

**EFFECTIVENESS OF AROMA THERAPY ON QUALITY OF
SLEEP AMONG BLIND CHILDREN IN SELECTED
BLIND SCHOOLS, SALEM.**

By

Ms. NALINI. B

Reg. No: 30099443

**A DISSERTATION SUBMITTED TO
THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI,
IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE
DEGREE OF MASTER OF SCIENCE IN NURSING
PSYCHIATRIC (MENTAL HEALTH) NURSING**

APRIL – 2011

CERTIFICATE

Certified that this is the bonafied work of **Ms.NALINI. B**, Final year M.Sc(Nursing) Student of Sri Gokulam College of Nursing, Salem, Submitted in Partial fulfillment of the requirement for the Degree of Master of Science in Nursing to The Tamil Nadu Dr.M.G.R. Medical University, Chennai under the Registration No. **30099443**.

College Seal:

Signature :

PROF. A. JAYASUDHA, M.Sc(N), Ph.D.,
PRINCIPAL,
SRI GOKULAM COLLEGE OF NURSING,
3/836, PERIYAKALAM,
NEIKKARAPATTI, SALEM – 636 010.

**EFFECTIVENESS OF AROMA THERAPY ON QUALITY OF
SLEEP AMONG BLIND CHILDREN IN SELECTED
BLIND SCHOOLS, SALEM.**

Approved by the Dissertation Committee on : 21.12.2010

Signature of the Clinical Specialty Guide:

Mrs. LALITHA. P, M.Sc (N).,
Professor,
Head of the Department,
Department of Mental Health Nursing,
Sri Gokulam College of Nursing,
Salem – 636 010.

Signature of the Medical Expert :

Dr. C. BHASKAR., M.D.,
Consultant psychiatrist,
Sri Gokulam Hospital,
Salem – 636 004.

**Signature of the Internal Examiner
with Date**

**Signature of the External Examiner
with Date**

ACKNOWLEDGEMENT

“Give me the strength to raise my mind

High above daily trifles”

- Gitanjali by R.Tagore

With all the blessings of the GOD Almighty who helped me to complete this dissertation successfully without any physical and mental ailment.

I am indebted to many persons, and would like to express my gratitude to all who guided, advised and molded this piece of work and provided information, without which I would never have completed this endeavor. Their precious time, energy, experience and suggestions were a source of inspiration and sustenance.

I would pay my sincere gratitude to **Dr. K. Arthanari, M.S.**, Managing Trustee of Sri Gokulam College of Nursing, who have given me an opportunity to finish this dissertation.

I facilitated my great pleasure in showing my gratitude to **Prof.A.Jayasudha.M.Sc(N), Ph.D.**, Principal of Sri Gokulam College of Nursing, her enduring catalytic encouragement expert advice and valuable guidance to carry my research work successfully.

I express my gratitude to **Dr. K. Tamizharasi, Ph.D.**, Vice Principal of Sri Gokulam College of Nursing, her valuable suggestion and guidance to carry my research work successfully.

I am expressing my great jubilation to the Guide **Mrs. Lalitha. P, M.Sc(N)**, HOD of Mental Health Nursing, Sri Gokulam College of Nursing, an esteemed person who helped me in completing the dissertation.

I must be grateful to the medical guide **Dr. C. Bhaskar., M.D**, Consultant Psychiatrist of Sri Gokulam Hospital for having extended his/her hands in completing study Successfully.

I am grateful to **Mrs. J.Devikanna, M.Sc (N)**, Lecturer, **Mrs.S.Kavitha M.Sc (N)**, Asst. Professor, **Ms. D. Shoba Selvi, M.Sc(N)**., Lecturer, Department of Psychiatric Nursing, for their guidance, suggestion and support.

My sincere obligation to **Dr.Dharmalingam., Ph.D.**, Statistician for his constant encouragement and guidance from the very beginning of the study. And the resource person **Dr.Saranya, Naturopathy** helped me in getting information and completing the study.

My sincere thanks to content validity **Experts** for helping me to complete my study.

My revered thanks to **Faculty and Non Faculty Members** of Sri Gokulam College of Nursing showing their passion to finish the study.

I would pay my sincere thanks to the **School Head Masters and Staff Members** who helped me to complete my study assiduously .

It is my great dexterity to the **Participants** of the studies who helped me to finish the research with all success.

I pay my honest thanks to **Mr. V.Murugesan, Shri Krishna Computer**, Salem for his assistance in computer typing and Binding service for this dissertation.

My whole hearted thanks to my well wishers **Mr.Paul Raj** and **Mrs. Felsi**, for their peerless and extra ordinary condition which has boosted me to bring out this study in an applaudable manner.

I am blessed with my very good parents **Mr. K.Balu, Mrs. B.Kala** and my brother **Mr. D.Amirthalingam**, my sisters **Ms. Saveetha Balu, Ms. Gayathri Balu** and **Friends** who have guided me in education to come out with flying colours in Nursing field.

TABLE OF CONTENTS

| CHAPTER NO | CONTENT | PAGE NO |
|---------------|--|--------------|
| I | INTRODUCTION | 1-9 |
| | ? Need for the study | 3 |
| | ? Statement of the problem | 5 |
| | ? Objectives | 5 |
| | ? Operational definitions | 5 |
| | ? Assumptions | 6 |
| | ? Hypotheses | 6 |
| | ? Delimitations | 6 |
| | ? Projected Outcome | 6 |
| | ? Conceptual framework | 6 |
| II | REVIEW OF LITERATURE | 10-15 |
| | ? Literature related to Quality of sleep among Blind children | 10 |
| | ? Literature related to Aroma therapy to improve the quality of sleep among Blind children | 12 |
| III | METHODOLOGY | 16-23 |
| | ? Research approach | 16 |
| | ? Research design | 16 |
| | ? Population | 18 |
| | ? Description of setting | 18 |
| | ? Sampling | 18 |
| | ? Variables | 19 |
| | ? Description of the tools | 19 |
| | ? Validity and reliability | 20 |
| | ? Pilot study | 20 |
| | ? Method of data collection | 21 |
| | ? Plan for data analysis | 22 |
| IV | DATA ANALYSIS AND INTERPRETATION | 24-39 |
| V | DISCUSSION | 40-41 |
| VI | SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS | 42-45 |
| | BIBLIOGRAPHY | 46-49 |
| | ANNEXURES | i-xvi |

LIST OF TABLES

| TABLE NO | TITLE | PAGE NO |
|-----------------|--|----------------|
| 3.1 | Scoring procedure for quality of sleep | 20 |
| 4.1 | Frequency and percentage distribution of samples according to the quality of sleep in experimental and control group before intervention. | 32 |
| 4.2 | Frequency and percentage distribution of samples according to the quality of sleep in experimental and control group after intervention. | 33 |
| 4.3 | Comparison of mean, standard deviation, mean percentage and mean difference value of samples on quality of sleep in experimental and control group. | 36 |
| 4.4 | Comparison of mean, standard deviation and independent 't' test value on quality of sleep among blind children in experimental and control group after intervention. | 37 |
| 4.5 | Association between the quality of sleep among blind children and their demographic variables in experimental and control group. | 38 |

LIST OF FIGURES

| FIGURE NO | TITLE | PAGE NO |
|----------------------|---|--------------------|
| 1.1 | Conceptual Framework Based on Modified Rosenstoch's Health Belief Model | 8 |
| 3.1 | Schematic representation of research methodology | 17 |
| 4.1 | Distribution of samples according to their age. | 25 |
| 4.2 | Distribution of samples according to their sex | 26 |
| 4.3 | Distribution of samples according to their religion. | 27 |
| 4.4 | Distribution of samples according to their education | 28 |
| 4.5 | Distribution of samples according to their previous experience of stay in hostel | 29 |
| 4.6 | Distribution of samples according to their causes of blindness | 30 |
| 4.7 | Distribution of samples according to their number of siblings | 31 |
| 4.8 | Percentage distribution of samples on pre-test and post-test quality of sleep in experimental and control group | 34 |

LIST OF ANNEXURES

| ANNEXURE. | TITLE | PAGE NO. |
|------------------|---|-----------------|
| A. | Letter seeking permission to conduct a research study | i |
| B. | Tool for data collection | iii |
| C. | Letter requesting opinion and suggestion of experts for content validity of the research tool | xii |
| D | Certificate of validation | xiii |
| E. | List of Experts | xiv |
| F. | Certificate of editing | xv |
| G. | Photos | xvi |

ABSTRACT

A study to evaluate the effectiveness of aroma therapy on quality of sleep among blind children in selected blind school, Salem.

The design adopted was true experimental design. Setting of the study was Government School for blind (experimental group), national association school for blind (control group). The sample size was 60 and was drawn through simple random sampling technique (Lottery method). The data gathered were analyzed by descriptive and inferential statistical method and interpretations were made on the basis of the objectives of the study.

In experimental group among 30 children in pre test, 5(16.6%) of them had good quality of sleep, 11(36.6%) of them had fair quality of sleep and 14(46.6%) of them had poor quality of sleep. In post test 12 (40%) of them had good quality of sleep, 15 (50%) of them had fair quality of sleep and 3 (10%) of them poor quality of sleep. In control group among 30 children in pre test 7 (23.3%) of them had good quality of sleep, 12 (40%) had fair quality of sleep and 11 (36.6%) of them had poor quality of sleep. In post test 5 (16.6%) of them had good quality of sleep, 13 (43.3%) had fair quality of sleep and 12 (40%) of them had poor quality of sleep. In experimental group mean score was 31.13 ± 12.82 , where as in control group, mean was 46.6 ± 15.75 . The calculated 't' value (4.368 at $p = 0.05$ level) shows that aroma therapy was effective to improve the quality of sleep. Hence the hypothesis H_1 is retained. There was no significant association between the quality of sleep among blind children and their demographic variables in experimental and control group. Hence the hypothesis H_2 is rejected.

CHAPTER I

INTRODUCTION

*The greatest tragedy in life is
People who have sight, but no vision.*

- Helen Keller

In Ophthalmology, the term ‘**blindness**’ means ‘**unable to perceive light**’ but from a practical point of view a person is said to be ‘blind’.

The WHO has proposed a uniform criterion and defined blindness as, “Visual acuity of less than 3/60 (Snellen Chart) or its equivalent.” In the absence of appropriate vision charts, the WHO has added, “Inability to count fingers in daylight at a distance of 3 meters” to indicate less than 3/60 or its equivalent.

The WHO recently introduced the global initiative for the elimination of avoidable blindness by the year 2020 known as vision 2020 – **The right to sight and to accomplish the theme behind ‘Vision for the future ’ (VFTF).**

Sleep is the state of natural rest observed throughout the animal kingdom, in all mammals and birds and in many reptiles, amphibians and fish. In humans and many other animals that have been studied such as fish, birds, ants and flies regular sleep is necessary for survival. The capability for arousal from sleep is a protective mechanism and also necessary for health and well being just as air, food and water.

The electro physiologic characteristics of sleep show that sleep consists of two phases: non-rapid eye movement (NREM) and rapid eye movement (REM).

NREM sleep contributes to body tissue restoration. During NREM sleep, biological functions are slow, like heart rate falls to 60 beats per minute or less, other biological functions decreased respirations, decreased blood pressure and decreased muscle tone.

REM sleep is needed for cognitive restoration. REM sleep is associated with changes in cerebral blood flow, increased cortical activity, increased oxygen consumption, and epinephrine release. During sleep, the brain filters stored information about the day's activities.

NREM and REM sleep stages have about 90 to 110 minute cycle. During an 8 hour sleep period the cycle of NREM and REM sleep repeats 5 or 6 times. This cycle changes as night progresses. In the first cycle the amount of REM sleep is brief with each succeeding cycle the amount of time spent in REM sleep lengthens until it seems to dominate at the end of the sleep period.

After taking an average of about 20 minutes to fall asleep people enter into about 90 minutes of NREM sleep, which occurs in 4 sub stages. Light sleep is characteristic of stage 1 and 2, in which the person is easily arousable. In comparison, during stage 3 and 4 sleep is much deeper and arousal from asleep is much more difficult.

A recent study reported that millions of people do not get enough sleep and many suffer from lack of sleep. Especially for blind children sleep must be considered as one of the important component of health. **(National Sleep Foundation, 2002)**

Blind children will have sleep disturbances because of some psychological disturbance like stress, anxiety and depression. Aroma therapy is more effective to improve the quality of sleep.

Aroma therapy means treatment using scents it is an treatment of caring for the body with pleasant smelling. The essentials oil such as rose, lemon, and lavender. These essential oils are added to the bath or massaged into the skin, and inhaled directly. Aromatherapy is used for the relief of pain, care for the skin, decrease

tension and fatigue, reduce anxiety and promote relaxation. When inhaled, they work on the brain and stimulate the Olfactory nerves.

The essential oils are aromatic essences extracted from plants, flowers, trees, fruits and seeds. It used as a therapeutic treatment of both psychological and physiological properties, which improve the health. There are nearly 150 essential oils. Each oil has difference purposes. Some are anti depressant, stimulation, relaxation, digestion improvement and diuretic properties.

Aromatherapy is one of the fast growing fields in alternative medicine. It is widely used at clinics and hospitals for a variety of applications such as pain relief for women in labour pain, relieving pain caused by the side effects of the chemotherapy undergone by the cancer patients and rehabilitation of cardiac patients.

Need for the Study

In India there are approximately 1.20 crore blind people which is about one fourth of the total blind population of the world. This means that 14.9 out of every 1000 Indians are blind, compared to about 3 per thousands in most developed countries.

Prevalence of blindness in India at present is 0.7% (WHO Regional Health report 1996). It was 1% in 1995 (WHO 1995) and 1.49% in 1986 – 1989 (WHO).

It is estimated that at least 2, 00,000 to 3, 00,000 children in India have severe blindness and approximately 15,000 are in school for the blind children. Childhood blindness has serious social and economic consequences on the family and the society. The significance lies in the fact that these negative effects are experienced throughout the child's life often lasting 50 or more years.

Globally around 5% of total population, nearly 1.5 million blind children were younger than 15 years of age, out of which 1.0 million are in Asia. In India it is found that 1.2 per 1000 between age group of 7-15 years are blind. **(WHO Journal, May 2007 Report)**

The future of any society is its children. The renewed goals of WHO to improve the care of the children with blindness and visual impairment is especially prescient, since childhood blindness almost equals to adult blindness.

Blind children need of physical, mental, social, vocational, economical or rehabilitative support services. An additional 45 million people fulfill the WHO's criterion for blindness defined as best corrected vision of less than 3/60 in the better seeing eye.

Quality of sleep among blind children will be affected by multiple factors like separation from the family, loneliness and environmental factors such as noise, emotional factors like stress, anxiety and worries.

To improve the quality of sleep among blind children some techniques are used like yoga, massage therapy, music therapy and aroma therapy.

There are several beneficial effects attributed to aroma therapy including analgesic, antiseptic, antimicrobial, anti depressant and sedative actions. So, the investigator felt that aroma therapy is a simple, effective and interesting technique for improvement of quality of sleep among the blind children.

Statement of the Problem

A Study to Evaluate the Effectiveness of Aroma Therapy on Quality of Sleep Among Blind Children in Selected Blind Schools, Salem.

Objectives

1. To assess the quality of sleep among blind children in experimental and control group.
2. To evaluate the effectiveness of aroma therapy on quality of sleep among blind children in experimental and control group.
3. To associate the quality of sleep among blind children in experimental and control group with their selected demographic variables.

Operational Definitions

1. Effectiveness:

It refers to the significant improvement of quality of sleep as determined by the differences between the pre test and post test on quality of sleep among blind children.

2. Aroma Therapy:

It is the effective method of treatment to promote sleep by using lavender oil dipped with cotton and give 3-5 minutes duration intermittently.

3. Quality of sleep:

It refers to the physiological and psychological relaxation of the mind and body.

4. Blind Children:

Children between the age group of 10-15 years with loss of vision.

Assumptions

1. Blind children may have sleep disturbances.
2. Sleep disturbances varies from individual to individual.
3. Aroma therapy may help to improve the quality of sleep.

Hypotheses

- H₁:** There will be significant differences in the quality of sleep among blind children in experimental and control group at $p < 0.05$ level.
- H₂:** There will be significant association between the quality of sleep among blind children and their selected demographic variables in experimental and control group at $p < 0.05$ level.

Delimitations

1. The setting was limited to the selected blind schools at Salem.
2. The sample size was limited to 60.
3. Data collection period was limited to 4 weeks.

Projected Outcome

1. This study will help the blind children to practice Aroma therapy for good sleep.
2. This study will help the health professional to plan for further research.

Conceptual Frame Work

The conceptual frame work of the study is based on Modified Rosenstoch's Health Belief Model (1974). Health belief model provides a way of understanding and predicting how client behave in relation to the health and how they will comply with health care therapies. The model consider the individuals perception of susceptibility to an knowledge, his / her perception of the level of attitude, psychosocial and demographic modifying factors, and the likelihood that he / she will take

recommended. The health belief model addresses the relationship between a people's beliefs on health and knowledge and how he/she acts towards attitudes.

In the study, individual perception refers to poor quality of sleep. Modifying factors refers to demographic variables such as age, religion, education, previous experience of staying hostel, causes for blindness, number of siblings and dependent variable. Cues to action refer to Aroma therapy. Likelihood of action refers to practice Aroma therapy in day to day life. The Aroma therapy improved the quality of sleep among blind children.

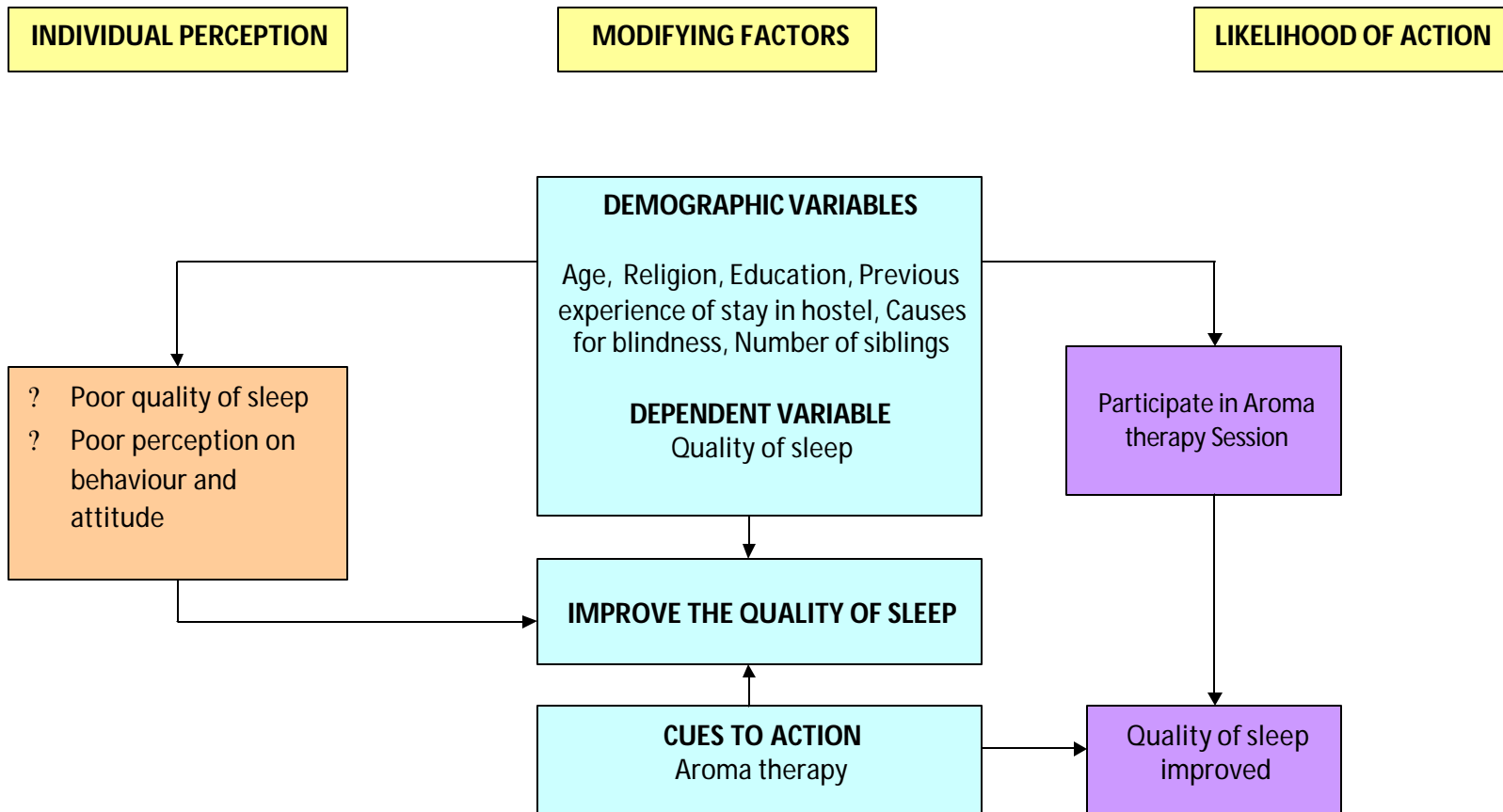


Fig-1: CONCEPTUAL FRAMEWORK BASED ON MODIFIED ROSENSTOCH'S HEALTH BELIEF MODEL

Summary

This chapter dealt with introduction, need for study, statement of the problem, objectives, operational definition, assumptions, hypotheses, delimitations, projected outcome, and conceptual framework.

CHAPTER II

REVIEW OF LITERATURE

The review of literature is defined as broad, comprehensive in depth, systematic and critical review of literature scholarly publications, unpublished scholarly print materials and personnel communications.

The review of literature was presented under the following headings.

- a. Literature related to Quality of sleep among Blind children.
- b. Literature related to Aroma therapy to improve the quality of sleep among Blind children.

a. Literature related to Quality of Sleep Among Blind Children

Brain Dev, (2008) conducted a study on sleep disturbances among visually impaired toddlers. In this descriptive study 160 children were participated from Mondino institute of neurology, Italy. A sleep questionnaire was administered to all the children. Results shows (95%) visually impaired children had sleep disturbances.

Khan RI.Kenny.D., (2007), conducted a study on sleep pattern among childhood blindness. All children under the age of 16years who fulfilled the criteria of blindness were participated. Data was collected through history, detailed examination and investigations included CT,MRI, Chromosomal analysis. Results revealed that (77.7%) blind children had difficulty in falling asleep. (11.3%) low vision children had moderate sleep disturbances and (11%) partially sighted children had mild sleep disturbances at night time.

ACAD Child Adolescent Psychiatry, (2007) conducted a study on sleep related problems among blind children. The study examined sleep related problems among a large sample (n=128) of blind children with the age group of 12 to 16years.

The frequency of eight specific sleep related problems was examined in relation to age, gender, sex, sleep pattern, duration, sleep latency and functional impairment. Results shows that 88% of blind children experienced one Sleep Related Problems. These findings indicate that sleep related problems are commonly associated with blindness and suggested a need for the assessment and attention to these problems in research and clinical settings.

Stanford University Sleep Disorders Center, USA, (2007) Conducted a study on sleep disorders among children with blindness. To compare the frequency and type of sleep disorders in blind children with healthy groups, 42 items sleep questionnaire was used among 154 children. In this 77 were blind children ranging from 3 to 18 years of age. Results shows blind children were awakening much earlier than the normal children. Blind children had more sleep complaints and 13.4% of blind subjects had daily episodes of involuntary sleepiness compared with healthy groups.

Morgenthaler.T and Alessi. C., (2006) conducted a study on sleep among blind children. Among 54 children, 27 children had varying degree of blindness with no other known disorders, and 27 children selected randomly with normal eyesight. Actigraphy was used to identify the sleep pattern and circadian pattern of the children. It is concluded that (74.1%) blind children had more sleep disturbance comparing to normal children.

Wee R, Van Gelder, Washington University School of Medicine, (2004) conducted a study on sleep disturbances among young children with visual dysfunction. 25 subjects with the age group of 12-15 were recruited from the Missouri school for the blind and 25 control group with normal sight were recruited from a

residential school. The study results suggesting that (71.3%) blind children have more variable awakening times than other groups.

Prax Kinder., (2002) conducted a study on sleep disorders among visually handicapped children in infancy and preschool age. 265 Visually impaired and 110 non disabled with the age group of 10 to 72 month old children were participated. A parents questionnaire was used to assess sleep disorders. Results indicated (73.3%) blind children with no additional impairments had more difficulties in getting a sleep compared to the non disabled group .

University of Oxford Section of Child and Adolescents Psychiatry, Park Hospital for Children, Headington, UK., (2001) conducted a study on sleep disorders among visually impaired children. In this research, 70 blind children were participated. The Pittsburgh sleep index scale was used to assessed the sleeping pattern of the children. The result of this study revealed that most of the children had sleep disorders. They reported (75.4%) moderately had sleep disturbance and 25.5% had severe sleep disturbances.

b. Literature related to Effectiveness of Aroma Therapy on Sleep:

Suseelal, T., (2010) conducted a study among Osteoarthritis patients regarding the effectiveness of aromatherapy in reduction of pain. He used 30 Arthritis patients who are visiting the orthopedic clinic. They received 10 ml of lavender oil for local application for 10 minutes for 5 consecutive days. He concluded that administration of aromatherapy was effective in relieving pain on patients with Osteoarthritis.

Setzer, W., (2009) stated that a number of essential oils are currently used .Among that rose oil, lemon oil, lavender oil are more effective to relieve the anxiety, stress and depression. In that popular aroma is lavender oil. It acts as a mild sedative and calming effect.

Ponnarasi, P., (2008) conducted a study among major abdominal surgical patients regarding the effectiveness of aromatherapy in reduction of pain and its associated behavioural changes. She used 60 samples for the study where the lottery method was used to allot 30 samples to experimental and 30 to control group. The tool used in the study was combined numerical and categorical pain scale and modified FLACC behavioural changes associated with pain assessment scale. Aromatherapy was administered using lavender oil 1 ml for inhalation for 10 mts. 10 ml for local application and 10ml for foot massage for 10 minutes to client in the experimental group on first post-operative day. Results revealed that administration of aromatherapy reduced the pain and enabled greater comfort and relaxation of the clients.

Lin P.W, and Lam, L.C., (2007) Department of Psychiatry, Chinese University of Hong Kong conducted a study on the effectiveness of *lavandula angustifolia*. Seventy Chinese adults with dementia were recruited. 35 was randomly selected as experimental group (lavender inhalation) for 3 weeks. The remaining 35 were control group. Clinical response was evaluated using the Chinese versions of Cohen Mansfield Agitation Inventory and Neuropsychiatric Inventory. The mean CCMAI total scores decreased from 24.68 to 17.77. The CNPI scores varied from 63.17 to 58.77 after receiving treatment. Results show that lavender is an effective technique in alleviating agitated behaviours in Chinese patients with dementia.

Lee, I.S., (2006) conducted the study to explore the effect of the lavender fragrance on sleep and depression among women college students who complained of insomnia were studied during a four week protocol. The tool it includes sleep variables such as, length of time taken to fall asleep, severity of insomnia and self

satisfaction with sleep were improved. He concluded that the lavender fragrance had a beneficial effect on insomnia and depression among women college students.

Williams., (2006) conducted a study to evaluate the effects of aromatherapy massage on sleep in children with autism. Twelve children with autism and learning difficulties who are attending residential school were participated in this study. The children were given aromatherapy massage with lavender oil for 5 nights where compared with 10 nights when it was not given. The result shows that the use of lavender oil has beneficial effect on the sleep patterns of children with autism attending a residential school.

Godfrey A.D., (2005) conducted a study to evaluate the effectiveness of *lavandula augustifolia* as a treatment for mild insomnia. 10 volunteers (5 male and 5 female) were entered and completed the 4 week study. Outcomes were assessed with Pittsburgh sleep quality index and borkovec questionnaire assessment. Lavender created an improvement of 2.5 points PSQI. (95%) intervention was beneficial and study results states that it is more effective.

Collett, D., (2002) conducted a study to evaluate the use of aromatherapy massage and periods of rest, in an intensive care unit at royal bershire hospital NHS Trust, England. 122 patients admitted to a general intensive care were randomly allocated to receive either massage, aromatherapy using essential oil of lavender. Both pre and post therapy assessments included physiological stress indicators and patient's evaluation of their anxiety levels. Those patients who received aromatherapy reported 93% significantly greater improvement in their mood and less anxious. The results revealed that lavender is beneficial to reduce the anxiety and provide relaxation.

Researchers at University of Vienna, (2001) in Australia, found that lavender oil having sedative effect. Lavender and of its main constituents linalool and linalyl acetate were investigated in a series of experimental procedures. The significant decrease in the motility of female and male laboratory animals under standardized experimental conditions found that lavender fragrance reduce nervousness and produce calming effect.

Lancet, (2000) states that elderly patients slept “like babies” when a lavender aroma was wafted into their bedrooms at night. These patients had sleep disturbances during night time and they taken sleeping pills to get sleep prior to the aromatherapy.

Summary

This chapter dealt with review of literature related to quality of sleep among blind children and aroma therapy to improve the quality of sleep among blind children.

CHAPTER III
RESEARCH METHODOLOGY

The present study is carried out to determine the effectiveness of aroma therapy on quality of sleep among blind children with the view of preventing psychological problems and early resumption of abilities and excellent nursing care.

Research Approach

Quantitative evaluative research approach was adopted for this study.

Research Design

The research design chosen for this study was true experimental design. The design can be represented as,

| | | | |
|------------|----------------------|----------|----------------------|
| E = | O₁ | X | O₂ |
| C = | O₁ | | O₂ |

E = Experimental group of Blind children.

C = Control group of blind children.

O₁ = Pre-test among blind children.

O₂ = Post-test among blind children.

X = Intervention (aroma therapy)

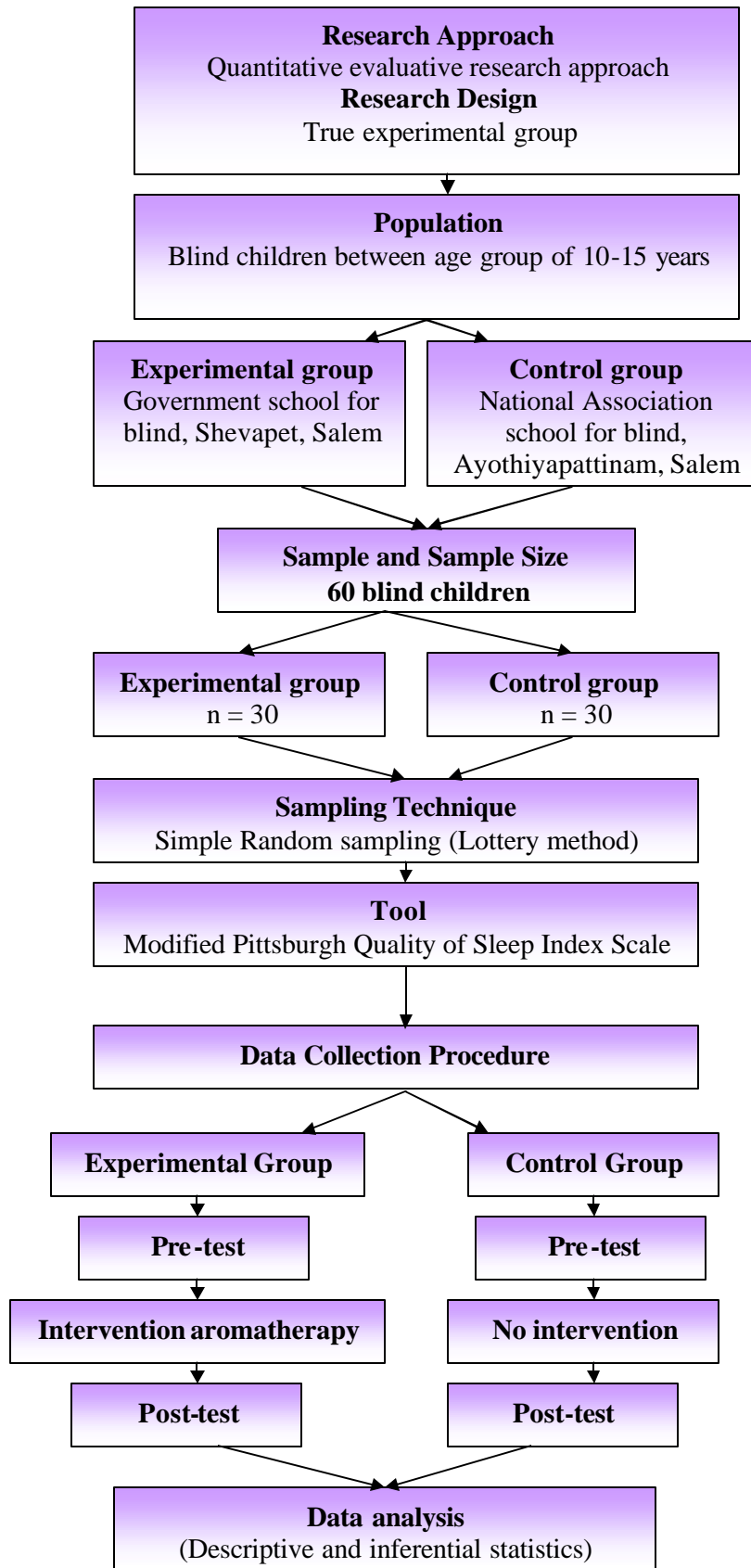


Figure -3.1: Schematic Representation of Research Methodology

Population

The study population comprises of blind children between the age group of 10– 15 years.

Description of Setting

The study was conducted in selected blind children schools such as,

1. Government school for Blind, Shevepet, Salem and
2. National Association School for Blind, Ayothiyapattinam, Salem.

Both the schools are run by Government Organization. Government School for blind located in Shevapat. It is 3 Km away from Salem Bus stand. This school is just near to fire service office. The total number of population of this school is 90.

National association school for blind, which is located in BTR Nagar, Ayothiapattanam. It is 6 Km away from Salem Bus stand. The total number of population of this school is 70.

Sampling

Sample:

The sample of this study was blind children those who are studying in Government School for blind, National Association School for blind, Salem.

Sample size:

The sample size of this study is 60. Among them 30 samples were experimental group and 30 samples were control group.

Sampling technique:

The technique adopted for this study was simple random sampling technique by using lottery method.

Criteria for selection of sample

Inclusion criteria:

- ✍ Blind children between 10 to 15 years of age.
- ✍ Blind children who are willing to participate in this study.

Exclusion criteria:

- ✍ Blind children with other physical impairment.
- ✍ Blind children who practice other relaxation techniques.
- ✍ Blind children those who are having cough and cold.

Variables

Independent variable: Aroma therapy

Dependent variable : Quality of sleep

Description of Tool

It consists of two sections,

Section I: Demographic data

Section II: Structured interview schedule to assess the quality of sleep among blind children (Modified Pittsburgh Quality of sleep index scale).

Section I:

This section deals with demographic data in relation to age, sex, religion, education, previous experience of stay in hostel, causes for blindness, number of siblings.

Section II:

It consists of Modified Pittsburgh Quality of sleep index scale. This scale consists of components such as subjective Sleep quality, Sleep latency, Habitual sleep efficiency, Sleep disturbance, Day time dysfunction. This rating scale consists of 30

items based on the 5 components. This scale was used for the pre-test and post-test.

Scoring of answer is based on 4 point rating scale (0 -3).

| | | |
|--------------|---|---|
| Never | - | 0 |
| Occasionally | - | 1 |
| Frequently | - | 2 |
| Always | - | 3 |

Table-3.1: Scoring Procedure for Quality of Sleep

| Quality of sleep | Score |
|-------------------------|--------------|
| Good quality of sleep | 0 – 30 |
| Fair quality of sleep | 31 – 60 |
| Poor quality of sleep | 61 – 90 |

Item No.9, 14,21,25,26 had reverse scoring.

Validity and Reliability of the Tool

Validity of the tool was obtained on the basis of opinion of medical expert one in the field of Psychiatrist, one clinical Psychologist and three Nursing experts in the field of mental health nursing. The tool was found appropriate. The tool was translated into Tamil.

The reliability of the tool checked by split Half Method and obtained r^1 value=0.9 showed that the tool reliable.

Pilot Study

The pilot study was conducted in blind children schools namely School For Blind Manakadu (Experimental group) and School for Blind Maravaneri, (Control group) which were randomly selected.

The pilot study was conducted from 07.06.2010 to 13.06.2010. A sample of 8 children, 4 in experimental group and 4 in control group were selected by simple random sampling technique. Pre-test was conducted on 07.06.2010 to assess the quality of sleep with the help of structured interview schedule. Aroma therapy was implemented from 08.06.2010 to 12.06.2010. Administration of lavender oil (2 drops) 3-5 minute intermittently through inhalation method. Post-test was conducted on 13.06.2010 for the same group with same tool. During pilot study the investigator found that samples were interested to express their problems, worries and future life. The children were very cooperative and interested.

The findings of pilot study revealed that it was feasible to conduct the study.

Method of data collection

Ethical consideration:

Written permission was obtained from the authority of the selected schools. Informed oral consent was obtained from blind children who are willing to participate in this study.

Data collection procedure:

The data was collected between 5.07.2010 to 31.07.2010. Randomly 2 schools were selected for this study. They are,

1. Government school for Blind, Shevepet, Salem (Experimental group)
2. National Association School for Blind, Ayothiyapattinam, Salem.(Control group)

In control group, the investigator selected a list of 30 children who fulfilled the sampling criteria from the total of 70 children by using simple random sampling technique. Similarly in experimental group the investigator selected a list of 30 children who fulfilled the sampling criteria from the total of 90 children by using

simple random sampling technique. Pre-test was conducted from 05.07.2010 to 06.07.2010 to assess the quality of sleep with the help of interview schedule which has a four point rating scale. A cotton ball instilled with 2 drops of lavender oil was given to the children for inhalation for duration of 3-5 minutes intermittently daily evening time. The post-test was conducted to both experimental and control group on 30.07.2010 to 31.07.2010.

Plan for Data Analysis

The data analysis will be done by using descriptive and inferential statistics,

Section-A: Distribution of the samples according to the demographic variables in experimental and control group.

Section-B: a) Distribution of the samples according to the quality of sleep in before intervention.

b) Distribution of the samples according to the quality of sleep in after intervention.

Section-C: a) Comparison of pretest and posttest quality of sleep among blind children in experimental and control group.

b) Comparison of quality of sleep among blind children in experimental and control group after aroma therapy.

Section-D: Testing hypotheses

a) Effectiveness of aroma therapy on quality of sleep among blind children in experimental and control group.

b) Association between the quality of sleep and their demographic variables in experimental and control group.

Summary

This chapter consists of research approach, research design, population, description of the setting, sampling, variables, description of the tools, validity and reliability, pilot study, method of data collection, and plan for data analysis.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Research data must be processed and analyzed in an orderly fashion so that patterns and relationship can be discerned and validated, and hypotheses can be tested. Quantitative data analyzed through statistical analysis includes simple procedures as well as complex and sophisticated methods. (Polit , 2004)

This chapter deals with the analysis and interpretation of the data collected from the blind children in selected schools. This chapter also represents the findings of the study. The data collected from the subjects were tabulated, analyzed and preserved in the tables and interpreted under the following sections based on the objectives and hypotheses of the study.

PRESENTATION OF DATA

This chapter is divided into four sections,

- Section-A:** Distribution of the samples according to the demographic variables in experimental and control group.
- Section-B:** Distribution of the samples according to the quality of sleep in before intervention.
- Section-C:** Comparison of quality of sleep among blind children in experimental and control group after aroma therapy.
- Section-D:** Testing hypotheses
 - a) Effectiveness of aroma therapy on quality of sleep among blind children in experimental and control group.
 - b) Association between the quality of sleep and their demographic variables in experimental and control group.

Section-A

Distribution of the Samples According to the Demographic Variables in Experimental and Control group

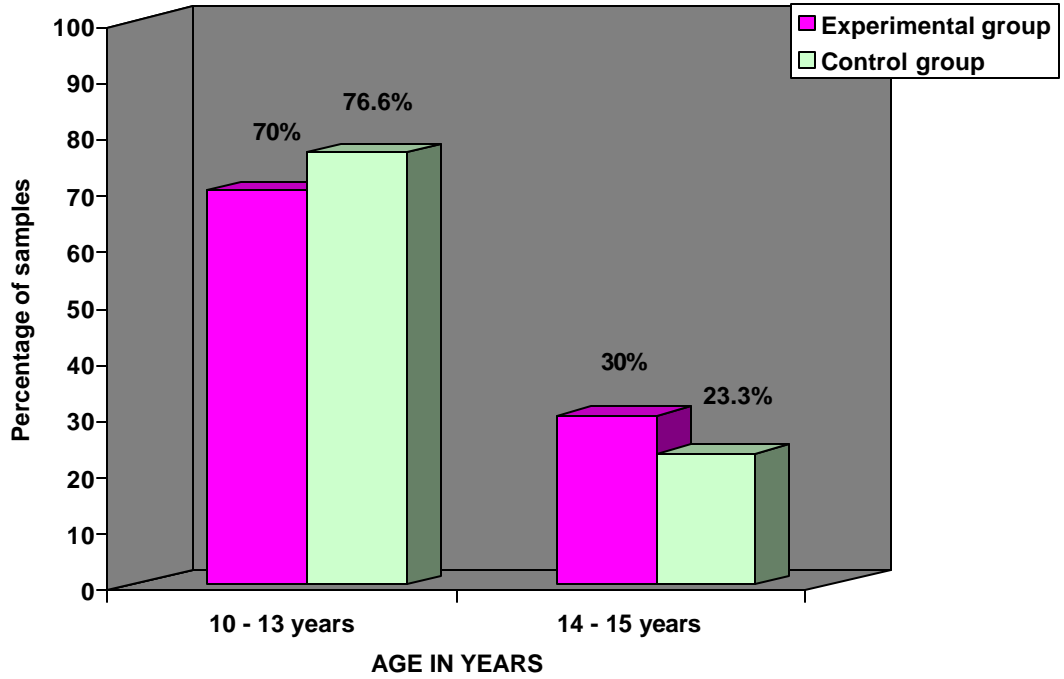


Fig-4.1: Distribution of samples according to their age.

The above figure shows in experimental group 21(70%) belong to 10-13 years of age, 9(30%) of them belong to 14-15 years of age. In control group 23(76.6%) belong to 10-13 years of age, 7(23.3%) of them belong to 14-15 years of age.

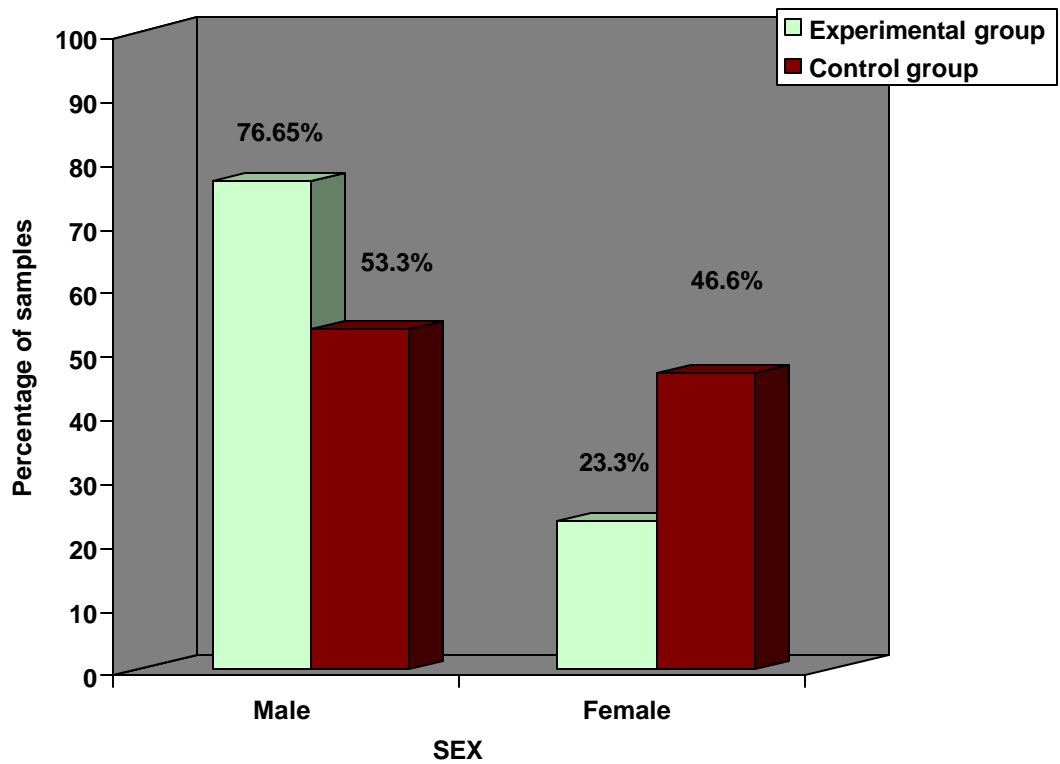


Fig-4.2: Distribution of samples according to their sex

The above figure shows that in experimental group 23(76.6%) were male and 7(23.3%) were female. In control group 16(53.3%) were male and 14(46.6%) were female.

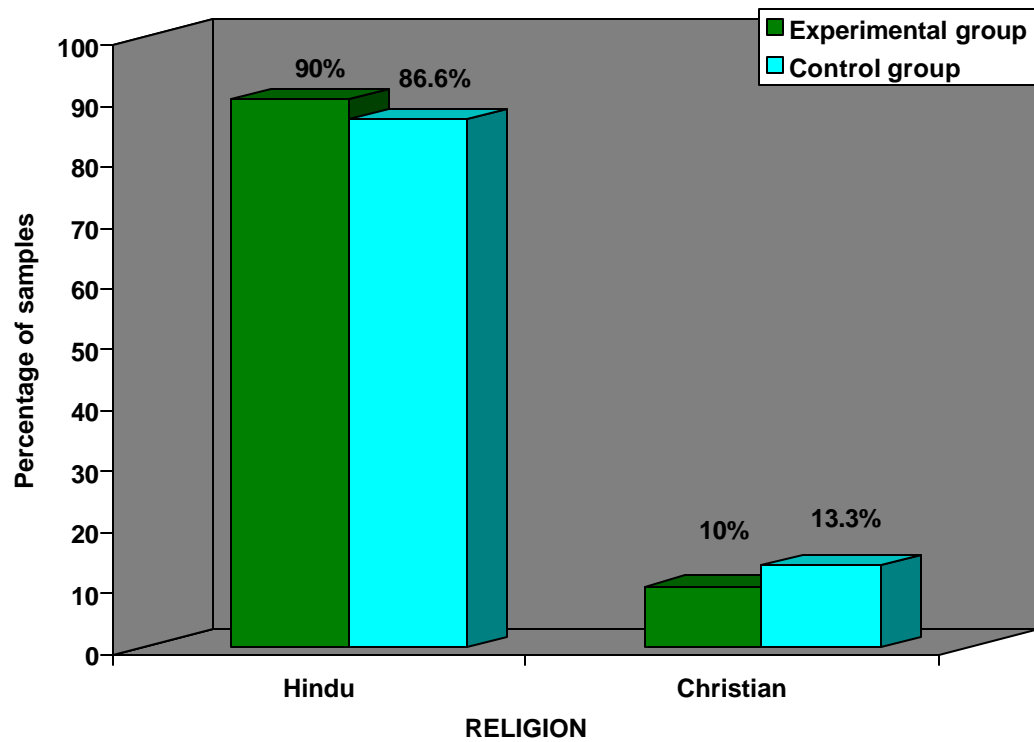


Fig-4.3: Distribution of samples according to their religion.

The above figure shows in experimental group 27(90%) were Hindus, and 3(10%) were Christian. In control group 26(86.6%) were Hindus and 4(13.3%) were Christian.

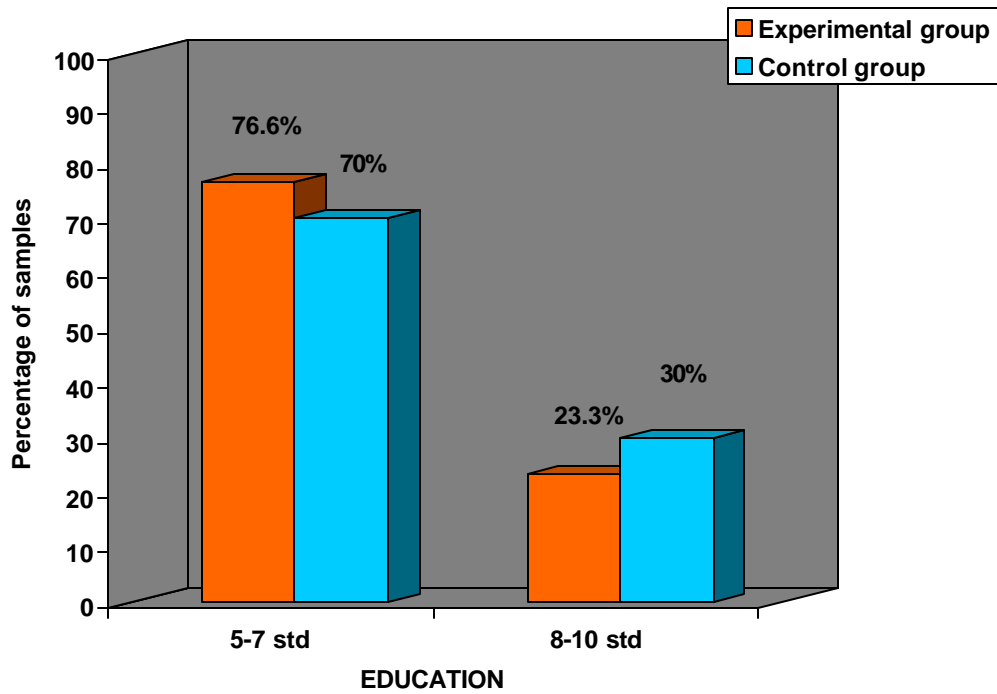


Fig -4.4: Distribution of samples according to their education

The above figure shows in experimental group 23(76.6%) were studying 5th – 7th standard, and 7(23.3%) were studying 8th – 10th standard. In control group 21(70%) were studying 5th-7th standard and 9(30%) were studying 8th – 10th standard.

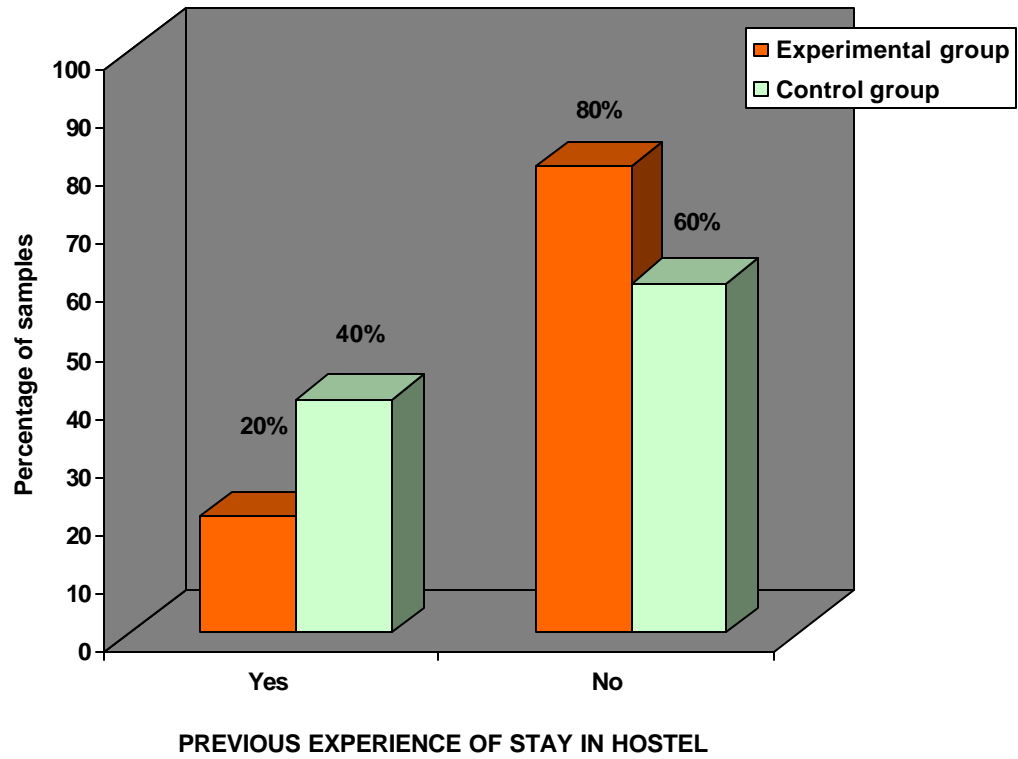


Fig -4.5: Distribution of samples according to their previous experience of stay in hostel

The above figure shows in experimental group 24(80%) of them not having previous experience of stay in hostel and 6(20%) of them having previous experience of stay in hostel. In control group 18(60%) of them not having previous experience of stay in hostel and 12(40%) of them having previous experience of stay in hostel.

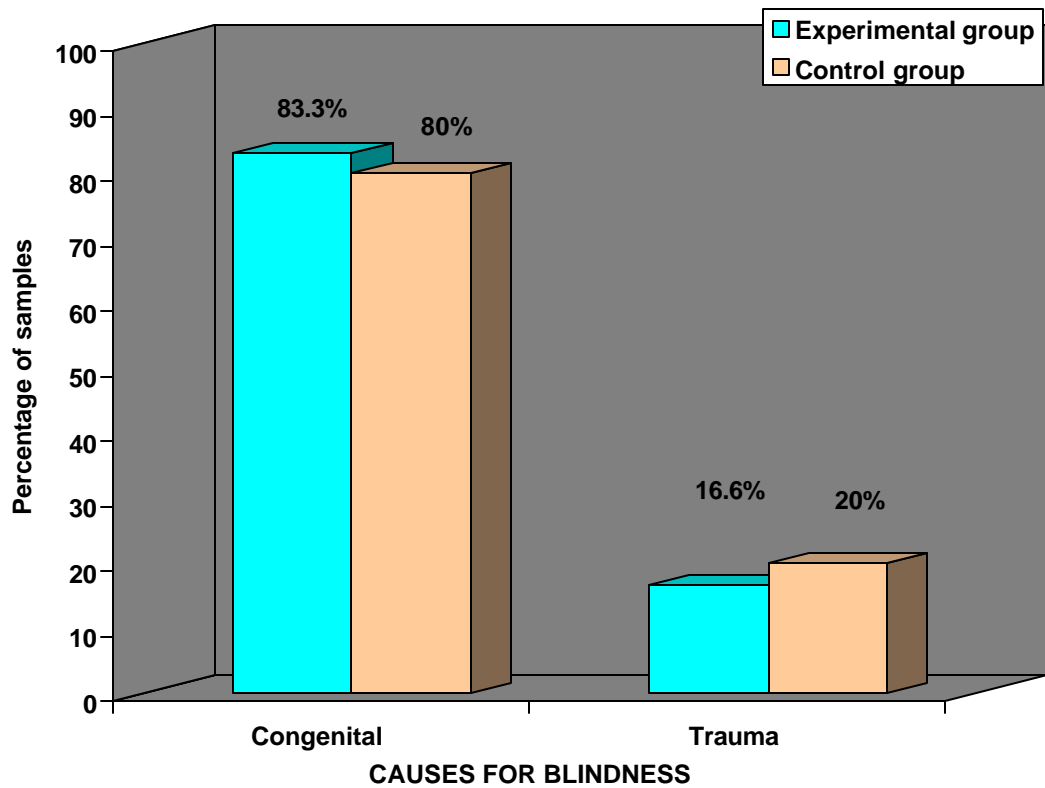


Fig-4.6: Distribution of samples according to their causes of blindness

The above figure shows in experimental group 25(83.3%) of the samples causes for blindness are congenital and 5(16.6%) of the samples causes for blindness are trauma. In control group 24(80%) of the samples causes for blindness are congenital and 6(20%) of the samples causes for blindness are trauma.

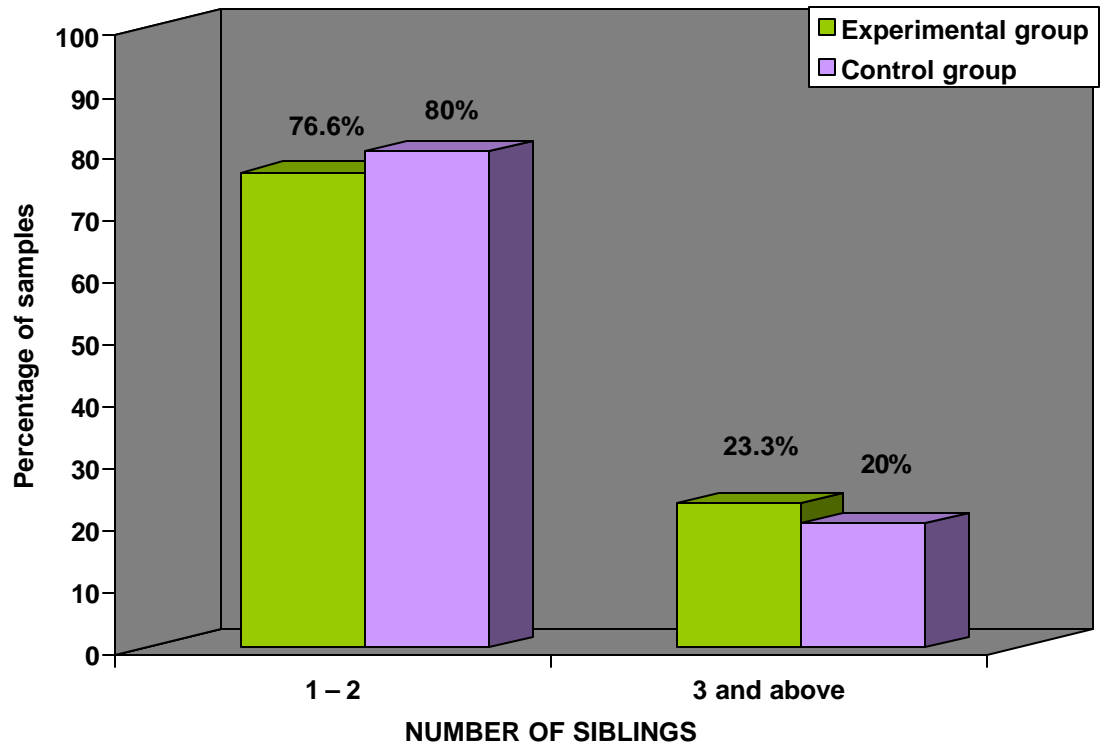


Fig-4.7: Distribution of samples according to their number of siblings

The above figure shows in experimental group 23(76.6%) of them have 1-2 siblings and 7(23.3%) of them have 3 and above siblings. In control group 24(80%) of them have 1-2 siblings and 6(20%) of them have 3 and above siblings.

Section – B

Distribution of Samples According to the Quality of Sleep in Before & After intervention

Table-4.1:

a) Frequency and percentage distribution of samples according to the quality of sleep in experimental and control group before intervention.

| S. No | Quality of sleep | Experimental Group (n=30) | | Control Group (n=30) | |
|-------|------------------|------------------------------|------|-------------------------|------|
| | | f | % | f | % |
| 1 | Good | 5 | 16.6 | 7 | 23.3 |
| 2 | Fair | 11 | 36.6 | 12 | 40 |
| 3 | Poor | 14 | 46.6 | 11 | 36.6 |

During pre-test, in experimental group 5(16.6%) of them had good quality of sleep, 11(36.6%) of them had fair quality of sleep and 14(46.6%) of them had poor quality of sleep.

In control group among 30 children 7(23.3%) of them had good quality of sleep, 12(40%) had fair quality of sleep and 11(36.6%) of them had poor quality of sleep.

Table-4.2:

b) Frequency and percentage distribution of samples according to the quality of sleep in experimental and control group after intervention.

| S. No | Quality of sleep | Experimental Group (n=30) | | Control Group (n=30) | |
|-------|------------------|------------------------------|----|-------------------------|------|
| | | f | % | f | % |
| 1 | Good | 12 | 40 | 5 | 16.6 |
| 2 | Fair | 15 | 50 | 13 | 43.3 |
| 3 | Poor | 3 | 10 | 12 | 40 |

During post-test, in experimental group 12(40%) of them had good quality of sleep, 15(50%) of them had fair quality of sleep and 3(10%) of them had poor quality of sleep.

In control group among 30 children 5(16.6%) of them had good quality of sleep, 13(43.3%) had fair quality of sleep and 12(40%) of them had poor quality of sleep.

Section – C

a) Comparison of pre-test and post-test quality of sleep among blind children in experimental and control group.

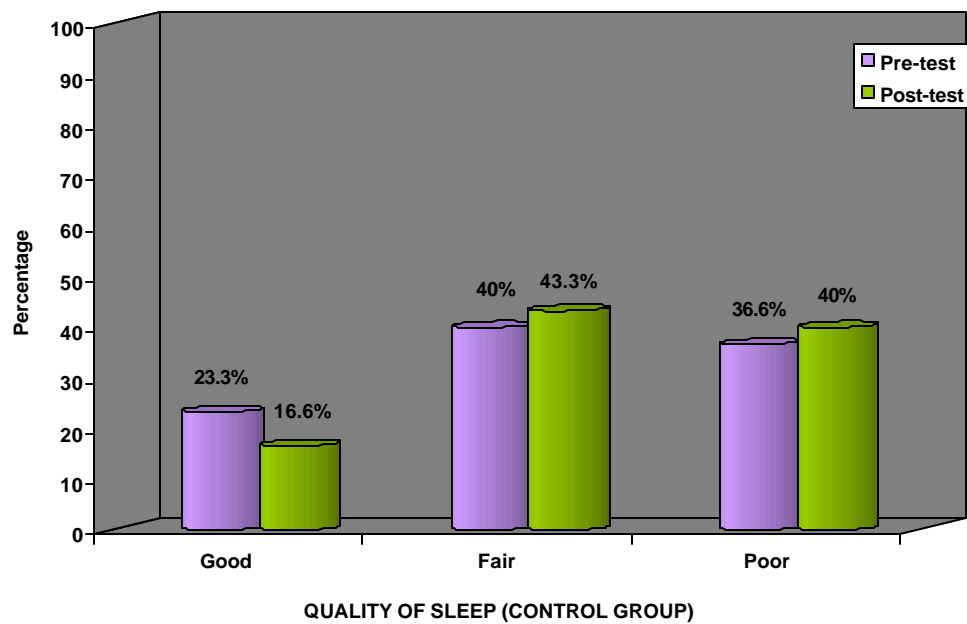
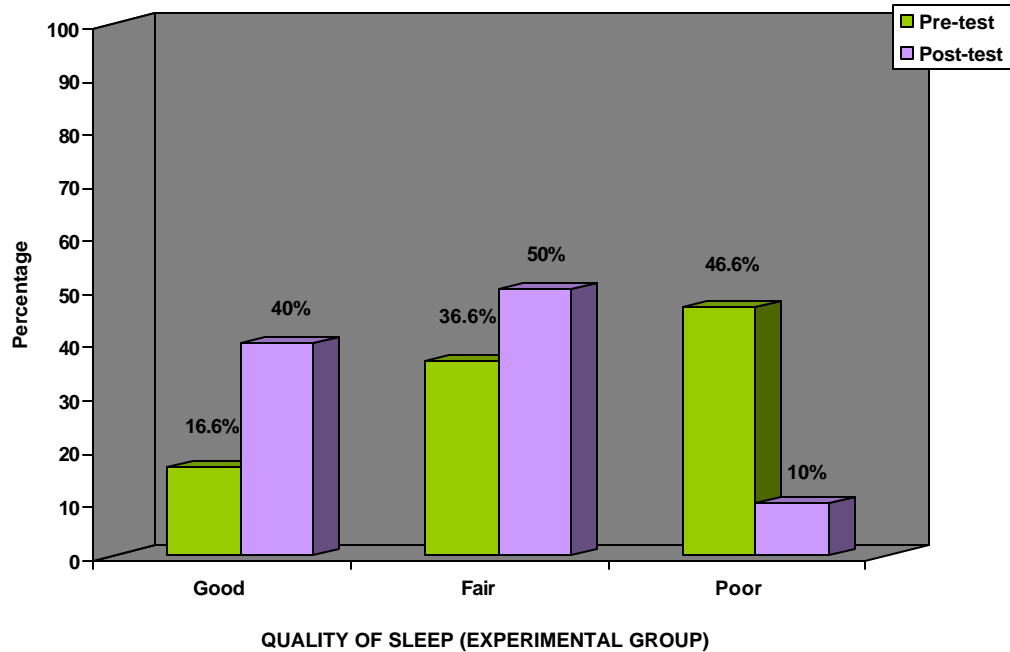


Fig-4.8: Percentage distribution of samples on pre-test and post-test quality of sleep among experimental and control group

The above figure shows in experimental group among 30 children in pretest, 5(16.6%) of them had good quality of sleep, 11(36.6%) of them had fair quality of sleep and 14(46.6%) of them had poor quality of sleep. In posttest 12(40%) of them had good quality of sleep, 15(50%) of them had fair quality of sleep and 3(10%) of them had poor quality of sleep.

In control group among 30 children in pretest 7(23.3%) of them had good quality of sleep, 12(40%) had fair quality of sleep and 11(36.6%) of them had poor quality of sleep. In posttest 5(16.6%) of them had good quality of sleep, 13(43.3%) had fair quality of sleep and 12(40%) of them had poor quality of sleep.

Comparison of Quality of Sleep Among Blind Children in Experimental and Control Group after Aroma Therapy

Table-4.3:

b) Comparison of mean, standard deviation, mean percentage and Mean difference value of samples on quality of sleep in experimental and control group.

n=60

| S. No | Groups | Mean | Standard deviation | Mean percentage | Mean difference |
|--------------|---------------|-------------|---------------------------|------------------------|------------------------|
| 1 | Experimental | 31.13 | 12.82 | 34.58 | 17.19 |
| 2 | Control | 46.6 | 15.75 | 51.78 | |

In experimental group mean was 31.13 ± 12.82 , whereas in control group, mean was 46.6 ± 15.75 . The mean difference score in experimental and control group was 17.19. It revealing that aroma therapy is effective to improve the quality of sleep in experimental group.

Section-D

Testing hypotheses

a). Effectiveness of Aroma Therapy on Quality of Sleep Among Blind Children in Experimental and Control Group.

Table-4.4:

Comparison of mean, standard deviation and independent 't' test value on quality of sleep among blind children in experimental and control group after intervention.

n=60

| S. No | Groups | Mean | Standard deviation | 't' value |
|-------|--------------|-------|--------------------|-----------|
| 1 | Experimental | 31.13 | 12.82 | 4.368* |
| 2 | Control | 46.6 | 15.75 | |

* significant at $p < 0.05$ level

In experimental group, mean score was 31.13 ± 12.82 , whereas in control group, mean score was 46.6 ± 15.75 . There was a highly significant difference between quality of sleep among experimental group and control group after implementation of aroma therapy ($t = 4.36$ and $p < 0.05$). Aromatherapy was effective to improve the quality of sleep. Hence, the research hypothesis H_1 retained.

b. Association between the quality of sleep and their demographic variables in experimental and control group

Table-4.5:

Chi-square test on quality of sleep and their demographic variables in experimental and control group

n=60

| S. No | Demographic variables | Experimental group | | | df | Chi-square | Table value | Control group | | | df | Chi-square | Table value |
|----------------|--|--------------------|------|------|----|------------|-------------|------------------|------|------|----|------------|-------------|
| | | Quality of sleep | | | | | | Quality of sleep | | | | | |
| | | Good | Fair | Poor | | | | Good | Fair | Poor | | | |
| 1 | Age in years | | | | | | | | | | | | |
| | a. 10 – 13 | 4 | 7 | 9 | 2 | 0.446 | 5.99 | 4 | 8 | 11 | 2 | 3.171 | 5.99 |
| b. 14-15 | 1 | 4 | 5 | 3 | | | | 3 | 1 | | | | |
| 2 | Sex | | | | | | | | | | | | |
| | a. Male | 5 | 7 | 11 | 2 | 2.591 | 5.99 | 5 | 6 | 6 | 2 | 0.885 | 5.99 |
| b. Female | - | 4 | 3 | 2 | | | | 6 | 5 | | | | |
| 3 | Religion | | | | | | | | | | | | |
| | a. Hindu | 4 | 10 | 13 | 6 | 0.691 | 12.8 | 6 | 11 | 9 | 6 | 1.261 | 12.8 |
| | b. Muslim | - | - | - | | | | - | - | - | | | |
| c. Christian | 1 | 1 | 1 | 0 | | | | 2 | 2 | | | | |
| 4 | Education | | | | | | | | | | | | |
| | a. 5-7 std | 5 | 6 | 12 | 2 | 5.147 | 5.99 | 4 | 8 | 10 | 2 | 1.315 | 5.99 |
| b. 8-10 std | - | 5 | 2 | 3 | | | | 2 | 3 | | | | |
| 5 | Previous experience of stay in hostel | | | | | | | | | | | | |
| | a. Yes | 1 | 3 | 2 | 2 | 0.647 | 5.99 | 2 | 4 | 3 | 2 | 0.677 | 5.99 |
| b. No | 4 | 8 | 12 | 5 | | | | 10 | 6 | | | | |
| 6 | Causes for blindness | | | | | | | | | | | | |
| | a. Congenital | 4 | 9 | 12 | 4 | 0.164 | 9.49 | 4 | 11 | 9 | 4 | 3.327 | 9.49 |
| b. Trauma | 1 | 2 | 2 | 3 | | | | 1 | 2 | | | | |
| 7 | Number of siblings | | | | | | | | | | | | |
| | a. Nil | - | 1 | 1 | 4 | 2.63 | 9.49 | - | - | - | 4 | 1.448 | 9.49 |
| | b. 1 – 2 | 3 | 9 | 9 | | | | 7 | 11 | 6 | | | |
| a. 3 and above | 2 | 1 | 4 | 1 | | | | 2 | 3 | | | | |

Table-4.5 reveals that, there is no significant association ($p < 0.05$) between the quality of sleep and demographic variables of blind children in experimental and control group. Hence the research hypothesis H_2 rejected.

Summary

This chapter dealt with data analysis and interpretation in the form of statistical value based on objectives, independent 't' test was used to evaluate the effectiveness of aroma therapy on quality of sleep. The chi-square test was used to find out the association between the quality of sleep with their demographic variables in experimental and control group.

CHAPTER V

DISCUSSION

This study was done to determine the effectiveness of Aromatherapy on quality of sleep among blind children in selected blind School, Salem.

The demographic profile in experimental group 21(70%) of the samples were between the age group of 10-15 years, and most of the samples were 23(76.6%) male, 27(90%) of the samples were Hindus. 23(76.66%) of the samples were studying 5-7 standard, 24(80%) were not having previous experience of stay in hostel, 25(83.3%) of the samples causes for blindness are congenital, 23(76.6%) of the samples have 1-2 siblings.

In control group 23(76.6%) of the samples were between the ages of 10-15 years and 16(53.3%) samples were male. Most of the samples 26(86.6%) were Hindus. 21(70%) of the samples were studying 5-7 standard, 18(60%) were not having previous experience of stay in hostel, 24(80%) of the samples causes for blindness are congenital, 24(80%) of the samples have 1-2 siblings.

The present study was supported by a study conducted by The American Foundation for the Blind, (2005) reported that blind children with the age group of 5 – 8 and 17-20 years had poor quality of sleep.

The first objective of the study was to assess the quality of sleep among blind children in experimental and control group.

As noted by table 4.2 represents, during pre test among 30 subjects 14(46.6%) of them had poor quality of sleep in experimental group. In control group out of 30 subjects 11 (36.6%) of them had poor quality of sleep. On the whole 25(41.6%) of the subjects had poor quality of sleep out of 60 subjects.

Both the groups were fairly comparable in respect to the quality of sleep. So it indicates that sleep disturbance is common in blind children and requires some relieving measures.

The second objective of the study was to determine the effectiveness of Aroma therapy on quality of sleep among blind children in experimental and control group

There is a highly significant difference between experimental group and control group computed through independent 't' test ($t=4.36$). So the first hypothesis of the study was retained. Mean score of the experimental group was 31.13, and mean score of the control group was 46.6. This score changes also represent the effectiveness of the intervention.

The present was supported by a study conducted by Cullan.T, (2007) stated that very young infants who received the lavender bath were relaxed, cried less and spend more time in sleep. Research shows the relaxing and sleep inducing properties is lavender aroma.

So Aroma therapy is one of the effective methods to improve the quality of sleep among blind children.

The third objective of the study was to associate the quality of sleep among blind children with their demographic variables in experimental and control group.

There is no significant association ($p < 0.05$) between the quality of sleep and demographic variables.

All the three objectives and one hypothesis (H_1) have been retained in this study.

Summary

This chapter dealt with the discussion of the study with reference to the objectives and related studies.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter consists of four sections. In the first two sections, the summary and the implications for nursing practice are presented. In the last two sections, the recommendations for further research and conclusions are presented.

Summary of the Study

The purpose of this study was to determine the effectiveness of Aromatherapy on quality of sleep among blind children in selected school. A true experimental pre test post test design was chosen for the study. The technique adopted for this study was simple random sampling technique by using lottery method.

The conceptual framework for the study was based on health belief model. Demographic information, the quality of sleep was assessed using a structured interview schedule. The sample consisted of 60 blind children of selected school, Salem, TamilNadu.

The data were analysed using descriptive and inferential statistics. To test the hypothesis, independent 't' test and chi square were used to test the hypothesis. The P? 0.05 level of significance was used to test the hypothesis.

The Major Findings are Summarized as follows,

- ? The demographic profile in experimental group 21(70%) of the samples were between the age group of 10-15 years, and most of the samples were 23(76.6%) male, 27(90%) of the samples were Hindus. 23(76.66%) of the samples were studying 5-7 standard, 24(80%) were not having previous experience of stay in hostel, 25(83.3%) of the samples causes for blindness are congenital, 23(76.6%) of the samples have 1-2 siblings.

- ? In control group 23(76.6%) of the samples were between the ages of 10-15 years and 16(53.3%) samples were male. Most of the samples 26(86.6%) were Hindus. 21(70%) of the samples were studying 5-7 standard, 18(60%) were not having previous experience of stay in hostel, 24(80%) of the samples causes for blindness are congenital, 24(80%) of the samples have 1-2 siblings.
- ? In experimental group among 30 children in pretest, 5(16.6%) of them had good quality of sleep, 11(36.6%) of them had fair quality of sleep and 14(46.6%) of them had poor quality of sleep. In posttest 12(40%) of them had good quality of sleep, 15(50%) of them had fair quality of sleep and 3(10%) of them had poor quality of sleep.
- ? In control group among 30 children in pretest 7(23.3%) of them had good quality of sleep, 12(40%) had fair quality of sleep and 11(36.6%) of them had poor quality of sleep. In posttest 5(16.6%) of them had good quality of sleep, 13(43.3%) had fair quality of sleep and 12(40%) of them had poor quality of sleep.
- ? The experimental group mean score was 31.13 ± 12.82 , whereas in control group, mean score was 46.6 ± 15.75 . The calculated 't' value (4.368 at $P < 0.05$ level) shows that aromatherapy was effective to improve the quality of sleep. Hence the hypotheses H_1 retained.
- ? There is no significant association between the quality of sleep among blind children in experimental and control group. Hence the hypotheses H_2 rejected.

Conclusion

The quality of sleep among blind children was poor. They require some interventions to improve the quality of sleep. The findings of the study reveals that there is no significant association between demographic variables and quality of sleep

among blind children in experimental and control group. The post test 't' value in experimental and control group was 4.368, which was higher than the table value at $p < 0.05$. Which shows that quality of sleep improved after aroma therapy among blind children. It was an effective intervention to improve the quality of sleep of blind children

Implications

There are several important implications for nursing practice.

Nursing service :

- ✍ Aroma therapy can be introduced as a stimulating mode of intervention by the nurses, for improving the quality of sleep of the patients.
- ✍ The nurses in the hospital setup also can arrange Aromatherapy sessions for the patients.
- ✍ The nurses working in service side to be taught to implement Aromatherapy to improve the quality of sleep.

Nursing education:

- ✍ It is important to have educational programme on Aromatherapy for all nursing students.
- ✍ Staff development programme need to be arranged regarding the effectiveness of aroma therapy.

Nursing administration:

- ✍ The nurse administrator co-ordinates her work along with the curative aspect of a care among blind children by practicing and supervising Aromatherapy.
- ✍ Nursing administrator should organize in service education programme regarding Aromatherapy for staff nurses.

Nursing research:

- ✍ Nursing research to be done to find out the various innovative methods to improve the quality of sleep.

- ✍ Research can be conducted on various populations at various settings.

Recommendations

Recommendations for further research include:

- ✍ A similar study can be conducted with only a male group or only a female group to find out the difference in effectiveness of the Aromatherapy.
- ✍ A similar study can be conducted to determine the effectiveness of Aromatherapy on a one- to- one basis among blind children.
- ✍ A study can be conducted to determine the effectiveness of Aromatherapy individually and in combination with other complementary therapies.
- ✍ A similar study can be conducted to determine the cost effectiveness of Aromatherapy for improve the quality of sleep.
- ✍ A study can be conducted with large sample size to generalize the results of the study.

Summary

This chapter dealt with summary, conclusion, implications for nursing practice and recommendations.

BIBLIOGRAPHY

Books

- ? Anand Rao.V, (2001). *Text book of disease of the eye.* (2nd ed.,) Madras, All India Medical Publishers.
- ? Bhaskar Rao, (2004). *Methods of biostatistics.* (2nd ed.,) Hydrabad, Paras Publishing
- ? Chun-su-yan, (2006). *Complementary and alternative medicine.* (2nd ed.,) UK, Informa health care.
- ? Daniel. J, Buysse, (2005). *Review of sleep and psychiatry.* (1st ed.,) Washington, American Psychiatry Publications.
- ? Donald. W.N., (2000). *Complementary and alternative medicine.* Missouri, Mosby Company.
- ? Hagerman, (1996). *Primary care of the child with visual impairment.* (8th ed.,) Philadelphia, W.B.Saunders Company.
- ? Henry Kellerman, (1986). *Text book of sleep disorder.* New York, Mazel Publishers.
- ? Jogi. R, (2004). *Basic ophthalmology.* (3rd ed.,). New Delhi, Jaypee Brothers Medical Publishers.
- ? Kaplon and Shaddocks, (2003). *Synopsis of psychiatry.* (9th ed.,). Philadelphia, Lippincott.
- ? Khurana. A.K., *Comprehensive ophthalmology.* (4th ed.,). New Delhi. New Age International Private Ltd..
- ? Kryger.M.H, (2005). *Principles and practice of sleep medicine.* (4th ed.,). Philadelphia, William Publications.

- ? Luckman and Sorenson's, (2001). *Medical and Surgical Nursing*. (4th ed.). Philadelphia, Mosby Publication.
- ? Mahajan, B.K., (1989). *Methods in Biostatistics*, New Delhi, Jaypee Brothers Co.
- ? Marlow, *Text book of pediatric nursing*. (6th ed.). Philadelphia, Elsevier Publications.
- ? Townsend.C Mary., (2005). *Psychiatric nursing contemporary practice*. (3rd ed.). Philadelphia, Lippincott.
- ? Nair. V.R., *Textbook of Medical and Surgical Nursing*. (1st ed.). New Delhi, Jaypee Brothers Medical Publishers.
- ? Perry.P., (2007). *Basic Nursing essentials for practice*. 6th ed., Missouri, Mosby Publishers.
- ? Polit and Hungler,(1997). *Essentials of Nursing research methods appraisal and utilization*, (4th ed.). Philadelphia, Lippincott Publications.
- ? Wetzel, M., (2003). *Complementary and alternative medical therapies, implications for medical education*. Hongkong, BMC. Med. Education.

Journals

- ? A case study, (2010). *The nurse international*. 2(2): 7-9, 19-22.
- ? A case study. (2010). *The journal of nursing trendz*. 1(1).
- ? Buckle, (2001). "The role of aromatherapy in nursing care". *Nursing Clinics North America*. 14: 57-72.
- ? Buckley. J, (2002). "Massage and aromatherapy massage: nursing art and science", *International Journal of palliative nursing*, 8(6): 276-280.
- ? Ebersole.R, (2008). "Relationship between sleep and blind", *Journal of sleep and sleep disorder research* . 31(8): 170.

- ? Foster, et.al, (2000). "The strategies among blind children". *British Journal of Nursing*. 2(8): 105-111.
- ? Hanibernia. S, (2008). *Effects of aroma therapy in pain* . 4(2): 25-27.
- ? Lannorman, (2008). "Sleep and sleep disturbance in visual impairment". *International Journal of Nursing Studies*. 45(13): 153.
- ? Mc.Caffray.M, (2008). "Aroma and sleep outline". *Nursing Time*. 26(1): 41-46.
- ? Pavithran.M, (2008). *Complementary medicine and alterative therapies*. 3-7.
- ? Thompson, (2009), "Focus on blind children and their problems", *Nursing times*, 5(5):31.
- ? Wendy Maddocks, et.al., (2004), "Aroma therapy practice in nursing, literature review", *Journal of Advance nursing*. 48(1): 93-103.
- ? Wmbriet, (2000). "Healing Touch". *AACN Clinical issues*. 2: 105.

Net References

- ? Vander Watt, G., and Janca, A., (2008). Aroma therapy in nursing and mental health care, contemporary nurse, retrieved from August 2010, <http://www.aromacures.htm>
- ? Ericksen, (2000). Healing with aroma therapy from July 2010, <http://www.thelavenercat.com/index.html>
- ? Woelk.H, Schlaike. S, (2010). Study of the lavender oil preparation silexan in comparison to lorazepam for GAD, retrieved from March, 2010 <http://www.publish.csiro.au.act>
- ? Prashar. A, (2004). Lavender oil and its major components to human skin cells, retrieved from July 2010, <http://www.Neng/jmed>.
- ? Zisapel.N, (2007). Sleep and sleep disturbances retrieved from June, 2010 retrieved from <http://en.wiki.org/sleep>

- ? Jenni, et.al., (2007) sleep duration from ages 1 to 10 years retrieved from August 2010 www.medicinenet.com/sleep/article.htm.
- ? Ballard, C.G., (2001). Aromatherapy as a safe and effective treatment retrieved from September 2010. <http://pubmedcentral.nih.gov/lavender>.
- ? Carson.C.F., Hammer.K.A., (2006). The power of smell retrieved from September 2010, <http://enwiki/aromatherapy>.

ANNEXURE - A

LETTER REQUESTING PERMISSION TO
CONDUCT A RESEARCH STUDY



SRI GOKULAM COLLEGE OF NURSING

3/836, Periyakalam, Neikkarapatti, Salem - 636 010.

Phone : 0427 - 6544550 Fax : 0427 - 2270200, 2447077

Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date :
03-07-2010

To
The Head master,
Tamilnadu Association For Blind,
BTR nagar
Atur main road, Ayothiapattanam,
Salem.

Respected Sir/Madam,

Sub: Permission to conduct a Research Study request reg.

This is to introduce Ms.B.Nalini (M.Sc.Nursing) student of our college. She is to conduct Research project which is to be submitted to the Tamilnadu Dr.M.G.R.Medical University,Chennai in partial fulfillment of University requirement for the award of M.Sc.(Nursing)Degree.

Topic: A Study to Evaluate The Effectiveness of Aroma Therapy on Quality of Sleep Among Blind Children in Selected schools ,Salem.

I request you to kindly permit her to conduct the study in your esteemed Institution from 05.07.10.to 31.07.10. She will adhere to the Institutional policies and regulations.

Thanking you.

Yours Sincerely,

(Prof. A. Jayasudha)

PRINCIPAL
Sri Gokulam College of Nursing
3/836, Periakalam, Neikkarapatti
SALEM - 636 010

**LETTER REQUESTING PERMISSION TO
CONDUCT A RESEARCH STUDY**



SRI GOKULAM COLLEGE OF NURSING

3/836, Periyakalam, Neikkarapatti, Salem - 636 010.

Phone : 0427 - 6544550 Fax : 0427 - 2270200, 2447077

Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date :

03-07-2010

To

The Head master,
Government school for Blind,
shevapet,
Salem.

Respected Sir/Madam,

Sub: Permission to conduct a Research Study request reg.

This is to introduce Ms.B.Nalini (M.Sc.Nursing) student of our college. She is to conduct Research project which is to be submitted to the Tamilnadu Dr.M.G.R.Medical University,Chennai in partial fulfillment of University requirement for the award of M.Sc.(Nursing)Degree.

Topic: A Study to Evaluate The Effectiveness of Aroma Therapy on Quality of Sleep Among Blind Children in Selected schools ,Salem.

I request you to kindly permit her to conduct the study in your esteemed Institution from 05.07.10.to 31.07.10. She will adhere to the Institutional policies and regulations.

Thanking you.

Yours Sincerely,

(Prof. A. Jayasudha)

PRINCIPAL
Sri Gokulam College of Nursing
3/836, Periakalam, Neikkarapatti
SALEM - 636 010

ANNEXURE - B
TOOL FOR DATA COLLECTION

The tool is prepared by the investigator after an extensive study of the related literature and with the guidance of experts.

Section-A: Demographic data,

Section-B: Modified Pittsburgh quality of sleep index scale.

SECTION-A

DEMOGRAPHIC DATA

INSTRUCTIONS:

The investigator will readout the mentioned below items to the respondents and place the tick mark (✓) against the response given by the respondents.

1. Age in years
 - a) 10-13
 - b) 14-15
2. Sex
 - a) Male
 - b) Female
3. Religion
 - a) Hindu
 - b) Muslim
 - c) Christian
 - d) Others
4. Education
 - a) 5th -7th std
 - b) 8th - 10th std
5. Previous experience of stay in hostel
 - a) Yes
 - b) No

If yes, duration of stay _____

6. Cause for blindness

- a) Congenital
- b) Trauma
- c) Disease
- d) Any other specify _____

7. Number of siblings

- a) Nil
- b) 1 – 2
- c) 3 and above

SECTION-B

STRUCTURED INTERVIEW SCHEDULE TO ASSESS THE QUALITY OF SLEEP IN BLIND CHILDREN

(MODIFIED PITTSBURGH QUALITY OF SLEEP INDEX SCALE)

INSTRUCTIONS:

The investigator will ask the questions listed below and place the tick mark (v) against the response given by the respondents.

| S.No | Items | Never (0) | Occasio nally (1) | Frequently (2) | Always (3) |
|-----------|--|--------------|-------------------------|-------------------|---------------|
| A. | SUBJECTIVE SLEEP QUALITY | | | | |
| 1 | Do you have satisfaction with your sleep? | | | | |
| 2 | Do you have difficulty in initiating the sleep? | | | | |
| 3 | Do you have difficulty in maintaining the sleep? | | | | |
| B. | SLEEP LATENCY | | | | |
| 4 | Do you awake during the sleep? | | | | |
| 5 | How often do you awake at night? | | | | |
| C. | SLEEP DURATION | | | | |
| 6 | Do you fall asleep within 30 minutes after retiring to bed? | | | | |
| D. | HABITUAL SLEEP EFFICIENCY | | | | |
| 7 | Do you get up to urinate at night? | | | | |
| 8 | Do you have the habit of wake up in the early morning? | | | | |
| 9 | Do you have the habit of pray before going to the bed? | | | | |
| 10 | Do you have the habit of taking warm milk before going to the bed? | | | | |

| | | | | | |
|----------|---|--|--|--|--|
| 11 | Do you have the habit of recalling the day time activities before going to the bed? | | | | |
| 12 | Do you have the habit of wake-up in the mid night? | | | | |
| 13 | Do you have the habit of drinking water during night? | | | | |
| E | SLEEP DISTURBANCE | | | | |
| 14 | Do you feel that you are alone? | | | | |
| 15 | Do you have noise disturbance during the night time? | | | | |
| 16 | Do you walk during the night time? | | | | |
| 17 | Do you have cough at night? | | | | |
| 18 | Do you have headache at night? | | | | |
| 19 | Do you have bodyache during the sleep? | | | | |
| 20 | Do you have tension? | | | | |
| 21 | Do you remember your parents before you go to the bed? | | | | |
| 22 | Do you have worries about future? | | | | |
| 23 | Do you have crawly feelings during the sleep? | | | | |
| 24 | Do you kick or twitch your legs when you sleep? | | | | |
| 25 | Do you feel that you are deprived from society ? | | | | |
| 26 | Do you have adequate facilities for sleeping? | | | | |
| 27 | Do you have nightmares during the sleep? | | | | |
| F | DAY TIME DYSFUNCTION | | | | |
| 28 | Do you have daytime sleep? | | | | |
| 29 | Do you have sensation of burning eyes during day time? | | | | |
| 30 | Do you feel tired during day time? | | | | |

SCORING:

| | |
|-----------------------|---------|
| Good quality of sleep | 0 – 30 |
| Fair quality of sleep | 31 – 60 |
| Poor quality of sleep | 61 – 90 |

AROMA THERAPY

| | | |
|--------------------------|---|-------------------------|
| Type of Oil | : | Lavender Oil |
| Frequency | : | Daily once before sleep |
| Duration of inhalation : | | 3 - 5 minutes |
| Duration of therapy | : | 3 weeks |

STEPS IN PROCEDURE

1. Take a cotton swab and put 2 drops of lavender oil.
2. Inform the participants to inhale the smell for 3 - 5 minutes intermittently.

USES OF LAVENDER OIL

1. Lavender oil has a calming effect.
2. Lavender oil is also used for treating insomnia, as it has been found that this essential oil can stimulate sleep in people with complaints of insomnia.
3. Lavender oil its use as an antiseptic.
4. Lavender oil is also useful for treating head lice.

gphT - m

j d p e g h ; g w w p a m b g g i l t p t u q f s ;

g q F n g W g t h f S f f h d e p e j i d f s ;

f N o n f h L f ; f g g l ; L s s t p d h f ; f s ; m i d j ; J k ; M u h a r r p a h s u h y ; g q F
n g W N t h h p l k ; N f l ; f g g l ; L r h p a h d , l j j p y ; F w p a l b i d (e) n r a a T k ;

1. t a J

m. 10 - 13 t U l q f s ;

M. 14 - 15 t U l q f s ;

2. g h y p d k ;

m. M z ;

M. n g z ;

3. k j k ;

m. , e J

M. ,] y h k p a h ;

, . f p w p] ; J t h ;

< . k w w i t (F w p g g p L f)

4. f y ; t g j F j p

m. 5 - 7 M k ; t F g G

M. 8 - 10 M k ; t F g G

5. t p L j p a p y ; j q f p a K d ; m D g t k ;

m. M k ;

M. , y i y

M k ; v d p y > v j j i d M z ; L f s ;

6. g h h i t , o g g w ; f h d f h u z k ;

m. g w t p a p y p U e ; J

M. t p g j ; J

, . N e h a ;

< . N t W V N j D k ;

7. c l d g w e j t h f s p d ; v z z p f i f

m. , y i y

M. 1 - 2

, . % d ; W k w W k ; m j w F N k y ;

gphT - M

ghh; tawwthfspd; J}ffj j di ki a fz ;l wAk; ti uaWf;fggl ;

Nehf;hz y;gbtk;

(j pUj j pai kf;fggl ; gpl ; ghf;d; J}ff; Fwpa;ll ;L msTNfhy)

gq;F ngWgthfS f;fhd epej i d fs;

fNo nfhLf;fggl ;Lss t;pdhffs;mi dj ;Jk;Muharrpahsuhy;gq;F
ngWNthhpl k;Nfl ;fggl ;L rhpahd , l j j py; Fwpa;ll bi d (s) nraaTk;

| t. vZ ; | t;pdhffs; | vgngghOj k; , yi y (0) | vgngghOj ht J (1) | mbf;fb eif ofpw (2) | vgngghOj k; (3) |
|---------|--|------------------------------|----------------------|---------------------------|--------------------|
| m. 1 | J}ff;j j pd;j di k eb;fs;cq;fs;J}ff;j j py;j pUgj p mi l f;wh;fsh? | | | | |
| 2 | cq;fs;J}ff;k;nj hl q;Fk;NghJ nj hej uT cssj h? | | | | |
| 3 | cq;fs;J}ff;j i j nj hl ht;j py; vgngghOj ht J r;ukk;cssj h? | | | | |
| 4 | eb;fs;J}ff;j j py;mbf;fb vOej pUggh;fsh? | | | | |
| M. 5 | J}ff;epi y j di k eb;fs;J}ff;j j pd;; i l apy; vOej pUggh;fsh? | | | | |
| 6 | gLfi ff;F nrdw 30 epkl j ;J f;Fs; eb;fs;J}q;f;rt;L t;h;fsh? | | | | |
| , 7 | J}ff;j j pd;gof;ft of;f nray;fs; J}ff;j j py;eb;fs;r;Weh; for;f; vOej pUggh;fsh? | | | | |
| 8 | mj p;hi yapy;vOej pUf;Fk;gof;fk; cssj h? | | | | |
| 9 | eb;fs;gLfi ff;F nry;Yk;Kd; | | | | |

| | | | | | |
|----|--|--|--|--|--|
| | fl Ti s tz qFk;goffk;cssj h? | | | | |
| 10 | gLfi ffF nry;Yk;Kd;cqfS fF ghy;mUe;Jk;goffk;cssj h? | | | | |
| 11 | ebqfs;gLfi ffF nry;Yk;Kd; md; i wa nrayfs;mi dj i j Ak; epi dTggLj ;Jk;goffk;cssj h? | | | | |
| 12 | cqfS fF eL , utpy;vOej pUfFk; goffk;cssj h? | | | | |
| 13 | J}ffj j pd; , i l apy; j z z h; mUe;Jk;goffk;cssj h? | | | | |
| <. | J}ffj j i l fs; | | | | |
| 14 | ebqfs;j dpi kapy; , Uggj hf cz h;fpwh;fsh? | | | | |
| 15 | , i urryhy; , uT nghOj py;cqfs; J}ffk;j i l ggLfwpj h? | | | | |
| 16 | J}ffj j py;ebqfs;el ggh;fsh? | | | | |
| 17 | J}ffj j pd;NghJ ebqfs; , UKGt;h;fsh? | | | | |
| 18 | , utpy;j i ytyp cqfS fF VwgLkh? | | | | |
| 19 | J}ffj j pd;NghJ cqfS fF cl y;typ cz ;l hFkh? | | | | |
| 20 | cqfS fF gj ww;cz ;l hFkh? | | | | |
| 21 | gLfi ffF nry;Yk;Kd;ebqfs; cqfs;ngwNwhi u epi dj ;J ghhgg;h;fsh? | | | | |
| 22 | vj ;h;fhyk;gwwpa ft i y cqfS fF cssj h? | | | | |
| 23 | J}ffj j py;ebqfs;cz hrrpawwi j Nghy;cz h;fpwh;fsh? | | | | |
| 24 | ebqfs;J}ffj j py;kwwth;fi s ci j ggh;fsh? | | | | |
| 25 | ebqfs;r%fj j py; , Ue;J | | | | |

| | | | | | |
|-----|--|--|--|--|--|
| | xJ f;fggl l j hf cz h;fpw;fsh? | | | | |
| 26 | J}q;F tj w;F NghJ khd trj ;fs; cq;fS f;F cssj h? | | | | |
| 27 | J};f;j j ;d;NghJ cq;fS f;F nfi l fdT VwgL;fpwj h? | | | | |
| c. | gfy;Neuj i l fs; | | | | |
| 28. | gfy;py;eb;fs;J}q;F t;h;fsh? | | | | |
| 29. | gfy;Neuj j ;py;fz ;vh;rry; VwgL;tj hf cz h;fpw;fsh? | | | | |
| 30. | gfy;Neuj j ;py;eb;fs;Nrhh;Twwj hf cz h;fpw;fsh? | | | | |

ANNEXURE - C

**LETTER REQUESTING OPINION AND SUGGESTIONS OF EXPERTS FOR
CONTENT VALIDITY OF THE RESEARCH TOOLS**

From

NALINI. B,
Final Year M.Sc., (N)
Sri Gokulam College of Nursing,
Salem, Tamil Nadu.

To,

Respected Sir/ Madam,

**Sub: Requesting opinion and suggestions of experts for establishing
content validity of the tools.**

I, **NALINI. B**, Final Year M.Sc., (Nursing) student of Sri Gokulam College of Nursing, Salem. I have selected the topic mentioned below for the research project to be submitted to The Tamil Nadu Dr. M.G.R. Medical University, Chennai for the partial fulfillment of Master's Degree in Nursing.

**Topic: "A study to evaluate the effectiveness of aroma therapy on quality
of sleep among blind children in selected blind schools, Salem".**

I wish to request you kindly validate the tool and give your expert opinion for necessary modification. I will be grateful to you for this.

Thanking you.

Yours sincerely,

Place : Salem

Date :

(NALINI.B)

Enclosed:

1. Tool for collection of data
2. Criteria checklist of evaluation of tool
3. Certificate of validation
4. Procedure

ANNEXURE - D

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by **NALINI. B**, Final year M.Sc. Nursing student of Sri Gokulam College of Nursing, Salem (affiliated to Dr.M.G.R. Medical University) is validated and can proceed with this tool and content for the main study entitled “**A study to evaluate the effectiveness of aroma therapy on quality of sleep among blind children in selected blind schools, Salem**”.

Signature with Date

ANNEXURE - E

LIST OF EXPERTS FOR VALIDITY

1. **Dr.G.Aravind, M.B.B.S, D.P.M,**
Psychiatrist
Government General Hospital
Namakkal.
2. **Mr.N.Jayaprakash, M.Phil**
Clinical Psychologist
Government general Hospital,
Namakkal.
3. **Mrs. Naga Nandhini, Msc(N)**
Associate Professor,
H.O.D. Department of Mental Health Nursing,
Vinayaka Mission Annapoorana College of Nursing,
Salem.
4. **Mrs. S. Vanitha, M.Sc(N),**
Associate Professor,
Sri Ramakrishna Institute of Paramedical Science,
Coimbatore.
5. **Mr. Selvaraj, M.Sc(N),,**
Assistant Professor,
HOD, Department of Psychiatric Nursing,
Shanmuga College of Nursing, Salem.

ANNEXURE – F

CERTIFICATE OF EDITING

TO WHOMSOEVER IT MAY CONCERN

Certified that the dissertation paper titled **“A Study To Evaluate The Effectiveness Of Aroma Therapy On Quality Of Sleep Among Blind Children In Selected Blind Schools , Salem”** by **Ms. NALINI.B.** It has been checked for accuracy and correctness of English language usage and that the language used in presenting the paper is lucid, unambiguous free of grammatical or spelling errors and apt for the purpose.


SIGNATURE

WINGS
ENGLISH ACADEMY
1,2,3, IInd Floor Ratha Complex,
Five Roads, SALEM-636 004

ANNEXURE – G
PHOTOS
(AROMATHERAPY)

