EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION THERAPY ON REDUCTION OF STRESS AND ANXIETY AMONG PATIENTS UNDERGOING ABDOMINAL SURGERY.

Dissertation Submitted To

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ABSTRACT

ABSTRACT

Health is the level of functional or metabolic efficiency of a living being. Modern life is full of hassles, deadlines, frustrations and demands. For many people, stress and anxiety is so common place that it has become a way of life. Stress is not always bad. In small doses, it can help the person perform under pressure and motivate to do best. So Jacobson developed over 200 exercises and techniques which taken together relax the entire body by releasing muscular tension.

A study was conducted to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery in Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai. The hypothesis formulated was that there is no significant relationship between progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery. The review of literature included the related studies which provide a strong foundation for the study including the basis for conceptual framework and formation of tool.

The research design used in this study was pre experimental one group pre intervention post intervention design. It was carried out with 30 samples who fulfilled the inclusive criteria. Purposive sampling technique was used to select the samples. An interview schedule was conducted to the patients to assess the pre intervention level of knowledge. A standardized tool was given to the patients for duration of 20 to 30 minutes. The post intervention was conducted after 5^{th} post operative day by using the same tool.

The analysis revealed that the pre intervention stress mean score was 28.80 with the standard deviation of 0.19 and the post intervention stress mean score was 19.30.The pre intervention anxiety mean score was 30.90 with the standard deviation of 2.52 and the post intervention anxiety mean score was 16.00.The paired‘t’ value was 16.30 and 14.34 which showed highly significant at $p< 0.001$ level. The analysis revealed that there was an increase in post intervention level of knowledge. Thus it indicates the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery. So the null hypothesis was rejected and researcher hypothesis was accepted for this study.

INTRODUCTION

CHAPTER I

INTRODUCTION

"Tension is who you think you should be.

Relaxation is who you are. "

-Chinese Proverb.

Health is defined by the world health organization, "A state of complete physical, mental and social well being and not merely the absence of disease or infirmity". When these conditions are not fulfilled then one can be considered to have an illness or to be ill. Health and illness underpin our everyday existence. Health allows us to live full lives and to function as social beings. Illness disrupts our lives sometimes seriously. But health affects individuals as well as society as a whole. Illness is cured by medications, surgeries and other modalities.

Surgery is a unique human experience that creates stress and anxiety which affects both physiological and psychological aspects of an individual. The term abdominal surgery broadly covers surgical procedures that involve opening of the abdomen. The three most common abdominal surgeries are Laparotomy, Appendectomy and Laparoscopy. Acute Appendicitis develops in about 0.25% of population or 1 in every 400 persons will most likely develop appendicitis. In India about 2.6 million people develop appendicitis annually**.**

In a challenging situation like surgeries the brain prepares the body for defensive action the fight or flight response by releasing stress hormones like cortisone and adrenaline. These hormones raise the blood pressure and the body prepares to react to the situation. With a concrete defensive action the stress hormones in the blood get used up entailing reduced stress effects and symptoms of anxiety.

In UK 13 million working days are lost every year because of stress. Stress is believed to trigger 70% of visits to doctors and 85% of serious illness. More than 19 million people suffer from an anxiety phobia disorder. About 10 % of Australians are affected by anxiety disorders at some point in their life. Researchers define stress is

any outside force or event that has an effect on our body or mind. Anxiety is a psychological and physiological state characterized by somatic, emotional, cognitive, and behavioral components. The presence or absence of psychological stress and anxiety can create feelings of fear, worry, uneasiness and dread.

Anxiety is considered to be a normal reaction to a stressor. It may help someone to deal with a difficult situation by prompting them to cope with it. When anxiety becomes excessive it may fall under the classification of an anxiety disorder. Stress and anxiety are the two major factors that disturb the normal life of a person. The capacity to fight stress is also within the person. Under stressful situations fight or flight response is activated in our body and mind.

When we fail to counter a stress situation the hormones and chemicals remain unreleased in the blood stream for a long period of time. It results in stress related physical symptoms such as tense muscles, unfocused anxiety, dizziness and rapid heartbeats. Subsequently, it compels the mind and body to be in an almost constant alarm state in preparation to fight or flee.

The state of accumulated stress can increase the risk of both acute and chronic psychosomatic illnesses and weaken the immune system. Stress can cause headache, irritable bowel syndrome, eating disorder, allergies, insomnia, backache, frequent cold and fatigue to diseases such as hypertension, asthma, diabetes, heart diseases and even cancer. Sanjay Chugh a leading Indian psychologist says that 70% to 90% of adults visit primary care physicians for stress related problems.

Everybody like men, women, children and even fetuses suffer from stress and anxiety. Relationship demands, chronic health problems, pressure at workplaces, traffic snarls, meeting deadlines, growing-up tensions and a sudden bearish trend can trigger these conditions. People react to it in their own ways. In some people, stress induced adverse feelings and anxiety tends to persist and intensify. If stress persists for longer periods, it is harmful for both the body and the mind.

Methods of coping with stress are a plenty. The most significant way out is a change in lifestyle. Relaxation techniques such as meditation, physical exercises, listening to soothing music, deep breathing, various natural and alternative methods,

personal growth techniques, visualization and massage are some of the most effective of the known non-invasive stress busters.

Progressive muscle relaxation is a technique for reducing stress and anxiety by alternately tensing and relaxing the muscles. In 1920 it was developed by American physician Edmund Jacobson.Progressive muscle relaxation is a technique for achieving a deep state of relaxation. Dr. Jacobson discovered that a muscle could be relaxed by first tensing it for a few seconds and then releasing it. Tensing and releasing various muscle groups throughout the body produces a deep state of relaxation, which Dr. Jacobson found capable of relieving a variety of conditions from high blood pressure to ulcerative colitis. Progressive muscle relaxation is especially helpful for people whose anxiety is strongly associated with muscle tension.

The body's natural relaxation response is a powerful antidote to stress. Relaxation techniques such as deep breathing, visualization, progressive muscle relaxation, meditation and yoga can help the individual activate this relaxation response. Practicing relaxation techniques help a person to maintain mental, physical, and emotional health by evoking relaxation response which is deeply relaxing and energizing. Its effects are an antidote to stress response. When the person is deeply relaxed the body may feel breathing is slow and deep, blood pressure is lowered, need for oxygen is reduced, muscular tensions and pains are relieved, heart rate gets slowed down, improves immune system. The technique is used effectively in the treatment of Anxiety, Insomnia, Irritable bowel syndrome, Depression, Mild phobia and stuttering, etc.

NEED FOR THE STUDY

Surgery is a branch of medicine concerned with diseases and conditions which require are amenable to operative procedures. The term Abdominal Surgery is defined as surgery pertaining to the contents of the abdominal cavity its walls and orifices. Surgery is performed in a variety of settings including hospitals, ambulatory surgery centers, clinics, physician's offices and even mobile units. Minor surgeries are performed on an outpatient basis, with the patient entering the setting, undergoing surgery and being discharged the same day. Most of the surgical condition of the gastro intestinal system is being managed by laparatomy. A description statistical

analysis by Wells (2003) in U.S reported that the rate of laparatomy has increased by 22.6% in the past 5 years.

Most of the patients undergoing major surgery enter the setting as outpatients for screening and testing and are admitted to the hospital after surgery. Surgical patients enter the health care settings in different stages of health. A client may enter the facility feeling relatively healthy while awaiting surgery or may be in great distress when facing emergency surgery. But every person facing a stress and anxiety with their life experiences.

According to National health care quality reported that 4 in every 10 Indians suffer from stress and anxiety after abdominal surgery. Walter cannon proposed the fight or flight response to stress which is arousal of the sympathetic nervous system. This reaction prepares a person for action by increasing heart rate, diverting blood from the intestines to the brain and striated muscles. While the stress response can be lifesaving in emergency situations where the person need to act quickly, it wears body down when constantly activated by the stress of everyday life.

When stress overwhelms a person's existing coping mechanisms, a crisis results. Selye (1991) noted that a prolonged state of stress can cause disease. Anxiety is considered a problem when symptoms interfere with a person's ability to sleep or otherwise function. Women are more likely than men to report anxiety disorders about 12% and affective disorders about 7.4%. Men are more than twice as likely as women to have substance use disorders about 11% with alcohol disorders being three times more common than drug use disorders.

Allen (2007) suggested that by reducing anxiety of the preoperative patient by using nonpharmacologic interventions may allow for less financial responsibility for the patient as a result of reduced requirement for medications. Progressive muscle relaxation is based upon the simple practice of tensing or tightening one muscle group at a time followed by a relaxation phase with release of the tension.Jacobson argued that since muscle tension accompanies anxiety one can reduce anxiety by learning how to relax the muscle tension.

Progressive muscle relaxation entails a physical and mental component. The physical component involves tensing and relaxing of muscle groups over the legs, abdomen, chest, arms and face.The mental component focuses on the difference between the feelings of the tension and relaxation. Because the eyes are closed one is forced to concentrate on the sensation of tension and relaxation. Doctors have used progressive muscle relaxation in combination with standard therapies for symptom relief in a number of conditions including headache, cancer pain, high blood pressure and digestive disturbances.

Relaxation techniques not only decrease stress and anxiety levels. It improves the quality of life by giving a mental clarity that helps a person in taking quick decisions and improving efficiency to deal with problems and giving more energy and reducing negative emotions like anger and frustration. The relaxation exercises are known to reduce symptoms and improve outcome in medical conditions such as Pain, irritable bowel syndrome, premenstrual syndrome, anxiety, sleeplessness, psoriasis, diabetes, fibromyalgia, high blood pressure, tension headache and also hyperactivity in children.

Practicing Progressive muscle relaxation strengthens a person psychologically and enhances self esteem by increasing efficiency. Progressive muscle relaxation reduces blood pressure and decreases perspiration and slows down the breathing.

When the investigator was posted in Dr. Kamakshi Memorial Hospital at Chennai, she provided a nursing care to the patients who were undergoing abdominal surgery. The investigator had seen that many patients were suffering from stress and anxiety. Nursing profession has moved from the cure model to care model. Patient's education regarding post operative exercise is the best way to prevent post operative stress and anxiety. So investigator felt that some method to relieve the intense stress and anxiety on patients undergoing abdominal surgery. Hence the investigator decided to do a study regarding progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery in Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai.

OBJECTIVES

1. To assess the pre intervention and post intervention level of stress among patients undergoing abdominal surgery.
2. To assess the pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery.
3. To assess the effectiveness of progressive muscle relaxation therapy on reduction of stress among patients undergoing abdominal surgery.
4. To assess the effectiveness of progressive muscle relaxation therapy on reduction of anxiety among patients undergoing abdominal surgery.
5. To associate the pre intervention and post intervention level of stress with their selected demographic variables among patients undergoing abdominal surgery.
6. To associate the pre intervention and post intervention level of anxiety with their selected demographic variables among patients undergoing abdominal surgery.

OPERATIONAL DEFINITIONS

Effectiveness: Refers to the reduction of stress and anxiety followed by Progressive muscle relaxation therapy among patients undergoing abdominal surgery.

Progressive muscle relaxation therapy: Refers to a technique which tenses and relaxes the successive muscle groups.

Stress: Refers to a worry or pressure that is caused by too much tension.

Anxiety: Refers to a generalized mood condition that can often occur without an identifiable triggering stimulus.

Abdominal Surgery: Refers to any surgical technique by which intra abdominal organs are accessed through an appropriate incision on the abdominal wall.

HYPOTHESIS

There is no significant relationship between progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery.

DELIMITATIONS

- Data collection period was delimited to 4 weeks.
- The sample size was delimited to 30.

E

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

The review of literature is an essential aspect of the scientific research. It is a systematic identification, location, scrutiny and summary of written material. That contains information related to the problem under study. The investigator gained insight in selected problem from an extensive research review.

This chapter is designed to include the review of literature and the conceptual framework adopted for the study.

PART - I REVIEW OF RELATED LITERATURE

Progressive Muscle Relaxation is a technique for achieving a deep state of relaxation. The technique of progressive muscle relaxation was described by Edmund Jacobson in the 1920s and it is based upon his premise that mental calmness is a natural result of physical relaxation. Progressive muscle relaxation is a deep relaxation technique that has been effectively used to control stress and anxiety, relieve insomnia and reduce symptoms of certain types of chronic pain.

This chapter is organized systematically and classified in the following manner.

- Literature related to progressive muscle relaxation.
- Literature related to progressive muscle relaxation on stress.
- Literature related to progressive muscle relaxation on anxiety.
- Literature related to progressive muscle relaxation on abdominal surgery.

PART - II CONCEPTUAL FRAMEWORK

PART- I

REVIEW OF RELATED LITERATURE

Stress is necessary for life. Every person needs stress for creativity, learning and survival. When stress overwhelms nervous system in our body is flooded with chemicals that prepare for “fight or flight”. While the stress response can be lifesaving in emergency situations where the person need to act quickly, it wears body down when constantly activated by the stress of everyday life.

The normal reactions witnessed during stress the increase in blood pressure, perspiration, flow of blood away from the extremities and towards the large muscles, increase in adrenaline levels are all a part of this fight or flight reaction. Living under stress for prolonged periods weakens psychologically and physically.

Stress and anxiety is only harmful when it becomes overwhelming and interrupts the healthy state of equilibrium that nervous system needs to remain in balance. Unfortunately, overwhelming stress has become an increasingly common characteristic of contemporary life. When an internal or external stressor throws nervous system out of balance relaxation techniques can bring it back into a balanced state.

A variety of relaxation techniques can help to bring nervous system back into balance including deep breathing, progressive muscle relaxation, meditation, visualization, yoga and tai chi. Progressive muscle relaxation or the “contract-relax technique,” is another effective and widely used strategy for cultivating the relaxation response and for relieving stress. It involves a two step process in which systematically tense and relax different muscle groups in the body. Deep breathing is one of the best ways to lower stress in the body. This is because when the person breathes deeply it sends a message to the brain to calm down and relax.

Literature related to progressive muscle relaxation

Demurrals. M, et al., (2010) conducted a study to assess the effects of relaxation training on sleep quality and fatigue among 27 breast cancer patients undergoing adjuvant chemotherapy. Among them, 14 individuals were undergone progressive muscle relaxation training and 13 individuals were in control group. Pittsburgh Sleep Quality Index and Piper Fatigue Scale were used to assess the sleep and fatigue at different stages of the treatment. The study results showed that there is a marked in sleep quality and decrease fatigue after progressive muscle relaxation training.

Ghafari. S, **et al**., (**2009**) conducted a study to assess the effectiveness of progressive muscle relaxation technique on quality of life of among 66 patients with multiple sclerosis. In which, 33 patients were in experimental group received progressive muscle relaxation training and 33 were in the control group. The training was assessed after 63 sessions with two month duration for experimental group. Quasi experimental research design was used The study was concluded that progressive muscle relaxation technique was practically feasible and increased quality of life among multiple sclerosis patients.

Singh. V. P, et al., **(2009)** done a comparative study to assess the effectiveness of music and progressive muscle relaxation among 72 chronic obstructive pulmonary disease patients with anxiety in Srinivas College of Physiotherapy, Mangalore. In which, 36 patients receive self selected music of 60-80 beats per minutes and progressive muscle relaxation technique were given by pre recorded audio of instructions. The study showed that Music and Progressive muscle relaxation are effective in reducing anxiety and dyspnea among chronic obstructive pulmonary disease patients.

Kondo. Y, et al., (2009) conducted a study to assess the experiences of difficulty that patients with cancer faced in the learning process of progressive muscle relaxation among 21 participants. Out of them, 15 participants were practiced the progressive muscle relaxation technique for one to two times per day and 6 patients practiced progressive muscle relaxation technique for 3 to 4 times per week. This study showed that it is easy for disease to progress in patients with cancer and those

with poor strength, so it is necessary to match the functional status of individual patients.

Kweeboom. K. L, et al., **(2006)** conducted a randomized controlled study to assess the systemic review of relaxation intervention among 15 arthritis patients with pain. Out of 15 participants 8 were in experimental group and 7 were in control group. Progressive muscle relaxation technique was given to the experimental groups. The study findings showed that progressive muscle relaxation reduces arthritis pain.

Nickel. C, et al., (2006) conducted a randomized controlled study to determine the efficacy of progressive muscle relaxation on change in blood pressure, heart rate and anger in 64 pregnant women with bronchial asthma. There were 32 pregnant women selected for progressive muscle relaxation and 32 received a placebo intervention. The systolic blood pressure and state trait anger expression inventory and health survey were assessed after progressive muscle relaxation training was given. The study revealed that progressive muscle relaxation appears to be an effective method to improve blood pressure, heart rate and to decrease anger levels. among pregnant women with bronchial asthma.

Carol. L, et al., (2004) conducted a study to assess the effectiveness of guided imagery with progressive muscle relaxation to reduce pain and mobility difficulties of osteoarthritis. Totally 28 older women with osteoarthritis were selected and randomly assigned to either the treatment or control group. A longtitudinal randomized controlled design was used. The treatment consists of listening twice a day to a 10 to 15 minutes audiotaped script with progressive muscle relaxation. The study results showed that the effective of guided imagery with progressive muscle relaxation as a self management intervention to reduce pain and mobility difficulties associated with osteoarthritis.

Jonathan. C, et al., (2004) conducted a study to compare the psychological effects of progressive muscle relaxation and yoga stretching exercises. The sample consists of 40 participants and randomly divided into two groups. Progressive muscle relaxation and yoga stretching exercises were taught to the patients. Both groups' practices once a week for 5 weeks and given the smith relaxation stated inventory scale was assessed before and after session. The study revealed that both intervention

were improved the psychological effects and also progressive muscle relaxation was slightly better than the yoga exercises.

Huntley. A, (2002) conducted a randomized controlled trial to assess the effects of relaxation therapies among 15 patients with asthma. The patients were randomize into two groups such as 9 patients received progressive muscle relaxation technique and 6 patients were in control group. The study showed that muscular relaxation improves lung function of patients with asthma.

Molassiotis. **A, et al**., (**2002**) conducted a randomized controlled study to assess the effectiveness of progressive muscle relaxation training in managing chemotherapy induced nausea and vomiting among 71 breast cancer patients. The participants were divided into 38 in experimental groups and 33 in control groups. The study revealed that progressive muscle relaxation training is a useful adjuvant technique to complement antiemetic for chemotherapy induced nausea and vomiting.

Paula. **A. A, et al**., (**2002**) conducted a study to assess the progressive muscle relaxation technique for pain relief in gynecology and obstetrics in university of sluo Paulo at Brazil. The study participants 61 had been submitted to abdominal surgical interventions in which 52.5% had a gynecological and 47.5% obstetrical in nature. Progressive muscle relaxation therapy was given. The study was concluded that the use of the progressive muscle relaxation technique enabled the subjects to determine that their pain level was decreased.

Jablon. S. L, et al., (1997) conducted a study to assess the effects of progressive relaxation training and Electromylogram biofeedback on acute glucose disposal among 20 diabetic patients. The blood glucose level was measured by glucose tolerance test and diabetic metabolic control method. Stress reduction and relaxation scale was used among type II diabetes patients after progressive muscle relaxation training was given. The results revealed that mildly stressed type II diabetes patients sugar level were controlled after relaxation training..

Hosaka. **T, et al**., (**1995**) conducted a study to assess the efficacy of relaxation techniques among 20 participants in general hospital in Japan. Progressive muscle relaxation technique was given to the participants. The study showed that progressive

muscle relaxation training was simple and useful methods which can be easily in the clinical practice of general hospital.

Blanchard. E. B, (1993) conducted a study to assess the effects of Relaxation training as a treatment for irritable bowel syndrome. A sample of 16 participants were selected among 8 irritable bowel syndrome patients received progressive muscle relaxation technique and 8 comparable patients merely monitored gastro intestinal symptoms. The study revealed that relaxation group was clinically improved at the end of treatment.

Nicholson. N. L, (1991) conducted a study to assess the role of regular home practice in the relaxation treatment among 27 tension headache patients in state university of Newyork. Among them, 14 tension headache participants were selected with progressive muscle relaxation technique in home practice and 13 tension headache patients received the same Progressive muscle relaxation training with no home practice. Both treated groups showed significant reduction in headache activity. This study showed that the progressive muscle relaxation technique in home practice patients had reduced headache activity than the patients received progressive muscle relaxation technique without home practice.

Canter, et al., (1975) conducted a Comparison of Electromylogram Feedback and Progressive Muscle Relaxation Training in Anxiety Neurosis. Two similar groups of adult psychiatric patients carrying the diagnosis of anxiety neurosis were compared in their response to different methods of training in deep muscle relaxation. One group received Electromylogram feedback and the other a modification of the Jacobson Progressive Relaxation method. The frontalis muscle was chosen as the target for feedback training and for the measurement of tension reduction in both groups, for the reason that this muscle has been shown to reflect the general muscle tension level in anxious patients. Training was carried out under controlled laboratory conditions, and objective muscle tension levels were obtained. The results of the study indicated that both Electromylogram feedback and the progressive muscle relaxation training produced significant reductions in frontalis tension levels.

Literature related to progressive muscle relaxation on stress

Ulrich. S. D, et al., (2010) conducted a study to assess the static progressive stretch and stress relaxation principles to improve elbow range of motion in patients who had posttraumatic elbow contractures. Treatment in 37 elbow contractures consisted of a 30-minute stretching protocol performed in 1 to 3 sessions daily for a mean of 10 weeks. Gains of motion were noted in 35 of 37 elbow contractures. This study revealed that Consistent improvements in restoring range of motion can be achieved with short treatment times by using a device based on the principles of static progressive stretch and stress relaxation in patients with post traumatic elbow contractures.

Schneider. R. H, et al., (2005) conducted a study to assess the effects of progressive relaxation training in stress reduction in African Americans treated for hypertension for over one year in Maharishi University of Management, USA. Interventions included 20 min twice a day of progressive muscle relaxation classes. All subjects continued usual medical care. Outcomes assessed were systolic blood pressure and diastolic blood pressure at 3, 6, 9, and 12 months after treatment. This study showed that a selected stress reduction approach, the progressive muscle relaxation program, may be useful as an adjunct in the long term treatment of hypertension in African Americans.

Bradley. B. W, (1981) conducted a study to assess the effects of progressive relaxation and expectancy of relief of stress among 48 male subjects. They randomly divided into experimental and control group. Only experimental groups received progressive relaxation treatment not to control group. Heart rate and electrodermal responding were recorded continuously during practice of the techniques. The study indicated that the heart rate was lowered periodically only for experimental group.

Stephen. **D,** (**1981**) conducted a study to evaluate progressive relaxation on stress related symptoms in a geriatric population. A total sample 10 participants were selected by simple random technique. In that 5 women were assigned to treatment group and 5 were in control group. The treatment group received two weeks of baseline evaluation and ten weeks of one hour in relaxation training. The control

group had received no treatment. The study showed that significant differences on all 5 measures between the experimental and control groups.

Literature related to progressive muscle relaxation on anxiety

Leite. J. R, et al., (2010) conducted a study to assess the effect of progressive self focus meditation on attention anxiety and depression scores. This study evaluated 42 volunteers allocated to two groups. One that had weekly one hour training sessions in the practice for 5 week and one had waiting list group. Participants were evaluated before and after 5 week. This study showed that after 5 week significant reduction in scoring on depression was found in the meditation group as well as an increase in attention in comparison with the waiting list control group.

Choi. Y. K, (2010) done a study to assess the effect of music and progressive muscle relaxation on anxiety, fatigue and quality of life among 32 family caregivers of hospice patients University of Kansas, USA.. A total of 32 patients were selected and divided randomly into 4 groups like control, music only, progressive muscle relaxation only and music combined with progressive muscle relaxation and were tested twice a week for duration of 2 weeks. A pre and post intervention measuring anxiety and fatigue was administered each session. Quality of life was measured only on the first and last session. The study Statistical results indicated a significant difference in quality of life and progressive muscle therapy and music therapy.

Lolak. S, et al., (2008) conducted a study to assess the effect of progressive muscle relaxation training on anxiety and depression in patients with chronic breathing disorders receiving pulmonary rehabilitation. Totally, 83 with chronic breathing disorder were selected by randomized sampling technique. The intervention group received additional sessions of progressive muscle training. The study revealed that progressive muscle relaxation is effective in reducing anxiety and depressive level in chronic lung patients.

Weber. S, et al., (1996) conducted a study to assess the effects of relaxation exercises on anxiety levels in psychiatric inpatients. A total of 39 patients were selected by convenient sampling technique. Anxiety levels were measured by State-Trait Anxiety Inventory. Progressive muscle relaxations, meditative breathing were

practiced by the patients. A significant reduction in anxiety level was obtained on the post test. The findings of this study can be incorporated by holistic nurses to help reduce anxiety levels of general psychiatric inpatients by using relaxation interventions.

Holland. J. C, (1991) conducted a study to assess the effects of alprazolam versus progressive muscle relaxation in cancer patients with anxiety and depressive symptoms. A total sample of 147 patients was selected. The study Group I has included 70 patients and they have been given alprazolam drug were as the Group II has included 77 patients were given relaxation. The study results showed that both treatments resulted in significant decrease in anxious and depressed mood symptoms.

Pender. N. J, (1985) conducted a study to assess the effects of progressive muscle relaxation training on anxiety among 44 hypertensive adults. Out of them, 22 participants were assigned to experimental group and 22 participants were assigned to control group. In that 22 hypertensive clients received relaxation training followed by individual monitoring sessions over a 6-week period. The 22 hypertensive clients in the control group received blood pressure monitoring, weight checks and health counseling but were given no relaxation training during the study period. After training the relaxation group also scored significantly higher than the control group. The study findings supported the potential usefulness of relaxation training in modifying affective and cognitive characteristics of hypertensive clients.

Dehdari. T, et al., (1985) was conducted a study to assess the effects of progressive muscular relaxation training on quality of life among 110nanxious patients after coronary artery bypass graft surgery. Patients were allocated to receive both exercise training and relaxation therapy. Duration of the relaxation therapy was 6 week and in the case of usual care was 8 week. Both the groups were followed up one month after completion of intervention. Anxiety and quality of life in the two treatment groups were compared. The study findings showed that progressive muscular relaxation training may be an effective therapy for improving psychological health and quality of life in anxious heart patients.

Davy. et al., (1982) conducted a study to assess the effects of progressive muscle relaxation on stated anxiety among 64 patients with schizophrenia in psychiatric center. Patients were randomly assigned to either a single progressive muscle relaxation session during 25 minutes or a resting control condition with the opportunity to read for an equal amount of time. The study results showed that only within progressive muscle relaxation participants showed decreased state anxiety and psychological stress and fatigue and increased subjective well-being.

Lehrer. et al., (1978) conducted a study to assess the effects of progressive relaxation in anxiety neurotic patients. Totally, 20 anxiety neurotic patients were selected. In that 10 patients were in experimental group and 10 patients were in control group. Progressive relaxation training was given to the experimental patients only. The study results showed greater physiological response to experimental group than control group.

Canter. et al., (1975) conducted a study to compare the Electromylogram feedback and progressive muscle relaxation training in anxiety neurosis. Two similar groups of adult psychiatric patients were taken for this study. One group received Electromylogram feedback and the other a modification of the Jacobson progressive relaxation method. Both the therapy was given to the patients. The results of the study indicated that both Electromylogram feedback and the progressive training produced significant reduction in tension level.

Literature related to progressive muscle relaxation on abdominal surgery

Seers. **K, et al**., (**2008**) conducted a study to assess the effectiveness of progressive muscle relaxation for post operative pain and anxiety. A total sample of 118 participants were selected by simple random technique and the participants were divided in to experimental and control group. Anxiety and relaxation were assessed at pre admission clinic and immediately post intervention was given. The study revealed that there were statistically significant reductions in pain at rest from pre to post intervention for relaxation groups rather than control groups.

Haase. O, et al., (2005) conducted a study to assess the Guided imagery and progressive muscle relaxation in conventional colorectal resections in Germany. There were 60 patients selected by randomized sampling technique and the interventions were given. This study reveals that brief psychological interventions such as guided imagery and relaxation yielded a very positive patient response but did not show a clinically relevant influence on the postoperative physiologic course of elderly patients undergoing conventional resections of colorectal cancer.

Roykulcharoen. V, (2004) conducted a study to assess the effects of systematic relaxation to relieve postoperative pain in large hospital in Thailand. Totally, 102 adults were selected by convenient sampling technique. The sample 51 patients were received Systematic relaxation was used for 15 minutes during recovery from the first ambulation after surgery. Pain and anxiety scale were measured before and after the intervention. The study revealed that systematic relaxation reduced their pain and anxiety and increased their sense of control.

Holen. A, et al., (2000) conducted a study to assess the effects of relaxation on stress reactivity among 31 patients. In that 21 patients were in experimental group and 10 were in control group. Progressive muscle relaxation training was given to the participants for 6 months. The study concluded that after the relaxation training blood lactate concentration was decreased. So the stress level was decreased to the participants.

Domar. A. D, et al., (1987) conducted a study to assess the preoperative use of the relaxation response with ambulatory surgery patients. A total of 49 patients were selected by randomized controlled sampling technique. They divided in to 42 patients were in experimental group and 7 patients were in control group. Relaxation training was given for 20 minutes per day until the day of surgery. The study showed that regular relaxation training can alter subjective reports of distress associated with surgery.

Wells. N, (1982) conducted a study to assess the effects of relaxation on postoperative muscle tension and pain. A total sample of 12 patients were selected by convenient sampling technique. A two group pre and post intervention experimental design was used. In the study Group I has included 6 patients and they have been

received relaxation training were as the Group II has included 6 patients and they have been received standard preoperative instruction. The study results showed that the distress caused by painful sensations was lower for patients who learned the relaxation technique.

All the above literature showed that, progressive muscle relaxation technique was more effective in reduction of fatigue, sleep disturbance, nausea and vomiting, stress, anxiety, pain and hypertension in selected medical condition like chronic obstructive pulmonary disease, arthritis, multiple sclerosis, irritable bowel syndrome, surgery patients, asthma and high blood pressure.

PART – II

CONCEPTUAL FRAMEWORK

The conceptual model is made up of concepts which are the mental images of phenomenon. These concepts are linked together to express their relationship between them. It provides the guidelines to attain the objectives of the study based on the theory.

It is a schematic representation of the steps, activities and outcomes of the study. Sister Callsita Roy began her nursing career in 1963 and she published introduction to nursing an adaptation model in 1976. The conceptual framework for this study was based on modification made on Roy's Adaptation model. Roy's model is characterized as a systems theory with a strong analysis of interaction. Roy considers the recipient of care to be an open, adaptive system. Its react to and interact with other systems in the environment.

The investigator applied the Roy's adaptation theory aimed to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery. In this theory three major components are emphasized. It employs a feedback cycle of input, throughput and output.

Input

Input is identified as stimuli which can come from the environment or within a person. Stimuli are classified as

- Focal stimuli
- Contextual stimuli
- Residual stimuli

Focal internal stimuli

Focal stimuli are those that immediately confront the individual in a particular situation. In this study, patients who are undergoing abdominal surgery had stress, emotional disturbances and anxiety towards surgery.

Focal external stimuli

Focal external stimuli are those stimuli which are present around the patient. Patients have lack of knowledge regarding IV canulation, investigations and surgery procedure.

Contextual stimuli

Contextual stimuli are those other stimuli that influence the situation which includes demographic variables of patients such as age, gender, occupation, personal habits, marital status and mental status.

Residual stimuli

It refers to non specific stimuli such as cultural beliefs and attitudes about illness.

Throughput

Throughput makes use of a person's processes and effectors. Processes determine level of stress and anxiety experienced by the patients. Effectors determine pre assessment of the level of stress and anxiety by using Cohen's perceived stress scale and Hamilton anxiety rating scale. Progressive muscle relaxation therapy was given to the patients 20 minutes in every day. It is useful to reduce stress and anxiety.

Output

Output is the outcome of the system. When the system is a person, output refers to the person's behaviors. It refers to reduce in stress and anxiety behavior by adapting relaxation techniques. This output or responses given feedback for this system. Process in continued.

In this study output is measured by the interview schedule on stress and anxiety among patients undergoing abdominal surgery. The improved stress and anxiety gained by the patients undergoing abdominal surgery. If stress and anxiety is not reduced reassessment was done. So the investigator has selected the modified Roy's Adaptation Model to apply in this study.

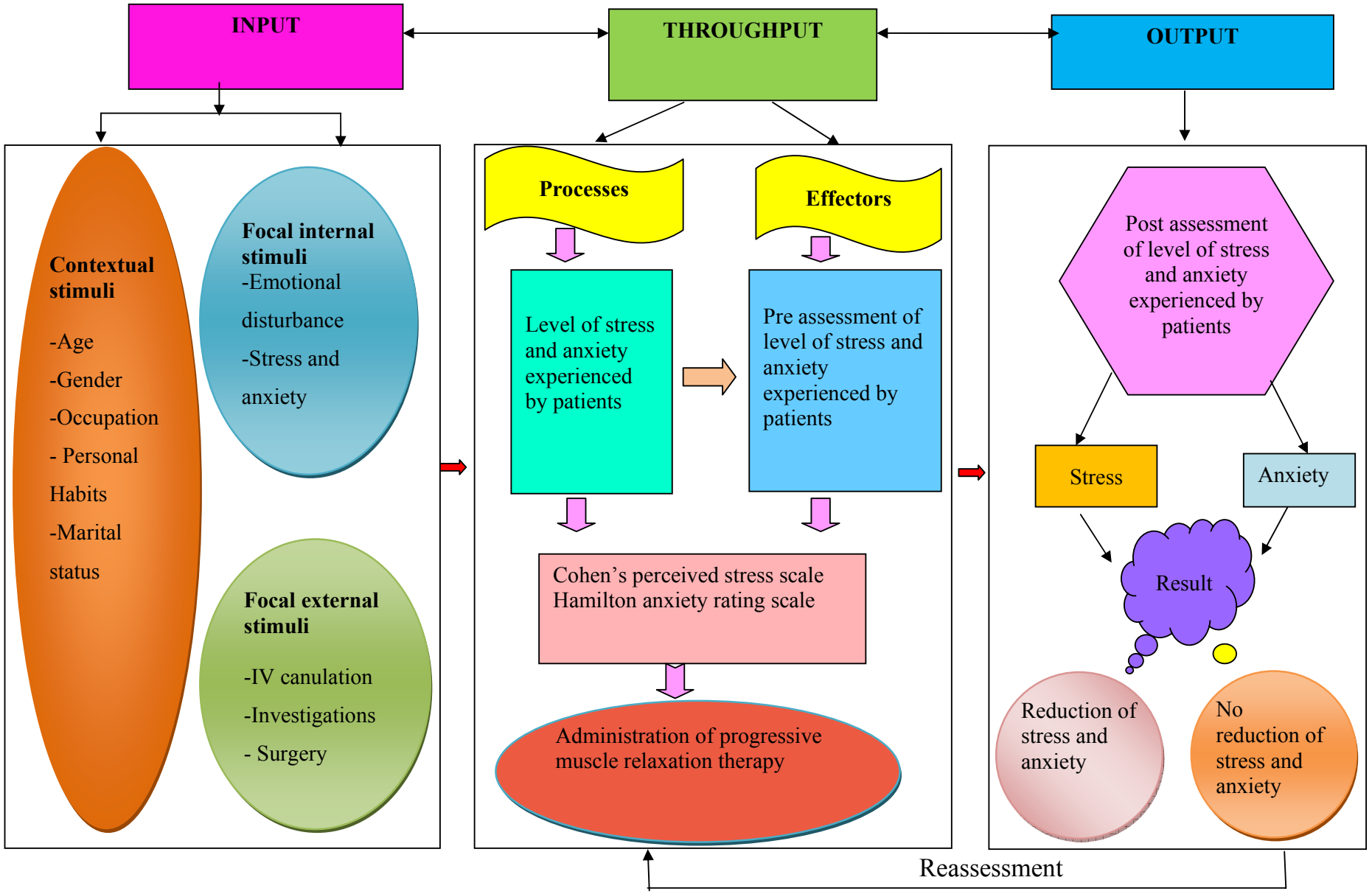


Fig1: MODIFIED ROY'S ADAPTATION MODEL (1976)

METHODOLOGY

CHAPTER- III

METHODOLOGY

This chapter deals with a brief description of the methodology adopted by the investigator. This chapter includes research design, setting of the study, population, sample, sample size, sampling technique, criteria for sample selection, description of the instrument, validity, reliability, ethical consideration, pilot study, data collection procedure and data analysis. This study was conducted to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery.

RESEARCH DESIGN

The research design selected for this study was pre experimental one group pre test post test design, this was used to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery.

SETTING OF THE STUDY

This study was conducted in Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai. This is a 150 bedded multispecialty hospital, which is well equipped with all facilities. It has three floors and consists of all the specialties including medicine, surgery, oncology, orthopedic, diabetology, obstetrics and gynecology. It has the services like outpatient department, inpatient department, emergency and intensive care units. Especially around 30 patients come to gastro intestinal unit for regular treatment and reviews. There were 4-5 patients got admitted per day. They had done all types of surgeries like laparotomy, appendectomy and laparoscopy.

POPULATION

The population consist of patients who are undergoing abdominal surgery in Dr.Kamakshi Memorial Hospital at Pallikaranai , Chennai.

SAMPLE

The sample consists of patients who are undergoing abdominal surgery with the age group of 20-60 years and who fulfills the inclusion criteria.

SAMPLE SIZE

The sample size consists of 30 patients who are undergoing abdominal surgery in Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai.

SAMPLING TECHNIQUE

Purposive sampling technique was used to select the samples those who were undergoing abdominal surgery in Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai.

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria

- Patients those who had undergone elective abdominal surgery.
- Patients within the age group of 20-60 years.
- Patients who were available during the period of study.
- Patients who were willing to participate in this study.
- Patients who knew Tamil and English.

Exclusion criteria

- Patients those who were undergoing other type of surgery except abdominal surgery.
- Patients those who were unconsciousness.
- Patients those who were paralyzed.

DESCRIPTION OF THE INSTRUMENT

The tool was prepared to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery. The tool consists of two parts.

Part –I

The Personal variables consists of age, sex, occupation, education, family income, marital status, type of family, dietary habits, personal habits and exercise. The clinical variables such as type of surgery, duration of hospitalization.

Part II

It consists of Modified Cohen's perceived stress scale and Modified Hamilton anxiety scale were used in this study. Modified Cohen's perceived stress scale consists of 10 items which shows stress related behavior and Modified Hamilton anxiety scale consists of 14 items which shows anxiety related behavior.

- Modified Cohen's Perceived stress scale

Scoring	1-10	Almost Never
	11-20	Sometimes
	21-30	Fairly Often
	31-40	Very Often

- Modified Hamilton anxiety scale

Scoring	1-14	Mild
	15-28	Moderate
	29-42	Severe
	43-56	Very Severe

Part –III

Progressive muscle relaxation technique is a deep relaxation technique for reducing overall body tension. This technique is tensing the muscles for up to 5 seconds to 10 seconds and relaxing the muscles up to 10-15 seconds. This technique was conducted everyday 20 minutes from 1st post operative day to 5th post operative day. On 5th post operative day the effectiveness of progressive muscle relaxation therapy was assessed by the investigator by using the same tool.

VALIDITY

The content validity of the tool was validated by experts from the field of Gastroenterology. The tool was modified based on the suggestions given by the experts.

RELIABILITY

Reliability of the tool was established by using cronbach's α method. The reliability score obtained was r = 0.85 which showed that the tool was reliable for conducting the study.

ETHICAL CONSIDERATION

The study was conducted after the approval of dissertation committee and the medical officer. A formal permission was obtained from the medical officer of Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai.

Patients who are undergoing abdominal surgery were clearly explained about the study purpose and procedures. The formal written consent was taken from the samples. The usual assurance of anonymity and confidentiality was obtained.

PILOT STUDY

The refined tool was used for the pilot study to test the feasibility appropriateness and practicability. The pilot study was conducted in Dr.Kamakshi Memorial Hospital at Pallikaranai, Chennai from the duration of 18.04.2011 to 24.04.2011. A formal permission was obtained from the higher authorities and also obtained the written consent from the patients. It was carried out with 6 patients who fulfilled the inclusion criteria. The participants were selected by purposive sampling method.

A brief introduction was given and explained the purpose of the study to the patients. Written consent was obtained from the patients. Pretest was conducted by using the Modified Cohen's perceived stress scale and Modified Hamilton anxiety scale for 30 minutes for each patient. The progressive muscle relaxation was taught by the investigator from the 1st post operative day to 5th post operative day everyday 20

minutes. Then the investigator has assessed the effectiveness of relaxation therapy on 5th post operative day by using the same tool.

The result of the study showed that progressive muscle relaxation techniques were effective to reduce the stress and anxiety among patients undergoing abdominal surgery. The study was feasible. The tool used in pilot study was used for main study.

DATA COLLECTION PROCEDURE

The investigator used the interview schedule to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery Dr. Kamakshi Memorial Hospital at Pallikarani, Chennai. A formal written permission was obtained from the medical officer of the institution. The data collection procedure was scheduled from 01.06.2011 to 30.06.2011.The study carried out with total of 30patients, who fulfilled the inclusion criteria. Purposive sampling technique was used to select the sample. The investigator introduced her to the patients and explained the purpose of the study to ensure better co-operation.

Everyday 2 to 3 patients undergoing abdominal surgery were assessed on stress and anxiety. A standardized tool like Modified Cohen's perceived stress scale and Modified Hamilton anxiety scale was distributed to the sample to assess the pretest level of stress and anxiety among patients undergoing abdominal surgery. The progressive muscle relaxation was taught by the investigator from the 1st post operative day to 5th post operative day everyday 20 minutes. Then the investigator has assessed the effectiveness of relaxation technique on 5th post operative day by using the same interview schedule.

DATA ANALYSIS

The data obtained was analyzed by using both descriptive and inferential statistics. Demographic variables of patients undergoing abdominal surgery were analyzed in terms of frequency and percentage, distribution. Mean and standard deviation was used to compare pre intervention and post intervention level of stress and anxiety among patients undergoing abdominal surgery. Paired "t" test was used to evaluate the effectiveness of progressive muscle relaxation technique among patients

undergoing abdominal surgery. Yates corrected Chi square test was used to associate the pre intervention and post intervention level of stress and anxiety with their selected demographic variables.

A STUDY TO ASSESS THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION THERAPY ON REDUCTION OF STRESS AND ANXIETY AMONG PATIENTS UNDERGOING ABDOMINAL SURGERY.

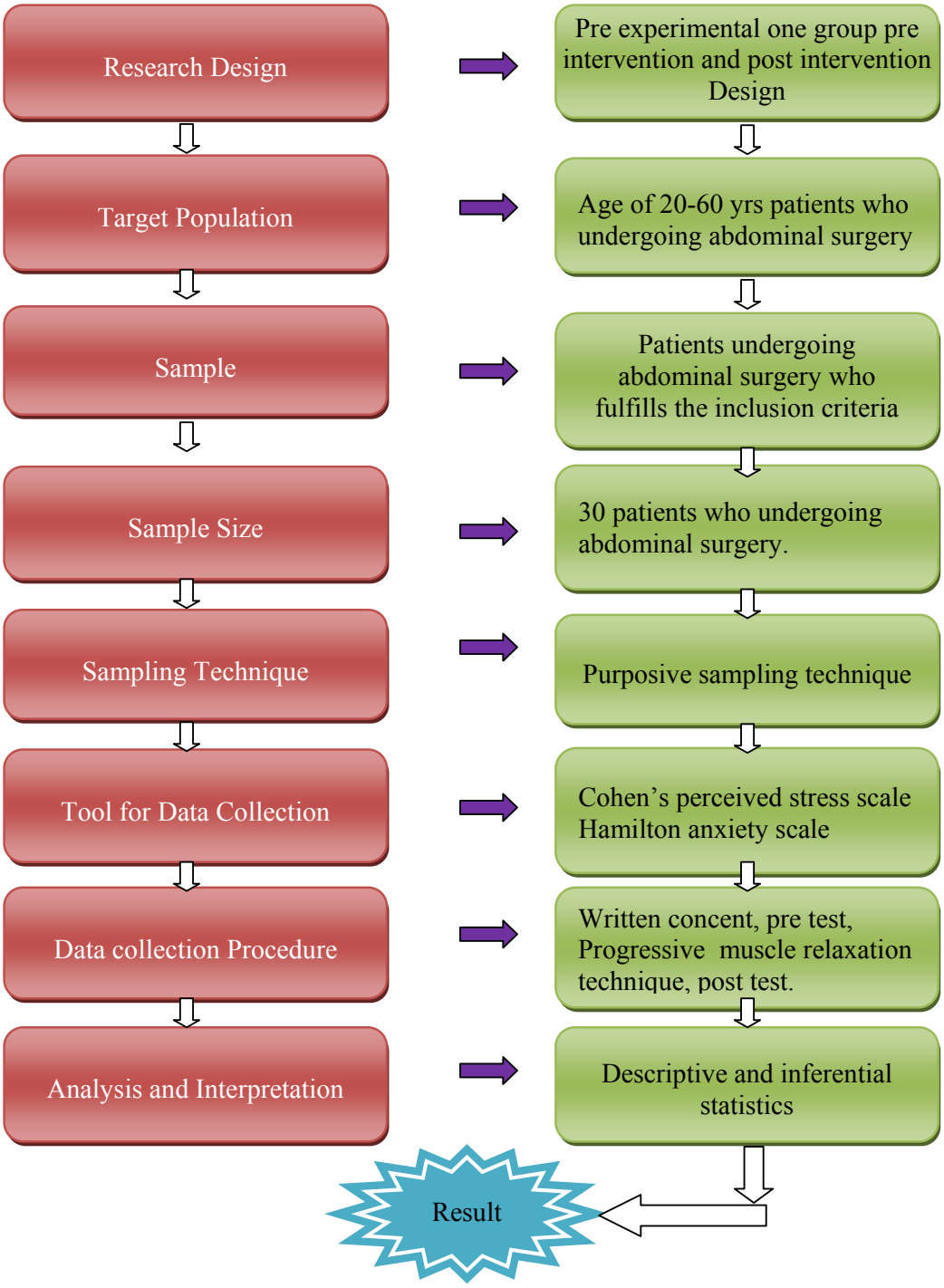


Fig. 2: Schematic representation of research methodology adapted in this study.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the description of study subjects, classification, analysis and interpretation of data collected to evaluate the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery. The data findings have been analyzed and tabulated in accordance to the plan for data analysis and are interpreted under the following headings.

Section A: Frequency and percentage distribution of demographic variables of the Patients undergoing abdominal surgery.

Section B: Frequency and percentage distribution of pre intervention and post intervention level of stress among Patients undergoing abdominal surgery.

Section C: Frequency and percentage distribution of pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery.

Section D: Comparison of pre intervention and post intervention level of stress among Patients undergoing abdominal surgery.

Section E: Comparison of pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery**.**

Section F: Comparison of mean and standard deviation of pre intervention and Post intervention level of stress and anxiety among patients undergoing abdominal surgery.

Section G: Association of pre intervention and post intervention level of stress and anxiety with selected demographic variables among patients undergoing abdominal surgery.

SECTION - A

Table 1: Frequency and percentage distribution of personal variables of patients undergoing abdominal surgery.

N=30

S. No	Personal Variables	Frequency	Percentage
1.	**Age**		
	21 -30 years	7	23.30
	31- 40 years	6	20.00
	41-50 years	10	33.30
	51-60 years	7	23.30
2.	**Sex**		
	Male	17	56.70
	Female	13	43.33
3.	**Education**		
	Illiterate	6	20.00
	Primary	5	16.70
	Higher secondary	10	33.30
	Graduate	9	30.00
4.	**Occupation**		
	Housewife	10	33.30
	Employee	18	60.00
	Retired	2	06.70
5.	**Family Income**		
	None	8	26.60
	Rs.1501 – 3000	1	03.30
	Rs. 3001 – 5000	6	20.00
	Rs. 5000 and above	15	50.00
6.	**Marital Status**		
	Married	21	70.00
	Unmarried	6	20.00
	Divorced	2	6.60
	Widow	1	3.30
7.	**Type of Family**		
	Nuclear	14	46.70
	Joint	16	53.30
8.	**Dietary Habits**		
	Vegetarian	5	16.70
	Non Vegetarian	25	83.30
9.	**Personal Habits**		
	Tobacco Consumption	3	10.00
	Smoking	4	13.30
	None	23	76.70
10.	**Do you do any Exercises**		
	Yes	7	23.30
	No	23	76.70

Table 1 shows the frequency and percentage distribution of personal variables of patients undergoing abdominal surgery. With respect to the age of patients undergoing abdominal surgery, the majority of the patients 10 (33.3%) were in the age group of 41-50 years, 7 (23.3%) patients were in the age group of 21-30 years and 51-60 years, 6 (20%) patients were in the age group of 31- 40 years. With respect to sex of patients undergoing abdominal surgery, the majority of the patients 17 (56.7%) were males and 13 (43.3%) patients were females.

With regard to education of patients undergoing abdominal surgery, 10 (33.3%) patients have completed their secondary education, 9 (30%) patients were complete their graduation and 5 (16.7%) patients have completed their primary education and 6 (20%) patients were illiterates. In regard to occupation of patients undergoing abdominal surgery, the majority of the patients 18 (60%) were employed, 10 (33.3%) patients were unemployed and 2 (6.7%) patients were retired.

Related to family income of patients abdominal surgery, the majority of the patients 15 (50%) were getting Rs.5000 and above, 6 (20%) patients were getting Rs.3000 – 5000, 1 (33.3%) patients were getting Rs.1501 – Rs.3000 and 8 (26.7%) patients were not getting income. Considering marital status of patients undergoing abdominal surgery, the majority of the patients 21 (70%) were married, 6 (20%) patients were unmarried, 2 (6.7%) patients were widow and 1 (3.3%) patients were divorced.

Regarding type of family in patients undergoing abdominal surgery, the majority of the patients 16 (53.3%) were living in joint family and 14 (46.7%) patients were living in nuclear family. Considering the food habits of patients undergoing abdominal surgery, 25 (83.3%) patients were non – vegetarian and 5 (16.7%) patients were vegetarian.

Related to personal habits of patients undergoing abdominal surgery, 4 (13.3%) patients were smoking cigarettes, 3 (10%) patients were consuming tobacco and the majority of the patients 23 (76.7%) were having no bad habits.

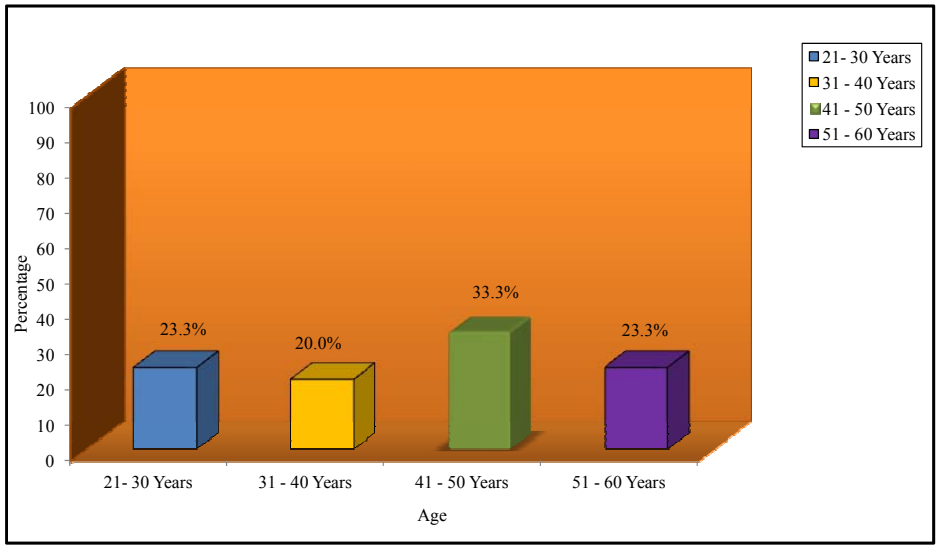


Fig.3: Percentage distribution of age among patients undergoing abdominal surgery

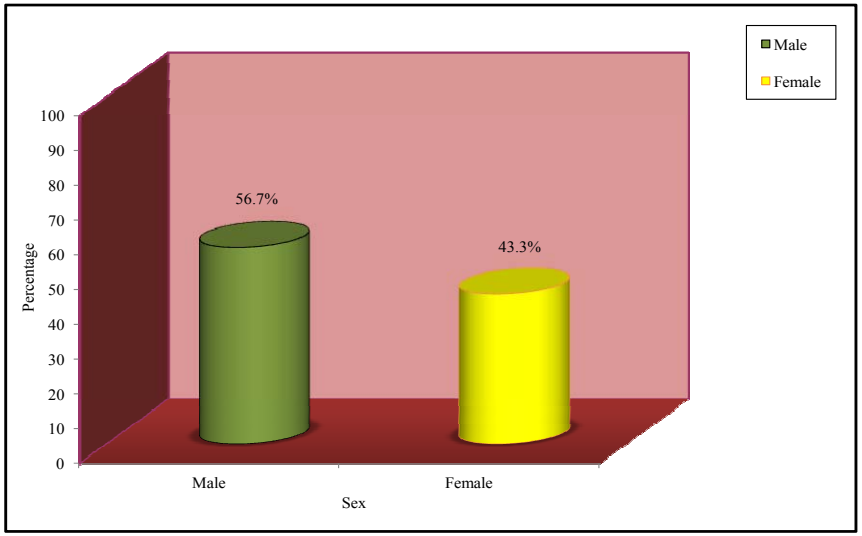


Fig.4: percentage distribution of sex among patients undergoing abdominal surgery

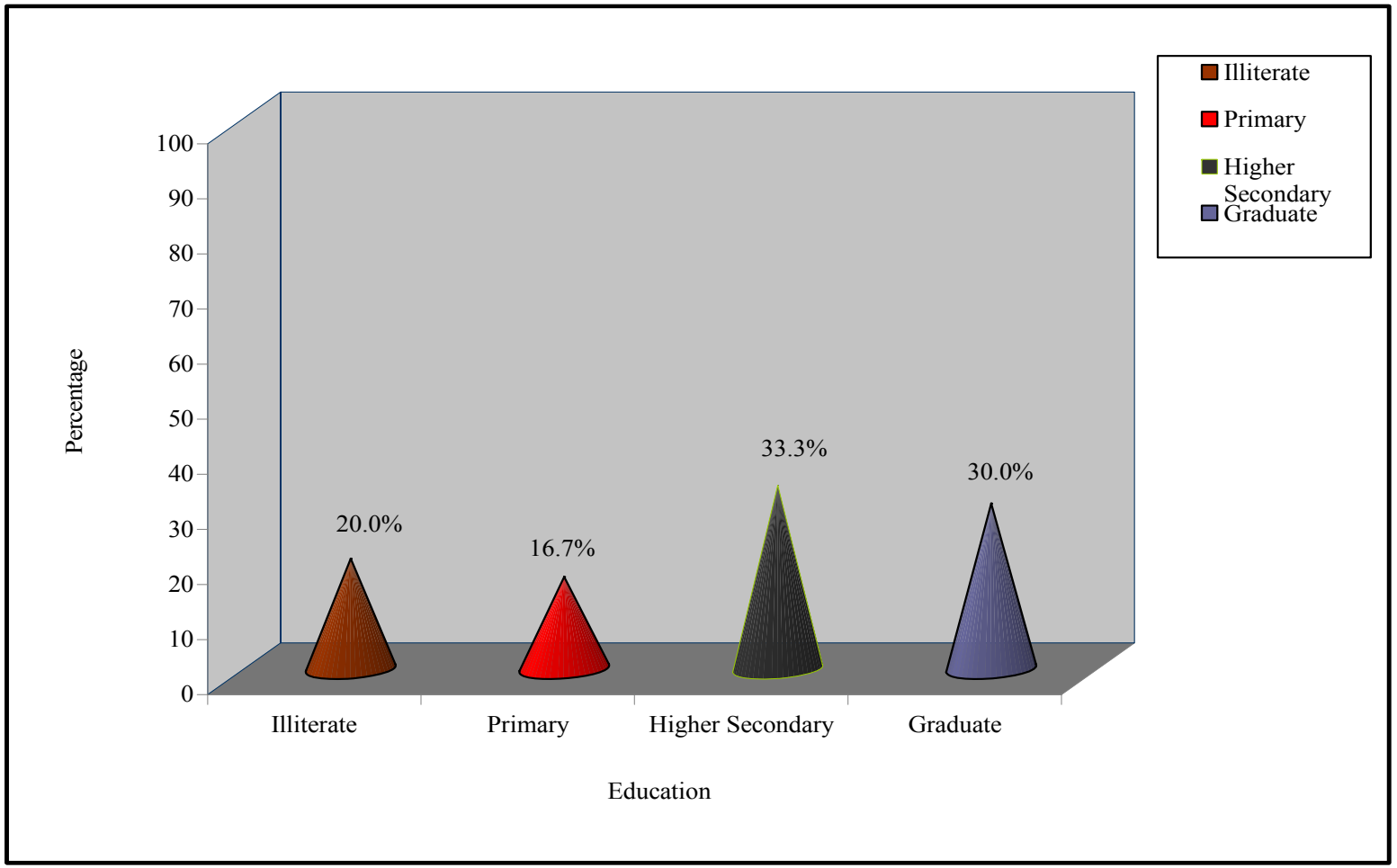


Fig.5: Percentage distribution of education among patients undergoing abdominal surgery

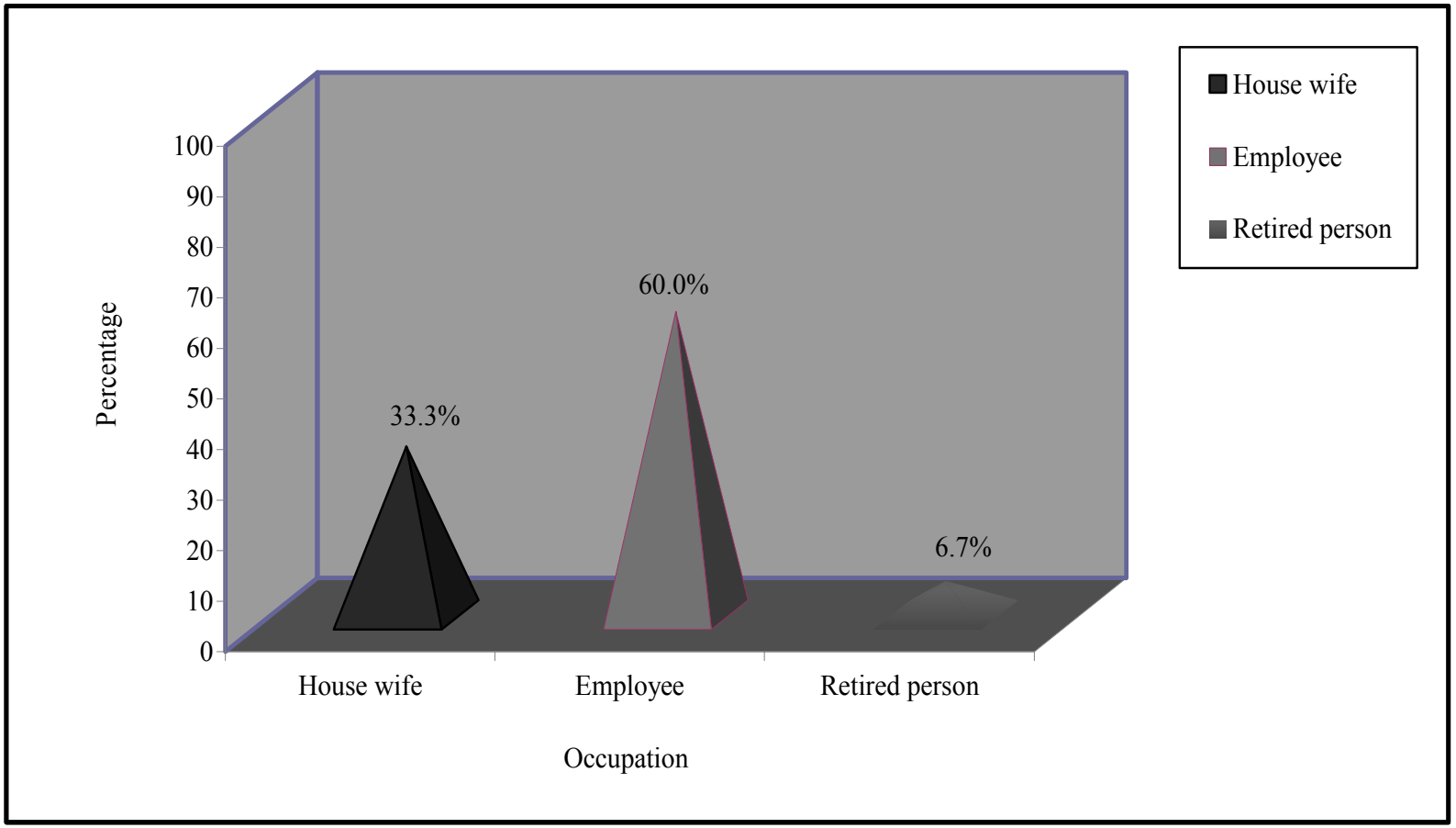


Fig.6: Percentage distribution of occupation among patients undergoing abdominal surgery

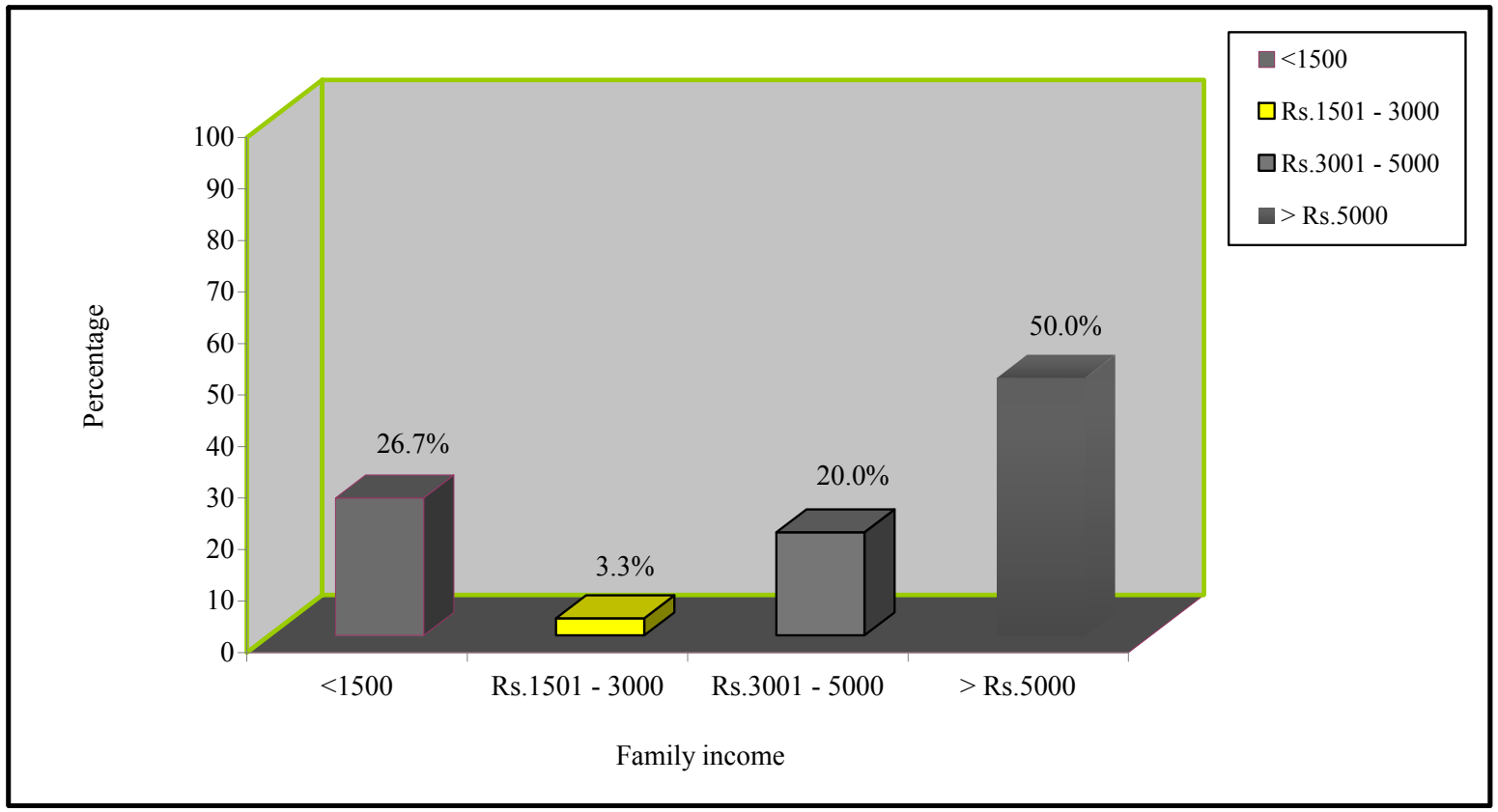


Fig.7: Percentage distribution of family income among patients undergoing abdominal surgery

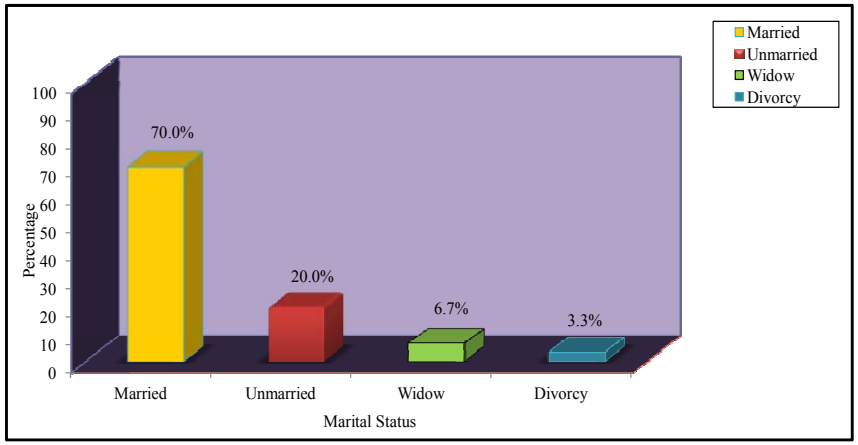


Fig.8: percentage distribution of marital status among patients undergoing abdominal surgery

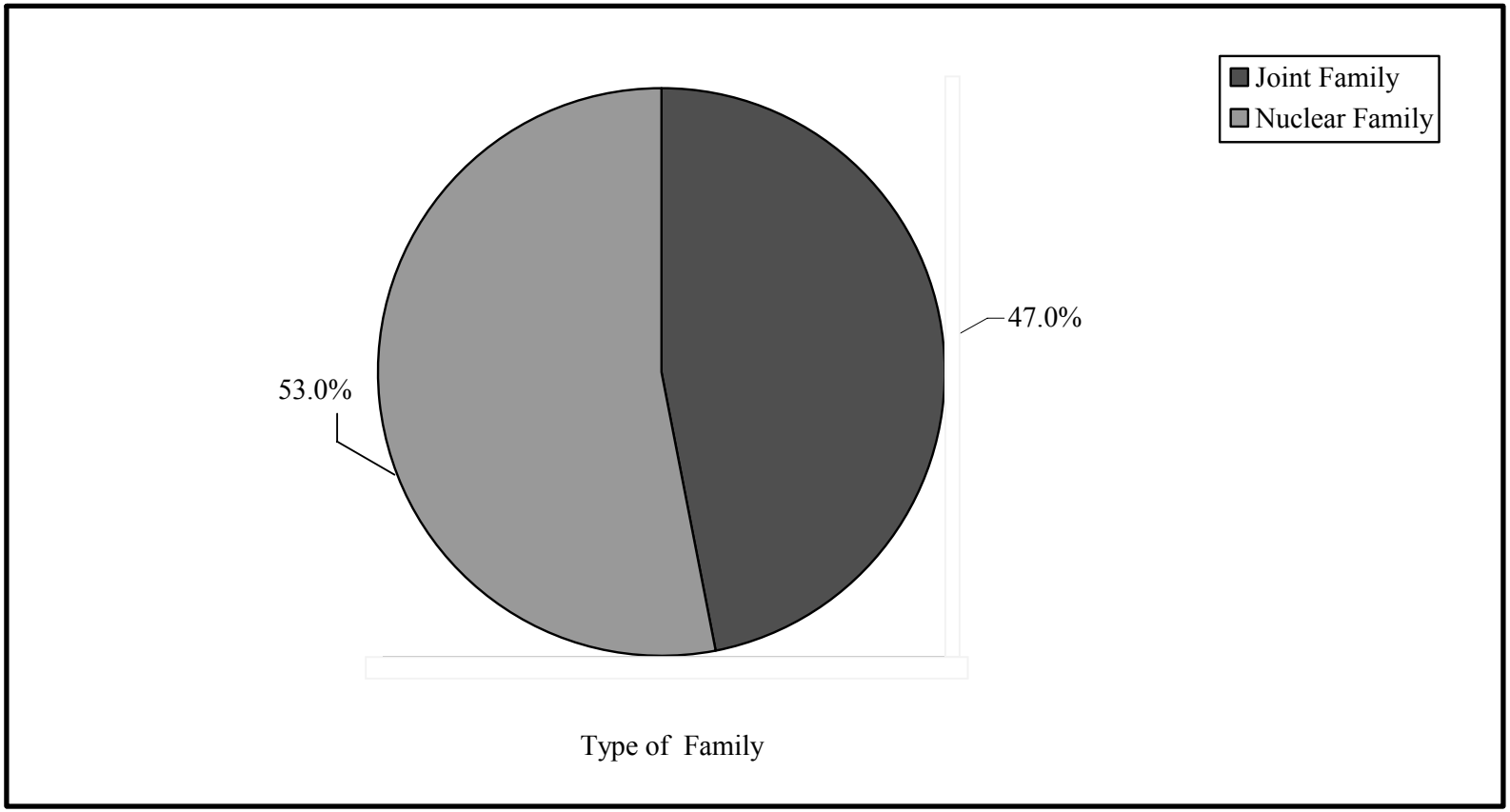


Fig.9: Percentage distribution of type of family among patients undergoing abdominal surgery

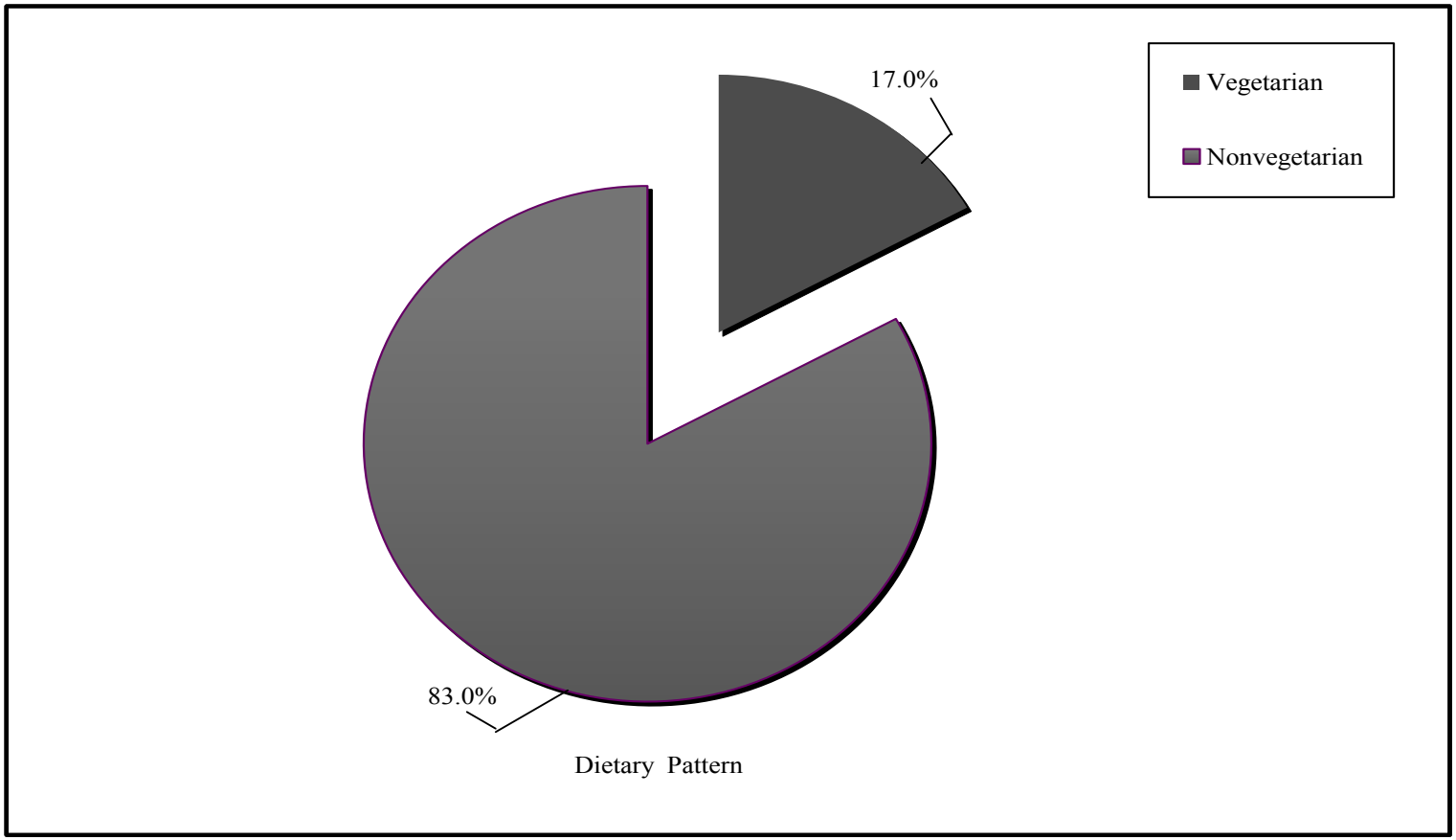
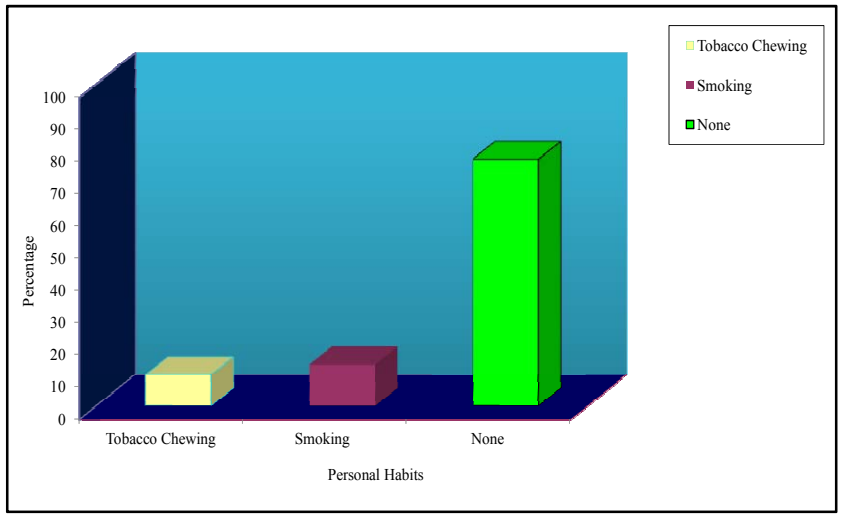


Fig.10: Percentage distribution of dietary pattern among patients undergoing abdominal surgery



76.7%

13.3%

10%

Fig. 11: Percentage distribution of personal habits among patients undergoing abdominal surgery

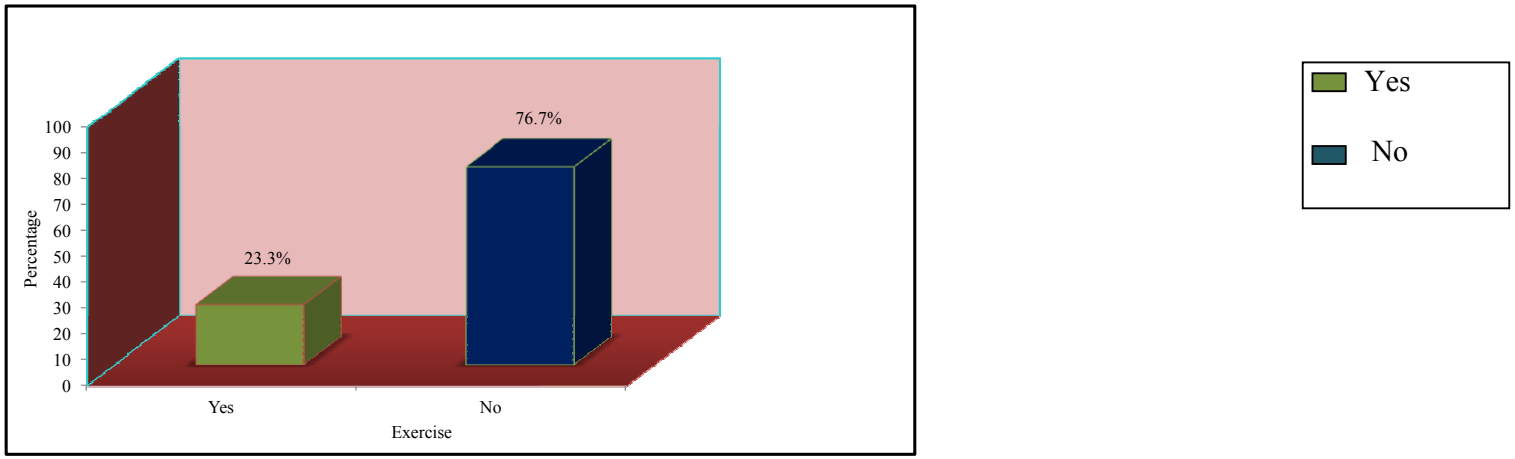


Fig.12: Percentage distribution of exercise among patients undergoing abdominal surgery

Table.2: Frequency and percentage distribution of clinical variables of patients undergoing abdominal surgery.

N= 30

S. No	Clinical Variables	Frequency	Percentage
1.	**Type of Surgery**		
	Laparotomy	20	66.7
	Laparoscopy	10	33.3
2.	**Duration of Hospitalization**		
	More than one week	17	56.7
	Less than one Week	13	43.3

Table 2 shows the frequency and percentage distribution of clinical variables among patients undergoing abdominal surgery. With respect to type of abdominal surgery, 20 (66.7%) patients had undergone laparatomy and 10 (33.3%) patients had undergone laparoscopy. In regard to duration of hospitalization, 17 (56.7%) patients stayed in the hospital less than one week and 13 (43.3%) patients stayed in the hospital more than one week.

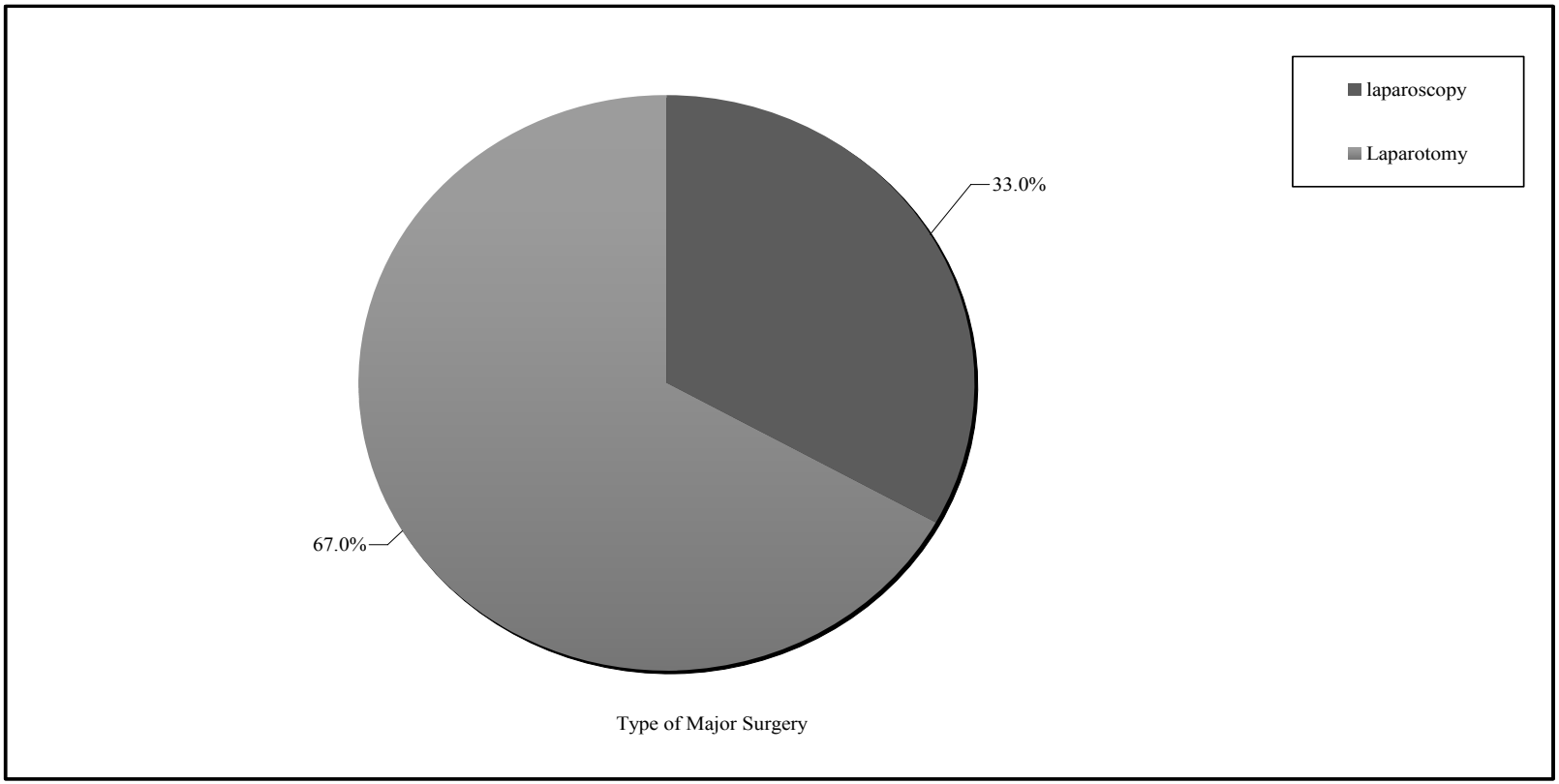


Fig.13: Percentage distribution of type of major surgery among patients undergoing abdominal surgery

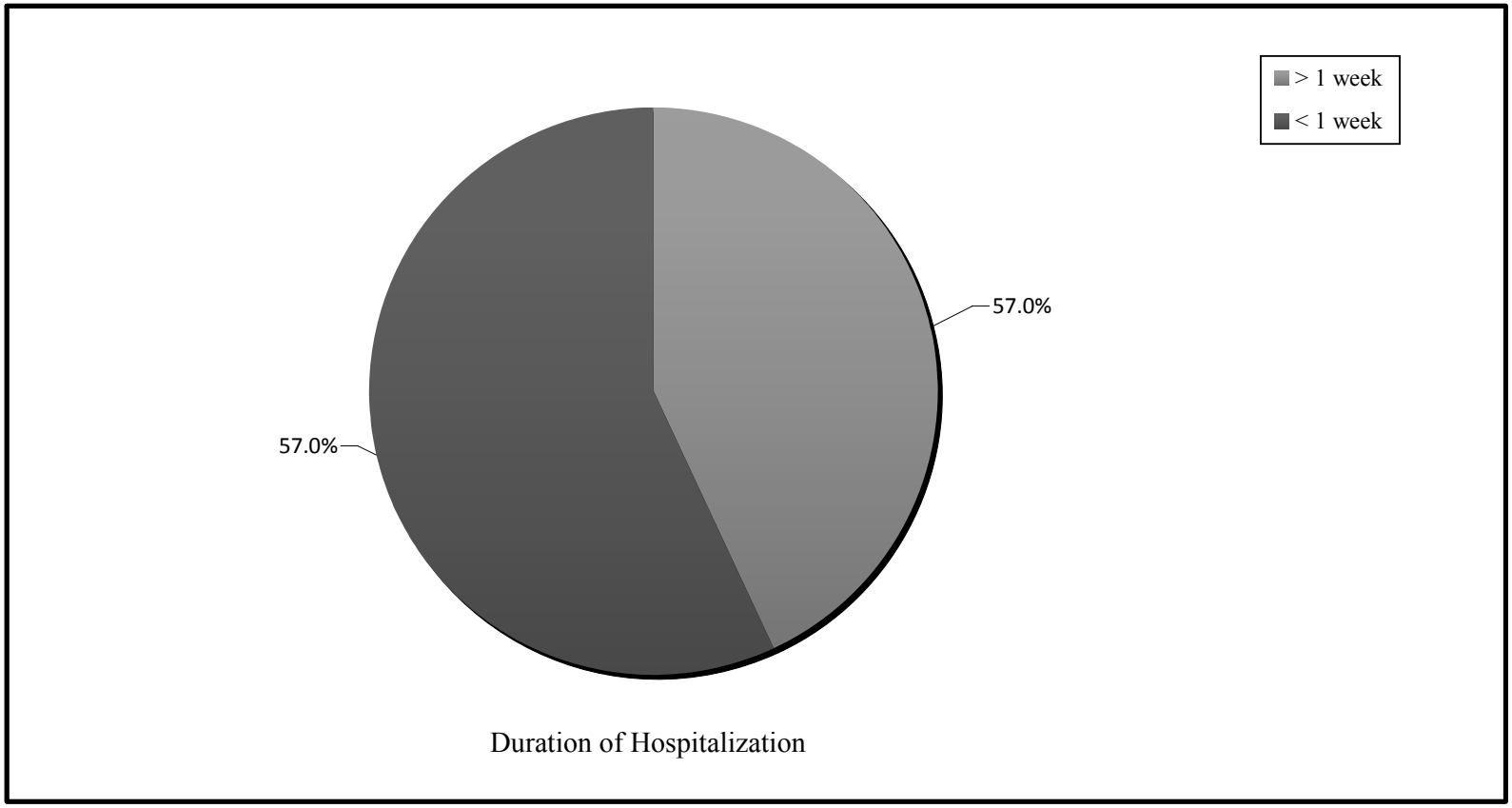


Fig.14: Percentage distribution of duration of hospitalization among patients undergoing abdominal surgery

SECTION- B

Table.3: Frequency and percentage distribution of pre intervention level of stress among patients undergoing abdominal surgery.

N=30

Level of Stress	Pre intervention	
	Frequency	**Percentage**
Almost Never	0	0
Sometimes	0	0
Fairly Often	22	73.3
Very Often	8	26.7

Table 3 shows the frequency and percentage distribution of pre intervention level of stress among patients undergoing abdominal surgery. In pre intervention 22 (73.3%) patients perceived fairly often stress, 8 (26.7%) patients perceived stress very often and none of the patients perceived stress either sometimes or almost never.

Table 4: Frequency and percentage distribution of post intervention level of stress among patients undergoing abdominal surgery.

N=30

Level of Stress	Post intervention	
	Frequency	**Percentage**
Almost Never	0	0
Sometimes	13	43.3
Fairly Often	17	56.7
Very Often	0	0

Table 4 shows frequency and percentage distribution of post intervention level of stress among patients undergoing abdominal surgery. In post intervention 17 (56.7 %) patients perceived fairly often stress, 13 (43.3%) patients perceived stress sometimes and none of the patients perceived stress either very often or almost never.

SECTION-C

Table 5: Frequency and percentage distribution of pre intervention level of anxiety among patients undergoing abdominal surgery.

N=30

Level of anxiety	Pre intervention	
	Frequency	Percentage
Mild	0	0
Moderate	0	0
Severe	7	73.3
Very Severe	23	26.7

Table 5 shows the frequency and percentage distribution of pre intervention level of anxiety among patients undergoing abdominal surgery. In pre intervention level of anxiety 7 (73.3%) patients had severe level of anxiety, 23 (26.7%) patients had very severe level of anxiety and none of them had mild and moderate level of anxiety.

Table 7: Frequency and percentage distribution of post intervention level of anxiety among patients undergoing abdominal surgery.

N=30

Level of anxiety	Post intervention	
	Frequency	**Percentage**
Mild	0	0
Moderate	14	46.7
Severe	16	53.3
Very Severe	0	0

Table 7 shows the frequency and percentage distribution of post intervention level of anxiety among patients undergoing abdominal surgery. In post intervention level of anxiety 14 (46.7%) patients had moderate level of anxiety, 16 (53.3%) patients had severe level of anxiety and none of them had mild and very severe level of anxiety.

SECTION -D

Table 8: Comparison of pre intervention and post intervention level of stress among patients undergoing abdominal surgery.

N=30

Level of stress	Pre intervention		Post intervention	
	Frequency	Percentage	Frequency	Percentage
Almost Never	0	0	0	0
Sometimes	0	0	13	43.3
Fairly Often	22	73.3	17	56.7
Very often	8	26.7	0	0

Table 5 shows the comparison of pre intervention and post intervention level of stress among patients undergoing abdominal surgery. In pre intervention 22 (73.3%) patients perceived fairly often stress, 8 (26.7%) patients perceived stress very often and none of the patients perceived stress either sometimes or almost never. In post intervention 17 (56.7 %) patients perceived fairly often stress, 13 (43.3%) patients perceived stress sometimes and none of the patients perceived stress either very often or almost never.

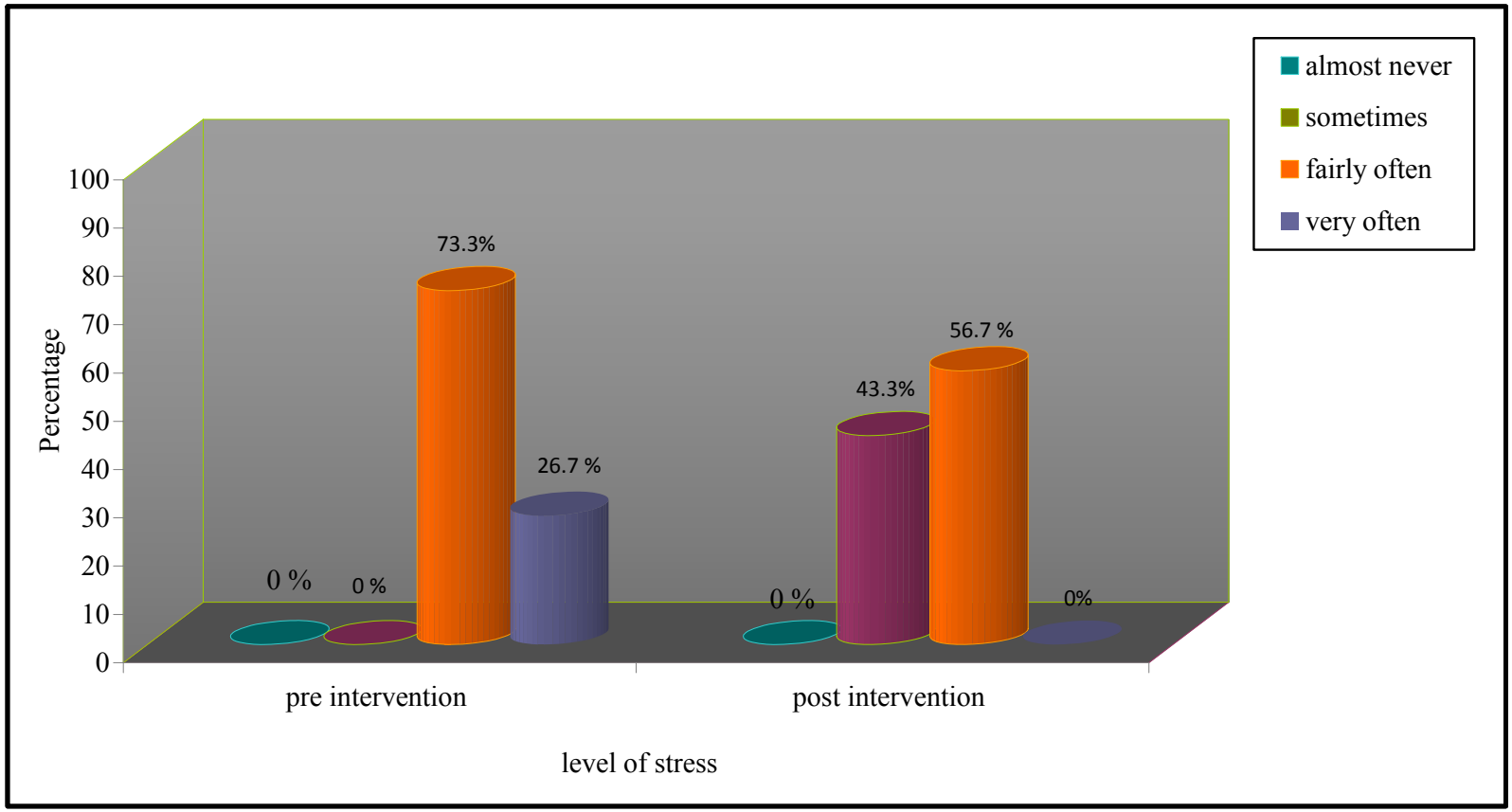


Fig.15: Comparison of pre intervention and post intervention level of stress among patients undergoing abdominal surgery

SECTION-E

Table 9: Comparison of pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery.

N=30

Level of anxiety	Pre intervention		Post intervention	
	Frequency	Percentage	Frequency	Percentage
Mild	0	0	0	0
Moderate	0	0	14	46.7
Severe	7	73.3	16	53.3
Very Severe	23	26.7	0	0

Table 9 shows the comparison of pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery. In pre intervention level of anxiety 7 (73.3%) patients had severe level of anxiety, 23 (26.7%) patients had very severe level of anxiety and none of them had mild and moderate level of anxiety. In post intervention level of anxiety 14 (46.7%) patients had moderate level of anxiety, 16 (53.3%) patients had severe level of anxiety and none of them had mild and very severe level of anxiety.

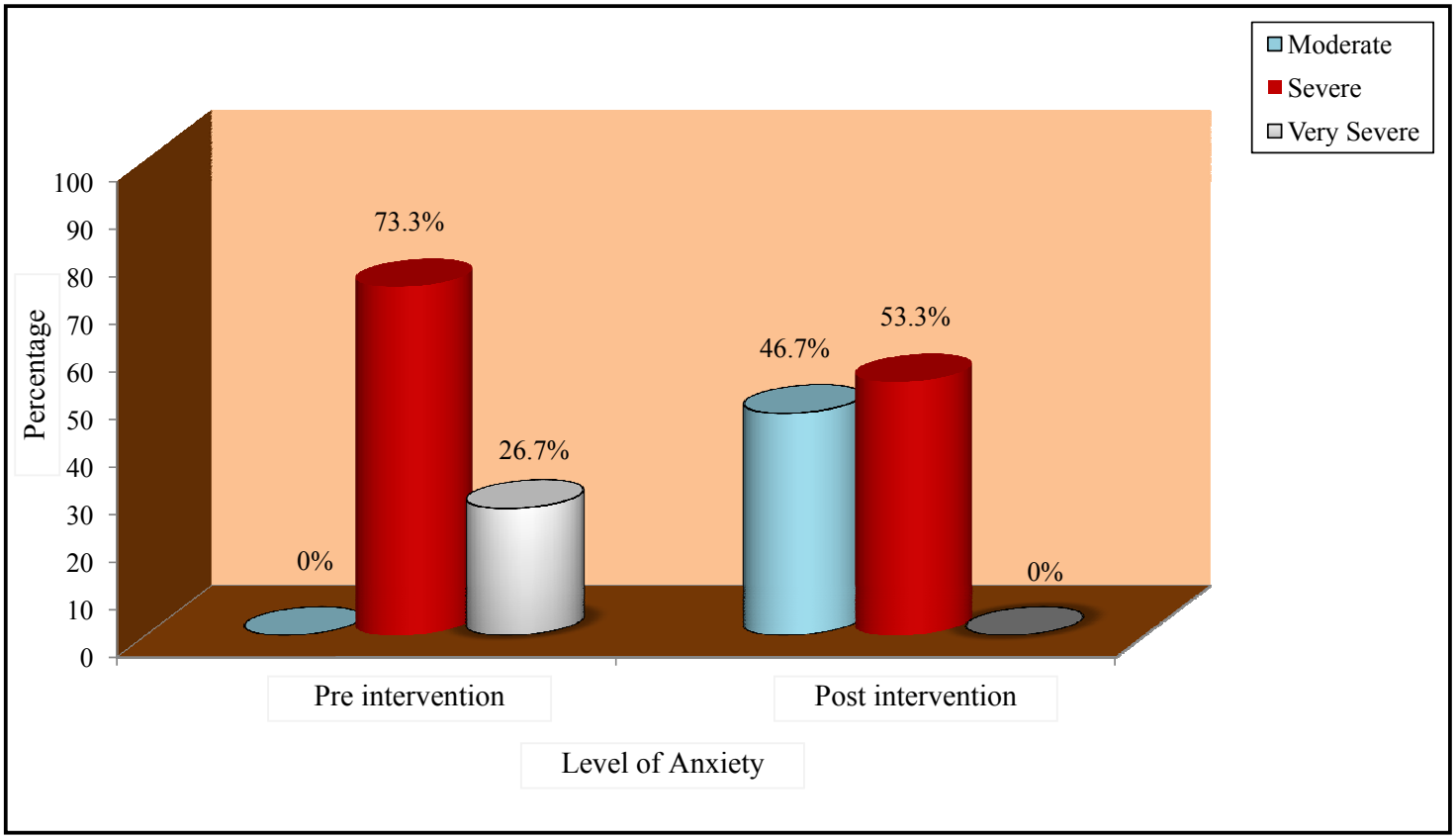


Fig.14 : Percentage distribution of pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery

SECTION- F

Table 10: Comparison of mean and standard deviation between pre intervention and post intervention level of stress among patients undergoing abdominal surgery.

N=30

Level of stress	Mean	Standard deviation	Paired t' value
Pre intervention	28.80	0.19	16.30 *
Post intervention	19.30	2.52	

*p<0.001

Table 10 shows the comparison of pre intervention and post intervention level of stress among patients undergoing abdominal surgery. It reveals that the pre intervention mean score was 28.80 with the standard deviation of 0.19 and the post intervention mean score was 19.30 with the standard deviation of 2.52. The paired t' value of 16.30 was highly significant at p<0.001 level. The difference between pre intervention and post intervention score is high and it is statistically significant. Thus it indicates the effectiveness of progressive muscle relaxation therapy on reduction of stress among patients undergoing abdominal surgery.

Table 11: Comparison of mean and standard deviation between pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery.

N=30

Level of anxiety	Mean	Standard deviation	paired t' value
Pre intervention	30.90	2.52	14.34*
Post intervention	16.00	3.25	

*p<0.001

Table 11 shows the comparison of pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery. It reveals that the pre intervention mean score was 30.90 with the standard deviation of 2.52 and the post intervention mean score was 16.00 with the standard deviation of 3.25. The paired t' value of 14.34 was highly significant at $p<0.001$ level. The difference between pre intervention score is large and it is statistically significant. Thus it indicates the effectiveness of progressive muscle relaxation therapy on reduction of anxiety among patients undergoing abdominal surgery.

SECTION –G

Table 12: Association of the pre intervention level of stress with their selected demographic variables among patients undergoing abdominal surgery.

N=30

S. No	Demographic Variables	Pre intervention level of stress				Yates corrected chi square test
		Fairly Often		Very Often		
		n	%	n	%	
1.	**Age**					$\chi^2 = 0.15$
	≤40 years	10	76.9	3	23.1	df=1
	>40 years	12	70.6	5	29.4	NS
2.	**Gender**					$\chi^2 = 0.19$
	Male	13	76.5	4	23.5	df=1
	Female	9	69.2	4	30.8	NS
3.	**Education**					$\chi^2 = 3.13$
	Illiterate / primary	6	54.5	5	45.5	df=1
	Hsc / Graduate	16	84.2	3	15.8	NS
4.	**Occupation**					$\chi^2 = 0.09$
	House wife	7	70.0	3	30.0	df=1
	Employee	15	75.0	5	25.0	NS
5.	**Family Income**					$\chi^2 = 0.66$
	≤Rs.1500	5	62.5	3	37.5	df=1
	>Rs.1500	17	77.3	5	22.7	NS
6.	**Marital Status**					$\chi^2 = 0.13$
	Married	15	71.4	6	28.6	df=1
	Unmarried /Widow	7	77.8	2	22.2	NS
7.	**Type of family**					$\chi^2 = 1.10$
	Nuclear family	9	64.3	5	35.7	df=1
	Joint Family	13	81.3	3	18.8	NS
8.	**Dietary habits**					$\chi^2 = 3.41$
	Vegetarian	2	40.0	3	60.0	df=1
	Non Vegetarian	20	80.0	5	20.0	NS
9.	**Personal Habits**					$\chi^2 = 0.02$
	Tobacco/ Smoking	5	71.4	2	28.6	df=1
	None	17	73.9	6	26.1	NS
10.	**Do you do any Exercise**					$\chi^2 = 0.02$
	Yes	5	71.4	2	28.6	df=1
	No	17	73.9	6	26.1	NS
11.	**Type of Major Surgery**					$\chi^2 = 1.36$
	Laparotomy	16	80.0	4	20.0	df=1
	Laparoscopy	6	60.0	4	40.0	NS
12.	**Duration of Hospitalization**					$\chi^2 = 1.49$
	Less than one week	11	64.7	6	35.3	df=1
	More than one week	1	84.6	2	15.4	NS

NS- Non Significant

Table 13 shows the association of pre intervention level of stress with their selected demographic variables among patients undergoing abdominal surgery. The analysis revealed that there was no association found with their demographic variables.

Table 13: Association of post intervention level of stress with their selected demographic variables among patients undergoing abdominal surgery.

N=30

S. No	Demographic Variables	Post intervention level of stress				Yates corrected chi square test
		Sometimes		Fairly Often		
		n	%	n	%	
1.	**Age**					**$\chi^2 = 3.84$**
	≤40 years	3	23.1	10	76.9	**df=1**
	>40 years	10	58.8	7	41.2	**S***
2.	**Gender**					$\chi^2 = 3.10$
	Male	5	29.4	12	70.6	df=1
	Female	8	61.5	5	38.5	NS
3.	**Education**					**$\chi^2 = 4.47$**
	Illiterate / primary	2	18.1	9	81.9%	**df=1**
	Hsc / Graduate	11	57.9	8	42.1%	**S***
4.	**Occupation**					$\chi^2 = 0.27$
	House wife	5	50.0	5	50.0	df=1
	Employee	8	40.0	12	60.0	NS
5.	**Family Income**					**$\chi^2 = 4.22$**
	≤Rs.1500	1	12.5	7	87.5	**df=1**
	>Rs.1500	12	54.5	10	45.5	**S***
6.	**Marital Status**					$\chi^2 = 0.01$
	Married	9	42.9	12	57.1	df=1
	Unmarried /Widow	4	44.4	5	55.6	NS
7.	**Type of family**					**$\chi^2 = 8.43$**
	Nuclear family	10	71.4	4	28.6	**df=1**
	Joint Family	3	18.8	13	81.3	**S***
8.	**Dietary habits**					$\chi^2 = 1.33$
	Vegetarian	1	20.0	4	80.0	df=1
	Non Vegetarian	12	48.0	13	52.0	NS
9.	**Personal Habits**					$\chi^2 = 0.81$
	Tobacco/ Smoking	2	28.6	5	71.4	df=1
	None	11	47.8	12	52.2	NS
10.	**Do you do any Exercise**					$\chi^2 = 0.02$
	Yes	2	28.6	5	71.4	df=1
	No	11	47.8	12	52.2	NS
11.	**Type of Major Surgery**					$\chi^2 = 1.36$
	Laparotomy	9	45.0	11	55.0	df=1
	Laparoscopy	4	40.0	6	60.0	NS
12.	**Duration of Hospitalization**					$\chi^2 = 0.08$
	Less than one week	7	41.2	10	58.8	df=1
	More than one week	6	46.2	7	53.8	NS

*p < 0.05 S- Significant NS- Non Significant

Table 13 shows the association of post intervention level of stress with their selected demographic variables among patients undergoing abdominal surgery. The analysis revealed that there was statistically significant association could be established with their age at $p<0.05$ with chi square value of 3.84.With regard to education chi square value is 4.47 at the interval of $p< 0.05$. Regarding family income chi square value is 4.22 at the interval of $p< 0.05$. In concern with type of family chi square value is 8.43 at the interval of $p< 0.05$ and there was no association found with marriage, occupation, personal value, food habits and type of major surgery.

SECTION -H

Table 14: Association of pre intervention level of anxiety with their selected demographic variables among patients undergoing abdominal surgery.

N=30

S. No	Demographic Variables	Pre intervention level of anxiety				Yates corrected Chi square test
		Severe		Very Severe		
		n	%	n	%	
1.	**Age**					$\chi^2 = 0.01$
	≤40 years	3	23.1	10	76.9	df=1
	>40 years	4	23.5	13	76.5	NS
2.	**Gender**					$\chi^2 = 0.81$
	Male	5	29.4	12	70.6	df=1
	Female	2	15.4	11	84.6	NS
3.	**Education**					$\chi^2 = 1.96$
	Illiterate / primary	1	9.1	10	90.9	df=1
	Hsc / Graduate	6	31.6	13	68.4	NS
4.	**Occupation**					$\chi^2 = 0.09$
	House wife	2	20.0	8	80.0%	df=1
	Employee	5	25.0	15	75.0%	NS
5.	**Family Income**					$\chi^2 = 0.71$
	≤Rs.1500	1	12.5	7	87.5	df=1
	>Rs.1500	6	27.3	16	72.7	NS
6.	**Marital Status**					$\chi^2 = 0.01$
	Married	5	23.8	16	76.2	df=1
	Unmarried /Widow	2	22.2	7	77.8	NS
7.	**Type of family**					$\chi^2 = 0.05$
	Nuclear family	3	21.4	11	78.6	df=1
	Joint Family	4	25.0	12	75.0	NS
8.	**Dietary habits**					$\chi^2 = 2.38$
	Vegetarian	3	60.0	2	40.0	df=1
	Non Vegetarian	4	16.0	21	84.0	NS
9.	**Personal Habits**					$\chi^2 = 0.41$
	Tobacco/ Smoking	1	14.3	6	85.7	df=1
	None	6	26.1	17	73.9	NS
10.	**Do you do any Exercise**					$\chi^2 = 1.94$ df=1
	Yes	3	42.9	4	57.1	NS
	No	4	17.4	19	82.6	
11.	**Type of Major Surgery**					$\chi^2 = 0.09$
	Laparotomy	5	25.0	15	75.0	df=1
	Laparoscopy	2	20.0	8	80.0	NS
12.	**Duration of Hospitalization**					$\chi^2 = 1.78$
	Less than one week	6	35.3	11	64.7	df=1
	More than one week	1	7.7	12	92.3	NS

S- Significant NS- Non Significant

Table 14 shows the association between pre intervention level of anxiety with their selected demographic variables among patients undergoing abdominal surgery. The analysis revealed that there was no association found with their demographic variables.

Table 15: Association of post intervention level of anxiety with their selected demographic variables among patients undergoing abdominal surgery.

N=30

S. No	Demographic Variables	Post intervention level of anxiety				Yates corrected chi square test
		Moderate		Severe		
		n	%	N	%	
1.	**Age**					**$\chi^2 = 5.13$**
	≤40 years	3	23.1	10	76.9	**df=1**
	>40 years	11	64.7	6	35.3	**S***
2.	**Gender**					$\chi^2 = 0.02$
	Male	8	47.1	9	52.9	df=1
	Female	6	46.2	7	53.8	NS
3.	**Education**					**$\chi^2 = 5.66$**
	Illiterate / primary	2	18.2	9	81.8	**df=1**
	Hsc / Graduate	12	63.2	7	36.8	**S***
4.	**Occupation**					$\chi^2 = 0.26$
	House wife	4	40.0	6	60.0	df=1
	Employee	10	50.0	10	50.0	NS
5.	**Family Income**					**$\chi^2 = 5.12$**
	≤Rs.1500	1	12.5	7	87.5	**df=1**
	>Rs.1500	13	59.2	9	40.8	**S***
6.	**Marital Status**					$\chi^2 = 0.91$
	Married	11	52.4	10	47.6	df=1
	Unmarried /Widow	3	33.3	6	66.7	NS
7.	**Type of family**					$\chi^2 = 1.15$
	Nuclear family	8	57.1	6	42.9	df=1
	Joint Family	6	37.5	10	62.5	NS
8.	**Dietary habits**					$\chi^2 = 1.70$
	Vegetarian	1	20.0	4	80.0	df=1
	Non Vegetarian	13	52.0	12	48.0	NS
9.	**Personal Habits**					**$\chi^2 = 3.84$**
	Tobacco/ Smoking	1	14.3	6	85.7	**df=1**
	None	13	56.5	10	43.5	**S*****
10.	**Do you have any Exercise**					$\chi^2 = 2.24$
	Yes	5	71.4	2	28.6	df=1
	No	9	39.1	14	60.9	NS
11.	**Type of Major Surgery**					$\chi^2 = 0.26$
	Laparotomy	10	50.0	10	50.0	df=1
	Laparoscopy	4	40.0	6	60.0	NS
12.	**Duration of Hospitalization**					$\chi^2 = 0.62$
	Less than one week	9	52.9	8	47.1	df=1
	More than one week	5	38.5	8	61.5	NS

* $p<0.05$ *** $p<0.001$ S- Significant NS- Non significant

Table 15 shows the association of post intervention level of anxiety with their selected demographic variables among patients undergoing abdominal surgery. The analysis revealed that there was statistically significant association could be established with their age at $p< 0.05$ with chi square value of 5.13. With regard to education chi square value is 5.66 at the interval of $p < 0.05$. Regarding family income chi square value is 5.12 at the interval of $p < 0.05$. In concern with personal habits chi square value is 3.84 at the interval of $p< 0.001$ and there was no association found with marriage, occupation, personal value, food habits and type of major surgery.

DISCUSSION

CHAPTER V

DISCUSSION

This chapter deals with the discussion of the results obtained from the statistical analysis. This study aimed to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery in Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai.

The hypothesis formulated was there is no significant relationship between progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery. The review of literature included the related studies which provide a strong foundation for the study including the basis for conceptual framework and formation of tool.

The conceptual framework for this study was derived from Roy's adoptation model. The research design selected for this study was pre experimental one group pretest posttest design. The sample consists of patients who have undergoing abdominal surgery in Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai. Purposive sampling technique was used to select the samples. The tool used for data collection was prepared by the investigator.

The tool was given to the sample to assess the pre intervention level of stress and anxiety. Progressive muscle relaxation technique was given once a day from 1st post operative day to 5th post operative day for 20 minutes. The post intervention was conducted after 5th post operative day by using the same tool.

The data collected were analyzed using descriptive and inferential statistics. The distribution of personal demographic characteristics of study showed that the majority of the patients 10 (33.3%) were between age group of 41-50 years, with respect to sex of abdominal surgery patients, the majority of the patients 17 (56.7%) were males and with regard to education, the majority of the patients 10 (33.3%) patients have completed their higher secondary education.

Regarding occupation, the majority of the patients 18 (60%) were employed and regarded marital status, the majority of the patients 21 (70%) were married and in accordance with type of family the majority of the patients 16 (53.3%) were living in joint family. Considering dietary habits, 25 (83.3%) patients belongs to non-vegetarian. With regard to personal habits, the majority of the patients 23 (76.7%) were not having any bad habits and with respect to exercise, the majority of patients 23 (76.7%) were not doing any exercises.

Distribution of clinical variables of the study showed that, regarding types of surgery, the majority of the patients 20 (66.7%) were laparatomy, Regarding duration of hospitalization, the majority of the patients 17(56.7%) were stayed in the hospital less than one week.

The first objective was to assess the pre intervention and post intervention level of stress among patients undergoing abdominal surgery.

In pre intervention 22 (73.3%) patients perceived fairly often stress, 8 (26.7%) patients perceived stress very often and none of the patients perceived stress either sometimes or almost never. In post intervention 17 (56.7 %) patients perceived fairly often stress, 13 (43.3%) patients perceived stress sometimes and none of the patients perceived stress either very often or almost never.

The present study result is correlating with Holden lund. C, (1988) conducted a randomized controlled study to assess the effects of relaxation on surgical stress and wound healing. The study participants 24 were undergoing cholecystectomy, randomly assigned and divided into experimental and control groups. Relaxation therapy was given to the experimental group. The study concluded that the relaxation therapy demonstrated significantly less state anxiety and less surgical wound erythema in experimental group than the control group.

The second objective was to assess the pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery.

In pre intervention 7 (73.3%) patients had severe level of anxiety, 23 (26.7%) patients had very severe level of anxiety and none of them had mild and moderate level of anxiety. In post intervention 16 (53.3%) patients had severe level of anxiety, 14 (46.7%) patients had moderate level of anxiety and none of them had very severe and mild level of anxiety.

The present study result is correlating with Cheung. Y. L, et al., (2003) conducted a study to assess the effect of progressive muscle relaxation training on anxiety and quality of life after stoma surgery in colorectal cancer patients. The study participants were 59 among that, 30 patients were in experimental group and 29 patients were in control group. Experimental groups were received routine care and progressive muscle relaxation and control groups were received only routine care. The study concluded that progressive muscle relaxation training improved their psychological health and quality of life.

The third objective was to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress among patients undergoing abdominal surgery

In comparison of pre intervention and post intervention level of stress, the pre intervention mean score was 28.80 with the standard deviation of 0.19 and the post intervention mean score was 19.30 with the standard deviation of 2.52. The paired t' value of 16.30 was highly significant at $p<0.001$ level. The analysis revealed that there was a decrease in post intervention level of stress, thus it indicates the effectiveness of progressive muscle relaxation therapy on reduction of stress among patients undergoing abdominal surgery.

The fourth objective was to assess the effectiveness of progressive muscle relaxation therapy on reduction of anxiety among patients undergoing abdominal surgery.

In comparison of pre intervention and post intervention level of anxiety, the pre intervention mean score was 30.90 with the standard deviation of 2.52 and the post intervention mean score was 16.00 with the standard deviation of 3.25. The paired t' value of 14.34 was highly significant at $p<0.001$ level. The analysis revealed

that there was a decrease in post intervention level of anxiety, thus it indicates the effectiveness of progressive muscle relaxation therapy on reduction of anxiety among patients undergoing abdominal surgery.

The study result is correlating with Wang. R.H, (2005) conducted a study to assess the effects of pre operative nursing intervention for pain and anxiety on abdominal surgery. A total sample of 62 patients were selected and they randomly assigned to 32 patients were in experimental group and 30 patients were in control group. The experimental groups received routine care and pre operative nursing intervention for pain and anxiety. While the control group received routine care only. The study revealed that there were a significant decrease in preoperative anxiety and a significant improvement in preoperative pain attitude.

The fifth objective was to associate the pre intervention and post intervention level of stress with their selected demographic variables among patients undergoing abdominal surgery.

In pre intervention level of stress there was no significant relationship and association were found in demographic variables. In post intervention level of stress the analysis revealed that there was statistically significant association could be established with their age at $p< 0.05$ with chi square value of 3.84.With regard to education chi square value is 4.47 at the interval of $p < 0.05$. Regarding family income chi square value is 4.22 at the interval of $p < 0.05$. In concern with type of family chi square value is 8.43 at the interval of $p< 0.05$ and there was no association found with marriage, occupation, personal value, food habits and type of major surgery.

The sixth objective was to associate the pre intervention and post intervention level of anxiety with their selected demographic variables among patients undergoing abdominal surgery.

In pre intervention level of anxiety there was no significant association was found in type of family, family income and no association with age, sex, marital status, occupation, exercise. In post intervention level of anxiety the analysis revealed that there was statistically significant association could be established with their age at $p< 0.05$ with chi square value of 5.13. With regard to education chi square value is

5.66 at the interval of $p < 0.05$. Regarding family income chi square value is 5.12 at the interval of $p< 0.05$. In concern with personal habits chi square value is 3.84 at the interval of $p< 0.001$ and there was no association found with marriage, occupation, personal value, food habits and type of major surgery.

SUMMARY, CONCLUSION, NURSING IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

CHAPTER VI

SUMMARY, CONCLUSION, NURSING IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

The heart of the research project lies in reporting the findings of the study. This is the most creative and demanding part of the study. This chapter gives a brief account of the present study including the conclusion drawn from the findings, suggestions for the study, nursing implications, recommendations and limitation of the study. The present study was intended to know the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery.

SUMMARY

Modern life is full of hassles, deadlines, frustrations and demands. For many people stress and anxiety is so common place that it has become a way of life. Stressors are disruptive forces operating within an any system. Stress can stimulate thinking processes and help the person stay alert to the environment. Stress is a universal part of the human experience and is necessary for survival, affecting every person regardless of age, gender, race and economic condition. When stress overwhelms a person's existing coping mechanisms a crisis results. So Jacobson developed over 200 exercises and techniques which taken together relax the entire body by releasing muscular tension that accumulates as a person experiences a stressful situation.

This study was done to evaluate the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery in Dr.Kamakshi Memorial Hospital at Pallikaranai, Chennai.

The objectives of the study were as follows,

1. To assess the pre intervention and post intervention level of stress among patients undergoing abdominal surgery.
2. To assess the pre intervention and post intervention level of anxiety among patients undergoing abdominal surgery.
3. To assess the effectiveness of progressive muscle relaxation therapy on reduction of stress among patients undergoing abdominal surgery.
4. To assess the effectiveness of progressive muscle relaxation therapy on reduction of anxiety among patients undergoing abdominal surgery.
5. To associate the pre intervention and post intervention level of stress with their selected demographic variables among patients undergoing abdominal surgery.
6. To associate the pre intervention and post intervention level of anxiety with their selected demographic variables among patients undergoing abdominal surgery.

The hypothesis formulated that there was no significant relationship between progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery. The review of literature included the related studies which provide a strong foundation for the study including the basis for conceptual framework and formation of tool.

The conceptual framework for this study was derived from Roy's adoptation model. The research design selected for this study was pre experimental one group pre test post test design. The sample consists of patients who have undergoing abdominal surgery in Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai and who fulfills the inclusion criteria. Purposive sampling technique was used to select the samples. The tool used for data collection was prepared by the investigator.

The data collection tool was validated and reliability was established. After the pilot study the data collection for the main study was done. The data were collected by interviewing the patients. Then the progressive muscle relaxation technique was given for 20 minutes. The post intervention was conducted after 5^{th} post operative day by using the same tool to assess the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery.

The data collected was analyzed using descriptive and inferential statistics. Frequency and percentage distribution was used to determine the demographic variables. Mean and standard deviation was used to determine the level of stress and anxiety among patients undergoing abdominal surgery. Yates corrected chi square test was used to analyze the association of demographic variables with level of stress and anxiety among patients undergoing abdominal surgery.

The major findings in the distribution of demographic variables of this study showed that, the majority of patients 10 (33.3%) were between the age group of 41-50 years, with respect to gender, 17 (56.7%) patients were males, regarding education 10 (33.3%) patients have completed their higher secondary education, regarding occupation, 18 (60%) patients were employed, regarding marital status, 21(70%) patients were married with regard to type of family, 16 (53.3%) patients were living in joint family.

Considering dietary habits 25 (83.3%) patients belongs to non- vegetarian, with regard to personal habits, 23 (76.7%) patients were not having any bad habits, with respect to exercise, 23 (76.7%) patients were not doing any exercises, regarding type of surgery, 20 (66.7 %) patients were laparatomy, regarding duration of hospitalization, 17 (56.7%) patients were stayed in the hospital less than one week.

The data analysis revealed that there was significant relationship between progressive muscle relaxation on reduction of stress and anxiety among patients undergoing abdominal surgery. There was marked decrease in mean value from 28.80 in pre intervention level of stress to 19.30 in post intervention level of stress and mean value from 30.90 in pre intervention level of anxiety to 16.00 in post intervention level of anxiety and the standard deviation is increased from 0.19 in pre intervention level of stress to 2.52 in post intervention level of stress and the standard deviation is increased from 2.52 in pre intervention level of anxiety to 3.25 in post intervention level of anxiety which showed the statistically significant difference between the pre intervention and post intervention level of stress and anxiety among patients undergoing abdominal surgery. Hence it indicates the effectiveness of progressive muscle relaxation therapy on reduction of stress and anxiety among patients undergoing abdominal surgery.

CONCLUSION

The present study was the effectiveness of progressive muscle relaxation therapy. The study findings revealed that there was a significant reduction in the level of stress and anxiety after giving progressive muscle relaxation therapy. Based on the statistical findings it is evident that provision of such kind of relaxation therapy will motivate the abdominal surgery patients and help them to reduce stress and anxiety level before and after surgery. Therefore progressive muscle relaxation therapy is very important to provide the quality nursing care which helps to meet the needs of the patients for their well being.

NURSING IMPLICATIONS

The findings of the study have implications in various areas of nursing service, nursing education, nursing administration and nursing research.

Nursing Practice

Continuous nursing education can be given to the registered nurses regarding selected aspects of progressive muscle relaxation therapy among patients undergoing abdominal surgery. Health promotion is the vital function of the nurses and can use this progressive muscle relaxation technique to reduce stress and anxiety before and after abdominal surgery.

The result of the study helps the nurse to enlighten their knowledge on the importance of health education on progressive muscle relaxation technique. The result of the study helps the nurses to develop skills in providing efficient nursing care for effective management of stress and anxiety. Nurses can utilize the technique such as individual and group teaching to educate about progressive muscle relaxation technique to reduce stress and anxiety.

Nursing Education

Students can learn the progressive muscle relaxation therapy to reduce their day today stress and anxiety measures. The result can be used as a sample by the tutor in the classroom for giving importance to relaxation.

Both the teachers and student can involve themselves in enriching the practical areas of nursing. Encourage the students for effective utilization of research based practice regarding on progressive muscle relaxation therapy among patients undergoing abdominal surgery. Educate the students to make use of available literature to prevent the stress and anxiety Periodic seminars and group discussion can be arranged regarding progressive muscle relaxation therapy among patients undergoing abdominal surgery.

Nursing Administration

Nursing administration can formulate policies that will include all nursing staff to be actually involved in relaxation training programme in their respective hospital and colleges. Nursing administration can utilize the relaxation training programme while conducting in service education program for directing and motivating the staff towards patients undergoing abdominal surgery.

Nurse administrator have more responsibility as supervisor on creating awareness regarding stress and anxiety among patients undergoing abdominal surgery, free distribution of booklets, handouts and charts regularly in patients in and outpatient department of hospital, health clinics in urban and rural. A separate continuous nursing education department can be organized which can play a major role in educating the registered nurses.

Nursing Research

This study can be effectively utilized by the emerging researchers for their reference purpose. Extensive research must be conducted in progressive muscle relaxation to identify several more effective methods for patient education and prevention of complications. The study also brings about the fact that more studies need to be done at different setting and different aspects. The study can be a base line for future studies to build upon and motivate the other investigator to conduct further studies in this are in different aspects.

RECOMMENDATIONS

- An information booklet can be prepared as a teaching aid in the hospital and health clinics.
- A longitudinal study can be done using post intervention after one month, six months, and after one year to see the retention of the knowledge.
- A comparative study can be done in urban and rural areas.
- A similar study can be replicated with larger population of community.

LIMITATIONS

The investigator had few problems during the time of study period. When assessing 1st post operative day the investigator felt difficulties, since the patients could not be able to perform progressive muscle relaxation technique. The study sample size was small and samples were selected by non random method limiting the generalizability.

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APPENDICES

APPENDIX -A

PART –I

DEMOGRAPHIC VARIABLES

PERSONAL VARIABLES

1. Age
    a. 21-30 years
    b. 31-40 years
    c. 41-50 years
    d. 51-60 years
2. Sex
    a. Male
    b. Female
3. Education
    a. Illiterate
    b. Primary
    c. Higher secondary
    d. Graduate
4. Occupation
    a. House wife
    b. Employee
    c. Retired person
5. Family income
    a . None
    b. Rs. 1501-Rs.3000
    c . Rs.3001-Rs.5000
    d. Above Rs. 5000

6. Marital status
    a. Married
    b. Unmarried
    c. Widow
    d. Divorcy
7. Types of family
    a. Nuclear family
    b. Joint family
8. Dietary habits
    a. Vegetarian
    b. Non vegetarian
9. Personal habits
    a. Tobacco chewing
    b. Smoking smoking
    c. None
10. Do you do any exercises?
    a. Yes
    b. No

CLINICAL VARIABLES

1. Types of major surgery
    a. Laparotomy
    b. Laparoscopy
2. Duration of hospitalization
    a. Less than one week
    b. more than one week

PART –II

MODIFIED COHEN'S PERCEIVED STRESS SCALE

S. NO	Items	Almost never 1	Sometimes 2	Fairly often 3	Very often 4
1	How often have you been upset because of something that happened unexpectedly?				
2	How often have you felt that you were unable to control the important things in your life?				
3	How often have you felt nervous and stressed?				
4	How often have you felt confident about your ability to handle your personal problems?				
5	How often have you felt things were going your way?				
6	How often have you found that you could not cope with all the things that you had to do?				
7	How often have you been able to control irritations in your life?				
8	How often have you felt that you were on top of findings?				
9	How often have you been angered because of things that were outside of your control?				
10	How often have you felt difficulties were piling up so high that you could not overcome them?				

PERCEIVED STRESS SCALE SCORING:

1 - 10	Almost Never
11 - 20	Sometimes
21 - 30	Fairly Often
31 - 40	Very Often

MODIFIED HAMILTON ANXIETY SCALE

S.NO	ITEMS	NOT PRESENT 0	MILD 1	MODERATE 2	SEVERE 3	VERY SEVERE 4
1	ANXIOUS MOOD					
2	TENSION					
3	FEARS					
4	INSOMNIA					
5	INTELLECTUAL					
6	DEPRESSED MOOD					
7	SOMATIC (MUSCULAR)					
8	SOMATIC (SENSORY)					
9	CARDIOVASCULAR SYMPTOMS					
10	RESPIRATORY SYMPTOMS					
11	GASTROINTESTINAL SYMPTOMS					
12	GENITO URINARY SMPTOM					
13	AUTONOMIC SYMPTOMS					
14	BEHAVIOUR AT INTERVIEW					

Modified Hamilton anxiety scale Scoring

1-14	Mild
15-28	Moderate
29-42	Severe
43-56	Very Severe

PART III

PROGRESSIVE MUSCLE RELAXATION TECHNIQUES

Step 1	Assume a comfortable position.Loosen and tight clothing, close eyes and be quiet.
Step 2	Assume a passive attitude. Focus on yourself and on achieving relaxation in specific body muscles. Tune out all other thoughts.
Step 3	Tense each muscle for up to 5 to 10 sec and relax for up to 10 -15 sec.
Forehead	Wrinkle your forehead , try to make your eyebrows touch your hairline for five seconds. Relax.
Eyes and nose	Close your eyes as tightly as you can for five seconds . Relax.
Lips, cheeks	Draw the centers of your month back and grimace for five seconds. relax. Feel the warmth and calmness in your face.
Forearms	Extend your arms out against an invisible wall and push forward with your hands for five seconds . Relax.
Upper arms	Bend your elbows. Tense your biceps for five seconds. Relax. Feel the tension leave your arms.
Shoulders	Shrug your shoulders up to your ears for five seconds. Relax.
Back	Arch your back off the floor for five seconds. Relax.
Stomach	Tighten your stomach muscles for five seconds. Relax.
Hips and buttocks	Tighten your hip and buttock muscles for five seconds . Relax.
Thighs	Tighten your thigh muscles by pressing your legs together as tightly as you can for five seconds. Relax.
Feet	Bend your ankles toward your body as far as you can for five seconds Relax.
Toes	Curl your toes as tightly as you can for five seconds. Relax.

£Sv & A

£[S ö£Ö£Á¶ß ÂÁµ[PÒ

1. Á¯x
   (A) 21 & 30 Á¯x
   (B) 31 & 40 Á¯x
   (C) 41&50 Á¯x
   (D) 51&60 Á¯x

2. £õ¼Ú®
   (A) Bs
   (B) ö£s

3. PÀÂz uSv
   (A) £iUPõuÁº
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   (A) GxÄ® CÀø»
   (B) ¹. 1501 & ¹.3000
   (C) ¹ 3001 & ¹. 5000
   (D) ¹. 5000 US ÷©À

6. v¸©nz uSv
   (A) v¸©n©õÚÁº
   (B) v¸©n©õPõuÁº
   (C) ÂuøÁ
   (D) ÂÁõPµzuõÚÁº

7. Sk®£ ÁøP
   (A) uÛU Sk®£®
   (B) TmkU Sk®£®

8. EnÄ¨ £ÇUP®
   (A) ø\Á®
   (B) Aø\Á®

9. £ÇUP ÁÇUP®
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   (C) GxÄ® CÀø»

10. EhØ£°Ø] H÷uÚ® ö\´QÕºPÍõ?
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÷{õ´U PõµoPÒ

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ÀÌ¾¢ - þ

§ƒì¸ô°ý-É¢ý ÁÉ «Øò¾¨¾ì Ì¨ÈìÌõ ÅÆ¢Ó¨È¸û

1. Å°¾¢Â¡É þÕì¨¸Â¢ø «ÁÃ §ÅñÎõ. ¬¨¼¸¨Çò ¾Ç÷ò¾¢ ¸¡ø¸¨Ç «¸üÈ¢ «ÁÃ §ÅñÎõ.

2. ÁÉ¨¾ ´Õ ¿¢¨ÄôÀÎò¾¢ ÁüÈ ±ñ½í¸¨Çò ¾Å¢÷ì¸ §ÅñÎõ.

3. ãî¨° þØòÐ ¦ÁÐÅ¡¸ ¦ÅÇ¢Å¢¼×õ ¾¢ÕõÀ, ¾¢ÕõÀ ¦°öÂ×õ.

4. ¾¨°¨Â þØòÐ À¢ÊòÐ À¢ý ¦ÁÐÅ¡¸ ¾¨°¨Â ¾ÇÃ Å¢¼ §ÅñÎõ. þ¾¨É 5 Ó¾ø 10 Å¢É¡Ê¸û ¾¨°¨Â þÚì¸¢ô À¢ÊòÐ «Îò¾ 10 - 15 Å¢É¡Ê¸Ç¢ø ¾ÇÃ Å¢¼ §ÅñÎõ.

5. ¦¿üÈ¢¨Âî ÍÕì¸×õ. þÕ ÒÕÅÓõ, ¿ýÈ¡¸ ¦¿Õí¸¢ ÅÕÁ¡Ú 5 Å¢É¡Ê¸û ÍÕì¸×õ. À¢ý ¾Ç÷ò¾×õ.

6. ¸ñ¸¨Ç þÚì¸Á¡¸ 5 Å¢É¡Ê¸û Ó¼×õ. À¢ý ¾¢Èì¸×õ.

7. Å¡¨Â ¿ýÈ¡¸ ¾¢ÈóÐ ¯¾Î¸¨Ç ´ýÈ¡¸ 5 Å¢É¡Ê¸û ÌÅ¢òÐ ¨Åì¸×õ. À¢ý ¾Ç÷ò¾×õ.

8. ¨¸¸¨Ç ¿£ðÊ, Å¢Ãø ÀÌ¾¢¨Â 5 Å¢É¡Ê¸û ã¼×õ. À¢ý ¦ÁÐÅ¡¸ ¾Ç÷ò¾×õ.

9. §¾¡ûÀð¨¼¨Â À¢ýÀì¸Á¡¸ þØòÐ 5 Å¢É¡Ê¸û ¨Åì¸×õ, À¢ý þÂøÒ ¿¢¨ÄìÌ ÅÃ×õ.

10. ÓÐÌô ÀÌ¾¢¨Â À¢ýÒÈÁ¡¸ Å¨ÇòÐ 5 Å¢É¡Ê¸û ¨Åì¸×õ. À¢ý ¦ÁÐÅ¡¸ ¾Ç÷ò¾×õ.

11. ÅÂ¢¨È þØòÐ À¢ÊòÐ À¢ý ¦ÁÐÅ¡¸ ¾Ç÷ò¾×õ.

12. þÎôÒ ÀÌ¾¢¨Â þÚì¸¢ À¢ÊòÐ 5 Å¢É¡Ê¸û ¸Æ¢òÐ ¾Ç÷ò¾×õ.

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14. ¸Ïì¸¡¨Ä ¯¼¨Ä §¿¡ì¸¢ ¯Â÷ò¾¢ 5 Å¢É¡Ê¸û ¸Æ¢òÐ ¾Ç÷ò¾×õ.

15. ¦ÀÕÅ¢Ã¨Ä 5 Å¢É¡Ê¸û °ýÈ¢ À¢ýÒ þÂøÒ ¿¢¨ÄìÌ ¦¸¡ñÎ ÅÃ×õ.

APPENDIX - B

Letter seeking consent of the subjects for the participation in the research study

I am voluntarily willing to participate in the study conducted by Ms.Barvinisha Begum, on "A Study to assess the effectiveness of progressive muscle relaxation therapy on stress and anxiety among patients undergoing abdominal surgery". I will also co-operate with the researcher in providing necessary information. I was explained that the information provided would be kept in confidential and used only for above mentioned study purpose.

R. Bal.

Signature of the investigator

signature of the patient

Place : Dr. K.M.H.

place: Dr. K.M.H

Date: 14/6/11.

date: 14/06/11

APPENDIX – C

Dr.KAMAKSHI MEMORIAL HOSPITAL PVT. LTD.

PERMISSION LETTER

28/03/11

From

The Medical Superintendent,

Dr. Kamakshi Memorial Hospital,

Pallikaranai, Chennai – 600100.

Ms. R. Barvinisha Begum, M.Sc(N) II year, Madha College Of Nursing, Kundrathur, Chennai-69 is permitted to do project work (A Study To Assess The Effectiveness Of Progressive Muscle Relaxation Therapy On Reduction Of Stress And Anxiety Among Patients Undergoing Abdominal Surgery from 01.06.11 to 30.06.11) in upgraded Dr. Kamakshi Memorial Hospital, Pallikaranai, Chennai.

Dr. P. Rajkumar

MS, DNB (Gen Surg), MCh, DNB (Surg.Onco)

Surgical Oncologist.

#1, Radial Road, Pallikaranai, Chennai - 600 100. Tel : 044 - 6630 0300, 2246 9200
Fax : 044 - 2246 3282, 6630 0400 E-mail : info@drkmh.com Website : www.drkmh.com

APPENDIX-D

LIST OF EXPERTS FOR CONTENT VALIDITY

DR. C. KANNIAMMAL, R.N., R.M., M.Sc (N)., PH.D.,
Principal,
Arulmigu Meenakshi College of Nursing,
Enathur, Kanchipuram-631552.

MR. HEMA SURESH, R.N.,R.M.,M.Sc(N).,
Vice principal,
Meenakshi College of Nursing,
Chikkarayapuram, Chennai-600069.

DR. RAJKUMAR . P. M.S, DNB, M.Ch.,
Consultant surgeon and surgical oncologist,
Dr. Kamakshi Memorial Hospital,
Pallikaranai, Chennai-600100.

CERTIFICATION FOR CONTENT VALIDITY

This is to certify that the content and the tool to the statement of the problem **"A study to assess the effectiveness of Progressive muscle Relaxation therapy on stress and anxiety among patients undergoing Abdominal surgery in Dr. Kamachi memorial Hospital at Chennai "** prepared by **Ms. Barvinisha Begum. R, M.Sc (N) I year** student currently pursuing her M.Sc (N) degree programme for the partial fulfillment of her dissertation at **Madha College of Nursing, Kunrathur, Chennai – 69** is found to be valid to the best of my knowledge.

28/03/2011

Dr. C. KANNIAMMAL, M.Sc., (N) Ph.D
Principal
ARULMIGU MEENAKSHI COLLEGE OF NURSING
(Constituent College of Meenakshi University)
Meenakshi Medical College & Research Institute
Enathur, Kanchipuram - 631 552.

CERTIFICATION FOR CONTENT VALIDITY

This is to certify that the content and the tool to the statement of the problem **"A study to assess the effectiveness of Progressive muscle Relaxation therapy on stress and anxiety among patients undergoing Abdominal surgery in Dr. Kamachi memorial Hospital at Chennai "** prepared by **Ms. Barvinisha Begum. R, M.Sc (N) I year** student currently pursuing her M.Sc (N) degree programme for the partial fulfillment of her dissertation at **Madha College of Nursing, Kunrathur, Chennai – 69** is found to be valid to the best of my knowledge.

28/3/2011

Prof. Mrs. HEMA SURESH M.A.(Pub. Admn.), Ph.D.
VICE PRINCIPAL
MEENAKSHI COLLEGE OF NURSING
CHIKKARAYAPURAM, NEAR MANGADU, CHENNAI - 600 069.

CONTENT VALIDITY

This is to certify that the content and the tool to the statement of the problem ," **A study to assess the effectiveness of progressive muscle relaxation therapy on stress and anxiety among patients undergoing abdominal surgery**" prepared by Ms. **Barvinisha begum.R** M.Sc(N) II Year student currently pursuing her M. Sc(N) degree program for the partial fulfillment of her dissertation at Madha college of nursing , kundrathur, che-069 is found to be valid to the best of my knowledge.

Vazhga Vaiyagam Vazhga Valamudan

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பிளாட் நெ. 40, கணேஷ் அவென்யூ (விரிவு)
போரூர், சென்னை – 600 116

KAYAKALPA COURSE CERTIFICATE

This is to certify that

Thiru / Tmt / Selvan / Selvi. BARVINISHA BEGUM

has successfully participated in the

KAYAKALPA COURSE

held at போரூர் சக்தி நகர் மனவளக்கலை மன்ற அறக்கட்டளை

on 17 APR 2011

THE WORLD COMMUNITY SERVICE CENTRE SKY

Be Blessed by the Divine Power

MCS Jayalakshmi

For President
The World Community Service Centre

APPENDIX-D

APPENDIX –E

CERTIFICATE FOR ENGLISH EDITING

This is to certify that the dissertation, "**A study to assess the effectiveness of progressive muscle relaxation therapy on stress and anxiety among patients undergoing abdominal surgery in Dr. Kamakshi Memorial Hospital at Pallikaranai, Chennai, 2011-2012**," prepared by Miss.BARVINISHA BEGUM. R. II year M.Sc(N)., student of Madha College Of Nursing, Kundrathur, Chennai, for the dissertations edited for English language appropriateness.

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CERTIFICATE FOR TAMIL EDITING

This is to certify that the dissertation, "**A study to assess the effectiveness of progressive muscle relaxation therapy on stress and anxiety among patients undergoing abdominal surgery in Dr. kamatkshi Memorial Hospital at Pallikaranai, Chennai, 2011-2012**," prepared by Miss.BARVINISHA BEGUM. R. II year M.Sc(N)., student of Madha College Of Nursing, Kundrathur, Chennai, for the dissertations edited for Tamil language appropriateness.

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