

**EFFECTIVENESS OF MEDITATION THERAPY IN REDUCING
STRESS AND ANXIETY AMONG WOMEN WITH
INFERTILITY IN BALAJI SURYA FERTILITY
CENTER AT DHARAPURAM**

2008 - 2010

Certified Bonafide Project Work

Done by

Mrs. S.Vijaya lakshmi

M.Sc., Nursing II Year

**Bishop's College of Nursing
Dharapuram**

Internal Examiner

External Examiner

COLLEGE SEAL

**A DISSERTATION SUBMITTED TO
THE TAMILNADU DR. MGR MEDICAL UNIVERSITY,
CHENNAI IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING**

2008-2010
CHAPTER – I

INTRODUCTION

**“An insightful, encouraging, and provocative
toolbox for couples seeking fertility-Meditation.”**

–Dr. Mehmet Oz.

BACKGROUND OF THE STUDY

People take parenthood as much for granted as birth and death. We are born; we get an education, then a job, followed by marriage, parenthood and finally death. This is some kind of unwritten cosmic schedule that humans follow and no one really thinks about the progression of events as they live their lives. We just flow from one phase of life to another in a seamless fashion. For couples who discover that they cannot have children for whatever reason, the loss of parenthood, a basic ingredient of life, comes as a rude shock.

Kalavathi, S., (2006) stated that women are god’s unique creations infact they are even considered as god because only a woman has the ability to give birth to a new soul to this world. But by some unfortunate means, some women loose this ability. These unfortunate people are reported to as infertile. The inability to conceive may cause women to experience psychosocial problems. In most of the cases the

couple must undergo extensive and invasive investigation and treatment procedures. The repeated failure of treatment may create emotional distress and depression.

Venkateshan, L., (2005) stated that, " Parenting is viewed by most of the couples as their central role in life and the thought of not achieving it can be very upsetting for women in particular have been raised traditionally of view mother hood as their primary role". Infertile couples experience chronic (long-term) stress they hope that they will conceive and then dealing with the disappointment if they do not.

Osler, W., (1991) stated that, " Human beings have two basic desires to get and to be got". To have our own family is a universal dream. This dream can become a night mare for the infertile couple. Infertility problem can cause pain and difficult emotions.

Christopher, R.N et.al., (1999) stated that infertility has been characterized as creating a form of chronic stress that can give rise to a variety of psychological difficulties. More recently published evidence suggests that stress itself may influence the outcome of infertility treatment.

WHO., (2001) reported that 60-80 million people experience infertility around the world and most of those people live in developing

countries. In India infertility affects 10-15% of couples in reproductive age group.

Nadkarni, P., (1992) reported that, “Infertility is a common condition, occurring in approximately 10-15% of couple’s world-wide”. The prevalence is similar across racial and ethnic groups and apart from certain parts of sub-Saharan Africa, is the same world-wide. Infertility is a world-wide phenomenon and is prevalent in every community. The psychological trauma of prolonged infertility on the couple is enormous.

Malpani, A et.al., (1991) stated that when the couples are diagnosed with infertility many couples feel helpless and no - longer in control of their bodies or their life plan. Infertility can be a major crisis because the important life goal of parenthood is threatened. Most couples are accustomed of planning their lives and experience has shown them that if they work hard at something they can achieve it but with infertility that may not be the case. However not all stress faced by infertile couple is emotional or psychological. Infertility treatment can be physically stressful as well blood test, injections, hysterosalpingograms, inseminations and surgery can be painful, awkward and embarrassing.

Abbey et.al., (1992) stated that the attempts to achieve a child birth will often last for years, with repeated attempts at conceiving, with or without the use of assisted reproductive technologies. For many couples, infertility and its treatment cause a serious strain on their interpersonal relationship, disturbed relationships with other people, personal distress, reduced self-esteem and periods of existential crisis.

Daniluk, C.T., (1988) stated that infertility is to be one of the major causes of stress in married life. Emotional disturbances due to infertility exist between both genders, but the female member of an infertile couple is often being found to elicit higher levels of depression. Stress lowers sexual and marital adjustment and isolation compared to men

Domar, A.D., (2008) stated that while stress does not cause infertility, infertility most definitely causes stress. Infertile women report higher levels of stress and anxiety than infertile men and there are some indications that infertile women are more likely to become depressed. This is not surprising since the far reaching effects of infertility can interfere with work, family, money and sex. Finding ways to reduce stress, tension and anxiety can make women feel better.

Vaidhyananadan, R et.al., (2006) stated that Stress a buzzword of the 90s is an every day fact of life, at one point or other every body suffers from stress. Infertility is a chronic illness that uses a large amount of a couples resources, (emotional and financial) and involves the expenditure of a considerable amount of time money and physical and emotional energy.

Cwihel,J et.al., (2000) stated the fact that various studies have demonstrated the importance of the mind body connection and fertility, the psychosocial aspect of infertility has not been adequately addressed. Fertility treatments, ranging from medical monitoring, hormonal remedies and in vitro fertilization, are both a physical, emotional and financial burden on woman and her partner. Psychological factors such as depression, anxiety and stress - induced changes in heart rate and cortisol are predictive of a decreased probability of achieving a viable pregnancy.

Neelakshi, G., (2006) stated that a relaxed mind is a focused mind. Due to the physical and psychological effects of infertility treatment, a patients stress level increases and his/her ability to handle the daily challenges becomes a quality-of-life issue. Meditation can help women cope with the challenges of infertility.

Sharma, A., (2003) stated that meditation means contemplation or reflection with concentration on a particular theme, thought, awareness, subject or object of spiritual nature. Meditation is an approximate english word for Yoga, Dhyana or Samadhi as it is practiced in India. Meditation enables us to become aware of our inner resources of joy and peace. We can tap them whenever we feel stressed and worried. We acquire a habit of detached observation. So if something wrong and irritating happens in course of our day, we can view it as a detached observer. We thus get an inner poise that ultimately percolates into our daily life. The peace and joy that we acquire become infectious to those around us. In this way we try to make the whole environment happy and peaceful.

Pembroke, G., (2003) explained that meditation is a great tool for relaxation and peace of mind, it may help us to overcome our ego and body consciousness which are the main causes of most of human sufferings, tensions, conflicts at personal and larger levels. Meditation helps us understand that our real nature is an integral part of the divine or transcendental consciousness. A person who meditates will

hopefully respond with the right clouds of positive thinking. Meditation can give you back control over your mind and emotions.

Kalavathi, S., (2006) stated that recent improvements in medications, micro-surgery and assisted reproductive technology make pregnancy possible for more than half the couples precising treatment. The couples facing infertility deal with stress often for extended period of time. In addition to ongoing stress, infertility creates issues of guilt, tension with in the relationship and feelings of depression and isolation issues. The cost of infertility treatment may also cause economic burdens and influence the utilization of treatment option and continuing the treatments, it may add onto strain the spouse and family relationship. The cost of treatment and the level of family support may cause stress and alteration in the sexual behaviour of infertile couple. The psychosocial aspects of the infertile women are crucial that health care professionals particularly nurses should recognize the negative consequences of infertility and design healthy adaptation measures that could assist in infertile women to remain active and focus on the treatment process.

Hence the researcher was interested to identify the level of stress and anxiety in infertile women by assessing pre and post meditation

effects through Perceived Stress Scale and Modified Hamilton Anxiety Scale. This would provide with valuable information for the health care providers to offer the best atmosphere to help the women in their ongoing acceptance of the fertility dilemma.

NEED FOR THE STUDY

Child bearing often is seen as one of the most basic of life's achievement. For those who can not achieve a pregnancy, feelings of failure, depression, isolation, guilt and anger accompany their desire for a child. Acknowledgement of these intense feelings aids the couple in their search for solution and acceptance of the testing and treatment procedures.

Carcio, H.A., (1999) has estimated that 25% of all married couple achieve pregnancy with in 6 months of regular and unprotected sex and another 15% succeeded with in next 6 months, by the end of one year of marital relation around 10% of couple remain with child. However in this modern society during the past decade, the incidence of infertility has been increased up to 20%.

Swarna, S., (2001) stated that recent year's infertility is becoming a world wide issue. Approximately 8 - 10% of couples experience

infertility during their reproductive life. It affects both men and women and is present in all the societies.

Vaidhyanadan, R et.al., (2006) stated that WHO estimated approximately 8-10% of couples experience some form of infertility on a world wide, this means that 50-80 million people suffer from infertility. The incidence of infertility in men and women is almost identical. Infertility is exclusively a female problem in 30-40% of cases and male in 10-30% of cases.

Marchiano, D., (2007) estimated that 10% to 20% of couples will be unable to conceive after 1 year of attempting to become pregnant. The chances for pregnancy occurring in healthy couples who are both under the age of 30 and having intercourse regularly are only 25% to 30% per month. A women's peak fertility occurs only in her early 20s. As a woman ages beyond 35 the likelihood of conceiving will be diminished to less than 10% per month.

Boivin,J et.al., (2007) reported that the prevalence of infertility ranged from 3.5% to 16.7% in more developed nations and from 6.9% to 9.3% in less developed nations. The proportion of couples seeking medical care was on average of 56.1% (range 42-76.3%) in more developed countries and 51.2% (range 27 - 74%) in less developed

countries. Based on these estimates and on the current world population, 72.4 million women are currently infertile, of these 40.5 million are currently seeking infertility medical care.

American society of reproductive medicine., (2004) stated that about 10-20% of couples can not have a baby when they desire. In 1995 the most recent US data about 9 million women has used infertility services because they could not have a baby when desired. Slightly more women or 9.3 million were currently in infertility therapy at the time of the national survey.

WHO., (2000) reported that the world fertility survey (1994) which was conducted in 7 countries including India brought out the incidence of infertility as 12 - 13.5% among married couples.

John, s., (1997) reported that according to Health action report, in the 9th five year plan the government considered infertility as a serious problem. The planning commission stated that 10-12% couples are infertile. In our country infertility is becoming one among the major health problems.

Alma Douglas., (1999) stated that in India infertility affects 10-15% of couples in reproductive age group. **Ramalingam, M. (2000)**

stated that the problems of infertility have assumed an increased importance in health care system in recent years. In India about 10 million couples in the age group of 18 - 40 years are infertile and 70 - 80% can be treated with routine treatment.

Chander, P. P., (2000) stated that infertility is a world-wide problem affecting people of all communities. Approximately 8-10% of couples within the reproductive age group present for medical assessment, generally following two years of failed efforts to reproduce. It is estimated that globally between 60 and 80 million couples suffer from infertility every year, of which probably between 15 and 20 million are in India alone. Currently, in India most of the facilities for infertility management, through the application of assisted reproductive technologies, are offered through the private sector in some metropolitan cities. It is estimated that the cost per cycle, with a take-home baby rate of just 20-30%, is between Rs.50,000 to Rs.75,000 which is in addition to the subsequent obstetric costs.

Thankam, R. V., (2005) head of the institute of reproductive medicine and women's health at the Madras Medical Mission, Chennai revealed that in India one in every five couples are childless.

WHO., (2000) epidemiological studies quoted the prevalence rates for infertility in India as 3% in primary and 8% in secondary

infertility. This article further explained that in India, data from various community based studies on childlessness from different states showed that between 5-18% of the women reported childlessness as one of their gynecological problems. Childlessness varies across the states, while Andrapradesh showed an infertility rate of 4.4%, Tamil Nadu showed an infertility rate of 3.5% and Haryana and Assam showed an infertility rate of 1.4% etc. the estimated rate of infertile couples in India is approximately 17.6 million.

Karthik, M., (2006) published an article as infertility cases on the rise in Erode. The problem is the rise in infertility cases, particularly among men, which the doctors here attribute more to pollution than anything else. Dr. Nirmala Sadasivam, Maruthi Medical Centre and Hospital, says that the situation at present is worsen than it was about 15 years ago. In 1990, approximately 30 infertility cases a day were treated in Maruthi Medical Centre, Erode which is increased between 100 and 120 at present. Dr. S. Dhanabagyam of Sudha Women and Fertility and IVF Centre shares a similar perception. At present about 2,000 patients for fertility-related problems are treated, in that 60 percent are men. The number of infertility cases from four to five new cases day in 1998 is increased to around 20 at present in Erode District, Tamilnadu.

Adrienne, H., (2009) stated that The National Infertility Association in US is called RESOLVE. It is a community for women and men with infertility and provides information and support during their family building journey. RESOLVE is celebrating National Infertility Awareness Week (2009) April 25 to May 2. RESOLVE is helping the 7.3 million people in the U.S build a family through increased public education, advocacy and support.

NVISAGE., (2007) stated that NIAC in UK (National Infertility Awareness Campaign) is committed to raising awareness of the need for full implementation of the National Institute for Health and Clinical Excellence's (NICE) guideline on infertility.

Infertility Network UK., (2007) are the UK's leading infertility support network, and offer information and support to anyone affected by fertility problems. It provides a voice for those with fertility problems, and are the campaigning movement working to improve awareness and access to treatment.

Mc Grail, A., (2007) stated that since April 2005, the UK government has approved funding for all infertile couples which entitles them to one free cycle of IVF (in vitro fertilization) on the

National health scheme, provided that the woman is under 40 years old and that the couple meet local eligibility criteria. Priority will be given to couples who don't yet have any children.

Nagesh Kumar, S., (2002) stated that the Federation of Obstetrics and Gynaecological Societies of India (FOGSI) will fully support the Government in enforcing the guidelines for fertility clinics in spite of opposition from a section of IVF (in vitro fertilization) doctors. The issue of regulating ART has gained importance as fertility clinics have mushroomed in India seeking to attract infertile couples estimated at 10 to 15 per cent. Some make incredible claims through high-pitch publicity about curing infertility and are often accused of overcharging.

Venkateshan, L., (2005) stated that in India childlessness has devastating consequences for women because the blame for infertility is securely laid only on the women. It results as a threat to the women's identity and may influence their self concept in terms of their inability to conceive.

Carcio, H.A., (1999) reported that by the age of 30, infertility potential begins to decline to 63% and by the age 35, it is 52% and pregnancy is almost impossible after 45 years of age.

Present dynamic society the stress has become the major part of each individual's life. Individuals are constantly influenced by the internal and external environmental stressor and maintain system balance called coping and adaptation. **Lee, T.Y et.al., (2001)** identified the following stressor in the infertile women which are as diagnosis of infertility, treatment, time and duration of treatment and marital duration. Not only these stressor but the psychological factors may also be the primary stressor of infertility.

Rani, A., (2006) stated that the stressor may bring about a variety of signs and symptoms which in variably include anxiety. Anxiety is a normal human response to stress. A healthy way to deal with the stress response includes primarily physical and psychological techniques. Such techniques include the use of medications, diet, exercises and relaxation training. The nurses play a significant role in identifying stressor, psychological sequelae and teaching effective stress management.

During the clinical experience the investigator observed that the infertile couple attending the infertility clinic looked very anxious and depressed. Also the investigator on reviewing the literature found that the very few studies have been done regarding the analysis of psychological and social problems experienced by the infertile women

and mind-body intervention for reducing stress and anxiety among infertile women. The investigator felt that this study would help the nursing practitioner to understand the level of stress and anxiety experienced by infertile women to adapt suitable nursing intervention and minimizing the stress and anxiety.

STATEMENT OF THE PROBLEM:-

A study to assess the effectiveness of meditation therapy in reducing stress and anxiety among women with infertility in Balaji Surya Fertility Center at Dharapuram.

OBJECTIVES:-

1. To assess the pretest level of stress and anxiety among women with infertility in control and experimental group.
2. To assess the posttest level of stress and anxiety among women with infertility in control and experimental group.
3. To compare the pretest and posttest level of stress among women with infertility in control and experimental group.
4. To compare the pretest and posttest level of anxiety among women with infertility in control and experimental group.
5. To compare the posttest level of stress in control group and posttest level of stress in experimental group.

6. To compare the posttest level of anxiety in control group and posttest level of anxiety experimental group.
7. To find the association between posttest level of stress among women with infertility with their selected demographic variables in experimental group.
8. To find the association between posttest level of anxiety among women with infertility with their selected demographic variables in experimental group.

OPERATIONAL DEFINITIONS:-

Effectiveness:-

It means producing an intended result. In this study it refers to the positive outcome or significant reduction in the level of stress and anxiety among women with infertility determined by the significant difference between pretest and posttest by using statistical measurements.

Meditation Therapy

It is a mental discipline by which one attempts to get beyond the conditioned thinking mind in to a deeper state of relaxation or awareness for reducing stress and anxiety.

Sharma, A., (2003)

In this study it refers to a mental discipline of practicing stress meditation therapy which is taught to women with infertility by demonstration (30minutes) and return demonstration followed by distribution of self instructional module which includes benefits and procedure of meditation therapy.

Stress:-

Stress is a prolonged unpleasant emotional state or psychological and physiological response to events that upset personal balance.

Prabhu deva, S.S., (2008)

In this study it means unpleasant emotional state of women with infertility which is measured by standardized perceived stress scale through structured interview schedule.

Anxiety:-

It is a troubled feeling in the mind caused by fear and uncertainty about the future.

Oxford Dictionary., (2001)

In this study it means troubled feeling in the mind of women with infertility which is measured by modified Hamilton anxiety scale through structured interview schedule.

Women with infertility

Women with infertility means inability of the women to conceive after one year of regular intercourse without using any birth control measures.

Bennett Ruth, V et.al., (2003)

In this study women with infertility means women who are attending the fertility centre for treatment regularly.

RESEARCH HYPOTHESES:-

- H₁ - The mean posttest scores of stress is significantly lower than the mean pretest scores of stress in the experimental group.
- H₂ - The mean posttest scores of anxiety is significantly lower than the mean pretest score of anxiety in the experimental group.
- H₃ - The mean post test scores of stress in the experimental group is significantly lower than the mean post test scores of stress in the control group.
- H₄ -The mean post test scores of anxiety in the experimental group is significantly lower than the mean post test scores of anxiety in the control group.

H₅ -There will be a significant association between posttest levels of stress among women with infertility with their selected demographic variables in the experimental group.

H₆ - There will be a significant association between posttest levels of anxiety among women with infertility with their selected demographic variables in the experimental group.

ASSUMPTIONS:-

- Women with infertility may have stress and anxiety.
- Meditation therapy may reduce stress and anxiety of women with infertility.

DELIMITATION:-

- The sample size was delimited to 30 in control group and 30 in experimental group.
- The data collection period was limited to 5 weeks.

PROJECTED OUTCOME:-

This study will help the nurses to understand the level of stress and anxiety among women with infertility. This will enlighten the effectiveness of meditation therapy in reducing stress and anxiety of infertile women. By reducing the stress and anxiety of women may improve the intimate relationship with her partner and increase the

chance of fertility. And also it helps to provide mental and physical peace and relaxation. It helps to reduce the cost and duration of treatment. It provides systematic thinking, control of mind and self confidence. Long term practice of meditation therapy helps to produce hormonal changes which increase the fertility chance.

CONCEPTUAL FRAME WORK

The conceptual frame work and model adapted for the present study is based on **Roy's adaptation model (1984)**. Roy's model focuses on the concept of adaptation of a person. The theorist concept of nursing, person, health and environment are all interrelated to this central concept. The person continuously scans the environment for stimulant. Roy expressed that a person's adaptation level is constantly changing point made up of focal, contextual and residual stimuli which represent the person's standard of the range of stimuli to which one can respond with ordinary adaptive response may be either adaptive or ineffective responses. Adaptive responses are those that promote integrity and help the person to achieve the goals of adaptation (i.e.) Survival, growth. Ineffective responses are responses that fail to achieve the goals of adaptation.

INPUT:-

According to theorist's view input is identified as stimuli which can come from within a person. The stimuli are classified as focal (Immediately confronting the human system), contextual stimuli (All other stimuli that are present in the situation), residual stimuli (non specific such as cultural beliefs or attitudes about illness). Input also

includes a person's adaptation level (the range of stimuli to which a person can adapt easily). Each person's adaptation level is unique and constantly changing.

In this study the investigator considered the person as women with infertility. The environment of the women is the source of variety of stimuli that either threaten or promote the persons uniqueness. In this study focal stimuli were considered as assessment of demographic variables such as age, education, occupation, type of family, religion, family monthly income, duration of infertility, family history of infertility and treatment for infertility and pretest was done to assess the stress by Perceived Stress Scale and anxiety by Modified Hamilton Anxiety Scale for both control group and experimental group and administration of meditation therapy for experimental group by demonstration and return demonstration by the samples and provision of self instructional module. The contextual stimuli are all other stimuli which contribute the effect of focal stimuli include fertility problems, diagnostic tests, treatments and alteration in socialization process. The residual stimuli includes social stigma, believes and attitudes.

THROUGH PUT

According to theorist view, through put means make use of a person's control processes and effectors. Control processes refer to the

control mechanisms that a person uses as an adaptive system. Inputs are mediated by the control process subsystems of cognator and regulator coping mechanisms. A regulator is a subsystem coping mechanism which responds automatically through neural-chemical-endocrine processes. A cognator is a subsystem coping mechanism which responds through complex processes of perception and information processing, learning, judgment and emotions. In this study the investigator considered cognator subsystem as changes in perception, information processing, learning, judgment and emotion. Regulator is not mentioned in this conceptual frame work.

According to theorist, effectors refer to physiologic function, self-concept, role function and interdependence involved in adaptation.

Physiologic function:

According to theorist, physiologic function involves the body's basic needs and ways to adapt. it includes a person's patterns of oxygenation, nutrition, elimination, activity and rest, skin integrity, senses, fluids and electrolytes and neuralgic and endocrine function. In this study physiologic function is not mentioned.

Self concept:

According to theorist, it refers to beliefs and feelings about oneself. It comprises the physical self (includes sensation and body image), personal self (includes self-consistency and self-ideal) and moral and ethical self (includes self-observation and self-evaluation). In this study, self concept includes, interest, confidence, concentration, decision making, control irritations, enthusiasm and self esteem.

Role function:

According to theorist, it involves behaviour based on a person's position in society. It is dependent on how a person interacts with others in a given situation. In this study role function includes performance at home and working place, family relationships and attending family ceremonies.

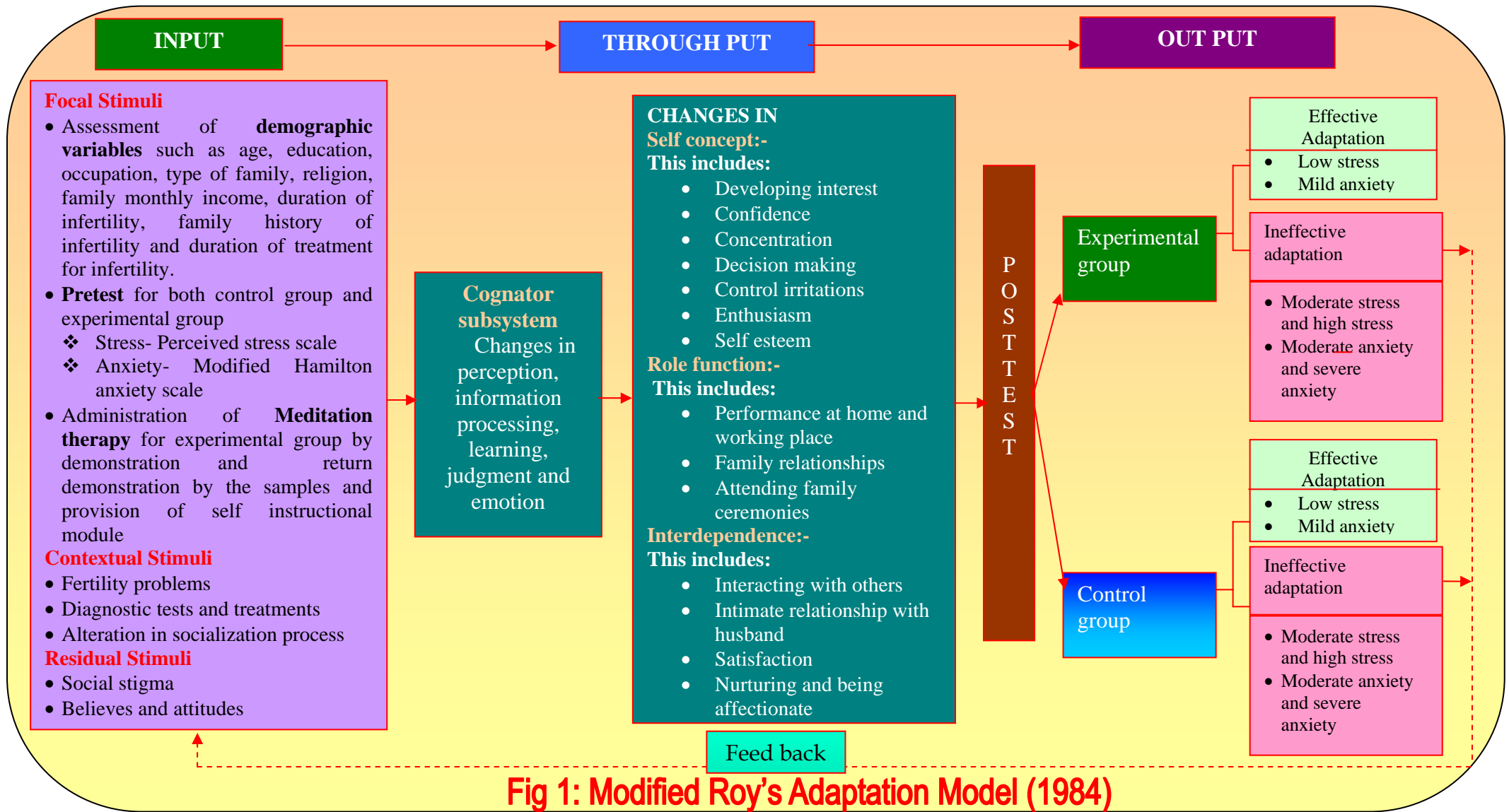
Interdependence:

According to theorist, it involves a person's relationship with significant others and support system. In this study interdependence includes interacting with others, intimate relationship with husband, satisfaction, nurturing and being affectionate.

OUTPUT

According to theorist, the adaptive system output is a response that may be adaptive or ineffective. Adaptive responses are responses that promote integrity of the person in terms of the goals, that is, survival, growth, reproduction and mastery. Ineffective responses are those that do not promote goal achievement.

In this study output is a response of control group and experimental group that may be effective adaptation or ineffective adaptation. Effective adaptation is reduction in the level of stress and anxiety such as low stress and mild anxiety and ineffective adaptation is no reduction in the level of stress and anxiety such as moderate stress and high stress and moderate anxiety and severe anxiety. These responses or output provide feed back for the system.



CHAPTER - II

REVIEW OF LITERATURE

Pain during labor is tolerable but.....

Emotional pain due to infertility is intolerable.

This chapter includes review of literature for this study which is organized under the following headings.

Part-I

- Overview of infertility

Part-II

- A. Studies related to stress and anxiety among women with infertility
- B. Studies related to meditation therapy
- C. Studies related to effects of meditation on stress and anxiety among women with infertility.

PART-I

OVERVIEW OF INFERTILITY

DEFINITION

Infertility means inability to conceive or carry child to delivery.

Dutta, D.C., (1994) defined infertility as a failure to conceive with in one or more years of regular unprotected coitus.

INCIDENCE

About 10-20% of couples can not have a baby when they desire. The incidence of male infertility is up to 30% and the female infertility is up to 40%, approximately one-third of infertility problem includes both the partners. And one of three couples remains unexplained.

Pilliteri, A., (2003)

Nelson and Marshal, (2004) explained that in general about 20% of couples will have unexplained or idiopathic causes of infertility. Among the 80% of couples who have an identifiable cause of infertility, about 40% are related to factors in the female partner, 40% are related to factors in the male partner and 20% are related to factors in both partners.

FACTORS CONTRIBUTING TO INFERTILITY

Hammond and Stillman., (2000) stated that in about 40% of couples with an infertility problem, the cause of infertility is multifactorial; 20-30% of couples experience ovulatory failure and 20-40% of couples experience tubal, vaginal or uterine problems as the cause of infertility. In as many as 15% have unknown cause of infertility.

Ramachandran, A., (1998) conducted study on clinical evaluation of infertile couples. He revealed that among infertile couples about 43.68% are related to female factors, 22.03% are related to male factors, 8.07% are related to both partners and 25.24% are related to unexplained infertility.

FACTORS IN THE WOMEN

Ramachandran, A., (1998) reported that among 43.68% of female factors, about 27.07% are due to acquired tubal disease, 11.01% are due to poly cystic ovarian disease, 15.05% are due to pelvic adhesions, 8.08% are due to anovulation with irregular menses, 8.08% are due to endometriosis, 4.04% are due to congenital ovarian causes, 2.02% are due to congenital uterus and cervical causes, 2.02% are due to acquired uterine cause and 5.05% are due to pelvic inflammatory diseases.

1) Congenital or developmental factors

Congenital factors rarely cause impaired fertility. If the woman has abnormal genitals or internal reproductive tract structures are absent, there is no hope for fertility.

Reader et.al., (1997)

2) Hormonal factors

Disruption of hormone secretion or the ovarian response to hormone secretion can be caused by many factors such as cranial tumours, stress, obesity, anorexia, systemic disease, and abnormalities in the ovaries or other endocrine glands. Anovulation may be caused by a pituitary or hypothalamic hormone disorder or an adrenal gland disorder and disruption of the hypothalamic-pituitary-ovarian-axis. Increased prolactin levels may cause anovulation and amenorrhoea.

Dutta, D.C ., (1994)

2) Tubal or peritoneal factors

Tubal obstruction may occur because of scarring and adhesions after reproductive tract infections (Chlamydia, gonorrhoea and other sexually transmitted infections). Endometriosis may cause tubal adhesions, painful menstrual periods and painful intercourse. Large lesions distort tubal anatomy and lead to infertility. Congenital anomalies of fallopian tube and other reproductive anatomy may

disrupt normal function. The motility of the tube and its fimbriated end may be reduced or absent as a result of infections, adhesions, scarring or tumours.

Pilliteri, A., (2003)

3) Uterine factors

Congenital anomalies of the uterus, endometrial and myometrial tumours, Asherman syndrome and infections can affect implantation and maintenance of pregnancy.

Reader et.al., (1997)

4) Vaginal- cervical factors

Vaginal and cervical factors such as polyps and scarring from past surgical procedures, abnormal cervical mucus caused by estrogen deficiency, surgical destruction of the mucus secreting glands, cervical damage secondary to infection may increase the acidity of the vaginal fluid, reduce the alkalinity of the cervical mucus and reduce the migration of sperm into the uterus and leads to infertility.

Dutta, D.C ., (1994)

FACTORS IN THE MAN

Ramachandran, (1998) reported that among 22.03% of male factors, about 13.4% are due to oligospermia, 2.8% are due to oligoasthenospermia, 2.8% are due to azoospermia, 1.8% are due to asthenoteratospermia, 1.8% are due to sexual dysfunction and 0.9% are due to congenital causes.

1. Abnormalities of the sperm

Factors that can impair the number and function of the sperm are abnormal hormonal stimulations of sperm production, acute or chronic illness such as mumps, cirrhosis or renal failure, infections of genital tract, anatomic abnormalities such as varicocele or obstruction of the ducts that carry sperm to the penis, exposure to toxins such as lead, pesticides or other chemicals, therapeutic treatments such as antineoplastic drugs or radiation for cancer, excessive alcohol intake, use of drugs such as marijuana or cocaine, an elevated scrotal temperature resulting from febrile illness, repeated use of saunas or hot tubs, or sitting for prolonged periods of time and immunologic factors.

Reader et.al., (1997)

2. Abnormal erections

Abnormal erections reduce the man's ability to deposit sperm-bearing seminal fluid in the woman's upper vagina. Erections are influenced by physical and psychological factors like central nervous system dysfunction, psychiatric disturbance, chronic illness, surgery and disorders affecting spinal cord or autonomic nervous system, peripheral vascular disease and drugs such as antihypertensive, antidepressants and alcohol consumption (substance abuse).

Dutta, D.C ., (1994)

3. Abnormal ejaculations

Retrograde ejaculation is the release of semen backward into the bladder rather than forward through the tip of the penis. Conditions that may cause this are diabetes, neuralgic disorders, surgery that impairs function of the sympathetic nerves and drugs such as antihypertensive and psychotropics. Hypospadias may cause deposition of sperm near the vaginal outlet rather than near the cervix. Premature ejaculations are usually related to psychological disorders such as performance anxiety or unresolved conflicts.

Littleton, L.Y et. al., (2007)

4. Abnormalities of seminal fluid

The specific abnormality found in the seminal fluid suggests the cause of the abnormality, such as obstruction or infection in a specific area of the genital tract. Seminal fluid that is abnormal in amount, consistency or chemical composition suggests obstruction, inflammation or infection.

Dutta, D.C ., (1994)

5. Structural and hormonal disorders

Male infertility can be caused by structural and hormonal disorders such as undescended testes, hypospadias, varicocele and low testosterone levels, all of which can cause azoospermia or oligospermia.

Reader et.al., (1997)

PSYCHOLOGICAL FACTORS:

Psychological factors such as job or financial stress, family illness, depression and fatigue may reduce fertility. The stress and frustration of being unable to conceive may further inhibit the couple's chances to conceive. The stress and anxiety surrounding intercourse and the rigorous time schedules imposed by some infertility treatments may create tension and emotional distress between couples.

Littleton, L.Y et. al., (2007)

Hatcher et.al., (1994) explained that once the stress of scheduled intercourse is relieved, sexual activity can proceed in a more relaxed atmosphere on the couple's own schedule, therefore enhancing the chances for conception.

DIAGNOSTIC EVALUATION OF INFERTILITY

FEMALE

a) Hysterosalpingogram

An x-ray to determine if the uterine cavity and fallopian tubes are open and healthy. Performed 2-5day after the end of the menses. Abnormalities of the structures of the uterus or tubes may be identified and narrowing or occlusion of the tubes can be seen.

Dutta, D.C ., (1994)

b) Ovulation prediction

It identifies the surge of luteinizing hormone, which precedes ovulation by 24 to 36hr; improves ability to time intercourse to coincide with ovulation, and identifies the absence of ovulation. Common prediction methods include commercial ovulation predictor kits, basal body temperature and cervical mucus assessment.

Littleton, L.Y et. al., (2007)

c) Laboratory evaluations

Based on medical history and physical examination, additional blood or urine tests may be ordered to evaluate the function of ovaries, pituitary, adrenal, hypothalamus, thyroid and other glands and hormone analysis to determine the cause of infertility.

Dutta, D.C ., (1994)

d) Laparoscopy

It is a procedure using an endoscope to view the pelvic organs. It may be abdominal or vaginal. Uterine abnormalities such as fibroids, adhesions and endometriosis, ovarian cysts and tubal blockages may be identified and removed. It also used to retrieve eggs for assisted reproductive technology.

Lowder milk, D.L et.al.,(2006)

e) Ultrasonography

It evaluates structure of pelvic organs. It identifies ovarian follicles and release of ova at ovulation. Evaluates for presence of ectopic or multi foetal pregnancy.

Littleton, L.Y et. al., (2007)

f) Postcoital test

It evaluates characteristics of cervical mucus and sperm function within that mucus at time of ovulation.

Dutta, D.C ., (1994)

MALE

a) Semen analysis

It evaluates structure and function of sperm and composition of seminal fluid.

Lowder milk, D.L et.al.,(2006)

b) Endocrine tests

Evaluate function of hypothalamus, pituitary gland and the response of the testicles. Assays are made to determine testosterone, estradiol, luteinizing hormone and follicle-stimulating hormone levels.

Littleton, L.Y et. al., (2007)

c) Ultrasonography

Evaluates structure of prostate gland, seminal vesicles and ejaculatory ducts by use of a transrectal probe.

Dutta, D.C ., (1994)

d) Testicular biopsy

An invasive test for obtaining a sample of testicular tissue; identifies pathology and obstructions.

Littleton, L.Y et. al., (2007)

e) Sperm penetration assay

Evaluates fertilizing ability of sperm; assesses ability of sperm to undergo changes that allow penetration of a hamster ovum from which the zona pellucida has been removed.

Dutta, D.C ., (1994)

THERAPIES TO FACILITATE PREGNANCY

Assurance

The infertile couple remains psychologically disturbed right from the beginning, more so as the investigation progresses. The couple in such cases should be tactfully handled to minimize psychological upset.

Lowder milk, D.L et.al., (2006)

Exercise

Over weight or under weight of any partner should be adequately dealt with to obtain an optimum weight. Regular, moderate daily exercise as a part of life-style changes, particularly for weight control and as a part of a stress reduction program is very helpful.

Reader et.al., (1997)

Diet

A balanced diet with intake of whole foods, high protein, high fiber and vegetables are optimal. A vegetarian diet has a more beneficial effect than other diets for infertility.

Lowder milk, D.L et.al., (2006)

Acupuncture

Acupuncture is particularly suggested for oligomenorrhic or amenorrhic patients or those with luteal phase defects. It has been postulated that approximately 44% of women respond to this mode of therapy.

Lowder milk, D.L et.al., (2006)

Behavioural therapy

Behavioural therapy may increase fecundity by reducing the emotional aspects of infertility. It also increases enthusiasm and energy. With in 6 months following the behavioural therapy 34% women conceived.

Reader et.al., (1997)

MEDICATIONS

Some of the drugs will be used for ovulation induction and hormone regulation. They are Bromocryptine (parlodel), Human

Chorionic gonadotropin (hCG; pregnyl); Recombinant deoxyribonucleic acid(DNA) origin (r-hCG; ovidrel), clomiphene citrate (clomid) FSH , recombinant DNA origin (follitropin[Gonal-F]); GnRH antagonists (cetorelix,ganirelix), Gonadotropin-releasing hormone (GnRH)agonists (gosereline, leuprolide), Gonadotropins, human (bravelle, pergonal), LH, recombinant DNA origin, Progesterone (intramuscular or vaginal preparations), Erectile agents (sildenafil [Viagra], Vardenafil [levitra]).

Dutta, D.C ., (1994)

Desai, S et.al., (2004) conducted study on controversies in use of letrozole over clomiphene citrate in ovulation induction. They revealed that clomiphene citrate induces ovulation in about 70=85% of patients although only 20-40% will conceive. The pregnancy rate per cycle is around 10-20%. Letrozole appears to be safe, effective and inexpensive drug for induction of ovulation especially in clomiphene resistant women. The pregnancy rate of letrozole (16.7%) is higher than the clomiphene citrate (5.6%) in clomiphene citrate resistant women.

SURGICAL PROCEDURES

Endoscopic procedures may be used to correct obstruction with minimal invasiveness in either the man or woman. The woman may need a laparotomy to relieve pelvic adhesions and obstructions caused by endometriosis, infection or previous surgical procedures if these

cannot be corrected via laparoscopy. Laser surgical techniques may be used to reduce adhesions. Correction of a varicocele by ligating or embolizing the dilated vein may improve sperm quality and quantity. Microsurgical techniques may be attempted for correction of obstructions in the fallopian tubes or male tubal structures. Transcervical balloon tuboplasty is a minimally invasive method to unblock the fallopian tubes.

Lowder milk, D.L et.al.,(2006)

Ostrzenski, A. (2002) reported that the pregnancy rate of tubal or pelvic surgery is about 50% after 2 years and tubal or pelvic surgery for severe infective damage is about <10% after 2 years.

ASSISTED REPRODUCTIVE TECHNOLOGY:

Maroulis., (1993) stated that assisted reproductive technology techniques hold promise for women older than 35yrs or who require donor oocytes for pregnancy.

INTRAUTERINE INSEMINATION (IUI)

IUI can be employed with either therapeutic insemination of husband or donor. The semen is washed and by a technique called swim up; the most motile fraction of the sperm is obtained and used for transfer through a flexible polyethylene catheter. Post washing count

should be at least 1 million per ml, if not more. A monthly schedule of 2 inseminations on alternate days is preferred. The result varies widely in different centers, ranging 10-30 percent. The best results are obtained in the treatment of cervical factor and unexplained infertility and in stimulated cycle.

Lowder milk, D.L et.al., (2006)

Ostrzenski, A., (2002) stated that combined superovulation and IUI yields pregnancy rates of about 10-25% per cycle, an average of approximately 15% per cycle. IUI alone yields pregnancy rates of about 5-10% per cycle.

INTRA CERVICAL INSEMINATION

In this technique 0.5ml of the semen should be placed into the cervix; the remainder is sprayed against the external os. The patient remains in the same position for 10-15minutes. The alternative approach is the use of cervical cap.

Dutta, D.C ., (1994)

Ostrzenski, A., (2002) reported that the pregnancy rate of ICI is 5-10%.

INTRACYTOPLASMIC SPERM INJECTION (ICSI)

Intracytoplasmic sperm injection is the placement of a single spermatozoon into the oocyte cytoplasm. This technique is particularly beneficial in severe male factor infertility including azoospermia. The oocyte cytoplasm is injected after microsurgical sperm aspiration from the epididymis, after testicular sperm aspiration with a needle, or after open biopsy testicular sperm extraction.

Reader et.al., (1997)

Ostrzenski, A., (2002) reported that the pregnancy rate of ICSI is approximately 31% per cycle.

INVITRO FERTILIZATION AND EMBRYO TRANSFER

The past decade has witnessed at least two dramatic changes in the technique protocol of IVF-ET. One such was change of natural cycle to super ovulation protocol and the other one was replacement of laparoscopy by vaginal sonography for ovum retrieval.

Dutta, D.C ., (1994)

Steps are:

Induction of superovulation

For this technique collecting the oocyte from a natural cycle, 36 hours after the onset of LH surge is essential. But subsequently, it has

been found that the success rate is much higher when more embryos are transferred which is only possible by ovarian hyper stimulation. Drugs commonly used are Clomiphene citrate, (CC+) human menopausal gonadotrophin(hMG), CC+Pure FSH, hMG, FSH, GnRH analogues+ hMG pure FSH.

Dutta, D.C ., (1994)

Monitoring of follicular growth

The follicular growth response is monitored by cervical mucus study, sonographic measurement of the follicles and serum estradiol estimation, commencing on the 8th day treatment cycle. When three or more follicles are greater than 18mm in diameter and serum E2 levels>250pg/ml/per follicle, 5000-10000IUof hCG is given intramuscularly36 hours prior to oocyte retrieval.

Dutta, D.C ., (1994)

Ovum retrieval

At the present time, laparoscopic oocyte retrieval has been almost completely replaced by ultrasound guided retrieval. With vaginal needle aspiration is done about 39hours after hCG administration but before ovulation occurs. After recovery, the oocytes are maintained in culture in vitro for a few hours.

Dutta, D.C ., (1994)

Fertilization (in vitro)

The sperm used for insemination in vitro is prepared by the wash and swim-up technique. Approximately 50000 to 100000 sperm are placed in to the culture media containing the oocyte with in 3-4 hours after retrieval. The eggs may demonstrate signs of fertilization when examined 12-24 hours after insemination. The semen is collected just prior to ovum retrieval.

Dutta, D.C ., (1994)

Embryo-transfer

The fertilized ova at the 4-8 cell stage are placed into the uterine cavity close to the fundus about 48-72 hours later through a fine flexible tube transcervically. Not more than three embryos are transferred per cycle to minimize multiple pregnancies.

Dutta, D.C ., (1994)

Ostrzenski, A. (2002) reported that the over all pregnancy rate of IVF-ET is approximately 25% per controlled ovulation cycle and 26% deliveries per retrieval.

GAMETE INTRA FALLOPIAN TRANSFER (GIFT)

It is more invasive and expensive procedure than IVF but the result seems better than IVF. In this procedure both the sperm and the

unfertilized oocytes are transferred into the fallopian tubes. Fertilization is then achieved in vivo. The prerequisite for gift procedure is to have normal uterine tubes. The over all pregnancy rates are as high as 30-40%. Take home baby rate is about 20%.

Lowder milk, D.L et.al., (2006)

Ostrzenski, A., (2002) reported that the pregnancy rate of GIFT is about 35% for each cycle and 29% deliveries per retrieval.

ZYGOTE INTRAFALLOPIAN TRANSFER

The placement of the zygote into the fallopian tube can be either through the abdominal ostium by laparoscope or through the uterine ostium under ultrasonic guidance. This technique is a suitable alternative of GIFT when defect lies in the male factor or in cases of failed GIFT.

Littleton, L.Y et. al., (2007)

Balmaceda et.al., (1993) said that with ZIFT procedure the pregnancy rates vary but are usually quoted at about 20-25%.

Ostrzenski, A., (2002) reported that the pregnancy rate of ZIFT is about 30.9% deliveries per retrieval.

MICRO-INSEMINATION SPERM TRANSFER (MIST)

When the sperm abnormality is severe, micro-insemination technique will be helpful. Micro-insemination in this sperm is directly deposited in the perivitelline space of the oocyte.

Reader et.al., (1997)

Ostrzenski, A., (2002) reported that MIST has a low birth rate, ranging from 1-5%.

PART-II

A. STUDIES RELATED TO STRESS AND ANXIETY AMONG WOMEN WITH INFERTILITY

Sreshthaputra, O., (2008) conducted study on gender differences in infertility-related stress and the relationship between stress and social support in Thai infertile couples. The Fertility Problem Inventory (FPI) and the Personal Resource Questionnaire (PRQ) were used to assess the level of infertility-related stress and perceived social support, respectively, in 238 infertile subjects. The global Fertility Problem Inventory scores for men and women were 154.2 +/- 18.3 and 154.7 +/- 22.6, respectively ($p > 0.05$). There was no significant difference in their perceived social support (PRQ scores = 137.8 + 14.0 and 134.0 +/- 16.7 respectively). A significant negative correlation ($r = -0.1894$; $p < 0.001$) existed between global stress and social support in women, but not in men. Thai infertile couples experienced a high level of stress. Unlike previous studies from Western countries, there was no gender differences in infertility-related stress.

Redshaw, M et.al., (2007) conducted study on a qualitative study of the experience of treatment for infertility among women who

successfully became pregnant. The result shows that a total of 230 women responded (50%). Emergent themes related to the treatment process, pain and distress, lack of choice and control, timing, emotional and financial costs, fairness and contrasts in care. Women wished to be treated with respect and dignity and given appropriate information and support. They wanted their distress recognized, to feel cared for and to have confidence in health professionals in situations where outcomes are uncertain.

Ozkan, M et.al., (2006) Conducted study on emotional distress of infertile women in Turkey. This study is to determine the prevalence, severity and predictability of psychiatric symptoms of infertile women and the effects of infertility on marital and sexual relationships. A semi-structured interview form, symptom check list, Beck Depression Inventory, State-Trait Anxiety Inventory and the Maudsley Marital Questionnaire were utilized for 50 infertile women and 40 healthy women as a control group. Depression, anxiety and strength of psychological symptoms were significantly higher in the infertile group. Depression was decreased as the rate of employment, economic status and education increased. Infertility treatment and marriage duration were positively correlated with depression and the strength of psychological symptoms. Sexual relationships were negatively affected

the longer the duration of infertility treatment lasted. Special attention must be given to identifying psychiatric problems in infertile women. Relationship and sexual difficulties also appear central to infertility-related stress. Targeting problems in these domains will have maximal therapeutic benefit.

Kalavathi, S., (2006) conducted a descriptive study to assess the stress level of infertile women undergoing IUI treatment. In this study most of the infertile women were in the age group of 21-30 years (68%) and (73.3%) of them were Hindus. About (44%) of them had consanguineous marriage and they were living equally in nuclear (45.3%) and joint families (44%). Most of them (65.4%) had 3-6 years of infertility and about (40%) of them had family income of Rs.2000-4000 per month. Majority of them were housewives (73.3%) and about (54.7%) had higher secondary level of education. Majority of women had high stress (60%) and less number of women had moderate stress (1.4%). Thus infertile women undergoing IUI treatment was experiencing high level of stress.

Vashumathi, S.P., (2006) conducted a study on level of stress and level of coping among the women undergoing infertility treatment in GG hospital, Chennai. The over all score on stress was among 60

women undergoing infertility treatment, the majority of them (55%) had moderate level of stress, 30% had mild level of stress and (13%) had severe level of stress. Coping of the mother was found that majority (80%) of them had adequate coping and (20%) had moderate coping. It is found that there was a positive correlation between level of stress and level of coping. So majority of women undergoing infertility treatment had a moderate level of stress and adequate coping.

Boivin, J and Schmidt, L., (2005) conducted study on Infertility-related stress in men and women predicts treatment outcome 1 year later. A fertility problem stress inventory was administered at the start of treatment, and the treatment outcome was evaluated 12 months later. Number of treatment cycles in 12-month study period and treatment outcome (i.e., success, no success). Fertility problem stress was associated with a poorer treatment outcome in women (pooled within-groups [WGr] correlation, (WGr = .517) and men (WGr = .392) with the effect significantly more pronounced for women ($z = 3.19$, $P < .001$). Fertility problem stress arising in the personal and marital domain showed greater associations with treatment outcome than did fertility problem stress from the social domain. Logistic regression indicated that women who reported more marital distress required more treatment cycles to conceive (median 3) than women reporting less

marital distress (median 2) (odds ratio [OR] = 1.20: $\chi^2(3) = 77.21$, $P < .001$). The findings provide evidence that infertility-related stress has direct and indirect effects on treatment outcome.

Ramezanzadeh, F et.al., (2004) conducted study on a survey of relationship between anxiety, depression and duration of infertility. This was studied in relation to patient's age, educational level, socioeconomic status and job (patients and their husbands). A survey conducted among 370 female patients with different infertility causes participated in and data gathered by beck depression inventory and cattle questionnaires for assessing anxiety and depression due to duration of infertility. This survey showed that 151 women (40.8%) had depression and 321 women (86.8%) had anxiety. Depression had a significant relation with cause of infertility, duration of infertility, educational level and job of women. Anxiety had a significant relationship with duration of infertility and educational level, but not with cause of infertility or job. Findings showed that anxiety and depression were most common after 4-6 years of infertility and especially severe depression could be found in those who had infertility for 7-9 years.

Matsubayashi, H et.al., (2001) conducted study on emotional distress of infertile women in Japan. This study was carried out in order to clarify whether Japanese infertile women experience emotional distress. A cross-sectional questionnaire study was performed to assess the psychological states of 101 infertile women compared to 81 healthy pregnant women. The hospital anxiety and depression scale (HADS) and the profile of mood states (POMS) were administered. The HADS and the POMS scores of infertile women were significantly higher than those of pregnant women. Infertile women with positive HADS indicating emotional disorders (39/101, 38.6%) were significantly ($P = 0.0008$, chi square=2) more than those of pregnant women (13/81, 16.0%) when the threshold was set at 12/13 of total HADS scores. The HADS scores were not affected by the women's age, duration of infertility, experience of conception, routine tests, and work states. In this Japanese population, infertile women reported higher levels of emotional distress than pregnant women, suggesting psychological support is needed for infertile women.

Harlow, C.R et.al., (1995) conducted study on stress and stress related hormones during IVF treatment. The biochemical and questionnaire based stress of infertile women was measured during

median baseline, follicular phase and preoperative period. The serum prolactin (229, 311 and 457 IU/l), cortisol (927, 369 and 496 nmol/l) and anxiety score (38, 40 and 49) respectively all increased during stimulated IVF treatment. There was no such increase in a control group having similar laproscopic surgery unrelated to infertility, suggesting that anxiety levels are greatest in IVF treatment and adequately reflected by anxiety scores.

Yang, L et.al., (1995) conducted study on mental status and personality of infertile women and investigated in 130 infertile women. Causes of their infertility attributed to female (n = 65), male (n = 53), unexplained infertility (n = 12). Fifty four fertile women were recruited as normal control. A woman consulting questionnaire, Eysenck personality questionnaire (EPQ), symptom checklist-90 (SCL-90), self-rating anxiety scale (SAS) and Hamilton depressive scale (HDS) were used in this study. The results showed that any level of mental pressure were found in 83.8% of infertile women, and moderate and severe in 52%. In comparison with the control, the prevalence of psychiatric symptoms were significantly higher in infertile than fertile women ($P < 0.01$). Infertile women were more likely to suffer from severe depression and anxiety. Their mental status was more unstable than fertile women

and correlated with their personality traits. Author emphasized that not only the somatic treatment, but also the psychological consultation and mental support should be provided in the program of the infertility management.

Lee, T.Y et.al., (1995) conducted a study to evaluate gender differences in the psychosocial responses of 85 couples who attended the ART at Taiwan. The average age of husbands was 35 years and wives were 31.6 years. The average duration of infertility and treatment was 52.7 and 34.6 months respectively. Infertile women showed higher psychosocial distress than their partners on the global measures and are the sub-scales of the infertility questionnaire and psychiatric symptoms test. Except for hostility, the differences between couples in sub- scale of self esteem, body image, guilt and an psychiatric symptoms reached statistical significance ($p < 0.05$). They concluded that infertile women showed a higher level of distress than their spouses and that men and women displayed different psychosocial responses to infertility.

Xu, L et.al., (1994) conducted study on Psychological aspects of infertile couples in China. A psychological interview survey was performed among 652 women and 425 of their husbands. The results

showed that more than 80 percent of the couples had been tolerating various psychological stresses caused by infertility. Disapproval was the most common feeling. The couples' emotion was influenced by each other. Emotional scores of husbands and wives were significantly positive correlated ($P < 0.001$). However, men are more capable to cope with this problem than women. Men's attitude to infertility is more positive and optimistic than women. There is no significant difference between women and men in their attitude to the treatment and forecasting of prognosis. Cultural background is a major factor associated with psychological stresses of infertile couples. Infertility has more severe impact on people living in rural areas as well as ones with lower level education. Infertility also affected couple's sexual and marital relationships. The relationship between women and their parents' in-laws became worse among 8.6 percent of infertile women.

Desai, p et.al., (1992) conducted descriptive study on understanding the emotions of infertile couples. He has reported that 25% of the couples developed some form of marital disharmony, 76.3% couples have alterations in sexual response once labeled infertile. Initial shock leading to anxiety, stress, depression and sense of guilt or anger were the commonest reactions of these couples, 80% spouses were sympathetic towards each other. In-laws were more negative in interacting with the infertile wives and threat of divorce was ensued to

18% females, 16.3% developed sense of guilt, self blame and suicidal tendencies.

B. STUDIES RELATED TO MEDITATION THERAPY

Carlson, L.E and Bultz, B.D., (2008) conducted study on Mind-body interventions in oncology. A number of mind-body interventions have been studied for use with cancer patients, primarily measuring outcomes relating to pain control, anxiety reduction, and enhancing quality of life. Mind-body interventions included are hypnosis, imagery/relaxation, meditation, yoga, and creative therapies. Current evidence supports the efficacy of hypnosis and imagery/relaxation for control of pain and anxiety during cancer treatments. Meditation is supported for reductions in stress and improvements in mood, quality of life, and sleep problems.

Lane, J.D et.al., (2007) conducted study on brief meditation training can improve perceived stress and negative mood. Result shows that all 4 outcome measures improved significantly after instruction, with reductions from baseline that ranged from 14% (State -trait anxiety inventory) to 36% (Brief symptom inventory). More frequent practice was associated with better outcome. Higher baseline neuroticism scores were associated with greater improvement. Preliminary evidence suggests that even brief instruction in a simple meditation technique

can improve negative mood and perceived stress in healthy adults, which could yield long-term health benefits. Frequency of practice does affect outcome. Those most likely to experience negative emotions may benefit the most from the intervention.

Jain, S et.al., (2007) conducted study on a randomized controlled trial of mindfulness meditation versus relaxation training: effects on distress, positive states of mind, rumination, and distraction. Result shows that hierarchical linear modeling reveals that both meditation and relaxation groups experienced significant reduction in distress as well as rise in positive mood states over time, compared with the control group ($p < .05$ in all cases). There were no significant differences between meditation and relaxation on distress and positive mood states over time. Effect sizes for distress were large for both meditation and relaxation (Cohen's $d = 1.36$ and $.91$, respectively), whereas the meditation group showed a larger effect size for positive states of mind than relaxation (Cohen's $d = .71$ and $.25$, respectively). The meditation group also demonstrated significant pre-post decrease in both distractive and ruminative thoughts/behaviors compared with the control group ($p < .04$) in all cases.

Coppola, F., (2007) conducted study on effects of natural stress relief meditation on anxiety: a pilot study. The meditation is taught in a

self-administered program, requiring one hour of training during the first three days, followed by the regular twice daily practice. Each 15-min. session consists in sitting quietly with closed eyes while applying a specific mental procedure. To test the effectiveness of meditation in reducing anxiety, Spiel Berger's State-Trait Anxiety Inventory was administered to 25 participants four times over a 3-wk. period: one week before starting to practice the meditation, a few hours before starting, 1 wk. after, and 2 wk. after. The difference in Anxiety score between pretreatment and before starting the practice was not significant, while it was significant both after the first week of practice (Cohen $d=.46$) and after the first 2 wk. of practice ($d=.67$).

Sivasankaran, S et.al., 2006) conducted study on the effect of a six-week program of yoga and meditation on brachial artery reactivity: do psychosocial interventions affect vascular tone? A course in yoga and meditation was given to the subjects for 1.5 hr three times weekly for 6 weeks and subjects were instructed to continue their efforts at home. This prospective cohort study included 33 subjects (mean age 55 +/- 11 years) both with (30%) and without (70%) established coronary artery disease (CAD). There were significant reductions in blood pressure, heart rate, and BMI in the total cohort with yoga and

meditation. In the group with CAD, endothelial-dependent vasodilatation improved 69% with yoga training and meditation (6.38-10.78%; $p = 0.09$). Yoga and meditation appear to improve endothelial function in subjects with CAD.

Krisanaprakornkit, T et.al., (2006) conducted study on meditation therapy for anxiety disorders. Result shows that two randomized controlled studies were eligible for inclusion in the review. Both studies were of moderate quality and used active control comparisons (another type of meditation, relaxation, and biofeedback). Anti-anxiety drugs were used as standard treatment. The duration of trials ranged from 3 months (12 weeks) to 18 weeks. In one study transcendental meditation showed a reduction in anxiety symptoms and electromyography score comparable with electromyography-biofeedback and relaxation therapy. Another study compared Kundalini Yoga (KY), with Relaxation/Mindfulness Meditation. The Yale-Brown Obsessive Compulsive Scale showed no statistically significant difference between groups. Neither study reported on adverse effects of meditation.

Gupta, N et.al., (2006) conducted study on effect of yoga based lifestyle intervention on anxiety. The subjects had history of

hypertension, coronary artery disease, diabetes mellitus, obesity, psychiatric disorders (depression, anxiety, and 'stress'), gastrointestinal problems and thyroid disorders. The intervention consisted of asana, pranayama, relaxation techniques, group support, individualized advice, and lectures and films on philosophy of yoga, the place of yoga in daily life, meditation, stress management, nutrition, and knowledge about the illness. The outcome measures were anxiety scores, taken on the first and last day of the course. Anxiety scores were significantly reduced. Among the diseased subjects significant improvement was seen in the anxiety levels of patients of hypertension, coronary artery disease, obesity, cervical spondylitis and those with psychiatric disorders. The observations suggest that a short educational programme for lifestyle modification and stress management leads to remarkable reduction in the anxiety scores within a period of 10 days.

Brown, R.P and Gerbarg, P.L., (2005) conducted study on Sudarshan Kriya Yogic breathing in the treatment of stress, anxiety, and depression. Part I of this series presented a neurophysiologic theory of the effects of Sudarshan Kriya Yoga (SKY). Part II will review clinical studies, our own clinical observations, and guidelines for the safe and effective use of yoga breath techniques in a wide range of clinical conditions. Although more clinical studies are needed to document the

benefits of programs that combine pranayama (yogic breathing) asanas (yoga postures), and meditation, there is sufficient evidence to consider Sudarshan Kriya Yoga to be a beneficial, low-risk, low-cost adjunct to the treatment of stress, anxiety, post-traumatic stress disorder (PTSD), depression, stress-related medical illnesses, substance abuse, and rehabilitation of criminal offenders. SKY has been used as a public health intervention to alleviate PTSD in survivors of mass disasters. Yoga techniques enhance well-being, mood, attention, mental focus, and stress tolerance. Proper training by a skilled teacher and a 30-minute practice every day will maximize the benefits.

Speca, M et.al., (2000) conducted a randomized, wait-list controlled clinical trial: the effect of a mindfulness meditation-based stress reduction program on mood and symptoms of stress in cancer outpatients. A convenience sample of eligible cancer patients enrolled and was randomly assigned to either an immediate treatment condition or a wait-list control condition. Patients completed the Profile of Mood States and the Symptoms of Stress Inventory both before and after the intervention. The intervention consisted of a weekly meditation group lasting 1.5 hours for 7 weeks plus home meditation practice. Ninety patients (mean age, 51 years) completed the study. After the intervention, patients in the treatment group had significantly lower

scores on Total Mood Disturbance and subscales of Depression, Anxiety, Anger, and Confusion and more Vigor than control subjects. The treatment group also had fewer overall Symptoms of Stress; fewer Cardiopulmonary and Gastrointestinal symptoms; less Emotional Irritability, Depression, and Cognitive Disorganization; and fewer Habitual Patterns of stress. Overall reduction in Total Mood Disturbance was 65%, with a 31% reduction in Symptoms of Stress. This program was effective in decreasing mood disturbance and stress symptoms in both male and female patients with a wide variety of cancer diagnoses, stages of illness, and ages.

Alexander, C.N et.al., (1996) conducted study on Trial of stress reduction for hypertension in older African Americans. Subjects were 127 African American men and women, aged 55 to 85 years, with diastolic pressure of 90 to 104 mm Hg and systolic pressure less than or equal to 179 mm Hg. Mental and physical stress-reduction approaches- the Transcendental Meditation technique and progressive muscle relaxation, respectively-were compared with a life-style modification education control and with each other. Compared with education control subjects, women practicing the Transcendental Meditation technique showed adjusted declines in systolic (10.4 mm Hg, $P < .01$) and diastolic (5.9 mm Hg, $P < .01$) pressures. Men in this treatment

group also declined in both systolic (12.7 mm Hg, $P < .01$) and diastolic (8.1 mm Hg, $P < .001$) pressures compared with control subjects. Women practicing muscle relaxation did not show a significant reduction compared with control subjects, and men declined significantly in diastolic pressure only (6.2 mm Hg, $P < .01$). For the measure of psychosocial stress, both the high and low risk subgroups using the Transcendental Meditation technique declined in systolic (high risk, $P = .0003$; low, $P = .06$) and diastolic (high risk, $P = .001$; low, $P = .008$) pressures compared with control subjects, whereas for muscle relaxation, blood pressure dropped significantly only in the high risk subgroup and only for systolic pressure ($P = .03$) compared with control subjects. For each of the other five risk measures, Transcendental Meditation subjects in both the high and low risk groups declined significantly in systolic and diastolic pressures compared with control subjects.

Kabat Zinn, J et.al., (1992) conducted study on Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. The 22 study participants were screened with a structured clinical interview and found to meet the DSM- III-R criteria for generalized anxiety disorder or panic disorder with or without

agoraphobia. Assessments, including self-ratings and therapists' ratings, were obtained weekly before and during the meditation-based stress reduction and relaxation program and monthly during the 3-month follow-up period. Repeated measures analyses of variance documented significant reductions in anxiety and depression scores after treatment for 20 of the subjects--changes that were maintained at follow-up. The number of subjects experiencing panic symptoms was also substantially reduced. A group mindfulness meditation training program can effectively reduce symptoms of anxiety and panic and can help maintain these reductions in patients with generalized anxiety disorder, panic disorder, or panic disorder with agoraphobia.

C. STUDIES RELATED TO EFFECTS OF MEDITATION ON STRESS AND ANXIETY AMONG WOMEN WITH INFERTILITY

Venkatesan, L., (2009) conducted study on the impact of positive therapy upon the stress levels in infertile women was studied through a randomized clinical trial. The infertile women were randomly assigned into the control (n=60) and experimental group (n=60) of women. Pre test stress was assessed on day 2 of the menstrual cycle of control and experimental group of infertile women and the positive therapy was implemented from day2 to 7 of the menstrual cycle only for the experimental group of women. Post test stress was assessed on day 14

of the cycle in both groups. The results have shown that in experimental group the post test stress level (M=164.30, SD=19.03) was less than the pre test stress level (M=247.51, SD=23.14) and the difference was statistically significant at $p < .001$ level. In control group there was no statistical difference between the pretest (M=246.65, SD=22.18) and post test (M=247.06, SD=21.89) stress levels. The results can be attributed to the effectiveness of positive therapy and has direct implications for nursing practice.

Khalsa, H.K., (2003) conducted study on Yoga: an adjunct to infertility treatment. Yoga and meditation can help women experiencing the challenges of infertility. The practice of meditation and relaxation can help increase the clarity of the mind, maintain healthy body chemistry, and give patients the patience to undergo the rigors of infertility treatments. When one understands and can attain physical relaxation, one tends to feel better about the body itself, and begins to treat the body with more respect. This understanding can lead to healthier lifestyle habits as well as increased sensitivity regarding symptoms and body processes. This is beneficial to both doctor and patient as the patient can report with more clarity and sense cycles and physical issues more readily.

Domar, A.D et.al., (2000) in their study conducted at Harvard medical school on 184 women going through infertility, of those who went through 10 week course of relaxation training, cognitive restructuring and stress reduction, 55% had a viable pregnancy within one year. This is compared to only 20% of the control group achieving a viable pregnancy in one year.

Domar, A.D., (1990) conducted study on mind/body interventions for infertility. Couples dealing with infertility may become depressed, anxious and angry. To help them cope he taught the relaxation response to one group of infertile couples. Compared with a similar group of infertile couples who did not learn deep relaxation, the mediators experienced less distress and were more likely to get pregnant.

CHAPTER – III

METHODOLOGY

This chapter deals with research approach, research design, setting, population, sample, criteria for sample collection, sample size, sample techniques, description of tool, scoring procedure, validity, reliability, pilot study, data collection procedure, plan for data analysis and protection of human subjects.

RESEARCH APPROACH:-

The research approach used for this study is evaluative approach.

RESEARCH DESIGN:-

Quasi-experimental design: pretest and posttest control group design will be adopted to assess the effectiveness of meditation therapy in reducing stress and anxiety among women with infertility.

SCHEMATIC REPRESENTATION:-

GROUPS	PRETEST	INTERVENTION	POSTTEST
GROUP-I	O1	X	O2
GROUP-II	O1	-	O2

The symbols used:

Group-I: Group I is experimental group. This group of women with infertility will be receiving meditation therapy as intervention.

Group-II: Group II is control group. This group of women with infertility will not be receiving meditation therapy.

O₁ - Pretest the level of stress and anxiety by using standardized Perceived stress scale and modified Hamilton anxiety scale.

x - Meditation therapy through demonstration, return demonstration and self instructional module.

O₂ - Posttest the level of stress and anxiety by using standardized Perceived stress scale and modified Hamilton anxiety scale.

SETTING OF THE STUDY:-

The study will be conducted in Balaji Surya fertility centre which is a private hospital, located in the pollachi road, Dharapuram. In this centre artificial reproductive techniques like invitro fertilization (IVF), intracytoplasmic sperm insemination (ICSI) and intra uterine insemination (IUI) are used to treat infertility. Approximately 800-900 patients visits to out patient department per month and 70-80 patients

are admitted to in patient department per month. Normal deliveries 20-25 and caesarian 15-20 are conducted per month.

POPULATION:-

The target population selected for this study will be women with infertility.

SAMPLE:-

The sample selected for this study was women with infertility who are attending out patient department in Balaji Surya Fertility Center, Dharapuram.

CRITERIA FOR SAMPLE SELECTION:-

Inclusive Criteria:-

- Mothers who are able to understand Tamil.
- Mothers who attend fertility center regularly after first visit.
- Mothers who are willing to participate in the study.

Exclusive Criteria:-

- Mothers who are deaf, dumb and blind.

SAMPLING:-

Sample size:

The sample size selected for this study was 60 women with infertility who are attending fertility center, were 30 control group and 30 experimental group.

Sampling Technique:-

Sampling technique used for this study was purposive sampling. The first 30 women who had attended the out patient department were in the control group. Ten samples were selected per day for 3 days. From 4th day 30 women who had attended the out patient department were allotted in to the experimental group. Six samples were selected per day for 5 days for whom meditation therapy was implemented.

DESCRIPTION OF THE TOOL:-

PART - I:-

It consists of demographic variables such as age, educational qualification, religion, occupation, family income per month, type of family, residential area, duration of infertility, family history of infertility, previous treatment for infertility and duration of treatment for infertility.

PART - II:-

Cohen et al's Standardized Perceived stress scale was used as a tool. It consists of 10 statements based on different situations affect feelings and perceived stress. It includes 5 columns for responses (Very often, fairly often, sometimes, almost never, never) with a score of 4, 3, 2, 1, 0 respectively.

PART-III

Modified Hamilton anxiety rating scale consists of 20 statements based on symptoms of anxiety. It includes 5 columns for responses (Never, rarely, sometimes, mostly, always) with a score of 0,1,2,3, 4 respectively.

SCORING PROCEDURE:

Part-II

Among 10 statements 1, 2,3,6,9 and 10 are positive statements and 4, 5, 7 and 8 are negative statements. Reverse the scores for statements 4, 5, 7 and 8. Based on score, level of stress was graded into three categories.

Stress	Scores	Percentage
Low Level of Stress	0 - 13	0-33%
Moderate Level of Stress	14 - 26	34-65%
High Level of Stress	27 - 40	66-100%

Part-III

Based on score, level of anxiety was graded into three categories.

Level of anxiety	Scores	Percentage
Mild anxiety	0 - 26	0 - 33%
Moderate anxiety	27- 52	34 - 65%
Severe anxiety	53 - 80	66 - 100%

VALIDITY:-

The validity of the tool was established in consultation with guide and five experts in the field of obstetrics and gynecology nursing, obstetrician and gynecologist and statistician. The tool was modified according to the suggestions and recommendations of experts.

RELIABILITY:-

The reliability of the tool- Perceived Stress Scale was assessed by testing the stability and internal consistency. The karl pearson coefficient formula was used to assess the stability by test retest method. The value was found to be reliable ($r=0.9$). The spearman's brown prophecy formula was used to assess the internal consistency by using split half technique, the value was found to be reliable ($r=0.9$).

The reliability of the tool- Modified Hamilton Anxiety Scale was assessed by testing the stability and internal consistency. The Karl Pearson co-efficient formula was used to assess the stability by test retest method. The value was found to be reliable ($r=0.9$). The Spearman's Brown prophecy formula was used to assess the internal consistency by using split half technique, the value was found to be reliable ($r=0.9$).

PILOT STUDY:-

Pilot study was conducted for twenty women (10 as control group and 10 as experimental group) with infertility to find out the effectiveness of meditation therapy for reducing stress and anxiety in Sudha Fertility Center in Erode for a period of 15 days to find out the feasibility of the study and to plan for data analysis on the basis of pilot study. Written permission was obtained from the medical officer of Sudha Fertility Center and oral consent was obtained from the subjects after explaining the purpose of the study.

First day and Second day 5 women were selected per day as experimental group for data collection. First 30 minutes was spent for each woman to collect demographic variables and assessed the pre test level of stress and anxiety. Soon after pre test, investigator demonstrated meditation for 30 minutes and made women to do return

demonstration for 30minutes. Then the investigator gave self instructional module for home practice. Third day 10 women with infertility were selected as control group and only pre test was conducted with out giving meditation. After 7th day of pre test, again the investigator gave second sitting of demonstration about meditation therapy to experimental group as review. Post test was conducted on 15th -17thday for both experimental and control group and assessed the level of stress and anxiety.

Data were analyzed and findings of the pilot study showed that the posttest mean score of stress [18.5(SD=6.48)] was lower than the mean pretest stress score [25.4(SD=4.79)] and posttest mean score of anxiety [35.3(SD=11.45)] was lower than the mean pretest anxiety score [44.5(SD=10.6)] in experimental group. The posttest mean score of stress [18.5(SD=6.48)] and anxiety [35.3(SD=11.45)] in experimental group was lower than the posttest mean score of stress [24.4(SD=5.28)] and anxiety [41.4(SD=11.9)] in control group. After the pilot study, it was found that it is feasible and practicable to conduct the main study.

DATA COLLECTION PROCEDURE:-

The study was conducted at Balaji Surya fertility center in Dharapuram. Written permission was obtained from the medical officer of fertility center and oral consent was obtained from the subjects after

explaining the purpose of the study. The data was collected for a period of 5 weeks in the month of August from 60 samples. In this First 30 samples were in control group and the next 30 samples were treated as experimental group. First three days pretest was conducted for control group, each day 10 samples were selected. Next five days pretest was conducted for experimental group. During this period 6 women were selected per day for data collection. First 30 minutes was spent for each woman to collect demographic variables and assessing the pre test level of stress and anxiety. Soon after pre test for each woman, investigator had demonstrated meditation for 30 minutes and made each woman to do return demonstration for 30 minutes. Then the investigator gave self instructional module for home practice. After 15 days again the investigator gave second sitting of demonstration about meditation therapy for 30 minutes to experimental group. The samples in experimental group were given the meditation practice chart to fill up daily. Post test was conducted on 30th day for both experimental group and control group and assessed the level of stress and anxiety.

PLAN FOR DATA ANALYSIS

Sl.no.	Data analysis	Methods	Remarks
1.	Descriptive statistics	Frequency percentage mean Standard deviation.	To assess the pretest and post test level of stress and anxiety.
2.	Inferential statistics	Paired 't' test	To find out the differences in pretest and post test level of stress and anxiety in experimental group and control group.
		Independant't'test	To find out the effectiveness of meditation therapy between experimental group and control group
		Chi-square test	To find out the association between demographic variables and post test level of stress and anxiety scores in experimental group.

PROTECTION OF HUMAN SUBJECTS

The research proposal was approved by the dissertation committee prior to conduct the main study. The written permission was obtained from Medical officer of Balaji Surya Fertility Center, Dharapuram before the study. Verbal consent was obtained from each sample. The researcher maintained confidentiality through out the study. The researcher was conscious about the ethical issues and full disclosure was maintained by the researcher.

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the description of sample characteristics, analysis and interpretation of the data collected from women with infertility to assess the effectiveness of meditation therapy in reducing stress and anxiety in Balaji Surya Fertility Center, Dharapuram.

ORGANIZATION OF DATA

The data has been described and organized as follows:

Section A: Distribution of demographic variables of women with infertility.

Section B: Assessing the pretest level of stress and anxiety among women with infertility in control and experimental group.

Section C: Assessing the posttest level of stress and anxiety among women with infertility in control and experimental group.

Section D: Comparison between the pretest and posttest level of stress among women with infertility in control and experimental group.

Section E: Comparison between the pretest and posttest level of anxiety among women with infertility in control and experimental group.

Section F: Comparison between the posttest level of stress in experimental group and posttest level of stress in control group.

Section G: Comparison between the posttest level of anxiety in experimental group and posttest level of anxiety in control group.

Section H: Association between posttest level of stress of women with infertility with their demographic variables in experimental group.

Section I: Association between posttest level of anxiety of women with infertility with their demographic variables in experimental Group.

**SECTION A: DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF
WOMEN WITH INFERTILITY.**

TABLE 1: Frequency and percentage distribution of demographic variables of women with infertility in control and experimental group.

$n_1=30; n_2=30$

S.No	Demographic Variables	Control group		Experimental group	
		F	%	F	%
1	Age				
	a) Below 20yrs	-	-	-	-
	b) 21-30 yrs	16	53.3	20	66.6
	c) 31-40 Yrs	13	43.3	10	33.3
	d) Above 40 Yrs	1	3.3	-	-
2	Education				
	a) No formal education	2	6.6	2	6.6
	b) Primary education	1	3.3	2	6.6
	c) Secondary education	5	16.6	8	26.6
	d) Higher secondary education	9	30	10	33.3
	e) Graduates	13	43.3	8	26.6

3	Occupation				
	a) Self employee	3	10	4	13.3
	b) Government	1	3.3	-	-
	c) Private	-	-	4	13.3
	d) Daily wages	3	10	2	6.6
	e) House wives	23	76.6	20	66.6
4	Type of family				
	a) Nuclear	16	53.3	15	50
	b) Joint	14	46.6	15	50
	c) Extended	-	-	-	-
5	Religion				
	a) Hindu	27	90	27	90
	b) Muslim	1	3.3	2	6.6
	c) Christian	2	6.6	1	3.3
6	Family monthly income				
	a) less than Rs.5000	8	26.6	13	43.3
	b) Rs.5001 -10000	14	46.6	13	43.3
	c) Rs. 10001-15000	5	16.6	3	10
	d) Rs.15001 and above	3	10	1	3.3

7	Duration of infertility				
	a) less than 2 years	2	6.6	3	10
	b) 2-5 Yrs	8	26.6	10	33.3
	c) 6-10 Yrs	14	46.6	12	40
	d) More than 10 Yrs	6	20	5	16.6
8	Family history of infertility				
	a) Present	8	26.6	2	6.6
	b) Absent	22	73.3	28	93.3
9	Duration of treatment for infertility				
	a) No treatment	2	6.6	5	16.6
	b) less than 2 Yrs	2	6.6	7	23.3
	c) 2-5 Yrs	16	53.3	14	46.6
	d) 6-10 Yrs	9	30	2	6.6
	e) More than 10 Yrs	1	3.3	2	6.6

TABLE 1:-

Table 1 showed the distribution of demographic variables of women with infertility in control and experimental group.

Regarding **age** among women with infertility, majority of women were belong to 21-30 Yrs of age [16(53.3%)] in control group and [20 (66.6%)] in experimental group. Less number of women were belong to above 40 yrs of age [1(3.3%)] in control group. (Fig: 2)

Regarding **educational status** among women with infertility, majority of women were graduates [13(43.3%)] in control group where as majority of women had higher secondary education [10 (33.3%)] in the experimental group. Less number of women had primary education [1(3.3%)] and [2(6.6%)] no formal education in control group where as in the experimental group [2(6.6%) each] of women had primary education and no formal education respectively. (Fig: 3)

Regarding **occupation** among women with infertility, majority of women were house wives [23 (76.6%)] in control group and [20(66.6%)] in experimental group. Less number [1(3.3%)] of women were government employees in control group and none of them were government employees in the experimental group. (Fig: 4)

Regarding **type of family** among women with infertility, in the control group majority of women [16 (53.3%)] were belong to nuclear family and [14 (46.6%)] women were belong to joint family. In the

experimental group [15(50%) each] were equally from nuclear and joint family. (Fig: 5)

Regarding **religion** among women with infertility, majority of women [27(90%) each] were Hindus in both control group and experimental group. Less number of women [1(3.3%)] and [2(6.6%)] were Muslims and Christians in the control group where as [2(6.6%)] and [1(3.3%)] woman were Muslims and Christians in the experimental group. (Fig: 6)

Regarding **family monthly income** among women with infertility, most of the women [14(46.6%)] were having monthly income Rs. 5001-10000 in the control group where as in the experimental group most of the women [13(43.3%) each] were having monthly income of less than Rs.5000 and Rs. 5001-10000 respectively. Less number of women [3(10%)] and [1(3.3%)] were having monthly income of Rs. 15001 and above in control group and experimental group respectively. (Fig: 7)

Regarding **duration of infertility** among women with infertility, most of them [14(46.6%)] and [12(40%)] were having duration of infertility for 6-10Yrs in control group and experimental group respectively. Less number of women [2(6.6%)] and [3(10%)] were

having duration of infertility for less than 2Yrs in control group and experimental group respectively. (Fig: 8)

Regarding **family history of infertility** among women with infertility, majority of women [22(73.3%)] and [28(93.3%)] had no family history of infertility in the control group and experimental group. Less number of women [8(26.6%)] and [2(6.6%)] had family history of infertility in control group and experimental group. (Fig: 9)

Regarding **duration of treatment for infertility** among women with infertility, majority of women [16 (53.3%)] and [14(46.6%)] went to treatment for infertility about 2-5 years in control group and experimental group respectively. Less number of women [1(3.3%)] and [2(6.6%)] went to treatment for infertility about more than 10 years in control group and experimental group respectively. (Fig: 10)

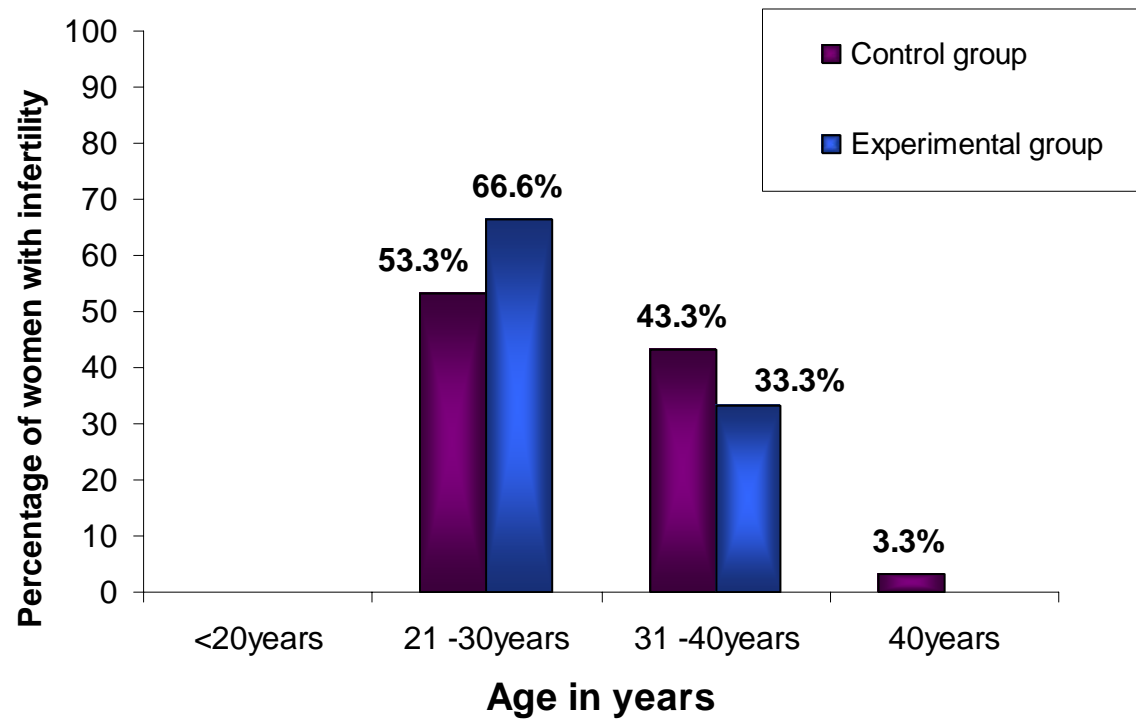


Fig 2: Percentage distribution of women with infertility according to their age in control group and experimental group.

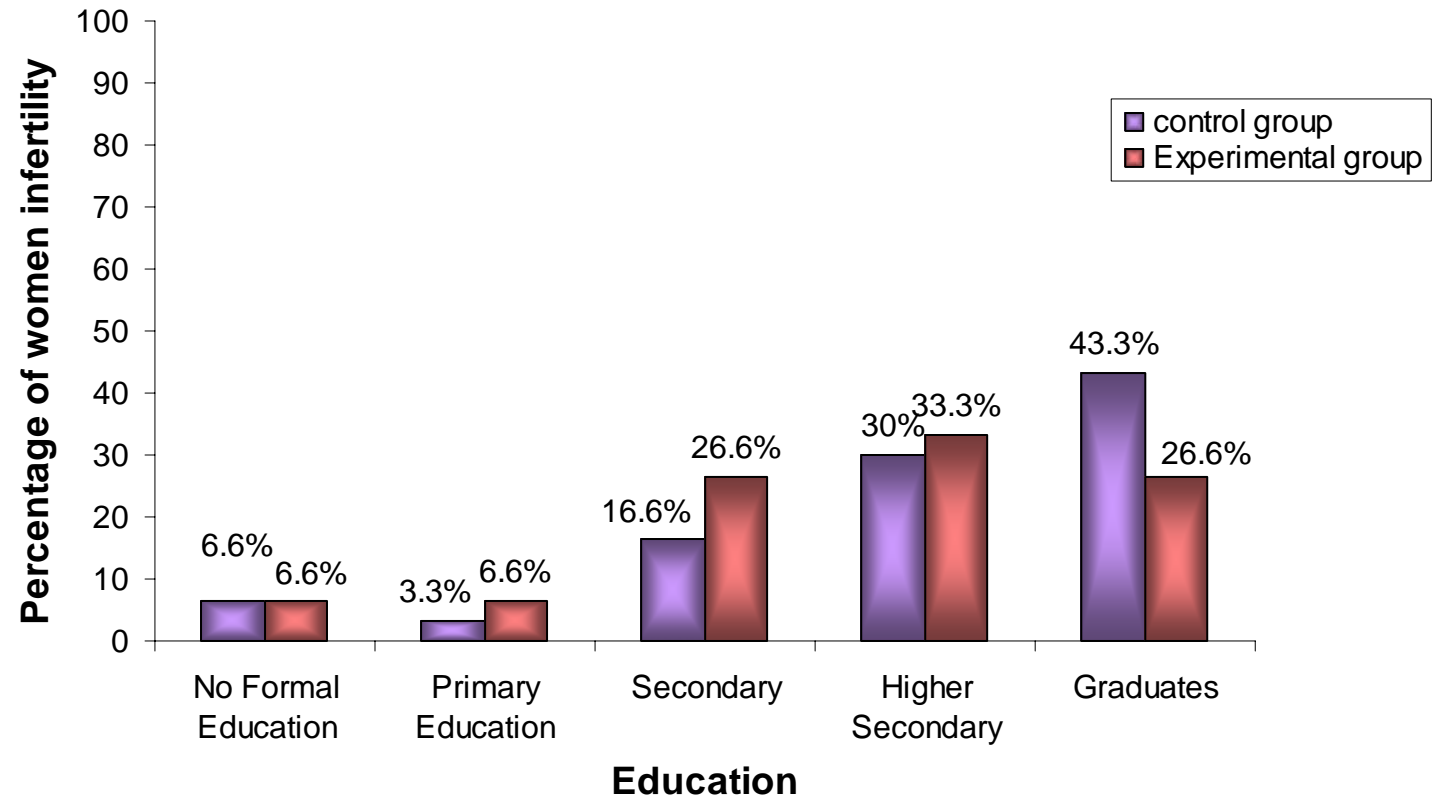


Fig 3: Percentage distribution of women with infertility according to their education in control group and experimental group.

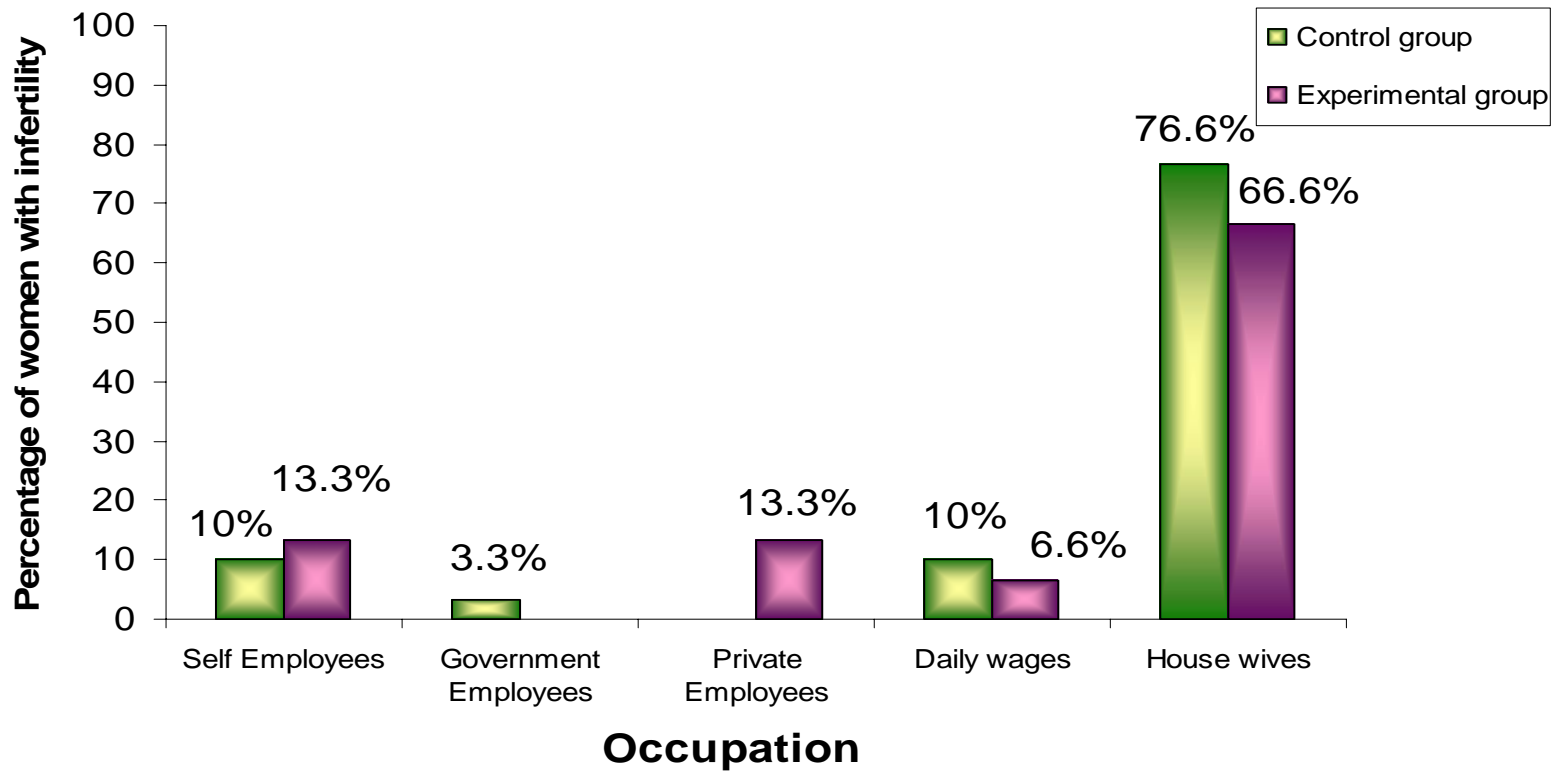


Fig 4: Percentage distribution of women with infertility according to their occupation in control group and experimental group.

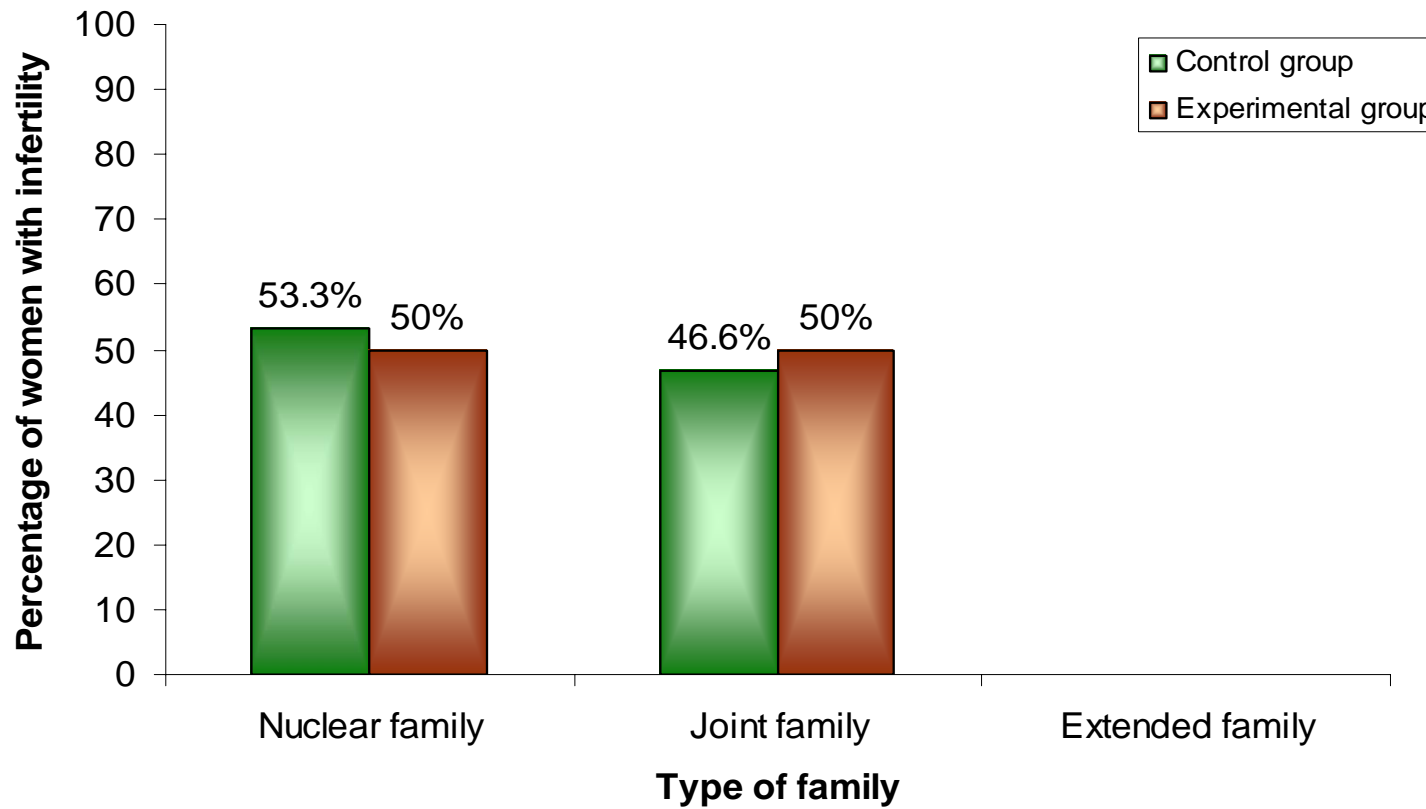


Fig 5: Percentage distribution of women with infertility according to their type of family in control group and experimental group.

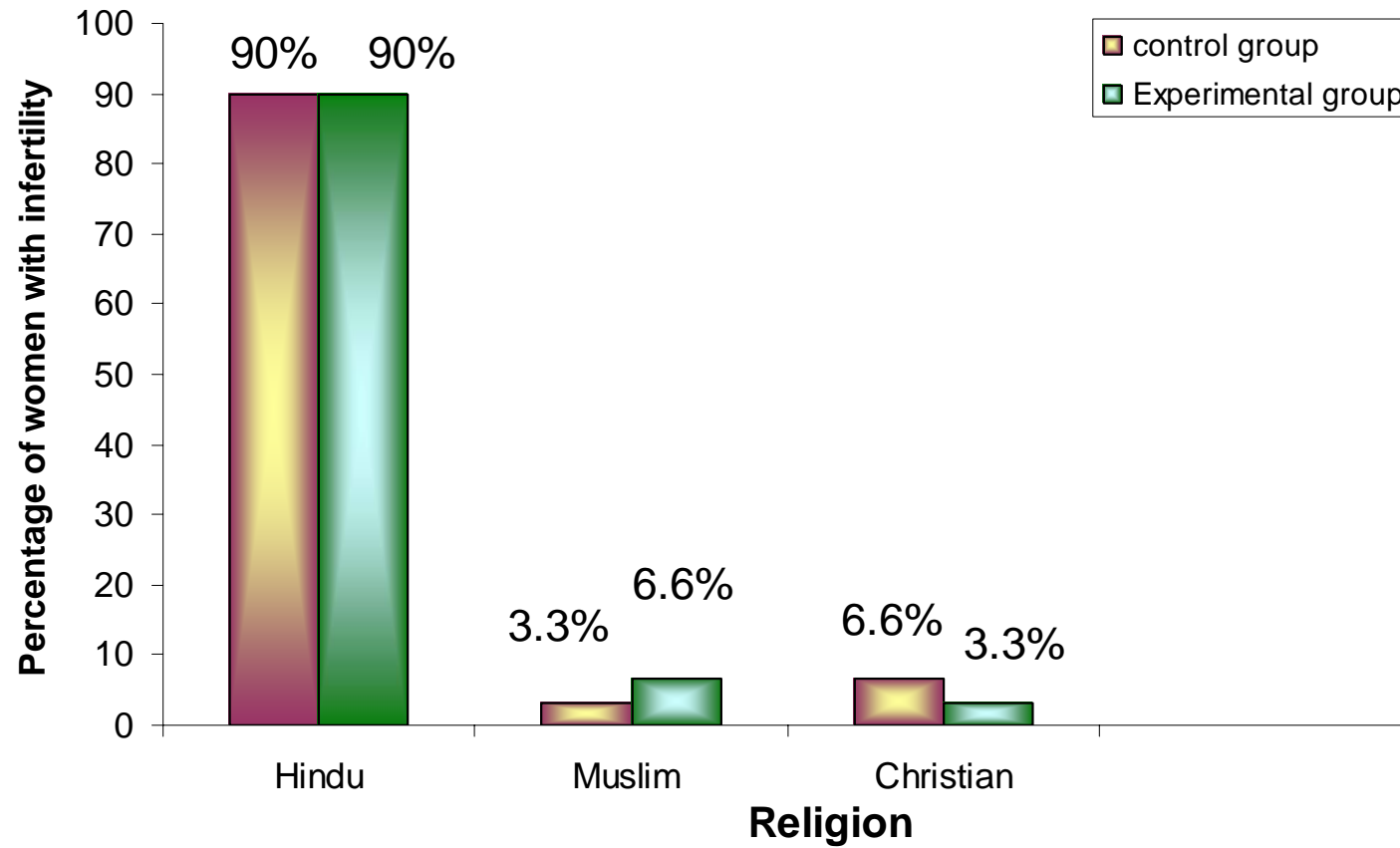


Fig 6: Percentage distribution of women with infertility according to their religion in control group and experimental group.

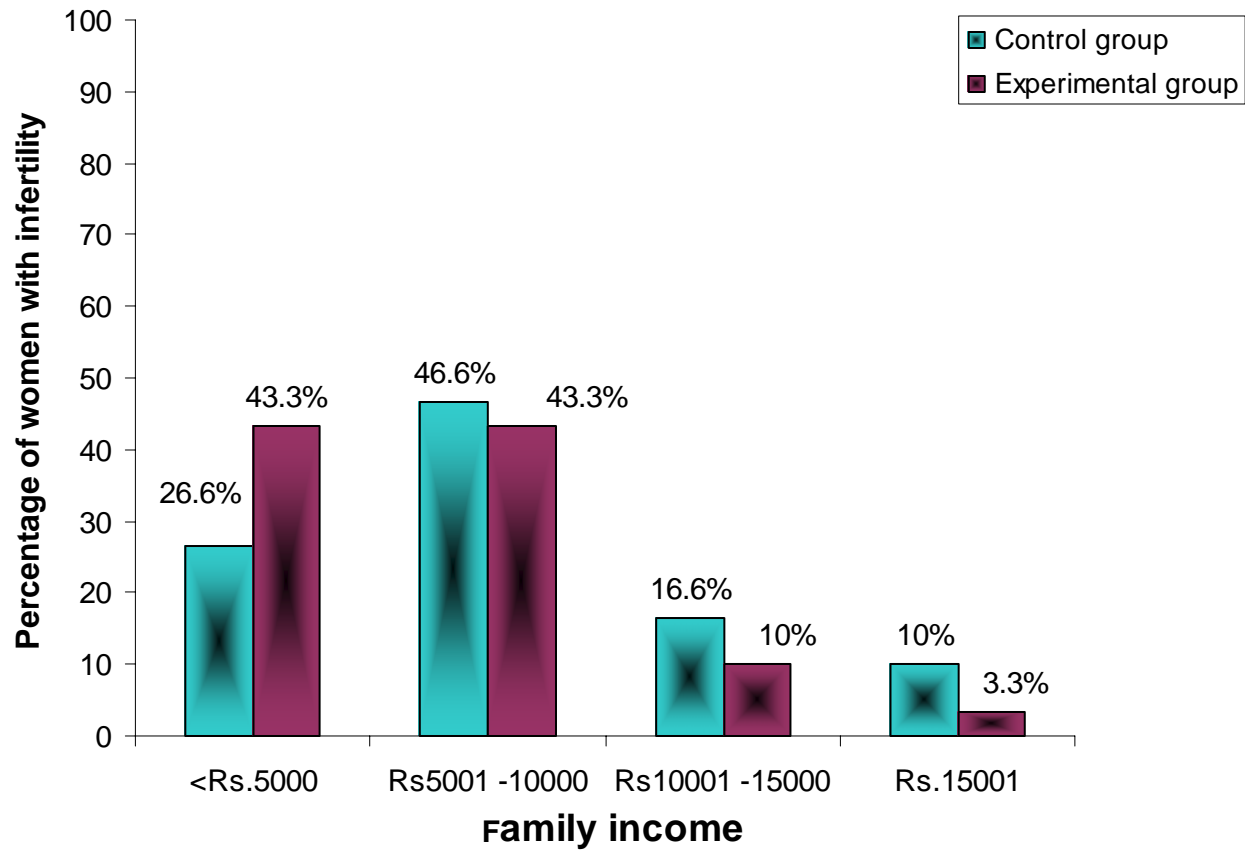


Fig 7: Percentage distribution of women with infertility according to their family income in control group and experimental group.

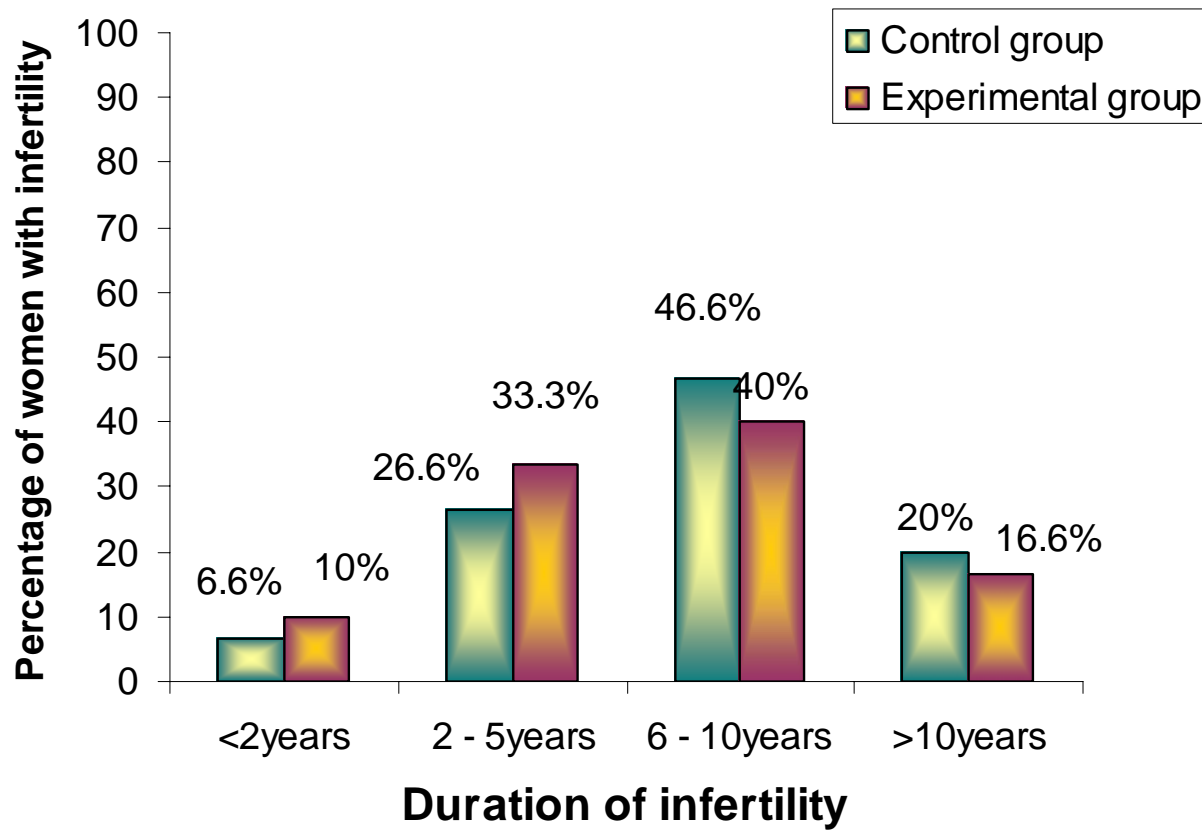


Fig 8: Percentage distribution of women with infertility according to their duration of infertility in control group and experimental group.

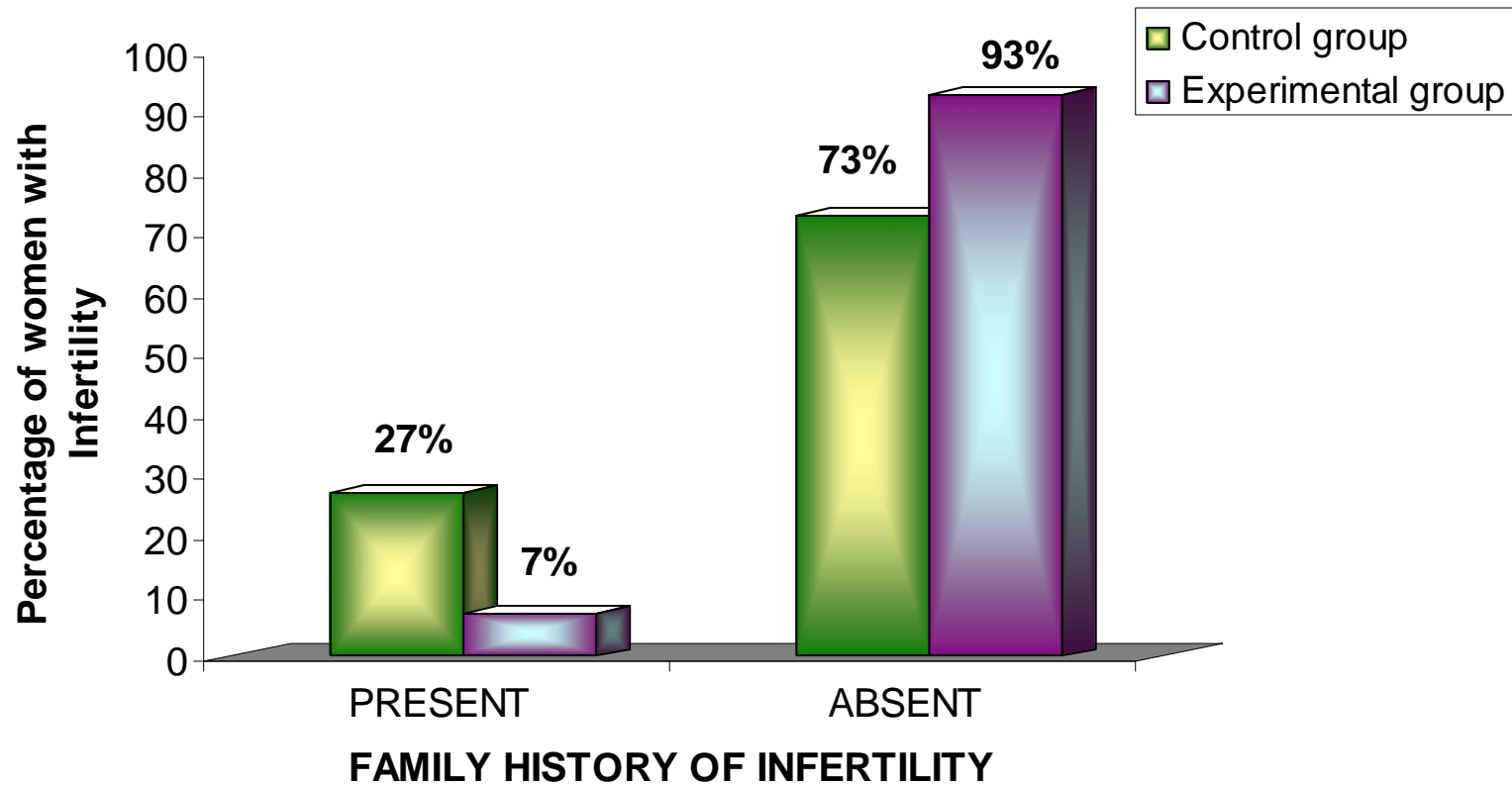


Fig 9: Percentage distribution of women with infertility according to their family history of infertility in control group and experimental group.

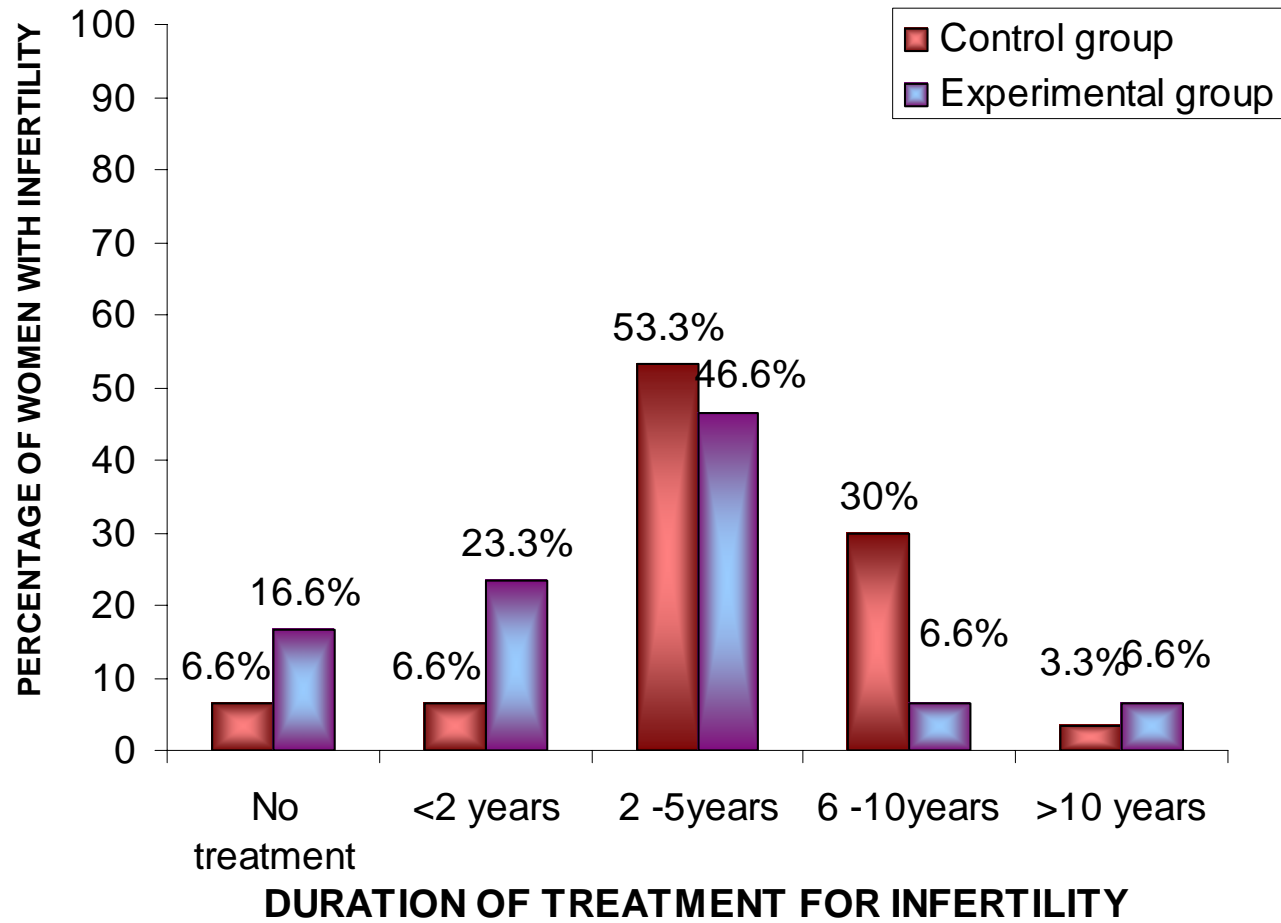


Fig 10: Percentage distribution of women with infertility according to their duration of treatment for infertility in control group and experimental group.

SECTION B: ASSESSING THE PRETEST LEVEL OF STRESS AND ANXIETY AMONG WOMEN WITH INFERTILITY IN CONTROL AND EXPERIMENTAL GROUP.

TABLE 2: Frequency and percentage distribution of pretest level of stress in control group and experimental group.

$n_1=30; n_2=30$

Level of stress	Control group		Experimental group	
	F	%	F	%
Low level of stress	-	-	1	3.3
Moderate level of stress	20	66.6	13	43.3
High level of stress	10	33.3	16	53.3
Total	30	100	30	100

Table 2 showed that in the pretest, majority of women [20 (66.6)] had moderate level of stress in control group where as 16(53.3%) women had high level of stress in the experimental group. Less number of women [1(3.3%)] had low level of stress in experimental group where as none of them had low level of stress in the control group. (Fig: 11)

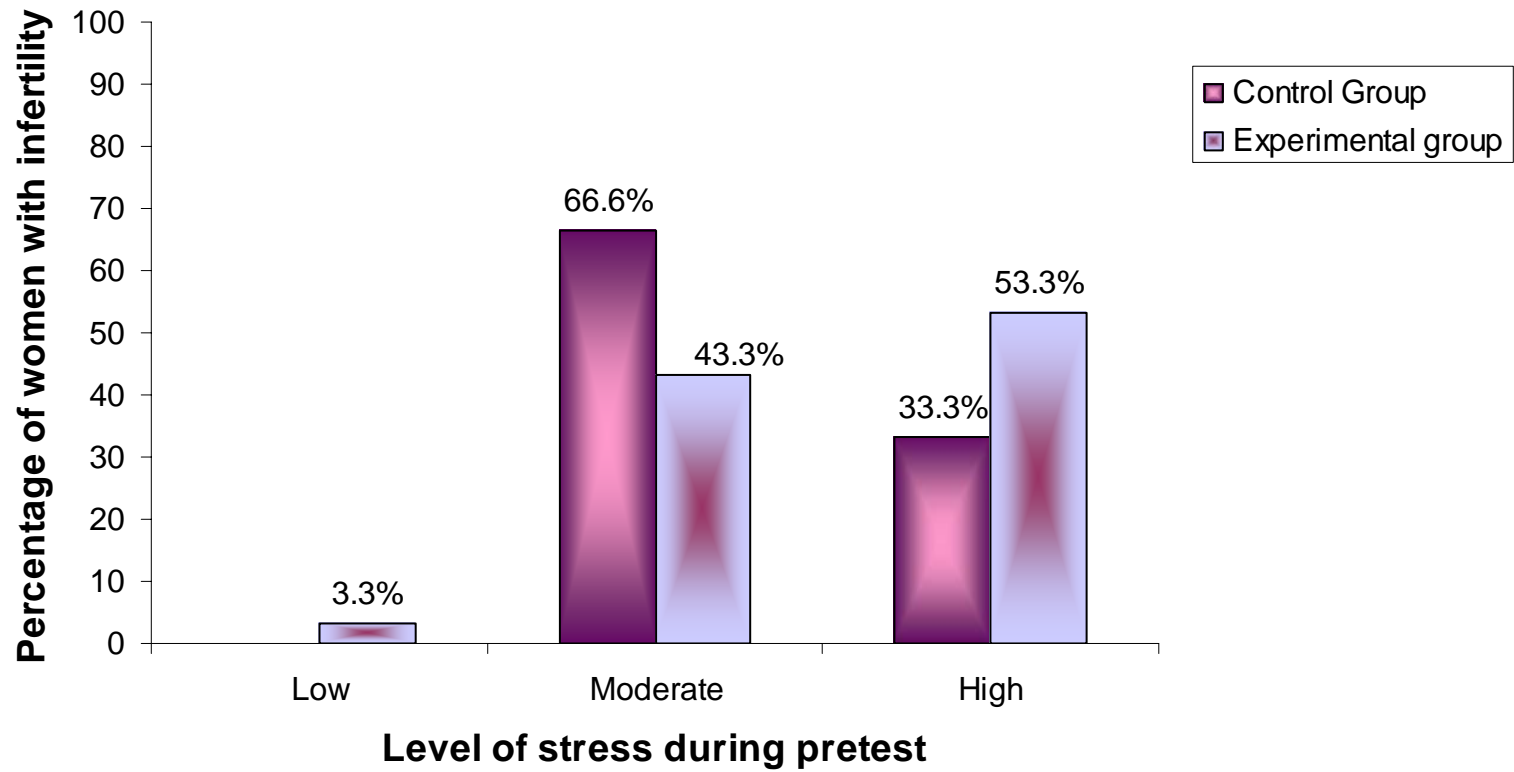


Fig 11: Comparison of level of stress in control group and experimental group during pretest

TABLE 3: Frequency and percentage distribution of pretest level of anxiety in control and experimental group

$n_1=30$; $n_2=30$

Level of anxiety	Control group		Experimental group	
	F	%	F	%
Mild anxiety	9	30	4	13.3
Moderate anxiety	18	60	24	80
Severe anxiety	3	10	2	6.6
Total	30	100	30	100

Table 3 showed that in the pretest, Majority of women 18(60%) and 24(80%) had moderate anxiety in control and experimental group respectively. Less number of women 3(10%) and 2(6.6%) had severe anxiety in the control group and experimental group respectively.(Fig: 12)

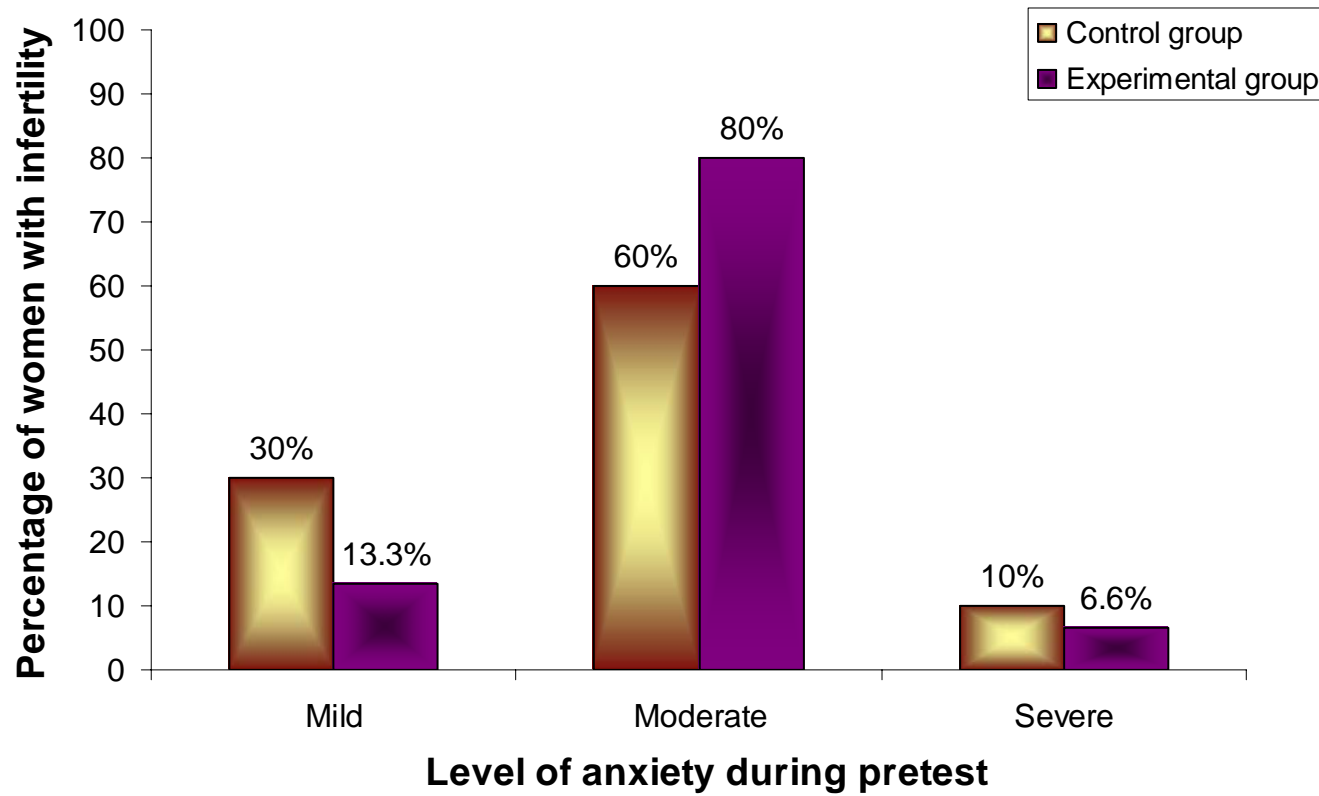


Fig 12: Comparison of level of anxiety in control group and experimental group during pretest

SECTION C: ASSESSING THE POST TEST LEVEL OF STRESS AND ANXIETY AMONG WOMEN WITH INFERTILITY IN CONTROL AND EXPERIMENTAL GROUP.

TABLE 4: Frequency and percentage distribution post level of stress in control and experimental group

$n_1=30; n_2=30$

Level of stress	control group		Experimental group	
	F	%	F	%
Low level of stress	-	-	18	60
Moderate level of stress	22	73.3	12	40
High level of stress	8	26.66	-	-
Total	30	100	30	100

Table 4 showed that in the post test, majority of women with infertility [22(73.3%)] had moderate level of stress in the control group where as in the experimental group majority of women [18(60%)] had low level of stress. None of them had low level of stress in the control group where as none of them had severe level of stress in the experimental group. (Fig .13)

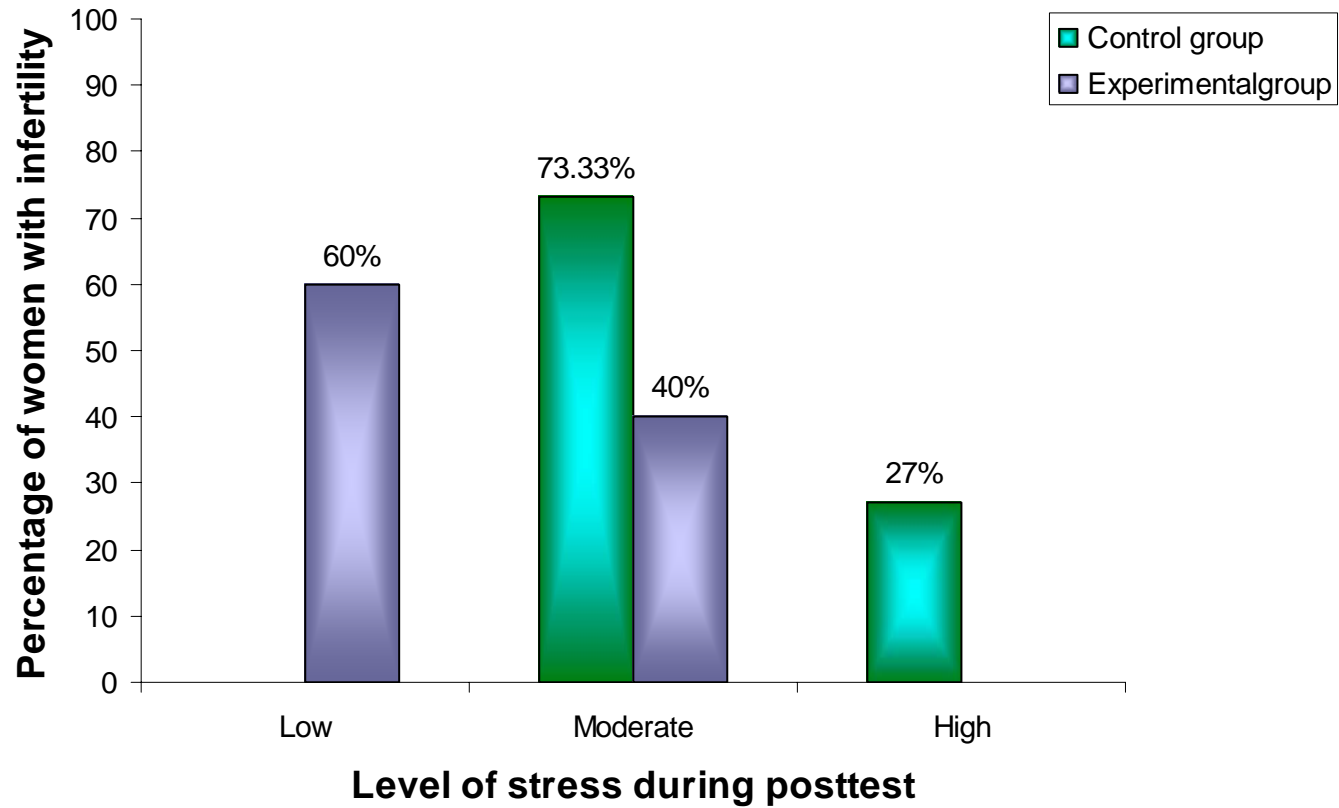


Fig 13: Comparison of level of stress in control group and experimental group during posttest

TABLE 5: Frequency and percentage distribution of post test level of anxiety in control group and experimental group

n₁=30; n₂=30

Level of anxiety	control group		Experimental group	
	F	%	F	%
Mild anxiety	6	20	26	86.6
Moderate anxiety	22	73.3	4	13.3
Severe anxiety	2	6.66	-	-
Total	30	100	30	100

Table 5 showed that in the post test, majority of women with infertility [22(73.3%)] had moderate anxiety in the control group where as 26(86.6%) women had mild anxiety in the experimental group. Less number of women [2(6.66%)] had severe anxiety in the control group where as none of them had severe anxiety in the experimental group. (Fig .14)

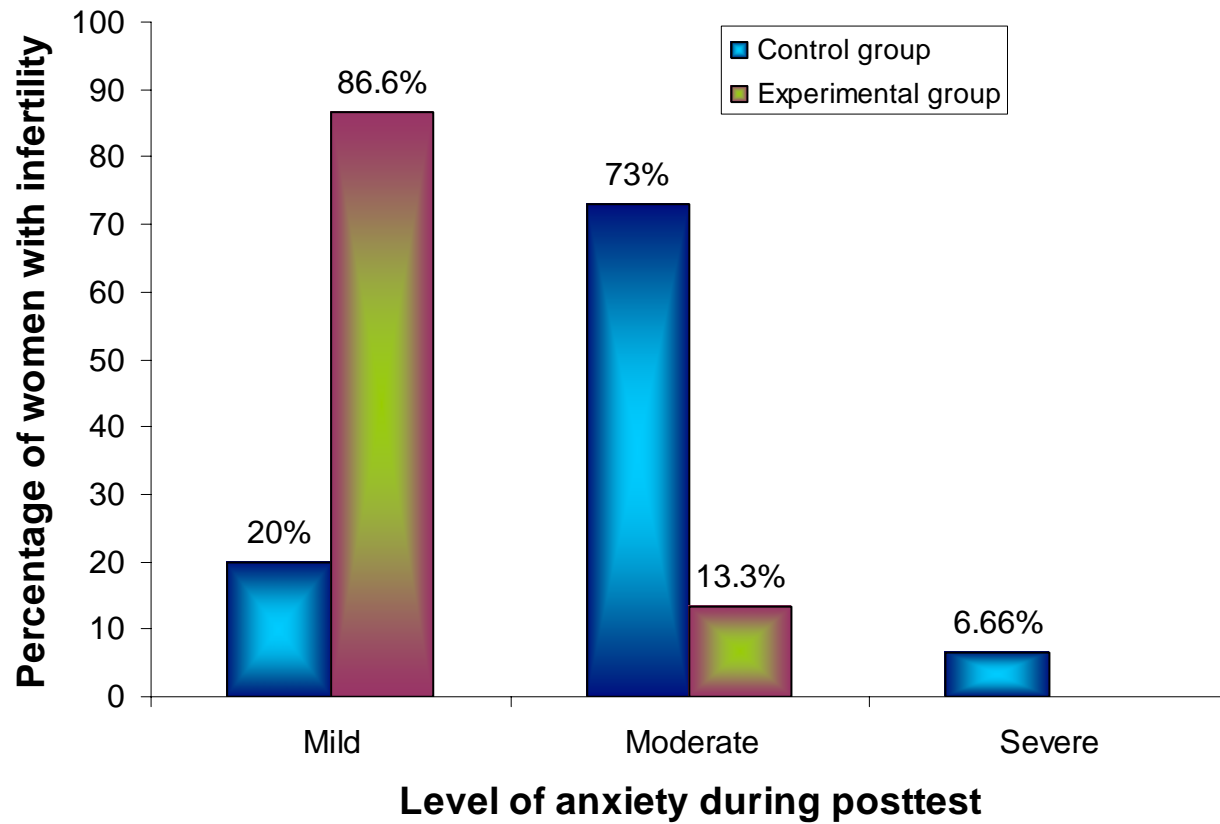


Fig 14: Comparison of level of anxiety in control group and experimental group during posttest

SECTION D: COMPARISON BETWEEN THE PRE TEST AND POST TEST LEVEL OF STRESS AMONG WOMEN WITH INFERTILITY IN CONTROL AND EXPERIMENTAL GROUP.

TABLE 6: Comparison between pretest and post test level of stress in control group

$n_1=30; n_2=30$

Level of stress	Pretest		posttest	
	F	%	F	%
Low level of stress	-	-	-	-
Moderate level of stress	20	66.6	22	73.3
High level of stress	10	33.3	8	26.66
Total	30	100	30	100

Table 6 showed that in control group, majority of women with infertility had moderate level of stress in pretest [20(66.6%)] and posttest [22(73.3%)]. There is no marked change found in the stress level between pretest and posttest in the control group. (Fig: 15)

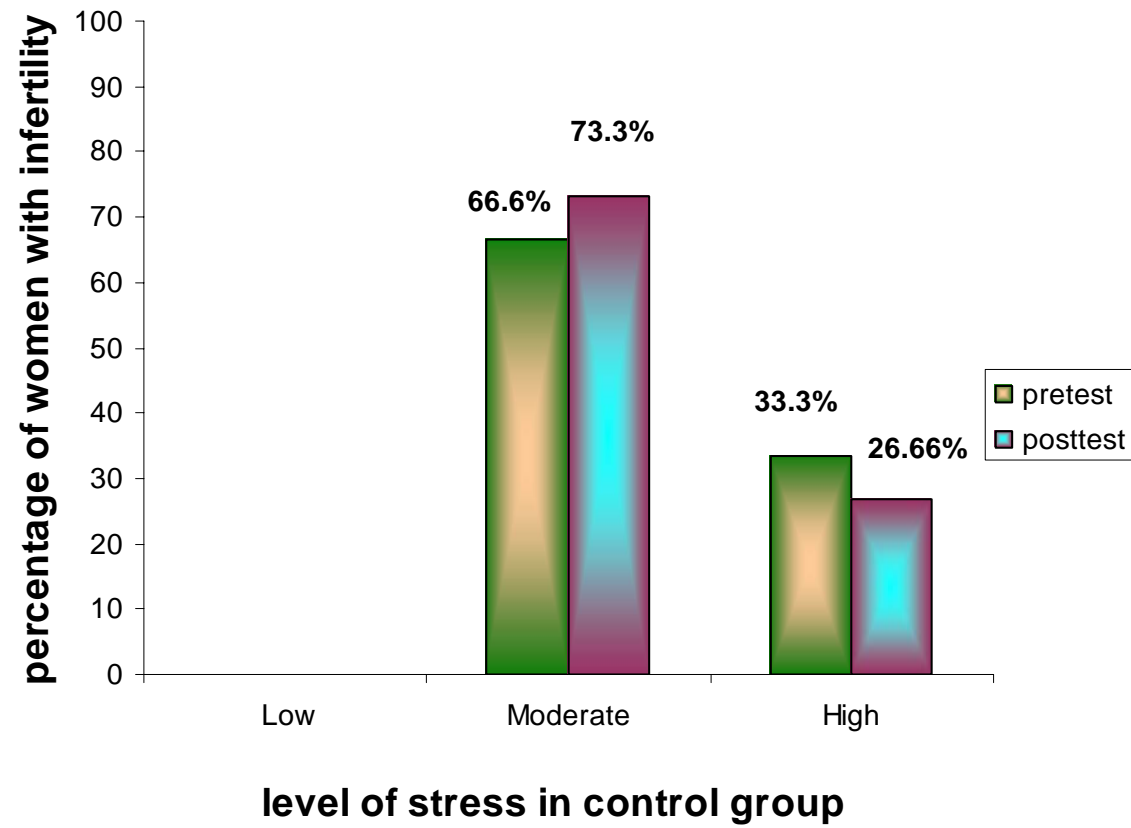


Fig 15: Comparison of level of stress between pre test and post test in control group

TABLE 7: Comparison between pretest and post test level of stress in experimental group.

$n_1=30; n_2=30$

Level of stress	Pretest		posttest	
	F	%	F	%
Low level of stress	1	3.3	18	60
Moderate level of stress	13	43.3	12	40
High level of stress	16	53.3	-	-
Total	30	100	30	100

Table 7 showed that in experimental group, majority of women with infertility had high level of stress in pretest [16(53.3%)] where as none of them had high level of stress in the posttest. Majority of women with infertility had low level of stress in posttest [18(60%)] where as less number of women had low level of stress in the pretest [1(3.3)]. (Fig: 16)

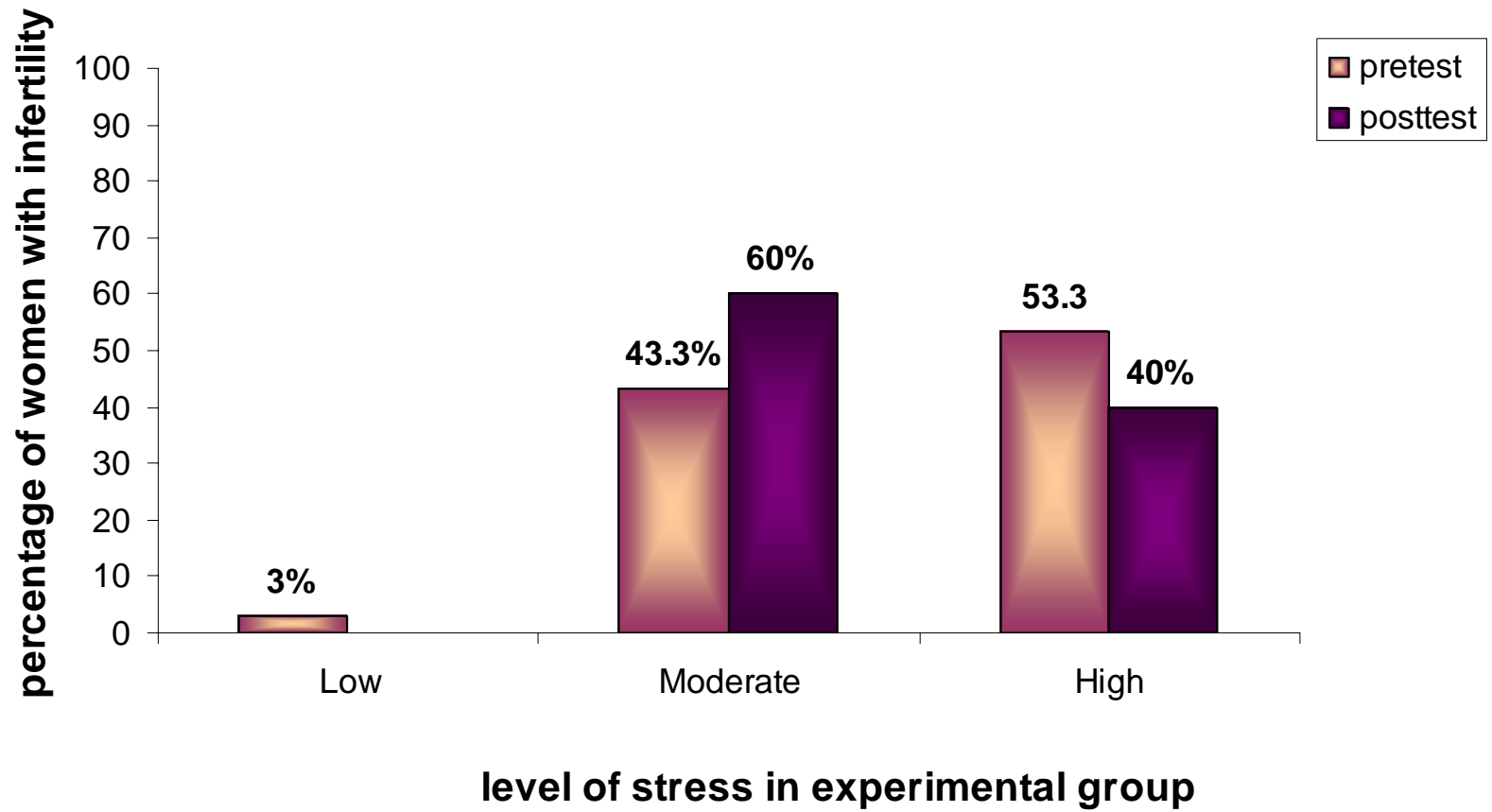


Fig 16: Comparison of level of stress between pre test and post test in experimental group

Table 8: Comparison of mean score, standard deviation and “t” value between pretest and post test level of stress in experimental group and control group

$n_1=30; n_2=30$

Group	Pretest		Post test		't' Value	Table Value
	Mean	SD	Mean	SD		
Control group	25.4	3.62	24.7	4.14	1.08	1.699
Experimental group	26.2	4.35	15	4.95	8.86	1.699

df (29) = 1.699

(P< 0.05)

Table 8 showed that the mean score of pretest and post test level of stress in the control group were (25.4 ± 3.62) and (24.7 ± 4.14) respectively. The mean score of pretest and post test level of stress in the experimental group were (26.2 ± 4.35) and (15 ± 4.95) respectively. The post test mean score (15 ± 4.95) was lower than the pretest mean score (26.2 ± 4.35) , the 't' value 8.86 which was significant at 0.05 level in the experimental group. The post test mean score (24.7 ± 4.14) was lower than the pretest mean score (25.4 ± 3.62) the 't' value 1.08 which was not significant at 0.05 level in the control group. The mean post test score of stress in the experimental group (15 ± 4.95) was significantly lower than the mean posttest scores of stress in the control group (24.7 ± 4.14) .

SECTION E: COMPARISON BETWEEN THE PRETEST AND POST TEST LEVEL OF ANXIETY AMONG WOMEN WITH INFERTILITY IN CONTROL AND EXPERIMENTAL GROUP.

TABLE 9: Comparison between pretest and post test level of anxiety in control group

$n_1=30; n_2=30$

Level of anxiety	Pretest		posttest	
	F	%	F	%
Mild anxiety	9	30	6	20
Moderate anxiety	18	60	22	73.3
Severe anxiety	3	10	2	6.66
Total	30	100	30	100

Table 9 showed that in control group, majority of women with infertility had moderate level of anxiety in pretest [18(60%)] and posttest [22(73.3%)]. There is no marked change found in the anxiety level between pretest and posttest in the control group. (Fig: 17)

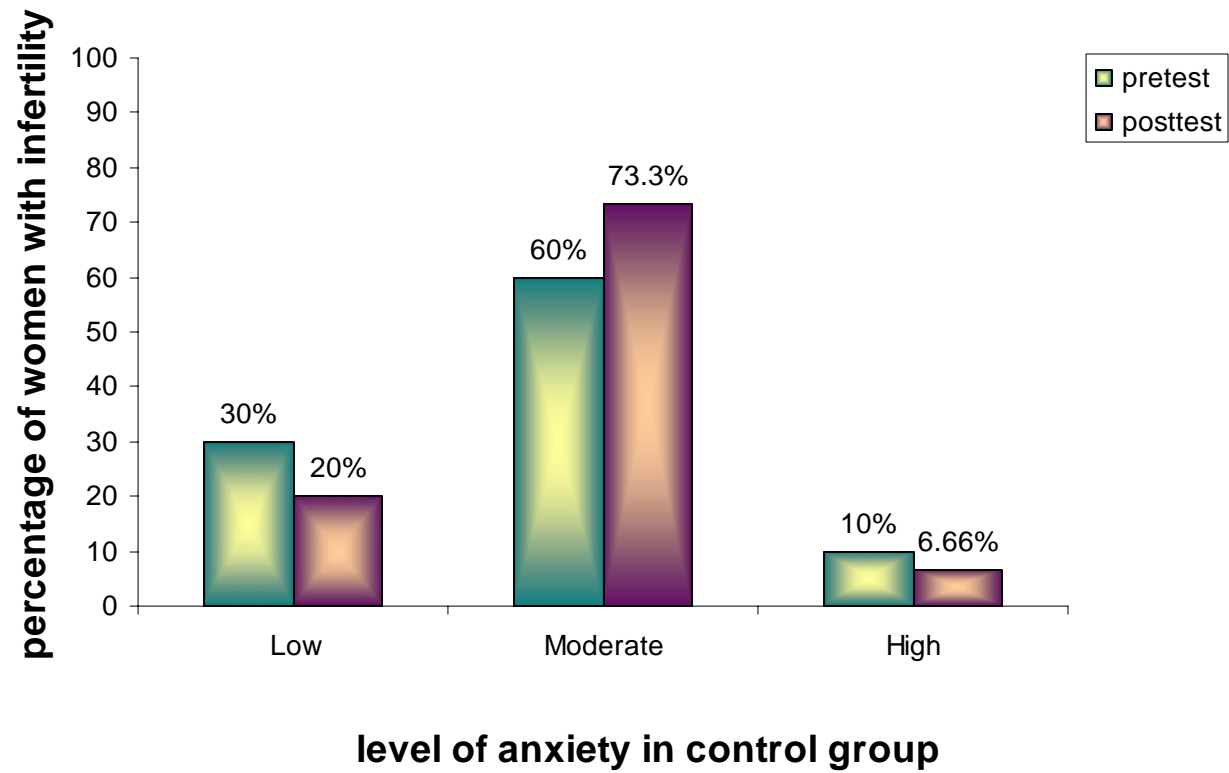


Fig 17: Comparison of level of anxiety between pre test and post test in control group

TABLE 10: Comparison between pretest and post test level of anxiety in experimental group

n₁=30; n₂=30

Level of stress	Pretest		posttest	
	F	%	F	%
Mild anxiety	4	13.3	26	86.6
Moderate anxiety	24	80	4	13.3
Severe anxiety	2	6.6	-	-
Total	30	100	30	100

Table 10 showed that in experimental group, majority of women with infertility had moderate level of anxiety in pretest [24(80%)] where as less number of women had moderate level of anxiety in the posttest [4(13.3%)]. Majority of women with infertility had low level of anxiety in posttest [26(86.6%)] where as less number of women had low level of anxiety in the pretest [4(13.3%)]. (Fig: 18)

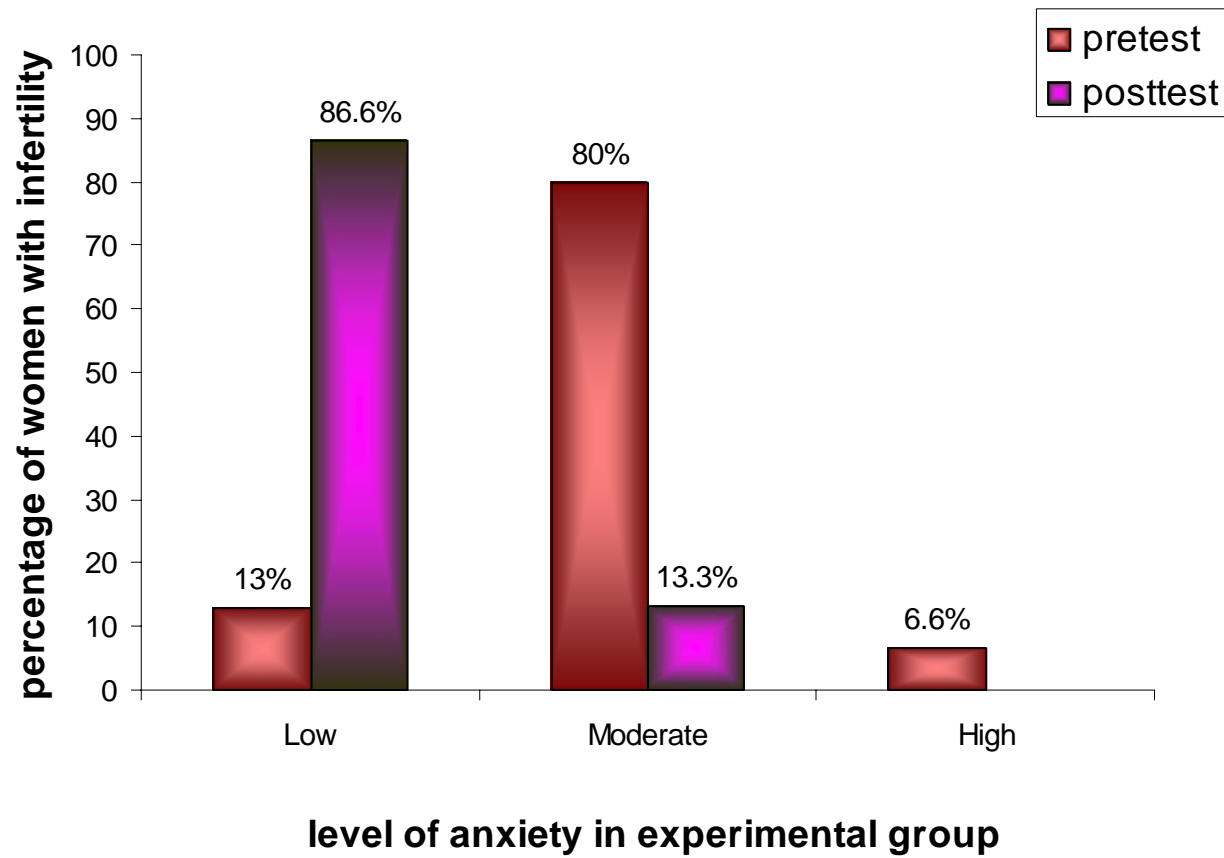


Fig 18: Comparison of level of anxiety between pre test and post test in experimental group

TABLE 11: Comparison of mean score, standard deviation and ‘t’ value between pretest and posttest level of anxiety among women with infertility in control and experimental group.

$n_1=30; n_2=30$

Group	Pretest		Post test		‘t’ Value	Table Value
	Mean	SD	Mean	SD		
Control group	33.5	8.42	34.9	10.5	1.31	1.699
Experimental group	36.03	9.05	15	6.14	9.99	1.699

df (29) = 1.699

(P<0.05)

Table 11 showed that the mean score of pretest and post test level of anxiety in control group were (33.5 ± 8.42) and (34.9 ± 10.5) respectively. The mean score of pretest and posttest level of anxiety in experimental group were (36.03± 9.05) and (15 ± 6.14) respectively. The post test mean score (15± 6.14) was lower than the pretest mean score (36.03± 9.05) the ‘t’ Value 9.99 which was significant at 0.05 level in the experimental group. The post test mean score (34.9± 10.5) was higher than the pretest mean score (33.5± 8.42), the ‘t’ value 1.31 which was not significant at 0.05 level in the control group. The mean post test score of anxiety in the

experimental group (15 ± 6.14) was significantly lower than the mean posttest scores of anxiety in the control group (34.9 ± 10.5).

SECTION F: COMPARISON BETWEEN THE POST TEST LEVEL OF STRESS IN CONTROL GROUP AND POSTTEST LEVEL OF STRESS IN EXPERIMENTAL GROUP.

TABLE 12: Comparison of mean score, standard deviation and “t” value of post test level of stress between control group and experimental group.

n=60

Variables	Control group		Experimental Group		't' value	Table Value
	Mean	SD	Mean	SD		
Stress	24.7	4.14	15	4.95	8.29	1.671

df (58) =1.671

(P<0.05)

Table 12 showed that the mean post test scores of stress in the experimental group (15 ± 4.95) was significantly lower than the mean posttest scores of stress in the control group (24.7 ± 4.14), the ‘t’ value 8.29 which was significant at 0.05 level.

SECTION G: COMPARISON BETWEEN THE POSTTEST LEVEL OF ANXIETY IN CONTROL GROUP AND POST TEST LEVEL OF ANXIETY IN EXPERIMENTAL GROUP.

TABLE 13: Comparison of mean score, standard deviation and “t” value of posttest level of anxiety between control group and experimental group.

n=60

Variables	Control group		Experimental Group		‘t’ value	Table Value
	Mean	SD	Mean	SD		
Anxiety	34.9	10.5	15	6.14	12.83	1.671

df (58) = 1.671

(P<0.05)

Table 13 showed that the mean post test scores of anxiety in experimental group (15 ± 6.14) was significantly lower than the mean posttest scores of anxiety in control group (34.9 ± 10.5) the ‘t’ value 12.83 which was significant at 0.05 level.

SECTION H: ASSOCIATION BETWEEN POST TEST LEVELS OF STRESS AMONG WOMEN WITH INFERTILITY WITH THEIR SELECTED DEMOGRAPHIC VARIABLES IN THE EXPERIMENTAL GROUP

TABLE 14: Association between level of stress and demographic variables

n=30

S. No	Demographic Variables	Low Stress		Moderate Stress		High Stress		Chi square	Table Value	Inference
		F	%	F	%	F	%			
1.	Age							0.625	3.841	NS
	a. < 20Yrs	-	-	-	-	-	-			
	b. 21- 30 Yrs	13	43.3	7	23.3	-	-			
	c. 31-40 Yrs	5	16.6	5	16.6	-	-			
	d. >40 Yrs	-	-	-	-	-	-			
2.	Education							0.37	3.841	NS
	a. No formal education	1	3.3	1	3.3	-	-			
	b. Primary education	1	3.3	1	3.3	-	-			
	c. Secondary education	6	20	2	6.6	-	-			
	d. Higher secondary	5	16.6	5	16.6	-	-			
	e. Graduates	5	16.6	3	10	-	-			

3.	Occupation									
	a. Self employee	3	10	1	3.3	-	-			
	b. Government	-	-	-	-	-	-	2.22	3.841	NS
	c. Private	2	6.6	2	6.6	-	-			
	d. Daily wages	2	6.6	-	-	-	-			
	e. House wife	11	36.6	9	30	-	-			
4.	Type of family									
	a. Nuclear	11	36.6	4	13.3	-	-	2.22	3.841	NS
	b. Joint	7	23.3	8	26.6	-	-			
	c. Extended	-	-	-	-	-	-			
5.	Religion									
	a. Hindu	15	50	12	40	-	-	2.22	3.841	NS
	b. Muslim	2	6.6	-	-	-	-			
	c. Christian	1	3.3	-	-	-	-			
6.	Family monthly income									
	a. <Rs. 5000	7	23.3	6	20	-	-			
	b. Rs.5001-10000	8	26.6	5	16.6	-	-	0.2	3.841	NS
	c. Rs.10001-15000	2	6.6	1	3.3	-	-			
	d. >Rs.15001	1	3.3	-	-	-	-			
7.	Duration of infertility									
	a. < 2yrs	2	6.6	1	3.3	-	-	0.81	3.841	NS
	b. 2-5 yrs	7	23.3	3	10	-	-			
	c. 6-10 yrs	8	26.6	4	13.3	-	-			
	d. >10yrs	1	3.3	4	13.3	-	-			

8.	Family history of infertility									
	a. Present	1	3.3	1	3.3	-	-	0.08	3.841	NS
	b. Absent	17	56.6	11	36.6	-	-			
9.	Duration of treatment for infertility									
	a. No treatment	4	13.3	1	3.3	-	-	0.43	3.841	NS
	b. <2yrs	3	10	4	13.3	-	-			
	c. 2-5 yrs	8	30	6	16.6	-	-			
	6-10 yrs	2	6.6	-	-	-	-			
	>10yrs	1	3.3	1	3.3	-	-			

df =1 S=Significant; NS = Not Significant (P<0.05)

Table 14 showed that there is no association found between posttest level of stress scores when compared to age ($\chi^2 = 0.625$), education ($\chi^2 = 0.37$), occupation ($\chi^2 = 0.71$), type of family ($\chi^2 = 2.22$), religion ($\chi^2 = 2.22$), family monthly income ($\chi^2 = 0.2$), duration of infertility ($\chi^2 = 0.81$), family history of infertility ($\chi^2 = 0.08$) and duration of treatment for infertility ($\chi^2 = 0.43$).

SECTION I: ASSOCIATION BETWEEN POSTTEST LEVELS OF ANXIETY AMONG WOMEN WITH INFERTILITY WITH THEIR SELECTED DEMOGRAPHIC VARIABLES IN THE EXPERIMENTAL GROUP.

TABLE 15: Association between level of anxiety and demographic variables.

n=30

S. No	Demographic Variables	Low Stress		Moderate Stress		High Stress		Chi square	Table Value	Inference
		F	%	F	%	F	%			
1.	Age									
	a. < 20Yrs	-	-	-	-	-	-	0.57	3.841	NS
	b. 21- 30 Yrs	18	60	2	6.6	-	-			
	c. 31-40 Yrs	8	26.6	2	6.6	-	-			
	d. >40 Yrs	-	-	-	-	-	-			
2.	Education									
	a. No formal education	2	6.6	-	-	-	-	0.19	3.841	NS
	b. Primary education	2	6.6	-	-	-	-			
	c. Secondary education	6	20	2	6.6	-	-			
	d. Higher									

	secondary	9	30	1	3.3	-	-			
	e. Graduates	7	23.3	1	3.3	-	-			

7	Duration of									
3.	Occupation infertility									
	a. Self									
	a. < 2yrs	3	10	-	-	-	-			
	employee	3	10	1	3.3	-	-	0.57	3.841	NS
	b. 2-5 yrs	9	30	-	-	-	-	3.07	3.841	NS
	b. Government									
	c. 6-10 yrs	10	33.3	2	6.6	-	-			
	c. Private									
	d. >10yrs	4	13.3	2	6.6	-	-			
	d. Daily wages	2	6.6	-	-	-	-			
	e. House wife	17	56.6	3	10	-	-			
4	Type of family									
	a. Nuclear	14	46.6	1	3.3	-	-			
	b. Joint	12	40	3	10	-	-	1.15	3.841	NS
	c. Extended	-	-	-	-	-	-			
5	Religion									
	a. Hindu	23	76.6	4	13.3	-	-			
	b. Muslim	2	6.6	-	-	-	-	0.51	3.841	NS
	c. Chris tian	1	3.3	-	-	-	-			
6	Family monthly income									
	a. Less than Rs. 5000	11	36.6	2	6.6	-	-	3.69	3.841	NS
	b. Rs.5001-10000	12	40	-	-	-	-			
	c. Rs.10001-15000	2	6.6	1	3.3	-	-			
	d. Rs.15001 and above	1	3.3	1	3.3	-	-			

8	Family history of infertility									
	a. Yes	2	6.6	-	-	-	-	0.32	3.841	NS
	b. No	24	80	4	13.3	-	-			
9	Duration of treatment for infertility									
	a. No treatment	5	16.6	-	-	-	-	0.54	3.841	NS
	b. < 2Yrs	7	23.3	-	-	-	-			
	c. 2-5yrs	11	36.6	3	10	-	-			
	d. 6-10yrs	2	6.6	-	-	-	-			
	e. >10yrs	1	3.3	1	3.3	-	-			

df=1 S=Significant; NS - Not Significant (P< 0.05)

Table 15 showed that there is no association found between post test level of anxiety scores, when compared to age ($\chi^2=0.57$), education ($\chi^2=0.19$), Occupation ($\chi^2=0.57$), type of family ($\chi^2=1.15$) religion ($\chi^2=0.51$) , family monthly income ($\chi^2=3.69$) duration of infertility ($\chi^2=3.07$) , family history of infertility ($\chi^2=0.32$) and duration of treatment for infertility ($\chi^2=0.54$).

CHAPTER – V

DISCUSSION

This chapter deals with sample characteristics and objectives of the study. The aim of this present study was to assess the effectiveness of meditation therapy in reducing stress and anxiety among women with infertility in Balaji Surya Fertility Center at Dharapuram.

Description of sample characteristics:

Distribution of women with infertility regarding **age**, majority of women were belong to 21-30 Yrs of age [16(53.3%)] in control group and [20 (66.6%)] in experimental group. Less number of women were belong to above 40 yrs of age [1(3.3%)] in control group. This findings are consistent with **Kalavathi, S., (2006)** reported that majority of the women were in the age group of 21-30 yrs (68%).

According to **educational status** among women with infertility, majority of women were graduates [13(43.3%)] in control group where as majority of women had higher secondary education [10 (33.3%)] in the experimental group. Less number of women had primary education [1(3.3%)] and [2(6.6%)] no formal education in control group where as in the experimental group [2(6.6%) each] of women had primary education

and no formal education respectively. This findings are consistent with **Vashumathi, S.P., (2006)** reported that majority of women (66.66%) finished graduation.

According to **occupation** among women with infertility, majority of women were house wives [23 (76.6%)] in control group and [20(66.6%)] in experimental group. Less number [1(3.3%)] of women were government employees in control group and none of them were government employees in the experimental group. This findings are consistent with **Kalavathi, S., (2006)** reported that majority of the women were house wives (73.3%).

According to **type of family** among women with infertility, in the control group majority of women [16 (53.3%)] were belong to nuclear family and [14 (46.6%)] women were belong to joint family. In the experimental group [15(50%) each] were equally from nuclear and joint family. This findings are consistent with **Kalavathi, S., (2006)** reported that infertile women were living equally in nuclear (45.3%) and joint families (44.0%).

According to **religion** among women with infertility, majority of women [27(90%) each] were Hindus in both control group and

experimental group. Less number of women [1(3.3%)] and [2(6.6%)] were Muslims and Christians in the control group where as [2(6.6%)] and [1(3.3%)] woman were Muslims and Christians in the experimental group. This findings are consistent with **Kalavathi, S., (2006)** reported that majority of the women were Hindus (73.3%).

According to **family monthly income** among women with infertility, most of the women [14(46.6%)] were having monthly income Rs. 5001-10000 in the control group where as in the experimental group most of the women [13(43.3%) each] were having monthly income of less than Rs.5000 and Rs. 5001-10000 respectively. Less number of women [3(10%)] and [1(3.3%)] were having monthly income of Rs. 15001 and above in control group and experimental group respectively. This findings are consistent with **Vashumathi, S.P., (2006)** reported that majority of the women (68.33%) belong to the monthly income of above Rs.5001.

According to **duration of infertility** among women with infertility, most of them [14(46.6%)] and [12(40%)] were having duration of infertility for 6-10Yrs in control group and experimental group respectively. Less number of women [2(6.6%)] and [3(10%)] were having duration of infertility for less than 2Yrs in control group and experimental group

respectively. This findings are consistent with **Osterweil, N., (2007)** reported that on average , the women had been infertile for 4 ± 2.1 years.

According to **family history of infertility** among women with infertility, majority of women [22(73.3%)] and [28(93.3%)] had no family history of infertility in the control group and experimental group. Less number of women [8(26.6%)] and [2(6.6%)] had family history of infertility in control group and experimental group.

According to **duration of treatment for infertility** among women with infertility, majority of women [16 (53.3%)] and [14(46.6%)] went to treatment for infertility about 2-5 years in control group and experimental group respectively. Less number of women [1(3.3%)] and [2(6.6%)] went to treatment for infertility about more than 10 years in control group and experimental group respectively.

This findings are discussed under the following headings:

- Assess the pretest level of stress and anxiety among women with infertility in control and experimental group.
- Assess the post test level of stress and anxiety among women with infertility in control and experimental group.

- Compare the pretest and posttest level of stress among women with infertility in control and experimental group.
- Compare the pretest and post test level of anxiety among women with infertility in control and experimental group.
- Compare the post test level of stress in experimental group and post test level of stress in control group.
- Compare the post test level of anxiety in experimental group and post test level of anxiety in control group.
- Association between post test level of stress of women with infertility with their selected demographic variables in experimental group.
- Association between post test level of anxiety of women with infertility with their selected demographic Variables in experimental group.

The first objective - Assess the pretest level of stress and anxiety among women with infertility in control and experimental group

Data analysis showed that in pretest, majority of women [20(66.6%)] had moderate level of stress and less number of women [10(33.3%)] had high level of stress in the control group .In pretest, Majority of women [16(53.3%)] had high level of stress and [13(43.3%)] women had moderate

level of stress in the experimental group. This findings are consistent with **Vashumathi, S.P., (2006)** reported that majority of the women (55%) experiences moderate level of stress, (30%) experiences low level of stress and (15%) experiences severe level of stress.

In pretest regarding anxiety, majority of women [18(60%)] had moderate anxiety, [9(30%)] women had mild anxiety and less number of women [3(10%)] had severe anxiety in the control group. In pretest, majority of women [24 (80%)] had moderate anxiety, [4(13.3%)] women had mild anxiety and less number of women [2(6.6%)] had severe anxiety in the experimental group. This findings are consistent with **Ramezanzadeh Fatemeh et. al., (2004)** reported that the level of anxiety among women with infertility, (38.1%) women experiences moderate anxiety and (17%) experiences severe anxiety.

The second objective - Assess the posttest level of stress and anxiety among women with infertility in control and experimental group

Data analysis showed that in the post test, majority of women with infertility [22(73.3%)] had moderate level of stress in the control group where as in the experimental group majority of women [18(60%)] had low level of stress. None of them had low level of stress in the control group

where as none of them had severe level of stress in the experimental group.

In the post test, majority of women with infertility [22(73.3%)] had moderate anxiety in the control group where as [26(86.6%)] had mild anxiety in the experimental group. Less number of women [2(6.66%)] had severe anxiety in the control group where as none of them had severe anxiety in the experimental group.

The third objective –compare the pretest and post test level of stress among women with infertility in control and experimental group.

Data analysis showed that the post test mean score (15 ± 4.95) was lower than the pretest mean score (26.2 ± 4.35), the t' value 8.86 which was significant at 0.05 level in the experimental group. Hence the research hypothesis (H1), the mean post test scores of stress is significantly lower than the mean pretest scores of stress in the experimental group was accepted.

The post test mean score (24.7 ± 4.14) was slightly lower than the pretest mean score (25.4 ± 3.62) the t' value 1.08 which was not significant at 0.05 level in the control group.

This findings are consistent with Venkatesan, L., (2009) reported that in experimental group the post test stress level (M=164.30, SD=19.03) was less than the pretest stress level (M=247.51, SD=23.14) and the difference was statistically significant at $p < .001$ level. In control group, there was no statistical difference between the pretest (M=246.65, SD=22.18) and posttest (M=247.06, SD=21.89) stress levels.

Fourth objective - Compare the pretest and post test level of anxiety among women with infertility in control and experimental group.

Data analysis showed that the post test mean score (15 ± 6.14) was lower than the pretest mean score (36.03 ± 9.05) the t' Value 9.99 which was significant at 0.05 level in the experimental group. Hence the research hypothesis (H2), the mean post test scores of anxiety is significantly lower than the mean pretest scores of anxiety in experimental group was accepted. The post test mean score (34.9 ± 10.5) was higher than the pretest mean score (33.5 ± 8.42), the t' value 1.31 which was not significant at 0.05 level in the control group.

Fifth objective - compare the post test level of stress in experimental group and post test level of stress in control group

Data analysis showed that the mean post test scores of stress in the experimental group (15 ± 4.95) was significant lower than the mean post test scores of stress in the control group (24.7 ± 4.14) the 't' value 8.29 which was significant at 0.05 level. Hence the research hypothesis (H3), the mean post test scores of stress in the experimental group is significantly lower than the mean post test scores of stress in the control group was accepted.

This findings are consistent with **Venkatesan, L., (2009)** reported that the post test stress levels in the experimental group (M=164.30, SD=19.03) was lower than the posttest (M=247.06, SD=21.89) stress levels in the control group which was statistically significant at $P < .0001$ level.

Sixth objective - compare the post test level of anxiety in experimental group and post test level of anxiety in control group

Data analysis showed that the mean post test scores of anxiety in experimental group (15 ± 6.14) was significantly lower than the mean post test scores of anxiety in control group (34.9 ± 10.05) the 't' value 12.83 which was significant at 0.05 level. Hence the research hypothesis is (H4), the mean post test scores of anxiety in the experimental group in

significantly lower than the mean post test scores of anxiety in the control group was accepted.

Seventh objective –Find out the association between post test levels of stress of women with infertility with their selected demographic variables in experimental group

Data analysis showed that there is no significant association between post test level of stress scores with their demographic variables such as age, education, occupation, type of family, religion, family monthly income, duration of infertility, family history of infertility and duration of treatment for infertility in the experimental group. Hence the research hypothesis (H5), there will be a significant association between the post test levels of stress of women with infertility with their demographic variables in the experimental group, was rejected.

This findings are consistent with **Venkatesan, L., (2009)** reported that in the post test among the experimental group women irrespective of their demographic variables all of them had low levels of stress. In this study also posttest scores reveals that among the experimental group

women irrespective of their demographic variables most of them had low levels of stress.

Eighth objective -Find out the association between post test levels of anxiety of women with infertility with their selected demographic variables in experimental group

Data analysis showed that there is no significant association between post test level of anxiety scores with their demographic variables such as age, education, occupation, type of family, religion, family monthly income, duration of infertility, family history of infertility and duration of treatment for infertility in experimental group. Hence the research hypothesis (H6), there will be a significant association between the post test levels of anxiety of women with infertility with their demographic variables in the experimental group, was rejected.

CHAPTER-VI

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter deals with:

- Summary of the study
- Conclusion
- Implications for nursing
- Recommendations
- Limitations.

SUMMARY OF THE STUDY

The study was done to assess the effectiveness of meditation therapy in reducing stress and anxiety among women with infertility.

The research approach and design used for this study was evaluative approach and quasi-experimental pretest and posttest control group design and conducted at Balaji Surya Fertility Center, Dharapuram. The conceptual frame work was based on the Modified Roy's adaptation (1991) model. The sample size was 60 women with infertility. Out of 60 samples, 30 as experimental group and 30 as control group. The samples

were selected by purposive sampling and were assessed with Perceived stress scale and Modified Hamilton anxiety scale for the effect of meditation therapy in reducing stress and anxiety.

The data of demographic variables were analyzed by using descriptive statistics (frequency and percentage). Pretest and posttest level of stress and anxiety were analyzed by using descriptive statistics (mean, standard deviation, frequency and percentage). For comparisons of pretest and posttest level of stress and anxiety in experimental group were analyzed by using paired 't' test. Effectiveness of meditation therapy between experimental group and control group was analyzed by using independent 't' test. Chi-square test was used to find the association between demographic variables and posttest level of stress and anxiety scores in the experimental group.

The major findings are:

- The present study revealed that during pretest, majority of women had moderate level of stress [20(66.6%)] in the control group and [13(43.3%)] in the experimental group.
- During post test, majority of women with infertility [22(73.3%)] had moderate level of stress in the control group where as in the

experimental group majority of women [18(60%)] had low level of stress.

- During posttest, [8(26.66%)] had high level of stress in the control group where as in the experimental group none of them had high level of stress.
- The post test mean score of stress (15) was lower than the pretest mean score (26.2), the 't' value 8.86 which was significant at 0.05 level in the experimental group.
- The post test mean score of stress (24.7) was slightly lower than the pretest mean score (25.4) the 't' value 1.08 which was not significant at 0.05 level in the control group.
- The mean post test scores of stress in the experimental group (15) was significantly lower than the mean post test scores of stress in the control group (24.7) the 't' value 8.29 which was significant at 0.05 level.
- Regarding anxiety during pretest, majority of women had moderate anxiety [18(60%)] in the control group and [24 (80%)] in the experimental group.
- During post test, majority of women with infertility [22(73.3%)] had moderate anxiety in the control group where as [26(86.6%)] had mild anxiety in the experimental group.

- During posttest, [2(6.66%)] had severe anxiety in the control group where as in the experimental group none of them had severe anxiety.
- The post test mean score of anxiety (15) was lower than the pretest mean score (36.03) the 't' Value 9.99 which was significant at 0.05 level in the experimental group.
- The post test mean score of anxiety (34.9) was higher than the pretest mean score (33.5), the 't' value 1.31 which was not significant at 0.05 level in the control group.
- The mean post test scores of anxiety in the experimental group (15) was significantly lower than the mean post test scores of anxiety in control group (34.9) the 't' value 12.83 which was significant at 0.05 level.
- There is no significant association between post test level of stress and anxiety scores with their demographic variables such as age, education, occupation, type of family, religion, family monthly income, duration of infertility, family history of infertility and duration of treatment for infertility in experimental group.

These findings showed that the meditation therapy was effective in reducing stress and anxiety among women with infertility. Thus mind-body intervention played an important role in reducing stress and anxiety.

CONCLUSION

The study findings revealed that there was a significant reduction in the level of stress and anxiety among women with infertility after administration of meditation therapy. During pretest, majority of women had moderate level of stress 66.6% in the control group and 53.3% in the experimental group. During post test, majority of women with infertility 73.3% had moderate level of stress in the control group where as in the experimental group majority of women 60% had low level of stress. During pretest, majority of women had moderate anxiety 60% in the control group and 80% in the experimental group. During post test, majority of women with infertility 73.3% had moderate anxiety in the control group where as 86.6% had mild anxiety in the experimental group. Based on statistical findings, it is evident that the provision of meditation therapy will help to reduce stress (t' value=8.29) and anxiety (t' value=12.83) among women with infertility in the experimental group comparing to control group. Thus meditation therapy helps them to reduce stress and anxiety and improve the chance of fertility.

IMPLICATIONS FOR NURSING

NURSING SERVICE

- The findings of this study enlighten the fact that meditation can be used to reduce the level of stress and anxiety among women with infertility.
- Nursing personnel is in the best position to provide this therapy to different clients who are experiencing stress and anxiety.
- Health promotion is a vital function of the nurse and nurse can use this therapy at three levels of prevention (i.e. primary, secondary and tertiary).

NURSING EDUCATION

- This study finding revealed that meditation was effective in reducing levels of stress and anxiety. To practice this, the nursing personnel need to be equipped with adequate knowledge and practice regarding meditation.
- This finding can be utilized to organize in service education or continuing education or short term courses. So that nurses who are

working in the fertility center can provide this therapy to reduce the stress and anxiety among women with infertility.

- Self instructional module can be used in community setting to provide patient's ability to control stress and anxiety.

NURSING ADMINISTRATION

- Nursing administrators can arrange inservice-education programme and continuing education programme for directing and motivating staff towards meditation therapy.
- Nursing administrator has to make the nurse who is working in fertility center to provide meditation therapy along with nursing care.
- Nursing administrator should help to evaluate the patient satisfaction periodically.

NURSING RESEARCH

- This study finding can be effectively utilized by emerging researchers.
- The findings of this study help to expand professional knowledge upon which further researches can be conducted.

RECOMMENDATIONS

- A large scale study in various hospitals can be carried out to generalize the findings.
- A comparative study on the level of stress and effect of meditation therapy in infertile women who are housewives and working women can be conducted.
- A comparative study can be carried out between yoga and meditation.
- A longitudinal study can be conducted to find the long term effect of meditation therapy and quality of life of infertile women.
- A study can be done to find out the role of nurse in assessment and management of stress and anxiety among women with infertility.

LIMITATIONS

- It was time consuming for the investigator as it took 1 hour 30 minutes to interview the sample.
- Some samples were not willing to participate in the study.

BIBLIOGRAPHY

BOOK REFERENCES:

1. Alma Douglas, G., (1999). "Practical statistics for medical research", (1st ed.). London: Chapman and Halt, 87-88.
2. Ann Mariner, T., (1991). "Nursing theorists and their work", Philadelphia: mosby, 246-260.
3. Carcio, H.A., (1999). "Management of the infertile women", Newyork: J.B.lippincott and co, 290-298.
4. Desai, S et. al., (2004). "Infertility principles and practice", New Delhi: B.I Publications, 367-371.
5. Dutta, D.C., (1994). "Text book of gynecology", (2nd ed.). Calcutta: New central book agency, 209-236.
6. Fraser, D.M et. al., (2003). "Myle's textbook of midwives", (14th ed.). Edinburgh: Churchill Livingstone, 174-180.
7. Lowder Milk, D.L et. al., (2006). "Maternity nursing", (8th ed.). Canada: Mosby, 246-264.
8. Littleton, L.Y et. al., (2007). "Maternity nursing care", (1st ed.). Haryana: Sanat printers, 203-205.
9. Ostrzenski, A., (2002). "Gynaecology", Philadelphia: Lippincott, 131-147.
10. Pillitteri, A., (2003). "Maternal and child health nursing", (4th ed.). Philadelphia: Lippincott, 129.
11. Polit, F., (2008). "Nursing research", (8th ed.). New Delhi: Wolters Kilewer India P. Ltd, 458.

12. Polit and Hungler., (1999). "Nursing research", (6th ed.). Philadelphia: Lippincott, 186.
13. Reader et. al., (1997). "Maternity nursing", (18th ed.). Philadelphia: Lippincott, 320-338.
14. Ruby, L.W., (1994). "Nursing theories and models", (2nd ed.). Pennsylvania: spring house, 103-112.
15. Sabaratnam, A.K et. al., (2005). "Essentials of gynecology", (1st ed.). New Delhi: Jaypee brothers, 231.
16. Shenon et. al., (1991). "Maternity nursing", (3rd ed.). Philadelphia: Mosby, 304-333.
17. Sundar Rao, P.S., (1999). "An introduction to biostatistics", (3rd ed.). New Delhi: Prentice hall of India P. Ltd, 166.

JOURNAL REFERENCES:

18. Abbey et. al., (1992). "Infertility and subjective well-being: the mediating roles of self-esteem, internal control and interpersonal conflict" **Journal of marriage family**, 54, 408-417.
19. Abma, J et. al., (2004). "Frequently asked questions about infertility", **American society for reproductive medicine**.
20. Alexander, C.N et. al., (1996). "Trial of stress reduction for hypertension in older African Americans", **Hypertension**, 28(2), 228-37.
21. Bovin, J and Schmidt, L., (2005). "Infertility-related stress in men and women predicts treatment outcome 1 year later," **Fertility and sterility**, 83 (6), 1745-1752.

22. Boivin, J et. al., (2007).“ International estimates of infertility prevalence and treatment-seeking”, **Human reproduction**, 10.1093/046, 2.
23. Brown, R.P and Gerbarg, P.L., (2005).“Sudarshan kriya yogic breathing in the treatment of stress, anxiety and depression,” **Journal of alternative and complementary medicine**, 11 (4), 711-717.
24. Calson, L.E et. al., (2008).“Mind body interventions in oncology”, **Current treatment options in oncology**, 9 (2-3), 127-134.
25. Chander, p.p., (2000).“ Need and feasibility of providing assisted technologies for infertility management in resource-poor settings”, **ICMR Bulletin**, 30(6-7), 1-9.
26. Christopher, R.N et. al., (1999).“Psychological assessment and follow-up after IVF- assessing the impact of failure”, **Fertility and sterility**, 54(5), 874-886.
27. Connolly, K.J., (1992).“Impact of infertility on psychological functioning”, **Journal of psychosomatic research**, 36(5), 459-468.
28. Coppola, F., (2007).“Effects of natural stress relief meditation on trait anxiety: a pilot study,” **Psychology of reproduction**, 101 (1), 130-134.
29. Cwikel, J et. al., (2000).“ Psychological interactions with infertility among women”, **European journal of obstetrics, gynaecology and reproductive biology**, 117(2), 126-131.
30. Daniluk, C.T., (1988).“Infertility- Interpersonal and intrapersonal impact”, **Fertility and sterility**, 49(6), 982-990.
31. Desai, P et. al., (1992).“ Understanding the emotions of infertile couples”, **Journal of obstetrics and gynaecology**, 42 (2), 498-503.
32. Domar, A.D et. al., (1990).“The mind /body program for fertility”, **Fertility and sterility**, 54(6), 1183-1184.

33. Domar, A.D., (2008). "Relaxation and stress management for infertile women", **RESOLVE**.
34. Gupta, N et. al., (2006). "Effect of yoga based lifestyle intervention on state and trait anxiety," **Indian journal of physiology and pharmacology**, 50 (1), 41-47.
35. Harlow, C.R et. al., (1995). "Stress and stress related hormones during IVF treatment", **Human reproduction**, 11, 274-279.
36. Jain, S et. al., (2007). "A randomized controlled trial of mindfulness meditation versus relaxation training", **Annual behavioural medicine**, 33 (1), 11-21.
37. John Stud., (1997). "Progress in obstetrics and gynaecology", **Health action report**.
38. Kabat zinn, J et. al., (1992). "Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders", **American journal of psychiatry**, 149(7), 936-943.
39. Khalsa, H.K., (2003). "Yoga: An adjunct to infertility treatment", **Fertility and sterility**, 80 (4), 46-51.
40. Krisanaprakornkit, T et. al., (2006). "Meditation therapy for anxiety disorders," **Cochrane database system review**, 25(1), 4998.
41. Lane, J.D et. al., (2005). "Brief meditation training can improve perceived stress and negative mood," **Alternative therapy and health medicine**, 13 (1), 38-44.
42. Lee, T.Y et. al., (1995). "Evaluate gender differences in the psychosocial responses of couples who attended the ART at Taiwan", **Fertility And Sterility**, 16(1), 216-218.

43. Lee, T.Y et. al., (2001). "The effects of distress in marital and sexual satisfactions among infertile women undergoing infertility treatment", **Fertility and sterility**, 32(1), 420-423.
44. Malpani, A et. al., (1991). "How to have a baby, overcoming infertility", **Delnostro publications**.
45. Matsubayashi, H., (2001). "Increased depression and anxiety in infertile Japanese women resulting stress", **General hospital psychiatry**, 26(5), 398-404.
46. Neelakshi, G., (2006). "Infertility-is it stress related?", **Nightingale nursing times**, 2(2),43.
47. Osterweil, N., (2007). " Alternative therapy no boon for infertile women", **European society for human reproduction and embryology**,(July05), 1-3.
48. Ozkan, M et. al., (2006). "Emotional distress of infertile women in turkey", **Clinical experimental obstetrics and gynaecology**, 33 (1), 44-46.
49. Peterson, B.D et. al., (2007). "Anxiety and sexual stress in men and women undergoing infertility treatment," **Fertility and sterility**, 88(4), 911-914.
50. Ramezanzadeh, F et. al., (2004)" A survey of relationship between anxiety depression and duration of infertility",**BMC women health**(4:9)
51. Redshaw, M et. al., (2007). "A qualitative study of the experience of treatment for infertility among women who successfully became pregnant", **Human reproduction**, 22 (1), 295-304.

52. Sivasankaran, S et. al., (2006). "The effect of a six-week program of yoga and meditation on brachial artery reactivity", **Clinical cardiology**, 29(9), 393-8.
53. Speca, M et. al., (2000). "A randomized wait list controlled clinical trial: the effect of a mindfulness meditation-based stress reduction program on mood and symptoms of stress in cancer outpatients", **Psychosomatic medicine**, 62(5), 613-622.
54. Sreshthaputra, O et. al., (2008). "Gender differences in infertility-related stress and the relationship between stress and social support in Thai infertile couples", **Journal of the medical association of Thailand**, 91(12), 1769.
55. Swarna, S., (2001). "Case study on infertility", **The indian journal of nursing and midwifery**, 4 (1), 41-45.
56. Vaidhyananadan, R et. al., (2006). " Infertility stress", **Nightingale nursing times**, 2(4), 45-47.
57. Valentine, D.P., (1986). "Psychological impact of infertility identifying issues and needs ,", **Social work health care**, 11(4), 61-69.
58. Venkatesan, L., (2009). "Impact of positive therapy upon the stress levels in infertile women", **Nightingale nursing times**, 5(6), 4-6, 59.
59. Venkatesan, L., (2005). "Self concept in infertile women", **The nursing journal of india**, 26(3), 1-3.
60. Xu, L et. al., (1994). " Psychological aspects of infertile couples in china", **Zhonghua fu chan ke za zhi**, 29 (4) , 232-234, 254-255.
61. Yang, L et. al., (1995). "Mental status and personality of infertile women", **Zhonghua fu chan ke za zhi**, 30 (1), 34-37.

NEWS PAPER:

62. Marchiano, D., (2007). "Infertility", **Salud chicago article**, 2.
63. Ramalingam, T., (2001). "Male infertility", **Thinamani**, (Sep-2nd), 10.
64. Thangam, R. V., (2005). "One in five couples-childless in the country", **The Hindu**, (Aug-5th), 5.
65. Karthik, M., (2006). "Infertility cases on the rise in Erode", **The Hindu**, (Sep11), 1.
66. Nagesh Kumar, S., (2002). "Support for Govt. move on fertility clinics", **The Hindu**, (Dec26).

UNPUBLISHED THESIS:

67. Hemalatha, T., (2006). "A study to assess the effectiveness of meditation on stress among workers in selected metropolitan transport corporation at chennai", (30041642), Unpublished masters thesis, Dr.M.G.R Medical university, Chennai, Tamilnadu.
68. Kalavathi, S., (2006). "A descriptive study to assess the stress level of infertile women undergoing IUI treatment", (30046621), Unpublished masters thesis, Dr.M.G.R Medical university, Chennai, Tamilnadu.
69. Latha, S.P., (2002). "A study to assess the psychosocial problems experienced by couples attending the infertility clinic at KMCH, Coimbatore", (30994406), Unpublished masters thesis, Dr.M.G.R Medical university, Chennai, Tamilnadu.
70. Ramachandran, M., (1998). "Clinical evaluation of infertile couple", (476), unpublished MD dissertation, Dr.M.G.R Medical university, Chennai, Tamilnadu.

71. Rani, A., (2006). "Assess the effectiveness of PMR technique in reducing stress among primary infertile women undergoing IUI in a selected hospital at Chennai", (30042221), Unpublished masters thesis, Dr.M.G.R Medical university, Chennai, Tamilnadu.
72. Vashumathi, S.P., (2006). "Level of stress and level of coping among the women undergoing infertility treatment in GG hospital Chennai", (30041624), Unpublished masters thesis, Dr.M.G.R Medical university, Chennai, Tamilnadu.

NET REFERENCE:

73. www.google.com
74. www.pubmed.com
75. www.yahoo.com
76. www.asrm.org?patients/faqs.html
77. www.buzzle.com
78. info@holisticonline.com
79. family_building@resolve.org
80. www.science_direct.com
81. www.fpnotebook.com/Psych/Exam/HmltnAnxtyScl.htm
82. [www.stress self-assessment.htm](http://www.stress_self-assessment.htm)
83. [www.resolve org.com](http://www.resolve.org.com)
84. www.naiw.com
85. www.naic.com
86. [www.infertility network UK.com](http://www.infertility_network_UK.com)
87. [www_spiritual meditation therapy center.com](http://www_spiritual_meditation_therapy_center.com)
88. [www.circle of healers.com](http://www.circle_of_healers.com)

Self Instructional Booklet On Meditation Therapy



Compiled by

S. VIJAYALAKSHMI
II Year M.Sc (Nursing)
Bishop's College of Nursing,
Dharapuram, Tirupur - 638656

As a part of dissertation submitted to
THE TAMIL NADU DR. M. G. R. MEDICAL UNIVERSITY

SELF INSTRUCTIONAL BOOKLET ON MEDITATION THERAPY

Dear Sir / Madam,

Kindly go through the booklet in a systematic way from the beginning to the end to learn how to use meditation therapy technique and which helps to understand how it is useful to reduce stress. After reading this you will be able to understand about stress reduction measures and educate your relatives and friends. Stress reduction will help to improve the chance of infertility.

MEDITATION THERAPY

MEANING

Meditation is the word came from latin word “mederie” means to heal emotionally, mentally and physically



Meditation is a mental discipline by which one attempts to get beyond the conditioned, "thinking" mind into a deeper state of relaxation or awareness. Meditation often involves turning attention to a single point of reference. It is recognized as a component of almost all religions, and has been practiced for over 5,000 years.

BENEFITS

- The systematic practice of meditation helps to reduce stress, fear, anxiety and anger.
- It reduces the depression of mind.
- It provides systematic thinking and judging capacity and helps to develop the personality of the individual.



- It helps to provide concentration which ultimately increases the memory power of the mind.
- It provides self confidence and the power to face the tough situation and solve the problems calm and quietly.
- It helps to provide mental and physical peace and relaxation.
- Now a days the common health problems like heart disease, high blood pressure, bronchial asthma, nervous disorders, digestive problems, infertility and many other diseases are aggravated by stress and strain. Systematic practice of meditation and control of mind can reduce these problems gradually.



- Meditation not only help to provide control of mind but also helps to desist from bad habits like consuming alcohol, drugs, smoking etc.

RULES TO PERFORM MEDITATION

- Perform meditation preferably in the early morning (4-6.30am) and also in the evening. But during the present busy life one can conveniently practice meditation at the convenient interval even at your work place.
- To perform meditation one must be free from all tensions and have control over the mind.



- Duration of meditation also depends upon convenience. At least 20-30 min at a time.
- The place for meditation must be clean, airy and free from all types of disturbances. It is better, if it is practiced at one particular place every day.

It is better, if it is practiced at one particular place every day.



- While practicing meditation one should sit in a comfortable position (padmasana, vajrasana, sugasana).

NOTE :-

PADMASANA

Sit in the mat with knees flexed and ankle has to be placed in opposite thigh.



- Always sit erect .The head ,neck and the spine should be in a straight line.



- While meditate,face north or east to gain advantage of magnetic vibration.
- Always sit or lie on mat and while meditating Don't sit in the floor.



VAJRASANA

Sit with legs extended. Then fold back the knee and foot under the buttocks.



SUGASANA

Sit in a usual way.



- Meditation should be performed in empty stomach or after 3 hours of taking food and drinks.

MEDITATION THERAPY TECHNIQUE

Introduction

Now we will see about the technique of meditation therapy. In this 5 steps are there. They are:-

Step-I: Sitting in jnana muthira for One minute.

Step-II: Pranayama for 5 minutes.

Step-III: Stress meditation for 20 minutes.

- Quick relaxation technique-10 minutes
- Rhythmic breathing process-5 minutes
- Imagine like floating off the wind-5 minutes

Step-IV&V: Returning to previous stage-5 minutes.

We will see detailly about these steps.

Step-I :

- Sit comfortably in a mat.



- Hands resting on the knees in jnana muthira.



- Eyes should be closed and concentrate in between the eyebrows for one minute.

Step-II : PRANAYAMA

- Fold the right hand ,index finger and middle finger.



- Then keep the thump finger on right nostril and ring finger on left nostril.

- Inhale slowly, deeply through the left nose and close it, then exhale slowly through the right nose.



- Inhale slowly through the right nose and close it, then exhale slowly through the left nose. Take deep inhalation and deep exhalation.



- Do this for 10 times for 5 minutes slowly every day in the morning and evening.

Step-III : STRESS MEDITATION

- Lie on back on the mat as like a savasana.



- Close your eyes.
- Follow quick relaxation technique (QRT), say the word relax to yourself as you let go each part of the body to relax for 10 minutes.
- After performing QRT, focus on the rhythmic breathing process as the air rushes through the nostrils feel its coolness inside of your head.



- Focus on this sensation of coolness and suggest to yourself that it feels very refreshing for 5 minutes.
- Now refocus your attention on your body's weight and mass.
- Feel the weight of your body lying on the mat and suggest to yourself that you are feeling lighter and lighter, less and less weight.
- Do this again gradually.
- Imagine finally that you are as light as a balloon or a feather.
- Imagine yourself if you are floating off the wind stay with this image for a five minutes.



Step - IV:

- Then return your focus on the weight of your body, feel your weight gradually returning.
- Then at the end of this process suggest to yourself that you feel very secure, protected and loved.



- Say to yourself, I am at peace. I feel very happy, healthy and very strong.

Step-V :

- Finally say little prayer of appreciation for all that's good in your life.
- Open your eyes and slowly sit up.



Step IV &V has to be done for 5 minutes. Total session will take half an hour time. This meditation should be done 2 times a day (morning and evening).meditation should be followed regularly. If you follow this regularly your stress will be reduced and fertility chance will be increased.

Thank you.