CHAPTER I

INTRODUCTION

Healing is a matter of time, but it is sometimes also a matter of opportunity.

Hippocrates

An individual born in this world often undergo various healing process in order to maintain good health. World Health Organization (WHO) has defined health as, “the state of complete mental, physical and social well-being and not merely the absence of disease or infirmity, so that the individual can lead a socially and economically productive life”. The maintenance of the physical health in the present world has become a challenging one because of various reasons. The common reasons of ill health are the change in the life style of an individual leading to non communicable diseases, changing societal norms leading to violence and terrorism and drastic climatic changes which in turn have led to the re-emergence of many communicable diseases.

Advent of various technologies had made a tremendous change in the treatment modalities from counseling to organ transplantation. Surgery lies at one end of the spectrum of the curative medical model because of its perceived high cost and the limited human and material capacity available for its performance. A very conservative estimate shows that 11% of the world’s disability-adjusted life-years are from conditions that require surgical interventions. Cost information is unavailable for conditions such as hernia repair and appendectomy, conditions that, if neglected, pose a serious threat to life and for injuries from road traffic accidents, a significant proportion of which are best treated surgically. (Jamison, et al., 2006)
Surgical procedures often form the remedial measure for various disease conditions. Although it is the treatment that is given for the well-being of the physical health, it indirectly affects the psychological well-being of the individual. Post operative complications often affect the outcome of the disease. A variety of major complications occur after intra-abdominal operations. (Collins, 1999). Surgical procedures may carry potential risks such as pain, infection, hemorrhage or anesthetic complications (Smith, 2003). These events prolong the patient's length of stay in the hospital, consume greater health care resources, and may lead to the patient's death. The highest incidence of postoperative complications is reported on the first three days after the operation. However, specific complications occur in the following distinct temporal patterns: early postoperative, several days after the operation, throughout the postoperative period and in the late postoperative period. (Thompson, 2003)

Pain during the post operative period is inevitable. Chronic post-surgical pain (CPSP) has been studied in hernioplasties, mastectomies and thoracotomies, with very different results that lied between 10% and 60% (Macrae, 2008). Ramos et al 2010, evaluated the incidence and characteristics of chronic post surgical pain (CPSP) in patients who underwent abdominal surgery by midline laparotomy. Retrospective data was collected from all patients who underwent abdominal surgery by midline laparotomy. Pain intensity was evaluated by the Verbal Numeric Scale (VNS) and the Categorical Scale (CS). Incidence of CPSP was 25%, in which 24% of the participants had continuous pain and in 76% intermittent. The mean VNS was 3.25±1.34 and by CS pain was considered to be mild in about 50%, moderate in 43.7% and severe in 6.3%. CPSP was presented as neuropathic in all patients contacted.
Postoperative pain if not addressed at proper time or in proper manner the patient would be subjected to its adverse effect. Postoperative pain can affect all organ systems and includes decreased respiratory vital capacity, increased myocardial oxygen consumption, reduced gut motility, urinary retention, reduced mobility, increased risk of deep vein thrombosis, anxiety and fatigue (Cousins, 1994). Management of postoperative pain is very much important as it relieves suffering of the patients, helps in earlier mobilization, which in turn shortens the hospital stay, reduces hospital costs and increases patient satisfaction (De Beer, 2005).

Pain results in physiological and psychological responses of the patient, the majority of which were detrimental to postoperative outcome. Besides the distress associated with pain, postsurgical patients are often unable to breathe adequately, cough effectively, and move enough to tend to their own daily needs or participate in their own rehabilitation. This often resulted in feelings of helplessness, fear, anxiety and depression (Ramkumar and Prasad, 2006). Admission to hospital and the prospect of surgery was accepted as extremely anxiety-provoking resulting in behavioural and cognitive sequelae which could have far reaching effects on recovery.

Eloise, Veronica and Jenifer (2005) assessed the patient experiences of anxiety, depression and acute pain after surgery. Eighty-five women having major gynaecological surgery were assessed for anxiety, depression and pain after surgery. By day 4 after surgery both anxiety and depression scores was increased as pain increased and one third of the sample experienced levels of anxiety in psychiatric proportions whilst another one third experienced similar levels of depression. These findings had significant implications for the provision of acute pain management after
surgery. Postoperative pain was associated with high trait-anxiety and depressive mood of the patients (Caumo, 2002).

Patients continue to experience anxiety in the postoperative setting despite their increasing knowledge and access to knowledge and technological advances (Maward and Azar 2004). Major surgery can shatter the body image and with it the concept of self-sustaining health. The feelings of mortality, loss, and vulnerability can be profound, and recognizing depression in surgery’s aftermath would become very important. The prevalence of depression during the postoperative period can make patients find difficult to cope (John Lauerman, 2000). The majority of women after hysterectomy can be permanently depressed and can also show symptoms of mixed anxiety-depressive disorder (Marek, 2001).

Richard and Gary (1977) assessed the levels of anxiety, depression, and pain psychometrically among 67 abdominal surgery patients on the day before surgery, on the first postoperative day and on the third postoperative day. Patients were divided into kidney donor, kidney recipient, and general surgery groups, and a multi-variate analysis of variance was performed in order to compare the trends of response over the days across groups. There were significant group differences in the pattern of scores over the three days. Trait anxiety was related to post-surgical pain, anxiety, and depression in general surgery and renal recipient patients, but not in kidney donors. Results suggested that the meaning attached to the stress of surgery significantly affected the subjective state changes surrounding the operation.

Thus, strategies for improving surgical outcome includes optimizing the preoperative status of the patient, avoiding adverse intraoperative events and instituting interventions to prevent postoperative complications is very much
essential. Detecting adverse events early in their course and treating them with effective therapies will also improve patient outcome. Reiki touch therapy is a complementary biofield energy therapy that involves the use of hands to help strengthen the body's ability to heal.

Reiki is an ancient healing art that is a gentle, non-invasive, natural healing method. Its origins are ancient Tibetan; it was rediscovered in the late 1800s by Japanese educator Dr. Mikao Usui. Reiki means universal life force energy, the chi which flows through all living things. It has no religious affiliation and requires no special belief system or ability to be effective. The treatment is usually hands-on, or hands outside the body ie, on the metaphysical body (Aura), but can be distant. Reiki works on physical, spiritual, mental and emotional level and complements and enhances all other treatment methods (Tyzarm, 2010).

The purpose of Reiki is to redirect the flow of energy in the body in order to heal. Reiki energy will reach where it really needed in the body. When the life's flow of energy is disrupted in some way or is blocked, it usually leads to physical and psychosocial problems. Stress and anxiety, negative and harmful thoughts, disturbing feelings, emotional turmoil or physical trauma, all bring in imbalances, which can lead to more serious health issues if left untreated. Reiki healing helps to get rid of unwanted anxiety and gives a way to achieve deep relaxation (Samantha Hall, 2013).

1.1 NEED FOR THE STUDY

Surgery is scientific unfolding of regions, parts of body suffering from disease, ending in its removal or repair to give objective continuity of tissue plain or otherwise for healthy living. Surgical care and its safe delivery affect the lives of
millions of people. About 234 million major operations are performed worldwide every year. The change in disease patterns worldwide is increasing the need for surgical services considerably. Epidemics and infections are giving way as leading causes of death to ischemic heart diseases, cancers, and trauma - which need surgical interventions. (World Health Organization, 2008)

According to World Surgical Association (2011) surgically correctable diseases accounts for 164,000,000 Disability Adjusted Life Years (DALYs) worldwide. Surgically correctable injuries accounted for over one in ten deaths globally. Surgically correctable pathology is a major contributor to global burden of disease and it has been estimated that 11% of the global burden of disease can be treated with surgery (Debas et al. 2006). The global burden of surgical disease has been shown to be from injuries (38%), malignancies (19%), congenital anomalies (9%), obstetric complications (6%), cataracts and glaucoma (5%), perinatal conditions (4%) and other causes (19%) (Lopez, 2006).

The number of surgeries performed in India is gradually increasing. The total surgery procedures performed in India has been projected to uptake from 11 million currently to over 24 million in 2015. Procedure volumes growth was largely driven by general surgical procedures especially with advanced gastrointestinal procedures. A total of 2.6 million general surgeries were performed in 2010, 6 million procedures are expected to be done in 2015, representing an annual growth rate of 18.5%. About 7 million obstetric and gynecological surgeries are performed every year. (Clearstate.com, 2011)

Pain has long been recognized as a highly personal and subjective phenomenon unique to the individual. The most common recognized definition of
pain of the International Association for the Study of Pain (1979) is “an unpleasant sensory and emotional experience associated with actual or potential damage or described in terms of such damage”. Many factors are known to affect the experience of pain, including gender, age, culture, previous experiences, individual experiencing pain and most predominant of which is individual coping skills. (Shaw, 2006).

Pain after surgery is common, often severe and largely unnecessary. Effective relief of post-operative pain is vital and not just for humanitarian reasons. Such pain probably prolongs hospital stay, as it can affect all organ systems, including: respiratory (e.g. reduced cough, sputum retention, hypoxaemia), cardiovascular (e.g. increased myocardial oxygen consumption, ischaemia), gastrointestinal (e.g. decreased gastric emptying, reduced gut motility, constipation), genitourinary (e.g. urinary retention), neuroendocrine (e.g. hyperglycaemia, protein catabolism, sodium retention), musculoskeletal (e.g. reduced mobility, pressure sores, increased risk of DVT) and psychological (e.g. anxiety, fatigue).

The severity and frequency of postoperative pain depends on the site, nature and extend of surgery. Postoperative pain remains grossly under treated, with up to 70% of patients reporting moderate to severe pain following surgery (Pyati, 2007). The goal for postoperative pain management is to reduce or to eliminate pain and discomfort with a minimum of side effects as cheaply as possible (Breivik, 2008). Joint Commission on Accreditation of Healthcare Organizations in 2000 insisted the need for the assessment of pain as the fifth vital sign.

Analgesics and opioids are often used after gastrointestinal surgery which supports early feeding, mobilization, and reduces hospital stay of the patients
Nalini (2010) emphasized that good pain control after surgery is important to prevent negative outcomes such as tachycardia, hypertension, myocardial ischemia, decrease in alveolar ventilation, and poor wound healing. The new pharmacological products to treat postoperative pain includes extended-release epidural morphine and analgesic adjuvants such as capsaicin, ketamine, gabapentin, pregabalin, dexmetomidine, and tapentadol. Newer postoperative patient-controlled analgesia (PCA) in modes such as intranasal, regional, transdermal and pulmonary presents another interesting avenue of development.

Opioids form the backbone of most analgesic strategies, yet their use in acute postoperative pain is associated with an unappreciated degree of morbidity and mortality. The use of an unbalanced strategy for pain management can lead to an increase in adverse events. Postoperatively the addition of sedatives, residual anesthetic agents and fatigue adds to the risk of opioid induced ventilator impairment (David Scott, 2011).

Raffaella (2013) observed the pre-operative level of anxiety in a group of 50 patients awaiting surgery and then the level of postoperative pain. The Zung Self-Rating Anxiety Scale questionnaire was administered to monitor the state of anxiety, while the numerical analogue scale was used to quantify the post-operative pain. A low level of anxiety was detected in 56.66% of patients under observation, while a moderate level of anxiety requiring minimal sedation was found in 43.34% of the patients. With regard to postoperative pain, the level of moderate-to-severe pain was observed in 50% of the patients, presenting a high incidence despite analgesia.

Psychological models are useful in predicting acute pain after surgery, and in predicting the transition from acute to chronic pain. A significant proportion of
patients experiences CPSP following inguinal hernia surgery. Powell (2012) conducted a prospective cohort study to investigate psychological (cognitive and emotional) risk factors for CPSP after inguinal hernia surgery. Psychological risk factors assessed included anxiety, depression, fear-avoidance, activity avoidance, catastrophizing, worry about the operation, activity expectations, perceived pain control and optimism. The incidence of CPSP (pain at 4 months) was 39.5%. Lower pre-operative optimism and lower perceived control over pain at 1 week after surgery predicted higher pain intensity at 4 months.

Colorectal cancer is one of the most common cancer diagnoses and undergoing colorectal cancer surgery is reported to be associated with physical symptoms and psychological reactions. Social support is described as important during the postoperative period. Johnson (2011) described the lived-in experience of the early postoperative period after colorectal cancer surgery. Lack of control, fear of wound and anastomosis rupture, insecurity according to complications were prominent findings. When caring for these patients it was a challenge to be sensitive, encourage and promote patients to express their feelings and needs which in turn helped them to adapt to the situation. With these ideas the investigator has chosen Callista Roys’ Adaptation Model.

A wide range of behavioral symptom may occur the following surgery including depression, hallucinations, true psychosis, mania and impulsivity. Psychoses, including those that occur postoperatively, are among the most frequent indications for hospitalization and are associated with a substantially increased rate of morbidity (Abdullah, 2006). Depression is the most common psychiatric disorder. It is a disabling condition that adversely affects a person's family, work or school life,
sleeping and eating habits, and general health. According to WHO (2012) about 350 million people are affected worldwide.

Depression is a well-documented adverse effect of many surgical procedures. Strong correlations exist between postoperative depression and heart surgery, gastric bypass surgery, and plastic surgery procedures. Studies also implicate that brain surgery, hip replacement surgery, mastectomy, radical prostatectomy, hysterectomy, cancer resection, and even vision-correction surgery in postoperative depression. Since most patients are not warned about the possibility of developing depression after their surgery, they may feel completely lost if they develop symptoms of depression. Lewicka et al. (2012) determined the level of depression in women during the early postoperative period. The mean level of depression in patients who underwent surgery using the vaginal route was significantly greater (p = 0.003) than in patients after laparoscopy and patients after laparotomy.

Depressed and anxious patients often combine complementary and alternative medicine (CAM) therapies with conventional pharmacotherapy to self-treat symptoms (Ravindran, 2013). Ronald et al. (2001) surveyed the use of complementary and alternative therapies to treat anxiety and depression in the United States. Complementary and alternative therapies are used more than conventional therapies by people with self-defined anxiety attacks and severe depression. Most patients visiting conventional mental health providers for these problems also use complementary and alternative therapies. A total of 65.9% of the respondents seen by a conventional provider for anxiety attacks and 66.7% of those seen by a conventional provider for severe depression also used complementary and alternative therapies to treat these conditions.
Many people with cancer experience pain, anxiety, and mood disturbance. Conventional treatments do not always satisfactorily relieve these symptoms, and some patients may not be able to tolerate their side effects. Complementary therapies such as acupuncture, mind-body techniques, massage, and other methods can help relieve symptoms and improve physical and mental well-being (Gary and Barrie, 2005).

McPherson and McGraw (2013), investigated the effectiveness of a pilot program that used multiple complementary and alternative medicine (CAM) therapies, focusing on self-care behaviors for treatment of generalized anxiety disorder. The findings in this pilot study suggested multimodal interventions focusing on self-care behaviors may be feasible for patients seeking therapies that are adjunct or alternative to conventional treatments. Reiki therapy has strong evidence in reducing pain and maintaining the psychological status of the patients.

Reiki touch therapy is a complementary biofield energy therapy that involves the use of hands to help strengthen the body's ability to heal (Vitale, 2007). Reiki is a word derived from Japanese “Rei” meaning universal energy and “Ki” meaning life force energy. Reiki is a vibrational, or subtle energy, therapy most commonly facilitated by light touch to channelize cosmic energy through palm into the metaphysical chakra, which is believed to balance the biofield and strengthen the body's ability to heal itself.

Body has visible physical and invisible metaphysical body. The latter is called Aura, or biomagnetic field. The invisible aura is in seven layers. The inner most one close to the visible physical body is called inner aura, in which seven major chakra are located. They are responsible of channelizing cosmic energy (Rei) into the physical
body. This energy in the physical body is termed as “ki”, life force energy, which has the healing power.

Chakras are the energy centres.

The seven major chakras act as link between the universal energy and the body energy. A person's body, mind and spiritual well-being are balanced and healthy when all their chakras are in harmony. When chakras malfunction, the related organ functions and emotions will be adversely affected; also the balance of the person is upset because other chakras are forced to compensate. The seven chakras are located at the following points of the body in the inner aura, along the line of the spine. The chakras and positions of the chakras are Sahasrara chakra (crown), Ajna chakra (forehead, in between the eyebrows), Vishudha chakra (Throat), Anahatha chakra (middle of the chest), Manipura chakra (upper abdomen), Swadhisthana chakra (below the umbilicus) and Mooladhara chakra (perineum).

Reiki appears to be an effective stress reduction technique that easily integrates into conventional medicine because it involves neither the use of medicines nor manipulative touch that might be contraindicated or carry unknown risks, and because the protocol for Reiki treatment is flexible, adapting to both the need of the patient and of the medical circumstances. Reiki can be used to support conventional medical interventions.

Kathy, Linda and Karin (2007) examined the effects of Reiki, a type of energy touch therapy, on fatigue, pain, anxiety, and overall quality of life. On daily assessments in the Reiki group, presession 1 versus postsession 5 scores indicated significant decreases in tiredness (p <.001), pain (p <.005) and anxiety (p <.01). The participants in the Reiki condition experienced significant improvements in quality of
life compared to those in the resting condition ($p < .05$). The research done by Linda (1998) identified that pain, anxiety and depression has been strongly influenced by Reiki in chronically ill patients. Reiki also has stress reduction and symptomatic relief (Cory, 2003).

Since Reiki has an energy source in itself it enhances the therapeutic effect. The increasing side effects of various drugs have made the world to look for the complementary and alternative medicines. Reiki therapy is one such therapy, which aids in healing various health problems. Touch therapy the important component of nursing practice is the basis for Reiki therapy (Kathie Lipinski, 1990).

There is a growing interest among nurses to use Reiki in patient care and as a self-care treatment, however, with little supportive empirical research and evidence to substantiate these practices. Hence the researcher aimed in assessing the effectiveness of Reiki therapy on the biophysiological and psychological status of patients after major surgical procedures.

1.2 Statement of the problem

A study to assess the effectiveness of Reiki therapy on biophysiological status, anxiety and depression among patients subjected to major surgical procedures at a selected hospital, Chennai.

1.3 Objectives

The objectives of the study are

1) Determine the effectiveness of Reiki therapy on biophysiological status among patients subjected to major surgical procedures.
2) Elicit the effectiveness of Reiki therapy on the level of anxiety among patients subjected to major surgical procedures.

3) Identify the effectiveness of Reiki therapy on the level of depression among patients subjected to major surgical procedures.

4) Correlate between biophysiological status, anxiety and depression among patients subjected to major surgical procedures.

5) Associate the biophysiological status, anxiety and depression with selected background variables among patients subjected to major surgical procedures.

1.4 Hypotheses

H1: There will be a significant change in temperature of patients who receive Reiki therapy than who do not.

H2: There will be a significant change in pulse rate of patients who receive Reiki therapy than who do not.

H3: There will be a significant change in respiratory rate of patients who receive Reiki therapy than who do not.

H4: There will be a significant change in blood pressure of patients who receive Reiki therapy than who do not.

H5: There will be a significant change in pain score of patients who receive Reiki therapy than who do not.

H6: There will be a significant change in the level of anxiety of patients who receive Reiki therapy than who do not.

H7: There will be a significant change in the level of depression of patients who receive Reiki therapy than who do not.
1.5 Operational definitions

1.5.1 Effectiveness

Find out the outcome of Reiki therapy on the biophysiological status, anxiety and depression among patients who underwent major surgical procedures.

1.5.2 Reiki Therapy

A method in which the participant is made to sit or lie down comfortably with his/her eyes closed. The investigator who is a trained Reiki therapist lays her hands at a distance of about three inches over the chakras of the participants. The therapy was provided once in a day for seven consecutive days from 1\textsuperscript{st} to 7\textsuperscript{th} post operative day (POD).

The chakras and positions of the chakras are

- Ajna Chakra (Forehead, in between the eyebrows)
- Vishudha chakra (Throat)
- Anahatha (middle of the chest)
- Manipura chakra (upper Abdomen)
- Swadhisthana chakra (below the umbilicus) and
- Mooladhara chakra (perineum).

1.5.3 Biophysiological status

The baseline parameters of the patients who had undergone major surgical procedures such as temperature, pulse, respiration, blood pressure and pain. Biophysiological status is assessed before and after an hour of Reiki therapy in the
study group, whereas in the control group it was assessed two times in a day with two hours interval from 1st to 7th post operative day (POD).

1.5.4 Anxiety

According to American Psychological Association, anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure.

Anxiety in the present study is the emotional status experienced by the patients after major surgical procedures. It is often characterized by sweating, increased pulse rate and high blood pressure, worries, fear, uneasiness and apprehension of future uncertainties. It was assessed using State Trait Anxiety Inventory (STAI) during pretest on 1 post operative day (POD), posttest I on 7th POD, posttest II on 14th POD and posttest III on 21st POD.

1.5.4 Depression

Mental status of the patients after major surgical procedures characterized by disturbance in the mood, sadness, loss of interest, fatigue and hopelessness. It was assessed using Center for Epidemiological Studies Depression (CES-D) scale during pretest on 1 post operative day (POD), posttest I on 7th POD, posttest II on 14th POD and posttest III on 21st POD.

1.5.5 Patients

Both male and female in the age group of 21 - 60 years, admitted in Sri Ramachandra Medical Centre and Hospital and underwent laparotomy/cholecystectomy/hysterectomy/mastectomy or hernia repair.
1.5.6 Major surgical procedure

A major surgery includes all work requiring a general anesthesia or spinal anaesthesia or epidural anaesthesia or combined. The length of operation extends for more than 30 minutes. The operations included are hysterectomy, cholecystectomy, mastectomy and general abdominal surgeries involving the intestines and require minimum of seven days of hospital stay post operatively.

1.6 Assumptions

- Any surgery may generate some degree of depression.
- Early intervention for anxiety enhances quick recovery after surgery.
- Complementary and alternative therapies are cost effective, safe and accepted by the people.