EFFECTIVENESS OF PRANAYAMA UPON DEPRESSION AMONG

OLD AGE PEOPLE

BY

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DECLARATION

I hereby declare that the present dissertation entitled **"Effectiveness of Pranayama upon Depression among Old Age People"** is the outcome of the original research work undertaken and carried out by me, under the guidance of **Dr. Latha Venkatesan, M.Sc (N), M.Phil, Ph.D,** Principal, Apollo College of Nursing, and **Prof. Vijayalakshmi. K, M.sc (N), M.A Psychology,** Head of the Department of Mental Health Nursing, Apollo College of Nursing, Chennai -95.

I also declare that the material of this has not found in any way, the basis for the award of any degree or diploma in this university or any other universities.

M.Sc (N) II Year

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SYNOPSIS

"A Quasi Experimental study was conducted to assess the Effectiveness of Pranayama upon Depression among Old Age People in the selected Old Age Homes, Chennai"

Objectives of the Study

1. To find out the prevalence of depression among the old age people in selected old age homes.

2. To assess the level of depression in control and experimental group of old age people.

3. To evaluate the effectiveness of Pranayama by comparing the level of depression in control and experimental group of old age people before and after administration of Pranayama.

4. To determine the level of satisfaction after Pranayama in experimental group of old age people.

5. To find out the association between demographic variables and the level of depression before and after Pranayama in control and experimental group of old age people.

6. To find out the association between clinical variables and the level of depression before and after Pranayama in control and experimental group of old age people.

The conceptual framework was derived from Comfort theory developed by Katharine Kolcaba (2007). The study variables were depression and Pranayama and

hypothesis were formulated. The level of significance selected was p<0.05. An extensive review of literature were made based on the opinions of the experts.

The study was conducted in two phases, survey and Quasi experimental approaches were used in phase I and phase II respectively. The sample size of the study was 125 for phase1 and 60 for the phase II. (30 in control and 30 were in experimental group) respectively. Simple random sampling technique, lottery was used to select the samples for phase II. Quasi experimental research design was adopted.

An experimental approach with pretest, post test design was used to achieve the objectives of the study. The study was conducted at S.V Old age home Arumbakkam Chennai (control) Anandham old age home Kallikuppam, Ambattur, Chennai, The sample size was 60 old age people (30 in each group).

The data collection was validated and reliability was established through split half technique. The researcher used validated tool for collecting data. Demographic variable proforma, Clinical variable proforma, Geriatric depression scale, and Rating scale on satisfaction of Pranayama were the various tools used by the researcher. The validity was obtained from various experts and reliability was obtained through inter rater evaluation and found to be highly reliable. The main study was conducted after the pilot study.

Initially level of depression (before therapy) was assessed for the control and experimental group of old age people. Pranayama was practiced among the experimental group of old age people. Pranayama refers to breathing exercise, breath retention and deliberate methods of inhalation and exhalation for mental and physical

benefits. This therapy enhances relaxation. This is done on daily basis for 33 minutes in morning before break fast for a period of six weeks. Techniques of Pranayama were demonstrated by the researcher. The level of depression, (after therapy) were assessed again for both the groups after 6 weeks. The level of satisfaction on Pranayama was assessed among the experimental group of old age people. The data obtained were analyzed using Descriptive and inferential statistics.

Major findings of the study were

> Prevalence of depression among the old age people residing in the selected old age home were normal (12%), mild depression (68%), severe depression (20%) and overall as 88% in the control and experimental group of old age people.

> Majority of the old age people in the control and experimental group were aged between 66-70 years (83.33%, 63.33%), had duration of stay between 2-3 years in the old age homes (80%, 66.66%) and did not have spouse residing in the same home (86.66%, 96.66%) in control and experimental group of old age people respectively.

> Most of them were females (56.66%, 56.66%), educated (60%, 60%), Hindus (60%, 66.66%), pensioners (70%, 60%) and belongs to nuclear family (50%, 56.66%) in control and experimental group of old age people respectively.

> Significant percentage of them have one child (33.33%, 40%), with monthly income between 2001-6000 (43.33%, 40%) in control and experimental group of old age people respectively.

> None of them had history of hospitalization within last five years (100%, 100%). All of them (100%, 100%) were non-smokers, non-alcoholics and uses only

medical facilities for the treatment of any illness in control and experimental group of old age people respectively.

➢ Majority of them had moderate physical activity (80%, 66.66%) in control and experimental group of old age people.

➢ Significant percentage of them had diabetes mellitus (50%, 36.66%), with the duration of medical illness for 1-5years (63.33%, 40%) and practiced relaxation therapy before intervention (40%, 53.33%) in control and experimental group of old age people respectively.

➢ Majority of old age people in the control and experimental group had mild level of depression (76.66%, 73.33%) before Pranayama. However after pranayama it was normal (83.33%) and mild (16.66%) level of depression. Whereas in control group majority of old age people had mild (73.33%) and severe (26.66%) level of depression, before and after Pranayama.

➢ Majority of the old age people were highly satisfied (96.6%) with Pranayama and in aspects of related to researcher (93.4%) respectively.

➢ Mean and standard deviation of old age people before pranayama (M = 15.1, 16.4, SD = 5.2095, 4.309) between the control and experimental group is not significant (p> 0.05), whereas after pranayama there is significant difference in the mean and standard deviation (M =15.7, 7.0, SD = 3.0, 3.53) between the control and experimental group (p<0.001). It can be attributed to the effectiveness of pranayama on reducing depression. Hence the null hypothesis Ho_1 was rejected.

➤ There was significant association between the level of depression and the demographic variable number of children ($p<0.05$) in control group of old age people. Null hypotheses (Ho$_2$) with regard to association between the level of depression and demographic variable number of children was rejected.

➤ There was no significant association between the level of depression and other demographic variables ($p>0.05$) in control group of old age people. Null Hypotheses (Ho$_2$) with regard to association between the level of depression and demographic variables such as age, gender, religion, educational status, type of family, marital status, monthly income was retained.

➤ There was significant association between the level of depression and the demographic variables such as gender and duration of stay in old age home ($p<0.05$) in experimental group of old age people. Null hypotheses (Ho$_2$) with regard to association between the level of depression and demographic variables such as gender and duration of stay was rejected.

➤ There was no significant association between the level of depression and other demographic variables ($p>0.05$) in experimental group of old age people. Null Hypotheses (Ho$_2$) with regard to association between the level of depression and demographic variables such as age, religion, educational status, type of family, marital status, monthly income was retained.

➤ There was a significant association between the level of depression and the clinical variable received any relaxation therapy before intervention ($p<0.01$) in control group of old age people. Null Hypotheses (Ho$_3$) with regard to association between the level of depression and clinical variable received any relaxation therapy before intervention was rejected.

➢ There was no significant association between the level of depression and other clinical variables (p>0.05) in control group of old age people. Null Hypotheses (Ho$_3$) with regard to association between the level of depression and clinical variables such as history of medical illness, duration of medical illness, history of taking medications, physical activity was retained.

➢ There was no significant association between the level of depression and the clinical variables (p<0.01) in experimental group of old age people. Null Hypothesis (Ho$_3$) with regard to association between the level of depression and clinical variables such as any medical illness, duration of medical illness, history of taking medications for major illness, physical activity, received any relaxation therapy before was retained.

➢ The above finding reveals that Pranayama was effective to reduce the depression among old age people.

Recommendations

➢ The study can be conducted on a large sample to generalize the results.

➢ The study can be conducted in the other settings like the community and the hospitals.

➢ Longitudinal study can be conducted for long term effects of Pranayama on depression.

➢ A study can be conducted on quality of life among old age people.

➢ Study can be conducted to assess the various other psychological problems in old age people.

➢ Experimental study can be conducted with various preventive interventions on prevention of old age depression.

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CHAPTER I

INTRODUCTION

Back Ground of the Study

"As we grow older, we must discipline ourselves to continue expanding, broadening, learning, keeping out minds active and open."

Clint Eastwood.

Aging is a natural process. Old age is inevitable. The concept of "old" has changed drastically over the years. The average life span is increasing, old age people tend to have more problems. It is regarded as the crucial phases in life where the physiological, psychological and socio cultural changes occur.

Old age is viewed both as a stage in the life span of an individual and also a segment of a population in the society. The public considers people who are 50 – 75 years of age as old. Developmental psychologists consider age sixty as the demarking line between middle and old age. In the developed world, chronological time plays a paramount role. The age of 60 or 65, roughly equivalent to retirement ages in most developed countries is said to be the beginning of old age.

There are currently 580 million old age people aged 60 globally and of these 355million live in the developing countries. The rate of death in developing countries has visibly decreased and life expectancy has increased. In the year 2020, life expectancy is predicted to reach 70. In India about 7% of the old age people is over the age of 60 and it is expected to increase by 20% by the year 2030.

According to a report by the U.S. Census Bureau and the National Institute on Aging (2011). More than one-third of the world's oldest people (80 and above) lived in three countries: China (11.5 million), the United States (9.2 million) and India (6.2 million). Today there are 77 million old age people in India. This number is likely to rise to 177 million by 2025.

As one grow older, faces significant life changes that can put the individual at risk for depression. Major causes and risk factors that contribute to depression in old age people include both physical and psychological distress. Health problems–Illness and disability, chronic or severe pain, cognitive decline, damage to body image due to surgery or disease. Living alone; a dwindling social circle due to deaths or relocation; decreased mobility due to illness or loss of driving privileges. Feelings of purposelessness or loss of identity due to retirement or physical limitations on activities. Fear of death or dying; anxiety over financial problems or health issues. The death of friends, family members, and pets; the loss of a spouse or partner.

Old age people have limited regenerative abilities and are more prone to disease, syndromes, and sickness than other adults. Depression is one of the most common and serious mental health problems that people face today. Depressive disorder is an illness that involves the body, mood, and thought. It affects the way the person eats and sleeps the way one feel about oneself. Depression affects all age groups.

Old age people experience many losses Bereavement. Loss is painful whether a loss of independence, mobility, health, our long-time career, or someone we love. Grieving over these losses is normal and healthy, even if the feelings of sadness last for weeks or months. Losing all hope and joy, however, is not normal.

Depression clues in older adults who deny feeling sad or depressed may still have major depression. Here are the clues to look for unexplained or aggravated aches and pains, feelings of hopelessness or helplessness, anxiety and worries, memory problems, slowed movement and speech, irritability, loss of interest in socializing and hobbies and neglecting personal care (skipping meals, forgetting meds, neglecting personal hygiene). Approximately 20% of the old age people suffer from some form of depression according the National Institutes of Health.

In a year nearly 14 million people experience a depressive disorder globally. Only 20 percent who develop depression receive adequate treatment. Older people in depression mostly have risk of committing suicide. One forth of total suicides are committed by the elderly people about 6 million old age people suffer from depression. Only 10 percent of the old age people experiencing depression could get medical help. Old age people having depression needs 50 percent higher healthcare costs.

Depression in old age people frequently coexists with other medical illnesses and disabilities. It can be triggered by a range of long term illnesses to which old age is particularly prone, such as diabetes, stroke, cardiac disease, cancer, chronic lung disease, Alzheimer's, Parkinson's and arthritis.

The level of depressive symptoms is linearly associated with the prevalence of cardiac events. Depression is an important risk factor for the development and progression of cardiovascular disease. Even a moderate level of depressive symptoms increases the risk for cardiac events. Depression was more impairing in terms of functioning and well being than arthritis, diabetes mellitus, and hypertension, among

others, and is more disruptive for social functioning than all of the chronic medical conditions. Approximately 50% of suffering from major depression can be left undiagnosed by general practitioners. Depression accounts for $83.1 billion in medical care and workplace costs.

The common cause of disability in the old age people is depression and it is an important risk factor for the development and progression of cardiovascular disease. The consequences are reduced life satisfaction and quality, social deprivation, loneliness, and impairment in the activities of daily living. It is the commonest and the most reversible mental health problem in the old age. Depression in old age carries increased risk of suicide and natural mortality. Recognition and simple intervention can reduce the demand on health and social services and community care. Despite favorable response to treatment, Depression remains undected and untreated.

Old age people are more sensitive to drug side effects and vulnerable to interactions with other medicines they're taking. Anti depressant drugs like selective serotonin reuptake inhibitors (SSRIs) such as Prozac can cause rapid bone loss and a higher risk for fractures and falls. Because of these safety concerns, old age people on antidepressants should be carefully monitored. In many cases, therapy and healthy lifestyle changes, such as exercise, can be as effective as antidepressants in relieving depression, without the dangerous side effects.

Surveys have demonstrated that complementary medicine use for depression is widespread, although patterns of use vary. A series of systematic reviews provide a summary of the current evidence for acupuncture, aromatherapy and massage,

homeopathy, meditation, reflexology, herbal medicine, yoga, and several dietary supplements and relaxation techniques. The quantity and quality of individual studies vary widely, but research interest in complementary therapies is increasing, particularly in herbal and nutritional products. (pilikington et al. 2006).

Mind-body techniques used to improve depression symptoms like Acupuncture, Yoga Meditation, Guided imagery, Massage therapy. As with dietary supplements, take care in using these techniques. There are a wide variety of herbal therapies that people can use. For depression, St. John's wort and ginkgo biloba are the most popular herbals for altering depressed mood. Cost and availability of these herbals are expensive.

Yoga and its various techniques like pranayama can prove to be useful way to minimize the psychological distress like depression and anxiety. Pranayama, as traditionally conceived yogic practice involves much more than merely breathing for relaxation. Pranayama is a term with a wide range of meanings. Pranayama as "the regulation of the incoming and outgoing flow of breath with retention."

The word Pranayama consists of two parts: Prana and Ayama. Prana is energy, when the self-energizing force embraces the body. When this self-energizing force embraces the body with extension, expansion and control, it is Prana. Ayama means stretch, extension, expansion, length, breadth, regulation, prolongation, restraint and control and describes the action of Pranayama.

The regular practice of pranayama can be quite effective in promoting mental health, in overcoming depression, which aids the old age people to develop a sort of resilience to any kind of mental or physical illness. Pranayama has been reported to be

beneficial in treating a range of stress related disorders, improving autonomic functions, relieving symptoms of asthma and reducing the symptoms of oxidative stress.

Establishing a daily routine of yoga breathing exercises. Pranayama can help the old age people to reduce the effects of depression. Old age people are benefitted with Pranayama in improving in their quality of life. Pranayama techniques enhance well-being, mood, attention, mental focus, and stress tolerance. Proper training by a skilled yoga teacher and every day practice will maximize the benefits.

Health care providers play a crucial role in encouraging patients to practice. pranayama could be helpful adjunct to medical and psychological treatment. It also has a greater impact on the socio-cultural context as people from rural areas is mostly poor and lack necessary medical care. Health professionals must have adequate training regarding pranayama. Indigenous method of pranayama is not only cheap but also effective in the treatment of various mental and physical distresses. Practicing pranayama is not only preventive in nature but also promotive as it increases the human potentials.

Need for the Study

Old age was never a problem in India. Old age homes were alien in concept and elder abuse was considered a Western problem but not anymore. As life expectancy has increased, hundreds of old age homes have sprung up in India. Neglect of parents has become a big issue, so much so that the Indian government has passed "The maintenance and welfare of parents and senior citizens bill 2006", which makes it imperative for adult children to look after their parents.

Healthy ageing is not only related to the advances in medical technology but also to a wide range of other factors like enabling the aged to lead a stimulating life, being fully involved in society and having meaningful social relationships.

The needs and the demands of the old age population have been increasing as they have not been given much attention by the family members and relatives due to modernization, negligence, increasing nuclear family system due to urbanization. Social isolation, lack of personal hygiene due to reduced interest towards them; self destructive behavior is very commonly seen in the old age people with depression.

Depression is the most usual mental disorder in the old age, but under diagnosed and undertreated. Its prevalence is variable and depends on type and severity of episode. Nevertheless, even sub syndromic depression needs to be correctly treated. Depressive symptomatology observed in the elderly is often similar to adult presentation, but it can be masked and difficult to recognise. Particularly by distinguishing late onset depression and early onset depression. According to therapeutic response and prognosis, it appears necessary to better discriminate them. Risk of dementia after depression seems to be related with type of depressive episode and with the treatment efficacy. Finally, the problem of detection of depression in old age is discussed with a suggestion to use assessment instruments as the mini-GDS in all medical practices, to optimise diagnosis and management (Clemet, 2008).

Complementary medicine use for depression is widespread, although patterns of use vary. A series of systematic reviews provide a summary of the current evidence for acupuncture, aromatherapy and massage, homeopathy, meditation, reflexology, herbal

medicine, yoga, and several dietary supplements and relaxation techniques. The quantity and quality of individual studies vary widely, but research interest in complementary therapies is increasing, particularly in herbal and nutritional products. Major questions are still to be answered with respect to the effectiveness and appropriate role of these therapies in the management of depression.

Uebelacker, et al. (2010) conducted the study for the efficiency of breathing exercises on depression for the direction of future research, it was conducted 5 including individuals with clinical depression, and 3 for individuals with elevated depression symptoms. Pranayama is an attractive alternative to or a good way to augment current depression treatment strategies. Second, aspects of pranayama including mindfulness promotion and exercise are thought to be "active ingredients" of other successful treatments for depression. Third, there are plausible biological, psychological, and behavioral mechanisms by which yoga may have an impact on depression. So it is evident that suggestions for the next steps in the study of yoga as a treatment for depression.

Yoga is also effective for alleviating depression. Even a short trial of yoga led to decreased depression. The decreased depression may relate to the changes in brain waves and the decreased cortisol levels noted during yoga weekly Yoga sessions led to increased alpha waves (sign of increased relaxation) and decreased cortisol. Considerable evidence exists for the place of mind body medicine in the treatment of depression. Excessive depression is mal adaptive.

Pranayama controlled breathing with roots in traditional yoga shows promise in providing relief for depression. The program, involves several types of cyclical breathing patterns, ranging from slow and calming to rapid and stimulating, and is taught by the nonprofit Art of Living Foundation.

Clinical depression is a common illness, with prevalence of current depressive symptoms in the general population of nearly 10% and lifetime diagnosis almost 16%. Pranayama offers an attractive option for complementary therapy of depression. The purpose of this study was to examine research regarding the benefits of pranayama for depression, to learn to what extent yoga is beneficial as a complementary therapy.

It is evident that depression is interplay of social, biological and psycho social factors. There is paucity in the field reduction depression among the old age people. Thus the researcher was motivated with the intervention to reduce depression. Pranayama which is consistent with research findings on increased health, reduction of depression and anxiety, enhances vitality, wellbeing, and peace of mind. Thus it is important for the health professionals and nurses to plan for various strategies on pranayama techniques for enhancing in the quality of living in the old age people.

The recent interest in health care fraternity on alternating means of health promoting methods, there several issues that arise regarding the cost of their health in the old age people. Pranayama is safe, and a full scale trial is feasible. It suggests that old age people can improve in their wellness by learning and applying a program based on pranayama. 'Breathe' depicts 'life'. As the very essence of pranayama is controlling

and monitoring breathe. It is high time for the health professionals to think of life that is free from the hazards of old age and has substantial quality of living.

Even though Pranayama is very beneficial there is paucity of research in this area especially for old age people. Thus the investigator is interested to assess the effectiveness of Pranayama on depression among old age people. In turn it will help to enhance quality of life and emotional wellbeing of the old age people.

Statement of the Problem

A Quasi Experimental Study to Assess the Effectiveness of Pranayama upon Depression among Old Age People in Selected Old Age Homes at Chennai.

Objectives of the Study

1. To find out the prevalence of depression among the old age people in selected old age homes.
2. To assess the level of depression in control and experimental group of old age people.
3. To evaluate the effectiveness of Pranayama by comparing the level of depression in control and experimental group of old age people before and after administration of pranayama.
4. To determine the level of satisfaction regarding Pranayama among experimental group of old age people.

5. To find out the association between demographic variables and the level of depression before and after Pranayama in control and experimental group of old age people.

6. To find out the association between clinical variables and the level of depression before and after Pranayama in control and experimental group of old age people.

Operational Definitions

Effectiveness

In this study effectiveness refers to the significant effect of Pranayama as determined by the reduction of depression scores after therapy of experimental group comparing to before therapy as measured by geriatric depression scale.

Depression

In this study depression refers to a state of mood in which the individual is sad, worried, loses interest in life, loses energy, hopelessness, and worthless, as measured by geriatric depression scale developed by Yesavage.

Pranayama

In this study pranayama refers to breathing exercise, breath retention and deliberate methods of inhalation and exhalation for mental and physical benefits. This therapy enhances relaxation. This is done on daily basis for 33 minutes in morning for a period of six weeks. Techniques of Pranayama were demonstrated by the researcher in the selected old age homes.

Old age people

In this study old age people refers to the both male and female aged 60 -75 years residing in the selected old age homes.

Old age home

In this study old age home refers to the place where the old age people reside, away from their home along with other old age people, run by charitable trusts.

Assumptions

- Depression among old age people is very common.
- Old age people suffer from depression due to loss of loved ones, changes in life style, loneliness etc.
- Depression is manageable if identified early.
- Psychosocial interventions help to deal with day to day stressors.
- Pranayama enhances coping ability and emotional wellbeing.

Null Hypotheses

H_{O1}: There will be no significant difference in the level of depression before and after Pranayama in control and experimental group of old age people.

H_{O2}: There will be no significant association between the demographic variables and the level of depression before and after Pranayama in control and experimental group of old age people.

H$_{O3}$:   There will be no significant association between the clinical variables and the level of depression before and after Pranayama in control and experimental group of old age people.

Delimitations

➢ The study was limited to 6 weeks.

➢ Study findings cannot be generalized due to small sample size.

➢ True experimental research is not possible due to the practical difficulties.

➢ The study was limited to old age people who are residing in selected old age homes, Chennai.

Conceptual Framework

A conceptual framework is a group of concepts and a set of propositions that spell out the relationship between them. Their overall purpose is to make scientific findings meaningful and generalized.

A conceptual frame work deals with the interrelated concepts on abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme. It is a device that helps to stimulate research and the extension of knowledge by providing both direction and impetus. A framework may serve as a spring board for scientific advancement. (polit and Hungler 2007)

The present study aims at describing the effectiveness of pranayama on depression among old age people. The conceptual framework was derived from Comfort theory developed by Katharine Kolcaba (2007). In theory of comfort,

recipients of comfort measures are known in variety of ways such as patients, students, prisoners, workers, older adults, communities and institutions.

Health care needs

Deficits in any context of comfort that arise from stressful health care situation and when the client's natural support system cannot meet. Health care needs are identified by the client or the family.

Intervening variables

Intervening variables are the factors that are not likely to change and over which provides have little control (such as prognosis, financial situation, extent of social support etc).

Health seeking behaviors

It can be internal like healing, immune function; number of T cells etc and can be of external factors such as health related activities, functional outcomes.

Institutional integrity

Values, financial stability and wholeness of health care organizations at local, regional, state and national level.

Nursing intervention

Comforts measures that nurse can design and implement that are targeted to the health care needs.

Comfort Measures

Comfort measures are nursing interventions designed to address specific comfort needs of recipients including physiological, social, financial, psychological, environmental and physical interventions.

Comfort

Comfort is the immediate experience of being strengthened through having the needs for relief, ease or transcendence met in physical, psycho spiritual, environmental and physical interventions.

Types of comfort:

Relief: The state of recipient whose specific needs are met.

Ease: The state of calm or contentment.

Transcendence: The state in which an individual rise above his or her problems or pain.

Physical: pertaining to bodily sensations and functions.

Psyhospiritual: Pertaining to self esteem, self concept, sexuality, meaning in one's life and one's relationship to a higher order or being.

Environmental: Pertaining to the environment.

Social: Pertaining to interpersonal, family and societal relationship.

Health care needs of the patient and family
Unable to perform ADL, feel depressed

Comforting Intervention

Pranayama

Intervening Variables

Prognosis Financial Situation, extent of social support

Enhanced Comfort

Increased Emotional well being.

Internal Behaviour

Clients level of depression reduces

Health seeking Behavior

External Behaviour

Willing to participate in Pranayama

Best practices

Regular Practice of Pranayama

Institutional integrity
The old age home provides support and increase values

Best polices

Integrating indigenous system like Pranayama

Fig.1 Conceptual Framework Based on Comfort Theory by Kolcaba.k. (2007)

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Projected Outcome

The projected outcome of the study will be the reduction in the level of depression among the old age people after pranayama in the experimental group of old age people. In turn it will help them to cope with depression, improve emotional well being and quality of living.

Summary

This chapter has dealt with the back ground of the study, need for the study, statement of the problem, objectives of the study, assumptions, operational definitions, null hypotheses, inclusion and exclusion criteria, delimitations and conceptual frame work of the study.

Organization of the Report

Further aspects of the study are presented in the following five chapters.

Chapter II : Review literature

Chapter III : Research methodology which includes research approach, Research design, research setting, population, sampling, sampling criteria and development of analysis and research instrument.

Chapter IV : Analysis and interpretation of data is presented in terms of descriptive and inferential statistics.

Chapter V : Discussion.

Chapter VI : Summary, Conclusion, Implication and Recommendation are presented.

CHAPTER II

REVIEW OF LITERATURE

A literature review involves the systematic identification, location, scrutinity and summary of written materials that contain information on research problem (Polit and Hungler 2007).

Review of Literature

The review of literature has two major goals: (1) To provide readers with an overview of existing evidence on the problem being addressed and (2) T o develop an argument that demonstrates the need for the new study. According to nursing research by polit (2008), "Review literature is a written summary of the state of evidence on a research problem".

This chapter deals with a review of published and unpublished research studies and from a related material. For the present study the review will help the investigator to develop an insight into the problem area.

The review of literature is presented under the following headings.

- ➢ **Literature related to old age.**
- ➢ **Literature related to prevalence of depression among old age people.**
- ➢ **Literature related to Pranayama.**
- ➢ **Literature related to effectiveness of pranayama upon depression among old age people.**

Literature related to old age

Lahti (2011) conducted a study in the city of Helsinki to examine changes in leisure-time physical activity of moderate and vigorous intensity among ageing employees facing transition to retirement over a follow-up of 5-7 years. Old-age retirees (50 – 65 years) increased significantly their time spent in moderate-intensity physical activity Leisure-time physical inactivity at follow-up was lower among old-age retirees compared with employees of nearly the same age. Adjustments made for potential baseline covariates had no effects on these findings. Transition to old-age retirement was associated with an increase in moderate-intensity leisure-time physical activity and a decrease in the proportion of inactive. Encouraging people to leisure-time physical activity after retirement is worthwhile as the increase in free time brings new possibilities.

In the year 2009 Fasey conducted study on grief, which is reviewed with particular reference to old age. The characteristics of normal and abnormal grief were noted and possible comparison between older and younger adults is made. The results are inconclusive but suggest that grief is a similar process in all adults but may be less malign in the over 65 years. The differences, elaborates that grief is a serious problem with a definite associated morbidity and mortality particularly in old age.

The study conducted by Pluijm et al. (2006) to examine the association between unhealthy lifestyle in young age, midlife and old age and physical decline in old age, and to examine the association between chronic exposure to an unhealthy lifestyle throughout life and physical decline in old age. The study sample included 1297

respondents of the Longitudinal Aging study in Amsterdam. Lifestyle factors included physical activity, body mass index, number of alcohol drinks per week and smoking. It was found that being physically inactive in old age was not significantly associated with an increased risk of physical decline, however, being physically inactive both in midlife and in old age increased the odds of physical decline in old age to 1.6 (95%) as compared to respondents who were physically inactive in midlife and physically active in old age. Being overweight in both age periods was associated with 1.5 (95%). These data suggest that overweight in old age, and chronic exposure to physical inactivity or overweight throughout life increases the risk of physical decline in old age. Therefore, physical activity and prevention of overweight at all ages should be stimulated to prevent physical decline in old age.

A Study among 76-Year-Old Swedish Urban Citizens regarding Health-related quality of life was measured in terms of energy, pain, emotions, sleep, social isolation and mobility with the Nottingham Health Profile (NHP). Five hundred and sixty-five participants, 76-year-old participated and the results were analyzed in relation to health and socio-demographic factors. The majority of the subjects lived independently and felt healthy, despite the fact that many had some diagnosed disease or disorder. Impaired quality of life was correlated to observed and perceived illness, institutionalization, widowhood, loneliness and financial discontent. Women reported more pain, emotional, sleep and mobility problems than men. Mobility problems had the most negative impact on daily activities. Grimby (2005).

Literature related to prevalence of depression among old age people

Kumar et al. (2010) conducted a case control frame work to study the nature, prevalence and factors associated with geriatric depression in a rural south Indian community. Thousand participants aged over 65 years from Kaniyambadi block, Vellore, India. WHO Disability Assessment Scale II, and Neuropsychiatric Inventory tools was adopted. Prevalence of geriatric depression (ICD-10) within one month was found in 12.7% among low income, experiencing hunger, history of cardiac illnesses, transient ischemic attack, past head injury and diabetes. ,increased the risk for geriatric depression after adjusting for other determinants using conditional logistic regression Geriatric depression is prevalent in rural south India. Poverty and physical ill health are risk factors for depression among elderly while good social support is protective.

Poongothai (2009) estimated the prevalence of depression in an urban south Indian population. Subjects were recruited from the Chennai Urban Rural Epidemiology Study, involving 26,001 subjects randomly recruited from 46 of the 155 corporation wards of Chennai city in South India. 25,455 subjects participated in this study (response rate 97.9%). The overall prevalence of depression was 15.1% and was higher in females (females 16.3% vs. males 13.9%, $p<0.0001$). Depressed mood was the most common symptom (30.8%), followed by tiredness (30.0%) while more severe symptoms such as suicidal thoughts (12.4%) and speech and motor retardation (12.4%) were less common.

The prevalence of depression was higher in the low income group (19.3%) compared to the higher income group (5.9%, $p<0.001$). Prevalence of depression was

also higher among divorced (26.5%) and widowed (20%) compared to currently married subjects (15.4%, p<0.001).This is the largest population-based study from India to report on prevalence of depression and shows that among urban south Indians, the prevalence of depression was 15.1%. Age, female gender and lower socio-economic status are some of the factors associated with depression in this population.

In the year 2008 Baldwin conducted a study regarding the common misconception about the prevalence of depression among old age is a normal part of ageing, but the evidence shows that multiple health problems often account for any initial association between depression and older age. Depression is essentially the same disorder across the lifespan, although certain symptoms are accentuated and others are suppressed in older people. Depression typically report more physical symptoms and less sadness compared to younger people with depression additionally, psychotic symptoms, melancholia, insomnia, hypochondriasis, and subjective memory complaints are more likely to occur in older people with depression compared to younger people with depression.

A community-based, cohort study was conducted by Dougall et al. (2007). A Medical Research Council on Cognitive Function and Ageing. Study Following screening of 1300 people aged 65 and over from a population base, the prevalence of depression was 8.7%, increasing to 9.7%. Subjects with concurrent dementia were included and it was fond that depression was more common in women (10.4%) than men (6.5%) and was associated with functional disability, co-morbid medical disorder, and social deprivation. The prevalence of depression in the elderly is high and remains high into old age, perhaps due to increased functional disability.

Depression is estimated to affect 340 million people globally. The prevalence of psychiatric disorders is reported to differ between countries and within countries, across various ethnicities. The world mental health survey initiative carried out cross national research in mental health, especially in developing countries. The prevalence of depression in a population based study conducted in urban Pakistan was 45%, while in rural Bangladesh, it was reported to be 29% and in peri urban areas of Uganda, it was estimated as 6.1% (The WHO –World Mental Health Consortium 2004).

In the year 2011 Gerald et al. conducted a cross sectional international study on late life depressive symptoms. Using a self-administered questionnaire and Patient Health Questionnaire-9 diagnostic survey on 1115 patients aged 60–93 years who attended a primary care clinic in Korea, Russia or USA. At least mild depression occurred in 28% of Koreans, 65% of Russian and 27% of US participants. Russians scored more depressed ($P < 0.01$) and more suicidal thoughts, while Koreans had less feelings of worthlessness. Chronic diseases ($P < 0.0001$), female gender ($P = 0.0046$) and religious attendance ($P = 0.0099$) for all subjects. Vascular disease was associated with depressive symptoms in Russia ($P = 0.0187$). In regression analyses stratified by country for a given level of depressive symptoms, Depressive symptoms were more common in Russia than in Korea and USA but had less impact on daily functioning.

Depression is more prevalent among older adults than among younger adults but can have serious consequences. Over half of cases represent a first onset in later life. Depressed older adults are less likely to endorse affective symptoms and more likely to display cognitive changes, somatic symptoms, and loss of interest than are younger adults. Risk factors leading to the development of late life depression likely comprise

complex interactions among genetic vulnerabilities, cognitive diathesis, age-associated neurobiological changes, and stressful events. Preventive interventions including education for individuals with chronic illness, behavioral activation, cognitive restructuring, problem-solving skills training, group support, and life review have also received support. Fiske (2009).

Jeffery et al. (2009) conducted an observational cohort study to characterize the one-year outcomes of minor and subsyndromal depression, examining the predictive strength of a range of putative risks including clinical, functional and psychosocial variables. Patients with baseline minor and subsyndromal depression were more depressed than the non-depressed group at follow-up. Patients had a 7.0-fold (95%) risk of developing major depression, and a one-year adjusted Hamilton Depression Score of 11.0 (95%) compared with 7.8 (95%) for the non-depressed group; these outcomes were less severe than those of the major depression group. Minor and subsyndromal depression are likely to persist, and pose an elevated risk of worsening over one year. Clinicians and preventive interventions researchers should focus on modifiable risks, such as psychiatric functioning or social support, in elders suffering clinically significant depressive symptoms.

The study by Jescicca (2009) tested whether history of depression is associated with an increased likelihood of having dementia, and to verify whether a first depressive episode earlier in life is associated with an increased likelihood of dementia .Depression information was collected from national hospital discharge registries, medical history, and medical records. Each 1-year increase in the difference between depression onset and dementia onset decreased the likelihood of dementia by 8.4%. Co-twin control

analyses found that individuals with prior depression were 3.0 times more likely to have dementia than their non-depressed twin partner, with a similar gradient of age of depression onset. Taken together, these findings suggest that after partially controlling for genetic influences, late-life depression for many individuals may be a prodrome rather than a risk factor for dementia.

Edmond et al. (2008) conducted a descriptive longitudinal cohort study, was done in   National Institute of Mental Health (NIMH). To compare the rates of depression in Alzheimer Disease. A cohort of 101 patients meeting criteria for possible/probable Alzheimer Disease, The baseline frequency of depression (44%) was higher than that obtained using DSM-IV criteria for major depression (14%; p <0.001) and major or minor depression. criteria identified that a greater proportion of Alzemiers Disease patients was depressed.

Depression in old age has a poor long-term prognosis; evidence shows that the same is true of depression in middle age. Prognosis of depression in late life with depression in midlife under similar conditions. The response and remission rates to pharmacotherapy and electroconvulsive therapy are not sufficiently different in old-age depression and middle-age depression to be clinically significant. Older patients and patients with late-onset depression are at increased risk of medical co-morbidity .Elderly patients with early-onset depression are more likely to have had a higher number of previous episodes, which also adversely influences prognosis compared to elderly depressed patients with late onset of illness. Findings underline the importance of assessing factors related to patient age and not just to age itself in evaluations of risk factors for poor prognosis. Alex (2005).

Coen (2003) conducted study to determine depressed mood is associated with unhealthy lifestyles in late middle aged and older people, with or without chronic somatic diseases. Depressed mood is common in late life, more prevalent among the chronically diseased than in the general population, and has various health-related consequences. A sample of 1,280 community-dwelling people from the Netherlands, their associations between depressive symptoms and lifestyle domains were analysed cross-sectionally and longitudinally – using logistic regression analyses and multivariate analyses of variance, depressed people were more likely to be smokers (95%). A persistent depression tended to be associated with incident excessive alcohol use .An emerging depression is associated with becoming sedentary, irrespective of a person's disease status at baseline, and is associated with decrease in minutes of physical activity.

Sandra et al. (2002) compared regional brain volumes in depressed elderly subjects with those of non-depressed elderly subjects by using voxel-based morphometry. They used statistical parametric mapping to analyze magnetic resonance imaging scans from 30 depressed patients 59 to 78 years old and 47 non-depressed comparison subjects 55 to 81 years old. Depressed patients had smaller right hippocampal volume than comparison subjects. The volume of the hippocampal-entorhinal cortex was inversely associated with the number of years since the first lifetime episode of depression. These data provide further evidence of structural brain abnormalities in geriatric depression, particularly in patients with a longer course of illness.

Prince et al. (2000) reported a very strong cross-sectional association between handicap and late-life depression. The study was conducted in United Kingdom. Adjusting for handicap weakened associations between socio-demographic variables and depression. There was a moderate association between pervasive depression and the number of life events experienced over the previous year. Personal illness, bereavement and theft were the most salient events. There was a stronger, graded, relationship between the number of social support deficits and depression. Number also related to age, handicap, loneliness and use of homecare services. Loneliness was itself strongly associated with depression.

In the year 2005 Fried conducted study to examine suicidal behavior and depression prevalence among a group of Medicare patients age 65 with functional impairment and recent significant health care services use. An observational study of baseline characteristics of participants in a randomized controlled trial. A Medicare demonstration (N=1,605) that enrolled primary care patients in 8 counties in New York, 6 counties in West Virginia, and 5 counties in Ohio. All demonstration participants age 65 (n=164). 14.8% of the patients indicated suicidal ideation during the past year, 4.9% reported a suicide attempt during that time, and 25.9% indicated at least 1 lifetime suicide attempt, 34.6% had a major depressive episode in the last month, and 58.3% had clinically significant depressive symptoms during the previous week. These levels of suicidal ideation and behaviors and of depression are far higher.

Literature related to pranayama

The study was conducted to ascertain if a short-term practice of pranayama and meditation had improvements in cardiovascular functions in healthy individuals with respect to age, gender, and body mass index (BMI) conducted in the Department of physiology of S.N. Medical College, Bagalkot. There was significant reduction in resting pulse rate, systolic blood pressure, diastolic blood pressure, and mean arterial blood pressure after practicing pranayama and meditation for 15 days. The response was similar in both the genders, both the age groups, <40 yrs and >40 yrs and both the groups with BMI, <25 kg/m^2 and >25 kg/m^2.This study showed beneficial effects of short term (15 days) regular pranayama and meditation practice on cardiovascular functions irrespective of age, gender, and BMI in normal healthy individuals. Roopa et al. (2011).

Saxeena (2009) conducted study on the effect of breathing exercises (*pranayama*) in patients with bronchial asthma. Fifty cases of bronchial asthma were studied for 12 weeks. Patients were allocated to two groups: group A and group B. Patients in group A were treated with breathing exercises for 20 minutes twice daily for a period of 12 weeks. Group a subjects had significant improvement in symptoms, as compared to group B subjects. Breathing exercises (*pranayama*), mainly expiratory exercises, improved lung function subjectively and objectively and had a regular part of therapy.

Acharya (2010) conducted study on twenty male junior footballers younger than 15 years of age, belonging to the Mohun Bagan Athletic Club, Kolkata, were

selected for the study at Haridwar. They were of age 14.65±0.58 years. Subjects were exposed to pranayama practices training session. There was a significant reduction in the levels of serum cholesterol, Low-density lipoprotein (LDL) cholesterol, serum triglycerides, and very-low-density lipoprotein (VLDL)-cholesterol at the end of the *yoga* session. The results indicated that the fasting blood sugar (FBS) level was positively elevated in junior footballers. This demonstrated that Pranayama and Yogasana were helpful in regulating.

In the year 2008 Avnish et al studied the effectiveness of pranayama on Diabetes, which is a complex condition with a multitude of metabolic imbalances involving the regulation and utilization of insulin and glucose in the body. Yoga effectiveness at preventing and treating diabetes is due to its emphasis of a healthy diet and lifestyle as well as its ability to balance the endocrine system, massage and tone the abdominal organs, stimulate the nervous and circulatory systems, and reduce stress. Overall, limited data from well-designed randomized controlled trials are available and results are difficult to translate into clinical practice. Diabetes care in providing evidence-based advice on the safe and effective use of complementary therapies.

Dunn (2011) conducted study on the physiological effects underlying of therapeutic benefits of pranayama. It was estimated that 7.4 million Americans currently practice Hatha yoga (pranayama). Sixty four percentage of individual's practices yoga report doing well-being. Researches have reported an association between yoga practice and subjective well-being; however, few studies have investigated the physiological mechanisms involved. A brief description of Hatha yoga (pranayama) is provided that describes the purported relationship between yoga and the relaxation response.

Grabara (2011) conducted study was to assess the influence of pranayama (hatha yoga exercises) on the shaping of the antero-posterior spinal curvature in first-year students of the University of Physical Education in Katowice who participated in hatha yoga classes. 72 women and 46 men took part in the study. Hatha yoga classes were held once a week for 90 minutes over a period of 15 weeks. Measurements of the subjects' spines were performed twice, first before the start of the classes and then after all the classes were finished. The inclination of the anteroposterior curvature of the spine, i.e. the thoracic kyphosis and lumbar lordosis angles, were measured with a Rippstein plurimeter. The results found that after 15 weeks of yoga, a decrease in the thoracic kyphosis angle (ThKA) and lumbar lordosis angle (LLA) occurred in most of the subjects. Differences between the values of these angles before/after yoga were statistically significant in women (p < 0.001), After completing the hatha yoga classes, the majority of students (50-62%) were found to have correct angular values of the thoracic kyphosis and lumbar lordosis when compared to the measurements taken before the start of classes (40-45%). An assessment on the shaping of the anteroposterior curvature of the spine finds that hatha yoga exercises have a positive impact on one's body posture in the sagittal plane.

Literature related to effectiveness of pranayama upon depression among old age people.

Kumar et al. (2010) conducted a study on anxiety and depression. Are the two most common mental problems facing the aged and are often ignored. In a vast country like India, particularly the rural India where little mental health facilities are available, these people are little taken care of with regards to their mental health. Study attempts to

find out the impact of pranayama on the anxiety and depression of the senior citizens living in the rural community. For the study, 30 senior citizens of Madhubani town have been selected. Their level of anxiety and depression were measured on Sinha Anxiety Scale and Beck Depression Inventory prior to their enrolment in Yoga sivir (camp) of 7 days duration where they were trained in anuloma-viloma technique of pranayama. Their level of anxiety and depression were again measured after 3 months during that period the subjects regularly practiced the pranayama. The comparison of the two scores showed significant impact of the pranayama on their, anxiety and depression.

In the year 2008 David et al. conducted study on pranayama (Hatha yoga) for depressed patients are taking anti-depressant medications but are only in partial remission. Focusing on individual differences in psychological, emotional and biological processes affecting treatment outcome. Twenty-seven elderly women and 10 elderly men were enrolled in the study, of which 17 completed the intervention and pre- and post-intervention assessment data. The intervention consisted of 20 classes led by senior yoga teachers, in three courses of 20 yoga classes each. All participants were diagnosed with unipolar major depression in partial remission. Psychological and biological characteristics were assessed pre- and post-intervention, and participants rated their mood states before and after each class. Significant reductions were shown for depression, anger, anxiety, neurotic symptoms and low frequency heart rate variability in the 17 completers. Moods improved from before to after the yoga classes. Yoga appears to be a promising intervention for depression; it is cost-effective and easy to implement. It produces many beneficial emotional, psychological and biological effects, as supported by observations in this study. The physiological methods are

especially useful as they provide objective markers of the processes and effectiveness of treatment.

National Institute of Mental Health and Neuroscience in India conducted a study on pranayama technique, this method, also referred to as "The Healing Breath Technique", involves breathing with a natural breath through the nose, mouth closed, in It is, essentially, rhythmic hyperventilation. Study examined the effects of on depressive symptoms in 60 elderly men. Participants were randomly assigned to two weeks of pranayama. After the full three weeks, scores on a standard depression inventory dropped 75% in the pranayama group, as compared with 60% in the standard treatment group. Levels of two stress hormones, cortisol and corticotropin, also dropped in the pranayama group, but not in the control group. It was suggested that pranayama might be a beneficial treatment for depression in the early stages of depression. Pilnkington et al.2005.

In the year 2005 Ford conducted the open, randomized clinical trial, in the Biometry and Nutrition Group, Agharkar Research Institute, compared the efficacy of pranayama against both electroconvulsive therapy (ECT) and the drug imipramine. In this study, consisting of 37 elderly participants and taking place over a period of 7 weeks, During the study, participants practiced 30 minute daily sessions and once-weekly 75 minute sessions regularly. Researchers found that, although clients inferior to ECT, pranayama has shown to be as effective as imipramine in the treatment of depression.

Janakiramaiah et al. (2000) conducted the study on 15 dysthymic and 9 melancholic elderly depressed patients to 15 normal control individuals. The Hamilton Rating Scale for Depression, the Beck Depression Inventory, and the Clinical Global Impressions Scale, and then treated the patients with Pranayama. study showed that pranayama was effective in treating mild and melancholic depression. Depressed people have a particular EEG brainwave abnormality, which is measured, by P300 amplitude. By day 30 there was significant relief from depression in the groups treated with pranayama, as measured by the P300 amplitude and standard depression scales. By day 90, their P300 had returned to normal: their P 300 was indistinguishable from normal controls and they remained stable and depression free.

Brown (2005) suggested that Mind-body interventions are beneficial in stress-related mental and physical disorders. Current study finding associations between emotional disorders and vagal tone as indicated by heart rate variability. A neurophysiologic model of yogic breathing proposes to integrate research on yoga with polyvagal theory, vagal stimulation, hyperventilation, and clinical observations. Yogic breathing is a unique method for balancing the autonomic nervous system and influencing psychologic and stress-related disorders. An effect of yogic breathing demonstrates on brain function and physiologic parameters. A sequence of breathing techniques can alleviate anxiety, depression, everyday stress, post-traumatic stress, and stress-related medical illnesses. Mechanisms contributing to a state of calm alertness include increased parasympathetic drive, calming of stress response systems, neuroendocrine release of hormones, and thalamic generators. This model has heuristic value, research implications, and clinical applications.

Summary

This chapter has dealt with the review of literature related to the problem stated. The literatures presented here were extracted from 25 primary and 6 secondary sources. It has enabled the investigator to design the study, develop the tool, plan the data collection procedure and to analyze the data.

CHAPTER III

RESEARCH METHODOLOGY

The methodology in the research study is defined as the way the data are gathered in order to answer the research questions or analyze the research problem. The research methodology involves a systematic procedure by which the researcher had a start from the initial identification of the problem to its final conclusion.

The present study is to assess the effectiveness of Pranayama in decreasing the level of depression among old age people. The chapter deals with a brief description of different steps under taken by researcher or the study. It involves research approach, the setting, population, sample and sampling technique, selection of the tool, validity, reliability, pilot study, data collection procedure and plan for the data analysis.

Research Approach

Research approach is the most significant part of research. According to Polit and Beck (2008) experimental research is an extremely applied from of research and involves finding out how well a practice are working. Its goal is to assess or evaluate the success of the programme. In this study, the researchers assess the effectiveness of Pranayama on depression among old age people.

Present study is conducted in two phases.

Phase I: Survey approach is applied to assess the prevalence of depression among the old age people.

Phase II: Experimental approach is applied to assess the effectiveness of Pranayama on reduction of depression.

An experimental research is generally applied where the primary objective is to determine the extent to which a given procedure meets the desired result. In this study the investigator wanted to assess the depression among the old age people before and after administration of Pranayama. The experimental approach seemed to be the most appropriate approach.

<div align="center">**Research Design**</div>

A research design incorporates the most important methodological design that researcher works in conducting a research.

The research design consisted of two phases

Phase I: Descriptive research design was conducted to assess the prevalence of depression among old age people using Geriatric Depression Scale, in two old age homes.

Phase II: Quasi experimental research design was used to assess the effectiveness of Pranayama on depression

<div align="center">O 1 – O 2</div>

<div align="center">O 1 X O 2</div>

O 1 – Pretest

O 2 – Post test

X- Administration of Pranayama for experimental group of old age people.

Phase I

Screening of depression among the old age people (using GDS) & identification of samples in 2 settings

Phase II

Randomization of settings

Data collection
Using Demographic & Clinical variables proforma & Geriatric Depression Scale. Level of Satisfaction scale

Control group

30 old age people

Pre test assessment of Depression level

Post test assessment of Depression level

Experimental group

30 old age people

Pre test assessment of Depression level

Administration of pranayama

Post test assessment of Depression level

Analysis and interpretation by descriptive and inferential statistics.

Fig. 2. Schematic Representation of Research Design

<center>**Variables**</center>

Independent variable

The variable hypothesized to the outcome variable of interest. In this study the independent variable is Pranayama.

Pranayama

Pranayama refers to breathing exercise, breath retention and deliberate methods of inhalation and exhalation for mental and physical benefits. This therapy enhances relaxation. This is done on daily basis for 33 minutes in morning, before break fast for a period of six weeks. Techniques of Pranayama were demonstrated by the researcher in the selected old age homes.

Kapalabhati ("Breath of fire")

Duration/repetitions: Beginners may start with a 3-minute practice and, in a month or two, work up to a 5-minute non-stop practice. Study participants practiced for 3 minutes.

Technique

Kapalabhati, the focus is only on forceful exhalation "Exhale from your nose with full strength and the abdomen will go in automatically. Concentrate on exhaling vigorously and your abdomen will contract automatically. Keep expelling the breath. Contraction and expansion of the abdomen during exhalation and inhalation will occur automatically.

Anuloma-Viloma (Alternate nostril breathing)

Duration/repetitions: Minimum three times. Maximum: unlimited. Study participants practiced for 15 minutes.

Technique

Block the right nostril with the right thumb and left nostril with the right middle and ring fingers. Little finger and the index finger are free and the palm stays above the nose. Don't place the palm in front of the nose as it blocks the free flow of the air. Apply only mild pressure to the nostrils. To begin, close the right nostril with the thumb. While lifting the ribcage and bringing out the chest (thoracic breathing), inhale from the left nostril. After completion of inhalation, close the left nostril with the middle and the ring finger, lift the thumb off the right nostril and exhale. Then inhale with the right nostril performing thoracic breathing and exhale with the left nostril. This makes one round. The second round begins with the left nostril inhale and so on. In the beginning, breathe in and out slowly. Gradually pick up the speed and progress from slow to moderate or even fast rate.

Nadi Shodhana (subtle nervous system purification)

Duration/repetitions: Minimum three times. Maximum: unlimited. Study participants practiced for 15 minutes.

Technique

Close the right nostril with the thumb and inhale very slowly from the left nostril. Upon completion of inhaling, hold the breath in and apply the chin lock and the root lock. Release the chin lock and very slowly exhale from the right nostril. Upon

completion of exhaling, inhale very slowly from the right nostril and hold the breath in with chin lock and root lock in place. When ready to release, exhale very slowly from the left nostril. This completes one round. The second round begins with left nostril inhalation and so on. Ratio for breathing and breath holding: Beginners should maintain the ratio of 1:2:2 for inhalation-hold (after inhale) and exhalation.

Dependent variable

The variable hypothesized to depend on or be caused by another variable. In this study the dependent variable is Depression.

Extraneous variable

A variable that confound, the relationship between the independent and dependent variable that need to be controlled, either in the research design through statistical procedure (Polit and Beck). Demographic variable proforma and clinical variable proforma is the attributable variable in this study (Developed by the researcher).

<div align="center">

Research Setting

</div>

According to polit and Beck (2008) setting is the physical location and condition in which data collection takes place in a study .The study was conducted in two old age homes , S. V old age home at Arumbakkam, Chennai (control group) and Anandam Home for senior citizens at kallikuppam (experimental group). It is located about 20 Km from Chennai central railway station, 10 Kms from the main bus stand and 20 Kms from Apollo college of Nursing. The old age homes are well ventilated with adequate lighting facility, proper sanitation, electricity and closed drainage system. Each occupant has got a table, chair and a cot with attached bathroom and toilet facility. The

home is managed by a trust through donations from well wishers. Here the old age people are admitted based on their request and need and the services are provided free of cost. The settings were chosen because of feasibility in terms of availability of adequate participants and co operation of the management trust of the old age homes.

Population

Polit and Beck (2004) stated that a population in an aggregate totality of all the subjects that possess a set of specifications. Population in this study refers to, old age people residing in old age home.

Phase I

The target population is the group of population that the researcher aims to study and to whom the study findings will be generalized. In this study, the target population is the old age people in old age home.

Accessible population is the list of population that the researcher finds in the study area. The accessible population in this study was the old age people who are residing in selected old age homes, Chennai. (S.V Old age home in Arumbakkam, Chennai and Anandam home for senior citizens at Kallikuppam, Chennai)

Phase II:

The target population was the old age people with depression in the old age homes.

Accessible population in this study was the old age people with depression who are residing in the selected old age homes, Chennai. S.V Old age home in Arumbakkam,

Chennai (Control Group) and Anandam home for senior citizens at Kallikuppam, Chennai (Experimental Group).

Sample

According to Polit and Beck (2004) the sample consists of a subset of the units that comprise the population.

Phase I

Old age people residing in selected old age homes, meeting the inclusion criteria.125 old age people were screened for depression.

Phase II

Old age people residing in selected old age homes, meeting the inclusion criteria.

A sample of 60 old age people who meet the inclusion criteria was chosen for the study , in that 30 old age people with depression in the control group was selected from old age home and 30 old age people with depression in experimental group were selected from another old age home.

Sampling Technique

Polit and Beck (2006) Sampling technique refers to process of selection of a portion of the population to represent the entire population.

Phase I

Purposive sampling technique was used to select the samples from the respective settings.

Phase II

Simple random sampling technique was used to select the samples through lottery method.

Sampling Criteria

Inclusion criteria

The study includes old age people who

- ➢ Reside in selected old age homes.

- ➢ Can speak and read English or Tamil.

- ➢ Are willing to participate in the study.

- ➢ Are aged 60-75 years.

- ➢ Old age people with depression (phase 11).

Exclusion criteria

The study excludes old age people who

- ➢ Those who are very sick and unable to participate in the study.

- ➢ Are not willing to participate in this study

- ➢ Old age people with sensory deficits like blindness, hearing loss etc.

Selection and Development of Study Instruments

The study aimed at evaluating the effectiveness of Pranayama on depression among old age people. The instruments used in the study were,

The tool is divided into 4 parts.

- ➢ Demographic variables proforma of old age people

- ➢ Clinical variable proforma of old age people

> ➢ Geriatric depression scale

> ➢ Rating scale on level of satisfaction of pranayama

Demographic variable proforma of old age people

The demographic variable proforma consisted of age, gender, religion, marital status, type of family, area of residence, education, occupation and family income, number of children, religion, type of family and duration of stay in old age home.

Clinical variable proforma of old age people

This was used to assess the clinical variables such as history of any medical illness, duration of medical illness, history of taking medications, history of hospitalization, treatment seeking behavior, history of smoking, and history of alcoholism, physical activity, and relaxation therapy used.

Geriatric depression scale

Geriatric depression scale is standardized instrument to assess depression among old age people, developed by Yesavage et al in 1982. This tool consist of 30 Yes/No questions to assess the level of depression among the old age people. The researcher interviews the study participants and marks Yes/No along with the score. It consists of positive and negative response of 30 items related to old age depression with yes or no options, each depressive answer count one. Questions 1, 5,7,9,15,19,21,27,29 and 30 has "No" response count one for each and for the rest if response is 'Yes" count one. Scores are added and interpreted as follows,

- ➢ Normal 0-10,

- ➢ Mild depression 11-17,

- ➢ Severe depression > 17.

Rating scale to assess the level of satisfaction on pranayama

This is developed by the investigator to assess the satisfaction of pranayama among old age people. This scale consisted of 10 items on satisfaction of the study participants regarding the various aspects of Pranayama, rated on a four point scale with the score – Highly Satisfied – 4, Satisfied – 3, Dissatisfied – 2, Highly Dissatisfied – 1. The scale was used to assess various aspects of pranayama such as explanation given about the Pranayama, the researcher's approach to the Clients time, duration, understandability and usefulness, involvement of the participants and arrangements made during the programme. Thus the total obtainable score is 10 - 40. The obtained score is converted into percentage and is interpreted as follows:

Highly Satisfied	76 – 100 %
Satisfied	51 – 75 %
Dissatisfied	25 – 50 %
Highly Dissatisfied	below 25 %

Psychometric Properties of Instruments

Validity of the study instruments

The content validity refers to the degree to which the items on an instrument adequately represents the universe of the content (polit & Bech, 2004). Geriatric

depression scale is the standardized and valid tool developed by Yesavage and permission was obtained from author to use it. The other proformas and scales were certified validated by seven experts. The modification and suggestion of experts were incorporated in the final preparation of the tool.

Reliability of the study instruments

1. Geriatric depression scale

Reliability is the degree of consistency with which an instrument measures the attributes which is designed to measure (Polit and Hungler 2007). Geriatric depression scale was developed by Yesavage is a standardized tool. Original version of Geriatric depression scale has internal consistency (alpha 0.94); split half reliability (0.94) and the test retest correlation of 0.85 over a week. The reliability of translated version in Tamil is established by spilt half method and reliability score was 0.83 indicating the tool is highly reliable.

2. Demographic and clinical variables proforma of old age people

The instruments used in the study were Demographic variable Proforma, Clinical variable proforma and Rating scale on the level of satisfaction regarding Pranayama. The experts have suggested some specific modifications in the demographic and clinical variables proforma and rating scale. The modifications and suggestions of experts were incorporated in the final preparation of the tool.

3. Satisfaction scale on pranayama

Reliability refers to the accuracy and consistency of the measuring tool. The level of satisfaction scale was tested using split half method and the reliability was

found to be 0.8 indicating that the tool is highly reliable. This Satisfaction scale were certified validated by seven experts.

Pilot Study

Polit and Beck (2004) stated that a pilot study is a miniature version of actual study in which the instruments are administered to the clients drawn from the same population. The purpose is to find out the feasibility and practicability of the study design.

It is a small version or trail run done in preparation for the major study. The purpose is to find out the feasibility and practicability of the study design. The pilot study was conducted on 10 old age people who met the inclusion criteria at Aruvi old age home, Aynavaram, Chennai. The participants were chosen through simple random sampling technique. Five in control group, 5 in the experimental group. Pranayama for 30 minutes was given for a week for experimental group. There was no intervention given for control group. Depression scores were assessed for both control and experimental group. Then the level of satisfaction on Pranayama was assessed using rating scale for experimental group. On the whole Pranayama was found to be feasible and acceptable.

Protection of Human Rights

The study was conducted after obtaining clearance from the ethical committee, From the Principal, Apollo College of nursing, Head of the department of psychiatric nursing, and the Trustees of the old age homes to conduct the study. Informed consent was obtained from the study participants.

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Data Collection Procedure

The data collection is the gathering of information needed to address a research problem. The study was conducted in the S.V Old age home, Arumbakkam (control group) and Anandam Old age home for senior citizen, Kallikuppam, (experimental group) Chennai. The data collection was done for a period of 6 weeks from 20.6.2011 to 31.7.2011.

Rapport was established by a brief introduction about the research purpose. After the initial introduction by the researcher obtained informed consent from the study participants. An assurance was given regarding confidentiality before the data collection procedure. Data was collected through interview method by using instruments (Demographic variable proforma, Clinical variable proforma, Geriatric depression scale - standardized instrument to assess depression among old age people, developed by Yesavage et al in 1982, level of satisfaction scale).

Geriatric depression scale was administered to all inmates and the prevalence rate was found. By simple random sampling technique, lottery method 30 old age people in each setting were selected for both control and experimental group of old age people by the researcher for data collection. Settings were randomized and allotted to the control and experimental group.

The data collection was done for period of six weeks on selected samples. The study participants in the experimental group practiced pranayama for 33 minutes, in Anadham old age home, Kallikupam, Chennai. Study participants gathered in the common hall meant for them in old age home. Techniques of pranayama were

demonstrated by the researcher. Pranayama was practiced by the study participants before break fast for a period of six weeks. After six weeks the depression scores was assessed by Geriatric Depression Scale both in control and experimental group. Then the level of satisfaction regarding administration of Pranayama was assessed using the level of satisfaction rating scale in the experimental group of old age people.

Pranayama

Pranayama refers to breathing exercise, breath retention and deliberate methods of inhalation and exhalation for mental and physical benefits. This therapy enhances relaxation. This is done on daily basis for 33 minutes in morning for a period of six weeks. Techniques of Pranayama were demonstrated by the researcher in the selected old age homes.

Plan for Data Analysis

Data analysis is the systematic organization and synthesis of research data and testing of null hypotheses by using the obtained data. (Polit & Beck, 2004) analysis and interpretation of the data were carried out with descriptive and inferential statistics.

Descriptive statistics such as mean, frequency, percentage and standard deviation and Inferential statistics such as Chi - square, paired t' test and independent't' test were used .

Expected Outcome

Findings of the study will be useful for the nurses to incorporate Pranayama as a part of psychosocial intervention. This will in turn help the old age people to cope with day to day stressors and improve in the quality of life.

Summary

This chapter has dealt with the selection of research approach, research design, setting, population, sample, sampling technique, sampling criteria, selection and development of study instruments, validity, and reliability of study instrument, pilot study, data collection procedure and plan for data analysis. The following chapter deals with analysis and interpretation of data using descriptive and inferential statistics.

CHAPTER IV

ANALYSIS AND INTERPRETATION

The analysis is defined as the method of organizing data in such a way that the research questions can be answered. Interpretation is the process of the results and of examining the simplification of the findings with in a broader context. (Polit and Beck, 2004)

This chapter includes both descriptive and inferential statistics. Statistics is a field of study concerned with techniques or methods of collection of data, classification, summarizing, interpretation, drawing inferences, testing of hypotheses, making recommendation, etc-(Mahajan 2004)

The data was collected from old age people in Anandham old age home to determine the effectiveness of pranayama upon depression. The data were analyzed according to the objectives and hypotheses of the study. Analysis of study was completed after all the data was transferred to the master coding sheet. The investigator used descriptive and inferential statistics for analysis**.**

Organization of Findings

The findings of the study was organized and presented under the following headings.

- ➢ Prevalence of depression among the old age people.
- ➢ Frequency and percentage distribution of demographic variables in the control and experimental group of old age people with depression.

- Frequency and percentage distribution of clinical variables in the control and experimental group of old age people with depression.

- Frequency and percentage distribution of level of depression before and after Pranayama in the control and experimental group of old age people.

- Frequency and percentage distribution of level of satisfaction regarding pranayama among experimental group of old age people.

- Comparison of mean and standard deviation of depression scores before and after Pranayama between   control and experimental group of old age people.

- Association between the selected demographic variables and the level depression before and after Pranayama in the Control group of old age people.

- Association between the selected demographic variables and the level depression before and after Pranayama in the Experimental group of old age people.

- Association between the selected clinical variables and the level depression before and after Pranayama in the Control group of old age people.

- Association between the selected clinical variables and the level depression before and after Pranayama in the experimental group of old age people.
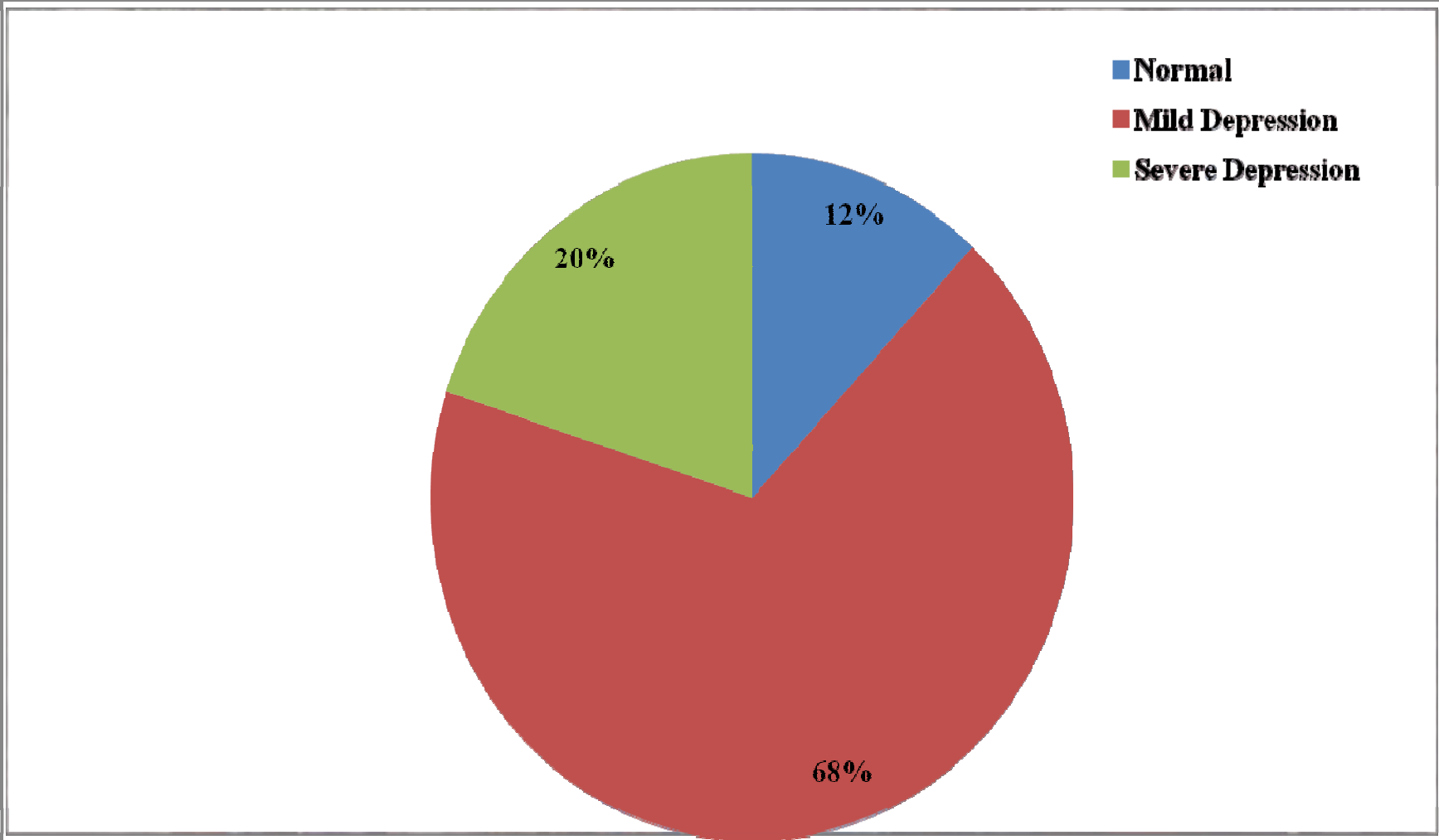
Fig.3 Percentage Distribution of Prevalence of Depression

Table .1

Frequency and Percentage Distribution of Demographic Variables in the Control and Experimental Group of Old Age People with Depression.

Demographic variables	Control Group (n=30)		Experimental Group (n=30)	
	n	**p**	**n**	**p**
Gender				
Male	13	43.33	13	43.33
Female	17	56.66	17	56.66
Educational status				
Illiterate	8	26.66	4	13.33
Primary education	-	-	-	-
Secondary education	-	-	2	6.66
Higher secondary / PUC	18	60	18	60
Graduate and above	4	13.33	6	20
Spouse is alive, whether he/she is residing in this home				
Yes	4	13.33	1	3.33
No	26	86.66	29	96.66
Source of income				
Pensioner	18	60	21	70
Govt aid	-	-	-	-
Property	-	-	-	-
Savings	-	-	-	-
Nil	12	40	9	30
Monthly income				
≤ 2000	5	16.66	9	30
2001-6000	13	43.33	12	40
6001-10,000	-	-	-	-
$\geq 10,000$	-	-	-	-
Nil	12	40	9	30

Number of children				
No children	10	33.33	15	50
One	10	33.33	12	40
Two	1	3.33	-	-
More than two	9	30	3	10
Religion				
Hindu	18	60	20	66.66
Muslim	-	-	-	-
Christian	12	40	10	33.33
Others(specify)	-	-	-	-
Type of family				
Nuclear	15	50	17	56.66
Joint	15	50	13	43.33

Table 1 depicts that most of them in control and experimental group were females (56.66%, 56.66%), educated (60%, 60%), Hindus (60%, 66.66%) and pensioners (70%, 60%) and belongs to nuclear family (50%, 56.66%) respectively.

Significant percentage of them have one child in control and experimental group (33.33%, 40%), with monthly income between 2001-6000 (43.33%, 40%) respectively.

Fig. 3 depicts that prevalence of depression among the old age people residing in the selected old age home were normal (12%), mild depression (68%), severe depression (20%) and overall as 88% in the control and experimental group of old age people.

Fig.4 shows that majority of the old age people were aged between 66-70 years (83.33%, 63.33%) in the control and experimental group respectively.

Fig. 5 depicted the marital status of the old age people that most of them were married (76.6%, 40%) in control and experimental group of old people respectively.

Fig.6 indicated that majority of the old age people had duration of stay between 2-3 years in the old age homes (80%, 66.66%) in the control and experimental group respectively.
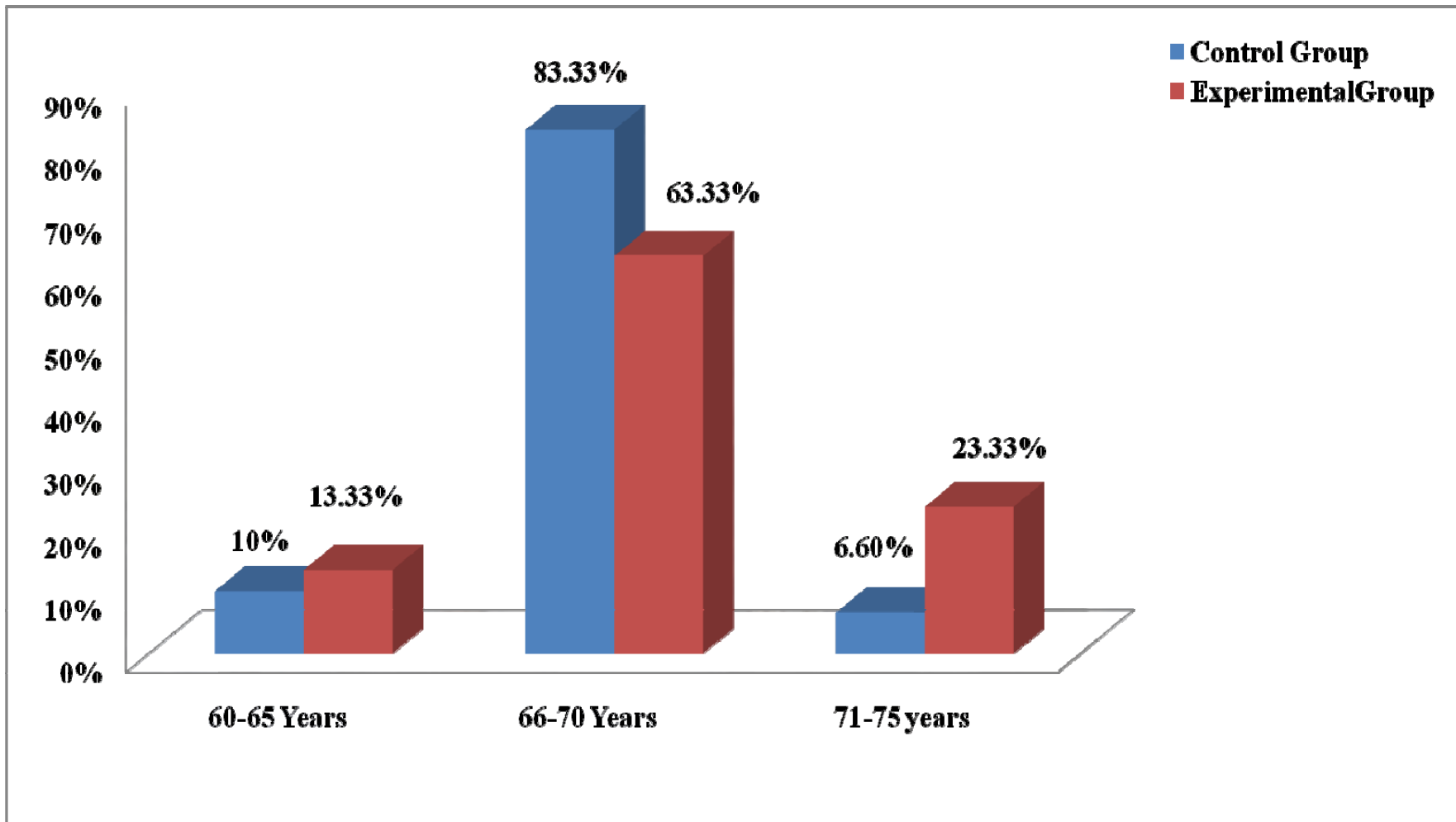
Fig. 4 Percentage Distribution of Age in years among the old age people
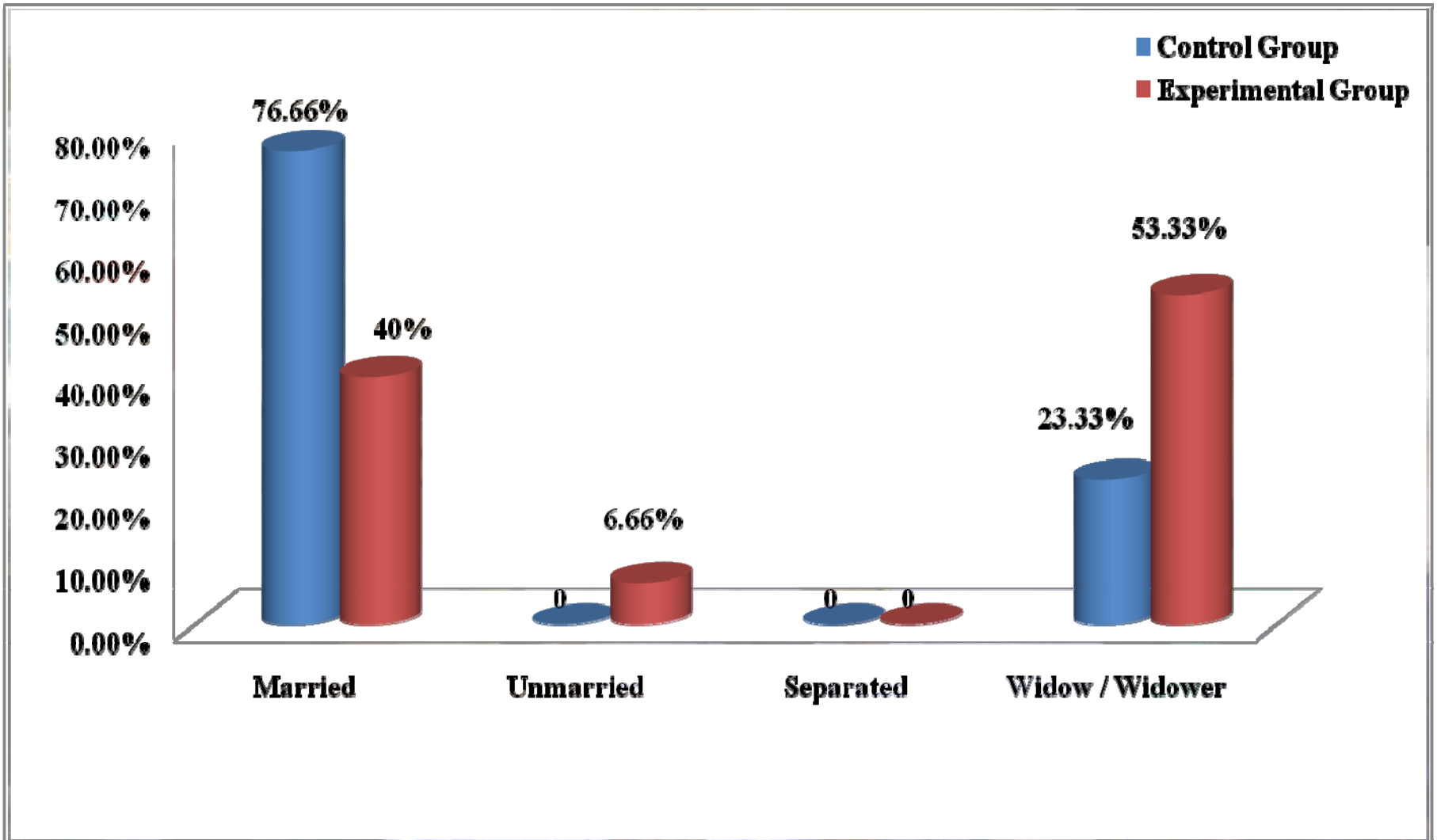
Fig. 5 Percentage Distribution of Marital Status of the old age people

Fig. 6 Percentage Distribution of Duration of Stay in the Old Age Home

Table .2

Frequency and Percentage Distribution of Clinical Variables in the Experimental and Control Group of Old Age People with Depression.

Clinical variable	Control group (n = 30)		Experimental group (n = 30)	
	n	p	n	p
History of medical illness				
Diabetes mellitus	15	50	11	36.66
Hypertension	-	-	-	-
Arthritis	-	-	-	-
Respiratory problems	-	-	-	-
Others (specify)	6	20	9	30
Nil	9	30	10	33.33
Duration of medical illness				
<1 year	2	6.66	8	26.66
1-5 years	19	63.33	12	40
6-10 years	-	-	-	-
>10 years.	-	-	-	-
History of taking medications for major illness				
Yes	15	50	15	50
No	15	50	15	50
History of Hospitalization within last five years	4	80	4	80
Yes	-	-	-	-
No	30	100	30	100
Treatment seeking behavior for any illness				
Uses Medical facilities	30	100	30	100
Self medication	-	-	-	-
Any others specify	-	-	-	-
History of Smoking				
Smoker	-	-	-	-
Non-Smoker	30	100	30	100

History of Alcoholism				
Non-alcoholic	30	100	30	100
Regular drinker	-	-	-	-
Social drinkers	-	-	-	-
Received any relaxation therapy before				
Yes	12	40	16	53.33
No	18	60	14	46.66
If yes, what was the relaxation therapy you underwent?				
Progressive muscle relaxation	-	-	-	-
Yogasana	2	16.66	7	43.75
Meditation	10	83.33	9	56.25
Any other (specify)	-	-	-	-

Table 2 shows that control and experimental group of old age people none of them had history of hospitalization within last five years (100%, 100%). All of them (100%, 100%) were non- smokers, non-alcoholics and used only medical facilities for the treatment of any illness respectively.

Significant percentage of them in control and experimental group had diabetes mellitus (50%, 36.66%), with the duration of medical illness for 1-5years (63.33%, 40%) and practiced relaxation therapy before intervention (40%, 53.33%) in control and experimental group respectively.

Fig.7 shows that majority of them had moderate physical activity (80%, 66.66%) in control and experimental group of old age people respectively.

Fig.8 depicts the percentage distribution of level of depression before pranayama, majority of them (73%) had mild depression and significant (27%) of them had severe depression whereas after pranayama majority of them were normal (83%) and significant percentage of them had mild depression (17%) in the experimental group of old age people.
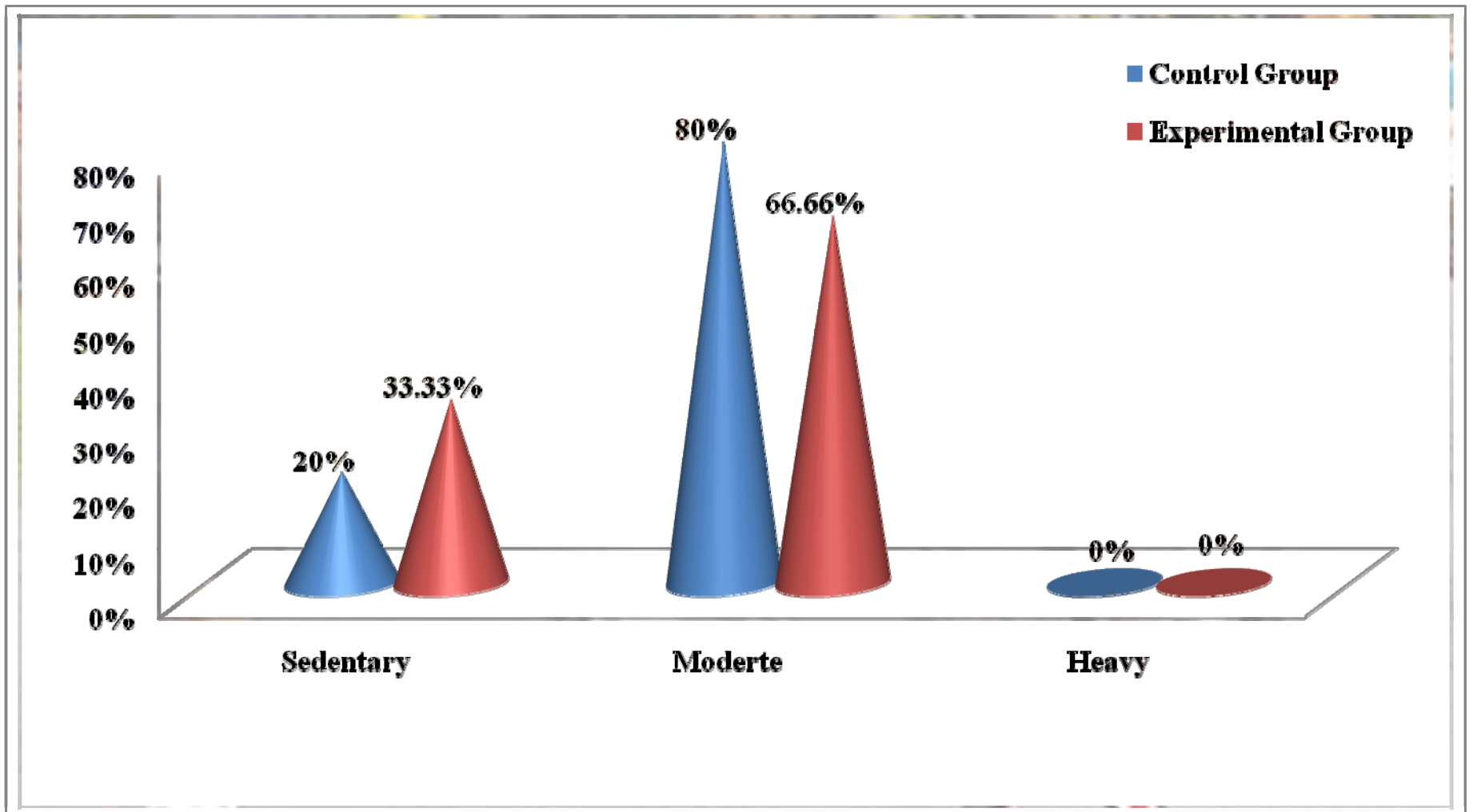
Fig. 7 Percentage Distribution of Physical Activity among the old Age People
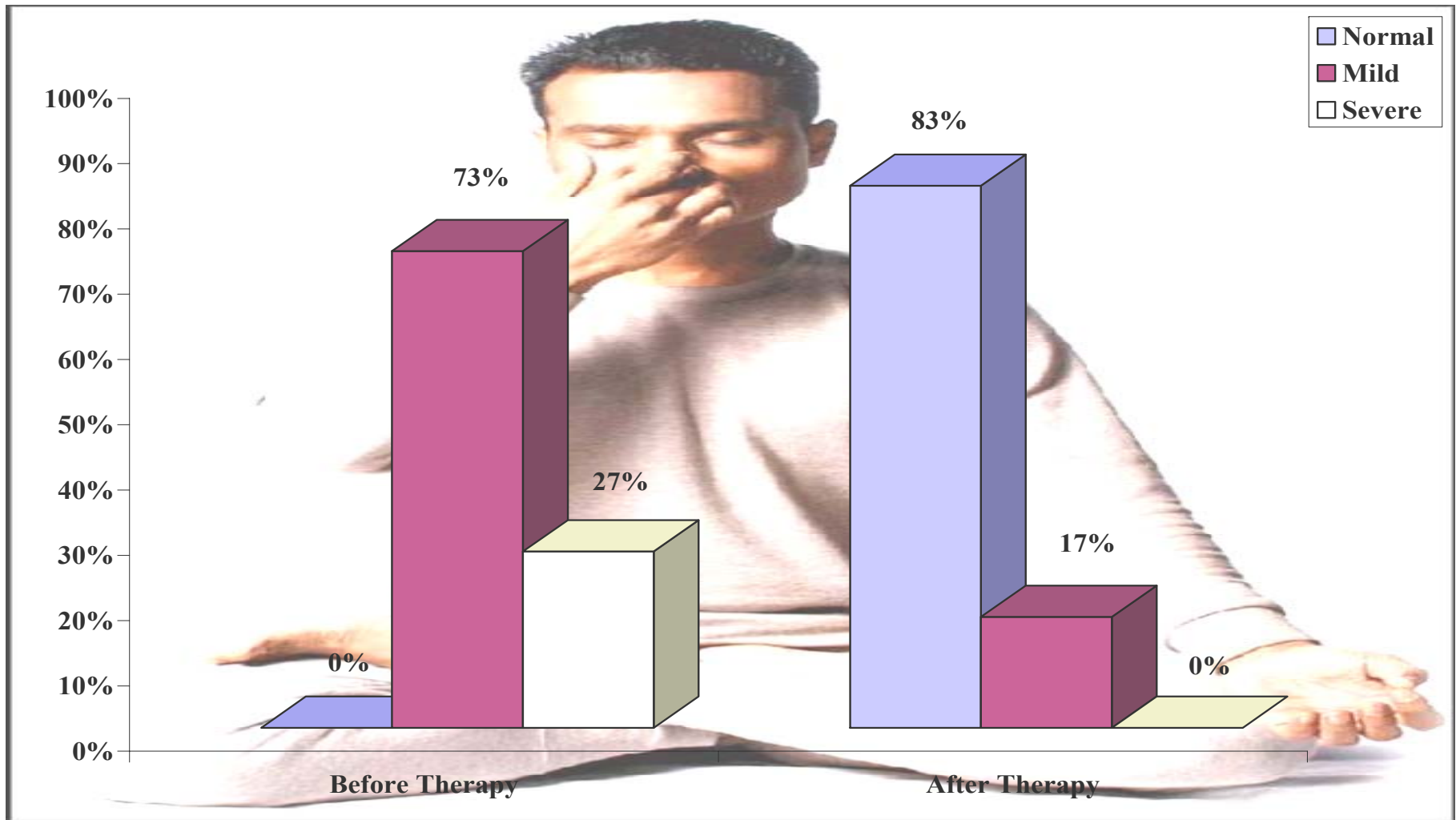
Fig.8 Percentage Distribution of Level of Depression Before and After Pranayama in Experimental Group of Old Age People

Table .3

Frequency and Percentage Distribution of Level of Depression Before and After Pranayama in the Control and Experimental Group of Old Age People.

Group	Control group (n=30)						Experimental group (n=30)					
	Normal		Mild		Severe		Normal		Mild		Severe	
	n	%	n	%	n	%	n	%	n	%	n	%
Before Therapy	-	-	23	76.66	7	23.33	-	-	22	73.33	8	26.66
After therapy	-	-	22	73.33	8	26.66	25	83.33	5	16.66	-	-

The data presented in the table 3 revealed that majority of old age people in the control and experimental group had mild level of depression (76.66%, 73.33%) before Pranayama. However after pranayama it was normal (83.33%) and mild (16.66%) level of depression. Whereas in control group majority of old age people had mild (73.33%) and severe (26.66%) level of depression, before and after Pranayama.

Table .4

Frequency and Percentage Distribution of Level of Satisfaction regarding Pranayama among Experimental Group of Old Age People. (N= 30)

Level of Satisfaction	Highly satisfied		Satisfied		Dissatisfied		Highly Dissatisfied	
	n	%	n	%	n	%	n	%
Overall Satisfaction	29	96.6	-	-	-	-	-	-
Related to researcher	28	93.4	2	6.6	-	-	-	-
Related to pranayama	29	96.6	1	3.4	-	-	-	-

It could be inferred that majority of the old age people in the experimental group were highly satisfied with all the aspects of Pranayama in the experimental group of old age people.

Table .5

Comparison of Mean and Standard Deviation of Depression Scores of Before and After Pranayama between Control and Experimental Group of Old Age People.

Group	Before therapy			After therapy		
	Mean	Standard deviation	't' value	Mean	Standard deviation	't` value
Control Group (n=30)	15.1	5.2095		15.7	3.023	
			1.0898			14.3849***
Experimental Group (n=30)	16.4	4.309		7.0	3.533	

*** p< 0.001

The data presented in table 5 depicted that mean and standard deviation of old age people before pranayama (M= 15.1, 16.4, SD= 5.2095, 4.309) between the control and experimental group is not significant (p> 0.05), whereas after pranayama there is significant difference in the mean and standard deviation (M=15.7, 7.0, SD= 3.0, 3.53) between the control and experimental group (p< 0.001). It can be attributed to the effectiveness of pranayama on reducing depression. Hence the null hypotheses Ho_1 was rejected.

Table .6

Association Between the Selected Demographic Variables and the Level of Depression Before and After Pranayama in the Control Group of Old Age People. (N=30)

Demographic variables	Before Therapy			After Therapy		
	Mild	Severe	χ^2	Mild	Severe	χ^2
Age in years						
60-70	21	7	0.005	20	8	0.0041
71-75	2	0	df=1	2	0	df=1
Gender						
Male	13	0	3.2	12	1	2.674
Female	10	7	df=1	10	7	df=1
Religion						
Hindu	11	7	0.61	14	4	0.441
Christian	9	3	df=1	8	4	df=1
Education						
Non -Literate	7	1	0.12	6	2	0.1094
Educated	16	6	df=1	16	6	df=1
Type of family			0.371			0.85
Nuclear	12	3	df=1	12	3	df=1
Joint	11	4		10	5	
Marital Status						
Married	17	6	0.051	17	6	0.124
Widow/ widower &unmarried	6	1	df=1	5	2	df=1
Monthly income						
Some income	13	5	0.064	13	5	0.0604
No income	10	2	df=1	10	2	df=1
Source of income						
Pensioner	13	5	0.064	13	5	0.064
Nil	10	2	df=1	10	2	df=1
Number of Children						
No Children	4	6	6.173*	5	5	4.0*
With Children	18	2	df=1	17	3	df=1
Spouse residing						
Yes	3	1	0.302#	3	1	0.281#
No	20	6	df=1	19	7	df=1
Duration of stay						
Upto 3 years	17	7	0.756#	17	7	0.756#
Above 3 years	5	1	df=1	5	1	df=1

*p< 0.05

Table 6 inferred that there was significant association between the level of depression and the demographic variable number of children ($p<0.05$). Null hypotheses (Ho_2) with regard to association between the level of depression and demographic variable number of children was rejected.

However there was no significant association between the level of depression and other demographic variables ($p>0.05$). Null Hypotheses (Ho_2) with regard to association between the level of depression and demographic variables such as age, gender, religion, educational status, type of family, marital status, monthly income was retained.

Table .7

Association Between the Selected Demographic Variables and the Level Depression Before and After Pranayama in the Experimental group of Old Age People. (N=30)

Demographic variables	Before Therapy		χ^2	AfterTherapy		χ^2
	Mild	Severe		Mild	Severe	
Age in years						
60-70	16	7	0.119	18	5	0.6008
71-75	6	1	df=1	7	0	df=1
Gender						
Male	7	6	3.84*	8	5	5.32*
Female	15	2	df=1	17	0	df=1
Religion						
Hindu	13	7	2.38	16	4	1.14
Christian	10	0	df=1	10	0	df=1
Education						
Non - literate	4	0	0.294	4	0	0.039
Educated	19	7	df=1	21	5	df=1
Type of family						
Nuclear	13	4	0.18	15	2	0.102
Joint	9	4	df=1	10	2	df=1
Marital Status						
Married	15	3	0.379	16	2	0.0119
Widow/ widower & unmarried	8	4	df=1	10	2	df=1
Monthly income						
Some income	15	6	0.098	16	5	1.142
No income	7	2	df=1	9	0	df=1
Source of income						
Pensioner	15	6	0.0139	16	5	1.142
Nil	7	2	df=1	9	0	df=1
Number of Children						
No Children	12	3	0.168	13	2	0.24
With Children	10	5	df=1	12	3	df=1
Duration of stay						
Upto 3 years	12	8	4.7106*	14	6	4.35*
Above 3 years	10	0	df=1	10	0	df=1

*p< 0.05

It could be inferred from the table 7 there was significant association between the level of depression and the demographic variables such as gender and duration of stay in old age home (p<0.05). Null hypotheses (Ho$_2$) with regard to association between the level of depression and demographic variables such as gender and duration of stay was rejected.

However there was no significant association between the level of depression and other demographic variables (p>0.05). Null Hypotheses (Ho$_2$) with regard to association between the level of depression and demographic variables such as age, religion, educational status, type of family, marital status, monthly income was retained.

Table .8

Association Between the Selected Clinical Variables and the Level Depression Before and After Pranayama in the Control group of Old Age People. (N=30)

Clinical variables	Before Therapy		χ^2	After Therapy		χ^2
	Mild	Severe		Mild	Severe	
History of Medical illness						
With illness	16	5	0.24	15	6	0.38
With out illness	7	2	df =1	7	2	df =1
Duration of medical illness						
≤1 year	1	1	2.09	1	1	0.91
≥ 1-5 years	15	4	df =1	15	4	df =1
History of taking medications for major illness						
Yes	11	4	0.38	10	5	0.274
No	12	3	df =1	12	3	df =1
Physical activity						
Sedentary	2	4	3.23	3	3	0.86
Moderate	20	4	df =1	19	5	df =1
Have you received any relaxation therapy before?						
Yes	10	2	8.46**	9	3	10.89**
No	4	14	df =1	13	5	df =1
What was the relaxation therapy underwent						
Yoga	1	1	1.85	1	1	1.85
Meditation	9	1	df =1	9	1	df =1

**p<0.01

It could be inferred from the table 8 that there was a significant association between the level of depression and the clinical variable received any relaxation therapy before intervention (p<0.01). Null Hypotheses (Ho$_3$) with regard to association between the level of depression and clinical variable received any relaxation therapy before intervention was rejected.

However there was no significant association between the level of depression and other clinical variables (p>0.05). Null Hypotheses (Ho$_3$) with regard to association between the level of depression and clinical variables such as history of medical illness, duration of medical illness, history of taking medications, physical activity was retained.

Table . 9

Association Between the Selected Clinical Variables and the Level of Depression Before and After Pranayama in the Experimental Group of Old Age People.

(N=30)

Clinical variables	Before Therapy		χ^2	After Therapy		χ^2
	Mild	Severe		Mild	Severe	
History of Medical illness						
With illness	14	6	0.24	17	3	0.93
With out illness	7	3	df =1	7	3	df =1
Duration of medical illness						
$\leq$1 year	6	2	1.60	7	1	2.115
$\geq$ 1-5 years	9	3	df =1	10	2	df =1
History of taking medication for major illness						
Yes	8	3	0.027	9	2	0.48
No	13	6	df =1	15	4	df =1
Physical activity						
Sedentary	7	3	0.075	8	2	0.106
Moderate	15	5	df =1	17	3	df =1
Have you received any relaxation therapy before?						
Yes	11	5	0.028	13	3	1.06
No	11	3	df =1	12	2	df =1
What was the relaxation therapy underwent						
Yoga	6	1	0.075	6	1	1.85
Meditation	6	3	df =1	9	0	df =1

**p<0.01

It could be inferred from the table 9 that there was no significant association between the level of depression and the clinical variables (p<0.01). Null Hypotheses with regard to association between the level of depression and clinical variables such as any medical illness, duration of medical illness, history of taking medications for major illness, physical activity, received any relaxation therapy before was retained.

Summary

This chapter dealt with analysis and interpretation of data obtained by the researcher. The analysis of the results showed that in the experimental group the level of depression have reduced after administration of pranayama, when compared to before administration of pranayama. This implied that pranayama has significant effect on reduction in the level of depression among the experimental group of old age people.

CHAPTER V

DISCUSSION

A Quasi Experimental Study was conducted to Assess the Effectiveness of Pranayama upon Depression among Old Age People in selected Old Age Homes, Chennai.

Objectives of the Study

1. To find out the prevalence of depression among the old age people in selected old age homes.

2. To assess the level of depression in control and experimental group of old age people.

3. To evaluate the effectiveness of Pranayama by comparing the level of depression in control and experimental group of old age people before and after administration of pranayama.

4. To determine the level of satisfaction regarding Pranayama among experimental group of old age people.

5. To find out the association between demographic variables and the level of depression before and after Pranayama in control and experimental group of old age people.

6. To find out the association between clinical variables and the level of depression before and after Pranayama in control and experimental group of old age people.

The study was carried out upon 60 old age people at selected old age homes Chennai. The level of depression was assessed before and after pranayama using

Geriatric depression scale in the control and experimental group of old age people .pranayama was administered 7 days in a week in the morning before breakfast for the period of 6 weeks only in the experimental group of old age people. After 6 weeks the level of depression was assessed by using Geriatric depression scale in the control and experimental group of old age people. Then the level of satisfaction on pranayama was assessed by using rating scale only in the experimental group of old age people.

The discussion is presented under the following headings

➢ Prevalence of depression among old age people.

➢ Demographic variables of control and experimental group of old age people.

➢ Clinical variables of control and experimental group of old age people.

➢ Effectiveness of Pranayama on depression.

➢ Association between the selected demographic variables and clinical variables and the level of depression of the old age people.

➢ Level of satisfaction of Pranayama.

Prevalence of depression among old age people

The prevalence of depression among the old age people residing in the old age homes is 88 % (mild depression 68%, severe depression 20%). These findings indicate that depression is highly prevalent among the old age people in the selected old age homes. It may be due to the consequences of reduced life satisfaction, social deprivation, loneliness, cognitive decline and impairment in the activities of daily living. The needs and the demands of the old age people have been increasing and they are not given much attention by the family members and relatives and they are left alone

in the old age home. Due to urbanization family system are broken down into nuclear, and the old people are left alone and uncared. Hence there is a high prevalence of depression among the old age people in the selected old age homes.

The findings were consistent with the study on the largest population-based study among urban south Indians, where they have reported the point prevalence of major depression among community residents 65 years or older (2%-4%), the estimates of the prevalence of less severe depression range from (5% - 44 %) from India to report on prevalence of depression and shows that among urban south Indians, the prevalence of depression among the old age depression was due to the physical illness, poverty, loneliness, lack of loved ones which correlated with old age depression (Kumar, et al., 2010).

Depression is an illness that affects both the mind and the body and is a leading cause of disability, workplace absenteeism, decreased productivity and high suicide rate. Depression is the most common psychiatric disorder in general practice and about one in ten patients seen in the primary care settings suffer from some form of depression. In a study by the World Health Organization (WHO) conducted at 14 sites, the most common diagnosis in primary care was depression.

Depression is estimated to affect 340 million people globally. The prevalence of psychiatric disorders is reported to differ between countries and within countries, across various ethnicities. Even though depression is highly prevalent, most common and it is unnoticed in the society. However when it is identified, depression can be corrected through the various alternative and complementary therapies. It is the responsibility of

the nurses to assess the prevalence of depression through simple screening instruments to diagnose, intervene according to the needs.

Demographic variables of control and experimental group of old age people

Majority of the old age people in the control and experimental group were aged between 66-70 years (83.33%, 63.33%) had duration of stay between 2-3 years in the old age homes (80%, 66.66%) and do not have spouse residing in the same home (86.66%, 96.66%). Most of them were females (56.66%, 56.66%), educated (60%, 60%), Hindus (60%, 66.66%), pensioners (70%, 60%) and belongs to nuclear family (50%, 56.66%). Significant percentage of them have one child (33.33%, 40%), with monthly income between 2001-6000 (43.33%, 40%) in control and experimental group of old age people respectively.

Depression increases with sources of stress are to be account for this relationship like increasing with age, economic stress, poor health and social isolation. The relation between these sources of stress and depression may act as the direct cause of old age depression. It noticed that most of them were educated and economically independent in both control and experimental group of old age people respectively. Educational status and socio economic background may influence positively in the treatment seeking behavior as they might be aware of the consequences of the depression and can able to manage and treat depression effectively. Depression was found more common among the old age people with low level education. Education is one of the general criteria in the assessment of socio economic status, besides job and income. Significant of the old age people were non- literate this may be due to the fact that unpopularity of formal

education during their childhood. It is well established that low socio economic status is frequently associated with poor health maintenance leads to depression in late life.

Religion also play vital role, most of them were Hindus. Religious practice, especially when it is embedded within a traditional value-orientation, may facilitate coping with adversity in later life. Most of them were living in the nuclear families before joining the old age home in the control and experimental group of old age people, escalating depression might have increased due to lack of care and support from the family members. Strong family ties have positive effect on the well being of the old age people. Loneliness/alienation, less participation in family or social activities, Isolated by family members/ relatives/ neighbors. Less opportunities of engagements/ employments, Physical or mental abuse of old age people in society or in family also aggravates depression. Talking openly, expressing ones concern and feelings in a joint family is easier than expressing in nuclear families. Since members from joint family would be supportive to each other and be optimistic towards their feelings in helping them to promote positive attitude towards self.

Marital status of the old age people significant of them was widow/ widowers. These findings reveal that depressive influence of living alone is greater on men than women. It is generally believe that depression is associated with widowhood is probably due to the bereavement. In addition loneliness is one of the depressive manifestations, commonly seen in old age people regardless of their marital status.

Undesirable health events have a stronger impact on those who live alone, particularly women. Marital status influences depression indirectly through its influence

on living alone. Majority of the old age people do not have spouse residing in the same home. The influence of living alone on depressive symptoms from the influence of other highly relevant variables: social support, stressors, age, sex, and marital status. Old age people who live alone have higher levels of depressive symptomatology; and this relationship is independent of the influence of expressive support from friends, face-to-face interaction with friends, undesirable life events, disability, and financial strain. The mental health effects of living alone on old age people.

Archana (2009) conducted study, was carried out on 55 elderly people (both men and women). The tools used were Beck Depression Inventory, Loneliness Scale and Sociability Scale by Eysenck. Results revealed a significant relationship between depression and loneliness. Most of the elderly people were found to be average in the dimension of sociability and preferred remaining engaged in social interactions.

Hence it is the liability of the institution and the health care professionals to implement diversity of complementary therapies in the old age homes and this information should be disseminated to the inmates to promote the overall quality of life.

Clinical variables of control and experimental group of old age people

None of them had history of hospitalization within last five years (100%, 100%). All of them (100%, 100%) were non- smokers, non-alcoholics and uses only medical facilities for the treatment of any illness. Majority of them had moderate physical activity (80%, 66.66%) in control and experimental group of old age people. Significant percentage of them had diabetes mellitus (50%, 36.66%), with the duration of medical

illness for 1-5years (63.33%, 40%) and practiced relaxation therapy before intervention (40%, 53.33%) in control and experimental group respectively.

None of them had no previous history of hospitalization within five years and it is shown that old age people had not got admitted in the hospital due to any major illness. Previous history of hospitalization has its own pros and cons. The experience and training the old age people would be able to cope up with their problems and carry out the complimentary therapy with more interest and knowledge. Findings in the clinical variables reveals that most of the old age people were non smokers and non alcoholics this may be due to the underreporting and unavailability of substance and alcohol as they are residing in the old age homes. Smokers and alcoholics may use these substances as an alternative to get relief. It is the responsibility of the health care professionals to educate the old age people to quit smoking and alcoholism.

Males adapt smoking and alcoholic habits due to their day to day life stressors and these habits have a greater impact on depression. These findings were supported by Silberman (1997) found that moderate consumption of alcohol initially increases the level of depression to mild and their level of subsequent use increases to severe stage.

Diabetes mellitus is the major illness present in the old age people. The old age are at highest risk. In the group aged 65–74 years, it is projected that the number with diabetes will triple. In the group aged > 75 years, the number of diabetes patients will increase to five times its present level. Old age diabetic patients often have multiple medical problems (e.g., physical disabilities and mental and emotional problems) that complicate the illness. Furthermore, increased life expectancy means that more of the

old age will suffer impaired quality of life (e.g., pain and depression) because of diabetes-related complications.

It was clearly implicated the old age people have no idea in reducing the depressive symptoms and it also denotes that nurses to aware of the complementary therapies available to promote the physical and psychological wellbeing. Relaxation therapies reduce the level of depression and improve the quality of life.

Effectiveness of pranayama on depression

Mean and standard deviation of old age people before pranayama (M = 15.1, 16.4, SD = 5.2095, 4.309) between the control and experimental group is not significant (p> 0.05), whereas after pranayama there is significant difference in the mean and standard deviation (M =15.7, 7.0, SD = 3.0, 3.53) between the control and experimental group (p< 0.001). It can be attributed to the effectiveness of pranayama on reducing depression.

Pranayama asserts that changing your breathing pattern can cause a feedback process that produces physiological changes in your body, including decreased blood pressure, decreased heart rate and decreased muscle tension. Pranayama also aids in learning self-awareness can also generate mental changes, such as increased self-acceptance, increased control over your life and a renewed outlook on pain. These physiological and mental changes can holistically improve your health and reduce symptoms of depression.

Autonomic responses to breath holding were studied in twenty healthy young men. Breath was held at different phases of respiration and parameters recorded were Breath holding time, heart rate systolic and diastolic blood pressure and galvanic skin resistance (GSR). After taking initial recordings all the subjects practised Nadi-Shodhana Pranayama for a period of 4 weeks. At the end of 4 weeks same parameters were again recorded and the results compared. Baseline heart rate and blood pressure (systolic and diastolic) showed a rendency to decrease and both these autonomic parameters were significantly decreased at breaking point after pranayamic breathing. Thus pranayama breathing exercises appear to alter autonomic responses to breathe holding probably by increasing vagal tone &decreases the vagal discharge. Bhargava (1988).

The regular practice of Pranayama can be quite effective in not only overcoming depression among the old age but also help them in promoting mental health.This will help them develop a sort of resilience to any kind of mental or physical Illness. Pranayama is commonly used to describe various yogic breathing exercises that help give the practitioner control of the life force, or pranayama. Pranayama has been reported to be beneficial in treating a range of stress related disorders, improving autonomic functions, relieving symptoms of asthma, and reducing signs of oxidative stress.

The breathing practices, or pranayama, are one component of hatha yoga, this is intended to give one a healthy body and mind. Thus, it can be concluded that pranayama helps in the reduction of depression level in the old age. This might prove to be a useful adjunct to medications and at times it may act as the only form of treatment. The findings would have a significant impact in our sociocultural context as people from rural areas are mostly poor and lack necessary medical care and our indigenous method

of pranayama is not only cheap but also effective in the treatment of various mental and physical distresses. Yoga has not only been found to be preventive in nature but also promotive as it increases the human potentials and improves the immune system of the individuals.

Level of satisfaction on pranayama

Finding a complementary therapy that is agreeable to the study participant is not easy. Satisfaction arises from a person when a therapy is balanced between the study participants choice and professional responsibility and high level of satisfaction can be obtained when the effects of the therapy are already expected by the nurse.

The researcher found that majority of old age people were highly satisfied (96.6%) regarding the intervention of Pranayama .These findings indicated that the administration of Pranayama is effective in reducing the depression level. Since it is easy to administer, harmless and cost effective, easy to follow. Many of the old age people reported high level of satisfaction. So the nurse can be instrumental in the administering Pranayama to the old age people without any harm full effect to reduce the depression by with the quality of life can be improved.

The study findings have thrown light on the fact that depression experienced by the old age people could be reduced through effective intervention by the nurses. Pranayama is an external ,practical science evolved over thousands of years in reducing depression and its results in automatic balance where the entire functioning of the mind and body get readjusted resulting in better health.

Association between the selected demographic variables, clinical variable and the level of depression of the old age people

Chi square test was used to find out the association between selected variables and the level of depression. It was found that there was significant association between selected variables (gender, number of children, duration of stay in old age home, and received any relaxation therapy before intervention) and the level of depression in both control and experimental group of old age people respectively. From this inference the level of depression among the old age people influenced by the demographic and clinical variables.

There is association between the level of depression and gender. Severe depression was found more in males than females. This may be due to the fact that even though females are more prone to depression than men, females learn to adapt easily and engage themselves in various activities like cooking and housekeeping activities by which the depression may be mediated. On other hand males residing in the old age homes are not much engaged in any productive activities. Thus remaining aloof and isolated which might aggravate depression.

It was also noted that severe depression was more among the old age people who are not having children. It may be due to fact that old age people with children may feel less depressed as they may be sacrificing their life for children as they may be satisfied with the happiness of their children. Whereas old age people without children might be depressed even before coming to the old age homes, which might be aggravated by the various factors such as lack of social support, loss of financial status, loss of spouse etc.

Study findings were consistent that Childless older adults increase rapidly in the coming future due to delayed marriage, infertility, and high divorce rate.

Chou (2004) conducted study Childlessness and psychological wellbeing of Chinese older adults. Cross-sectional data collected from a representative community sample of 2003 Chinese elderly people aged 60. Respondents were interviewed in face-to-face format and data including socio-demographic variables, health indicators, loneliness and depression were obtained. The impact of childlessness on psychological well-being among elderly Chinese is more robust. The effect of childlessness on psychological well-being has to be investigated in the context of marital status. Therefore, aged care service practitioners must take this risk factor into consideration in their preventive intervention and treatment for psychological well-being.

Even though, depression is common among old age people residing in old age home. It is interesting to note that old age people residing for shorter duration is more depressed than those who were residing for more than three years. Due to the adaptation difficulties felt in old age home. It may be due to the fact that, as the time goes on people learn to cope and adapt to environment where they live when there is no other option.

The study findings were consistent, with study conducted by Hooveer (2010) reveals the Understanding the prevalence, incidence and cofactors of depression among long-term elderly home residents domiciled for eight months or more may help optimize depression treatment in this vulnerable group. Depression in first year of resident ship is quantified. Data were obtained from the Minimum Data Set and Online Survey

Certification and Reporting for 634,060 residents admitted from 1999 to 2005 in 4,216 facilities.

Depression first diagnosed at admission and at subsequent quarterly intervals through the first year of stay was examined. Logistic regressions modeled correlates of newly identified depression in each time-period. Recorded depression at admission and during the first year increased from 1999 to 2005. By 2005, 54.4% of residents had depression diagnosed over the first year; 32.8% at admission and a further 21.6% later during the first year. Residents were less often identified with depression, particularly at admission. Pain and physical comorbidity were positively associated with depression identified throughout the first year. Prior institutionalization was associated with depression at admission, but not new depression after admission. High depression rates at admission and during the first year indicate a need to monitor and treat residents for depression.

Severe depression was found more among the old age people who were not receiving any relaxation therapy before the administration of pranayama. It is encouraging and interesting to note that severe depression was less among the old age people who had received previous experience of receiving relaxation had decreased level of depression, this reveals that alternative and complementary medicine plays a vital role in reduction of depression among the old age people.

Surveys have demonstrated that complementary medicine use for depression is widespread, although patterns of use vary. A series of systematic reviews provide a summary of the current evidence for acupuncture, aromatherapy and massage,

homeopathy, meditation, reflexology, herbal medicine, yoga, and several dietary supplements and relaxation techniques. The quantity and quality of individual studies vary widely, but research interest in complementary therapies is increasing, particularly in herbal and nutritional products. Major questions are still to be answered with respect to the effectiveness and appropriate role of these therapies in the management of depression.

In conclusion this study has enlightened on the importance of the role of the nurses in identifying the old age depression and they can provide pranayama to promote the psychological wellbeing. The above findings give a clear direction to health care professionals that everyone must be paid equal attention with regard to depression and pranayama should be irrespective of their demographic characteristics.

Summary

This chapter dealt with the objectives of the study, major findings of the demographic variables and clinical variables of the old age people with depression ,description of severity of depression level before and after administration of Pranayama, mean and standard deviation of depression level of depression of the old age people before and after Pranayama, association between the selected demographic variables and level of depression of the old age people and the level of satisfaction of Pranayama.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

SUMMARY

The aim of the study was to assess the effectiveness of Pranayama upon depression in old age people.

Objectives of the Study

1. To find out the prevalence of depression among the old age people in selected old age homes.

2. To assess the level of depression in control and experimental group of old age people.

3. To evaluate the effectiveness of Pranayama by comparing the level of depression in control and experimental group of old age people before and after administration of pranayama.

4. To determine the level of satisfaction after Pranayama in experimental group of old age people.

5. To find out the association between demographic variables and the level of depression before and after Pranayama in control and experimental group of old age people.

6. To find out the association between clinical variables and the level of depression before and after Pranayama in control and experimental group of old age people.

The study utilized the Quasi Experimental research design and the study was conducted in at S.V Old age home in Arumbakkam, Chennai (control group).

Anandham Home for Aged, Kallikuppam (experimental group). Sixty old age people were selected through simple random technique. Out of which 30 clients were assigned to control and 30 clients were assigned for experimental group. The depression scores were assessed for both control and experimental group in both before and after Pranayama. Pranayama was given in the experimental group for the period of six weeks, 30 minutes in a day.

Null Hypotheses

Ho$_1$: There will be no significant difference in the level of depression before and after Pranayama in control and experimental group of old age people.

Ho$_2$: There will be no significant association between the demographic variables and the level of depression before and after Pranayama in control and experimental group of old age people.

Ho$_3$: There will be no significant association between the clinical variables and the level of depression before and after Pranayama in control and experimental group of old age people.

The conceptual frame work for this study is based on Comfort theory developed by Katharine Kolcaba (2007). An extensive review literature and guidance by the experts formed foundations to the development of the tool. A quasi experimental research approach was used to achieve the objectives of the study.

The investigator used the Demographic variable proforma, Clinical variable proforma, Geriatric Depression Scale and rating scale for the level of satisfaction of pranayama to collect the data. The data collection tools were validated and reliability

was established. After the pilot study, the data for the main study was collected. The collected data was tabulated and analyzed using descriptive and inferential statistics.

Major findings of the study

Prevalence of depression among old age people

Prevalence of depression among the old age people residing in the selected old age home were normal (12%), mild depression (68%), severe depression (20%) and overall as 88% in the control and experimental group of old age people.

Demographic variables of the old age people with depression

Majority of the old age people in the control and experimental group were aged between 66-70 years (83.33%, 63.33%) had duration of stay between 2-3 years in the old age homes (80%, 66.66%) and did not have spouse residing in the same home (86.66%, 96.66%). Most of them were females (56.66%, 56.66%), educated (60%, 60%), Hindus (60%, 66.66%), pensioners (70%, 60%) and belongs to nuclear family (50%, 56.66%). Significant percentage of them have one child (33.33%, 40%), with monthly income between 2001-6000 (43.33%, 40%) in control and experimental group of old age people respectively.

Clinical variables of old age people with depression

None of them had history of hospitalization within last five years (100%, 100%). All of them (100%, 100%) were non- smokers, non-alcoholics and uses only medical facilities for the treatment of any illness. Majority of them had moderate physical activity (80%, 66.66%) in control and experimental group of old age people. Significant

percentage of them had diabetes mellitus (50%, 36.66%), with the duration of medical illness for 1-5years (63.33%, 40%) and practiced relaxation therapy before intervention (40%, 53.33%) in control and experimental group respectively.

Level of depression of old age people before and after Pranayama

Majority of old age people in the control and experimental group had mild level of depression (76.66%, 73.33%) before Pranayama. However after pranayama it was normal (83.33%) and mild (16.66%) level of depression. Whereas in control group majority of old age people had mild (73.33%) and severe (26.66%) level of depression, before and after Pranayama.

Level of satisfaction of pranayama

The study results indicates that most of the old age people were highly satisfied with pranayama (93.4%) and only (6.6%) of them were moderately satisfied.

Mean and the standard deviation of the level of depression of the old age people before and after Pranayama

Mean and standard deviation of old age people before pranayama (M = 15.1, 16.4, SD = 5.2095, 4.309) between the control and experimental group is not significant ($p > 0.05$), whereas after pranayama there is significant difference in the mean and standard deviation (M =15.7, 7.0, SD = 3.0, 3.53) between the control and experimental group ($p < 0.001$). It can be attributed to the effectiveness of pranayama on reducing depression. Hence the null hypotheses Ho_1 was rejected.

Association between selected demographic variables and the level of depression in control and experimental group of the old age people

Chi square test was used to find out the association between selected variables and the level of depression. There was significant association between the level of depression and the demographic variable number of children ($p<0.05$) in control group of old age people. Null hypotheses (Ho_2) with regard to association between the level of depression and demographic variable number of children was rejected.However there was no significant association between the level of depression and other demographic variables ($p>0.05$) in control group of old age people. Null Hypotheses (Ho_2) with regard to association between the level of depression and demographic variables such as age, gender, religion, educational status, type of family, marital status, monthly income was retained.

There was significant association between the level of depression and the demographic variables such as gender and duration of stay in old age home ($p<0.05$) in experimental group of old age people. Null hypotheses (Ho_2) with regard to association between the level of depression and demographic variables such as gender and duration of stay was rejected. However there was no significant association between the level of depression and other demographic variables ($p>0.05$) in experimental group of old age people. Null Hypotheses (Ho_2) with regard to association between the level of depression and demographic variables such as age, religion, educational status, type of family, marital status, monthly income was retained.

Association between selected clinical variables and the level of depression in control and experimental group of the old age people

Chi square test was used to find out the association between clinical variables and the level of depression. There was a significant association between the level of depression and the clinical variable received any relaxation therapy before intervention ($p<0.01$) in control group of old age people. Null Hypotheses (Ho_3) with regard to association between the level of depression and clinical variable received any relaxation therapy before intervention was rejected. However there was no significant association between the level of depression and other clinical variables ($p>0.05$) in control group of old age people. Null Hypotheses (Ho_3) with regard to association between the level of depression and clinical variables such as history of medical illness, duration of medical illness, history of taking medications, physical activity was retained.

There was no significant association between the level of depression and the clinical variables ($p<0.01$) in experimental group of old age people. Null Hypotheses (Ho_3) with regard to association between the level of depression and clinical variables such as any medical illness, duration of medical illness, history of taking medications for major illness, physical activity, received any relaxation therapy before was retained.

Conclusion

The findings of the study revealed that being in old age home and the feeling of lonely, Physical limitations and financial constraints lack of familial support added to their distress. Pranayama is the non pharmacological psychosocial intervention for the treatment of depression.

Implications

Based on the findings the researcher recommended the implications on Nursing practice, Nursing administration, Nursing education, Nursing research.

Nursing practice

The findings of the study revealed that the old age people living in the old age homes had depression and Pranayama is an effective treatment for depression. All health workers can use this therapy in their settings to treat old age depression in the group. Especially nurses play a vital role in caring old age people, early diagnosis of old age depression can prevent from harmful consequences. Strategies for community workers in early detection of old age depression and its management. It can create the awareness about depression of the old age people and its effective management.

Nursing education

With the emerging health care demands and newer trends in field of nursing education must focus on the innovations to enhance the nursing care. The nursing students should be taught the importance of relieving depression and enhance the quality of life of the old age people. Therefore nursing students should be introduced with the alternative methods of treating depression. Student nurses should incorporate the importance of early screening of old depression and its management. Mass health education programme can be conducted regarding awareness of old age depression. Mental health in old age must be included in the curriculum of A.N.M, G.N.M, B.Sc, PB.Sc and M.Sc Nursing Programme.

Nursing administration

With technological advances and ever growing challenges of health care, administrators have the responsibility to provide continuing nursing education opportunities to understand the psycho social intervention including Pranayama.

This enables the nurses to update the knowledge and to render the cost effective care to the public. The nurse administrators can train the nurses to identify old age depressive symptoms, and to give counseling and teaching regarding management of old age depression. Must periodically organize formal training programme for old age people with depression management.

Nursing research

The professionals and the students can conduct further studies on depression through various other interventions to promote psychological well being in the old age homes. There is in need of extensive research in this area. Nurse researcher should challenge to perform scientific work and take part in assessment, applications, evaluation for old age people with depression. Researchers must focus on old age mental health on various aspects and develop appropriate tools for screening and risk assessments of old age depression for psychological problems and preventive interventions. It opens the large avenue for research. Since Pranayama is a holistic approach it can be used in all areas and among all age groups.

Recommendations

➤ The study can be conducted on a large sample to generalize the results.

➤ The study can be conducted in the other settings like the community and the hospitals.

➤ Longitudinal study can be conducted for long term effects of Pranayama on depression.

➤ A study can be conducted on quality of life among old age people.

➤ Study can be conducted to assess the various other psychological problems in old age people.

➤ Experimental study can be conducted with various preventive interventions on prevention of old age depression.

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APPENDIX I

LETTER SEEKING PERMISSION TO CONDUCT STUDY

Apollo College of Nursing
(Recognised by the Indian Nursing Council and Affiliated to
the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

CO/0129/11   15/03/2011

To

The Director,
Anandham Old Age Home,
Kallikuppam,
Ambathur.

Respected Sir / Madam,

Sub.: To request permission for research study – Reg.

Greetings! As part of the curriculum requirement our 2nd year M. Sc. (N) student
Ms. Bharathy. M has selected the following title for her research study.

**"An Experimental Study to assess the Effectiveness of Pranayama on Depression among
Old Age People in Selected Old Age Homes, Chennai".**

So I kindly request your goodselves to permit her to conduct study in your esteemed institution.

Thanking You,

Dr. LATHA VENKATESAN
PRINCIPAL

IS/ISO 9001:2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

APPENDIX II

LETTER FOR PERMITTING TO CONDUCT STUDY

Anando Bhramethi Vyajaanaath

ANANDAM
A FREE HOME FOR SENIOR CITIZENS
(A PUBLIC CHARITABLE TRUST)

Regd. No. 585/95

04-08-2011

To
Dr.LATHA VENKATESAN,
Principal,Apollo College of Nursing,
Ayanambakkam,Chennai-600 095

Dear Madam,

Ref:Your letter requesting permission for Ms.M.Bharathy II year M.Sc(Nursing) to undertake a project at our Home for Senior Citizens Anandam-regarding.

As desired by you Ms.M.Bharathy,2nd Year M.Sc.(N) of your Institution was accorded facility in our Home for project work from 20-06-2011 To 31-07-2011 on the subject "An experimental study to assess the effectiveness of Pranayama on depression among people in selected Old Age Homes,Chennai". A sample group of inmates were selected in consultation with the Trustees and were given lessons in breathing exercise techniques.

We are happy to acknowledge that she conducted her Project Studies in the Home in an excellent manner with good dedication ,punctual timings and in a pleasant way.

We offer our best wishes to Ms.Bharathy for a very successful and fruitful career .

With warm regards,

Bhagare

Mrs.Bhageerathy Ramamoorthy
Managing Trustee

Regd. Office : 2, Sarangapani Street, Krishnapuram, Ambattur, Chennai - 600 053.
Phone No. : 2658 0806, 9418 19889, 98410 01925, 98410 60853.

Home : ANANDAM, Anna Street, Gangai Nagar, Kallikuppam, Chennai - 600 053. Phone : 2686 0366
Email : anandamtrust@yahoo.co.in Web : www.anandamoldagehome.org
80G : DIT(E) No. 2 (290) / 95-96 Valid upto 31.03.2011 ∗ PAN : AAATA 1422 A

APPENDIX III

ETHICAL COMMITTEE LETTER

Ethics Committee

Apollo
HOSPITALS
TOUCHING LIVES

22 June, 2011

To
Ms M.Bharathy
1st Year M.Sc (Nursing)
Dept. of Psychiatry
Apollo College of Nursing, Chennai
Tamil Nadu, India

Ref: An experimental study to assess the effectiveness of pranayama on depression among old age people in selected old age homes at Chennai.

Sub: Your letter dated 9 June, 2011 for approval of the above referenced project and its related documents

Dear Ms. M.Bharathy,

Ethics committee – Apollo Hospitals has received the following document submitted by you related to the conduct of the above – referenced study.

- Project Proposal titled "An experimental study to assess the effectiveness of pranayama on depression among old age people in selected old age homes at Chennai".
- Study Performa
- Informed consent form

The above-mentioned documents have been reviewed and approved (through expedited review) by the Chairman, Vice-Chairman and Member Secretary at a specially convened meeting of the Ethics Committee. The study is hereby approved to be conducted by you in the presented form.

The following Ethics Committee members were present at the meeting held on 22 June, 2010

Name	Profession	Position in the committee
Mr. S. S. Narayanan	Ethicist	Chairman
Dr.Radha Rajagopalan	Clinician	Vice - Chairman
Dr. Jayanthi Swaminathan	Sr.GM Clinical & Collaborative Research	Member Secretary

ETHICAL COMMITTEE LETTER

Ethics Committee

After due ethical and scientific consideration, the Ethics Committee has approved the above presentation submitted by you.

The Ethics Committee is constituted and works as per ICH-GCP, ICMR and revised Schedule Y guidelines.

Yours sincerely,
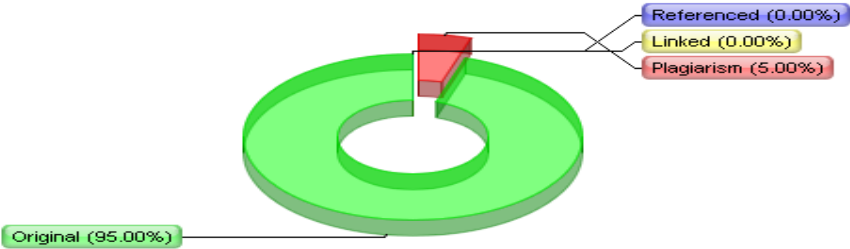
Dr. Radha Rajagopalan
Ethics Committee – Vice Chairman
Apollo Hospitals, Chennai

Date 22/6/11

DR. RADHA RAJAGOPALAN
Vice Chairman
Ethics Committee
Apollo Hospitals Enterprise Limited
Chennai-600 006. Tamil Nadu.

APPENDIX IV
PLAGIARISM ORIGINALITY REPORT

	Plagiarism Detector - Originality Report
	Plagiarism Detector Project: [http://plagiarism-detector.com] Application core verrsion: 557

	This report is generated by the unregistered Plagiarism Detector Demo version!
	• 600 initial words analysis only
	• partial plagiarism detection
	• some important results are excluded
	• no external file processing
	Register the software - get the complete functionality!

Originality report details:

Generation Time and Date:	2/07/2012 22:15:37 PM
Document Name:	Barathy full thesis.doc
Document Location:	C:\Documents and Settings\Administrator\Desktop\ Barathy full thesis.doc
Document Words Count:	14903

Important Hint: to understand what exactly is meant by any report value - you can click "Help Image" . It will navigate you to the most detailed explanation at our web site.

Plagiarism Detection Chart:

Referenced (0.00%)
Linked (0.00%)
Plagiarism (5.00%)
Original (95.00%)

<="">

Referenced 0% / Linked 0%

Original - 95% / 5% - Plagiarism

APPENDIX V

LETTER SEEKING PERMISSION TO USE THE TOOL

Gmail
by Google

Bharathy Maghesh <bharathy.maghesh@gmail.com>

To seek permission to use GDS tool

2 messages

Bharathy Maghesh <bharathy.maghesh@gmail.com>   **Wed, Jun 15, 2011 at 8:57 PM**
To: yesavage@stanford.edu

Respected Sir,

I am a M.Sc Nursing, II year student of Apollo College of Nursing, Chennai, India. I kindly request you to permit me to use the GDS (Geriatric Depression Scale) for my thesis "An Experimental study to assess the effectiveness of Pranayama on Depression among old age people in selected old age homes at Chennai, India"

Thanking you,

Yours sincerely,

M.Bharathy,
M.Sc Nursing, II Year,
Apollo College of Nursing,
Chennai, India

Jerome A Yesavage <yesavage@stanford.edu>   **Thu, Jun 16, 2011 at 12:43 PM**
To: Bharathy Maghesh <bharathy.maghesh@gmail.com>

Scale is public. good luck.

----- Mail original -----
De: "Bharathy Maghesh" <bharathy.maghesh@gmail.com>
À: yesavage@stanford.edu
Envoyé: Mercredi 15 Juin 2011 17:27:21
Objet: To seek permission to use GDS tool
[Quoted text hidden]

APPENDIX VI

REQUEST FOR CONTENT VALIDITY

LETTER REQUESTING OPINIONS AND SUGGESTIONS OF EXPERTS FOR ESTABLISHING CONTENT VALIDITY OF RESEARCH

From
Ms. Bharathy.M,
M.Sc., (Nursing) II year,
Apollo College of Nursing,
Chennai-95.

To

Through Proper Channel
Dr.Latha Venkatesan,
Principal,
Apollo College of Nursing.

Sub: Request for opinions and suggestions of expert for establishing content validity of Respected tool.

Respected Madam,

Greetings! As a part of the Curriculum Requirement the following research title is selected for the study.
"A Quasi Experimental study to assess the Effectiveness of Pranayama upon Depression among old age people in selected old age homes, Chennai.

I will be highly privileged to have your valuable suggestions with regard to the establishment of content validity of Research tool. So I request you to validate my Research tool and give suggestions about the tool.

<div align="center">Thanking you,</div>

<div align="right">Yours Sincerely,</div>

<div align="right">**(Ms. Bharathy.M)**</div>

Place:
Date:

<div align="center">

APPENDIX VII

</div>

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the research tool of Ms. Bharathy.M, M.Sc. (Nursing) student who is undertaking research study on **"A Quasi Experimental study to assess the Effectiveness of Pranayama upon Depression among old age people in selected old age homes, Chennai".**

Signature of Expert

Name and Designation

APPENDIX VIII

LIST OF EXPERTS FOR CONTENT VALIDY

1. Dr. Latha Venkatesan, M.Sc., M.Phil., Ph.D.,
   Principal,
   Apollo College of Nursing,
   Chennai – 95.

2. Dr.Sheshadhari, M.D., (Psychiatrist)
   Consultant Psychiatrist,
   Apollo main Hospitals,
   Chennai.

3. Dr. Peter Fernadez, M.
   M.D., D.P.M.,T.D.D.,
   Professor Emeritus (Psychiatry)
   DFHS, Mugalivakkam,
   Chennai – 600 025.

4. Prof. Mrs. Lizy Sonia. A. M.Sc (N).,
   Vice Principal,
   Apollo College of Nursing,
   Chennai – 95.

5. Mrs.Jaslina Gnanarani, J. M.Sc (N).,
   Reader, Medical Surgical Nursing,
   Apollo College of Nursing,
   Chennai – 95.

6. Ms. C. Anuradha M.Sc(N),
   Asst. Professor, Dept of Psychiatric Nursing,
   Apollo College of Nursing,
   Chennai – 95.

7. Ms. Stella Mary,I.M.Sc (N),
   Lecturer,
   Department of Psychiatric Nursing,
   Apollo College of Nursing,
   Chennai – 95.

APPENDIX IX

RESEARCH PARTICIPANT CONSENT FORM

Dear participant,

I am a M.Sc., Nursing student of Apollo College of Nursing, Chennai. As part of my study, a research on "**Effectiveness of Pranayama upon Depression among old age people".** The findings of the study will be helpful in reducing the depression for old age people with depression.

I hereby seek your consent and co-operation to participate in the study. Please be frank and honest in your responses. The information collected will be kept confidential and anonymity will be maintained.

Signature of the researcher

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

Place:

Date:

Signature of the participant

Muha;r;rpapy; gq;FngUgtUf;fhd xg;Gjy; gbtk;

md;ghHe;j gq;F ngWNthHu>

ehd; mg;NghNyh nrtpypaH fy;Yhpapy; KJfiy nrtpypaH gapw;W ngUk; khztp. vd;Dila gapw;rpapd; xU gFjpahf rpwg;G gapw;rp %ykhf kd mOj;jjpd; msitg; gw;wp mwpa Muha;r;rp nra;fpNwd;. ,e;j Muha;r;rpapy; ePq;fs; gq;F ngw> cq;fSila xg;Gjy; kw;Wk; xj;jiog;igAk; Ntz;LfpNwd;. cq;fSila Fwpg;Gfs; ,ufrpakhf itf;fg;gLk;> kw;Wk; cq;fSila ngaH NtW vq;Fk; ntspaplg;glkhl;lhJ.

Muha;r;rpahshpd; ifnahg;gk;

.... vd;fpw ehd;> ,e;j Muha;r;rpapy; gq;F ngw xg;Gjy; mspf;fpNwd;

gq;F ngWNthhhpd; ifnahg;gk;

APPENDIX X

xxv

CERTIFICATE FOR PRANAYAMA

Estd. 1986   ✆ : 044-2435 8636, Cell : 94440 26341

INDIAN SCHOOL OF YOGA (Regd.)

(An Institute of Yoga Research, Treatment & Training)

#5, Gopal Street, (Near T.Nagar Bus Terminus & Aruna Hotel) T.Nagar, Chennai - 600 017.

Dr. A.S. ASHOK KUMAR, Ph.D., (Y.Sc.,)
Founder : Chief Yoga Therapy Consultant
Siddha Physician & Numerology Consultant

Founder & Executive Chairman : I.S.Yoga D.Y.T. - Alumni
Managing Trustee : Dr. A.S. Ashok Kumar Yoga & Naturopathy Trust

Date : 20/3/2011.

Certificate

This to certify that a student Ms.BHARATHY.M. M.Sc. (Nursing) from Apollo college of nursing ,Chennai-95,has done her training in Indian school of yoga,5th Gopal street,T.Nagar, Chennai-17 during the month of march.

The project work entitled An experimental study to assess the effectiveness of pranayama on depression among old age people in selected old age homes at Chennai and she had a training in that topic and also during her period she has acquired herself well she was prompt in her duty and her conduct has been good.

Signature

For INDIAN SCHOOL OF YOGA

A.S.Ashokkumar

Director

APPENDIX XI

CERTIFICATE FOR ENGLISH EDITING

CERTIFICATE FOR ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is certify that the dissertation **"A Quasi Experimental study to assess the Effectiveness of Pranayama upon Depression among old age people in selected old age homes, Chennai"** by Ms. Bharathy.M, M.Sc. (Nursing) student, Apollo College of Nursing, was edited for English Language appropriateness.

30/01/12
Signature
1/c

Tmt. Jag... Prabakaran,
B.sc., M.A. (En... ...l. M.Ed.,M.Phil.,
P.G. A... (English)
J.G.G. Govt. Hr. Sec. School,
Thiruvotriyur, Chennai-19.

APPENDIX XII

CERTIFICATE FOR TAMIL EDITING

CERTIFICATE FOR TAMIL EDITING

TO WHOM SO EVER IT MAY CONCERN

This is certify that the dissertation "A Quasi Experimental study to assess the Effectiveness of Pranayama upon Depression among old age people in selected old age homes, Chennai" by Ms. Bharathy.M, M.Sc. (Nursing) student, Apollo College of Nursing, was edited for Tamil Language appropriateness.

Signature

S. VALARNILA, M.A., B.Ed.,
SCHOOL ASSISTANT
JAIGOPAL GARODIA GOVT.
HR. SEC. SCHOOL,
TVT, CHENNAI-600 019.

APPENDIX XIII

DEMOGRAPHIC VARIABLE PROFORMA FOR OLD AGE PEOPLE

Purpose

This Proforma is used to measure the demographic variables of the old age people such as age, sex, marital status, education, occupation, religion, source of income type of the family, duration stay in old age home etc.,

Instruction

Please put a tick mark (√) in the following options.

Please be frank in answering.

Identification data:

Sample no:

1. Age in years

1.1 60-65 years ☐

1.2 66-70 years ☐

1.3 71-75 years ☐

1.4 71-76 years ☐

2. Gender

2.1 Male ☐

2.2 Female ☐

3. Religion

3.1 Hindu ☐

3.2 Muslim ☐

3.3 Christian ☐

3.4 Others (specify) ☐

4. Education status

4.1 Non literate ☐

4.2 Primary education ☐

4.3 Secondary education ☐

4.4 Higher Secondary ☐

4.5 Graduate & above ☐

5. Type of the family

5.1 Nuclear ☐

5.2 Joint ☐

6. Marital status

6.1 Married ☐

6.2 Unmarried ☐

6.3 Separated/divorced. ☐

6.4 Widow/Widower ☐

7. Monthly income

7.1 1000-2000 ☐

7.2 2001- 6000 ☐

7.3 6001-10000 ☐

7.4 > 10000 ☐

7.5 Nil ☐

8. Source of income

8.1 Pensioners

8.2 Govt aid.

8.3 Property

8.4 Savings.

8.5 Others [specify]

9. Number of children

9.1 No children

9.2 One

9.3 Two

9.4 More than two

10. If spouse is alive, whether he/she is residing in this home.

10.1 Yes

10.2 No

11. Duration of stay in the old age home

11.1 Less than 1 year

11.2 2 - 3 years

11.3 4-6 years

11.4 > 6 years

,izg;G

r%f mwptpay; gl;bay;

Nehf;fk;

taJ> ghypdk;> jpUkz epiy> gzp> khjhe;jpu tUkhdk;> FLk;g tif Nghd;w kf;fspay; rhHe;j khw;wj;jf;fitfis mstpLtjw;F ,g;gbtk; gad;gLj;jg;gLfpwJ. ,J kf;fspd; r%f kw;Wk; FLk;g jfty;fis kjpg;gpLtjw;fhf tbtikf;fg;gl;Ls;sJ.

mwpTWj;jy;fs;

jaTnra;J gpd;tUk Nfs;tpfis gbf;fTk;> gjpy;fSf;F mUfpy; toq;fg;gl;Ls;s ngl;bfspy; bf; nra;aTk; my;yJ toq;fg;gl;Ls;s Nfhbl;l ,lq;fis epug;gTk;. jaT nra;J cq;fsJ gjpy;fis Rje;jpukhfTk; kw;Wk; ntspg;gilahfTk; njhptpf;fTk;. jfty;fs; ufrpakhf itfg;gLk; kw;Wk; Muha;r;rp Nehf;fq;fSf;fhf kl;LNk mit gad;gLj;jg;gLk;.

khjphp vz;.

1. taJ
   1.1 60-65 Mz;Lfs;
   1.2 66-70 Mz;Lfs;
   1.3 71-75 Mz;Lfs;
   1.4 71-76 Mz;Lfs;

2. ghypdk;
   2.1 Mz;
   2.2 ngz;

3. kjk;
   3.1 ,e;J

3.2 ,];yhkpaH

3.3 fpwp];JtH

3.4 gpw (Fwpg;gplTk;)

4. fy;tp epiy

4.1 fy;tpawpT mw;wtH

4.2 njhlf;f fy;tp

4.3 eLepiyf; fy;tp

4.4 caH epiyf;fy;tp

4.5 gl;lg;gbg;G kw;Wk; mjw;F Nky;

5. FLk;g tif

5.1 jdpf;FLk;gk;

5.2 $l;Lf;FLk;gk;

6. kzepiy

6.1 jpUkzkhdtH

6.2 jpUkzkhfjtH

6.3 gphpe;J tho;gtH / tpthfuj;jhdtH

6.4 tpjit / kidtpia ,oe;jtH

7. khjhe;jpu tUkhdk;

7.1 1000-2000

7.2 2001-6000

7.3 6000-10000

7.4 fpilahJ

8. tUkhdj;jpw;fhd Mjhuk;

    8.1   Xa;T+jpak; ☐

    8.2   gpwhplkpUe;J MjuT ☐

    8.3   Nrkpg;Gfs; ☐

    8.4   nrhj;Jf;fs; ☐

    8.5   fpilahJ ☐

    8.6   gpw (Fwpg;gplTk;) ☐

9. Foe;ijfspd; vz;zpf;if

    9.1   Foe;ijfs; fpilahJ ☐

    9.2   xd;W ☐

    9.3   ,uz;L ☐

    9.4   ,uz;Lf;Fk; Nky; ☐

10. Jiz cz;L vdpy;> fztd; / kidtp ,Nj ,y;yj;jpy; trpf;fpwhHfsh?

    10.1   Mk;

    10.2   ,y;iy ☐

11. ,y;yj;jpy; trpf;Fk; fhy msT

    11.1 $\leq$ xU tUlk; ☐

    11.2   2-3 tUlk; ☐

    11.3   4-6 tUlq;fs; ☐

    11.4 $\geq$ 6 tUlq;fs; ☐

APPENDIX XIV

CLINICAL VARIABLE PROFORMA FOR OLD AGE PEOPLE

Purpose

This proforma is used to assess the clinical variables such as medical illness, duration of medical illness, history of hospitalization, treatment seeking behavior, history of smoking and alcoholism.

Instruction

Please put a tick mark (√) in the following options.

Please be frank in answering.

1. **Any medical illness**

   1.1 Diabetes mellitus   ☐

   1.2 Hypertension   ☐

   1.3 Arthritis   ☐

   1.4 Respiratory problems   ☐

   1.5 Others (specify)   ☐

   1.6 Nil   ☐

2. **Duration of medical illness**

   2.1 <1 year   ☐

   2.2 1-5 years   ☐

   2.3 6-10 years   ☐

   2.4 >10 years   ☐

   2.5 Nil   ☐

3. **History of taking medications for major illness**

   3.1 Yes   ☐

        ☐

3.2 No

4. No of times Hospitalized within last five years

4.1 Nil ☐

4.2 1-2 ☐

4.3 >3. ☐

5. Treatment seeking behavior of any illness (most often)

5.1 Uses Medical facilities ☐

5.2 Self medication ☐

5.3 Any others specify ☐

6. History of smoking

6.1 Smoker ☐

6.2 Non- smoker ☐

6. A If yes Duration of smoking ....

B. Number of cigars per day ....

7. History of Alcoholism

7.1 Non – alcoholic ☐

7.2 Regular drinker ☐

7.3 Social drinkers ☐

8. Physical activity

8.1 Sedentary ☐

8.2 Moderate ☐

8.3 Heavy ☐

9. Have you received any relaxation therapy before ?

9.1 Yes ☐

☐

9.2 No

10. If yes, what was the relaxation training you underwent?

10.1 Progressive muscle relaxation ☐

10.2 Yogasana ☐

10.3 Meditation ☐

10.4 Any other (specify) ☐

10.5 Nil ☐

kUj;Jt $W NtWghLfis fz;lwpAk; gbtk;

Nehf;fk;

kUj;Jt cly;eyf;FiwghLfs;> kUj;Jt cly;eyf;FiwgLfs; fhyfl;lk;> kUe;Jfs; gad;ghl;L tuyhW> rpfpr;ir ngWk; Fzeyd;> Gif kw;Wk; kJg;gof;f tuyhW Mfpa kUj;Jtk; rhHe;j khw;wj;jf;fitfis kjpg;gpLtjw;fhf ,g;gbtk; gad;gLj;jg;gLfpwJ.

mwpTWj;jy;fs;

jaTnra;J gpd;tUk; Nfs;tpfis gbf;fTk;> gjpy;fSf;F mUfpy; toq;fg;gl;Ls;s ngl;bfspy; bf; nra;aTk; my;yJ toq;fg;gl;Ls;s Nfhbl;l ,lq;fis epug;gTk;. jaT nra;J cq;fsJ gjpy;fis Rje;jpukhfTk; kw;Wk; ntspg;gilahfTk; njhptpf;fTk;. jfty;fs; ufrpakhf itf;fg;gLk; kw;Wk; Muha;r;rp Nehf;fq;fSf;fhf kl;LNk mit gad;gLj;jg;gLk;.

1. **VNjDk; kUj;Jt cly;eyf;FiwghLfs;**

   1.1 ePuopT (rHf;fiu) Neha;   [   ]

   1.2 uj;j mOj;jk;   [   ]

   1.3 fPy;;thjk; (MHj;jphpl;b];)   [   ]

   1.4 Rthrg;gpur;ridfs;   [   ]

   1.5 fz;Giw   [   ]

   1.6 fpilahJ   [   ]

2. **kUj;Jt cly;eyf; FiwghLfspd; fhy msT**

   2.1 1 Mz;bw;Fk; Fiwthf   [   ]

   2.2 1-5 Mz;Lfs;   [   ]

   2.3 6-10 Mz;Lfs;   [   ]

   2.4 > 10 Mz;Lfs;   [   ]

                                                 [   ]

2.5 fpilahJ

3. kw;w tpahjpf;fhd kUe;jpd; tuyhW

   3.1 Mk; ☐

   3.2 ,y;iy ☐

4. fle;j le;J Mz;Lfspy; kUj;Jtkidapy; NrHe;j vz;zpf;if

   4.1 Mk; ☐

   4.2 ,y;iy ☐

5. Neha;f;fhd rpfpr;ir ngWk; Kiw

   5.1 kUj;Jt trjpiag; gad;gLj;jy; ☐

   5.2 Rarpfpr;ir /kUe;J ☐

   5.3 kw;wit ☐

6. Gif gpbj;jypd; tptuk;

   6.1 Gif gpbg;gtH ☐

   6.2 Gif gpbf;fhjtH ☐

7. Fbg;gof;f tuyhW

   7.1 Fbg;gof;fk; ,y;yhjtH ☐

   7.2 Fbg;gof;fk; Fbg;gtH ☐

   7.3 epfo;fspd; NghJ Fbg;gtH ☐

8. cly; rhHe;j nray;ghLfs;

   8.1 cl;fhHe;J gzp nra;gtH ☐

☐

☐

8.2 XusT elkhb gzp nra;thH

8.3 Mjpfk; Xbahb gzp nra;gtH

9. ePq;fs; kdij mikjpgLj;Jk; Kiw Fwpj;J gapw;rpNah my;yJ jftNyh ngw;wpUf;fpwPNuh?

9.1 Mk;

9.2 ,y;iy

10. Mk;> vdpy; ve;j tifahd kd mikjpgLj;Jk; Kiwia ePq;fs; ngw;wPHfs;?

10.1   %r;rpg;gapw;rp

10.2 Nahfhrdk;

10.3 jpahdk;

10.4 kw;wit

APPENDIX XV

BLUE PRINT FOR GERIATRIC DEPRESSION SCALE

S.NO	CONTENT	ITEMS	TOTAL	PERCENTAGE (%)
1	Positive response questions	1,5,7,9,15,19, 21,27,29,30	10	33.3%
2	Negative response questions	2,3,4,6,8,10,11,12,13,14, 16,17,18,20,22,23,24,25,26 ,28	20	66.6%

APPENDIX XV

GERIATRIC DEPRESSION SCALE

(DEVELOPED BY YESAVAGE ET AL 1982)

Purpose

This tool consist of 30 Yes/No questions to assess the level of depression among the geriatrics.

Instruction

The researcher interviews the participants and marks Yes/No along with the score.

S.no	Questions	Answer Yes/No	Score
1.	Are you basically satisfied with your life?		
2.	Have you dropped many of your activities and interests?		
3.	Do you feel that your life is empty?		
4.	Do you often get bored?		
5.	Are you hopeful about the future?		
6.	Are you bothered by thoughts you cannot get out of your head?		
7.	Are you in good spirits most of the time?		
8.	Are you afraid that something bad is going to happen to you?		
9.	Do you feel happy most of the time?		
10.	Do you often feel helpless?		
11.	Do you often get restless and fidgety?		
12.	Do you prefer to stay at home, rather than going out and doing new things?		
13.	Do you frequently worry about the future?		
14.	Do you feel you have more problems with memory than most?		
15.	Do you think it is wonderful to be alive now?		

16.	Do you feel downhearted and blue?		
17.	Do you feel pretty worthless the way you are now?		
18.	Do you worry a lot about the past?		
19.	Do you find life very exciting?		
20.	Is it hard for you to get started on new projects?		
21.	Do you feel full of energy?		
22.	Do you feel that your situation is hopeless?		
23.	Do you think that most people are better off than you are?		
24.	Do you frequently get upset over the little things?		
25.	Do you feel frequently feel like crying?		
26.	Do you have trouble concentrating?		
27.	Do you enjoy getting up in the morning?		
28.	Do you prefer to avoid social gatherings?		
29.	Is it easy for you to make decisions?		
30.	Is your mind as clear as it used to be?		

Scoring key:

If Q 1, 5,7,9,15,19,21,27,29 and 30 has "No" response count one for each and for the rest if response is 'Yes" count one. Add the two scores and interpret: Normal 0-10, Mild depression 11-17, severe depression >17.

KjpNahH kdtpuf;jp Neha; mwpFwp mstPL

t.vz;.	Nfs;tpfs;	Mk;	,y;iy
1	cq;fSila tho;f;if jpUg;jpahf cs;sjh?		
2	ePq;fs; cq;fs; tho;f;ifapy; cs;s gy tpUg;gq;fisAk; nra;ghLfisAk; tpl;L tPl;BHfsh?		
3	cq;fSila tho;f;if xd;WNk ,y;iy vd;W czHfpwPHfsh?		
4	ePq;fs; mbf;fb tpuj;jp milfpwPHfsh?		
5	cq;fSila vjpHfhyj;ijg; gw;wp cq;fSf;F ek;gpf;if cs;sjh?		
6	cq;fs; kdjpypypUe;;J tpyf;f Kbahj vz;zq;fisg; gw;wp ftiyg;gLfpwPHfsh?		
7	ePq;fs; ngUk;ghyhd Neuq;fspy; KO kyHr;rpAld; ,Uf;fpd;wPHfsh?		
8	cq;fSf;F VjhtJ jPq;F elf;f Nghfpwj vd;W gag;gLfpwPHfsh?		
9	ePq;fs; ngUk;ghYk; kfpo;r;rpahf ,Uf;fpd;wPHfsh?		
10	ePq;fs; mbf;fb vJTk; Kbatpy;iy vd;W czHfpwPHfsh?		
11	ePq;fs; mbf;fb gugug;G milfpd;wPHfsh?		
12	ePq;fs; ntspapy; nrd;W Gjpa fhhpaq;fis nra;tij tpl tPl;by; ,Ug;gij tpUk;GfpwPHfsh?		
13	ePq;fs; vjpHfhyj;ijg; gw;wp mbf;fb ftiyg;gLfpd;wPhfsh?		
14	kw;w gpur;ridfis tpl Qhgf rf;jp gpur;ridfs; cq;fSf;F mjpfkhf cs;sJ vd;W czHfpwPHfsh?		
15	ePq;fs; capH thgo;tJ kpfr;rpwe;jJ vd;W epidf;fpwPHfsh?		

16	ePq;fs; mbf;fb NrhHTk;> tpuf;jpAk; milfpNwhk; vd;W czHfpwPHfsh?		
17	ePq;fs; ,g;NghJk; ,Uf;Fk; epyikia gad; mw;wJ vd;W czHfpwPHfsh?		
18	ePq;fs; fle;j fhyj;ijg; gw;wp ftiyg;gLfpwPHfsh?		
19	ePq;fs; vq;fs; tho;f;if kpfTk; kfpo;r;rpahf cs;sJ vd;W ek;GfpwPHfsh?		
20	Gjpa Ntiyfs; njhlq;FtJ cq;fSf;F fbdkhf cs;sjh?		
21	ePq;fs; KO rf;jpNahL ,Ug;gjhf czHfpwPHfsh?		
22	cq;fs; epyik ,g;NghJ ek;gpf;ifaw;wJ vd;W czHfpwPHfsh?		
23	kw;wtHfs; cq;fistpl ey;y Kiwapy; tho;tjhf ePq;fs; epidf;fpwPHfsh?		
24	ePq;fs; rpW rpW fhhpaq;fis Fwpj;J mbf;fb kdk; cile;J NghfpwPHfsh?		
25	cq;fSf;F mo Ntz;Lnkd;W mbf;fb Njhd;Wfpwjh?		
26	cq;fSf;F ftdk; nrYj;Jtjpy; gpur;rid cs;sjh?		
27	fhiyapy; vOe;jpUf;Fk;nghOJ kfpo;r;rpailfpwPHfsh?		
28	ePq;fs; r%f cwTfis jtPHg;gij tpUk;GfpwPHfsh?		
29	KbT vLg;gJ cq;fSf;F Rygkhf ,Uf;fpwjh?		
30	cq;fs; kdepiy vg;nghOJk; Nghy; njspthf cs;sjh?		

APPENDIX XVI

BLUE PRINT FOR LEVEL OF SATISFACTION

S.No	CONTENT	ITEMS	TOTAL	PERCENTAGE (%)
1.	Questions related to the researcher	1,2,3	3	30
2.	Questions related to pranayama	4,5,6,7,8,9,10	7	70
		Total	**10**	**100%**

APPENDIX XVI

RATING SCALE TO ASSESS THE LEVEL OF SATISFACTION

REGARDING PRANAYAMA

Purpose

This rating scale is designed to assess the level of satisfaction of the study participants in the experimental group regarding pranayama.

Instruction

There are 10 items below. Kindly read the items. Response extends from highly satisfied, satisfied to dissatisfied, highly dissatisfied. Put a tick mark against your answers. Describe your responses freely and frankly. The responses will be kept confidential and used for research purpose only.

S.No	ITEMS	HIGHLY SATISFIED	SATISFIED	DIS SATISFIED	HIGHLY DISSATISFIED
1.	Explanation regarding pranayama				
2.	Approach of the researcher				
3.	Time spend by the researcher				
4.	Duration of the programme				

5.	Arrangements made during the programme				
6.	The programme was easy to understand				
7.	Use of demonstration				
8.	It helps in relaxing.				
9.	Given at the appropriate time				
10.	Easy to follow				

Scoring

Highly Dissatisfied   -1

Dissatisfied   -2

Satisfied   -3

Highly dissatisfied   -4

The total score is converted into percentage and graded as given below.

Scoring key

Scoring	Interpretation
Highly satisfied	76-100%
Satisfied	51-75%
Dissatisfied	25-50%
Highly dissatisfied	Below 25%

,izg;G Q
jd; epiwT msTNfhy;

Nehf;fk;

,e;jg; gbtk; gq;F ngWNthhpd; jd; epiwit mwptjw;fhf mikf;fg;gl;Ls;sJ.

nra;Kiw

fPNo gj;J Nfs;tpfsf; cs;sd. Nfs;tpfis thrpf;fTk;. gjpy;fs;> kpfTk; jpUg;jp vd Jtq;fp> jpUg;jp> kpfTk; mjpUg;jp vd;gJ tiu cs;sJ. gjpy;fSf;F Neuhf> (√) nra;aTk;. Cq;fs; gjpypy;> ntspg;gilahfTk;> cz;ikahfTk; ,Uf;fTk;. cq;fSila Fwpg;Gfs;> Muha;r;rpf;fhf kl;LNk cgNahfpf;fg;gLk;. cq;fs; ngah; NtW vq;Fk; ntsppaplg;glkhl;lhJ. ed;wp.

thpir vz;.	Nfs;tpfs;	kpfTk; jpUg;jp	jpUg;jp	mjpUg;jp	kpfTk; mjpUg;jp
1.	Muha;r;rpahsh; ,ej epfo;r;rpiaf; Fwpj;J tpsf;fk; mspj;jJ				
2.	Muha;r;rpahshpd; mZFKiw				
3.	Muha;r;rpahsh; nrytopj;j Neuk;				
4.	epfo;r;rp elj;jpa fhyfl;lk;				
5.	epfo;r;rpapd;NghJ nra;ag;gl;l Vw;ghLfs;				
6.	epfo;r;rp tspjpy; GhpAk;gb ,Ue;jJ				
7.	nray;Kiw tpsf;fk;;				
8.	epfo;r;rpapy; gq;FngWgtjhpd; <LghL				
9.	rhpahd Neuj;jpy; epfo;r;rp mikg;G				
10.	epfo;r;rpapd; cgNahfk;				

APPENDIX XVII

LESSON PLAN ON PRANAYAMA

TOPIC   -   PRANAYAMA

GROUP   -   OLD AGE PEOPLE

PLACE   -   ANANDHAM OLD AGE HOME

DURATION   -   6 WEEKS

METHOD OF TEACHING -   LECTURE CUM DISCUSSION

MEDIA OF TEACHING -   DEMONSTRATION

EDUCATOR   -   II YEAR MSC (N) STUDENT, APOLLO COLLEGE OF NURSING CHENNAI

General Objective

The old age people will gain adequate knowledge on pranayama develop desirable attitude towards building compentencies to achieve the personal mastery.

Specific Objectives: At the end of the session study participants are able to

- ➢ know about pranayama.

- ➢ explain the meaning of pranayama.

- ➢ highlight the importance of pranayama

- ➢ enumerate the advantages of pranayama.

- ➢ know the pre requisites of pranayama

- ➢ explain on the techniques of pranayama

- ➢ enumerate on the benefits of pranayama

- ➢ know the effects of pranayama on depression

- ➢ know the effects of pranayama on depression

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS /LEARNERS ACTIVITY	A.V AIDS	EVALUATION
5min	To Know about pranayama.	**Pranayama:** Pranayama is an aspect of Yoga that deals with breathing. Pranayama is a method of controlling prana or life force through the regulation of breathing. It is the breathing process or the control of the motion of inhalation, exhalation and the retention of vital energy. (Swami Ramdev's)	Lecture cum discussion	-	What did you understand regarding pranayama?
3min	To explain the meaning of pranayama.	*Meaning of Pranayama:* 'Pranayama' literally means 'to expand Prana' (vital force). Pranayama is a process in which respiration is interrupted and Prana, that is, the vital force is controlled and regulated. The purpose of Pranayama is to inspire, motivate, regulate and balance the vital force (Prana) pervading in the body.	Lecture cum discussion	-	
3min	To highlight the importance of pranayama	*Importance of Pranayama:* Pranayama is the fourth and very important stage of Ashtanga Yoga. Yoga without Pranayama is not Yoga at all. That is why Pranayama is called the soul of Yoga. As a bath is necessary for purifying the body, similarly, Pranayama is essential for purifying the mind.	Lecture cum discussion	-	

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
10 min	To enumerate the advantages of pranayama.	**Advantages:** (1) Pranayama keeps the body fit and healthy. Itreduces excessive fat. (2) One can live a long life through Pranayama. Pranayama improves the power of memory and eliminates mental disorders. (3) Pranayama tones up the stomach, the liver, the bladder, the small and the large intestines and the digestive system, purifies tubular channels and removes sluggishness from the body, and kindles gastric fire; the body becomes healthy and the inner voice begins to be heard. (4) Constant practice of Pranayama strengthens the nervous system. The mind becomes calm and capable of concentration, and rouses spiritual power. (5) Most importantly negative thinking comes to an end. The person practicing Pranayama is always full of positive thoughts.	Lecture cum discussion	-	List out the advantages of pranayama ?

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
3 min	To know the pre requisites of pranayama	**Prerequisites:** Pranayama should be practiced (a) In the morning or in the evening. (b) Sitting on the floor. The postures suitable are Vajrasana, Padmasana, Siddhasana, or Sukhasana. (In the beginning you may sit erect on a chair. Keep the spine fully vertical and stretched) (c) At the same time regularly on empty stomach, a small cup of milk may be taken but not solid food. (d) Do not take bath immediately after the practice of Pranayama. Rest for half an hour before taking bath. **Sitting Posture in Pranayama:** While conducting Pranayama, the spine should be erect. If you are not in a position to sit in any of those asanas in the beginning, you may sit on a chair for Pranayama. You will keep your spine erect, vertical, and stretched.	Lecture cum discussion	-	What are the prerequisites necessary before performing pranayama?

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
15 min	To explain on the techniques of pranayama	**Techniques of pranayama** **Techniques:** **Kapalabhati ("Breath of Fire")** **Duration/repetitions:** Beginners may start with a 3-minute practice and, in a month or two, work up to a 5-minute non-stop practice **Technique:** Kapalabhati, the focus is only on forceful exhalation "Exhale from your nose with full strength and the abdomen will go in automatically. Concentrate on exhaling vigorously and your abdomen will contract automatically. Keep expelling the breath. Contraction and expansion of the abdomen during exhalation and inhalation will occur automatically	Demonstration		Performance of pranayama technique by the participants.

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
		Anuloma-Viloma (Alternate nostril breathing) **Duration/repetitions:** Minimum three times. Maximum: 10 minute **Technique:** Block the right nostril with the right thumb and left nostril with the right middle and ring fingers. Little finger and the index finger are free and the palm stays above the nose. Don't place the palm in front of the nose as it blocks the free flow of the air. Apply only mild pressure to the nostrils. To begin, close the right nostril with the thumb. While lifting the ribcage and bringing out the chest (thoracic breathing), inhale from the left nostril. After completion of inhalation, close the left nostril with the middle and the ring finger, lift the thumb off the right nostril and exhale. This makes one round. The second round begins with the left nostril inhale and so on. In the beginning, breathe in and out slowly. Gradually pick up the speed and progress from slow to moderate or even fast rate.	Demonstration		Performance of the pranayama technique by the participants.

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
		Nadi Shodhana (subtle nervous system purification) **Duration/repetitions:** Minimum three times. Maximum: unlimited. **Technique:** Close the right nostril with the thumb and inhale very slowly from the left nostril. Upon completion of inhaling, hold the breath in and apply the chin lock and the root lock. Release the chin lock and very slowly exhale from the right nostril. Upon completion of exhaling, inhale very slowly from the right nostril and hold the breath in with chin lock and root lock in place. When ready to release, exhale very slowly from the left nostril. This completes one round. The second round begins with left nostril inhalation and so on. Ratio for breathing and breath holding: Beginners should maintain the ratio of 1:2:2 for inhalation-hold (after inhale) and exhalation.	Demonstration		Performance of the pranayama technique by the participants.

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
5 min	To enumerate on the benefits of pranayama	**BENEFITS OF pranayama:** ➢ The attainment of perfect balance of mind and body. ➢ Improves in -confidence. ➢ consciousness of possessing the power to accomplish our desires. ➢ Decreased level of depression ➢ Increased level of physical activity ➢ Improved balance and coordination. ➢ Decrease anxiety ➢ Decrease pain ➢ Enhance sleep ➢ Reduce recovery time and shorten hospital stays ➢ Strengthen the immune system and enhance the ability to heal ➢ Increase sense of control and well-being.	Lecture cum discussion	-	List out the benefits of pranayama.

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
		Psychological Benefits			
		Pranayama is a technique for regulating one's all emotional and mental states and even the way in which one behaves. Changes in the respiration induce changes in the rest of the autonomic nervous system and the physiological reaction of the autonomic nervous system and the physiological reaction is an essential component of emotionality. Pranayama controls the autonomic nervous system and this system regulates the secretion of adrenaline, thyroxin and other hormones of the body. These secretions of these hormones plays a prominent role in creating one's emotional states. By learning to bring changes in the autonomic nervous system through pranayama, one can modify autonomic arousal and modulate subsequent levels of emotionality. The breath forms a bridge between the conscious and the unconscious. Emotions such as anger, depression and fear all have their characteristic patterns of irregular breathing.	Lecture cum discussion		

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
5min	To know the effects of pranayama on depression	Through pranayama one learns to consciously alter his breathing and thus his emotional state. One can attain a calm and alert state through smooth and even diaphragmatic breathing. This helps a person to become cognizant of feelings that have been held outside of awareness. Therapeutical Effects **Pranayama and Depression** A considerable body of data suggests that biological depression is associated with excessive stress response system activation. Almost all effective antidepressants calm this system down. Preliminary evidence suggests that pranayama alsoquiets the stress response system. Furthermore, there is some evidence that the relationships between the two cerebral hemispheres, between the anterior and posterior parts of the brain, and between the top of the cortex and the subcortical regions are disturbed in depression. Pranayama practices probably help balance the activity between the cortical and subcortical regions. Pranayama may work like electronic vagal nerve stimulation, which has been shown to be effective for depression. role the increased parasympathetic and	Lecture cum discussion	-	Explain the importance of pranayama on depression ?

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
		sympathetic activity induced by various Pranayama have in mproving the function of the stress response remains speculative but is likely to be extremely important. Activation of forebrain reward systems may also play a role. Changes in acid base balance in the brain are less likely to be a significant part of the effects of the breathing. Another unexplored phenomenon is that intense breathing (or indeed regular breathing) causes the expiration of oxidant chemicals from body metabolism called TBARS (thiobarbituric reactive acid substances). Whether detoxification of oxidants by exhalation through the lungs is beneficial for disorders involving excess oxidation damage (such cardiovascular and neurodegenerative disease) and whether this would enhance the effect of antioxidants in delaying aging, is purely hypothetical. Also hyperventilation increases renal output.	Lecture cum discussion		

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHERS/ LEARNERS ACTIVITY	A.V AIDS	EVALUATION
3min	To know the effects of pranayama on depression	**Effect on Depression** Pranayam has been shown to have a 62%-79% success rate in the treatment of depression, regardless of severity. Relief from depression, determined by psychiatric evaluation and standard psychiatric measures (Beck Depression Inventory, Hamilton Rating Scale for Depression, and others) was experienced within three weeks. Published studies further suggest that pranayam normalizes patients' brainwave patterns, increases serum prolactin (a "wellbeing" hormone), and is as effective as standard antidepressant drug regimens. Yet it is safe, free of unwanted side effects, cost effective, and self empowering. Hence practice pranayama on daily basis to have the quality of life. **"Breathe Well And Get Rid of Depression"**	Lecture cum discussion	-	What are the effects of pranayama on depression ?

APPENDIX XVIII

Item Wise Frequency and Percentage Distribution of the Level of Satisfaction regarding Pranayama in the Old Age People.

Items	Highly Satisfied		Satisfied		Dissatisfied		Highly dissatisfied	
	n	p	n	p	n	p	n	p
Explanation regarding Pranayama	30	100	-	-	-	-	-	-
Approach of the Researcher	30	100	-	-	-	-	-	-
Time spent by the Researcher	27	90	3	10	-	-	-	-
Duration of the programme	29	96.6	1	3.4	-	-	-	-
Arrangement made during the programme	28	93.4	2	6.6	-	-	-	-
The Program was easy to understand	28	93.4	2	6.6	-	-	-	-
Use of demonstration	29	96.6	1	3.4	-	-	-	-
Involvement of participants	28	93.4	2	6.6	-	-	-	-
Given at the appropriate time	30	100	-	-	-	-	-	-
Usefulness	29	96.6	1	3.4	-	-	-	-

Majority of the old age people (96.6%) were highly satisfied with all the aspects of pranayama in the experimental group of old age people.

APPENDIX XIX

DATA CODE SHEET

DEMOGRAPHIC VARIABLE PROFORMA OF OLD AGE PEOPLE

SN-Sample Number

1. AGE- Age in years
1.1 60- 64
1.2 66- 69
1.3 70-75
1.4 76

2. GEN- Gender
2.1 male
2.2 female

3. REL- Religion
3.1 Hindu
3.2 Muslim
3.3 Christian
3.4 Any other (specify)

4. EDU-Education
4.1 Non literate
4.2 Primary education
4.3 Secondary Education
4.4 Graduate & above

5. TOF – Type of the family
5.1 Nuclear
5.2 Joint

6. MAR St – Marital Status
6.1 Married
6.2 Unmarried
6.3 Separated/divorced

7. MI-Monthly income

7.1 nil
7.2 ≤ 2000
7.3 2001-6000
7.4 6001-10,000
7.5 $\geq 10,000$

8. SOI – Source of income

8.1 Pensioners
8.2 Govt aid.
8.3 Property
8.4 Savings
8.5 Others [specify]..........

9. NOC – Number of children

9.1 No children
9.2 One
9.3 Two
9.4 More than two

10. SRH-If spouse is alive, whether he/she is residing in this home

10.1 Yes
10.2 No

11. DSO-Duration of stay in the old age home

11.0 ≤ 1 year
11.2 2-3 years
11.3 4-6 years
11.4 >6 years

CLINICAL VARIABLE PROFORMA OF OLD AGE PEOPLE

1. **HMI – History of medical illness**

   1.1 Diabetes mellitus
   1.2 Hypertension
   1.3 Arthritis
   1.4 Respiratory problems
   1.5 Others (specify)
   1.6 Nil

2. **DOI – Duration of medical illness**

   2.1 ≤1 year
   2.2 1-5 years
   2.3 6-10 years
   2.4 >10 years

3. **HTM – History of taking medications for major illness**

   3.1 Yes
   3.2 No

4. **NTH-No. of times Hospitalized within last five years**

   4.1 Nil
   4.2 1-2
   4.3 >3

5. **TSH-Treatment seeking behaviour of any illness (most often)**

   5.1 Uses Medical facilities
   5.2 Self medication
   5.3 Any others specify

6. **HOS-History of Smoking**

   6.1 Smoker
   6.2 Non-Smoker

7. **HOA-History of Alcoholism**

   7.1 Non-alcoholic
   7.2 Regular drinker
   7.3 Social drinkers

8. **PA-Physical activity**

   8.1 Sedentary
   8.2 Moderate
   8.3 Heavy

9. **TRT-Have you received any training or information on relaxation training before?**

   9.4 Yes
   9.2 No

10. **RT-If yes, what was the relaxation therapy you underwent?**

    10.1 Progressive muscle relaxation
    10.2 Yogasana
    10.3 Meditation
    10.4 Any other(specify)

APPENDIX XX
MASTER CODE SHEET

	CONTROL GROUP																						
	DEMOGRAPHIC VARIABLES											CLINICAL VARIABLES										DEPRESSION SCORES	
SL.NO	AGE	GN	REL	EDU	TOF	MAR	MI	SOI	NOC	SRH	DSO	HMI	DOI	HTM	NTH	TSH	HOS	HOA	PA	TRT	RT	PRE TEST	POST TEST
1	62	2.2	3.1	4.1	5.2	6.1	7.1	8.1	9.1	10.2	11.2	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.1	9.5	10.5	24	19
2	65	2.2	3.3	4.4	5.1	6.1	7.4	8.5	9.1	10.2	11.2	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.1	9.4	10.2	24	23
3	68	2.2	3.3	4.4	5.1	6.1	7.1	8.1	9.1	10.2	11.2	1.6	2.5	3.1	4.2	5.1	6.2	7.1	8.2	9.5	10.5	24	23
4	68	2.2	3.1	4.4	5.2	6.1	7.1	8.1	9.1	10.2	11.3	1.5	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	27	18
5	66	2.2	3.1	4.4	5.2	6.4	7.1	8.5	9.2	10.2	11.2	1.1	2.1	3.1	4.2	5.1	6.2	7.1	8.2	9.5	10.5	23	20
6	70	2.2	3.1	4.4	5.1	6.1	7.4	8.5	9.1	10.2	11.2	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.1	9.5	10.5	25	19
7	70	2.1	3.3	4.1	5.2	6.4	7.4	8.1	9.4	10.2	11.2	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	11	20
8	68	2.2	3.3	4.4	5.2	6.1	7.1	8.1	9.2	10.1	11.2	1.6	2.5	3.1	4.2	5.1	6.2	7.1	8.2	9.4	10.3	24	18
9	70	2.1	3.1	4.5	5.2	6.1	7.1	8.1	9.2	10.1	11.2	1.6	2.5	3.1	4.2	5.1	6.2	7.1	8.2	9.5	10.5	11	14
10	66	2.2	3.1	4.4	5.1	6.1	7.1	8.1	9.4	10.2	11.2	1.5	2.2	3.2	4.2	5.1	6.2	7.1	8.1	9.5	10.5	11	16
11	68	2.2	3.1	4.4	5.1	6.1	7.4	8.5	9.2	10.2	11.2	1.6	2.5	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	12	15
12	68	2.2	3.3	4.4	5.2	6.1	7.1	8.1	9.4	10.1	11.2	1.6	2.5	3.1	4.2	5.1	6.2	7.1	8.2	9.4	10.3	11	15
13	69	2.2	3.1	4.4	5.2	6.1	7.4	8.5	9.4	10.2	11.3	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	13	16
14	72	2.1	3.1	4.1	5.1	6.1	7.4	8.5	9.4	10.2	11.2	1.5	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	17	14
15	70	2.2	3.1	4.1	5.2	6.4	7.4	8.5	9.3	10.2	11.2	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	10	13
16	66	2.2	3.1	4.1	5.2	6.1	7.4	8.5	9.2	10.2	11.2	1.1	2.1	3.1	4.2	5.1	6.2	7.1	8.2	9.5	10.5	14	16
17	68	2.2	3.3	4.4	5.2	6.1	7.1	8.1	9.2	10.2	11.2	1.6	2.5	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	11	14
18	66	2.2	3.1	4.1	5.1	6.1	7.4	8.5	9.1	10.2	11.2	1.6	2.5	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	14	16
19	68	2.1	3.3	4.4	5.2	6.1	7.1	8.1	9.2	10.2	11.2	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.2	9.5	10.5	13	15
20	70	2.2	3.1	4.5	5.2	6.1	7.1	8.1	9.2	10.2	11.2	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	15	14
21	66	2.1	3.1	4.4	5.1	6.1	7.1	8.1	9.4	10.1	11.2	1.5	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	13	15
22	70	2.1	3.3	4.1	5.1	6.1	7.4	8.5	9.1	10.2	11.2	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.2	9.4	10.2	I3	14
23	68	2.1	3.1	4.4	5.2	6.1	7.1	8.1	9.4	10.2	11.3	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	11	11
24	68	2.1	3.1	4.5	5.1	6.1	7.1	8.1	9.2	10.2	11.2	1.5	2.2	3.1	4.2	5.1	6.2	7.1	8.2	9.5	10.5	14	16
25	70	2.1	3.1	4.4	5.1	6.4	7.1	8.1	9.1	10.2	11.2	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	11	12
26	70	2.2	3.3	4.4	5.1	6.4	7.4	8.5	9.1	10.2	11.3	1.6	2.5	3.1	4.2	5.1	6.2	7.1	8.1	9.5	10.5	11	13
27	68	2.1	3.3	4.4	5.2	6.4	7.1	8.1	9.4	10.2	11.2	1.5	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	14	13
28	68	2.1	3.1	4.5	5.1	6.4	7.1	8.1	9.4	10.2	11.2	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.2	9.5	10.5	14	12
29	72	2.1	3.3	4.1	5.1	6.1	7.4	8.5	9.2	10.2	11.3	1.6	2.5	3.1	4.2	5.1	6.2	7.1	8.2	9.5	10.3	13	14
30	68	2.1	3.3	4.4	5.1	6.1	7.1	8.1	9.1	10.2	11.3	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.1	9.5	10.3	12	13

		DEMOGRAPHIC VARIABLES										CLINICAL VARIABLES										DEPRESSION SCORES		
SL. NO	AGE	GN	REL	EDU	TOF	MAR	MI	SOI	NOC	SRH	DSO	HMI	DOI	HTM	NTH	TSH	HOS	HOA	PA	TRT	RT	PRE TEST	POST TEST	SATISFACTION SCORE
1	65	2.2	3.1	4.4	5.1	6.2	7.1	8.1	9.1	10.2	11.2	1.6	2.5	3.I	4.2	5.1	6.2	7.1	8.2	9.4	10.2	11	9	37
2	68	2.2	3.3	4.4	5.2	6.1	7.1	8.1	9.2	10.1	11.2	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.2	15	9	37
3	72	2.2	3.1	4.5	5.2	6.4	7.1	8.1	9.4	10.2	11.3	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	15	3	37
4	68	2.2	3.3	4.4	5.1	6.1	7.1	8.1	9.2	10.2	11.3	1.6	2.5	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	15	4	38
5	73	2.1	3.1	4.1	5.1	6.4	7.4	8.5	9.1	10.2	11.2	1.6	2.5	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	13	2	39
6	68	2.2	3.3	4.4	5.2	6.4	7.1	8.1	9.2	10.2	11.3	1.5	2.1	3.1	4.2	5.1	6.2	7.1	8.2	9.5	10.5	15	4	39
7	72	2.2	3.1	4.3	5.1	6.1	7.4	8.5	9.2	10.2	11.2	1.1	2.1	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	18	5	40
8	68	2.2	3.1	4.3	5.2	6.4	7.1	8.1	9.4	10.2	11.2	1.6	2.5	3.1	4.2	5.1	6.2	7.1	8.1	9.4	10.2	18	7	36
9	68	2.2	3.3	4.5	5.2	6.4	7.1	8.1	9.2	10.2	11.2	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.1	9.5	10.5	13	6	35
10	65	2.2	3.1	4.4	5.1	6.1	7.4	8.5	9.2	10.2	11.2	1.5	2.1	3.1	4.2	5.1	6.2	7.1	8.1	9.5	10.5	16	7	36
11	73	2.2	3.1	4.4	5.1	6.4	7.1	8.1	9.1	10.2	11.2	1.5	2.5	3.1	4.2	5.1	6.2	7.1	8.2	9.4	10.2	16	4	39
12	68	2.2	3.3	4.4	5.2	6.4	7.1	8.1	9.2	10.2	11.3	1.1	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.2	14	5	40
13	66	2.2	3.1	4.4	5.2	6.4	7.1	8.1	9.2	10.2	11.3	1.5	2.1	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	16	5	36
14	64	2.2	3.3	4.4	5.1	6.1	7.4	8.5	9.1	10.2	11.2	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.1	9.5	10.5	16	6	34
15	68	2.2	3.1	4.5	5.1	6.1	7.1	8.1	9.4	10.2	11.3	1.1	2.1	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	15	2	30
16	72	2.2	3.1	4.4	5.1	6.4	7.1	8.1	9.1	10.2	11.3	1.5	2.2	3.1	4.2	5.1	6.2	7.1	8.2	9.4	10.3	17	4	34
17	64	2.1	3.3	4.5	5.2	6.4	7.1	8.1	9.2	10.2	11.3	1.6	2.5	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	16	3	37
18	70	2.1	3.3	4.4	5.2	6.4	7.4	8.5	9.1	10.2	11.2	1.6	2.5	3.2	4.2	5.1	6.2	7.1	8.1	9.4	10.3	16	7	32
19	66	2.2	3.1	4.1	5.1	6.1	7.4	8.5	9.2	10.2	11.2	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.1	9.4	10.3	15	5	37
20	68	2.1	3.1	4.1	5.2	6.2	7.4	8.5	9.1	10.2	11.2	1.5	2.2	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	13	8	40
21	72	2.2	3.3	4.4	5.1	6.4	7.1	8.1	9.1	10.2	11.3	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.1	9.5	10.5	11	8	40
22	70	2.1	3.1	4.4	5.1	6.1	7.1	8.1	9.2	10.2	11.2	1.6	2.5	3.1	4.2	5.1	6.2	7.1	8.2	9.4	10.2	14	12	34
23	70	2.1	3.1	4.4	5.1	6.1	7.1	8.1	9.1	10.2	11.2	1.6	2.5	3.2	4.2	5.1	6.2	7.1	8.2	9.4	10.3	25	8	33
24	68	2.1	3.3	4.4	5.1	6.4	7.1	8.1	9.1	10.2	11.2	1.5	2.1	3.1	4.2	5.1	6.2	7.1	8.1	9.5	10.5	11	8	35
25	66	2.1	3.1	4.5	5.2	6.4	7.1	8.1	9.1	10.2	11.2	1.6	2.5	3.2	4.2	5.1	6.2	7.1	8.1	9.4	10.3	26	14	39
26	70	2.1	3.1	4.4	5.1	6.1	7.1	8.1	9.1	10.2	11.2	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.2	9.4	10.3	20	12	40
27	68	2.1	3.1	4.4	5.2	6.4	7.1	8.1	9.1	10.2	11.2	1.5	2.1	3.2	4.2	5.1	6.2	7.1	8.2	9.5	10.5	20	15	38
28	70	2.1	3.1	4.5	5.2	6.4	7.1	8.1	9.2	10.2	11.2	1.1	2.2	3.1	4.2	5.1	6.2	7.1	8.1	9.5	10.5	26	15	38
29	67	2.1	3.1	4.4	5.1	6.1	7.4	8.5	9.1	10.2	11.2	1.5	2.2	3.1	4.2	5.1	6.2	7.1	8.2	9.4	10.2	26	7	36
30	73	2.1	3.1	4.1	5.1	6.1	7.4	8.5	9.1	10.2	11.3	1.6	2.5	3.1	4.2	5.1	6.2	7.1	8.2	9.4	10.3	11	8	33