by teacher report in written language (odds ratio, 4.23; 95% CI, 2.32-7.73) and mathematics (7.08; 2.79-17.95). Group differences in mathematics achievement and in teacher ratings of concentrating progress were statistically significant even in children without neuro sensory deficits or low global cognitive ability. Neonatal risk factors, early childhood neuro

developmental impairment, and socioeconomic status predicted learning problems in children with extremely preterm birth. However, many children with problems were not enrolled in a special education program. Hyperactivity and concentration problems in children with extremely preterm birth are evident in kindergarten and are associated with neonatal and early childhood risk factors. Our findings support efforts to provide more extensive monitoring and interventions before and during the first year of school.

Revanth I (2009), conducted a study on effect of Bhramari praeayama on attention and concentration in healthy adults. Attention has been consistently associated with academic achievement outcomes. This study was aimed at assessing the immediate effect of *Bhrāmari prāëäyāma* (BhPr) on attention and concentration performance on healthy adults. 138 (91 males, 46 females) adolescent students in age range of 12 to 15years (mean±SD, 13.26±1.07 years) participated in the study. All the samples were undergoing a ten days intensive Yoga based Personality Development Camp (YPDC) program at a residential yoga center located in south India. This was a randomized self as control within-subjects design. Assessments were done immediately before and after experimental and control sessions of 10 minutes by using Six Letter Cancellation Task (SLCT). Experimental session consisted of BhPr. The control session was breath awareness (BA). Significantly higher (36.96%, $p < 0.001$, RMANOVA) performance after BhPr in net SLCT score and significantly lower score (-10.11 %) following BA was observed. Regarding accuracy level, subsequent to BhPr wrong score reduced

significantly (-36%), while a significantly increase (200%) was found following BA. *Bhrāmari prāyāma*, is a cost-effective means for improving concentration,

Kesavan PM (2004), conducted a experimental study on Attention And Concentration After Yoga Practices in Normal Healthy Adults. The objective of this research was to ascertain the cognitive changes after yoga practices on the attention, concentration and memory in normal healthy people. For this purpose, logical memory, digit span, visual reproduction and letter cancellation tests were assessed on 31 (14 men and 17 women) normal healthy volunteers who attended the post conference session of the 14th International Conference on Frontiers on yoga research and applications with special emphasis on Pranayama from 23rd December to 30th December 2003 at Prasanti Kutiram, near Bangalore. The participants were divided into 3 groups. There was a common program, special techniques, voice culture, pranic energization and cosmic energy transmission. The yoga intervention included Sithilikaran Vyayama, Kriyas, Asanas, Pranayama, Deep Relaxation Technique (Savasana), Dhyana, Devotional Songs, Voice Culture, and Pranic Energization. The baseline data was collected on 23.12.2003 and the post test was conducted on 29.12.2003 after six days of practice. Participants were from different cross sections who participated in the conference with different age groups, educational and social backgrounds. Pre and post data were compared by non parametric two tailed Wilcoxon signed Rank test. A significant improvement was observed in all variables as follows: Logical Memory - $P < .000$. Digit Span

- $P < .002$. Visual Reproduction - $P < .000$. Letter Cancellation - $P < .000$ The overall effect of this integrated yoga practice is more on reduction of anxiety, better concentration and mind relaxation. Thus the findings of this study corroborates the findings of earlier studies of effects of Yoga practice on mind and its performance irrespective of difference in age, gender and other background.

2. STUDIES RELATED TO CONCENTRATION AMONG MENTALLY ABLED CHILDREN

Laura Gebhardt BA, (2010), conducted a study on concentration difficulties and learning disabilities among children with pediatric primary hypertension. The objective was to determine whether children with sustained primary hypertension are at increased risk for concentration and learning disabilities (LDs), as a school-related manifestation of neurocognitive problems. A total of 201 children 10 to 18 years of age who were referred because of elevated blood pressure (BP) were included. Patients were categorized as having or not having hypertension, on the basis of BP evaluation at the initial hypertension clinic visit and subsequent confirmation of sustained elevated BP outside the clinic setting. Parents reported whether their child had a provider-confirmed concentration difficulties and LD. A total of 101 children without hypertension and 100 children with hypertension were evaluated; 18%

of the children ($n = 37$) had concentration difficulties and LDs. In comparison with children without hypertension, children with hypertension were significantly more likely to have concentration difficulties and LDs (18% Vs 9%; $P < .001$). With adjustment for demographic variables and obesity, the odds of having concentration difficulties and LDs were elevated for subjects with hypertension, in comparison with subjects without hypertension (odds ratio: 4.1 [95% confidence interval: 1.8–9.4]). The rate of concentration difficulties and LDs was significantly higher for children with sustained primary hypertension, compared with children without hypertension. These findings add to the growing evidence for an association between primary hypertension and cognitive function and may inform treatment and monitoring decisions for these children who may be at risk for learning problems.

Edward L Swing MS, et.al., (2009), conducted a study on television and video game exposure and the development of attention and concentration Problem. Television viewing has been associated with greater subsequent attention and concentration problems in children. A sample of 1323 middle childhood participants were assessed during a 13-month period by parent- and child-reported television and video game exposure as well as teacher-reported attention and concentration problems. Another sample of 210 late adolescent/early adult participants provided self-reports of television exposure, video game exposure, and attention and concentration problems. Exposure to television and video games was associated with greater attention problems. The association of television and video games to attention and concentration

problems in the middle childhood sample remained significant when earlier attention and concentration problems and gender were statistically controlled. The associations of screen media and attention and concentration problems were similar across media type (television or video games) and age (middle childhood or late adolescent/early adult). Viewing television and playing video games each are associated with increased subsequent attention and concentration problems in childhood. It seems that a similar association among television, video games, and attention and concentration problems exists in late adolescence and early adulthood. Research on potential risk factors for attention problems should be expanded to include video games in addition to television.

Gulsah Seydaoglu et.al., (2009), conducted a study on Short-Term Effects of Playing Computer Games on Attention and concentration. The main aim of the present study is to investigate the short-term cognitive effects of computer games in children with different psychiatric disorders and normal controls. One hundred one children are recruited for the study (aged between 9 and 12 years). All participants played a motor-racing game on the computer for 1 hour. The TBAG form of the Stroop task was administered to all participants twice, before playing and immediately after playing the game. Participants with improved posttest scores, compared to their pretest scores, used the computer on average 0.67 ± 1.1 hr/day, while the average administered was measured at 1.6 ± 1.4 hr/day and 1.3 ± 0.9 hr/day computer use for participants with worse or unaltered scores, respectively. According to the regression model, male

gender, younger ages, duration of daily computer use, inattention and concentration type were found to be independent risk factors for worsened posttest scores. Time spent playing computer games can exert a short-term effect on attention and concentration as measured by the Stroop test.

E Crawley¹ et.al., (2008), conducted a study on memory and concentration problems in children with chronic fatigue syndrome. The objective of this study is to understand more about the problems children with chronic fatigue syndrome (CFS) experience with memory and concentration, and to test the feasibility of quantitative measurement of both memory and concentration. Four-item semi structured questionnaire was used and neuropsychological test battery with 10 psychometric subtests was conducted. This study is conducted at Family home of the child taking part. 20 children with a diagnosis of CFS experiencing memory and/or concentration problems were recruited between April and October 2007 from a regional CFS clinical service (female 13; average age 13.5 years; range 8–16). Each child, parent and teacher was asked to describe the child's memory and concentration problems. Responses were subject to thematic analysis by two independent researchers. In addition, each child completed a battery of 10 tests to measure: processing speed; attention; immediate and delayed memory; working memory; executive function. Raw scores were converted into age-scaled scores and the children's psychometric scores on the 10 tests taken were compared with normative data using t tests. Children with CFS, their parents and teachers described problems with focused attention and concentration, sustained attention, recall and stress.

Scores for sustained attention (mean 8.1, 95% CI 6.3 to 9.9), switching concentration (7.5, 5.5 to 9.4), divided concentration (6.9, 5.5 to 8.2), auditory learning (8.2, 6.8 to 9.6) and immediate recall (8.7, 7.3 to 10.0) appeared lower than the normative mean of 10. Children with CFS appear to experience problems with concentration, which may have adverse implications for verbal memory. These cognitive problems may explain some of the educational difficulties associated with CFS.

Carolyn A McCarty PhD et.al., (2007), conducted a study on early television exposure and subsequent attention and concentration problems in children. Cross-sectional research has suggested that television viewing may be associated with decreased attention spans and concentration level in children. However, longitudinal data of early television exposure and subsequent attention and concentration problems have been lacking. The objective of this study was to test the hypothesis that early television exposure (at ages 1 and 3) is associated with attention and concentration problems problem at age 7. We used the National Longitudinal Survey of Youth, a representative longitudinal data set. Our main outcome was the hyperactivity subscale of the Behavioral Problems Index determined on all participants at age 7. Children who were ≥ 1.2 standard deviations above the mean were classified as having attention and concentration problems problem. Our main predictor was hours of television watched daily at ages 1 and 3 years. Data were available for 1278 children at age 1 and 1345 children at age 3. Ten percent of children had attention and concentration problems at age 7. In a logistic regression model,

hours of television viewed per day at both ages 1 and 3 was associated with attention and concentration problems at age 7 (1.09 [1.03–1.15] and 1.09 [1.02–1.16]), respectively.

Dr Dimitri A Christakis (2004), conducted a study on early television exposure with memory and concentration Problems in Children. This Cross-sectional research has suggested that television viewing may be associated with decreased memory and concentration spans in children. However, longitudinal data of early television exposure and memory and concentration problems have been lacking. The objective of this study was to test the hypothesis that early television exposure (at ages 4 and 6) is associated with memory concentration problems at age 9. Children who were ≥ 3.2 standard deviations above the mean were classified as having memory problems. Our main predictor was hours of television watched daily at age 4 and 3 years. Data were available for 1220 children at age 4 and 945 children at age 6. Ten percent of children had memory and concentration problems at age 9. In a logistic regression model, hours of television viewed per day at both ages 4 and 6 was associated with memory and concentration problems at age 9. Early television exposure is associated with memory and concentration problems at age 9. Efforts to limit television viewing in early childhood may be warranted, and additional research is needed.

Elizabeth C Kera MA et.al.(2002), conducted a study on television viewing and risk for Attention and concentration Problem in Preschool Children. This study examined whether high levels of television viewing are

associated with attention and concentration problems and hyperactivity in preschool children. Parent and teacher ratings of inattention, hyperactivity and impulsivity, objectively measured activity level, and parental estimation of early television exposure were collected for a sample of preschool children. Separate linear regression analyses were conducted with parent and teacher behavioral ratings and objectively assessed activity level as outcome variables. After controlling for demographic factors (i.e., age, sex, and SES), television exposure accounted for a significant proportion of the variance in teacher ratings of inattentive/hyperactive behaviors (51.4%), as well as objectively measured activity level (54.3%). These findings partially replicate those from a recent, highly publicized study indicating a correlation between television exposure and attention and concentration problems.

David Rabiner Ph.D et.al., (2000), conducted a study on early attention and concentration problems and children's reading achievement: a longitudinal investigation. The objective of this study is to determine whether attention problems predict the development of reading difficulties and examine whether screening for attention problems could be of practical value in identifying children at risk for reading underachievement. 387 children were monitored from kindergarten through fifth grade. Standardized assessments of attention and concentration problems and reading achievement were conducted at multiple time points. Attention and concentration problems predicted reading achievement even after controlling for prior reading achievement, IQ, and other behavioral difficulties. Inattentive first graders with normal reading scores after

kindergarten were at risk for poor reading outcomes. Attention and concentration problems play an important role in the development of reading difficulties for some children, and screening for attention and concentration problems may help identify children at risk for reading difficulties.

Penelope krener MD et.al., (1999), conducted a study on effect of concentration problems on the malleability of children's aggressive and shy behaviors. This study investigated the moderating effect of concentration problems on the impact of a classroom-based preventive intervention directed at aggressive and shy behaviors in an epidemiologically defined sample of 1,084 urban first-grade children. Concentration problems, aggressive behavior, and shy behavior were assessed by a structured teacher interview (the Teacher Observation of Classroom Adaptation-Revised) in the fall and spring of first grade. Children with high ratings on concentration problems in the fall had higher levels of teacher-rated aggressive and shy behavior in the spring than did children without such problems. The intervention reduced aggressive and shy behavior in children regardless of fall concentration level (69.1%). Boys, but not girls, in the intervention condition with high concentration problems had higher levels of spring aggression than those without such problems, but they also showed the greatest reductions in aggressive behavior from fall to spring. These results suggest that aggressive behavior is malleable in children with concentration problems, provide further evidence on the etiological significance of concentration problems for the development of maladaptive

behavior, and highlight the importance of directly targeting concentration problems to maximize preventive intervention impact.

George Rebok W et.al., (1995), conducted a study on effect of concentration problems on the malleability of children's aggressive behaviors. The present study investigated the moderating effect of concentration problems on the impact of a classroom-based preventive intervention directed at aggressive behaviors in an epidemiologically defined sample of 1,084 urban first-grade children. Consecutive sampling technique was used to select the sample. Concentration problems, aggressive behavior were assessed by a structured teacher interview (the Teacher Observation of Classroom Adaptation-Revised) in the fall and spring of first grade. Children with high (67.4%) ratings on concentration problems in the fall had higher levels of teacher-rated aggressive (55%) in the spring than did children without such problems. Boys, but not girls, in the intervention condition with high concentration problems had higher levels of spring aggression than those without such problems, but they also showed the greatest reductions in aggressive behavior from fall to spring. These results suggest that aggressive behavior is malleable in children with concentration problems, provide further evidence on the etiological significance of concentration problems for the development of maladaptive behavior, and highlight the importance of directly targeting concentration problems to maximize preventive intervention impact.

3. STUDIES RELATED TO CONCENTRATION ON MENTALLY DISABLEED CHILDREN

Quine L (2008), conducted a study on memory, concentration and sleep problems in children with mental handicap. This paper reports on a longitudinal study of memory, concentration and sleep problems in 200 children with severe mental handicap. Memory, concentration and Sleep problems were extremely common: 51% of children had memory and concentration problems. 67% of children had sleep problems, and 32% of parents said they rarely got enough sleep. Memory, concentration and sleep problems were also very persistent: between a half and two-thirds of children who exhibited memory, concentration and sleep problems had those 3 years later. Memory, concentration and sleep problems were associated with a number of child characteristics. poor communication skills, poor academic skills, poor self-help skills, incontinence, daytime behavior problems and epilepsy. There were no relationships with family variables such as social class, income, family composition or housing tenure. However, maternal stress, maternal irritability and perceived impact on the family were related to memory, concentration and sleep problems. Ten variables explained 50% of the variance in the memory, concentration and sleep problems Index. Communication skills played a pivotal role.

Pereira KD (2005), conducted study on, assess the aggressive behavior and mental concentration among mentally handicapped children. To assess the mental irritation and aggressive behavior. The descriptive study was done in special teaching school for children in Durky. Thirty-four children were selected; average age was 10 years. This study investigated the aggressive and concentration problems in mentally handicapped children. 110 mentally handicapped children were selected from special school. Concentration problems and aggressive behavior were assessed by a structured teacher interview (the Teacher Observation of Classroom Adaptation-Revised). Children with high ratings on concentration problems had higher levels of teacher-rated aggressive and concentration problems. The intervention reduced aggressive behavior (76.4%) and increased concentration (62.1%) in children. These results suggest that aggressive behavior was reduced more and mental concentration was increased after effective intervention in children with mentally handicapped.

Moore LA (2005), conducted a study on the differential validity of hyperactivity/attention deficits, concentration difficulties and conduct problems among mentally retarded children. The independence of hyperactivity, attention deficits, concentration problems and conduct problems among mentally retarded children was addressed using factors of the Conners' Teacher Rating Scale-39 (CTRS-39) and the more recently developed IOWA Conners' inattention/overactivity (IO) and aggression (A) subscales. CTRS-39 ratings were obtained for children of normal intelligence and for mentally retarded

children. Differences between the groups were examined as were inter correlations of the Conners' factors and IOWA subscales. Conduct problems proved to be less strongly associated with hyperactivity, attention deficits and concentration problems among mentally retarded children compared to children of normal intelligence. However, attention/ concentration problems and conduct problems may be associated with mental retardation in general.

Durkin MS (2002), conducted a study on Prevalence of memory and concentration problem among Mental Retarded children in Bangladesh. This descriptive study reports estimates of the prevalence of memory and concentration problem among mental retardation and associated factors based on a population survey of 2- to 9-Year-old children in Bangladesh. A two-phase survey was implemented during the years 1998–2001. In the first phase, a cluster sample of 6,365 children (5,748 from urban areas and 617 from rural areas) was screened for memory and concentration disabilities using a parental report known as the Ten Questions instrument. In the second phase, all children with positive screening results and a 10% sample of those with negative results were referred for structured medical and psychological assessments. Estimates of the prevalence of memory and concentration problem among mental retardation were 19.0/1,000 children (95% confidence interval (CI) 13.5–24.4) for serious problem and 65.3/1,000 children (95% CI 48.9–81.8) for mild problem. Both estimates were considerably higher than respective prevalence estimates obtained in industrialized countries and in selected less developed countries. In this population, lack of maternal education was strongly

associated with the prevalence of both serious (odds ratio = 3.26, 95% CI 1.26–8.43) and mild (odds ratio = 3.08, 95% CI 1.85–5.14) memory and concentration problem. Other factors that were independently associated with memory and concentration problem among mental retardation in Bangladesh included histories of perinatal difficulties, neonatal infections, postnatal brain infections, and traumatic brain injury, as well as current malnourishment. Further research is needed to assess the contribution of consanguineous marriage, improvements in child survival, and other factors to the unusually high prevalence of memory and concentration problem among mental retardation in this population.

Jan Blacher (2000), conducted a study to assess the Child Behavior Problems and concentration problems With Intellectual Disability children. Intellectual disability and typical development was examined. Participants were families of children with intellectual disability ($n = 39$) or typical development ($n = 75$). Child behavior problems and concentration problems were assessed at child ages 5, 6, 7, and 8. Results indicate that children with intellectual disability were consistently reported by parents, the child behavior to be more negative (78.2%) and concentration problem were increased (56.3%). When child behavior problems were accounted for, however, there was no longer a significant relationship between child intellectual status and child behavior and concentration problems. For both intellectual disability and typical development groups, cross-lagged panel analyses indicate that early child behavior problems lead to increased concentration problems over time.

4. STUDIES RELATED TO YOGA ON CONCENTRATION AMONG MENTALLY ABLED Vs DISABLED CHILDREN

Ganesan Venkatasubramanian et.al., (2011), functional magnetic resonance imaging study conducted on Neurohemodynamic correlates of 'OM' chanting. A sensation of vibration is experienced during audible 'OM' chanting. This has the potential for vagus nerve stimulation through its auricular branches and the effects on the brain thereof. The neurohemodynamic correlates of 'OM' chanting are yet to be explored. Using functional Magnetic Resonance Imaging (fMRI), the neurohemodynamic correlates of audible 'OM' chanting were examined in right-handed healthy volunteers ($n=12$; nine men). The 'OM' chanting condition was compared with pronunciation of "ssss" as well as a rest state. fMRI analysis was done using Statistical Parametric Mapping 5 (SPM5). In this study, significant deactivation (56.8%) was observed bilaterally during 'OM' chanting in comparison to the resting brain state in bilateral orbitofrontal (22.1%), anterior cingulate (43%), parahippocampal gyri, thalami and hippocampi. The right amygdala too demonstrated significant deactivation. No significant activation was observed during 'OM' chanting. In contrast, neither activation nor deactivation occurred in these brain regions during the comparative task - namely the 'ssss' pronunciation condition. They concluded that the neurohemodynamic

correlates of 'OM' chanting indicate limbic deactivation. As similar observations have been recorded with vagus nerve stimulation treatment used in depression and epilepsy, the study findings argue for a potential role of this 'OM' chanting in clinical practice.

Ashutosh Mishra (2009), conducted a study on immediate effect of kapalabhati on concentration, verbal and spatial memory in children. The present study aimed to find out, whether Kapālabhāti (KB) and Breath-Awareness (BA) practice will have any influence on the concentration, verbal and spatial memory task in children. There were 96 (52 = males; 44 = females) participants, within the age range of 12-17 years. The subjects were given training of KB for a period of 7 days. Then, they were randomly assigned into two groups i. e. KB and BA. The assessments were taken on 8th and 9th day of the course of Personality Development Camp before and immediately after both KB and BA. In the result, concentration and verbal memory scores were found significant increased after 7 days, in male and female sub-groups analysis and total group. There were also significant increased in verbal score after BA and KB. Both male and female were also found increase in concentration and verbal memory score but not in spatial memory. The results suggested both KB and BA had influence on concentration and verbal memory performance task.

Sandhya Rani Behera (2007), conducted a study on The Effect of Integrated approach of Yoga module on Intelligence Score in Adolescents (13-17 Yrs). This Stratified randomized control study was to compare the effect

of yoga and physical exercises on intelligence. The sample consisted of 256 students in the age range of 13 to 17 who participated in a residential personality development camp. Assessments were done on day 1 and day 9 by using G.C.Ahuja Group Test of Intelligence (GGTI). Which consists of 8 cognitive abilities (additional test, classification, analogies, arithmetic reasoning, vocabulary, comprehension, series, and best answers). The daily routine of the two groups was carefully matched and it was assumed that there was no cross over, interaction between students of the two groups. Yoga group practiced a set of integrated Yoga module consisting of selected set of asanas, pranayama, meditation, interactive discussions about intelligence according to yoga, yoga games, devotional songs and skits. Physical exercise group had matched non-yogic activity for each one of the yoga sessions including, physical exercises, breathing exercises, tuning to nature, interactive discussions on general knowledge topics of sports, as well as songs and skits on non-yoga topics. Results showed that the base line is not matched. So, data were not normally distributed ($p < 0.001$) (Kolmogorov Smirnov test). The yoga group showed a significant change in all variables. There were no significant differences before & after 9 days except Series ($p < 0.001$) in the control group (Wilcoxon Signed Ranks Test). The yoga group showed significantly higher scores in all variables as compared to control group (Mann-Whitney test). Gender analysis showed similar trends as the whole group. It can be conclude that the integrated set of yoga practices plays a significant role in improving the IQ of school students as compared to physical exercise.

Dr. Vishwajeet Singh (2006), conducted a comparative study of three different yoga modules on intelligence quotient in normal children (10 to 12 years). The present study was aimed to assess the intelligence quotient (IQ) in children's after intensive practice of Integrated Approach of Yoga and to compare the effects of three different yoga modules through Draw-a-man test. Subjects included normal healthy school children (n = 207) aged between 9-12 years (Mean \pm SD, 10.86 \pm 0.91). They were randomly assigned to three groups, *Sãñõi* i.e. for Creativity Development (CR), *Sthiti* i.e. for IQ Development (IQ), and *Laya* i.e. for Physical Stamina Development (PS). They were taught three different yoga modules of *Äsana* (yoga postures), *Präëäyãma* (breathing exercises), *kriyã* (cleansing techniques), meditation, games and lecture by trained instructors. But daily time schedule for all the three groups remained the same. Draw-a-man Test was administrated to children in all three groups on the first and ninth days of a residential program. Paired't' test was used to compare the change in IQ scores in the three groups. Results showed that there was significant improvement ($p < 0.001$) in the IQ group. The improvement in the IQ group was 3.91%, 0.44% in the CR group, and 0.10% in the PS group. Analysis between the three groups was done by means of one-way ANOVA, followed by post-hoc multiple comparison (Tukey test), which showed that the group, which practiced IQ-specific yoga module, showed significant improvement, compared to CR and PS groups. Result from a gender analysis showed that there is no significant difference in any group. Hence the

results suggest that yoga module specially designed for IQ group showed significant improvement in IQ.

Dr. Ramesh.V (2005), conducted a study on effect of Omkar chanting on concentration, memory and level of fatigue. The concentration, memory and the level of fatigue can be measured from the psychology based tests. Omkar recitation is an important yogic practice. The vibration due to Omkar meditation increases the efficiency of cells and the organs. In the Omkar recitation, the first pronunciation A creates the vibrations, which affect on the spinal cord to increase it's efficiency. The second pronunciation U creates the vibrations in the throat and affects the Thyroid Glands, while the last pronunciation M, brings the vibrations to the brain, thereby activating the brain centres, as a result of which, the efficiency of a brain increases. Therefore the effect of Omkar chanting increases the concentration, memory, receiving power of brain and ultimately decreases the level of fatigue. However, the concentration, memory & level of fatigue can be measured / understood from the Psychology based tests. Based on this hypothesis, the tests were conducted and the results are discussed.

Dr. Sripad H Ghaligi (2005), conducted a study on Effect of Vedic Chanting on Memory and concentration. Researches and studies have shown that Yogasanas, Pranayama and Meditation help in enhancing memory, improving attention and concentration, but no study is available on the effect of traditional Vedic chanting on memory and concentration, which is one of the important features of cognitive abilities. The present study compared the effect

of chanting group, who had minimum two - years experience on memory and concentration with that of non-chanting group who had no exposure to such type of chanting. 35 subjects were chosen in both preselected groups and their age ranged from 13 to 15 years (mean age + 14). Two groups were matched for age and only males were selected. Matching of age, ambiance, daily routine and socio-economic background for both the groups assured that the results could be attributed to chanting. Base line scores of memory and concentration were assessed by means of delayed recall tests and cancellation tests respectively. Data was analyzed using non-parametric Mann Whitney U test. Chanting group showed significant increased scorings in both the memory tests (VMS, $p=0.001$; SMS, $p=0.002$) and considerable reduction in total error and total time taken for cancellation tests. (TTT, $p=0.017$; TE, $p=0.013$) compared to non-chanting practitioners. Present study suggests that chanting influences both the hemispheres of the brain resulting in good memory and concentration. Hence, the practicing of Vedic chanting in a traditional way can also be used as one of the powerful.

Dr. Malay Sinha (2005), conducted a study on Effect of Integrated Yoga Module on Intelligence in School Children. This Randomized Control Study objective was to examine the effect of yoga and physical exercises on intelligence. Sample comprised of 201 school children aged 9 to 13 years (age Mean and SD 10.72 ± 1.25), randomly divided into two groups: yoga (N=101) and control (N=100). Yoga group underwent Integrated Yoga Practices(IYP), including asanas, Suryanamaskara (sun salutation), pranayama (breath control),

chanting , Bhajan etc, while the control group practiced physical exercises like jogging, Physical training breathing exercises, games, Creativity, Patriotic songs etc. A standardized tool, Premila Group Test of Intelligence (PGTI) was used to determine the IQ scores. Assessments were done on 1st and 10th day of the course. Standardized mean difference in all subjects showed significant improvement in IQ scores 4.47 % and -7.03 % respectively in yoga and control groups. In the yoga group, of the six components of cognitive abilities, (Analogies, Classification, Disarranged sentences, same- Opposite, Series and Best Answer) significant improvement (Wilcoxon Signed Ranks Test) was found in five factors except Best Answer. In control group there was no improvement in 2 factors (Same- Opposite and Series). Comparison between yoga and control groups (Mann-Whitney U test) showed significant difference between groups on 2 factors namely ‘Same- Opposite’ and ‘Series’. Gender effect showed no significant difference between boys and girls in both the groups. Age wise analysis showed that girls of 10 years age group had the best result in yoga group. Thus the results of this study indicate that an integrated yoga practice of 9 days in residential set up is effective in improving IQ level of school children of 9 – 13 years.

Radhakrishna E (2004), conducted a study of integrated approach to yoga therapy on attention and concentration for autism Spectrum disorders. Yoga programmes implemented with special children have demonstrated that yoga intervention lasting for few weeks to months resulted in increased working efficiency and ability to concentrate in children with special needs.

This study used to assess effect of a twenty month non-residential yoga program in ASD children's behavior and to assess the effect of a comprehensive non-residential yoga-based program on eye to eye gaze, sitting tolerance, body posture, body awareness, depth perception and balance, imitation, repetitive self- stimulatory and self-injurious behavior and receptive skills related to spatial relationships. Crossover randomized control study design was used in this study. This study was conducted in Non-residential special schools in Bangalore, South India. 42 children with established ASD in the age group of 8 – 14 years were profiled. 12 (6 experimental group and 6 control group) from four special schools satisfying the inclusion criteria were selected. A semi-structured interview was used to obtain both demographic and vital clinical data. Twenty- month's yoga intervention for five days weekly, one hour a day was implemented with the yoga group. All the parents in both yoga and non-yoga group were interviewed using standardized E-2 autism checklist and recorded. Base-line data was collected during the first twelve sessions, midsession data collected between 200 and 202 sessions and post data collected between 389 and 391 sessions. Significant changes occurred in communication (12%), language (20%), play (09%) and joint attention and concentration (34%). By the 372nd session, all children showed increased vocal imitation skills by imitating vowels "a, e, i o, u" and "OM." They greeted the therapist with a smile, vocalizing "namaste." Parents reported improvement in ability to interact with other children and family members. He concluded that a long-term intensive school based yoga-program improves ASD behaviors

such as eye to eye gaze, sitting tolerance, body posture, body awareness, depth perception and balance, imitation, repetitive self- stimulatory and self-injurious behavior and receptive skills related to spatial relationships.

Dr. Gautam (2004), conducted a study of yoga on attention and concentration in children to assess the effect of integrated yoga module in children on their attention and concentration and to compare the attention and concentration in three different yoga modules. In this stratified randomized controlled study on 614 school children (9-17years) , who practiced three different yoga modules, it has been found that the group which practiced the yoga module for improving the intelligence was significant difference than the module for creativity and physical stamina on their attention and concentration (on digit cancellation score). The overall improvement in all three groups in digit, letter and character cancellation shows the expected effect, which is indicative of beneficial effect of different yoga modules. The task of cancellation requires sustained visual attention, scanning without distraction and better concentration. It is known that reduced anxiety can improve the performance of such tasks requiring attention, learning and memory. The anxiety-reducing effects of yoga practice, which are already known could have facilitated in improving attention and concentration. Biofeedback induced relaxation training on sixteen learning disabled children showed significantly fewer numbers of errors in the attention task and significantly lower impulsive score compared to control group. Self-instruction and relaxation training

showed significant change in attentive behavior of learning disabled children on a cognitive task.

Dr. Bhagaban bhuyan (2003), conducted a comparative study to assess attention and concentration ability in children following intensive practice of integrated approach of yoga and to compare the effects of three different modules of yoga on attention and concentration through cancellation tests. Normal healthy-English-medium school children [n=338, 9-12 years (10.0 ± 0.83)] were randomly assigned into three groups, sãñöi [= Creativity Development (CR), Sthiti [= IQ Development (IQ), Laya [= Physical stamina Development (PS). They were taught three different yoga modules including yoga postures, breathing exercises, kriya (cleansing technique), meditation, games and lecture by trained instructors. Cancellation (Digit, Letter and Character) tests were administrated to children in all three groups on first and ninth day of the residential program. As data were normally distributed, the analysis was done using parametric, paired t-test. Comparison of pre and post values showed that there was significant improvement ($p < 0.001$) in digit cancellation test for all the three groups. [IQ group (31.11%); CRG group (25.69%) and PS group (24.35 %)] as well in character cancellation [IQ group (43.82%); CR group (34.81%) and PS group (32.45 %)]. Between the three groups analysis was done through one way ANOVA and multiple comparison Turkey test, which showed that the group which practiced the yoga modules for CR showed significantly more improvement compared to PS group in digit cancellation test. But there was no significant difference between IQ and CR

groups. Males and females of each group (IQ, PS and CR) did not show significant difference. Finally he concluded like all the three integrated yoga modules improve attention and concentration (ii) the module designed for CR group was best and (iii) there was no gender effect.

Dr Mallikarjun (2003), conducted a study on comparison of three yoga modules on logical memory and concentration in normal children. The objective of the study is to assess logical memory and concentration in children following intensive practice of integrated yoga module and to compare the logical memory and concentration in three different integrated yoga modules. The children participated in a ten days residential Personality Development Camp (PDC) at Bangalore, South India. Subjects were randomly allocated into different groups Intelligence Quotient (IQ), Creativity (CV) and Physical stamina (PS). 239 children whose Mean age (\pm SD) (14.12 ± 1) yrs. were taken as subjects for this study. The test of logical memory (model of Wechsler scale) and concentration consisting of two stories was administered to children in all three groups on first and 9th day. Three different modules of yoga specially designed for improving Intelligence Quotient (IQ), creativity (CV) or physical stamina (PS) were taught to children by trained yoga instructors. Integrated yoga module consists of the same daily routine and time table for all three groups including yoga postures, breathing practices, yoga games, meditation and lectures on philosophy of yoga, but the content of the actual practices was different for all three groups. Data analysis was done using paired t-test as the base line values on transformation ($\log x$) were normally distributed. The F-test

for base line values showed that data of three groups were not significantly different from each other. Comparison of pre and post values showed that there was a significant improvement ($p < 0.001$) in logical memory and concentration in all the 3 groups: IQ group (26.32%), CV group (23.36%) and PS group (25.88%). All yoga modules showed highly significant improvement in logical memory and concentration. The comparison between male and female subjects showed no significant difference in all three groups IQ, CV and PS. Hence, the present study shows that all the three integrated yoga modules improve logical memory and concentration in school children.

Shatrughan Singh Naruka (2003), conducted a study on efficacy of Three different Yoga modules in attention, concentration and visual memory on school children. The present study assessed the attention, concentration and visual memory in school children following general yoga practices. Children ($n=270$ whose ages ranged from 13-17 years) were randomly assigned into 3 groups. Each group practiced a specific yoga technique (Physical stamina = Dynamic practices, Creativity = artwork, crafts, skits, IQ= Special quiz, debate). These techniques were practiced for 10 days. Attention, concentration and visual memory was assessed initially and after 9 days. All 3 groups showed significant increase in attention, concentration and visual memory ($p < 0.001$, paired sample test) but physical stamina showed a higher increase (33.7% change) than other two groups. The balancing effects of yoga modules could have been responsible for increase the attention, concentration and visual memory in all the three groups.

CHAPTER – III

METHODOLOGY

The methodology of research indicates that general pattern of organizing the procedure for gathering valid and reliable data for the problem under investigation, **(Kothari, 1996)**.

Research methodology is a systematic way to solve the research problem and also to carry out the academic study and research in a correct manner, **(Polit and Beck, 2004)**.

The methodology of the study includes the description of research design, research approach, setting of the study, variables, population, sample, sampling technique, developing and description of tool, and reliability of tool, methods of data collection and plan for data analysis and interpretation of the data.

RESEARCH APPROACH

The research approach is the most essential part of any research. The entire study based on it. The research approach used in the study is an applied form of research to find out how well a program, intervention, is effective. In this study the Randomized clinical trial of yoga on concentration among mentally abled Vs disabled children was evaluated. Therefore an evaluation approach was essential to test the effectiveness of the intervention.

RESEARCH DESIGN

It refers to the overall plan for addressing a research question, including specifications for enhancing the integrity of the study, (Polit & Beck, 2004).

Two group pre and post test design was selected to evaluate the effectiveness of yoga on concentration among mentally abled Vs disabled children.

Fig: 3.1 Diagrammatic presentation of the design

Randomly selected children	Pre Test	Intervention	Post test
Mentally abled children	O ₁	X	O ₂
Mentally disabled children	O ₃	X	O ₄

The symbols used are,

- O₁ - Pretest on concentration among mentally abled children.
- X - Yoga therapy
- O₂ - Posttest on concentration among mentally abled children
- O₃ - Pretest on concentration among mentally disabled children
- O₄ - posttest on concentration among mentally disabled children

SETTING

Research settings are specific places in a research where data collection is to be made. The selection of setting was done based on feasibility of conducting the study, availability of subject and permission of authorities, **(Polit and Hungler, 1999)**

1. The study was conducted for mentally abled children at Government Middle School, Puthupalayam. It is located at 10 Km away from the Dhanvantri College of Nursing. Totally 217 children are studying out of which 122 are boys and 95 are girls. In that 60 children are having below average IQ (80 – 89) and remaining children are having normal IQ.

2. The study was conducted for mentally disabled children at Kongu Arivalayam Rehabilitation Centre, Thindal which is a private home. It is located at 30 Km away from the Dhanvantri College of Nursing. Totally 138 children studying out of which 95 are boys and 43 are girls. In that 68 students are having mild Mental retardation, 42 children are having Moderate Mental retardation and 28 children are having severe mental retardation.

VARIABLES

Variables are characters that can have more than one value. The categories of variables discussed in the present study are,

Independent variable

Independent variable is the variable which has the presumed effect on the dependent variable.

(Basavanthappa.B.T, 2007)

In this present study the independent variable refers to Yoga.

Dependent variable

Dependent variable is often referred to as the consequence or the presumed effect that varies with a change in the independent variable.

(Basavanthappa.B.T, 2007)

The dependent variable in this present study is refers to Concentration.

POPULATIONS

Population refers to the entire aggregation of cases that meets the designed criteria, **(Polit and Beck, 2002)**.

The populations for the present were mentally abled Vs disabled children.

SAMPLE

According to Polit and Beck (2008), the sample is the population selected to participate in a research study.

The sample selected for the present study were mentally abled children are studying in Government Middle school, Puthupalayam Vs disabled children are studying in Kongu Arivalayam Rehabilitation Centre, Thindal, who are willing to participate and present during the period of data collection.

SAMPLE SIZE

Sample size is normally decided by nature of the study, nature of population, type of sampling technique, tool variables, statistical test adopted for data analysis sensitivity of the measures.

(Polit and Beck 2002)

The total sample size was 30 children, out of which 15 were mentally abled children and 15 were mentally disabled children.

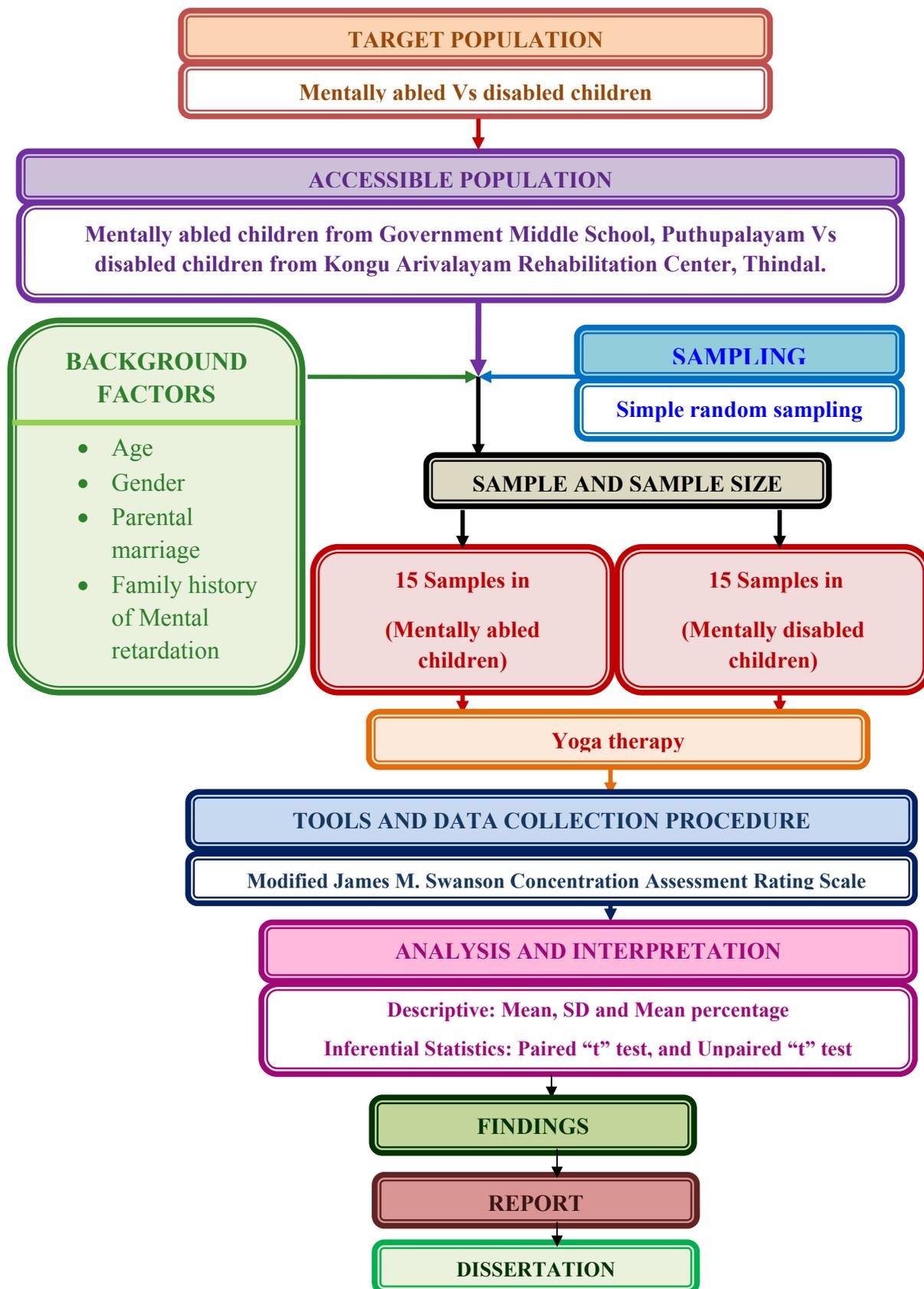


FIG.3.1. SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY

SAMPLING TECHNIQUE

According to Polit and Beck (2004), sampling technique refers to the process of selecting the population to represent the entire population.

Simple Random sampling technique was selected for the present study. In mentally abled children, totally 60 children are having IQ between 80 – 89 in Government Middle School, Puthupalayam, by using lottery method 15 children were selected as a sample. In mentally disabled children, 68 children are having mild mental retardation studying in Kongu Arivalayam Rehabilitation center, Thindal, by using lottery method 15 children were selected as a sample.

Simple random sampling technique is the most basic type of probability sampling, wherein a sampling frame is created by enumerating all members of a population, and then selecting a sample from the sampling frame through completely random procedures, **(Polit and Hungler, 1999)**.

CRITERIA FOR THE SELECTION OF SAMPLE

Inclusion Criteria

Mentally abled Vs disabled children with:

- Age group between 10 – 15 years.
- Both gender.
- Who are studying from V standard to VIII standard.

- IQ between 50 – 70 (Disabled) and 80 – 89 (Able)
- Who was present during the period of data collection.

Exclusion Criteria

- Physically challenged children in both groups.

DEVELOPMENT OF THE TOOL

The instrument selected in a research must be the vehicle that obtained best data for drawing conclusion of the study (**Treeca and Treeca, 1996**).

The tool act as an instrument to assess and collect the data from the respondent of the study.

There are two sections of tools were used, they are

Section A: It consists of demographic variables of samples such as – Age, Gender, Parental marriage and Family History of Mental Retardation.

Section B: It consists of Modified James M. Swanson Concentration Assessment Rating Scale. It consists of 25 positive questions. The scale was rated in four categories i.e. ‘Poor’ carries 1 score, ‘Good’ carries score 2, ‘Better’ carries score 3 and ‘Excellent carries score 4, so total score was 100.

Scoring procedure:

Based on the percentage of scores level of concentration was graded into 4 categories i.e. “Poor”, “Good”, “Better” and “Excellent”.

Table 3.2

Level of concentration scores based on the percentage

S.No	Level of concentration	Actual scores	percentage
1.	Poor	1- 25	1-25%
2.	Good	26-50	26-50%
3.	Better	51-75	51-75%
4.	Excellent	76-100	76-100%

VALIDITY

The content validity refers to the degree to which an instrument measure, what is supported to be measured, (**Polit and Hungler, 1999**).

The content validity of the demographic variables, and modified James M Swanson concentration assessment rating scale was validated in consultation with guide and field of experts. The experts were pediatric nurse specialist, Psychologist, Yoga therapist, Mental retarded training therapist and Statistician. The tool was modified according to the suggestions and recommendations of the experts, (Appendix, VIII).

RELIABILITY

The reliability of tool was tested by implementing the tool on 2 mentally abled children in Government Higher Secondary School, Pallakkapalayam and 2 mentally disabled children in Shakthi Masala Mental Retarder Home, Erode, which is other than the sample area. Test re-test method was used to test the reliability of the tool and tool was found to be reliable, ($r^1 = 0.9$)

DATA COLLECTION PROCEDURE

Data collection is the gathering of information needed to address the research problem. The word “data” means information that is systematically collected in the course of a study, **(Polit and Hungler, 2001)**

Permission from the concerned authority

Prior to the collection of the data, permission was obtained from the Headmaster of Government Middle School, Puthupalayam, and Kongu Arivalayam Rehabilitation Centre, Thindal. (Appendix I and II)

Period of data collection

The data was collected from 10-08-2011 to 10-09-2011. The investigator collected the data from both mentally abled and disabled children.

Pre test

Pre test was conducted on the mentally abled Vs disabled children by using the modified James M. Swanson Concentration Assessment Rating Scale to assess the concentration level of both the group children.

Implementation of yoga therapy

Immediately after pretest, yoga therapies were given to the group of mentally abled Vs disabled children in the duration of 30 minutes per day for one month.

Post test

After 30 days of intervention the post test was conducted by using the modified James M. Swanson Concentration Assessment Rating Scale for both mentally abled Vs disabled children.

PLAN FOR DATA ANALYSIS

1. Level of concentration among abled Vs mentally disabled children before and after yoga was analyzed by using frequency and percentage.
2. Ratio between the effectiveness of yoga on concentration among mentally abled Vs mentally disabled children was analyzed by using mean, standard deviation, mean percentage, paired “t” test and unpaired “t” test.
3. Association between post test scores of concentration among mentally abled Vs disabled children with their selected demographic variables was analyzed by using chi-square test.

SUMMARY

Compare the effectiveness of yoga on concentration among mentally abled Vs disabled children undertaken in Government School, Puthupalayam and Kongu Arivalayam Rehabilitation Centre, Erode by using simple random sampling method. Modified James M Swanson concentration Assessment rating scale was used to assess the level of concentration among mentally abled Vs disabled children. The data were collected after obtaining permission from Headmaster of both schools. Data were planned to analysis by using descriptive and inferential statistics in the form of tables, figures and graphs.

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

Analysis is a “process of organizing and synthesizing data in such a way that research questions can be answered and hypothesis tested”, (**Polit and Hungler, 2003**).

Analyses enable the researcher to reduce, summarize, organize evaluate, interpret and communicate numerical information, (**polit and Hungler, 2003**).

This chapter deals with the analysis and interpretation of data collected from 30 (15 mentally abled and 15 mentally disabled) children by using simple random sampling technique from Government school, Puthupalayam and Kongu Arivalayam Rehabilitation Centre, Thindal “ Compare the effectiveness of yoga on concentration among mentally abled children Vs disabled children in selected social institutions, Erode”.

The data were coded and analyzed as per objectives of the study under the following headings

SECTION A: Description of samples according to their demographic variables.

SECTION B: Assess the level of concentration among mentally abled Vs disabled children before and after yoga.

- ✓ Frequency and percentage distribution of pre and post test scores of concentration in mentally abled children.
- ✓ Frequency and percentage distribution of pre and post test scores of concentration in mentally disabled children.
- ✓ Frequency and percentage distribution of post test scores of concentration in mentally abled Vs disabled children.

SECTION C: Find out the ratio between the effectiveness of yoga on concentration among mentally abled Vs disabled children.

- ✓ Paired “t” test value of pre and post test scores of concentration among mentally abled Vs disabled children.
- ✓ Unpaired “t” test value of pre and post tests scores of concentration among mentally abled Vs disabled children.
- ✓ Comparison of mean, SD and mean percentage of pre and post test scores of concentration among mentally abled Vs disabled children.

- ✓ Ratio between pre and post test mean scores of concentration among mentally abled Vs disabled children.

SECTION D: Find out the association between post test scores of concentration among mentally abled Vs disabled children with their selected demographic variables

- ✓ Chi square between post test scores of concentration among mentally abled children with their demographic variables.
- ✓ Chi square between post test scores of concentration among mentally disabled children with their demographic variables.

Towards the attainment of the above objectives, the raw data were collected and they were presented in tabular and graphical form for statistical analysis in subsequent pages.

**SECTION A: DESCRIPTION OF SAMPLES ACCORDING TO THE
DEMOGRAPHIC VARIABLES**

TABLE-4.1: Frequency and percentage distribution of demographic variables among mentally abled Vs disabled children.

(N₁ = 15, N₂ = 15)

S. No	Demographic variables	Mentally abled children		Mentally disabled children	
		Frequency (N ₁)	Percentage (%)	Frequency (N ₂)	Percentage (%)
1.	Age in years				
	a) 10 – 11 years	6	40	4	27
	b) 12- 13 years	5	33	8	53
	c) 14 – 15 years	4	27	3	20
2.	Gender				
	a) Male	12	80	11	73
	b) Female	3	20	4	27
3.	Parental marriage				
	a) Consanguineous	7	47	10	67
	b) Non - consanguineous	8	53	5	33
4.	Family history of Mental Retardation				
	a) Present	5	33	6	40
	b) Absent	10	67	9	60

Table 4.1 Reveals frequency and percentage distribution of mentally abled Vs disabled children according to their demographic variables.

Regarding age in mentally abled children, 6 (40%) of them belonged to the age group of 10 – 11 years and 5 (33%) were in the age group of 12 – 13 years and 4 (27%) were in the age group of 14 – 15 years. In experimental group II, majority of mentally disabled children 8 (53%) were in the age group of 12 – 13 years and 4 (27%) were in the age group of 10 – 11 years and 3 (20%) of them were in the age group of 14 – 15 years. In India 2/3 of the children were in middle school age group (Josie pai, 2007) and 67% of the mentally retarded people were in the age group of above 10 years, **(Akshya Raj, 2006), (Fig.4.1).**

Distribution of samples according to their gender depicts that, majority (80% and 73%) of them were male children in both the groups and only 20% of them in both the groups were females. Male children ratio was high in India, 89% of the children are boys, **(Josie pai, 2007), (Fig.4.2).**

Distribution of mentally abled children Vs disabled children according to their parental marriage shows that, in mentally abled children most (53%) of them parents had non-consanguineous marriage and 46% of them parents had consanguineous marriage. However in mentally disabled children most (66%) of them parents had consanguineous marriage and only 33% of them parents had non-consanguineous. Consanguineous marriage is the major (68%) risk for the Mental retardation and other chromosomal abnormalities, **(Lakshmi narayan, 2003), (Fig.4.3).**

Distribution of mentally abled children Vs disabled children according to their family history of mental retardation shows that, majority (67% and 60%) of children had no family history of mental retardation in both the groups and only 33% and 40% of them had family history of mental retardation, **(Fig. 4.4).**

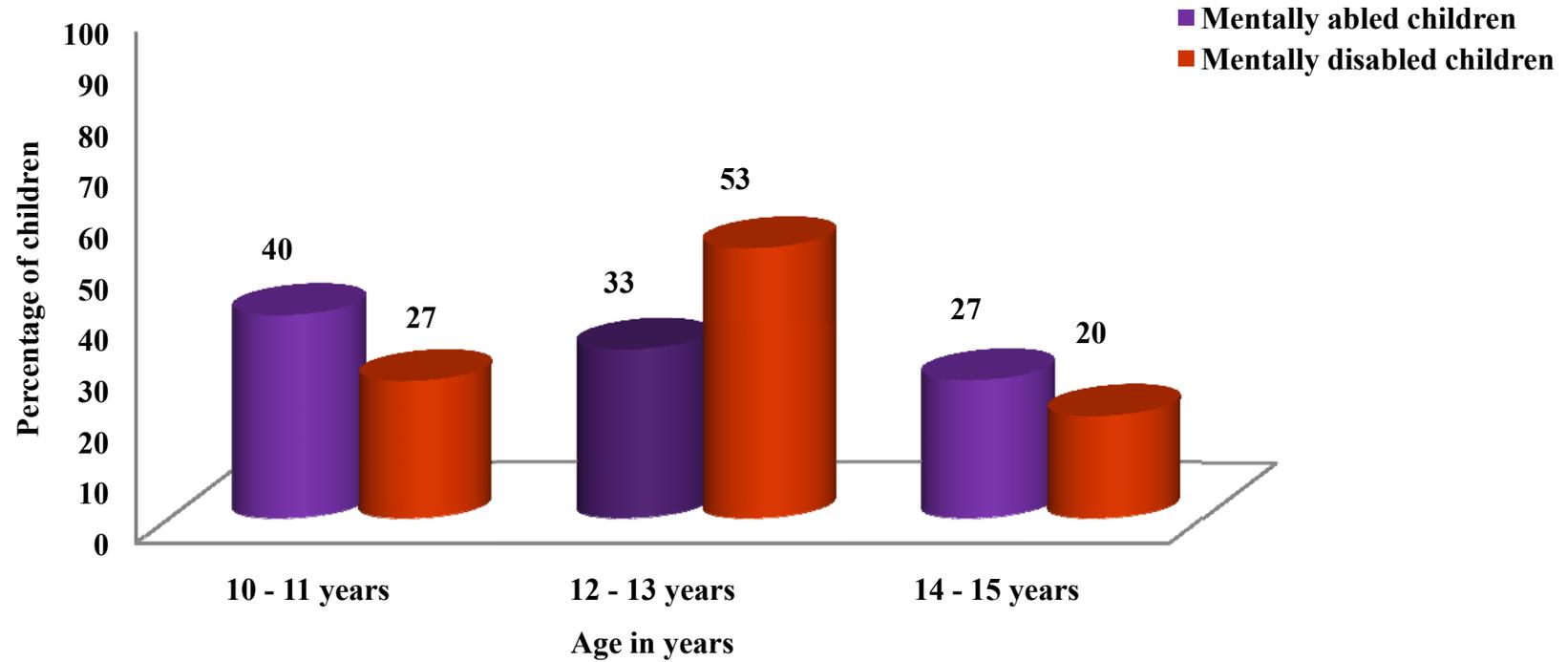


Fig. 4.1 Cluster cylinder diagram showing the percentage distribution of mentally abled Vs disabled children according to their age group

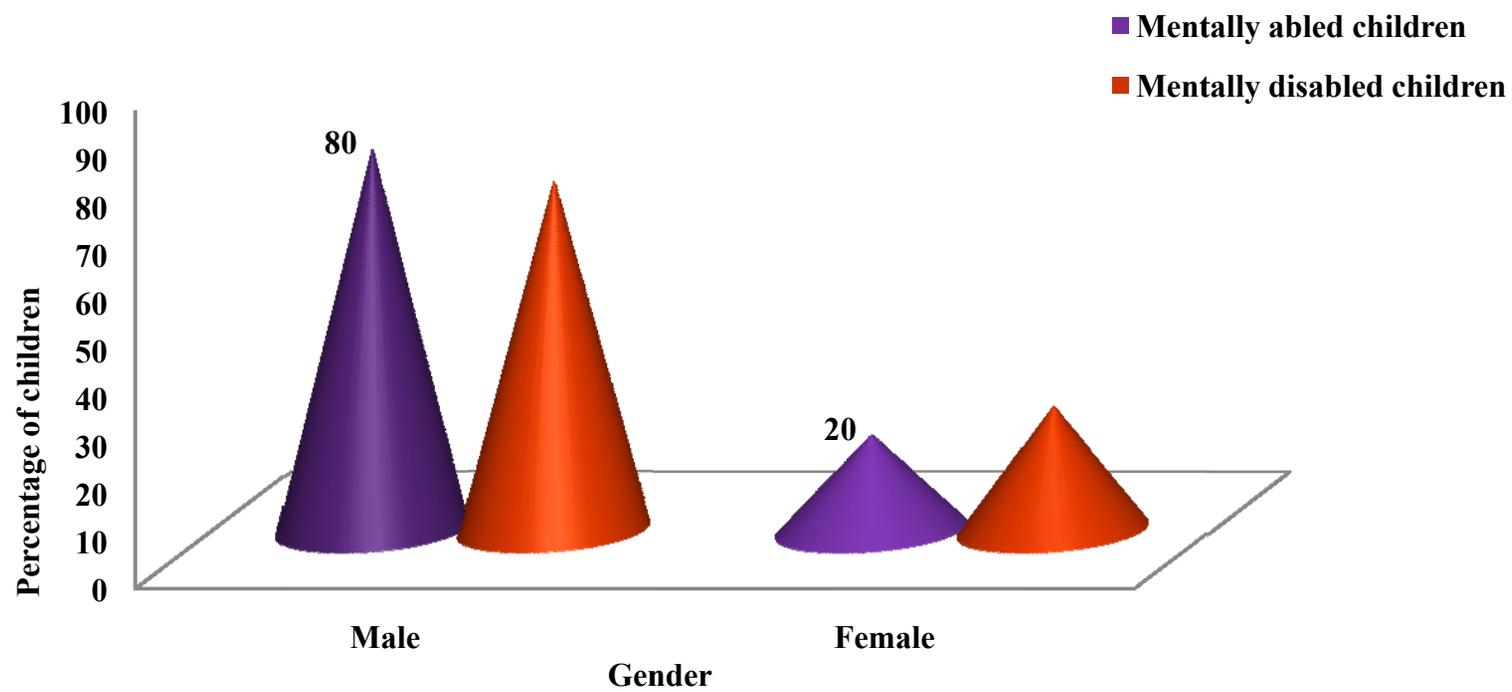


Fig. 4.2 Cone diagram showing the percentage distribution of mentally abled Vs disabled children according to their gender.

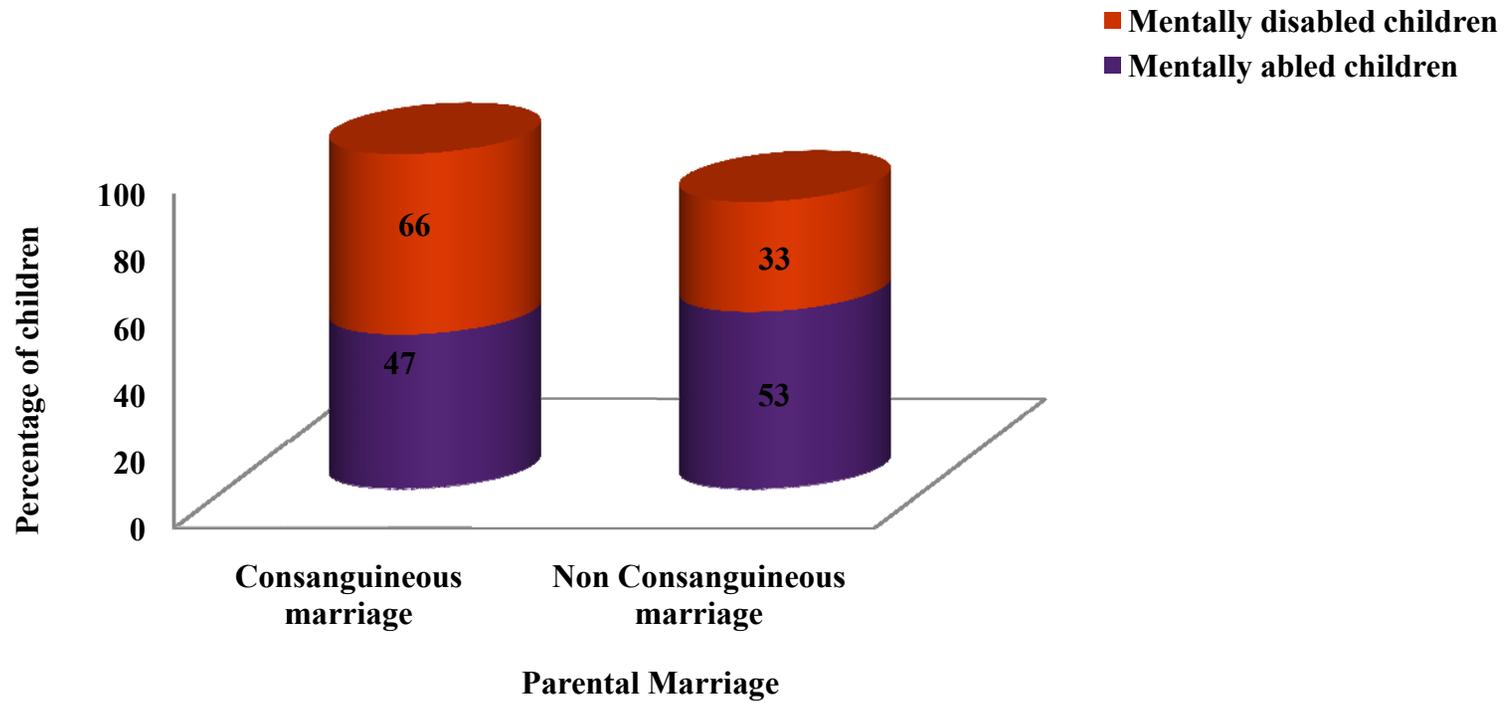


Fig. 4.3 Stacked cylinder diagram showing the percentage distribution of mentally abled Vs disabled children according to their parental marriage

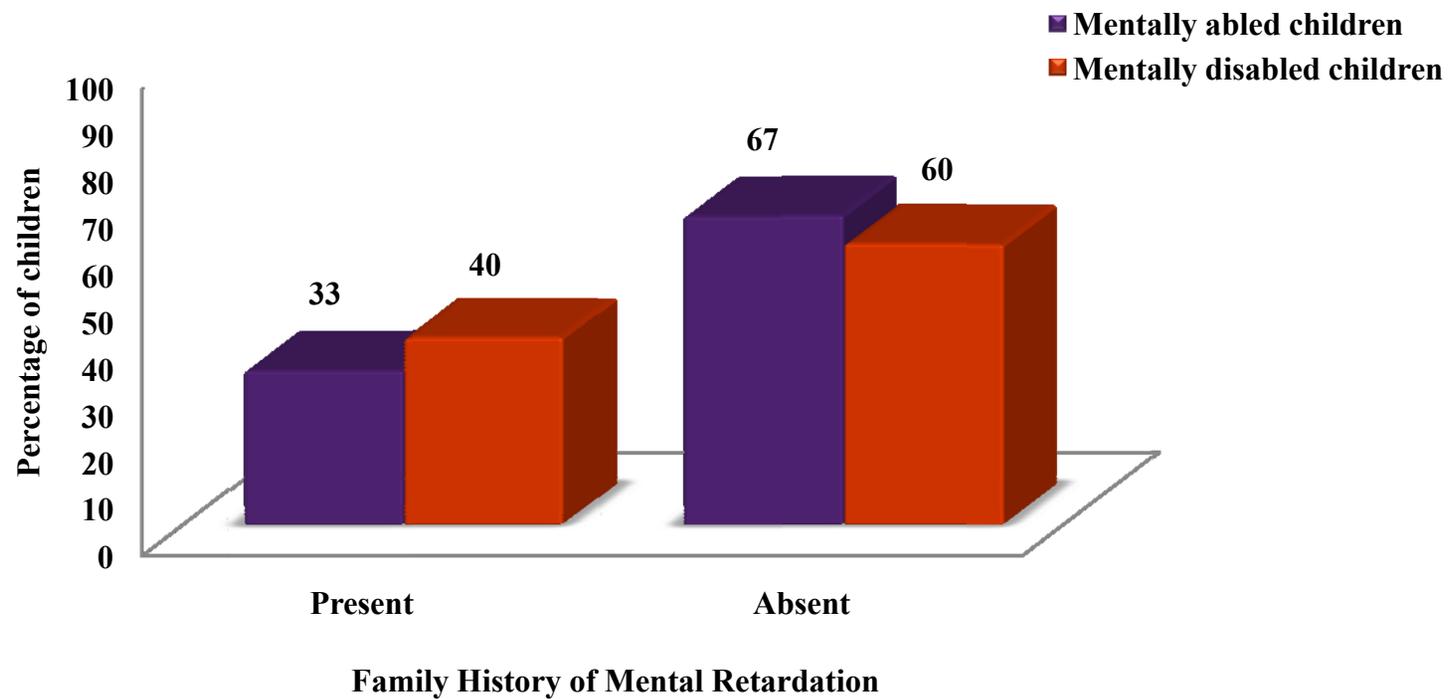


Fig.4.4 Clustered column diagram showing the percentage distribution of mentally abled Vs disabled children according to their Family history of Mental retardation

SECTION B: ASSESS THE LEVEL OF CONCENTRATION AMONG MENTALLY ABLED Vs MENTALLY DISABLED CHILDREN BEFORE AND AFTER YOGA

Table 4.2

Frequency and percentage distribution of pretest and post test scores of concentration scores among mentally abled children

(N₁ = 15)

S.No	Level of concentration	Mentally abled children			
		Pre test		Post test	
		Frequency (N ₁)	Percentage (%)	Frequency (N ₁)	Percentage (%)
1	Poor	-	0	-	0
2	Good	4	27	-	0
3	Better	8	53	5	33
4	Excellent	3	20	10	67

Frequency and percentage distribution of pre test and post test scores of mentally abled children depicts that, in pre test most (53%) of them were having better concentration, however 27% of them having good concentration and only 20% of them were having excellent concentration. Whereas in post test majorities (67%) of the mentally abled children were

having excellent concentration and only 33% were having better concentration. It seems that yoga on concentration among mentally abled children was effective. (Table 4.2)

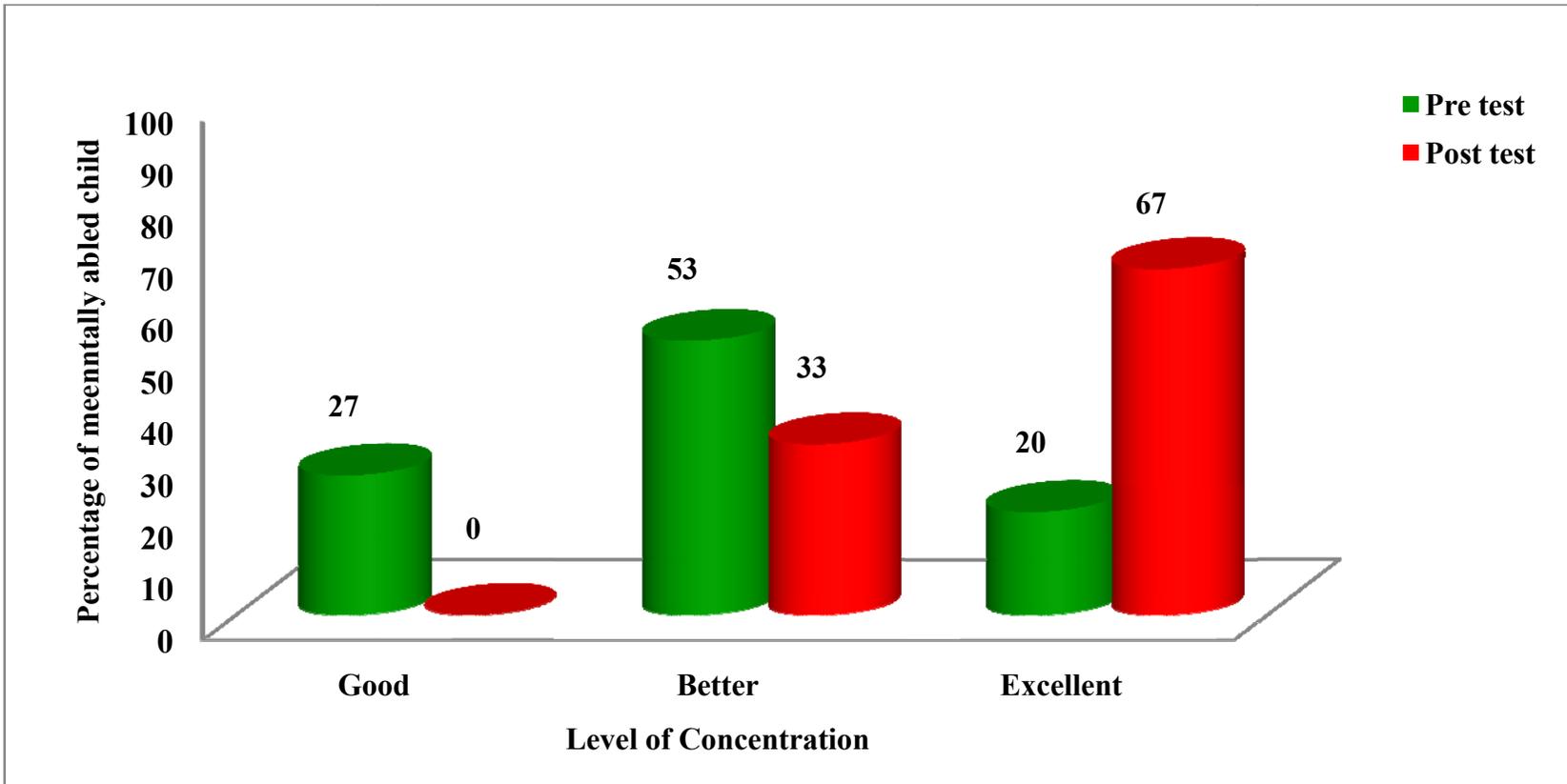


Fig 4.5 Clustered cylinder diagram showing the percentage distribution of pre and post test scores of Concentration among mentally abled children.

Table 4.3

Frequency and percentage distribution of pretest and post test scores of concentration scores among mentally disabled children

(N₂ = 15)

S.No	Level of concentration	Mentally disabled children			
		Pre test		Post test	
		Frequency (N ₂)	Percentage (%)	Frequency (N ₂)	Percentage (%)
1	Poor	-	0	-	0
2	Good	2	13	-	0
3	Better	13	87	11	73
4	Excellent	-	0	4	27

Frequency and percentage distribution of pre test and post test scores of mentally disabled children depicts that, in pre test most (87%) of them were having better concentration, 13% of them having good concentration. Whereas in post test majorities (73%) of them were having better concentration and only 27% were having excellent concentration level. It seems that yoga on concentration among mentally disabled children was effective. (Table 4.3).

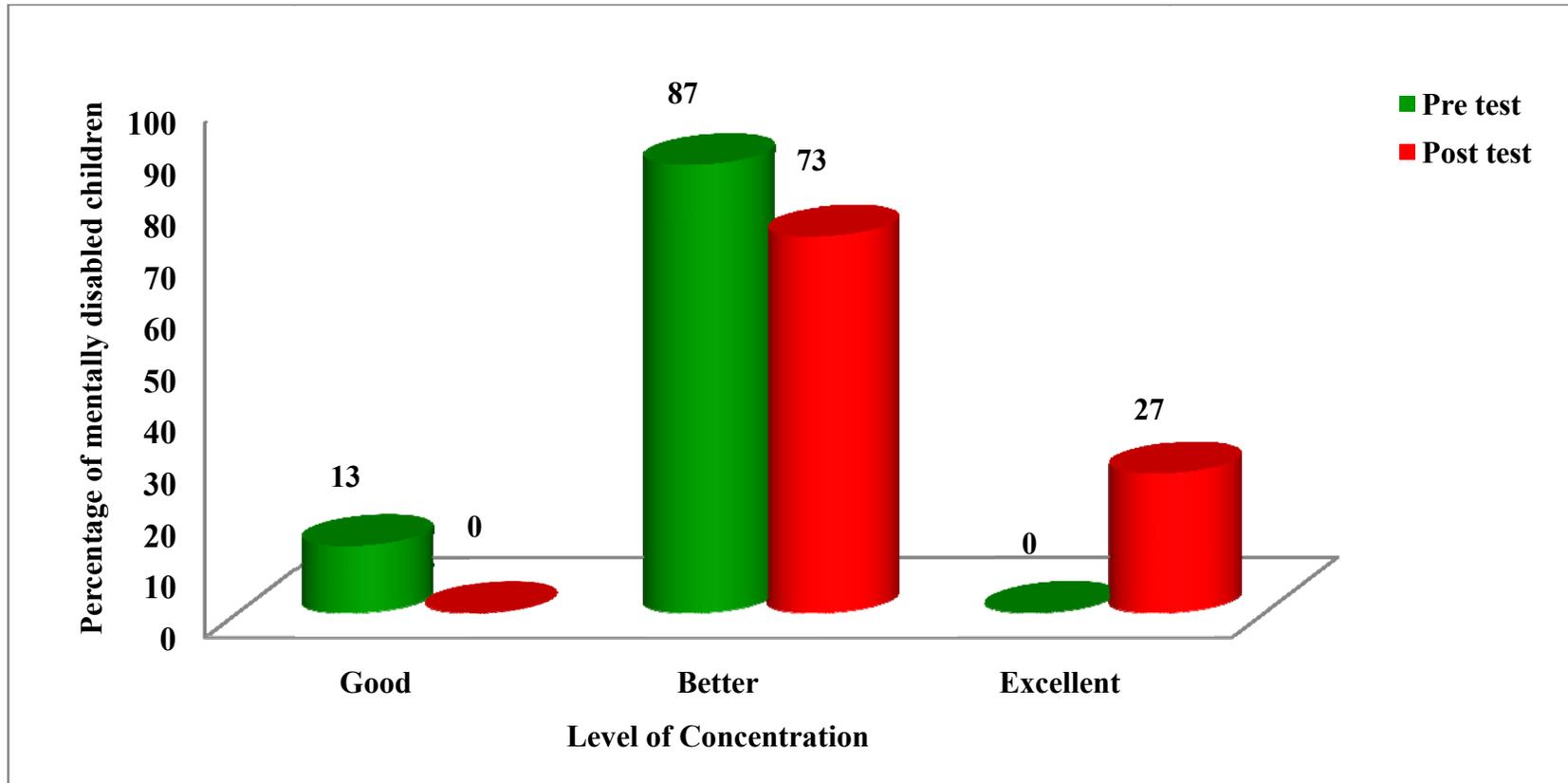


Fig 4.6 Cone diagram showing the percentage distribution of pre and post test score of concentration among mentally disabled children

Table 4.4

**Frequency and percentage distribution of post test scores of concentration
among mentally abled Vs disabled children**

(N₁ = 15, N₂ = 15)

S.No	Level of concentration	Post test scores			
		Mentally abled children		Mentally disabled children	
		Frequency (N ₁)	Percentage (%)	Frequency (N ₂)	Percentage (%)
1	Poor	-	0	-	0
2	Good	-	0	-	0
3	Better	5	33	11	73
4	Excellent	10	67	4	27

Frequency and percentage distribution of post test scores of mentally abled children depicts that, in mentally abled children, most (67%) of them had excellent concentration, 33% of them had better concentration whereas in mentally disabled children most (73%) of them had better concentration and only 27 percentage of them had excellent concentration. It seems that yoga on concentration among mentally abled Vs disabled children was effective, (Table 4.4).

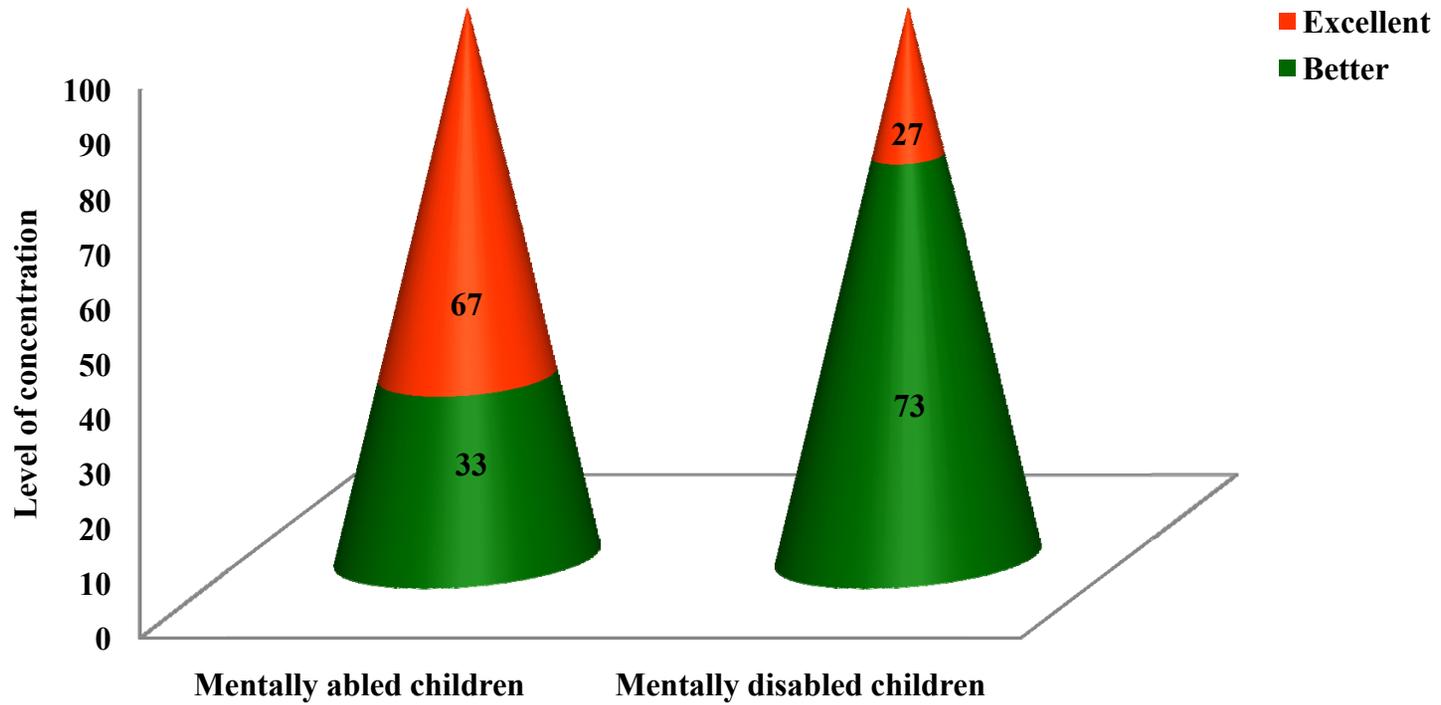


Fig 4.7 Cone diagram showing the percentage distribution of post test scores of Concentration among mentally abled Vs disabled children

SECTION C: FIND OUT THE RATIO BETWEEN THE EFFECTIVENESS OF YOGA ON CONCENTRATION AMONG MENTALLY ABLED Vs DISABLED CHILDREN

The effectiveness of yoga on concentration was tested by using paired “t” test and unpaired “t” test. Paired “t” test was calculated by analyze the difference in pre and post test scores of concentration among mentally abled Vs disabled children and unpaired “t” test was calculated by analyzing the post test scores of concentration of both the groups.

Table 4.5

**A) Paired “t” test value of pre and post test scores of concentration
among mentally abled Vs disabled children**

(N₁=15, N₂=15)

Groups	Paired “t” value	Table value	Level of significance
Mentally abled children	7.27	2.15	P< 0.05 Significant
Mentally disabled children	5.71	2.15	P< 0.05 Significant

Df = 14 Table value = 2.15 P > 0.05 Not Significance

Paired‘t’ test was calculated to analyze the effectiveness between pre and post test scores of concentration among mentally abled Vs disabled children. The paired‘t’ test value was 7.27 for mentally abled children and 5.71 in mentally disabled children, when compared to table value (2.15) it was high. This shows that there was a significant relationship between pre and post test scores concentration among mentally abled Vs disabled children. It seems that yoga on concentration among mentally abled and disabled children was effective, (Table 4.6).

Table 4.6

**A) Unpaired “t” value of pre and post tests scores of concentration
among mentally abled Vs disabled children**

(N₁=15, N₂=15)

Level of concentration	Unpaired ‘t’ value		Table value	Level of significant (P)
	Pre test	Post test		
Mentally abled Vs disabled children	3.45	4.66	2.05	P < 0.05 Significant

DF=13

TV=2.05

P>0.05 Not Significant

Unpaired ‘t’ test was calculated to analyze the effectiveness between mentally abled Vs disabled children pre and post tests scores on level of concentration among both the groups. In pre test the unpaired “t” test value was 3.45, and post test unpaired “t” test value was 4.66, when compared to table value (2.05), it is high. It seems that there was a significant effectiveness of yoga on concentration among mentally abled and disabled children. (Table. 4.8).

Table 4.7

Comparison of mean, SD and mean percentage of pre and posttest scores of concentration mentally abled Vs disabled children.

(N₁ = 15, N₂ = 15)

Level of concentration	Maximum score	Pre test			Post test			Difference in mean (%)
		Mean	SD	Mean %	Mean	SD	Mean %	
Mentally abled children	100	61.4	17.08	61	77.4	12.8	77	16
Mentally disabled children	100	53.8	4.50	54	65.2	2.7	65	11

Comparison of mean, SD, and mean percentage of mentally abled Vs disabled children pre and post test scores of concentration reveals that, in mentally abled children, pre test mean score was (61.4±17.08), which is 61%, whereas in post test the mean score was (77.4±12.8), which is 77%, showing a difference of 16%. In mentally disabled children, pre test the mean score was (53.8± 4.50), which is 54%, whereas in post test the mean score was (65.2 ± 2.7), which is 65%, showing a difference of 11%. It seems that the yoga on concentration among mentally abled Vs disabled children was effective. The findings are represented in Fig 4.8.

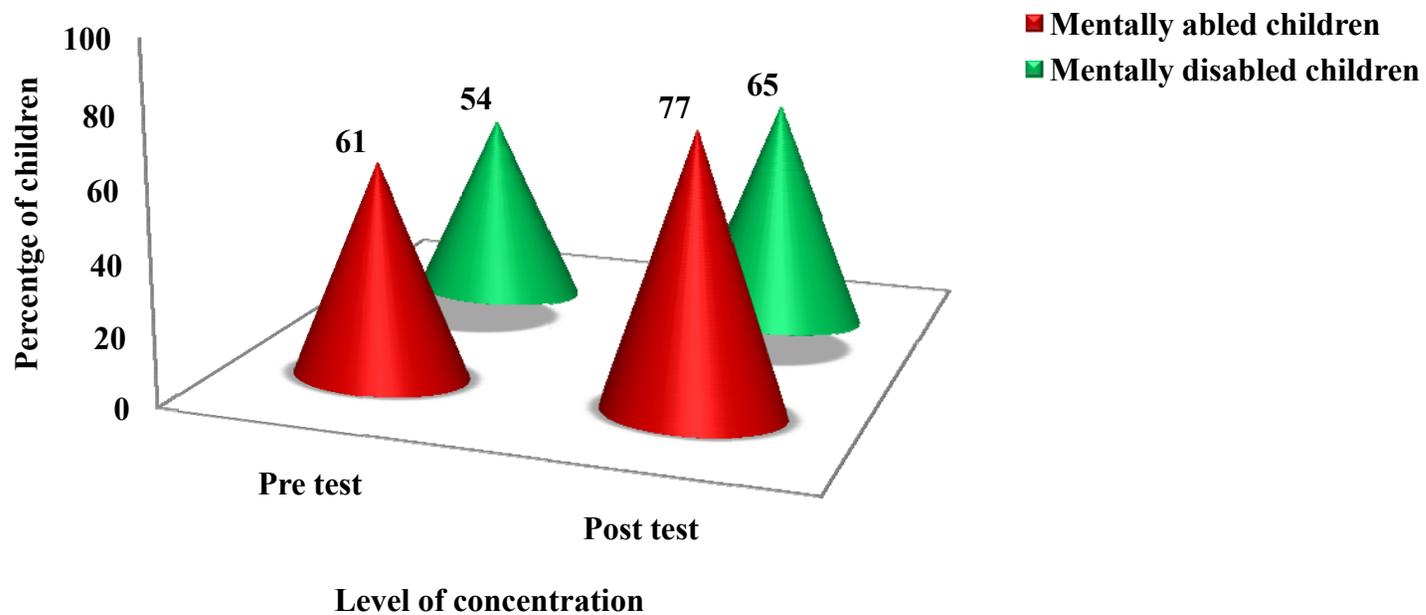


Fig 4.8 Cone diagram showing the mean percentage distribution of pre and post test scores of Concentration among mentally able Vs disabled children.

Table 4.8
Ratio between the pre and post test scores of concentration
among mentally abled Vs disabled children

(N₁=15, N₂=15)

Level of concentration		Pre test	Post test	Difference in ratio
Mentally abled : Mentally disabled children	Mean ratio	61.4:53.8	77.4:65.2	16 : 11
	Effectiveness ratio	1.14 : 1	1.2 : 1	1.5 : 1

Ratio was calculated to analyze the effectiveness between mentally abled Vs disabled children pre and post test mean scores on level of concentration among both the groups. In pre test the mean ratio was 61.4: 53.8 and in post test the mean ratio was 77.4: 65.2. Whereas the difference between the pre test and post test mean ratio was 16: 11. However the effectiveness ratio in pre test was 1.14: 1 and in post test was 1.2: 1 and the difference between the pre test and post test effectiveness ratio score is 1.5: 1. It seems that the level of concentration among mentally abled and disabled children were same with mild difference of 0.5%.

SECTION D: FIND OUT THE ASSOCIATION BETWEEN THE LEVEL OF CONCENTRATION AMONG MENTALLY ABLE Vs DISABLED CHILDREN WITH THEIR SELECTED DEMOGRAPHIC VARIABLES

Table 4.9

Association between post test scores of concentration among mentally abled children with their demographical variables

(N₁ =15)

Variables	DF	χ^2	TV	Level of significant
Age	1	6.234	3.84	P<0.05 Significant
Gender	1	0.268	3.84	P>0.05 Not Significant
Parental marriage	1	0.077	3.84	P>0.05 Not Significant
Family history of Mental retardation.	1	0.56	3.84	P>0.05 Not Significant

Df = 1

Significant at P < 0.05

P>0.05 Not Significant

Chi – square was calculated to find out the association between post test concentration scores of mentally abled children with their demographic variables. It reveals that there was a significant association between post test scores of mentally abled children when associated with the demographic variables of age (P<0.05). Whereas there was no significant association was found between post test concentration scores of mentally abled children with

the demographic variables such as gender, parental marriage and family history of mental retardation.($P>0.05$). However, it seems that yoga on concentration was effective to the mentally abled children irrespective of their demographic variables.

Table 4.10

Association between post test concentration scores of mentally disabled children with their demographical variables

($N_2 = 15$)

Variables	DF	χ^2	TV	Level of significant
Age	1	0.268	3.84	$P>0.05$ Not Significant
Sex	1	0.241	3.84	$P>0.05$ Not Significant
Parental marriage	1	3.161	3.84	$P<0.05$ Significant
Family history of MR	1	0.536	3.84	$P>0.05$ Not Significant

Df = 1

Significant at $P < 0.05$

$P>0.05$ Not Significant

Chi – square was calculated to find out the association between post test concentration scores of mentally disabled children with their demographic variables. It reveals that there was a significant association between post test scores of mentally disabled children when associated with the demographic

variables of parental marriage ($P < 0.05$). Whereas there was no significant association was found between post test scores of concentration mentally disabled children with the demographic variables such as age, gender and family history of mental retardation ($p > 0.05$). It seems that yoga on concentration was effective to the mentally abled children irrespective of their demographic variables.

SUMMARY

This chapter dealt with analysis, interpretation of data collected to compare the yoga on concentration among mentally abled Vs disabled children. The findings revealed that the post test mean concentration score of mentally abled children (77.4 ± 12.8) where as the post test mean concentration score of mentally disabled children was (65.2 ± 2.7). It indicates that the level of concentration was increased for both mentally abled Vs disabled children after yoga therapy. The paired “t” test (mentally abled children “t” value = 7.27, mentally disabled children “t” value = 5.71), TV=2.14, P at 0.05 level of significance) showed that the yoga was effective for increasing concentration in both groups. The unpaired “t” test (Pre test “t” value was 4.66 and Post test “t” value was 3.45, TV =2.06) showed there is a significant difference in the effectiveness of yoga therapy on concentration among mentally abled Vs disabled children. Ratio between the pre tests was 1.14: 1 and post test was 1.2: 1, the difference between the pre test and post test scores was 1.5: 1 among mentally abled and disabled children. The level of concentration among both groups was same with mild difference of 0.5%. Chi square test showed that there is significant association was found between mentally abled children Vs disabled children with their demographic variables of age and parental marriage ($P < 0.05$).

CHAPTER - V

DISCUSSION

This chapter deals with the discussion which was based on the findings obtained from the statistical analysis and its relation to the objective of the study. The theoretical frame work and the related literature.

A study to compare the effectiveness of yoga on concentration among mentally abled Vs disabled children in selected social institutions, Erode. The following were the objectives of this study.

Objectives of the study were

1. To assess the level of concentration among mentally abled Vs disabled children before and after yoga.
2. To find out the ratio between the effectiveness of yoga on concentration among mentally abled Vs disabled children.
3. To find out the association between the post test scores of concentration among mentally abled and disabled children with their selected demographic variables.

Objective 1: To assess the level of concentration among mentally abled Vs disabled children before and after yoga.

a) Frequency and percentage distribution of pre and post test scores of concentration among mentally abled children.

Pre test:

- 53% of them having better concentration.
- 27% of them having good concentration.
- 20% of them having excellent concentration.
- None of them having poor concentration.

Post test

- 67% of them having excellent concentration.
- 33% of them having better concentration.
- None of them having poor and good concentration.

b) Frequency and percentage distribution of pre and post test scores of concentration among mentally disabled children.

Pre test:

- 87 % of them having better concentration.
- 13 % of them having good concentration.
- None of them having poor and excellent concentration.

Post test

- 73 % of them having better concentration
- 23 % of them having excellent concentration.
- None of them having poor and good concentration.

Hypothesis 1: There is a significant difference in the level of concentration among mentally abled Vs disabled children before and after yoga therapy. So hypothesis is accepted.

Objective 2: To find out the ratio between the effectiveness of yoga on concentration among mentally abled Vs disabled children.

a) Paired “t” values of pre and post test scores of concentration among mentally abled Vs disabled children.

Paired “t” test calculated to analyze the difference in pre and post test scores of concentration.

- The paired “t” test value was 7.27 in mentally abled children.
- The paired “t” test value was 5.71 in mentally disabled children.

b) Unpaired “t” values of pre and post test scores of concentration among mentally abled Vs disabled children.

Unpaired “t” test calculated to analyze the difference in pre and post test scores of concentration.

- The unpaired “t” test value was 3.45 in pre test concentration among mentally abled Vs disabled children.
- The unpaired “t” test value was 4.46 in post test concentration among mentally abled Vs disabled children.

When compared to table value ($P < 0.05$) it was high. Hence it can be concluded that there is a significant difference between the pre and post test scores of concentration. It seems that Yoga therapy was effective among mentally abled Vs disabled children.

c) Comparison of Mean, SD and percentage of pre and post test scores of concentration.

➤ **Pre test Mean, Standard deviation and Mean percentage value of concentration among mentally abled Vs disabled children.**

- In mentally abled children the Mean, Standard deviation was 61.4 ± 17.08 and Mean percentage was 61%.
- In mentally disabled children the Mean, Standard deviation was 53.8 ± 4.50 and the Mean percentage was 54%.

➤ **Post test Mean, Standard deviation and Mean percentage value concentration among mentally abled Vs disabled children.**

- In mentally abled children the Mean, Standard deviation was 77.4 ± 12.8 and Mean percentage was 77%.
- In mentally disabled children the Mean, Standard deviation was 65.2 ± 2.7 and the Mean percentage was 65%.

d) Difference in Mean percentage of pre and post test scores of concentration among mentally abled Vs disabled children.

- In mentally abled children the difference in Mean percentage was 16%.
- In mentally disabled children the difference in Mean percentage was 11%.

It seems that Yoga therapy on concentration among mentally abled Vs disabled children was effective.

e) Ratio between pre and post test scores of concentration among mentally abled Vs disabled children are as follows

- In pre test the mean ratio is 61.4: 53.8 and in post test the mean ratio is 77.4: 65.2. Whereas the difference between the pre test and post test mean ratio score is 16: 11

- In pre test the effectiveness ratio is 1.14: 1 and in post test the effectiveness ratio is 1.2: 1. Whereas the difference between the pre test and post test effectiveness ratio score is 1.5: 1.

It seems that the level of concentration among mentally abled and disabled children were same with mild difference of 0.5%.

Hypothesis 2: There is a significant difference in ratio between the effectiveness of Yoga therapy on concentration among mentally abled Vs disabled children, so the hypothesis is accepted.

Objectives 3

To find out the association between post test scores on concentration among mentally abled Vs disabled children with their demographic variables

a) Association between the post test scores of concentration among mentally abled children with their demographic variables

Chi – square value depicts that there was a significant association between post test scores of concentration with age (6.234), when $P < 0.05$. Thus it can be interpreted that the difference in the Mean scores related to age with concentration were true difference.

However, there was no significant association between post test scores of concentration when compared with gender, parental marriage and family history of mental retardation. ($p > 0.05$). Hence, it can interpret the difference in

Mean scores related to demographic variables were only by chance and not true difference.

b) Association between the post test scores of concentration among mentally disabled children with their demographic variables

Chi – square value depicts that there was a significant association between post test scores of concentration with parental marriage (3.161), when ($P < 0.05$). Thus it can be interpreted that the difference in the Mean scores related to age with concentration were true difference.

However, there was no significant association between post test scores of concentration when compared with age, gender and family history of mental retardation. ($p > 0.05$). Hence, it can interpret the difference in Mean scores related to demographic variables were only by chance and not true difference.

Hypothesis: 3

There is a significant association between post test scores on concentration among mentally abled and disabled children and their demographic variables. So hypothesis is rejected.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS

AND RECOMMENDATION

This chapter deals with the summary of the study, its findings, conclusion and the implications for Nursing administration, Nursing practice, Nursing education and Nursing research. This study has been started with a few limitations and ends with suggestions and recommendation for research in future.

SUMMARY

The primary aim of the study was to compare the effectiveness of Yoga on concentration among mentally abled Vs disabled children, Erode.

The objectives of the study are,

1. To assess the level of concentration among mentally abled Vs disabled children before and after yoga.
2. To find out the ratio between the effectiveness of yoga on concentration among mentally abled Vs disabled children.
3. To find out the association between the post test scores of concentration among mentally abled and disabled children with their selected demographic variables.

Hypotheses

Researches formulated and tested the following research hypothesis,

- H₁:** There is a significant level of concentration among mentally abled and disabled children before and after yoga.
- H₂:** There is a significant difference in ratio between the effectiveness of yoga on concentration among mentally abled and disabled children.
- H₃:** There is a significant association between post test scores of concentration among mentally abled and disabled children with their selected demographic variables.

The review of literature on related studies helped the investigator to design the methodology, conceptual frame work and find out the tool. The literature reviews for the present study were presented under the following heading.

- The studies related to yoga on concentration among all age people.
- The studies related to concentration among mentally abled children.
- The studies related to concentration among mentally disabled children.
- The studies related to yoga on concentration among mentally abled Vs disabled children.

The investigator developed Dorothy Johnson's behavioral model. The research design adopted for the study was randomized clinical study. Setting chosen to conduct the study at Government middle school, Puthupalayam, and Kongu Arivalayam Rehabilitation Center, Thindal. In this study the samples were mentally abled children are studying in Government middle school, Puthupalayam and disabled children are studying in Kongu Arivalayam Rehabilitation Centre, Thindal. The sample size was 30. In this study simple random Sampling technique was used. In this study the modified James M Swanson concentration assessment rating scale was used to assess the level of concentration among mentally abled and disabled children.

The reliability of tool was tested by implementing the tool on 2 mentally abled children in Government Higher Secondary School, Pallakkapalayam and 2 differently abled children in Shakthi Masala Mental Retarder Home, Erode, which is other than the sample area. Test – retest was used to test the reliability of the tool and tool was found to be reliable, ($r^1 = 0.9$)

The children who fulfilled the inclusion criteria were selected as samples and were given Yoga for 30 days. Data were gathered through modified James M Swanson concentration assessment rating scale. The data gathered are analyzed by using descriptive and inferential statistical method and interpretation is made on the objectives of the study.

Major findings of the study

The major findings of the study were presented under the following headings.

1. Findings related to description of mentally abled and disabled children according to their demographic variables.
2. Findings related to level of concentration among mentally abled and disabled children before and after Yoga therapy.
3. Findings related to ratio between the effectiveness of Yoga therapy on concentration among mentally abled and disabled children.
4. Findings related to the association of the post test scores on level of concentration among mentally abled and disabled children with their selected demographic variables.

1. Findings related to description of mentally abled and disabled children according to their demographic variables.

Mentally abled children

1. Most of the children 40% were in the age group of 10 – 11 years.
2. Most of the children 80% were males.
3. Most of the children 53% parents had non consanguineous marriage.
4. Most of the children 67% were having no family history of mental retardation.

Mentally disabled children:

1. Most of the children 53% were in the age group of 12 – 13years.
2. Most of the children 73% were males.
3. Most of the children 67% parents had consanguineous marriage.
4. Most of the children 60% were having no family history of mental retardation.

2. Findings related to level of concentration among mentally abled and disabled children before and after Yoga therapy.**a) Mentally abled children**

→ Pre test

- 53 % of them were having better concentration.
- 20 % of them having excellent concentration.

→ Post test

- 67 % of them were having excellent concentration.
- 33 % of them having better concentration.

b) Mentally disabled children

→ Pre test

- 87 % of them were having good concentration.
- 13 % of them having better concentration.

→ Post test

- 73 % of them were having better concentration.
- 27 % of them having excellent concentration.

3. Findings related to ratio between the effectiveness of Yoga therapy on concentration among mentally abled and disabled children.

➤ Paired “t” test was calculated to analyze the difference in pre test and post test scores of concentration among mentally abled Vs disabled children.

- In mentally abled children paired “t” value was 7.27, ($P < 0.05$).
- In mentally disabled children paired “t” value was 5.71, ($P < 0.05$).

➤ Unpaired “t” test was calculated to analyze the difference in pre test and post test scores of concentration among mentally abled Vs disabled children.

- In pre test unpaired “t” value was 3.45, ($P < 0.05$).
- In post test unpaired “t” value was 4.66, ($P < 0.05$).

➤ Comparison of Mean, Standard deviation, Mean percentage and difference in Mean percentage of pre and post test scores of concentration among mentally abled and disabled children are as follows

→ Pre test

- Mean and standard deviation score of concentration was 61.4 ± 17.08 in mentally abled children.
- Mean and standard deviation score of concentration was 53.8 ± 4.50 in mentally disabled children.
- Mean ratio between the mentally abled and disabled children was 61.4: 53.8.

→ Post test

- Mean and standard deviation score of concentration was 77.4 ± 12.8 in mentally abled children.
- Mean and standard deviation score of concentration was 65.2 ± 2.7 in mentally disabled children.
- Mean ratio between the mentally abled and disabled children was 77.4: 65.2.

➤ Ratio between pre and post test scores of concentration among mentally abled Vs disabled children are as follows

- In pre test the effectiveness ratio is 1.14: 1 and in post test the effectiveness ratio is 1.2: 1. Whereas the difference between the pre test and post test effectiveness ratio score is 1.5: 1

4. Findings related to the association of the post test scores on level of concentration among mentally abled and disabled children with their selected demographic variables

- Chi square was calculated to find out the association between the post test scores of concentration among mentally abled and disabled children with their demographic variables

Mentally abled children

- Chi square value for the age in year was 3.234 ($p < 0.05$).
- Chi square value for gender was 0.268 ($p > 0.05$).
- Chi square value for the parental marriage was 0.077 ($p > 0.05$).
- Chi square value for the family history of mental retardation was 0.56 ($p > 0.05$).

Mentally disabled children

- Chi square value for the age in year was 0.268 ($p > 0.05$).
- Chi square value for gender was 0.241 ($p > 0.05$).
- Chi square value for the parental marriage was 3.161 ($p < 0.05$).
- Chi square value for the family history of mental retardation was 0.536 ($p > 0.05$).

CONCLUSION

From the findings of the study it can be concluded that,

- Most of the mentally abled children, in the age group of 10 - 11 years, males, parents had Non consanguineous marriage, no family history of mental retardation.
- Most of the mentally disabled children, in the age group of 12 - 13 years, males, parents had consanguineous marriage, no family history of mental retardation.
- The Yoga therapy was effective on level of concentration among mentally abled children.
- The Yoga therapy was effective on level of concentration among mentally disabled children.
- The Yoga therapy was effective on level of concentration among mentally abled and disabled children in the ratio of 1.5: 1.
- There is a significant association between the post test scores of mentally abled children with their Age.
- There is a significant association between the post test scores of mentally disabled children with their parental marriage.

IMPLICATIONS FOR NURSING

The findings of the study have implication in Nursing service, Nursing administration and Nursing research.

Nursing service

- This therapy can be used by the Nursing professionals who are working in all hospital and clinical settings for further reinforcing their practice.
- This therapy can be used in the community set up for improving the concentration to all children.

Nursing Education

- Nurse educator should educate the students regarding Yoga therapy and its implementation.
- Nurse educator should educate the Nursing personnel about the therapy among children and find out the effectiveness.
- Nurse educator should educate the Nursing personnel about how to improve concentration.

Nursing Administration

- Nurse administer can organize an in-service program on concentration problems in various health sector or agencies.
- Nurse administer can support the Nurses for conducting research on concentration problems.

Nursing Research

- The study may be issued for further reference.
- Further large scale study can be done in different settings.

RECOMMENDATIONS

Based on the findings of the study the following recommendations have been made for further study.

- A study can be conducted with large samples to generalize the findings.
- A similar study can be conducted in different settings (Orphanage, Old age home, etc).
- A different study can be conducted on yoga with attention disorder, memory problem, conduct disorder, anxiety, stress among mentally abled children.
- A different study can be conducted on yoga with aggressive behavior, hyperactivity, cerebral palsy disease among mentally disabled children.
- A similar study can be conducted in mentally baled children with control group.
- A similar study can be conducted in mentally disabled children with control group.

- A different study can be conducted to assess the level of concentration with other therapies (Music therapy, light therapy and play therapy, etc).
- A comparative study can be undertaken to compare the effectiveness of Yoga therapy with physical exercise.
- A similar study can be conducted to test the effectiveness of Yoga therapy on concentration of all age groups.

SUMMARY

This chapter dealt with the summary of the study, major findings, conclusions, implication of the study in Nursing field and recommendations for future.

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APPENDIX – I

LETTER SEEKING PERMISSION FOR CONDUCT STUDY

From

Ms.Ambiha. R
M.Sc (Nursing) II year, Dhanvantri college of nursing,
Ganapathypurum, No: 1 Ranganoor Road,
Munniyappan kovil, Pallakkapalayam, (PO),
Sankagiri west, Namakkal (Dt).

To

Through

The principal,
Dhanvantri College of Nursing,
Ganapathypurum, No: 1 Renganoor Road,
Munniyappan kovil, Pallakkapalayam, (PO),
Sankagiri west, Namakkal (DT).

Respected Sir/Madam,

Sub : permission to conduct study - Regarding

I, Ms.Ambiha. R, M.Sc (Child health nursing) II year student of Dhanvantri College of Nursing, Pallakkapalayam as a partial fulfillment of master of science in nursing, I am going to conduct a research and submit the desertion work to the Tamil Nadu Dr M.G.R Medical University, Chennai by January 2012.

The statement of the problem chosen for my study is **“Compare the effectiveness of yoga on concentration among mentally abled Vs disabled children in selected social institutions at Erode.”**

I request you to permit me to conduct the study. Kindly do the needful.

Thanking you,

Yours Faithfully,

Date:

Place: Pallakkapalayam.

APPENDIX - II

APPENDIX - II

LETTER GRANTING PERMISSION TO CONDUCT STUDY

From

The principal,
Dhanvantri College of Nursing, Ganapathypuram,
No: 1 Ranganoor Road, Munniyappan kovil,
Pallakkapalayam, (PO), Sankagiri west, Namakkal (DT).

To

Respected Sir/Madam,

Sub: M.Sc., (Nursing) student – research – data collection – regarding.

Mr. Anish Babu Thananki, II year M.Sc.N, student of Dhanvantri College of Nursing, Pallakkapalayam as a partial fulfillment of master of science in nursing, he is to conduct a research and submit the desertion work to the Tamil Nadu Dr M.G.R Medical University, Chennai by December 2011.

The statement of the problem chosen for my study is **“Effectiveness of Bates therapy on visual changes among elderly residents at K.K Illam, Erode.”**

He is in need for your help and cooperation to conduct this research study among elderly residents in your esteemed old age home.

I request you to permit him to collect the data from your old age home and allow my student to utilize the needed facilities.

I assure you that his study will not in anyway affect the routine work of your old age home nor would it harm the study subjected for Bates therapy.

Kindly do the needful.

Thanking you,

Yours

sincerely,

Date: 10.08.11

Place: Pallakkapalayam.

APPENDIX - III

LETTER SEEKING EXPERT OPINION ON CONTENT

From

Ms.Ambiha,
M.Sc (Nursing) II year, Dhanvantri college of nursing,
Ganapathypurum, No: 1 Renganoor Road,
Munniyappan kovil, Pallakkapalayam, (PO),
Sankagiri west, Namakkal (DT).

To

Through

The principal,
Dhanvantri College of Nursing,
Ganapathypurum, No: 1 Renganoor Road,
Munniyappan kovil, Pallakkapalayam, (PO),
Sankagiri west, Namakkal (DT).

Respected Sir/Madam,

Sub : Requested for the validation of the tool

I Ms. Ambiha. R, II year M.Sc (Nursing) student of Dhanvantri College of Nursing, Pallakkapalayam as a partial fulfillment of master of science in nursing, I am going to conduct a research and submit the dissertation work to the Tamil Nadu Dr M.G.R Medical University, Chennai by January 2012.

Compare the effectiveness of yoga on concentration among mentally abled Vs differently abled children in selected social institutions, Erode.

To achieve the objectives of the dissertation, I have prepared the following tools:

1. Demographic data.
2. Modified James M. Swanson Concentration Assessment Rating Scale.

With regard to this, I kindly request you to go through the tools and validate it against the given criteria and render your valuable suggestion.

Thanking you in anticipation,

Yours Faithfully,

Enclosure:

1. Demographic data.
2. Modified James M. Swanson Concentration Assessment Rating Scale

APPENDIX - IV

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the tool of Ms. R. Ambiha., M.Sc
.,(N) II year student, Dhanvantri college of nursing, who is undertaking
dissertation work on **“Compare the effectiveness of yoga on concentration
among mentally abled Vs disabled abled children in selected social
institutions, Erode”**.

Signature of the Expert

Date:

Place:

Name & designation

APPENDIX – V

DEVELOPMENT OF THE TOOL

INFORMED COSENT

Vannakkam , I am Ms. Ambiha, M.Sc (N) II year student, studying in Dhanvantri College of Nursing as my part our curriculum, I need to do the dissertation. From this study you will not get any harm. Whatever information collected that should be in confidential. So I request you to kindly co – operative with me.

Section A: Included selected demographic variables

Section B: Modified James. M. Swanson Concentration Assessment Rating Scale.

SECTION – A

DEMOGRAPHIC DATA

INSRUTIONS:

The interviewer is requested to ask the item and get response one by one please put tick (✓) mark in the given box against the responses given by the individual.

DEMOGRAPHIC DATA:

1. Age.
 - a. Between 10 to 11 years.
 - b. Between 12 to 13 years.
 - c. Between 14 to 15 years.
2. Gender.
 - a. Male.
 - b. Female.
3. Parental marriage.
 - a. Consanguineous marriage
 - b. Non – Consanguineous marriage.
4. Family history of Mental retardation.
 - a. Present
 - b. Absent

SECTION - B

MODIFIED JAMES M SWANSON CONCENTRATION

ASSESSMENT RATING SCALE

S.NO	Content	Very Much 1	Quite A Bit 2	Just a little 3	Not at all 4
1.	Fails to give close attention to details or makes careless mistakes in schoolwork or tasks				
2.	Difficulty sustaining attention in tasks or play activities				
3.	Does not seem to listen when spoken to directly				
4.	Does not follow through on instructions and fails to finish schoolwork, chores, or duties				
5.	Avoids, dislikes, or reluctantly engages in tasks requiring sustained mental effort				
6.	Distracted by extraneous stimuli				
7.	Loses things necessary for activities				
8.	Leaves seat in classroom or in other situations in which remaining seated is expected				
9.	Forgetful in daily activities				
10.	Difficulty playing or engaging in leisure activities quietly				
11.	Talks excessively				
12.	Blurts out answers before questions have been completed				
13.	Difficulty awaiting turn				
14.	Interrupts others				
15.	Difficulty sitting still, being quiet, or inhibiting impulses in the classroom or at				

	home				
16.	Loses temper				
17.	Blames others for his or her mistakes or misbehavior				
18.	Makes noises				
19.	Cries easily				
20.	Uncooperative				
21.	Restless or overactive				
22.	Disturbs other children				
23.	Changes mood quickly and drastically				
24.	Easily frustrated if demand are not met immediately				
25.	Excessive anxiety and worry				

Scoring:

Poor	-	1 – 25
Good	-	26 – 50
Best	-	51 – 75
Excellent	-	76 – 100

APPENDIX – VII

TAMIL TRANSLATION OF TOOLS

¾, Åø ´òð¾ø

Å½î, ò ±ÉÐ |ÀÂ÷ þÃî. «òÀç, î. çîý ¾ýÅó¾çîç |°ÅçÄçÂ÷
, øæîçÂçø |°ÅçÄçÂ÷ ÓÐçç"Ä Àð¾òÀÈòð þÃñ¾î ñîî ÀÈòÐ
ÅÕ, çSÈý. ±í, ÇÐ Àî¾ð¾çð¾¾çý ÀÈ, çîí, ù ´Õ -Ãîòî°ç |°òÐ
ÅçÇî, ×"Ä, Àø, "Ä, Æ, ¾çüî °Á÷Àçî, SÅñîð. þó¾ -Ãîòî°çÉîø
-í, Ùîî ±ó¾ ´Õ Àî, Åç"Ç×, Ùø ²üÀ¾îÐ. -í, Ççý À¾çø, ù
þÃ, °çÂÁî, "Åî, òÀîð. «¾Éîø ±ÉÐ -Ãîòî°çîî ´òÐ"Æòð
|, îîîÁ; Ù À¾ç×¾ý S, ðîî|, î, çSÈý.

þ¾çø þÃñî Àçîç×, ù ´ùçÉ.

Àçîç×-«

¾Éç çÀ÷ ÅçÀÃð

Àçîç×-¬

ÀùÇçî ìÆó"¾, Ççý , ÅÉð °î÷ó¾ ÅçÉîî, ù

$\hat{A}\hat{I}^{\frac{3}{4}}\hat{C} - \ll$
 $\frac{3}{4}\hat{E}\hat{C} \text{ ; } \hat{A} \div \hat{A}\hat{C}\hat{A}\hat{\sim}\hat{O}$

1. $\hat{A}\hat{A}\hat{D}$

« .10 $\hat{O}^{\frac{3}{4}}\hat{\emptyset}$ 11 $\hat{A}^{\sim}\hat{A}$.

¬.12 $\hat{O}^{\frac{3}{4}}\hat{\emptyset}$ 13 $\hat{A}^{\sim}\hat{A}$.

p.14 $\hat{O}^{\frac{3}{4}}\hat{\emptyset}$ 15 $\hat{A}^{\sim}\hat{A}$.

2. $\hat{A} \text{ ; } \hat{A}\hat{C}\hat{E}\hat{\sim}$

« . ¬ñ.

« . | ãñ.

3. $|\hat{A}\hat{u}\hat{S}\hat{E} \text{ ; } \text{ ; } \hat{C}\hat{Y} \frac{3}{4}\hat{C}\hat{O}\hat{A}\frac{1}{2}\hat{O}$

« . $\hat{E} \times \hat{O}^{\sim}\hat{E} \frac{3}{4}\hat{C}\hat{O}\hat{A}\frac{1}{2}\hat{O}$.

« . $\hat{E} \times \hat{O}^{\sim}\hat{E} \ll \hat{A} \text{ ; } \frac{3}{4} \frac{3}{4}\hat{C}\hat{O}\hat{A}\frac{1}{2}\hat{O}$.

4. $\hat{a}^{\sim}\hat{C} \hat{A}\hat{C} \div \hat{I}^{\circ}\hat{C} \text{ p}\hat{\emptyset}\hat{A} \text{ ; } \frac{3}{4}\hat{A} \div \text{ , } \hat{u} \hat{I}\hat{I}\hat{\sim}\hat{A}\hat{\emptyset}\frac{3}{4}\hat{C}\hat{\emptyset}$

« . pñî, $\hat{C}\hat{E} \text{ ; } \div \text{ , } \hat{u}$.

« . pñî, $\hat{A}\hat{C}\hat{\emptyset}^{\sim}\hat{A}$.

ÀÏ¼Ç - 7

ÀûÇçî ÌÆó"¼, Ççý , ÁÉõ

° ì ÷ ò¼ ÁÇÉ; ì, ù

Á. ±ñ	Ì; ÒÇ¼î, ò	«Ç×ìÌ ¼ç, ò 1	° çÄ ° ÁÁí, Ççø 2	«ìç¼ì, 3	° SÄ; Ðø pø" Ä 4
1.	ÀÛÇçSÄ"Ä, ù «øÄÐ , ì; Ìì, òÄò¼ ²¼; ÁÐ SÄ"Ä, Ççø ÁÉÁçøÄ; Áø Äç"Æ, ù °ò¼ø.				
2.	Äç"ÇÄ; òÈSÄ; «øÄÐ , ì; Ìì, òÄò¼ SÄ"Ä, ÇçSÄ; ¼; ¼÷ òÐ , ÁÉõ °òðÄ¼ùìÌ , ÈÉòÄÌ¼ø.				
3.	S; ÁÉÄ; , SÄÍò Ä; ðÐ SÄí° çø , ÁÉõ °òð¼ì¼Ä; Û , ì½òÄÌ¼ø.				
4.	ùÄçòÄ"¼ ÀÛÇç SÄ"Ä, "Ç ÓÈì, ; Áø pòð¼ø.				
5.	¼; ¼÷ ì° çÄ; , ÁÉõ °òð¼ SÄñÈÄ SÄ"Ä, Ççø ÄçòðÄò pøÄ; ¼çòð¼ø.				
6.	¼ÉÈ ÁÉ °ò¼ø ²ùÄÌò Ä; ðÐ ±Çç¼ì, , ÁÉõ ° ç¼Û¼ø.				
7.	° SÄ"Ä"Ä °òÄ¼ùìÌ S¼"ÄÄ; É -Ä, Ä½í, "Ç ±Ìì, ; Áø Äçòìì °ò¼ø.				
8.	ÄÌòÄ"ÈÄçø «øÄÐ ÄüÈ p¼íìÇçø ¼; ¼÷ òÐ «ÄÄ SÄñÈÄ çç"ÄÄçø pòì, ÓÈÄ; Áø p¼ò Ä; Û¼ø.				
9.	¼çÉ° ; ç °ÄøÄ; Ì, "Ç ÁÈò¼ø.				
10.	Äç"ÇÄ; ÌÄ¼ùìÌ ° çÄÄòÄÌ¼ø «øÄÐ ¼; Ä¼Ä; , Äç"ÇÄ; òÈø ÄìS, ùÈø.				
11.	«Ç×ìÌ «¼ç, Ä; , ò SÄÍ¼ø.				
12.	S, ùÄç, "Ç ÓÈìÌò ÓýSÄ Ä¼çø -"Äò¼ø.				
13.	²ù ÈSÄ ¼; çò¼ Äç, Äí, "Ç Ä; ùÜÄ¼ùìÌ , ÈÉòÄÌ¼ø.				
14.	ÄüÈÄ÷ ù °Äø, Ççø ÌÛì, çÌ¼ø.				
15.	ÄÌòÄ"ÈÄçø «"Ä¼çÄ; , pòðÄ¼ùìÌ , ÈÉòÄÌ¼ø.				
16.	S, ; ÄòÄÌ¼ø.				
17.	¼ÉÐ ¼ÄÛ, Ûì, ì, ×ò, , ò¼ ÄÆì, ò¼çùì ì, ×ò ÄüÈÄ÷, "Ç Ìüüò °; øò¼ø.				

18.	° ò¼õ ²üôÃîðð¼ø.				
19.	¾çË ÃÉ «ø¼ø.				
20.	´ òð" Æôð ¾Ã ¾çÕð¼ø.				
21.	« " Ã¾çÃçÿËçÕð¼ø «øÃð «Ç×îî Æó"¾, "Ç «¾ç, Áî, °Ã; üÛ¼ø.				
22.	ÃüË Æó"¾, "Ç ¾îó¾Ã× °ø¼ø.				
23.	¬¼ÉÊ ÁÉÁ; üÈð.				
24.	§¾" Ã, û ç" È§ÃüÈðÃ¾Ãçø" Ã ±ÿËîø ±Çç¾î, ²Á; üÈð « "¾¼ø.				
25.	«Ç×îî «¾ç, Áî, ÃÃðÃî¼ø ÃüÛø, Å" ÃðÃî¼ø.				

APPENDIX - VIII

BLUE PRINT OF YOGA THERAPY

YOGA THERAPY

INTRODUCTION:

Concentration is a critical one to our life. It is actually essential, and not just important to our life, as without concentration cannot get through a normal day. Most of the children are plagued with stress and various worries and pressures because of the fast paced and highly competitive world. As a result of this children are never completely relaxed and therefore they cannot function to our fullest potential. The effects of stress are particularly inhibiting on child's powers of concentration, with a weakened attention span and poor focus being the common fallouts.

DESCRIPTION ABOUT YOGA:

Yoga refers to a scientific scheme of physical and mental practices that originated in India approximately 3000 yrs ago.

Meaning:

The word 'Yoga' is derived from Sanskrit root word 'Yuj', meaning 'to control' or 'to unite'.

Definition:

Yoga therapy is the science of applying the various techniques of yoga in a variety of illnesses and conditions, to facilitate optimal health, healing and awakening

Yoga unifies the body, mind and spirit leading to a very holistic approach in health and wellness. It combines both physical exercises and breathing techniques to assist a individual to achieve physical and mental well-

being. Yoga can be a useful means for both children and adults to developing calmness, focus, and body awareness.

PURPOSE OF YOGA:

- To Improving concentration.
- To strengthen muscles.
- To increase flexibility.
- To improve postures.
- To reduces stress and promotes relaxation.
- To improve breathing.
- To detoxifies the body.
- To helps against all types of pain.
- To better health for pregnant women.
- To help the weight management.
- To Improved Circulation.

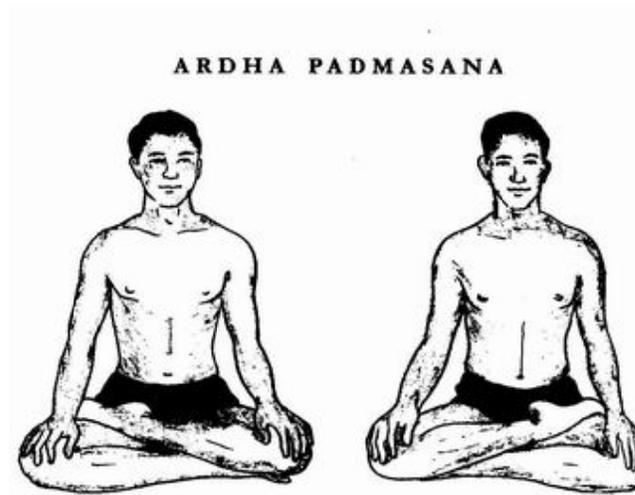
YOGA PROCEDURE FOR IMPROVING CONCENTRATION:

ARDH PADMASANA:

The Procedure for Ardha Padmasana Yoga Pose

1. A Sit down with legs stretched straight in front of the body.
2. A Bend the left leg and place it firmly beside the left side of opposite thigh.
3. A Bend the right leg and take it to place it above the left thigh. Now the left foot is not visible.

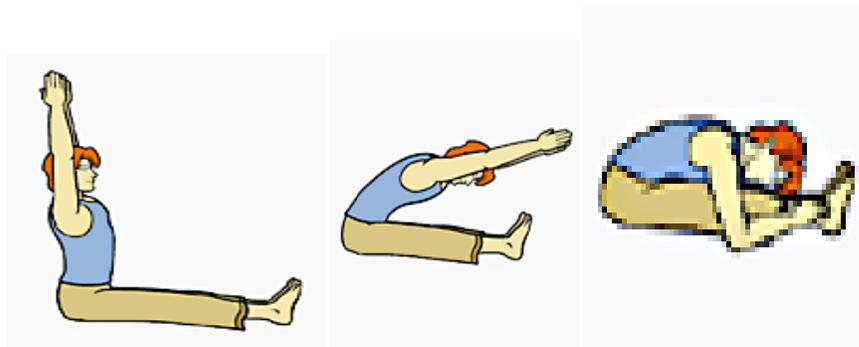
4. A Keep your hands over the knees, with index finger and thumb forming a circle. Do this procedure for 10 minutes.



SEATED FORWARD BENDING:

1. Sit on the floor with your feet out in front of you and straight back.
2. In hale, and lift your arms above your head, stretching your spine.
3. On your exhale fold forward at your hips, reaching toward your feet.
4. Grap your leg whenever you can reach knees then just relax and breath.

Do this procedure for 10 minutes.



OMKAR CHARTING:

The total timing of 10 seconds for chanting of one AUM or OM is divided as follows:

1. A - Two seconds (with open lips).
2. U - Three seconds (Partially closing the lips).
3. M - Five seconds (completely closed lips).

Deep inhaling in 5 seconds and exhaling pronounce A for 2 seconds, U for 3 seconds and M for 5 seconds. Repeat this for 10 minutes.

APPENDIX – VIII

LIST OF EXPERTS

- 1. MRS.J. LAKSHMI PRIYA M.Sc (N),**
Reader ,
Child Health Nursing.
Bishop's College of Nursing,
Dharapuram.

- 2. MRS. KAVITHA M.Sc (N),**
Reader ,
Child Health Nursing.
Shanmuga College of Nursing,
Salem.

- 3. DR. V. MARUTHARAJ BNYS., M.SC (PSY.),**
Dept of naturopathy and yoga,
Lotus Hospital and Research centre Ltd,
Erode.

- 4. MRS. RAJAMANI,**
Mental retarded training therapist,
Kongu Arivalayam Rehabilitation Center.
Erode.

5. PROF. DHANAPAL.,

Bio-Statistician,

Dhanvantri college of nursing,

Pallakkapalayam.

6. Mr. Senthil Kumar,

Clinical Psychologist,

Government Head Quarters Hospital,

Erode.

**APPENDIX - IX
PHOTOGRAPHS**



**Yoga done by mentally disabled children in Kongu Arivalayam
Rehabilitation Center.**



**Yoga done by mentally abled children in Government Middle School,
Puthupalayam.**