

**“A STUDY TO ASSESS THE EFFECTIVENESS OF ABDOMINAL MASSAGE WITH AROMA OIL (LAVENDER OIL ) FOR RELIEVING CONSTIPATION AMONG BEDRIDDEN SUBJECTS ADMITTED IN SELECTED WARDS AT RAJIV GANDHI GOVERNMENT GENERAL HOSPITAL, CHENNAI -03.”**

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## **CERTIFICATE**

This is to certify that this dissertation titled **“A STUDY TO ASSESS THE EFFECTIVENESS OF ABDOMINAL MASSAGE WITH AROMA OIL (LAVENDER OIL) FOR RELIEVING CONSTIPATION AMONG BEDRIDDEN SUBJECTS ADMITTED IN SELECTED WARDS AT RAJIV GANDHI GOVERNMENT GENERAL HOSPITAL, CHENNAI-03.”** is a bonafide work done by Mrs..V. Vasanthi, College of Nursing, Madras Medical College, Chennai – 600003 submitted to THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI in Partial fulfillment of the requirements for the award of Degree of Master of Science in Nursing, Branch I, Medical & Surgical Nursing, under our guidance and supervision during the academic period from 2013 – 2014.

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## ABSTRACT

An Experimental study based on Quasi -Experimental pre-test and post test design was used to evaluate the effectiveness of abdominal massage with aroma oil (Lavender oil) for relieving constipation among bedridden subjects admitted in selected wards at Rajiv Gandhi Government General Hospital, Chennai -03. Non-Probability Purposive sampling was used to select the subjects. The population of this study were 60 bedridden subjects of both sex , thirty for Experimental group, and thirty for Control group. The bedridden subjects who had constipation were included in this study . The tool used for this study consists of Demographic profile, Physiological parameters, and Constipation Assessment scale . Conceptual framework used for the study was Modified Wiedenbach's Helping Art of Clinical Nursing Theory Model . Abdominal massage with lavender oil was given to Experimental group of 30 bedridden subjects by the techniques of stroking, effleurage, kneading and vibration up to 10 minutes for five consecutive days. Constipation Assessment Scale was used to assess the constipation score before and after the intervention. The findings of the study revealed that , in Experimental group, bedridden subjects had **44.6%** of relief in constipation . In Control group, subjects had only **16.5 %** of relief in constipation . It shows the effectiveness of the study. Abdominal massage with aroma oil in the form of the techniques of massage was given at 4 levels (stroking, effleurage, kneading , vibration ) which influence intestinal functions. The treatment was given 5 days about 10 minutes was found to be very effective in relieving constipation among bedridden subjects. The importance of relieving constipation with aroma oil abdominal massage in bedridden subjects to be taught to clients and professionals and still there is a need for extensive and intensive research in this area.

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## CHAPTER—I

“To keep the body in good health is duty. Otherwise we shall not be able to keep our mind strong and clear” .

[ Mahatma Gandhi ]

### INTRODUCTION:

As long ago as 1889, Dr. T Garry wrote in the Lancet 'During the past few years I have seen a large number of cases of constipation successfully treated by massage and I believe it to be the most reliable method yet brought before the notice of the profession for this obstinate condition'. Its use reached a peak in the late 19th century and early 20th century and during the 1950's the therapies had all but disappeared. Abdominal massage has however undergone a revival in clinical practice, although until recently the evidence has been based on small studies. In 2009, Lamas et al published the results of a randomised controlled trial with 60 subjects with constipation and reported that in those who had the massage the associated symptoms were reduced and there was an increased number of bowel movements.

Constipation is even more common in subjects who are bedridden than in the general population and it has been reported that treatment is ineffective. In a recent study within the bedridden population in India constipation was reported by 67% .

Associated with decreases in quality of life, constipation is a relatively common problem. Abdominal massage appears to increase the bowel function, but unlike laxatives with no negative side effects. Because earlier studies have methodological flaws and cannot provide recommendations, more research is needed.

An article entitled constipation remedies in family health guide explains that an efficient nursing intervention for treating constipation among subjects who due to immobility are often suffering with this problem .

Constipation results in discomfort for the subjects who are already suffering from chronic illness such as multiple sclerosis, cerebrovascular accident, parkinsonism, diabetes and terminal illness like cancer. They experience not only discomfort physically but also psychologically.

Although the term constipation can mean different things to different subject, the symptoms often have a significant impact on the person's quality of life and can range from a headache and fatigue, to feelings of being bloated, loss of appetite, nausea and vomiting and can exacerbate other symptoms such as limb spasticity or bladder dysfunction. The causes of constipation in bedridden subjects are multi-factorial and include poor diet, reduced fluid intake, lack of exercise and the effects of medication. It is also thought that the disease process itself may lead to a reduction in the time it takes food to move along the bowel (slow transit bowel), or a tightening instead of a relaxation of the muscles which let them go to the toilet (pelvic floor dyssnergia).

Constipation is a symptom and not a disease . constipation may be defined as fewer than 3 bowel movements per week . This interferes the passage of dry , hard stool or no passage of stool . **[Basson,2010]**

Constipation usually includes decreased frequency of bowel movements more than 3 days , difficulty in passing stools , experience straining initially to defecate at will and hard feces . **[Lewis,2007]**

As per an article entitled massage therapy in alternative medicine, massage is one of the complementary therapy that can help to relive stress , as well as the pain and discomfort associated with certain digestive disorders including irritable bowel syndrome, ulcerative colitis, crohn's disease and constipation . Massaging the affected area can help to stimulate the spontaneous movement of the digestive tract , peristalsis and reduce symptoms such as cramping , bloating, gas and constipation . prevent the complications of constipation.

The word massage is a Latin word MASSA or MASSO meaning “to touch, squeeze or kneed. Massage therapy involves manipulating the body’s muscles, tendons and soft tissue in the body in order to promote relaxation and healing. Massage therapy helps to improve circulation increasing the flow of blood and lymph through the body.

Massage therapy is a manual therapeutic approach used to facilitate healing and health and can be used by nurses in almost all settings. Abdominal massage for constipation regulates peristalsis and it helps to get over the most difficult constipation and no also need laxatives and stool softeners. It is also a cost effective.

Abdominal massage stimulates the peristalsis of the small intestines, tones up the muscles of the abdominal wall and mechanically eliminates the contents of both large and small intestines.

The researcher undertook this study as constipation is even more common in subject who are bedridden than in the general population and it has been reported that treatment is ineffective. In a recent study within the bedridden population in India constipation was reported by 67% .

### **1.1 NEED FOR STUDY:**

Constipation results in discomfort for the subjects who are already suffering from chronic illness such as multiple sclerosis, cerebrovascular accident, parkinsonism, diabetes and terminal illness like cancer. They experience not only discomfort physically but also psychologically.

Vulsalva maneuver , which occurs during straining to pass hardened stools may cause serious problem in subjects with constipation. During the straining , the patient takes the deep inspiration, the breath is held and the glottis closes and traps the air. The abdominal muscles contract and try to push against the colon which results in increased intra abdominal pressure and intra thoracic pressure and reducing venus return to heart. This results only in increasing the discomfort and not decreasing it. [Lewis,2007]

To prevent this discomfort, subjects are given laxatives or enemas to be relieved from constipation. The prolonged use of laxatives however can result in subsequent cathartic colon syndrome. It is a syndrome which results in dilated and atonic colon, lacking muscle tone. The person suffering from this syndrome cannot defecate without laxative. [Lewis,2007]

Constipation affects many bedridden subject, negatively impacting on their quality of life. The use of abdominal massage has been reported in several populations and has been shown to increase the frequency of defecation. The objective of this study was to determine the feasibility of undertaking abdominal massage in bedridden subjects.

There is also evidence that constipation or laxative use increases the risk of colon cancer (Watanabe et al, 2004).

Abdominal massage significantly decreased severity of gastrointestinal symptoms assessed with GSRS according to total score ( $p = .003$ ), constipation syndrome ( $p = .013$ ), and abdominal pain syndrome ( $p = .019$ ). The intervention group had significant increase of bowel movements compared to the control group ( $p = .016$ ). There was no significant difference in the change of the amount of laxative intake after 8 weeks.

An article entitled constipation remedies in family health guide explains that an efficient nursing intervention for treating constipation among subjects who due to immobility are often suffering with this problem

A study conducted in Don- Evi Medical center, Korea, among bedridden subjects who had constipation concluded that there was a significant improvement in the frequency of defecation and decrease in the severity of constipation after abdominal massage in the experimental group compared to the control group. [Joen & Jung, 2006]



## **General information related to abdominal massage.**

Abdominal massage has been practiced as a healing therapy from 19<sup>th</sup> century. Abdominal massage for constipation regulates the peristalsis and helps your energy to move. Abdomen massage can be received from infancy into the elderly stages. Abdomen massage has been administered to assist colicky babies, subject with illness, stress related issues, and elderly client who have less movement in their daily lives.

Digestion is assisted by muscle contraction of the intestines, which is called peristalsis. The peristaltic musculature contracts and moves in waves, assisting digestion. In optimum health and posture a peristalsis muscle contraction starts every 20 seconds during digestion and follows a circular motion in the abdomen. It is no wonder that abdomen massage can bring great benefit and relief for digestion. The best time for an abdominal massage is in the mornings and evenings while lying in bed for about 10-20 minutes.

### **Uses of Massage Therapy:**

1. Relieves pain
2. Rehabilitate sports injuries
3. Reduce stress
4. Increase relaxation
5. Address anxiety and depression
6. Aid in general wellness
7. Improves blood supply.
8. Stimulates peristalsis and relieves constipation

### **Abdominal massage should not be done**

1. 2 hours after a meal
2. While bladder is full
3. During pregnancy or menstruation
4. When high blood pressure
5. When umbilical hernia or ulcer is present.
6. When there is internal bleeding or inflammation of the lower abdomen

The abdomen is the centre and core of the body. Many cultures around the globe have designed massage techniques specifically for the abdomen to help specific ailments and maintain proper circulation in the visceral organs. This very important core of the body houses vital organs, which govern nutritional absorption for overall health and vitality, as well as detoxification.

Massage to the stomach region can also centre a client's balance and feel very comforting.

There are implications for healthcare costs and the patient's health-related quality of life (HR-QoL). Evidence suggests that health related quality of life is lower in subjects with constipation than in non-constipated individuals, and the treatments for constipation will improve the quality of life **(Mason et al, 2002)**.

Abdominal massage is thought to encourage rectal loading by increasing intra-abdominal pressure. In some neurological cases, massage can produce rectal waves that stimulate the somato-autonomic reflex and bowel sensation **(Liu et al, 2005)**.

**Emly (2001)** found abdominal massage to be effective for relieving constipation as part of a bowel care programme, with an associated reduction in laxative use and improved HR-QoL. (Health Related Quality of Life )

The mechanisms of action of the massage, and the amount of pressure that should be applied are known. The effect is thought to be due to a combination of sensory stimulation and relaxation, rather than stool being manually propelled along the digestive tract. Lamas et al (2009) described the massage technique as using “light pressure”, while most other studies described “moderate pressure” (**McClurg et al, 2011; Kim et al, 2005; Jeon and Jung, 2005; Emly, 2001; Preece, 2002**).

A case study report presented by **Harrington and Haskviz(2006)** reveals that a 85 year old women with complaints of constipation was given abdominal massage daily since the treatment with stool softeners was unsuccessful . On the follow up after 3 weeks the patient reported a return of normal bowel frequency and function.

Abdominal massage can relieve constipation of various physiological causes by stimulating peristalsis, decreasing colonic transit time and increasing the frequency of bowel movements. It reduces feelings of discomfort and pain, and induces a feeling of relaxation. It has also been found to improve subjects’ quality of life, and no adverse side-effects have been reported.

## **1.2 Statement of the Problem:**

**“A study to assess the effectiveness of abdominal massage with aroma oil (lavender oil ) for relieving constipation among bedridden subjects admitted in selected wards at Rajiv Gandhi Government General Hospital, Chennai -03.”**

### **1.3 Objectives of the Study:**

- To assess the bowel function among bedridden patients in Experimental and Control group.
- To assess the effectiveness of abdominal massage with lavender oil in relieving constipation among the bedridden patients in Experimental group.
- To compare the effectiveness of abdominal massage with lavender oil in relieving constipation among Experimental group
- To find out the association between the effectiveness of abdominal massage with lavender oil in relieving constipation with the selected demographic variables among Experimental group .

### **1.4 Operational definition:**

#### **Abdominal massage :**

Massage involves working and acting on the abdomen with pressure , motion or vibration, done manually with palms and fingers or with mechanical aids like massager.

#### **Lavender oil :**

Any of various aromatic Old World plants of the genus *lavundula* , espically *L. Angustifolia* , having clusters of small purplish flowers that yeild an oil used in perfumery and in medical treatments.

#### **Constipation :**

Constipation is an acute or chronic condition in which bowel movements occur less than three in a week, or consists of hard, dry stools that are painful or difficult to pass . Bowel habits vary , but an adult who has not had a bowel movement in three days or a child who has not had a bowel movement in four days is considered constipated.

**Bedridden :**

Confined to bed because of illness or infirmity , describing a person who is unable or unwilling to leave the bed because of illness or injury.

**1.5 Hypothesis:**

**H<sub>1</sub>** : There will be a significant difference between pre-assessment and post-assessment effectiveness regarding abdominal massage with lavender oil for relieving constipation .

**H<sub>2</sub>** : There will be a significant association between the effectiveness of abdominal massage with lavender oil in relieving constipation with the selected demographic variables among Experimental group.

**1.6 Assumption:**

- The bedridden subjects are all with chronic illness and long confinement to bed in a strange situation with poor activity which leads to constipation.
- Abdominal massage with lavender oil may help to relieve the constipation.
- Abdominal massage has no adverse side effects and is cost-effective.
- It will reduce intake of laxatives.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

“Each time we read , a seed is sown for the future”

**Jales Renard**

Review of literature is a key step in the research process. Review of literature refers to an extensive , exhaustive, and systemic examination of publications relevant to the research question to identify what is known and not known about a topic , to identify a conceptual, a theoretical, tradition within the bodies of literature, and to describe methods of enquiry used in earlier work including their success and short comings.

#### **2.1 Review of related literature**

#### **2.2 Conceptual frame work**

#### **2.1 REVIEW OF RELATED LITERATURE**

In this chapter the researcher organized the literatures related to the study. It consists of the following subdivisions.

2.1.1 Literatures related to constipation.

2.1.2 Literatures related to Abdominal massage.

2.1.3 Literatures related to Abdominal massage for the relief of constipation.

2.1.4 Literatures related to lavender oil massage for constipation.

### **2.1.1 LITERATURES RELATED TO CONSTIPATION**

**Sendhrimsm etial (2012)** were conducted an experimental study in Istanbul University to estimate the post operative constipation risk in orthopaedic bedridden subjects. Study revealed that 55.4% had bowel problems and constipation during the hospitalization period. On the basis of the findings from this study, nurses must learn the post operative constipation risk of orthopaedic subjects to implement safe and effective interventions.

**Wang et al., (2012)** conducted an experimental study to identify the constipation risk of orthopaedic subjects. Study revealed that constipation in orthopaedic bedridden is one of the most common complication of subjects, the etiology is relatively complex. Lie in bed for a long time, such as pain with movement, way of life and the way of defecate change, most subjects will appear constipation, cause series of adverse reactions. Author concluded that the long-term effective nursing in bedridden subjects, health education about the diet and lifestyle habits and guidance, cum effectively solve the problem of constipation.

**Su, et al., 2009**, conducted a prospective cohort study among 184 subjects admitted with stroke to investigate the prevalence of new onset of constipation and its impact on stroke. The result was that 55.2% of subjects had complaints of constipation

**Bracci, et al., (2007)** conducted a study among 90 bedridden hemiplegic subjects and 80 orthopaedic subjects to assess the prevalence of constipation as a possible complication of cerebrovascular accident. It was found that constipation was prevalent among 30% of neurologically stabilized hemiplegia subjects confined to bed for a long period.

**Oteghayo, Talahi, Akere, Owolabi, Owolabi & Oglentoye, 2006** conducted a study to highlight the gastrointestinal problems that occur in stroke survivors. The result shows that the dominant gastrointestinal symptom was constipation in 25.9% followed by masticatory difficulty. Other significant symptoms and signs were incomplete bowel evacuation, fecal incontinence and dysphagia.

**Doshi, Say, Young & Duransams 2003** conducted a retrospective care study review of subjects among 140 cases to identify the complications among stroke subjects. In this study constipation was one of the main complication in about 22.9% of the cases .

**Robain, Chenneville, Perit and piera 2002** conducted a prospective study to evaluate the incidence of constipation after recent vascular hemiplegia 152 subjects. Constipation is a major problem of institutionalized subjects and the results revealed that about 60% had constipation.

**Krogh, Chrstenser & Laurberg, 2001** conducted a study to identify the colorectal symptoms in subjects with neurological diseases. The study reveals that several neurological diseases cause constipation or fecal incontinence restricting social activities and influencing quality of life. Constipation and faecal incontinence are common symptoms in subjects with traumatic spinal cord injuries, multiple sclerosis, diabetic polyneuropathy, stroke, Parkinson's disease and cerebral palsy.

**De Looze, Lacre, De Muynck, Beke & Elewant, 1998** Conducted a study in Ghent University Hospital, Belgium among 90 spinal cord injury subjects to identify gastrointestinal complication using questionnaire. The study concluded that 58% of subjects with spinal cord injury above 40% suffer from constipation and tetraplegic subjects who are bedridden had the highest prevalence of constipation .



### **2.1.2 LITERATURE RELATED TO ABDOMINAL MASSAGE**

**Kim (2007)** conducted a non-equivalent control group pre-post test quasi-experimental study to verify the effect of aromatherapy massage on constipation and abdominal discomfort in post menopausal women. The results suggest that aroma therapy massage could be utilized as an effective intervention to reduce abdominal distension, constipation and to improve peristalsis in post-menopausal women.

**Yang, Fark & Lee, (2007)** A non equivalent control group pre-post experimental study conducted to evaluate the effectiveness of abdominal massage in relieving constipation symptoms shows that abdominal massage was effective in relieving constipation and can be used as a nursing intervention for women with gastrointestinal problems .

**Kim and Hwang (2005)** conducted a study to examine the effect of abdominal massage on menstrual cramps. It was found to be very effective for the relief of menstrual cramps and dysmenorrhoea and abdominal distension

**Han, Yang & Kim, 2003**, done a cross over design with random blind assignment as done to examine the effectiveness of aromatherapy massage among middle aged women with abdominal obesity reveals that massage reduces weight, abdominal circumference and appetite and thus found to be effective in reducing abdominal obesity .

**Emly et al. (1998)** utilized a randomized cross-over design to compare abdominal massage and laxative treatment among 32 disabled institutionalized adults with constipation were selected and abdominal massage was given for 20 minutes five times a week. Laxatives and abdominal massage were reported as equally effective in reducing transit times and increasing stool frequency. Abdominal massage, unlike the use of laxatives, was reported to have no known side-effects. The study concluded that abdominal massage is a natural treatment to treat constipation.

**Early (1993)** conducted case study on a client with cerebral palsy and epilepsy reported that the abdominal massage improved peristalsis and stimulated muscle movements in the abdomen and also increased self-esteem with effective bowel management.

### **2.1.3 LITERATURE RELATED TO ABDOMINAL MASSAGE FOR RELIEF OF CONSTIPATION**

The abdominal massage is the natural treatment modality to manage and to prevent the complications of constipation. The word massage is a Latin word MASSA or MASSO meaning “to touch, squeeze or kneed. Massage therapy involves manipulating the body’s muscles, tendons and soft tissue in the body in order to promote relaxation and healing. Massage therapy helps to improve circulation increasing the flow of blood and lymph through the body.

Massage therapy is a manual therapeutic approach used to facilitate healing and health and can be used by nurses in almost all settings. Abdominal massage for constipation regulates peristalsis and it helps to get over the most difficult constipation and not also need laxatives and stool softeners. It is also a cost effective.

**Silke Grenier, (2012)**, conducted a quasi experimental study to assess the efficacy of abdominal self massage in the treatment of adult constipation in United states. A subject of 64 adults with constipation was selected. The subjects were divided into 35 experimental and 29 control group. Intervention group attended self abdominal massage classes and they were done the self abdominal massage for 10-20 minutes daily for one week, control group received health education regarding management of constipation. The incidence of constipation was lower in the self abdominal massage and was effective in treating constipation.

**Jing et al (2011)** conducted a study to determine the effectiveness of nursing intervention on the impact of constipation in orthopaedic subjects. The study results shown that the incidence of constipation in orthopaedic subjects were 60.87% . Abdominal massage relieves constipation and reduces laxative intake.

**Kristina et al., (2011)** conducted an experimental study, “using abdominal massage to ease constipation. “A subject of 60 subjects who had been experiencing two or more symptoms of constipation were selected. Subjects ranged in age from 36 to 85 with an average age of 63 years. Subjects were randomly divided into intervention group received 5 minutes of abdominal massage for 5 days. Results of the research showed that abdominal massage significantly reduced symptoms of constipation. In addition, subjects in intervention group showed significant increases in health related quality of life.

**Wenge ruimin (2011)** conducted experimental a study to determine the effectiveness of abdominal massage on the impact of constipation in orthopaedic subjects. Abdominal massage was given to the experimental group and control group received routine care. The experimental group totally 33 cases, in that 4 cases developed constipation, which represents 70.6% 0.2. The impact of the difference between the groups constipation was statistically significant ( $p < 0.05$ ). The results show that the abdominal massage was effective to treat orthopaedic bedridden subjects with constipation.

**Zhang Battle et al., (2011)** conducted an experimental study to assess the nursing intervention for bedridden subjects with constipation affected 80 subjects were randomly divided into two groups. 40 subjects were in control group and 40 subjects were in experimental group. Observation group received abdominal massage and psychological care where as the control group received routine hospital care. Comprehensive nursing observation group after the intervention the number of constipation was 5 (8%) , control group the number of constipation was 27 (67.5%) . Study revealed that the observational group was significantly superior of prevention of constipation among subjects who are

bedridden . Another study by them reveals A subject of 93 subjects were divided into observational group of 43 and control group of 50. On the basis of basic treatment and nursing care, health education on prevention of constipation was given in control group. Abdominal massage was applied in the observation group. The incidence of constipation was much lower in the observation group than that of the control group.

**Zhao Li et al., (2011)** conducted an experimental study to determine the effectiveness of abdominal massage in bedridden subjects with constipation. Questionnaire survey revealed that 91.5% of orthopaedic bedridden subjects have constipation. The study concluded that fracture bedridden subjects to take timely interventions, regular training for the abdominal muscles, abdominal massage, strengthening health education, and appropriate adjuvant to help bowel movement. Fractures of lower limbs are common in adult and in elderly. They are associated with considerable morbidity and lengthy hospitalization. Constipation is a pervasive problem in hospitalized subjects. In an orthopaedic population, the problem is compounded by issues of forced immobility, pain with movement, and the use of opiates and other medications to control pain. The concept of bowel elimination is a normal physiologic process that may be supported through early assessment and prevention to optimize bowel functioning.

**Lin et al., 2008** , conducted a case study of a 54 year old women with Human T Lymphocytic virus type I associated with myelopathy who had bowel movements only once a week and difficulty in defecation shows that abdominal massage provided to her daily led to the improvement in bowel movements. This lead to interminant defecation, circled bowel sensation and improved rectal waves which are observed through an abdominal radiograph.

**Harrington & Hask vitz (2005)** conducted a case study on a 85 year old woman with complaint of progressively worsening constipation. The study results shows them she had improvement bowel frequency and there is no need for laxative intake after abdominal massage.

**Numpharm (2005)** An article on therapeutic nature of massage by researcher reveals that there are countless praising about the therapeutic massages. Abdominal massage therapy for constipation is a non-drug of interest and studies have concluded that abdominal massage therapy is a promising treatment for constipation.

**Jung HM et. Al., (2004)**, conducted an experimental study to assess the effect of abdominal meridian massage on constipation among 40 cerebrovascular accident subjects in Dong-cui medical centre, Korea. The subjects were randomly divided into two group, experimental of 20 and control group of 20. Abdominal meridian massage was given to the experimental group and no massage was given to the control group. The level of constipation was measured by constipation assessment scale. There was a significant improvement in frequency of defecation and decrease in severity of constipation in the experimental group compared to the control group. The result of the study concluded that the abdominal meridian massage was effective to manage subjects with constipation.

**Harari & Minaker 2003** both reported clinical constipation relieved on the use of abdominal massage in management of constipation among 7 subjects with paraplegia caused by spinal cord injury. Data were collected over three weeks. One week before intervention, during the intervention week and the one week after intervention. So in the intervention week, the subjects received a specific abdominal massage each morning before breakfast. The intervention group had significant decrease in constipation symptom than the control group. The results concluded that abdominal massage may have positive effects of the defecation and most subjects regarded the massage as a comfortable intervention.

**Jeon & Jung (2002)** conducted a study for developing an efficient nursing method for the management of constipation by using abdominal massage among 31 subjects with cerebrovascular accidents. The subjects were determined by Rome II criteria and Constipation Assessment Scale. The result shows a significant improvement in frequency of defecation and decrease in severity of constipation. Thus, abdominal massage can be considered an effective nursing measure for the management of constipation among subjects with cerebrovascular accident.

**Kim, Sakong, Kim & Kim, 2002**, was conducted a study on randomized control group pretest posttest design in Kim Young University, Korea to verify the effects of aromatherapy abdominal massage on constipation in the elderly. The degree of constipation was measured using the Constipation Assessment Scale. The findings of this study showed that aromatherapy abdominal massage helps to relieve constipation in the elderly .

**Preece (2002)** had done a study on 15 subjects attending the day care centre who were referred for abdominal massage for constipation. All the subjects experienced a decline in abdominal distention and flatulence and return to more normal bowel function and it also improved their quality of life by causing a doctor in the uncomfortable symptoms associated with constipation.

**Erabe (1999)** conducted a systematic review of controlled clinical trails reviewed that massage therapy could be a prognosing treatment for chronic constipation.

**Ann (1998)** stated that abdominal massage is used as a therapy to relieve constipation. Findings from subjects with such varying degrees of constipation or disability showed a trend towards increased bowel movement and a reduction of medication for constipation after the abdominal massage.

## LAVENDER OIL

The term complementary medicine is primarily used to describe practices employed in conjunction with or to complement conventional medical treatment. Complementary medicine is sometimes called mind – body medicine because it is an approach to healing that uses the power of thought and emotions positively influence physical health (**USA Drug, 2005**). Complementary therapies can help to boost the immune system, help to eliminate toxins, help to relieve pain, improve sleep pattern, increase energy levels, induce sleep relaxation, reduce stress, relieve tension, relieve constipation and restore balance to body systems.

In recent years it has been seen that there has been a shift of subject from allopathy medicine to complementary medicine. The shift may be because subjects are becoming more conscious of their health and realize the need of holistic health. Quality of life is felt more important. **In 2007 National Health Interview** survey of complementary medicine used by Americans, showed that approximately 38% adults use complementary medicine. A survey by Naturopathy medicine in 2008 revealed that 65% of Australians had used one or more complementary medicine in the previous 12 months.

Lavender oil is a colorless to yellowish aromatic essential oil obtained from the flowers of various lavenders and used in medicine as a stimulant.

Lavender Oil is one of the complementary medicines. It has a light fresh aroma, clear in color and watery in viscosity. Lavender has been used continuously for thousands of years in the form of lavender essential oil and dried flowers. In the 1800's the Yardly company in England, realized the healing properties of lavender.

The therapeutic properties of lavender oil are anticonvulsant, antidepressant, anti-rheumatic, anti-spasmodic, anti-inflammatory, anti-viral, bactericidal, sedative, carminative, soothing, hypotensive, decongestant and diuretic. The main effects of lavender are calming, soothing, balancing and

normalizing. Lavender can be used to a state of mental and physical imbalances to a state of balance in which healing can take place. On the skin, lavender oil tones, revitalizes and it is useful for all types of skin problems such as abscesses, acne, oily skin, boils, burns, sunburns, wound, psoriasis, insect bites, injuries and also acts as an insect repellent. Lavender oil can be used in a sitz bath and it would also have the added benefit of decreasing anxiety . (**Katayon Vakilian, 2012**).

The use of lavender oil can be effective in reducing perineal discomfort and promote wound healing following haemorrhoidectomy. It is being used due to its antiseptic and healing properties. Lavender oil is found as a good choice in treating haemorrhoidectomy wound healing because of its cell regenerating properties.

Research carried out at **Huntington's Hinchinbrooke** Hospital has found that the use of lavender oil in the massage led to greater comfort and improved healing of the peritoneum between the third and fifth days after injury. Adding lavender oil to an abdomen aids in the healing of scar tissue. It also prevents the formation of excessive scar tissue and improves bowel function.

According to **Margaret Fawcell** one of the safest essential oil and can be used in full strength on the skin also referred to as 'neat' . In this study 5 drops of lavender oil is used to improve the bowel function within 3 days. Complications of constipation include the following physical alterations and symptoms, anorexia, overflow incontinence, confusion, nausea and vomiting, urinary dysfunction, impaction, fissures, rectal prolapse, hemorrhoids, bowel obstruction and syncope. It may also lead to anxiety and social isolation.

**Koch & Hudson, 2000** To prevent constipation and its complication health education, guidance to establish regular bowel habits and proper nursing intervention is necessary among post operative subjects, post operatively the nurse , should observe whether the abdominal girth and bowel sounds are



normal. Studies proved that, abdominal massage with lavender oil is effective to prevent constipation among lower limbs fractured subjects those who are bedridden.

Orthopaedic subjects have a medium risk for developing constipation on second post operative day. Nurses working in orthopaedic setup must learn to assess the post operative constipation risk of orthopaedic subjects to implement safe and effective interventions to prevent constipation.

Abdominal massage is easy to learn and can be used to relieve constipation. Massage means rubbing and kneading of muscles and joints of the body with the hands (especially to relieve tension or pain). Abdominal massage is being a natural treatment modality and has absolutely no side effects which motivated the researcher to find out the outcome of abdominal massage on prevention of constipation among subjects who are bedridden

### **General information related to abdominal massage.**

Abdominal massage has been practiced as a healing therapy from 19<sup>th</sup> century. Abdominal massage for constipation regulates the peristalsis and helps your energy to move. Abdomen massage can be received from infancy into the elderly stages . Abdomen massage has been administered to assist colicky babies, subject with illness, stress related issues, and elderly client who have less movement in their daily lives. Abdominal massage with aroma oils single or mixed promotes peristaltic movements .

Digestion is assisted by muscle contraction of the intestines, which is called peristalsis. The peristaltic musculature contracts and moves in waves, assisting digestion. In optimum health and posture a peristalsis muscle contraction starts every 20 seconds during digestion and follows a circular motion in the abdomen. It is no wonder that abdomen massage can bring great benefit and relief for digestion. The best time for an abdominal massage is in the mornings and evenings while lying in bed for about 10-20 minutes.

### **Uses of Massage Therapy:**

1. Relieves pain
2. Rehabilitate sports injuries
3. Reduce stress
4. Increase relaxation
5. Address anxiety and depression
6. Aid in general wellness
7. Improves blood supply.
8. Stimulates peristalsis and relives constipation.

### **Abdominal massage should not be done**

1. 2 hours after a meal
2. While bladder is full
3. During pregnancy or menstruation
4. When high blood pressure
5. When umbilical hernia or ulcer is present.
6. When there is internal bleeding or inflammation of the lower abdomen

The abdomen is the centre and core of the body. Many cultures around the globe have designed massage techniques specifically for the abdomen to help specific ailments and maintain proper circulation in the visceral organs. This very important core of the body houses vital organs, which govern nutritional absorption for overall health and vitality, as well as detoxification. Massage to the stomach region can also centre a client's balance and feel very comforting.

## **2.1.4 LITERATURE RELATED TO ABDOMINAL MASSAGE WITH LAVENDER OIL ON MANAGEMENT OF CONSTIPATION**

**Huang Ai Jing et al., (2012)**, conducted an Experimental study to determine the impact of nursing intervention (Abdominal massage) for constipation among the impact of nursing intervention (Abdominal massage) for constipation among subjects with hemorrhagic stroke in longhua branch of subject's hospital, China. A subject of 62 subjects with hemorrhagic stroke were randomly divided into Control group and Experimental group, there were 31 cases in each group. Control group were given conventional stroke care and health education, intervention group were given abdominal massage with mixed aroma oils (rosemary oil , sandalwood oil and lavender oil ) additional to routine care. The incidence of constipation and degree of constipation of two groups were compared. The incidence of constipation in the experimental group was 25% and in control group was 61.29%. The study concluded that abdominal massage with aroma oil is effective in management of constipation.

**Dareen Mc clurg et al., (2011)**, conducted an experimental study with a view to determine abdominal aroma massage for the alleviation of constipation symptoms in subject with multiple sclerosis in Glasgow Caledonian University. A subject of 30 subjects (12 male, 18 female) randomly divided into control and experimental group. Both group received advice on fluid intake, diet, exercise. In addition Experimental group received abdominal aroma massage for 10 minutes upto 3 weeks. Both group constipation scale score decreases however the Experimental group improved significantly more than the Control group (mean difference between the group in score change -5.0 (SD-1.5) 95% , t- 3. 28, df=28, p=.003). They concluded that abdominal aroma massage is effective to alleviate constipation among multiple sclerosis subjects.

**Julie stachowiak et al., (2011)**, Conducted a Quasi experimental study designed to see if abdominal massage with lavender oil could help constipated subjects with multiple sclerosis in United Kingdom. A total of 30 subjects divided into 2 groups (Control and Experimental). The Control group was given bowel management advice, while intervention group received the same advice plus daily abdominal massage with lavender oil for 10-15 minutes. Both group improved during the study, the group receiving abdominal massage showed a significant improvement over the Control group. The result of the study concluded that abdominal massage with lavender oil is a natural modality for treating multiple sclerosis subjects suffering from constipation.

**Lamas et al. (2009)** conducted a full scale controlled clinical trial with a view to determine the use of abdominal massage with lemon oil and lavender oil mixed in management of constipation among 60 elderly subjects in Umea University, Sweden. Block randomization was used to the 60 volunteers with a mean age of sixty-four into an intervention and a Control group. The intervention group received abdominal massage with mixed aroma oil for 7 minutes. 5 days a week for a total of eight weeks. The Control group continued with their regular routine of bowel care. The investigator used two validated questionnaires to evaluate the bowel function (Gastrointestinal Symptom Rating Scale and the Bristol scale). The study concluded that the abdominal lmassage with mixed aroma oil significantly increase the number of bowel movements as well as it decreases the severity of constipation symptoms in the intervention group.

**Lars Lindholm et al., (2009)** conducted a randomnized controlled trail on the use of with mixed (Cyprus oil and lavender oil ) aroma oil abdominal massage in management of constipation in Sweden. A subject of 60 subject with constipation was included and randomized in two groups. The intervention group received abdominal massage with aroma oil in addition to an earlier prescribed laxative and the control group received only laxative according to earlier prescriptions. Abdominal massage decreased severity of gastrointestinal

symptoms assessed with Gastrointestinal Symptom Rating Scale (GSRS), especially constipation and abdominal pain syndrome and increased bowel movements. Symptoms assessed with GSRS according to total score ( $p=.003$ ), constipation syndrome ( $p=.013$ ), abdominal pain syndrome ( $p=0.19$ ). The intervention group also had significant increase of bowel movements compared to the control group ( $p=.016$ ). The study concluded that abdominal massage with aroma oil for constipation regulates peristalsis and decreases the severity of symptoms in constipation.

**Ayas et al (2006)** concluded a pre experimental study with a view to identify the effectiveness of abdominal massage on constipation. 24 paraplegics suffering from constipation were randomly selected and abdominal massage was given for 15 mins for 5 consecutive days. Laxatives were used as needed. The authors noted a significant decrease in fecal incontinence, abdominal distension, and total colonic transit time as well as a significant increase in the number of bowel movements. They concluded that abdominal massage a promising modality for treating paraplegics suffering from constipation.

**Haug , et al ., (2006)** conducted a study with aroma massage (abdomen) The subjects were 38 college women, 18 were in the aroma group and 20 in the plain group. The aroma massage( a series of long , smooth ,rhythmic stroke for 5 to 10 minutes ) was given using aroma oil which was a mixture of lemon, lavender, rosemary, and cyprus. The plain massage was given at 4 levels((stroking, effleurage, kneading , vibration ) which influence intestinal functions. The treatment was given 5 days a week for 4 weeks. A constipation severity score, weekly defecation frequency, and a stress response score were measured before and every week of 4 weeks of the experiment. There was a significant difference within the groups in the constipation severity (aroma group: 1st week, plain group: except 4th week), defecation frequency (aroma group: 3rd week, plain group: 2nd and 3rd week), and stress (aroma group: all weeks, plain group: except 4th week) after different duration of experiment .

**Jeonsy et al., (2005)**, conducted an Experimental study to determine the effects of aroma oil abdominal massage on constipation among Cerebro-vascular accident subjects in Dong-cui medical centre, Korea. 31 subjects were randomly divided into two groups : one Experimental group of 16, another Control group of 15. 7-10 minutes of abdominal massage with rosemary oil was given to the Experimental group and no massage was given to the Control group. Final result was the abdominal massage with rosemary oil can be considered an effective nursing intervention method for the management of constipation among Cerebro vascular accident subjects.

**Kim MA et. Al., (2004)** conducted an experimental study to determine the effect of aromatherapy massage for the relief of constipation in the elderly in college of nursing keimyung University. Korea. A subject of 40 elderly subjects were divided into Experimental and Control group. The experimental group received massage using essential oils with rosemary, lemon, peppermint for 7 days and control group received no intervention. The level of constipation was measured by using constipation assessment scale. The score of constipation assessment scale of the Experimental group was significantly lower than that of the control group. The study concluded that the aromatherapy massage was effective to manage constipation.

**Joyce Preece et al., (2002)** conducted a pre experimental study to determine the effectiveness of abdominal massage to ease constipation. A subject of 15 constipated subjects selected and given 10 minutes of abdominal massage per day by either nurses, massage therapists, or the subjects themselves. All subjects reported less flatulence and abdominal distension after the first week of treatment. By week six, eight of the fifteen subjects shared that they had resolved their constipation and experienced normal bowel movements. Three subjects experienced continuous constipation, yet less severe accompanying symptoms. The study concluded that abdominal massage is a cost effective method to treat constipation.

**Kendra L. Harrington et al., (2002)** conducted a study to manage constipation with aroma and physical therapy. An 85 year old woman with constipation was instructed to do 10 minutes home abdominal massage with peppermint and lavender oil mixed for 5 days. Upon re-examination, the patient reported a return of normal bowel frequency and function without the need to strain. The result concluded that the abdominal massage and aroma oil application appeared to be helpful in resolving the subject's constipation.

**Micheal & walt** conducted a study to determine the effect of abdominal massage for the alleviation of constipation . A total of 62 subjects were divided into 2 groups (Control and Experimental). The Experimental group received abdominal massage for 5 days and Control group received routine care. The investigator used constipation assessment scale to evaluate bowel function. The Experimental group showed a significant improvement over the Control group. The result of the study concluded that massage therapy could be a promising treatment for constipation.

**Emly et al. (1998)** utilized a randomized cross-over design to compare abdominal massage and laxative treatment among 32 disabled institutionalized adults with constipation were selected and abdominal massage was given for 20 minute five times a week. Laxatives and abdominal massage were reported as equally effective in reducing transit times and increasing stool frequency. Abdominal massage, unlike the use of laxatives, was reported to have no known side-effects. The study concluded that abdominal massage is a natural treatment to treat constipation.

## **PART II**

### **CONCEPTUAL FRAMEWORK**

In this study the researcher has adopted “wiedenbach’s helping art of clinical nursing theory”, as a conceptual framework .

A conceptual framework on a model is made up of concepts, which are the mental images of phenomenon. A conceptual framework is a set of coherent ideas or concepts organised in a manner that makes them easy to communicate to other . It provides an organized way of thinking about how and why a project takes place and about understand its activities.

The study is aimed to assess the outcome of abdominal massage with aroma oil (lavender oil) in relieving constipation among bedridden subjects. Hence this study is based on wiedenbach’s helping art of clinical nursing theory(1964).

Wiedenbach conceptualizes nursing as a practice of identification of a subject’s need for help through observation of presenting behaviours and symptoms, exploration of the meaning of those symptoms with the subject, determining the causes of discomfort and determining the subject’s ability to resolve the discomfort or if the subject has a need for help from the nurse or other health care professional. Nursing primarily consists of identifying the subject’s need for help . If the need for help requires intervention , the nurse facilitates the medical plan of care and also creates and implement nursing plan of care based on needs and desires of the subjects. In providing care, a nurse exercises sound subject’s perception of the situation is an important consideration to the nurse when providing competent care (Sitzman and Eichelberger,2003)



Wiedenbach imparts clarity and power to her work and sets the stage for productive exploration and debate . She defined the following:

1. The patient is any person who has entered into the healthcare system and is receiving help of some kind , such as care, teaching or advice.
- 2 .A need for help is defined as any measure desired by the subject that has the potential to restore or extend the ability to cope with various life situation.
3. Nursing decisions are made to achieve a specific subjects centered purpose rather than completion of the skill itself being the end goal.
4. Each person (whether nurse or subject) is endowed with a unique potential to develop self-sustaining resource .self –acceptance is essential to personal integrity and self worth .

### **Step 1:Identification of the need for help.**

Which comprise of the demographic variables such as age, sex , occupation, religion, marital status, type of family, income, dietary pattern, area of residence .Central purpose refers to what the investigator wants to accomplish. In this study central purpose is to relieve constipation among bedridden subjects.

The plan of care , the nature of action that will fulfill the central purpose. According to the study it is planned to give abdominal massage with aroma oil (lavender oil) for 10-15 min for five consecutive days among bedridden subjects in Experimental group.

## **Step 2 : Ministering the needed help.**

Providing abdominal massage with aroma oil for the Experimental group is the intervention to relieve constipation. The realities are the immediate situation that influences the fulfilment of the central purpose. Nurse should consider the realities of the situation in which she is to provide nursing care. Wiedenbach defines the five realities.

1. The agent: The person who is providing care or her delegates characterized by personal attributes potential, commitment and competence in nursing. In this study it is medical surgical nurse.
2. The Recipient: Is the patient who is characterized by the personal attributes, problems, capacities, aspirations and to cope with the concern or problems being experienced. Recipients of this study are bedridden subjects.
3. The Goal: Is the defined outcomes the nurse wishes' to achieve. The goal of this study is to relieve constipation among bedridden subjects.
4. The Means: Comprises of the activities and devices through which the practitioner attains the goal. The means include skills, techniques, procedures and devices that may be used to facilitate nursing practice. In this study the mean is administration of abdominal massage with aroma oil (lavender oil).
5. The Facilities: Consists of the human, environmental, professional, organization facilities that not only make up the context in which the nursing practices but also constitutes its currently existing limits. In this study it is Rajiv Gandhi Government General Hospital at Chennai- 03.

### **Step 3: Validating that the needed help was met.**

It is validated that the needed help was delivered in achieving the central purpose. The steps involve the post assessment done after ministering the help and the comparison, analyses to interfere the outcome. This approach thereby enables the researcher to make suitable decision and recommended action to continue or drop or modify the nursing action. According to this study the validation is comparison of pre-assessment and post-assessment level of constipation among bedridden subjects.

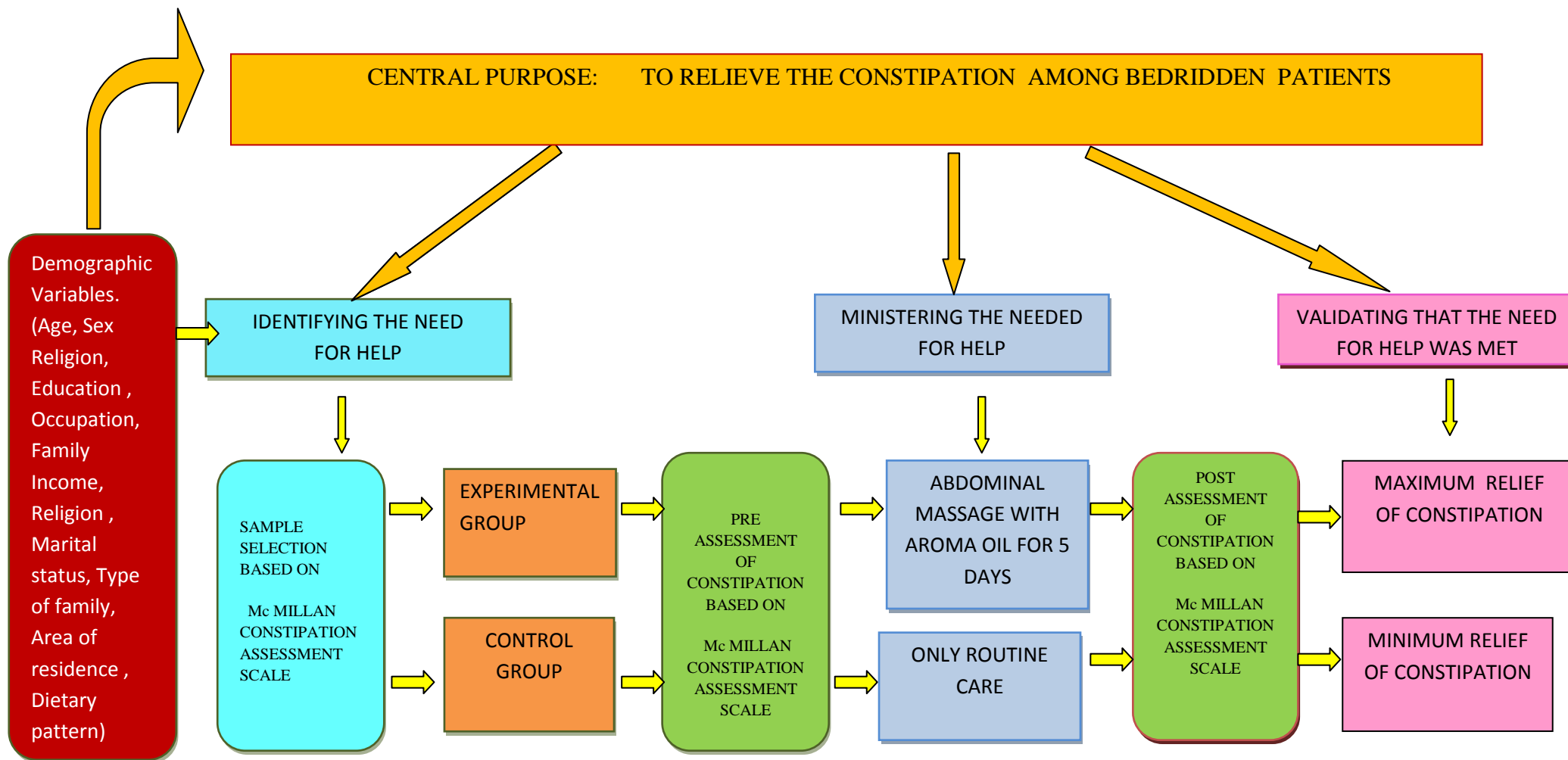


Fig .2. CONCEPTUAL FRAMEWORK BASED ON MODIFIED WIEDENBACH'S HELPING ART OF CLINICAL NURSING THEORY (2006)



## **CHAPTER—III**

The methodology of research indicates the general pattern of organizing the procedure for gathering valid and reliable data for the purpose of investigation .

**Polit and Hungler, 2003**

### **METHODOLOGY**

This chapter deals with the description of research methodology adopted by the investigator. Methodology is a systematic way to solve research problems. Research Methodology provides a brief description of the method adopted by the investigator in the study. The methodology of research refers to the principles and ideas on which the researchers base their procedures and strategies. It includes the research approach , design, population, sampling technique, development and description of the tools and intervention, pilot study report, procedure for data collection and data analysis. Research methodology involves the systematic procedure by the researcher, which starts from initial identification of the problem to its final conclusion. The study conducted is to assess the effectiveness of abdominal massage with lavender oil for relieving constipation among bedridden subjects.

### **3.1 RESEARCH APPROACH**

Quantitative approach was used for this study. A research approach tells the researcher about the collection of data that is, what to collect, when to collect, how to collect and how to analyze . It also helps the researcher with suggestions of possible conclusions to be drawn from the data.

### 3.2 RESEARCH DESIGN

The research design adopted for the study is “Quasi- Experimental two group pre- assessment and post- assessment design. The research design is a plan , structure and strategy of investigations of answering the research question. It is an overall plan or the blue print, the researcher select to carry out the study.

<b>GROUP</b>	<b>Pre Assessment</b>	<b>Intervention</b>	<b>Post Assessment</b>
Experimental Group	01	X	02
Control group	03	—	04

01 – Pre- assessment constipation score in Experimental group

02- Post- Assessment constipation score in Experimental group

X- Abdominal massage with aroma oil in Experimental group

— Only routine care

03- Pre- assessment constipation score in Control group

04- Post- assessment constipation score in Control group

### **3.3 RESEARCH VARIABLES**

The categories of variables discussed in this study were

- **Independent variable:** Abdominal massage with lavender oil .
- **Dependent variable:** Level of constipation.
- **Demographic variables:**Age, Sex, Marital status, Religion, Type of family, Educational status, Occupation ,Income, Area of residence, Dietary pattern.

### **3.4 STUDY SETTING**

Study was conducted in selected Medical wards at Rajiv Gandhi Government General Hospital, Chennai -03.

### **3.5 POPULATION**

The population selected for the study consists of conscious adult bedridden subjects admitted in selected wards at Rajiv Gandhi Government General Hospital, Chennai -03.

### **3.6 SAMPLE SIZE**

The sample size for this study was 60 bedridden subjects who are constipated for more than three days , thirty subjects for Experimental group and thirty subjects for Control group.

### **3.7 SAMPLING TECHNIQUE**

Non-probability Purposive sampling technique was used in this study. Subjects were randomly assigned to Experimental and Control group.



### **3.8 CRITERIA FOR SELECTION OF SUBJECTS**

#### **INCLUSION CRITERIA**

- The subjects those who are conscious , bedridden with constipation for more than three days of both sex.
- The subjects who are willing to participate in the study.
- The subjects, who are able to understand Tamil and English.

#### **EXCLUSION CRITERIA**

- ❖ The subjects, who are not willing to participate in the study.
- ❖ The subjects who are non-constipated having normal bowel movements and elimination.
- ❖ The subjects who are underwent abdominal surgery.
- ❖ The subjects, who are getting laxatives daily.
- ❖ The subjects who are not bedridden.
- ❖ The subjects who are in the age group below 20.

### **3.9 DEVELOPMENT AND DESCRIPTION OF TOOL**

Data collection tools are the instruments used by the researcher to observe or measure the key variables in the research problems. The tools used in this study for collecting data were the demographic profile , physiological parameters and Constipation Assessment Scale .

#### **DESCRIPTION OF TOOL**

##### **Tools for data collection:**

Tool is divided into three parts.

### **Part-A:**

It deals with the demographic variables of bedridden adults with constipation. It consists of demographic profile such as age, sex, religion, education, marital status, occupation, income, dietary pattern , type of family and area of residence .

### **Part-B :**

This consists of structured questionnaire regarding physiological parameters with Gastrointestinal symptoms assessment. It consists of physiological parameters such as activities of daily living , duration of problem of constipation, frequency of bowel movements, consistency of bowel movements , fluid intake per day , intake of laxatives , intake of fibre , appetite and defecation were tried.

### **Part- C :**

Constipation Assessment Scale . It consists of a scale ranging from 0-20 to assess the constipation level among bedridden subjects. The score ranged from No constipation- 0 to severe constipation -20

### **3.10 SCORING KEY**

Each question carries the score : For no constipation – 0 , for somewhat— 1 , for severe – 2 . To find out the effectiveness of abdominal massage for relieving constipation , scoring is categorized into four groups.

#### **LEVEL OF CONSTIPATION**

No constipation— 0

Mild constipation— 1-6

Moderate constipation—7-12

Severe constipation ---- 13 -20

### **3.11 ETHICAL CONSIDERATION**

This study was conducted after the approval from the Dean and Ethical committee, Madras Medical College, Chennai-03. Permission was obtained from the professor and HOD of the Internal Medicine Department. All subjects were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Confidentiality of the study results were ensured. The freedom was given to the subjects to leave the study at his/her will without assigning any reason. No routine care was altered or withheld. Thus the investigator followed the ethical guidelines which were issued by the research committee. Written permission was obtained from all subjects.

### **3.12 CONTENT VALIDITY**

Validity of the tool was assessed using content validity. Content validity was determined by Nursing and Medical experts. They agreed this tool for assessing effectiveness of abdominal massage with aroma oil (lavender oil) for relieving constipation among bedridden subjects admitted in selected wards at Rajiv Gandhi Government General Hospital, Chennai-03.

### **3.13 PILOT STUDY**

A formal permission was obtained from the Professor and Head of the Department of Internal Medicine, Rajiv Gandhi Government General Hospital, Chennai-03, and content validity from the experts, the study was conducted in Medical wards for 5 days at Rajiv Gandhi Government General Hospital, Chennai-03. The bedridden subjects who are having constipation were selected using Non-probability purposive sampling technique. Among 6 subjects, 3 subjects were in Experimental group and 3 subjects were in Control group. Informed written consent was obtained from the subjects. Abdominal massage with lavender oil was administered to Experimental group. Analysis of the

study showed positive correlation between abdominal massage and constipation. Study was practically feasible. The instrument was found reliable for proceeding with the main study. The scores were found to be significant at 5% ( $p < 0.05$ ) level. The findings of the pilot study revealed that the study is feasible.

### **3.14 RELIABILITY OF THE TOOL**

After pilot study reliability of the tool was assessed by using inter rater method and its correlation coefficient  $r$ -value value is 0.82. This correlation coefficient is very high and it is good tool for assessing effectiveness of abdominal massage with aroma oil (lavender oil) for relieving constipation among bedridden subjects admitted in selected wards at Rajiv Gandhi Government General Hospital, Chennai-03.

### **3.15 DATA COLLECTION PROCEDURE**

A formal permission was obtained from the Dean, Ethical committee, Professor and Head of the Department of Internal medicine, Rajiv Gandhi Government General Hospital, Chennai-03. As per inclusion and exclusion criteria the subjects were selected by using non-probability purposive sampling method and subjects are divided into Experimental and Control groups. Subjects selected for pilot study were excluded. The study purpose and method were explained to each subject and informed written consent was obtained. Confidentiality was assured to all the subjects. The information regarding demographic profile and clinical parameters were collected from 60 constipated bedridden subjects by interviewing them and observing health records. The Constipation Assessment Scale (McMillan and Williams, 1989) was used to assess the constipation level. Pre assessment constipation score was measured by using scale in both Experimental and Control group on first day. The intervention, abdominal massage with aroma oil was given to Experimental group for 10 minutes for five consecutive days with 1ml of lavender oil diluted with 1ml of coconut oil (vegetable oil) spread over the abdomen. The

techniques of massage was followed. (stroking, effleurage, kneading and vibration) Intervention was done at the bedside. Adequate privacy was provided during the procedure. Control group received their routine treatment. The post - assessment of constipation score was done on every day after 20 minutes of intervention with the same Constipation Assessment Scale on every day for five days in both groups. Approximately the time taken for the intervention daily for single subject is 15 to 20 minutes. The evidence of intervention and constipation level were marked.

### **3.16 PLAN FOR DATA ANALYSIS**

The data were planned to be analyzed in terms of the objectives of the study using descriptive and inferential statistics.

#### **Descriptive statistics include**

- 1) Frequency and percentage distribution of demographic profile and clinical parameters.
- 2) Mean and standard deviations of pre assessment and post assessment constipation scores.

#### **Inferential statistics include**

1. Demographic variables in categorical/dichotomous were given in frequencies with their percentages. Constipation score was given in mean and standard deviation.
2. Association between level of constipation score and demographic variables were analyzed using Pearson Chi-square test.
3. Repeated day wise constipation measurement are analysed using repeated measures of analysis of variance F-test.

4. Difference between Experimental and Control was analyzed using student independent t-test . Difference between pre- assessment and post- assessment was analyzed using student dependent t-test.

5. Differences between pre-assessment and post-assessment score was analyzed using mean difference with 95% Confidence interval.  $P < 0.05$  was considered statistically significant.

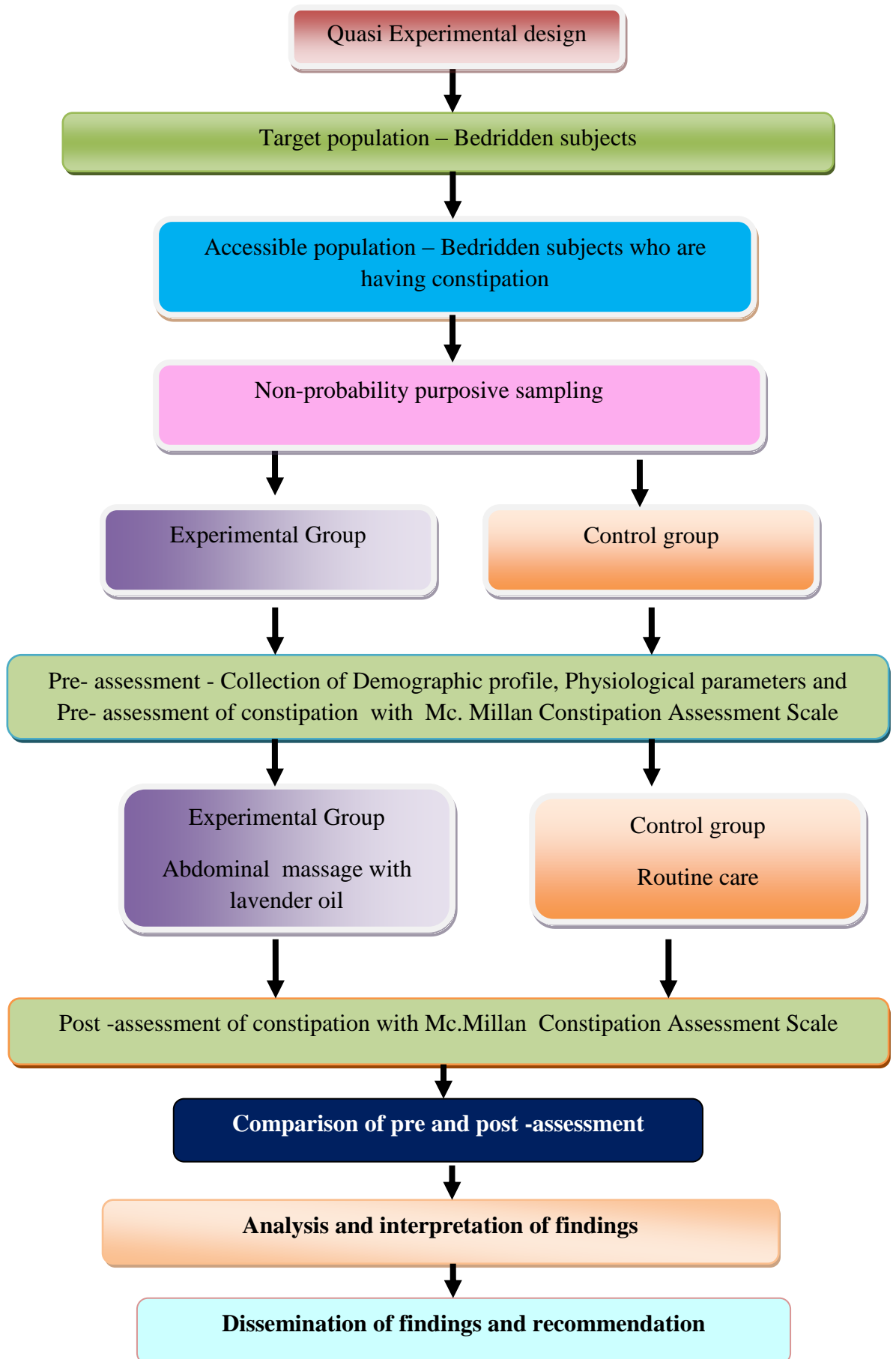
### **Method of Data Analysis & Interpretation**

- The researcher used appropriate statistical techniques for data analysis and present in the form of tables, graphs and diagrams.
- Demographic data are analyzed by frequency and percentage distribution.
- The effectiveness of abdominal massage with aroma oil is assessed by mean difference paired 't' test in Experimental group.
- The association between effectiveness of abdominal massage with lavender oil in relieving constipation and demographic variable is analyzed by Chi-square.

### **3.17 PROJECTED OUTCOME**

Projected outcome of the study is that the bedridden subjects with constipation will have

- Improved peristaltic movements
- Decreased constipation level
- Relief from discomfort
- No need for laxative intake.



**(fig -2) Schematic representation of the Methodology**

## CHAPTER IV

“All things are subject to interpretation. Whichever interpretation prevails at a given time is a function of power and not truth.”

— **Friedrich**

### DATA ANALYSIS AND INTERPRETATION

The study aimed to assess the effectiveness of abdomen massage with aroma oil for relieving constipation among bedridden subjects . The data was collected from 60 subjects (30 Experimental , and 30 Control ) . The findings were tabulated and interpreted in this chapter. The data was analysed by using descriptive and inferential statistics . The data were analyzed based on the objectives formulated by the researcher. The analyzed data are tabulated under tables and figures under the sections given below.

The objectives of the study were,

1. Pre- assessment of constipation among Experimental and Control group .
2. Post- assessment of constipation after abdominal massage with lavender oil among Experimental group and routine care in Control group .
3. To compare the effectiveness of abdominal massage with lavender oil in relieving constipation among Experimental group
4. To associate the effectiveness of abdominal massage with lavender oil in relieving constipation with the selected demographical variables.



The data analyzed were presented as follows:

- Section – I : Data on demographic profile of bedridden subjects with constipation in the Experimental and Control group.
- Section – II : Data on pre- assessment constipation score among bedridden subjects in Experimental and Control group.
- Section – III : Data on post- assessment constipation score among bedridden subjects in Experimental and Control group
- Section – IV : Data on comparison of pre- assessment and post - assessment of constipation score among Experimental group and Control group.
- Section – V : Effectiveness of the Pre- assessment and Post- assessment constipation score between the Experimental and Control group.
- Section – VI : Data on association between the mean difference in constipation score and selected factors among bedridden subjects in Experimental group.

## SECTION -- I

### 4.1 Demographic Data

The subjects were selected based on the diagnosis and the presence of complaints of constipation. The demographic data collected were age, gender, marital status, religion, type of family, educational status, occupation, income, area of residence, dietary pattern etc.

### SECTION –I: DATA ON DEMOGRAPHIC PROFILE OF BEDRIDDEN SUBJECTS WITH CONSTIPATION IN THE EXPERIMENTAL AND CONTROL GROUP.

**Table 1 : DEMOGRAPHIC PROFILE**

Frequency and percentage distribution of subjects in the Experimental and Control group regarding their background factors

Table 1: DEMOGRAPHIC PROFILE

Demographic variables		Group			
		Experiment		Control	
		n	%	n	%
Age	20 -40 yrs	5	16.7%	5	16.7%
	41 -50 yrs	7	23.3%	10	33.3%
	51 -60 yrs	15	50.0%	13	43.3%
	>60 yrs	3	10.0%	2	6.7%
Sex	Male	12	40.0%	15	50.0%
	Female	18	60.0%	15	50.0%
Marital status	Married	22	73.3%	21	70.0%
	Unmarried	3	10.0%	5	16.7%
	Widow	5	16.7%	4	13.3%
Religion	Hindu	24	80.0%	24	80.0%
	Muslim	4	13.3%	3	10.0%
	Christian	2	6.7%	3	10.0%
Type of family	Nuclear family	20	66.7%	19	63.3%
	Joint family	7	23.3%	9	30.0%
	Broken family	3	10.0%	2	6.7%
Educational status	Illiterate	2	6.7%	2	6.7%
	Elementary	12	40.0%	11	36.7%
	Higher secondary	8	26.7%	10	33.3%
	Diploma	3	10.0%	3	10.0%
	Graduate	5	16.7%	4	13.3%

Occupation	Government	1	3.3%	1	3.3%
	Private	6	20.0%	6	20.0%
	Business	9	30.0%	6	20.0%
	Unemployed	10	33.3%	10	33.3%
	Coolie	4	13.3%	7	23.3%
Income	< Rs.1000	7	23.3%	4	13.3%
	Rs.1001- 2000	8	26.7%	7	23.3%
	Rs.2001- 5000	8	26.7%	11	36.7%
	>Rs. 5000	7	23.3%	8	26.7%
Area of residence	Urban	13	43.3%	11	36.7%
	Rural	17	56.7%	19	63.3%
Dietary pattern	Vegetarian	4	13.3%	4	13.3%
	Non- vegetarian	11	36.7%	12	40.0%
	Mixed	15	50.0%	14	46.7%

Table 1 shows the demographic information of subjects those who are participated for the following study on “A study to assess the effectiveness of abdominal massage with aroma oil (lavender oil) for relieving constipation among bedridden patients admitted in selected wards at Rajiv Gandhi Government General Hospital, Chennai -03.”

This shows the demographical information of subjects those who are participated for the study. It reveals the frequency and percentage distribution of subjects in the Experimental and Control group regarding their demographic information.

The table shows that majority of subjects , that is 50 % (15) of subjects belongs to the age group of 51 – 60 years in the Experimental group . In the Control group 43.3%(13) of subjects were 51- 60 years of age.`

Majority of subjects were female in Experimental 60% (18) and in Control group both male and female were equal that is 50 % (15) .

Subjects belongs to Marital status are 73. 3% (22) married in Experimental group and 70 % (21) are married in Control group who are majority in both groups.

Subjects constituting 80% (24) were mainly Hindus in the Experimental, as well as in Control group 80.% (24) are equal.

Regarding Type of family, majority of the subjects in Experimental group 66.7% (20) and Control group 63.3% (19) belongs to Nuclear family.

Regarding Education, in both group majority was educated up to primary education. In Experimental group it is 40% (12) and in Control group 36.7% (11) .

Majority of the subjects were unemployed and equal in both Experimental group 33.3% (10) and in Control group 33.3% (10).

Regarding Monthly income, in Experimental group 1001 to 2000 and 2001 to 5000 are equal as it is 26.7% (8), and in Control group 36.7% (11) were from 2001 to 5000.

Majority of subjects were Non- vegetarian 93.3% (28) both in Experimental and Control group.

Regarding area of residence most of the subjects belongs to rural area Experimental group 56.7% (17) and Control group is 63.3% (19) .

Majority of subjects were on mixed diet 50.0% (15) in Experimental group and 46.7% (14) in Control group .

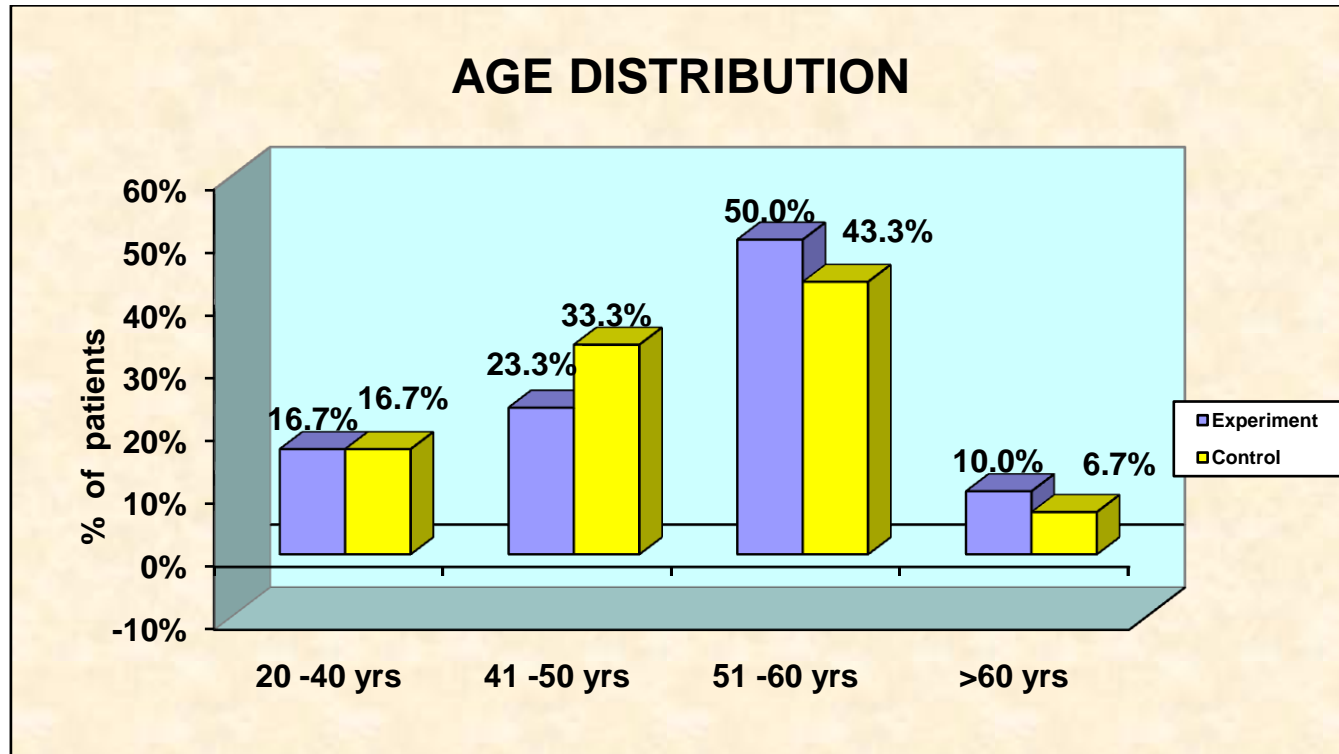


Figure 3: Distribution of subjects according to age

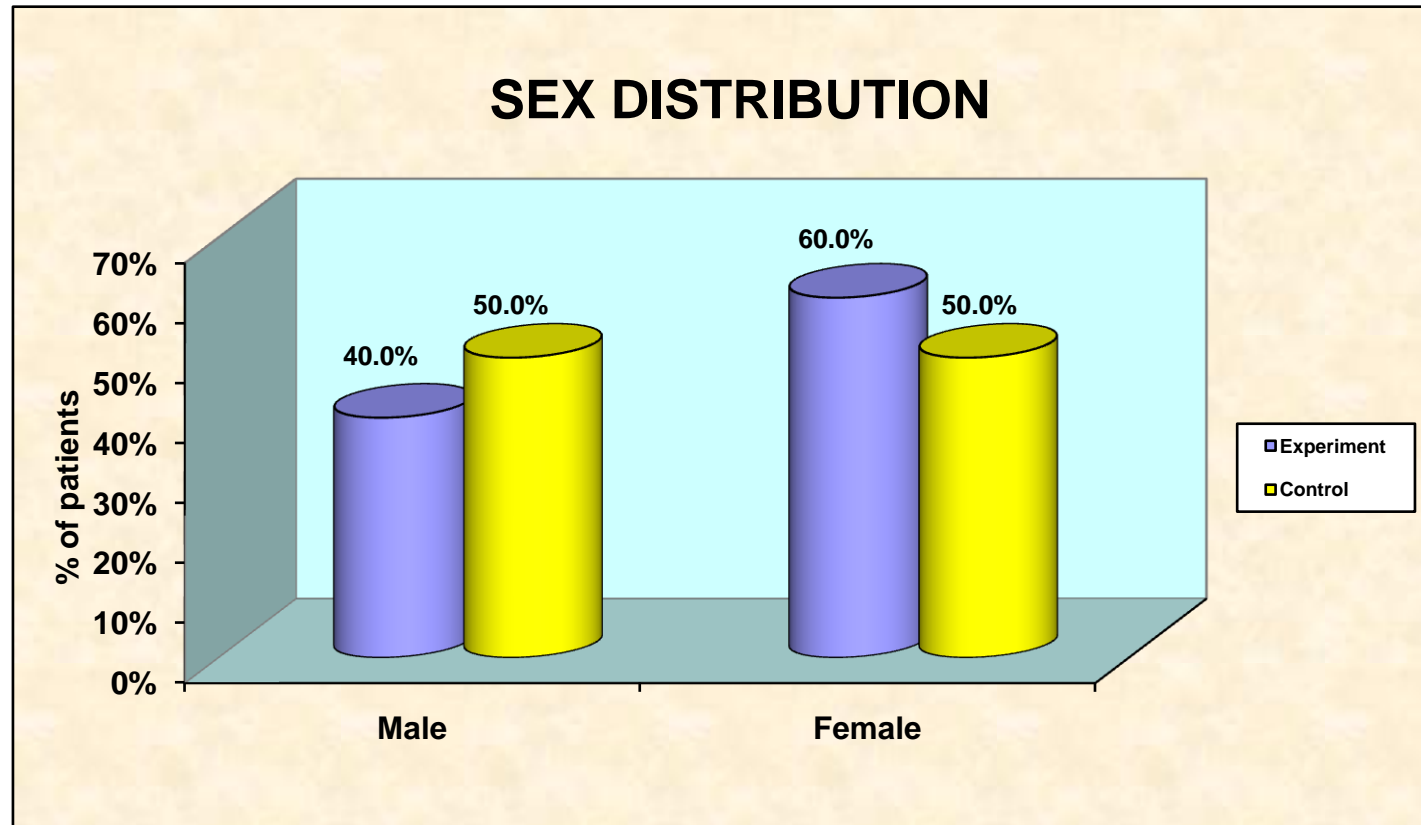


Figure 4: Distribution of subjects according to sex

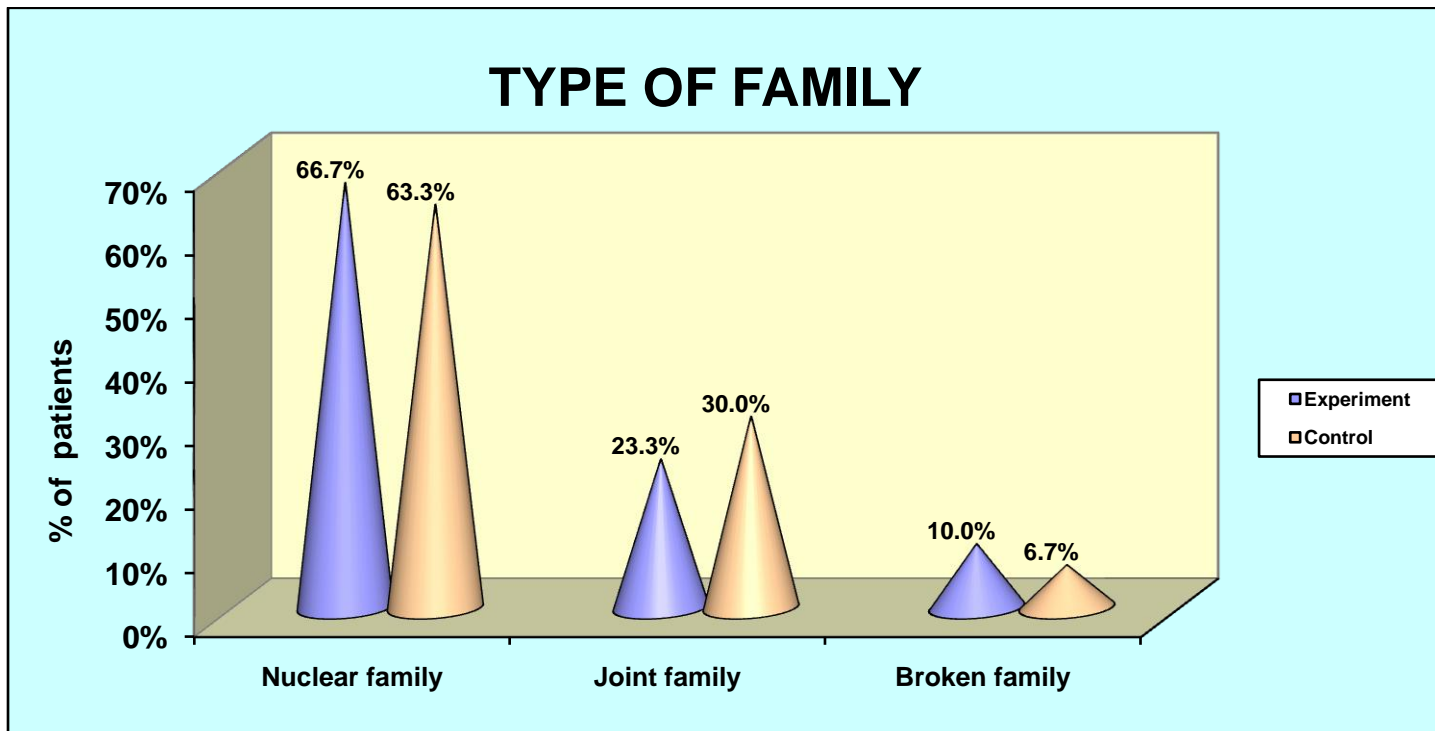


Figure 5: Distribution of subjects according to type of family

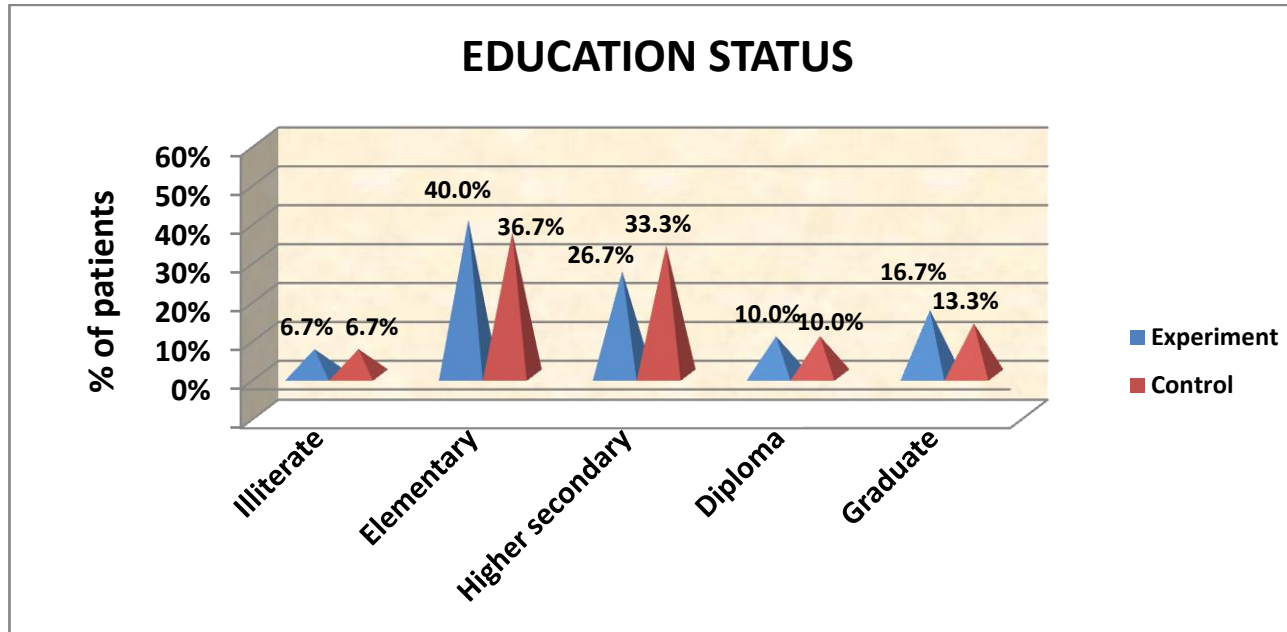


Figure:6 Distribution of subjects according to education status



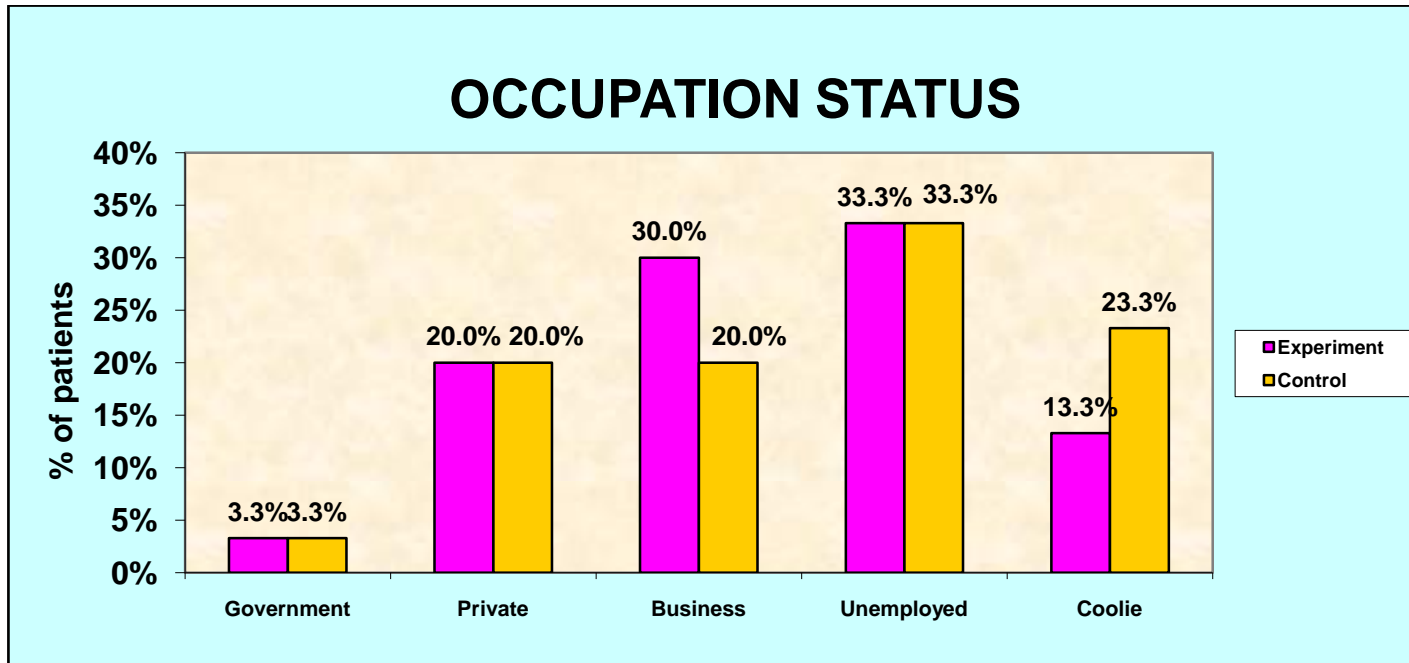


Figure: 7 Distribution of subjects according to occupational status.

**SECTION II Data on physiological parameters of bedridden subjects with constipation in the Experimental and Control group**

**Table 2: PHYSIOLOGICAL PARAMETERS**

physiological parameters		Group			
		Experiment		Control	
		N	%	N	%
Activities of daily living	Sedentary	15	50.0%	11	36.7%
	Moderate	13	43.3%	15	50.0%
	Heavy	2	6.7%	4	13.3%
Problem of constipation started from	Few days	13	43.3%	11	36.7%
	Few months	13	43.3%	17	56.7%
	years together	4	13.3%	2	6.7%
Frequency of bowel movement	Once in a week	2	6.7%	2	6.7%
	Twice in a week	11	36.7%	16	53.3%
	Thrice in a week	12	40.0%	8	26.7%
	Once a day	5	16.7%	4	13.3%
Consistency of bowel movement	Hard and dry	10	33.3%	15	50.0%
	Solid	15	50.0%	11	36.7%
	Semi solid	3	10.0%	2	6.7%
	Watery	2	6.7%	2	6.7%
Fluid intake / day	<1000 ml	12	40.0%	14	46.7%
	1000 - 2000 ml	11	36.7%	11	36.7%
	> 2000 ml	7	23.3%	5	16.7%
Intake of laxatives	Alternative days	2	6.7%	4	13.3%
	Once in a week	7	23.3%	7	23.3%
	Occasionally	9	30.0%	11	36.7%
	Never	12	40.0%	8	26.7%
Intake of fibre	Low fiber diet	18	60.0%	20	66.7%
	Moderate fiber diet	9	30.0%	6	20.0%
	Fiber rich diet	3	10.0%	4	13.3%
appetite	Poor	7	23.3%	11	36.7%
	Mild	17	56.7%	14	46.7%
	Moderate	5	16.7%	4	13.3%
	Severe	1	3.3%	1	3.3%
Defecation	Painful	21	70.0%	17	56.7%
	Incontinence	7	23.3%	9	30.0%
	Urge but inability	2	6.7%	4	13.3%

Table 2 shows the physiological parameters of subjects those who are participated in this study.

This table shows the physiological parameters of subjects those who are participated in the study. It reveals the frequency and percentage distribution of subjects in the Experimental and Control group regarding their physiological information.

The table shows that regarding activities of daily living majority of subjects , that is 50 % (15) of them belongs to sedentary activity in the Experimental group. In the Control group 50 % (15) of subjects were belongs to moderate activities .

Corresponding to problem of constipation started, majority of subjects were 43.3 % belongs to both few days and few months are equal in Experimental group and in Control group that is 50 % (15) majority belongs to few months .

Regarding frequency of bowel movement most of the subjects belongs to bowel movements thrice in a week 40% (12) in Experimental group and 53.3 % (16) are having twice in a week belongs to Control group .

Subjects constituting consistency of bowel movements belongs to solid in most of the subjects in Experimental were 50% (15) and in Control group 50 % (15) were belongs to hard and dry consistency .

Regarding fluid intake per day majority of subjects belongs to below 1000 ml in both groups 40% (12) and 46.7% (14) in Experimental and Control respectively .

Regarding intake of laxatives most of the subjects in Experimental group are never taken that is 40% (12) and in Control group majority of subjects are taking laxatives occasionally as 36.7% (11) .

As per intake of fibre majority of the subjects belongs to low fibre diet in both group . In Experimental it is 60 % (18) and in Control it is 66.7 % (20)

Regarding appetite both groups are belongs to mild in high numbers in Experimental it is 56.7% (17) and in Control group it is 46.7% (14) .

Regarding nature of defecation both groups are having painful defecation as majority as like 70.% (21) in Experimental and 56.7% (17) in Control group .

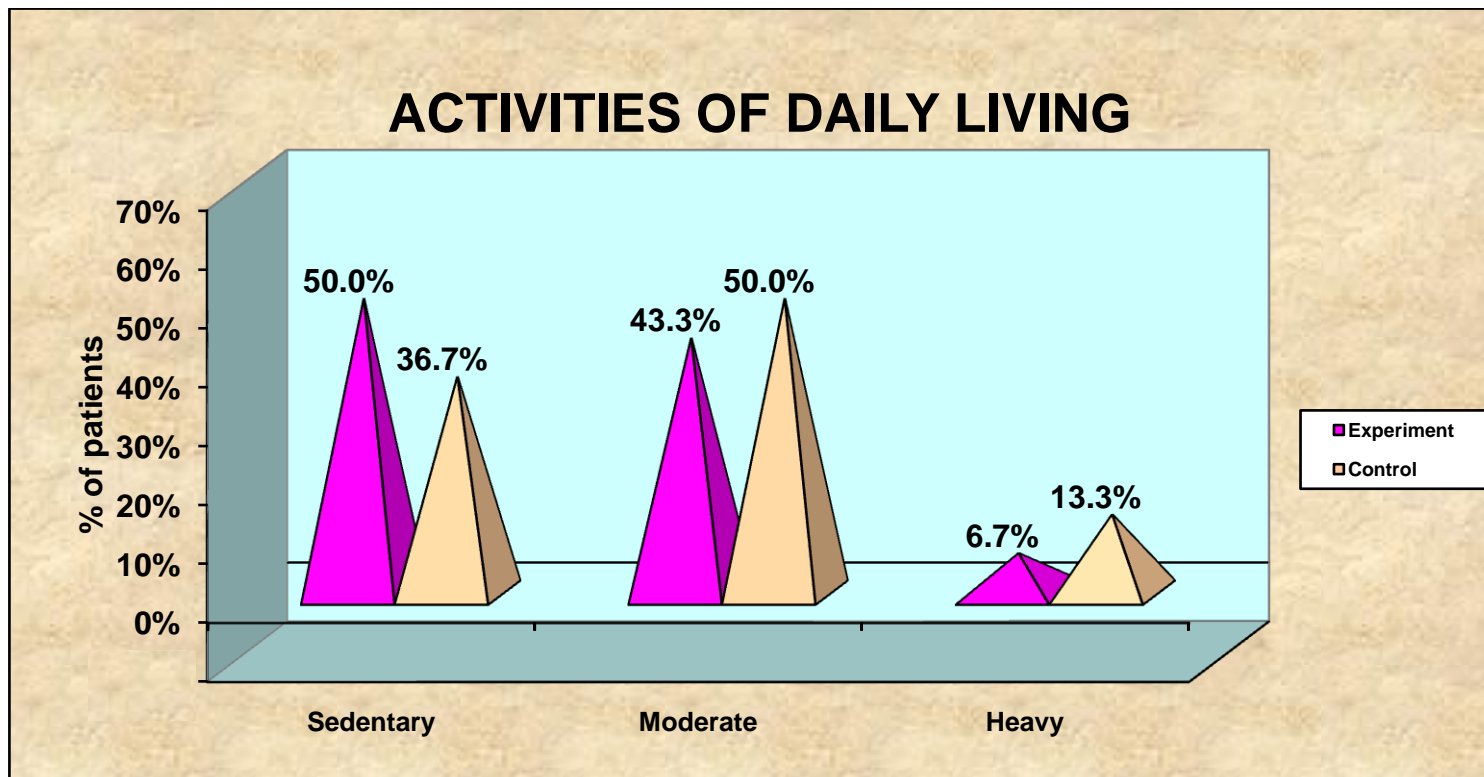


Figure 8: shows activities of daily living in Experimental and Control group.

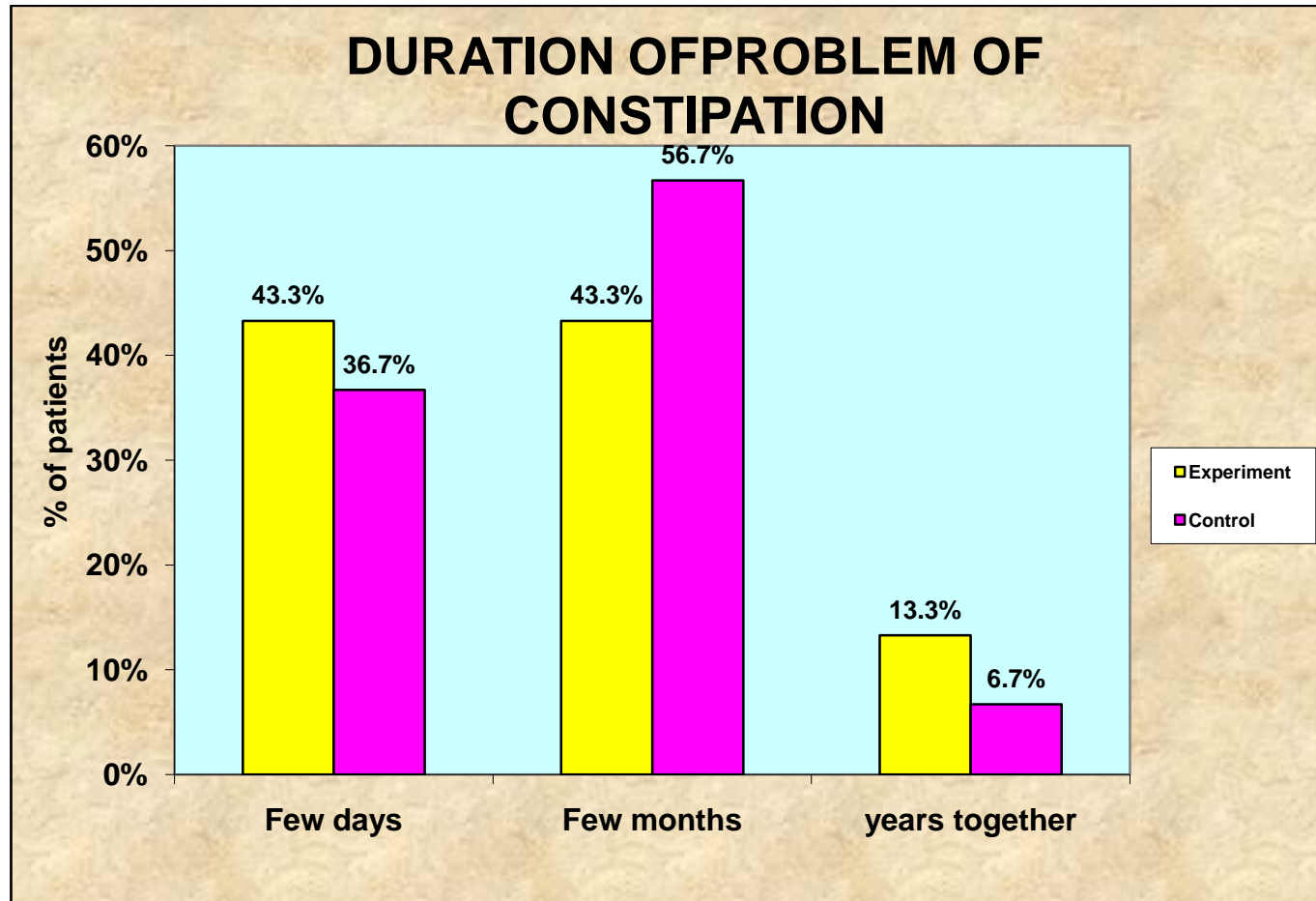


Figure: 9: shows distribution of subjects according to duration of problem of constipation between Experimental and Control group.

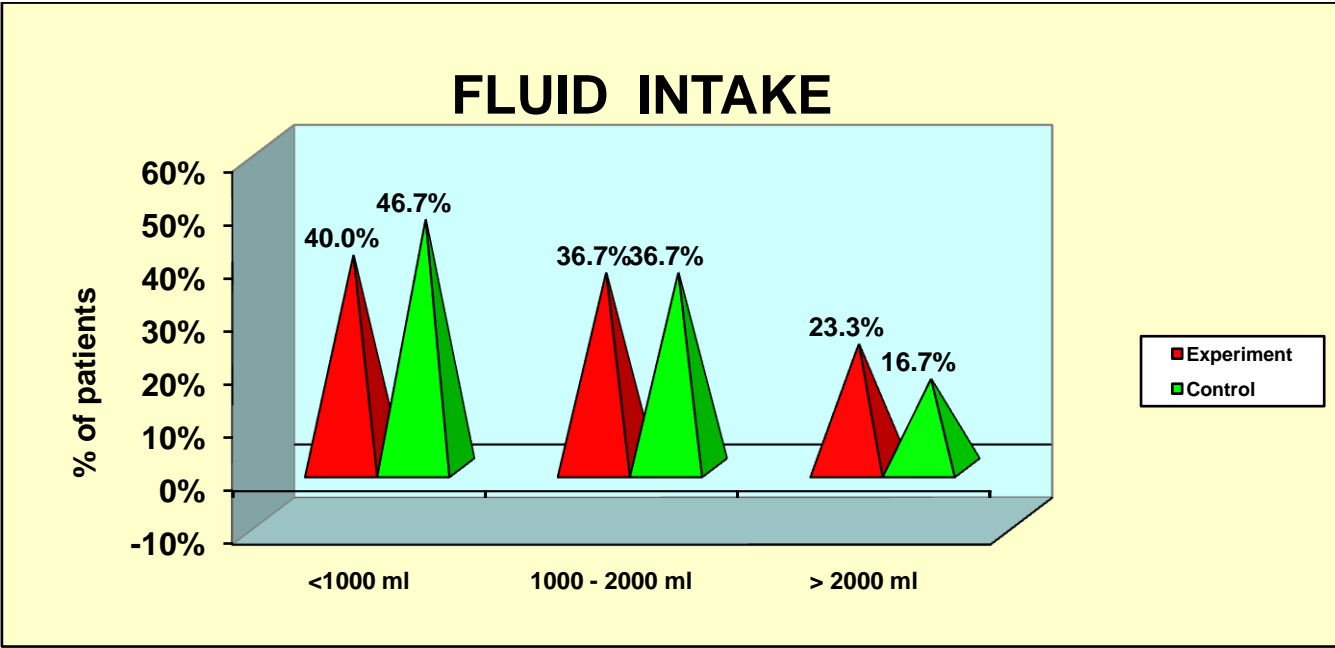


Figure 10: shows amount of fluid intake between Experimental and Control group.

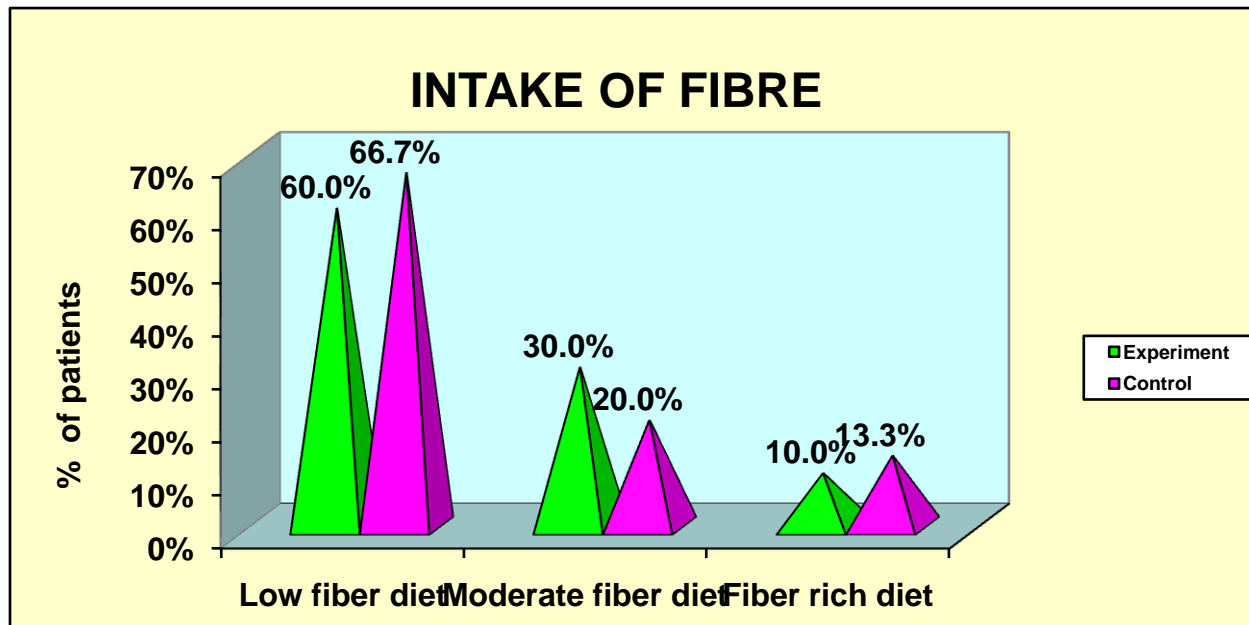


Figure 11: Shows distribution of subjects according to intake of fibre among Experimental and Control group.



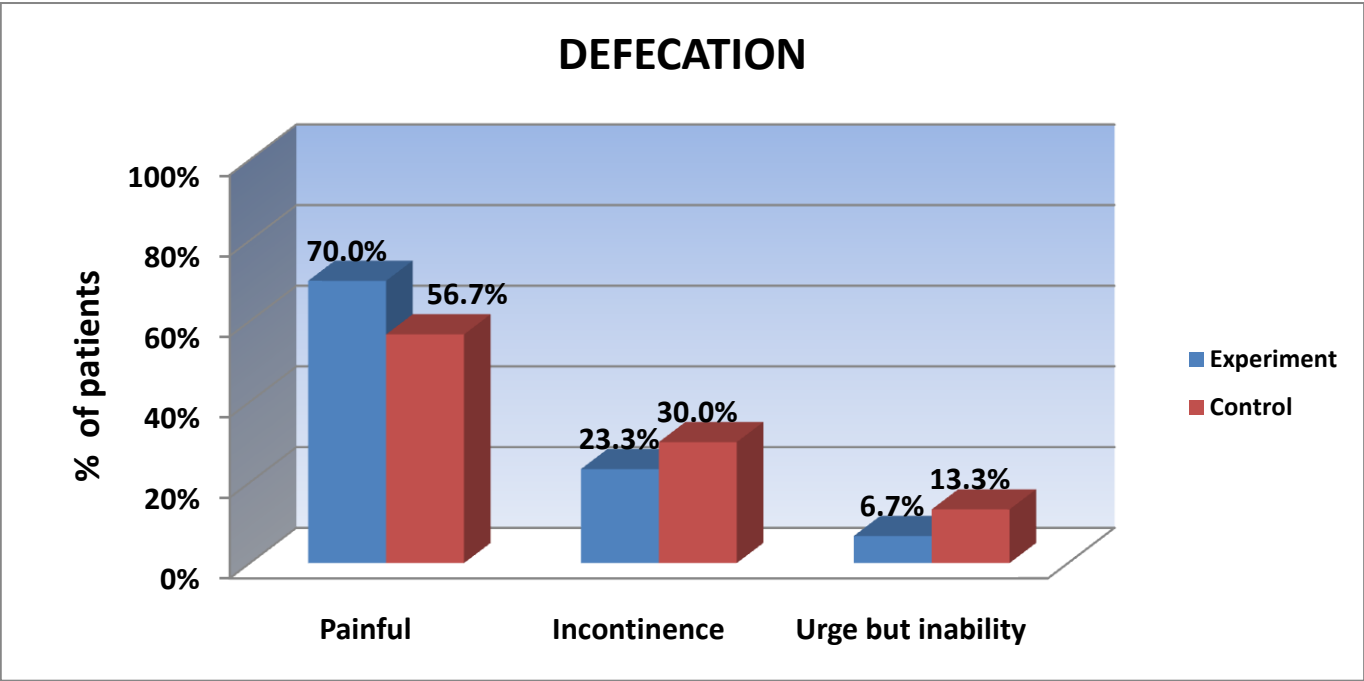


Figure 12: Shows distribution of subjects according to nature of defaecation.

**SECTION III DATA ON PRE- ASSESSMENT OF CONSTIPATION SCORE AMONG BEDRIDDEN SUBJECTS EXPERIMENTAL AND CONTROL GROUP.**

Table 3: PRE- ASSESSMENT LEVEL OF CONSTIPATION

	Group				Chi square test
	Experimental		Control		
	n	%	N	%	
No constipation	0	0.0%	0	0.0%	$\chi^2=0.10$ $p=0.75$
Mild	0	0.0%	0	0.0%	
Moderate	24	80.0%	23	76.7%	
Severe	6	20.0%	7	23.3%	
Total	30	100.0%	30	100.0%	

Table 3: shows that in pre- assessment among Experimental group 80% of the subjects are having moderate level of constipation , 20% of them having severe level of constipation. Among Control group subjects 76.7% of the subjects are having moderate level of constipation , 23.3% of them having severe level of constipation. Difference between Experimental and Control group is small and it is not statistically significant. It was calculated using chi square test.

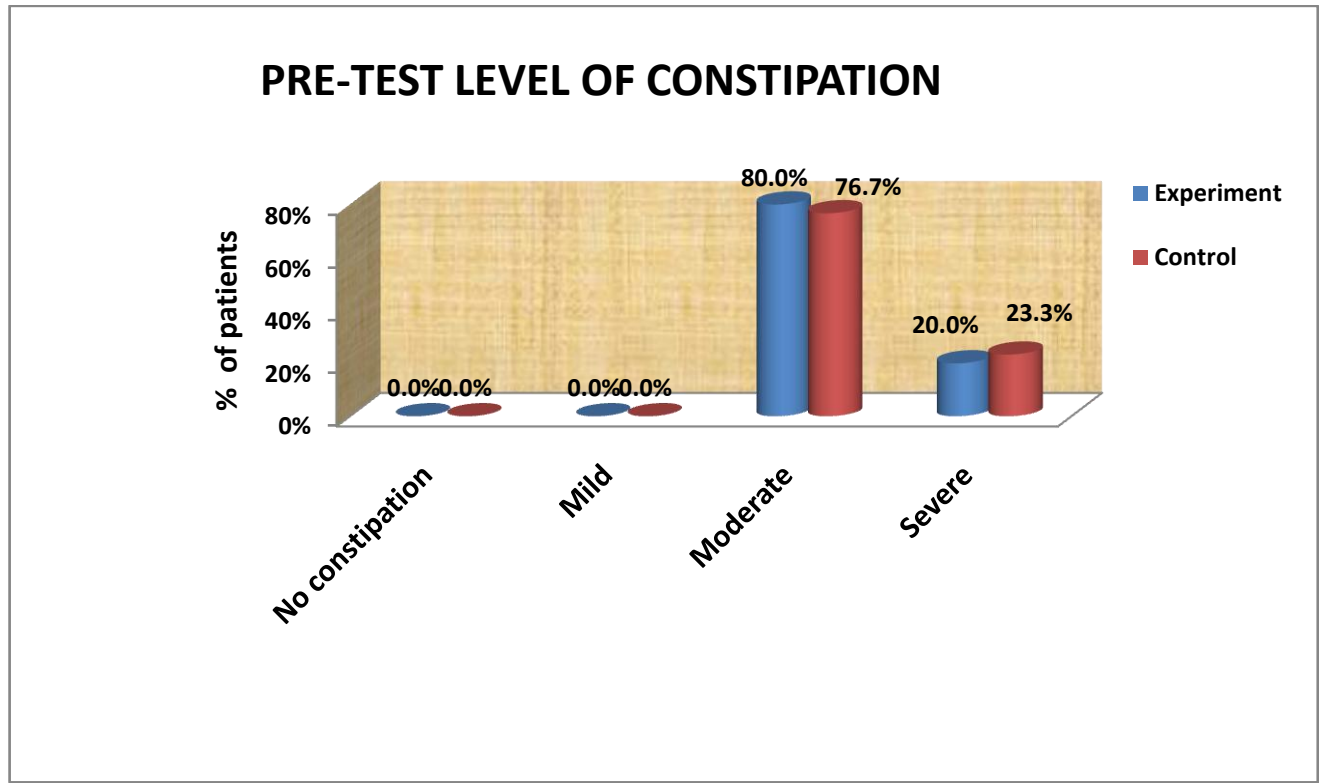


Figure 13: shows pre-assessment level of constipation between Experimental and Control group.

Table 4: PRE-ASSESSMENT MEAN LEVEL OF CONSTIPATION

	No. of subjects	Constipation score		Student's Independent t-test
		Mean	SD	
Experimental	30	11.07	1.413	t=0.68P=0.49
Control	30	10.77	1.924	

\* significant at  $P \leq 0.05$  \*\* highly significant at  $P \leq 0.01$  \*\*\* very high significant at  $P \leq 0.001$

Table 4 assess the pre- assessment mean level of constipation score among bedridden subjects in Experimental and Control group. Experimental group subjects are having 11.07 score and Control group subjects are having 10.77 score, so the difference is 0.30 score. This difference is small and it is not statistically significant difference. It was confirmed using student independent t-test.

**SECTION IV DATA ON POST- TEST ASSESSMENT OF  
CONSTIPATION SCORE AMONG BEDRIDDEN SUBJECTS IN  
EXPERIMENTAL AND CONTROL GROUP**

Table 5: POST ASSESSMENT LEVEL OF CONSTIPATION

		Group				Chi square test
		Experimental		Control		
		N	%	N	%	
Day1	No constipation	0	0.0%	0	0.0%	$\chi^2=6.07$ p=0.05*
	Mild	2	6.7%	0	0.0%	
	Moderate	28	93.3%	26	86.7%	
	Severe	0	0.0%	4	13.3%	
Day2	No constipation	0	0.0%	0	0.0%	$\chi^2=18.27$ p=0.001***
	Mild	13	43.3%	0	0.0%	
	Moderate	17	56.7%	27	90.0%	
	Severe	0	0.0%	3	10.0%	
Day3	No constipation	0	0.0%	0	0.0%	$\chi^2=33.61$ p=0.001***
	Mild	23	76.7%	1	3.3%	
	Moderate	7	23.3%	29	96.7%	
	Severe	0	0.0%	0	0.0%	
Day4	No constipation	2	6.7%	0	0.0%	$\chi^2=40.23$ p=0.001***
	Mild	28	93.3%	6	20.0%	
	Moderate	0	0.0%	24	80.0%	
	Severe	0	0.0%	0	0.0%	
Day5	No constipation	5	16.7%	0	0.0%	$\chi^2=35.75$ p=0.001***
	Mild	25	83.3%	8	26.7%	
	Moderate	0	0.0%	22	73.3%	
	Severe	0	0.0%	0	0.0%	

\* significant at  $P \leq 0.05$  \*\* highly significant at  $P \leq 0.01$  \*\*\* very high significant at  $P \leq 0.001$

Table. 5 shows the difference between Experimental and Control group on level of constipation. Statistically significance was calculated using chi square test. It shows the difference between the Experimental and Control group on level of constipation . On Day 1 majority has moderate level of constipation in both groups 93.3% (28) and 86.7% (26) in Experimental and Control group respectively . Regarding on the Day 5 the majority of subjects have mild constipation in Experimental group 83.3% (25) and moderate in Control group 73.3% (22) .On the other hand 16.7% (5) of subjects have No constipation in Experimental group and 0% in Control group . Thus the study shows the significant of the test .

Table 6: POST- ASSESSMENT LEVEL OF CONSTIPATION SCORE

	No. of subjects	Experimental		Control		Student's Independent t-test
		Mean	SD	Mean	SD	
Day1	30	8.90	1.539	10.10	1.845	t=2.73P=0.01**
Day2	30	6.63	1.326	9.83	1.821	t=7.78P=0.001***
Day3	30	5.07	1.507	9.00	1.762	t=9.23P=0.001***
Day4	30	3.57	1.278	8.10	1.647	t=11.90P=0.001***
Day5	30	2.13	1.252	7.47	1.570	t=14.54P=0.001***

\* significant at  $P \leq 0.05$  \*\* highly significant at  $P \leq 0.01$  \*\*\* very high significant at  $P \leq 0.001$ .

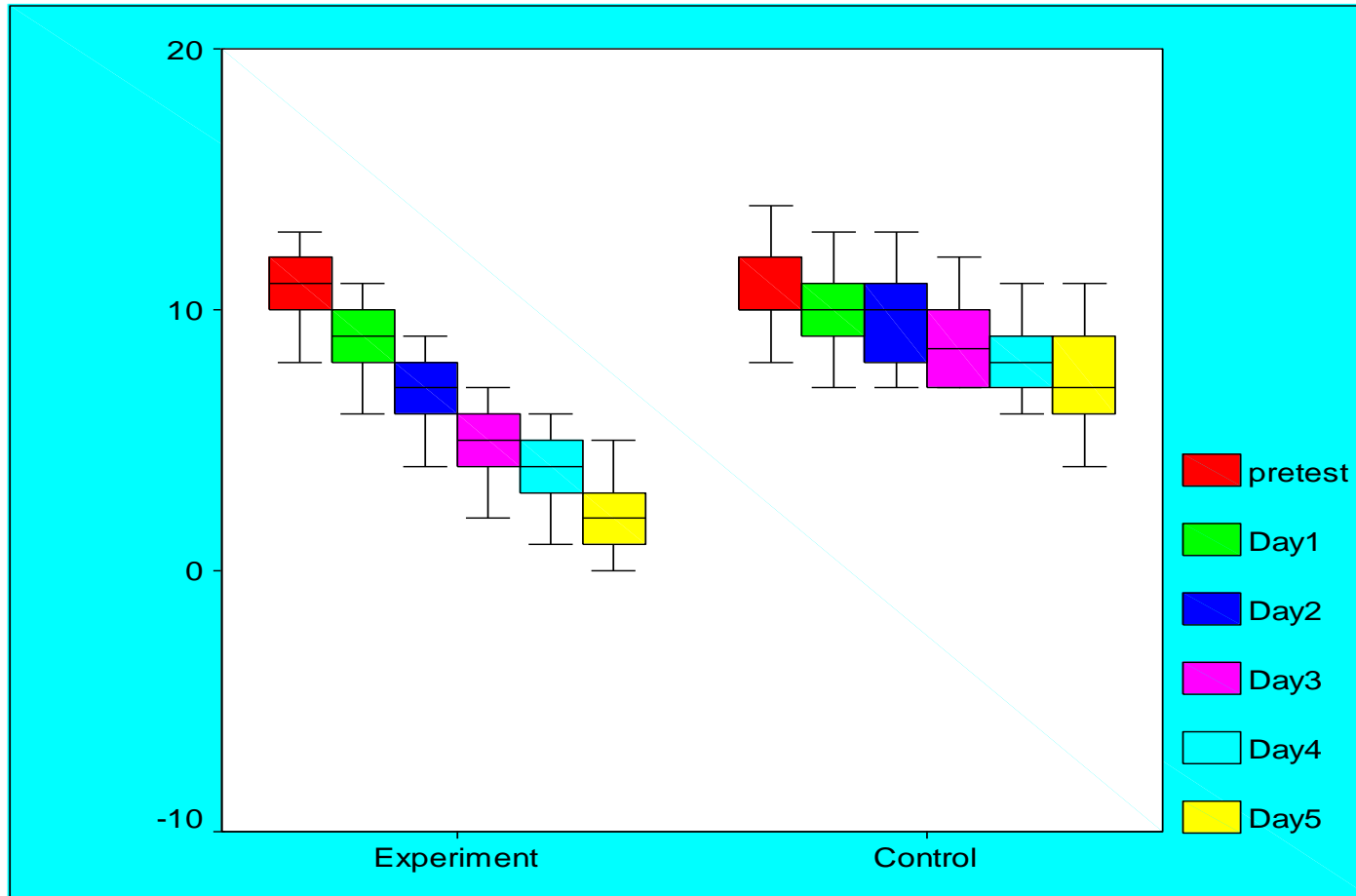
Table 6 assess the post- assessment level of constipation score among bedridden subjects in Experimental and Control group.

Day1 , Experimental group subjects are having 8.90 score and Control group subjects are having 10.10 score, so the difference is 1.20 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test. Day2 , Experimental group subjects are having 6.63 score and Control group subjects are having 9.83 score, so the difference is 3.20 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test.

Day3 , Experimental group are having 5.07 score and Control group subjects are having 9.00 score, so the difference is 3.93 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test.

Day4 , Experimental group subjects are having 3.57 score and Control group subjects are having 8.10score, so the difference is 4.53 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test.

Day5 , Experimental group subjects are having 2.13 score and Control group subjects are having 7.47score, so the difference is 5.33 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test.



**Fig 14: BOXPLOT compares the day wise reduction of constipation score between Experimental and Control group.**

**SECTION V DATA ON COMPARISON OF PRE- ASSESSMENT AND POST- ASSESSMENT LEVEL OF CONSTIPATION SCORE AMONG EXPERIMENTAL AND CONTROL GROUP**

Table 7: PRE AND POST- ASSESSMENT LEVEL OF CONSTIPATION  
(Experimental Group)

	Pre assessment		Day1		Day2		Day3		Day4		Day5		$\chi^2$ -test
	n	%	n	%	n	%	n	%	N	%	n	%	
No constipation	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	6.7%	5	16.7%	$\chi^2=154.1$ $p=0.001^{***}$
Mild	0	0.0%	2	6.7%	13	43.3%	23	76.7%	28	93.3%	25	83.3%	
Moderate	24	80.0%	28	93.3%	17	56.7%	7	23.3%	0	0.0%	0	0.0%	
Severe	6	20.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	

Table 7 compares the pre- assessment and post- assessment level of constipation among bedridden subjects in Experimental group. In pre- assessment among Experimental group 80% of the subjects are having moderate level of constipation , 20% of them having severe level of constipation. In post- assessment (Day5) among Experimental group 16.7% of the subjects are having no constipation, 83.3% of them having mild level of constipation. Statistically significance was calculated using Chi square test .



Table 8: PRE AND POST- ASSESSMENT LEVEL OF CONSTIPATION(Control)

	Pre assessment		Day1		Day 2		Day 3		Day 4		Day5		$\chi^2$ -test
	N	%	N	%	N	%	n	%	n	%	n	%	
No constipation	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	$\chi^2=44.5$ p=0.001***
Mild	0	0.0%	0	0.0%	0	0.0%	1	3.3%	6	20.0%	8	26.7%	
Moderate	23	76.7%	26	86.7%	27	90.0%	29	96.7%	24	80.0%	22	73.3%	
Severe	7	23.3%	4	13.3%	3	10.0%	0	0.0%	0	0.0%	0	0.0%	

Table 8 compares the pre-assessment and post- assessment level of constipation among bedridden subjects in Control group. In pre- assessment among Control group 76.7% of the subjects are having moderate level of constipation , 23.3%% of them having severe level of constipation. In post- assessment (Day5)among Control group 0.0% of the subjects are having no constipation, 26.7% of them having mild level of constipation, 73.3% are having moderate level of constipation and none of them had severe constipation. Statistically significance was calculated using Chi square test .

Table 9: DAY WISE DECREASE IN CONSTIPATION SCORE(Experimental)

	Pre assessment	Day1	Day2	Day3	Day4	Day5	Repeated measures ANOVA F-test
	Mean	Mean	Mean	Mean	Mean	Mean	
Mean	11.07	8.90	6.63	5.07	3.57	2.13	F=182.2 P=0.001***
SD	1.41	1.54	1.33	1.51	1.28	1.25	

Table 9 compares the pre-assessment and post-assessment level of constipation among bedridden subjects in Experimental group. In pre-assessment among Experimental group 11.07 constipation score, at 1st day it is reduced to 8.90, 2nd day it is reduced to 6.63, 3<sup>rd</sup> day it is reduced to 5.07, 4<sup>th</sup> day it is reduced to 3.57 and 5<sup>th</sup> day it is reduced to 2.13. This reduction is statistically significant. Statistically significance was calculated using repeated measures of analysis of variance F-test.

**Table 10: DAY WISE DECREASE IN CONSTIPATION SCORE(control)**

	Pre assessment	Day1	Day2	Day3	Day4	Day5	Repeated measures ANOVA F-test
Mean	10.77	10.10	9.83	9.00	8.10	7.47	F=61.3 P=0.001***
SD	1.92	1.84	1.82	1.76	1.65	1.57	

Table 10 compares the pre- assessment and post- assessment level of constipation among bedridden subjects in Control group. In pre- assessment among Control group 10.77 constipation score, at 1st day it is reduced to 10.10, 2nd day it is reduced to 9.83, 3<sup>rd</sup> day it is reduced to 9.00, 4<sup>th</sup> day it is reduced to 8.10 and 5<sup>th</sup> day it is reduced to 7.47. This reduction is statistically significant. Statistical significance was calculated using repeated measures of analysis of variance F-test.

**SECTION VI EFFECTIVENESS OF THE PRE -ASSESSMENT AND POST-ASSESSMENT CONSTIPATION SCORE BETWEEN THE EXPERIMENTAL AND CONTROL GROUP**

Table 11: Effectiveness of abdominal massage with lavender oil in relieving constipation

		Max score	Mean Score	Mean difference with 95% Confidence interval	Proportion difference with 95% Confidence interval
Experiment	Pretest	20	11.07	8.93(8.31-9.55)	44.6%(41.6%-47.7%)
	Posttest	20	2.13		
Control	Pretest	20	10.77	3.30(2.61—3.99)	16.5%(13.1%-19.5%)
	Posttest	20	7.47		

Table no 11 shows the comparison of overall constipation score between Experimental and Control group. On an average, Experimental subjects are reduced 44.6% of constipation score whereas in Control group are reduced 16.5%. Differences between pre- assessment and post- assessment score was analysed using mean difference with 95% Confidence Interval and proportion with 95% Confidence Interval . This difference shows the effectiveness of abdominal massage with lavender oil in relieving constipation among Experimental group.

**SECTION VII DATA ON ASSOCIATION BETWEEN THE MEAN DIFFERENCE IN CONSTIPATION SCORE AND SELECTED FACTORS AMONG BEDRIDDEN SUBJECTS IN EXPERIMENTAL GROUP**

Table 12: Association between level of Constipation score reduction and demographic variables(Experimental).

Demographic variables		Level of Constipation score reduction				Total	Chi square test
		Below average(<8.93)		Above average(>8.93)			
		n	%	n	%		
Age	20 -40 yrs	0	0.0%	5	100.0%	5	$\chi^2=9.89P=0.01^{**}$
	41 -50 yrs	2	28.6%	5	71.4%	7	
	51 -60 yrs	11	73.3%	4	26.7%	15	
	>60 yrs	2	66.7%	1	33.3%	3	
Sex	Male	8	75.0%	4	25.0%	12	$\chi^2=2.22P=0.11$
	Female	7	38.9%	11	61.1%	18	
Marital status	Married	10	45.5%	12	54.5%	22	$\chi^2=2.31P=0.32$
	Unmarried	1	33.3%	2	66.7%	3	
	Widow	4	80.0%	1	20.0%	5	
Religion	Hindu	13	54.2%	11	45.8%	24	$\chi^2=1.17P=0.55$
	Muslim	1	25.0%	3	75.0%	4	
	Christian	1	50.0%	1	50.0%	2	
Type of family	Nuclear family	8	40.0%	12	60.0%	20	$\chi^2=2.42P=0.30$
	Joint family	5	71.4%	2	28.6%	7	
	Broken family	2	66.7%	1	33.3%	3	
Educational status	Illiterate	2	100.0%	0	0.0%	2	$\chi^2=10.83P=0.03^*$
	Elementary	9	75.0%	3	25.0%	12	
	Higher secondary	3	37.5%	5	62.5%	8	
	Diploma	1	33.3%	2	66.7%	3	
	Graduate	1	20.0%	4	80.0%	5	
Occupation	Government	1	100.0%			1	$\chi^2=2.11P=0.71$
	Private	3	50.0%	3	50.0%	6	
	Business	5	55.6%	4	44.4%	9	
	Unemployed	5	50.0%	5	50.0%	10	
	Coolie	1	25.0%	3	75.0%	4	
Income	< Rs.1000	5	71.4%	2	28.6%	7	$\chi^2=5.06P=0.16$
	Rs.1001- 2000	2	25.0%	6	75.0%	8	
	Rs.2001- 5000	3	37.5%	5	62.5%	8	
	>Rs. 5000	5	71.4%	2	28.6%	7	
Area of residence	Urban	7	53.8%	6	46.2%	13	$\chi^2=0.13P=0.71$
	Rural	8	47.1%	9	52.9%	17	
Dietary pattern	Vegetarian	3	75.0%	1	25.0%	4	$\chi^2=3.87P=0.14$
	Non-vegetarian	3	27.3%	8	72.7%	11	
	Mixed	9	60.0%	6	40.0%	15	

\* significant at  $P \leq 0.05$  \*\* highly significant at  $P \leq 0.01$  \*\*\* very high significant at  $P \leq 0.001$

**constipation relief= pre- assessment score- post -assessment score**

Table no 12 shows the association between level of constipation score reduction and their demographic variables. Younger , More educated are reduced more score. Statistical significance was calculated using chi square test.

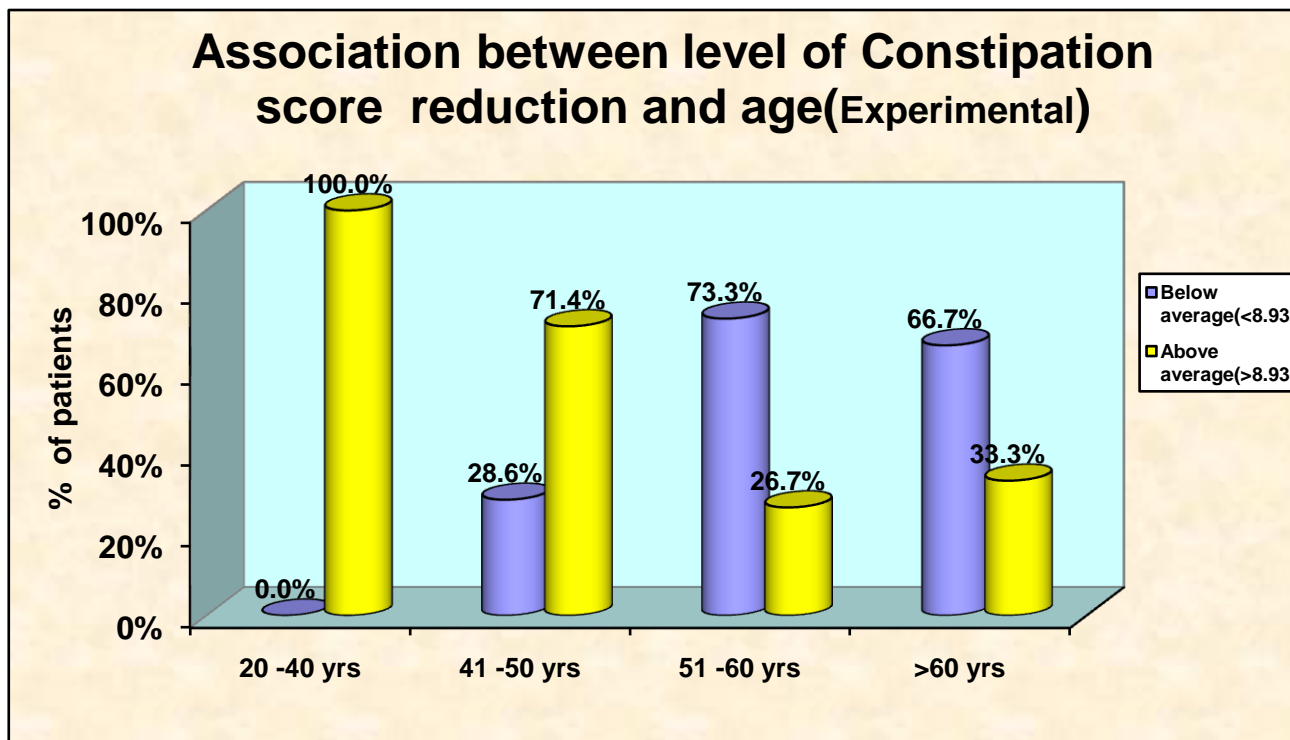


Figure 15: shows association between level of constipation score reduction and age in Experimental group.

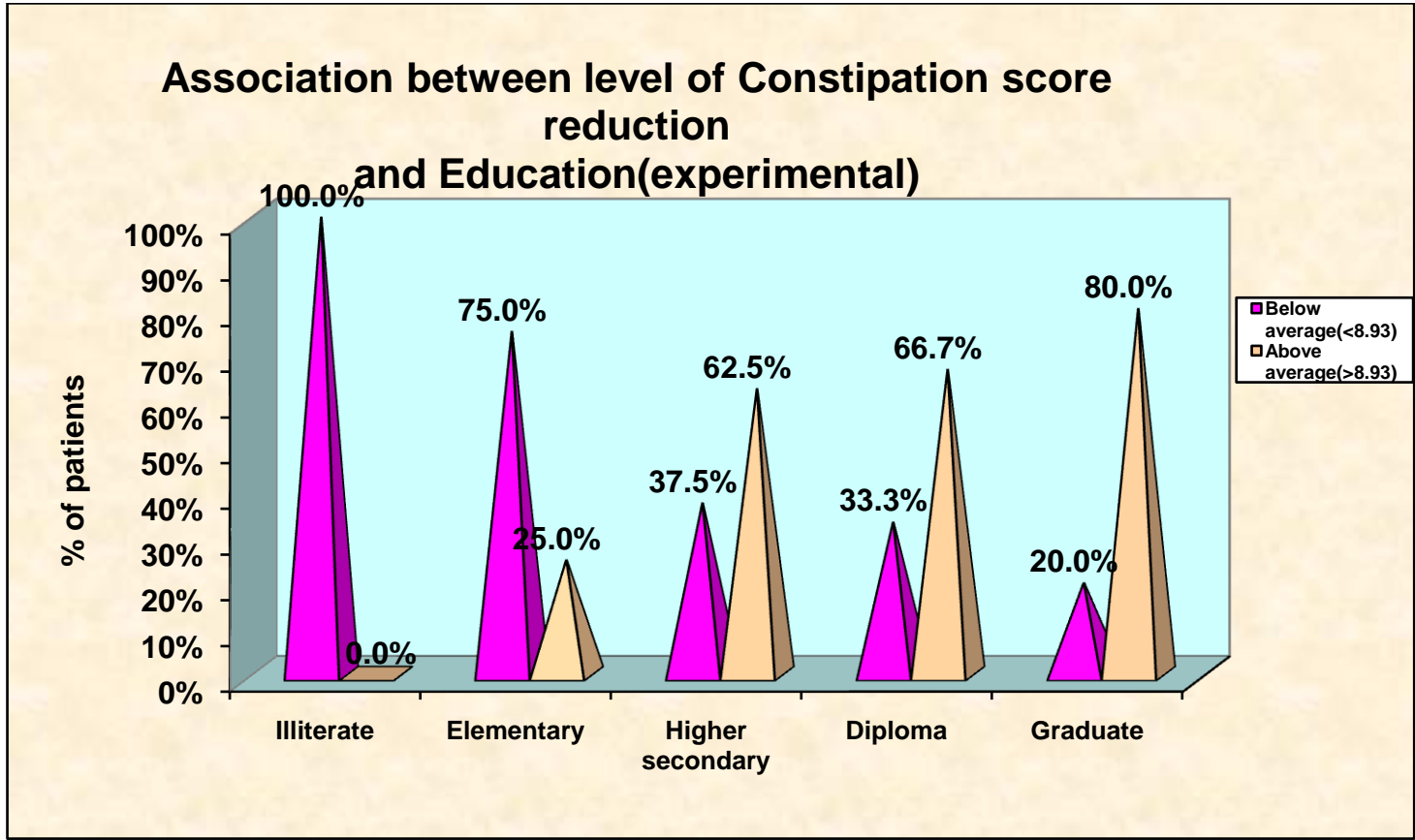


Fig .16 . shows the association between the level of constipation score reduction and Education in Experimental group



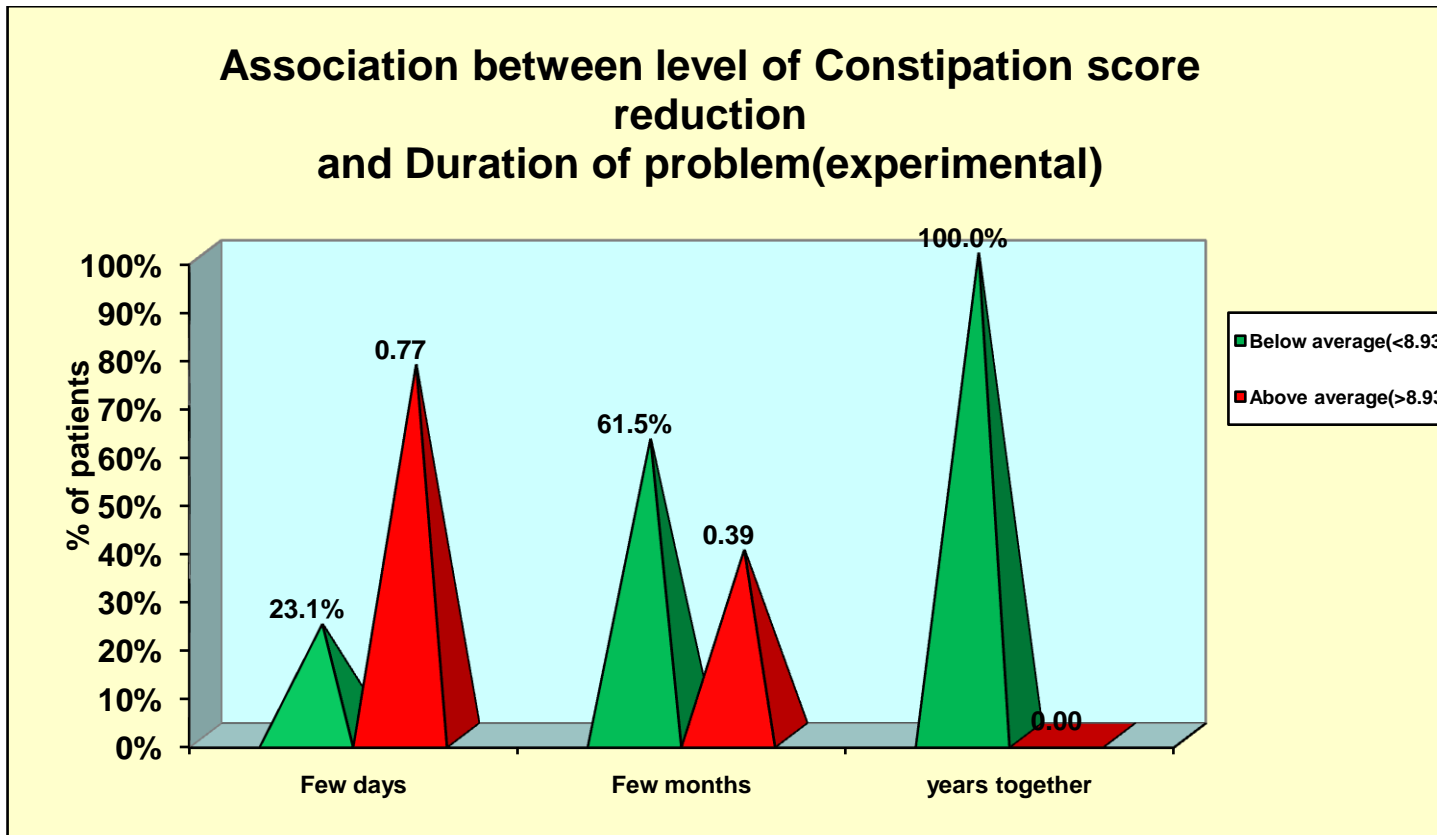
Table 13: Association between level of Constipation score reduction and Physiological parameters(Experimental)

Physiological parameters		Level of Constipation score reduction				Total	Chi square test
		Below average(<8.93)		Above average(>8.93)			
		N	%	n	%		
Activities of daily living	Sedentary	9	60.0%	6	40.0%	15	$\chi^2=2.67P=0.26$
	Moderate	6	46.2%	7	53.8%	13	
	Heavy			2	100.0%	2	
Problem of constipation-n started from	Few days	3	23.1%	10	76.9%	13	$\chi^2=8.46P=0.01^{**}$
	Few months	8	61.5%	5	38.5%	13	
	years together	4	100.0%	0	0.0%	4	
Frequency of bowel movement	Once in a week			2	100.0%	2	$\chi^2=4.45P=0.22$
	Twice in a week	4	36.4%	7	63.6%	11	
	Thrice in a week	8	66.7%	4	33.3%	12	
	Once a day	3	60.0%	2	40.0%	5	
Consistency of bowel movement	Hard and dry	3	30.0%	7	70.0%	10	$\chi^2=2.53P=0.46$
	Solid	9	60.0%	6	40.0%	15	
	Semi solid	2	66.7%	1	33.3%	3	
	Watery	1	50.0%	1	50.0%	2	
Fluid intake / day	<1000 ml	9	75.0%	3	25.0%	12	$\chi^2=6.66P=0.04^*$
	1000 - 2000 ml	5	45.5%	6	54.5%	11	
	> 2000 ml	1	14.2%	6	85.8%	7	
Intake of laxatives	Alternative days			2	100.0%	2	$\chi^2=4.61P=0.20$
	Once in a week	2	28.6%	5	71.4%	7	
	Occasionally	6	66.7%	3	33.3%	9	
	Never	7	58.3%	5	41.7%	12	
Intake of fibre	Low fiber diet	9	50.0%	9	50.0%	18	$\chi^2=0.44P=0.80$
	Moderate fiber diet	5	55.6%	4	44.4%	9	
	Fiber rich diet	1	33.3%	2	66.7%	3	
Appetite	Poor	2	28.6%	5	71.4%	7	$\chi^2=6.96P=0.07$
	Mild	12	70.6%	5	29.4%	17	
	Moderate	1	20.0%	4	80.0%	5	
	Severe			1	100.0%	1	
Defecation	Painful	10	47.6%	11	52.4%	21	$\chi^2=0.19P=0.90$
	Incontinence	4	57.1%	3	42.9%	7	
	Urge but inability	1	50.0%	1	50.0%	2	

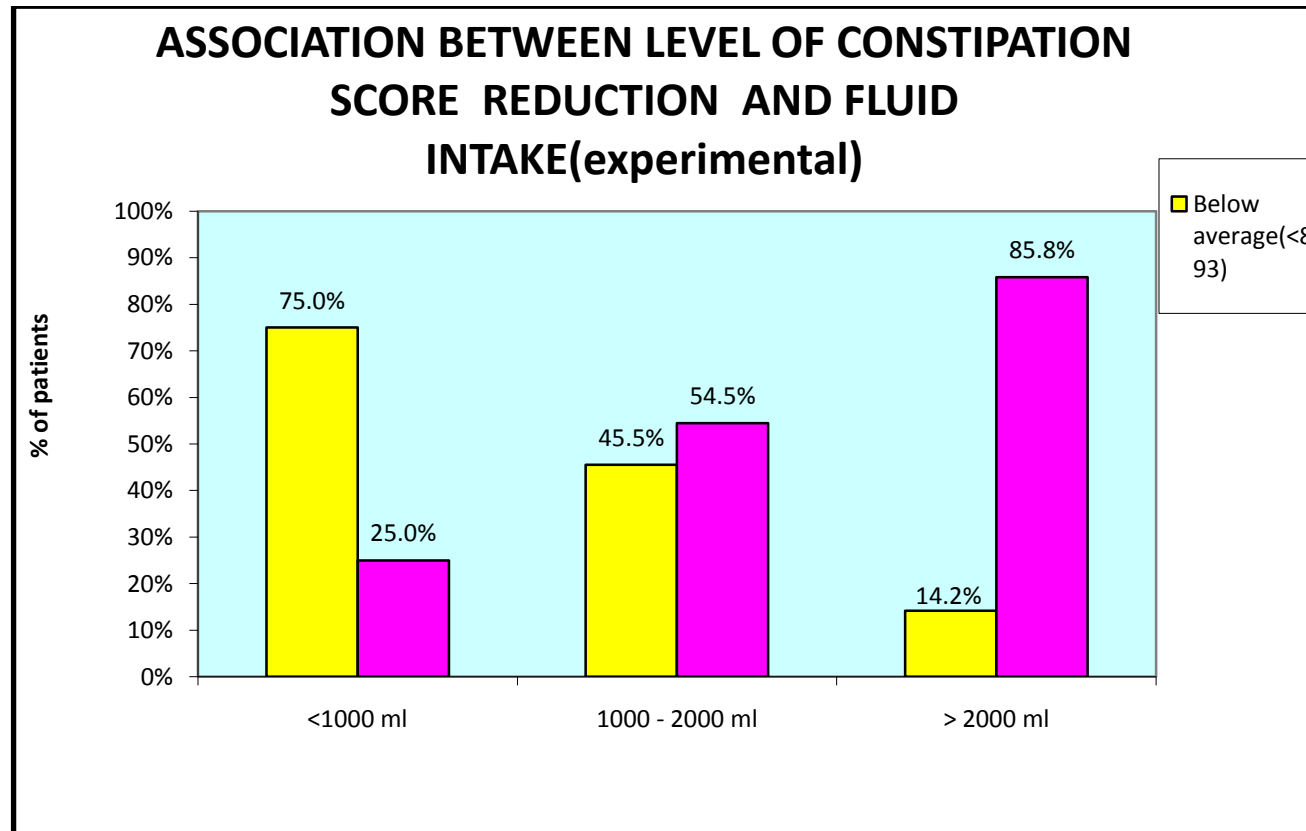
\* significant at  $P \leq 0.05$  \*\* highly significant at  $P \leq 0.01$  \*\*\* very high significant at  $P \leq 0.001$  (FIG 15-16)

**constipation relief = pre- assessment score - post -assessment score**

Table no 13 shows the association between level of constipation score reduction and their physiological parameters. Few days constipation and more fluid intake are reduced more constipation score. Statistical significance was calculated using Chi square test.



**Figure 17: shows association between level of constipation score reduction and duration of problem in Experimental group.**



**Figure 18: shows associaton between level of constipation score reduction and fluid intake in Experimental group**

Table 14: Association between level of Constipation score reduction and demographic variables(Control)

Demographic variables		Level of Constipation score reduction				Total	Chi square test
		Below average(<3.30)		Above average(>3.30)			
		n	%	n	%		
Age	20 -40 yrs	3	60.0%	2	40.0%	5	$\chi^2=2.67P=0.44$
	41 -50 yrs	4	40.0%	6	60.0%	10	
	51 -60 yrs	6	46.2%	7	53.8%	13	
	>60 yrs	2	100.0%			2	
Sex	Male	10	66.7%	5	33.3%	15	$\chi^2=3.33P=0.07$
	Female	5	23.7%	10	66.7%	15	
Marital status	Married	9	42.9%	12	57.1%	21	$\chi^2=1.62P=0.44$
	Unmarried	3	60.0%	2	40.0%	5	
	Widow	3	75.0%	1	25.0%	4	
Religion	Hindu	11	45.8%	13	54.2%	24	$\chi^2=3.50P=0.17$
	Muslim	1	33.3%	2	66.7%	3	
	Christian	3	100.0%	0	0.0%	3	
Type of family	Nuclear family	10	52.6%	9	47.4%	19	$\chi^2=3.05P=0.21$
	Joint family	3	33.3%	6	66.7%	9	
	Broken family	2	100.0%	0	0.0%	2	
Educational status	Illiterate	1	50.0%	1	50.0%	2	$\chi^2=1.83P=0.76$
	Elementary	5	45.5%	6	54.5%	11	
	Higher secondary	4	40.0%	6	60.0%	10	
	Diploma	2	66.7%	1	33.3%	3	
	Graduate	3	75.0%	1	25.0%	4	
Occupation	Government	0	0.0%	1	100.0%	1	$\chi^2=7.70P=0.10$
	Private	5	83.3%	1	16.7%	6	
	Business	3	50.0%	3	50.0%	6	
	Unemployed	2	20.0%	8	80.0%	10	
	Coolie	5	71.4%	2	28.6%	7	
Income	< Rs.1000	2	50.0%	2	50.0%	4	$\chi^2=5.66P=0.12$
	Rs.1001- 2000	1	14.3%	6	85.7%	7	
	Rs.2001- 5000	6	54.5%	5	45.5%	11	
	>Rs. 5000	6	75.0%	2	25.0%	8	
Area of residence	Urban	7	63.6%	4	36.4%	11	$\chi^2=1.29P=0.25$
	Rural	8	42.1%	11	57.9%	19	
Dietary pattern	Vegetarian	1	25.0%	3	75.0%	4	$\chi^2=2.61P=0.27$
	Non- vegetarian	8	66.7%	4	33.3%	12	
	Mixed	6	42.9%	8	57.1%	14	

\* significant at  $P \leq 0.05$  \*\* highly significant at  $P \leq 0.01$  \*\*\* very high significant at  $P \leq 0.001$

**constipation relief = pre- assessment score- post- assessment score**

Table no 14 shows the association between level of constipation score reduction and their demographic variables. None of the variables are associated. Statistical significance was calculated using Chi square test.

Table 15: Association between level of Constipation score reduction and Physiological parameters(Control)

Physiological parameters		Level of Constipation score reduction				Total	Chi square test
		Below average(<3.30)		Above average(>3.30)			
		n	%	N	%		
Activities of daily living	Sedentary	7	63.6%	4	36.4%	11	$\chi^2=1.88P=0.39$
	Moderate	7	46.7%	8	53.3%	15	
	Heavy	1	25.0%	3	75.0%	4	
Problem of constipation started from	Few days	2	18.2%	9	81.8%	11	$\chi^2=7.93P=0.01^{**}$
	Few months	11	64.7%	6	35.3%	17	
	years together	2	100.0%	0	0.0%	2	
Frequency of bowel movement	Once in a week	1	50.0%	1	50.0%	2	$\chi^2=2.50P=0.47$
	Twice in a week	6	37.5%	10	62.5%	16	
	Thrice in a week	5	62.5%	3	37.5%	8	
	Once a day	3	75.0%	1	25.0%	4	
Consistency of bowel movement	Hard and dry	7	46.7%	8	53.3%	15	$\chi^2=2.13P=0.54$
	Solid	5	45.5%	6	54.5%	11	
	Semi solid	2	100.0%	0	0.0%	2	
	Watery	1	50.0%	1	50.0%	2	
Fluid intake / day	<1000 ml	6	42.9%	8	57.1%	14	$\chi^2=6.66P=0.04^*$
	1000 - 2000 ml	4	36.4%	7	63.6%	11	
	> 2000 ml	5	100.0%	0	0.0%	5	
Intake of laxatives	Alternative days	1	25.0%	3	75.0%	4	$\chi^2=12.66P=0.01^{**}$
	Once in a week	1	14.3%	6	85.7%	7	
	Occasionally	5	45.5%	6	54.5%	11	
	Never	8	100.0%	0	0.0%	8	
Intake of fibre	Low fiber diet	10	50.0%	10	50.0%	20	$\chi^2=1.67P=0.43$
	Moderate fiber diet	4	66.7%	2	33.3%	6	
	Fiber rich diet	1	25.0%	3	75.0%	4	
appetite	Poor	5	45.4%	6	55.6%	11	$\chi^2=6.23P=0.10$
	Mild	5	35.7%	9	64.3%	14	
	Moderate	4	100.0%	0	0.0%	4	
	Severe	1	100.0%	0	0.0%	1	
Defecation	Painful	9	52.9%	8	47.1%	17	$\chi^2=5.05P=0.08$
	Incontinence	6	66.7%	3	33.3%	9	
	Urge but inability	0	0.0%	4	100.0%	4	

\* significant at  $P \leq 0.05$  \*\* highly significant at  $P \leq 0.01$  \*\*\* very high significant at  $P \leq 0.001$

**constipation relief = pre- assessment score - post- assessment score**

Table no 15 shows the association between level of constipation score reduction and their physiological parameters. More fluid intake, and intake of laxatives are associated. Statistical significance was calculated using Chi square test.

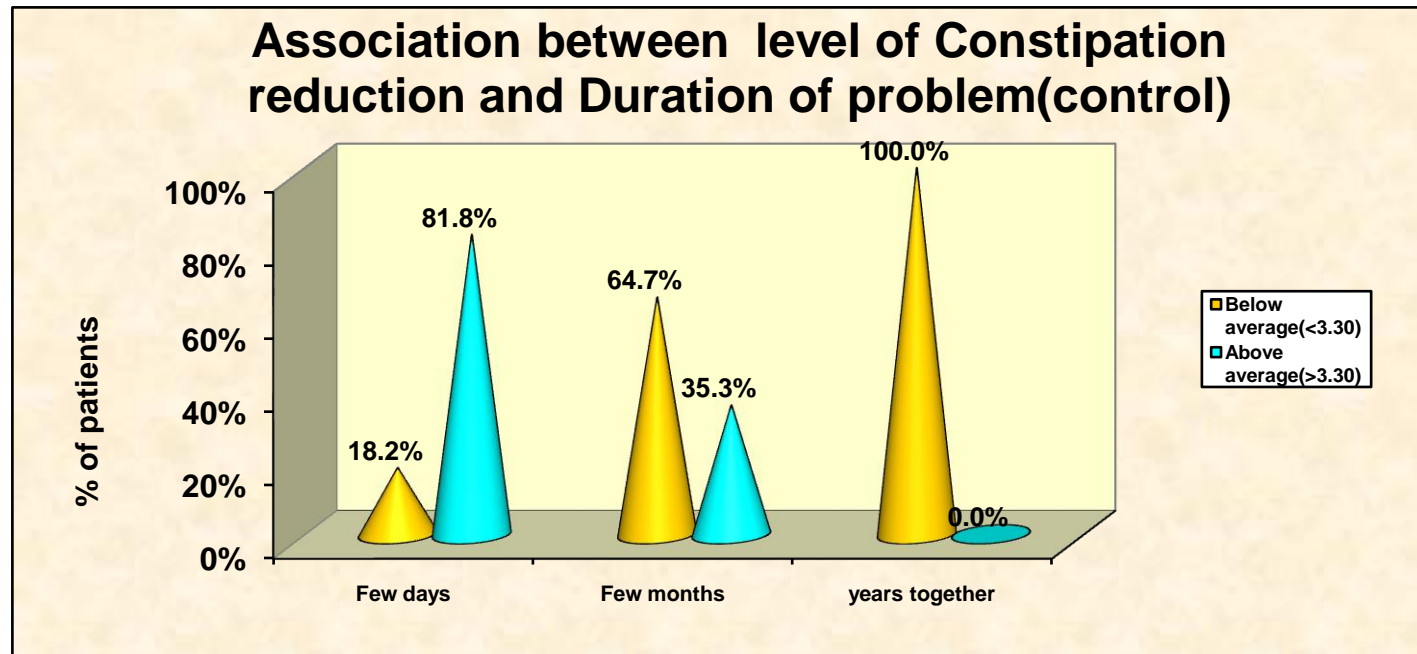


Figure 19: shows association between level of constipation reduction and Duration of problem in Control group.

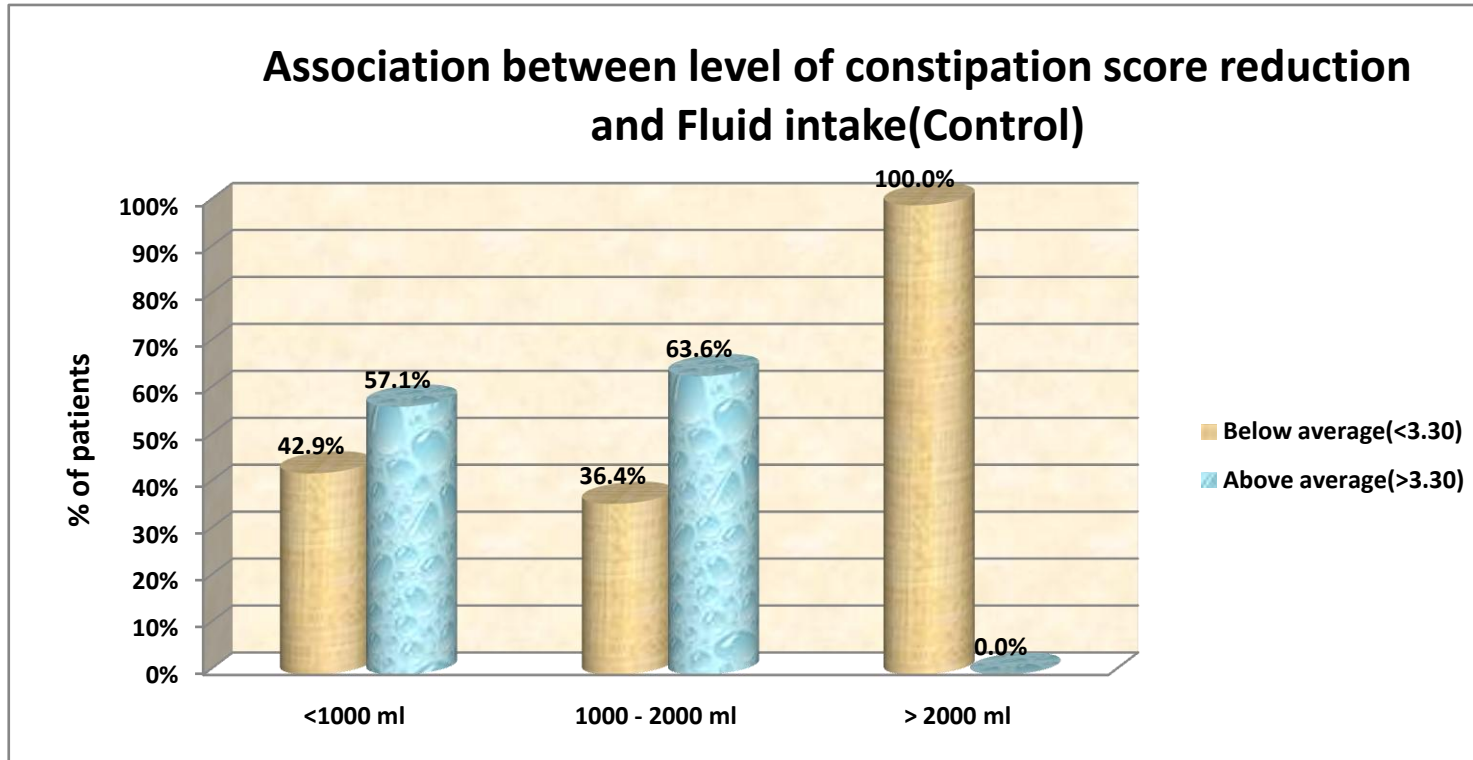


Figure 20: shows association between level of constipation relief and fluid intake in Control group



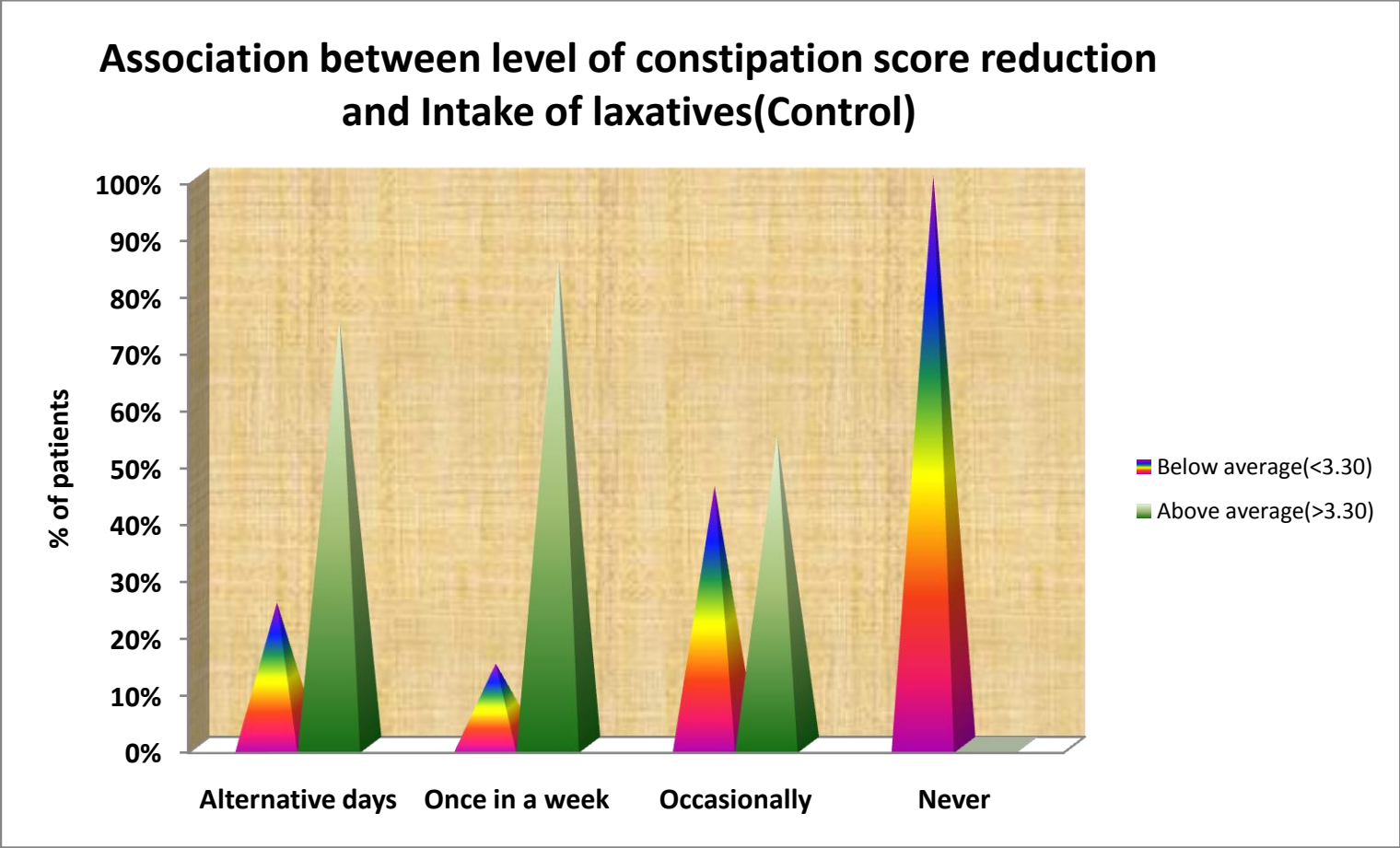


Figure 21: Shows association between level of constipation score reduction and Intake of laxatives in Control group



## CHAPTER V

### DISCUSSION

“Discussion is an exchange of knowledge; argument is an exchange of ignorance.”

**ROBERT**

This chapter deals with the detailed discussion on the findings of the study obtained from the statistical analysis.

#### **Abdominal massage**

The word massage is a Latin word MASSA or MASSO meaning “to touch , squeeze, or to kneed . Massage therapy involves manipulating the body’s muscles , tendons and soft tissue in order to promote relaxation and healing . Massage therapy helps to improve circulation , increasing the flow of blood and lymph throughout the body . Massage therapy is a manual therapeutic approach used to facilitate healing and health and can be used by nurses in almost all settings. Abdominal massage for constipation regulates peristalsis and it helps to get over the most difficult constipation and no also need laxatives and stool softeners. It is also a cost effective.

Abdominal massage stimulates the peristalsis of the small intestines, tones up the muscles of the abdominal wall and mechanically eliminates the contents of both large and small intestines . It provides a local form of passive exercise to abdominal muscles and help to reduce the symptoms such as cramping , bloating , gas and constipation .

Through this therapy subjects receive attention and touch, which are vital elements of care that promote comfort and well-being. The massage was given at 4 levels stroking , effleurage , kneading and vibration given 5 days in a week for 10 minutes.

Lavender Oil is one of the complementary medicine. It has a light fresh aroma, clear in color and watery in viscosity. Lavender has been used continuously for thousands of years in the form of lavender essential oil and dried flowers .

The therapeutic properties of lavender oil are anticonvulsant, antidepressant, anti rheumatic, antispasmodic, anti-inflammatory, antiviral, bactericidal, sedative, carminative, soothing, hypotensive, decongestant and diuretic. The main effects of lavender are calming, soothing, balancing and normalizing .

Abdominal massage with lavender oil is effective to prevent constipation and its complication and to establish regular bowel habits. . The purpose of the study is to reduce the constipation and evaluate the effectiveness of abdominal massage with lavender oil . It requires no equipment, is a non invasive procedure , does not interfere with daily activities , an avenue for human touch , cost effective , can do self massage not depend on care giver , simple nursing intervention and gives natural effect without side effects .

The findings supports the potential for abdominal massage with lavender oil as a nursing therapeutic measure for constipated subjects . It was concluded that the aroma abdominal massage provided good circulation, improved peristaltic movements, relaxation, comfort and reduction in constipation level . All subjects expressed positive feelings when they received the abdominal massage. These findings appears to indicate that aroma abdominal massage is beneficial both for physical and mental conditions. Abdominal massage, however, is just one key to achieving a full range of primary health-care services. It needs to not only be performed by nurses , but also by self, family members also can provide massage for the person , anywhere and anytime.

The findings of the study will be discussed based on the objectives

The objectives of the study were,

### **OBJECTIVES OF THE STUDY**

1. To assess the bowel function among bedridden patients in Experimental and Control group.
2. To assess the effectiveness of abdominal massage with lavender oil in relieving constipation among the bedridden patients in Experimental group.
3. To compare the effectiveness of abdominal massage with lavender oil in relieving constipation among Experimental group .
4. To find out the association between the effectiveness of abdominal massage with lavender oil in relieving constipation with the selected demographic variables among Experimental group .

### **Demographic details of the study:**

In considering the age wise distribution , majority of subjects , that is 50 % (15) of them were in the age group of 51 – 60 years in the Experimental group . In the Control group 43.3% (13) of subjects were 51- 60 years of age . Both are in equal age distribution . In the sex wise distribution , majority of subjects were female in Experimental 60% (18) and in Control group both male and female were equal , that is 50 % (15) each . According to Marital status 73. 3% (22) are married in Experimental group and 70 % (21) are married in Control group who are majority in both groups. Subjects constituting 80% (24) were mainly Hindus in the Experimental, as well as in Control group 80.% (24). Regarding Type of family, majority of the subjects in Experimental group 66.7% (20) and Control group 63.3% (19) belongs to Nuclear family. Regarding Education, in both group majority was educated up to primary education. In Experimental group it is 40% (12) and in Control group 36.7% (11) . Majority of the subjects were unemployed and equal in

both Experimental group 33.3% (10) and in Control group 33.3% (10). Regarding Monthly income, in Experimental group 1001 to 2000 and 2001 to 5000 are equal as it is 26.7% (8), and in Control group 36.7% (11) were from 2001 to 5000. Majority of subjects were Non- vegetarian 93.3% (28) both in Experimental and Control group. Regarding area of residence most of the subjects belongs to rural area Experimental group 56.7% (17) and Control group is 63.3% (19) . Majority of subjects were on mixed diet 50.0% (15) in Experimental group and 46.7% (14) in Control group .

## **FINDINGS BASED ON THE OBJECTIVES**

### **The first objective of the study was to assess the bowel function among bedridden subjects in Experimental and Control group**

Table 3: shows that in pre assessment among Experimental group 80% of the subjects are having moderate level of constipation , 20% of them having severe level of constipation. Among Control group subjects 76.7% of the subjects are having moderate level of constipation , 23.3% of them having severe level of constipation. Using Chi square test , difference between Experimental and Control group is small and it is not statistically significant . Statistical calculation shows that the bedridden subjects have mostly the moderate level of constipation . Table 4 represents the pre-assessment level of mean constipation score among bedridden subjects in Experimental and Control group. Experimental group subjects are having 11.07 score and Control group subjects are having 10.77 score, so the difference is 0.30 score. This difference is small and it is not statistically significant difference using student independent t-test .

The study findings conducted by **Mc . Crea , et al (2010)** reveals that both younger and middle aged subjects are more than twice as likely as older subjects to have constipation .

A study by **Cardin . et al (2010)** shows that the most of the hospitalized elderly subjects suffer from constipation and require laxatives atleast every 3 days .

A study by **Jeon . et al (2009)** shows that women experienced a number of constipation symptoms and abnormal bowel habits more frequently than men . These findings are consistent with my study stating that the middle aged and women bedridden subjects have moderate constipation and are taking laxatives .

**The second objective was to assess the effectiveness of abdominal massage with lavender oil in relieving constipation among bedridden subjects in Experimental group .**

Table 6 assess the post- assessment level of constipation score among bedridden subjects in Experimental and Control group.

Day 1 , Experimental group subjects are having 8.90 score and Control group subjects are having 10.10 score, so the difference is 1.20 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test .

Day 2 , Experimental group subjects are having 6.63 score and Control group subjects are having 9.83 score, so the difference is 3.20 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test.

Day 3 , Experimental group are having 5.07 score and Control group subjects are having 9.00score, so the difference is 3.93 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test.

Day 4 , Experiment group subjects are having 3.57 score and Control group subjects are having 8.10score, so the difference is 4.53 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test

Day 5 , Experimental group subjects are having 2.13 score and Control group subjects are having 7.47score, so the difference is 5.33 score. This difference is large and it is statistically significant difference. It was confirmed using student independent t-test. So there is statistically significant in reducing constipation in Experimental group .

Research report of **Umeay, Manipal university (2009)** has resulted that there is a significant difference in the level of constipation after the abdominal massage with aroma oil . Hence the abdominal massage with lavender oil and rosemary oil can be used as a effective nursing intervention for subjects with constipation .

My study findings go parallely with **Lin et al., (2008)** by showing reduction in constipation score post- assessment in bedridden subjects with lavender oil abdominal massage .

The findings of the study **Kim , and Sakong** showed that aroma therapy abdominal massage helps to relieve constipation in elderly and middle aged subjects is also consistent with my study by reducing constipation with aroma abdominal massage .

**The third objective was to compare the effectiveness of abdominal massage with lavender oil in relieving constipation among Experimental and Control group .**

#### **Pre -assessment and Post- assessment in Experimental group**

\_This compares the pre -assessment and post- assessment level of constipation among bedridden subjects in Experimental group. In pre -assessment among Experiment group 80% of the subjects are having moderate



level of constipation , 20% of them having severe level of constipation. In post - assessment (Day5) among Experimental group 16.7% of the subjects are having no constipation, 83.3% of them having mild level of constipation. Statistically significance was calculated using Chi- square test.

### **Pre -assessment and Post- assessment in control group**

This compares the pre-assessment and post-assessment level of constipation among bedridden subjects in Control group those who are not receiving aroma oil abdominal massage . In pre-assessment among Control group 76.7% of the subjects are having moderate level of constipation , 23.3%% of them having severe level of constipation. In post- assessment (Day5) among Control group 0.0% of the subjects are having no constipation, 26.7% of them having mild level of constipation, 73.3% are having moderate level of constipation and none of them had severe constipation .

In pre- assessment the mean constipation score is 11.07, the reduction of mean constipation score in post- assessment is 2.13, in Experimental group after using abdominal massage with lavender oil for bedridden subjects . But in Control group the mean constipation score in pre- assessment is 10 .77, whereas in post- assessment the mean constipation score is 7. 47 , and it shows very less reduction in constipation level .

The comparison of overall constipation score between Experimental and Control group. On an average, Experimental group are reduced 44.6% of constipation score , whereas in Control group are reduced 16.5%.. Differences between pre- assessment and post -assessment score was analyzed using mean difference with 95% Confidence Interval and proportion with 95% Confidence Interval . This difference shows the effectiveness of abdominal massage with lavender oil in relieving constipation among Experimental group. It shows the effectiveness of the study .

This study findings goes consistent with the study done by **Harrington and Hask vitz (2005)** , described that 10 minutes of aroma oil abdominal massage have brought reduction of constipation for bedridden subjects also improved bowel frequency and there is no need for laxative intake . It is consistent with the study done by **Nancy L.N, Weinrich, (2002)**, it proves that abdominal massage with aroma oil relieves constipation in bedridden subjects.

**Thus the hypothesis H-1 which states that there is a significant difference between pre-assessment and post-assessment effectiveness regarding abdominal massage with lavender oil for constipation relief is proved.**

Post- assessment constipation score of bedridden subjects who are undergoing abdominal massage with aroma oil in Experimental group will be lower than that of bedridden subjects in Control group.

**The fourth objective was to associate between the effectiveness of abdominal massage with lavender oil in relieving constipation with the selected demographical variables among Experimental group .**

Table no 12 shows the association between level of constipation score reduction and their demographic variables. Younger , More educated are reduced more constipation score. Statistical significance was calculated using Chi square test.

In this study it is proved that constipation is reduced in younger age group 20 to 40 years, Graduates are reduced more constipation score then others in Experimental group .

The study findings which is done by **National Health Interview (2007)** survey of complimentary medicine (aroma therapy) proves that the younger age subjects are reduced more constipation level as my study shows in Experimental group .

Like associating with education , the study conducted by **Constantini.M., et.al., (2009)** proves that the interventions has good results most probably in graduates subjects as in my study .

**Thus the hypothesis H-2 which states that there will be a significant association between the effectiveness of abdominal massage with lavender oil in relieving constipation with the selected demographic variables among Experimental group is accepted.**

## CHAPTER VI

### SUMMARY, IMPLICATIONS AND CONCLUSION.

“In literature and in life we ultimately pursue, not conclusions, but beginnings.”

**Sam Tanenhaus**

This chapter deals with the summary of the study and the conclusions drawn. It clarifies the findings, limitations of the study. The implications and recommendations are given for different areas of Nursing such as practice, education, research and administration in the Health care delivery system.

#### 6.1 SUMMARY OF THE STUDY

Hence, this study was undertaken to determine the “effectiveness of abdominal massage with aroma oil (Lavender oil) for relieving constipation among bedridden subjects admitted in selected wards at Rajiv Gandhi Government General Hospital Chennai- 03.”

Extensive literature review and studies from primary and secondary focus regarding the effects of abdominal massage with aroma oil to bedridden subjects provided evidence based guidance for the study. This has helped to design the methodology, develop the tool for data collection and the protocol for administering massage. The conceptual framework developed for the study was based on the **Modified Wiedenbach’s Helping Art of Clinical Nursing theory**.

The tool used for data collection was validated by the experts in the department of Medical and Nursing. Reliability of the tool was assessed by using inter rater reliability correlation coefficient. The instrument was found to be reliable. Pilot study was conducted on six subjects to find out the appropriateness and feasibility of conducting the study and it was found feasible.

The data collection was done in the Department of Internal Medicine at Rajiv Gandhi Government General Hospital Chennai- 03. Formal permission was obtained from the Head of the Department of Internal Medicine .

The researcher adopted the Quasi-experimental research design. Purposive sampling technique was used to select 60 subjects based on the inclusion criteria.

Pre- assessment constipation score was measured by using Constipation assessment scale in both Experimental and Control group on first day. The intervention, abdominal massage with aroma oil was administered to Experimental group for 10 minutes for five consecutive days. Adequate privacy was provided during the procedure. Control group received their routine treatment. The constipation assessment was done on every day after 20 minutes of intervention. Post -assessment of constipation score was measured with the same Constipation Assessment Scale up to the fifth day. The evidence of intervention and constipation score were marked. Intervention was done at the bedside.

Descriptive (percentage distribution, mean, standard deviation) and inferential statistics (t- test, chi square test) were used to analyze the data and to assessment hypothesis. The data were then interpreted and discussed based on the objectives of the study, hypotheses and relevant studies from literature reviewed.

## **6.2 Major findings of the study**

- In this study majority of the subjects were in the age group of 51-60 years are 50 % (15).
- Regarding sex majority of the subjects were female 60 % (18).
- Subjects constituting religion were mainly Hindus 80.0% (24)
- Regarding Education, majority was educated up to primary education 40 % (12)
- Married subjects constitutes 73.3 % (22) .

- Majority of them were Unemployed 33.3 % (10).
- Regarding Monthly income, 36.7 % (11) were getting from Rs 2001 to 5000 per month.
- Majority of the subjects were on Mixed diet 50 % (15) .
- Regarding Type of family, majority of them 66.7 % (20) belongs to Nuclear family.
- Majority of the subjects residing in Rural area 63.3 % (19).
- In this study pre - assessment showed the result of most of the population 80 % (24) were had the moderate level of constipation (7- 12) score.
- Post - assessment showed the result of most of the subjects 93.3% (28) were had the mild constipation (1-6) score and 76.7% (23) had No constipation(0) score.
- Comparison of the pre- assessment and post- assessment constipation score showed the result statistically significant of intervention.
- On an average, in Experimental group, subjects are having **44.6 % relief in constipation level** where as in Control group subjects are having only **16.5 % relief in constipation level** . **It shows the effectiveness of study.**
- Regarding the association between **Level of Constipation Score reduction** and **demographical variables** in Experimental group, **Younger, More educated** subjects are reduced more score than others.

### 6.3 IMPLICATION

The findings of the study have the following implications in nursing

## **Implications in Nursing Practice**

- Abdominal massage is an effective measure to relieve constipation. Nurse should effectively use this measure to alleviate constipation
- Lavender oil also strengthens the abdominal muscles and improves peristalsis . A nurse can practice without any side effects .
- Abdominal massage with aroma oil helps in reducing the need and frequency of administration of laxatives .
- Abdominal massage promotes sleep and comfort and reduces straining .
- Abdominal massage and lavender oil combination reduces complications of constipation like impaction , rectal prolapse , haemorrhoids , nausea and vomiting , anxiety and social isolation .
- Nurses can plan the goal of nursing management and enhance the nurse client relationship and sense of well being to the client through the development of mutually agreeable goals.
- It is an effective means of communication which provides physical contact in a very acceptable way within the Indian culture
- Abdominal massage can be taught to the bedridden clients who are not able to attend the hospital may use self application .
- It is cost effective, simple, non invasive, alternative therapy to bring out positive physical and psychological response in clients by relieving the symptoms with effective nursing measures .
- Hence , the application of abdominal massage with aroma oil can be used as an adjunctive to other pharmacological treatment to promote comfort and well being among the bedridden subjects .

## **Implications in Nursing Education**

- Complimentary therapies like aroma therapy and abdominal massage need to be included in the curriculum and practiced
- In service education program should be conducted for nursing personnel and help nurses to gain knowledge upon which further researches can be conducted.
- The nurses working in IMCU, neurological wards , orthopaedic wards, and in cardiology departments where clients are mostly bedridden should be taught and trained in implementing complimentary and alternative therapies to provide holistic approach and for the betterment of clients and in the nursing profession .

## **Implications for Nursing Administration**

- Nurses should be encouraged to use abdominal massage in constipation management .
- Continuing education program and Inservice education program can be conducted on the use of abdominal massage and its wide range benefits on constipation prevention .
- Nurse practitioner can encourage bedridden subjects to do Self-abdominal massage .
- Nurse Administrator can help to evaluate the patient satisfaction periodically .

## **Implications for Nursing Research**

- ❖ More research can be performed in order to establish the benefits of abdominal massage .
- ❖ The findings should be disseminated through conference , seminars , publication in journals which helps for further research .



- ❖ Nurse researcher can provide more research in this evolving discipline

#### **6.4 RECOMMENDATIONS**

- Randomized controlled trial can be done.
- Similar study can be conducted for a larger group.
- Effect of abdominal massage for a prolonged period can be studied.
- Self abdominal massage can be taught to the clients . Thus they can avoid over the counter drugs and able to do massage in the home itself .

#### **6.5 CONCLUSION**

The following conclusion was drawn from the following study . The bedridden subjects in the Experimental group had reduced constipation level after aroma abdominal massage than other group . It reduces the intake of laxatives .So in addition to the pharmacological treatment abdominal massage can be used for managing constipation in bedridden subjects .The future of this field of nursing science promised to be one of the rapid significant growths. The results of it will directly influence clients care in the aspect of management of constipation as that of “evidence based nursing care”.

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## CONSTIPATION ASSESSMENT SCALE

(McMILLAN AND A. WILLIAM)

S.No	Variables item	Assessment	score	Subject 's score	Total
1.	Decreased bowel movement	<ul style="list-style-type: none"> <li>• No</li> <li>• Occasional</li> <li>• Prolonged</li> </ul>	0 1 2		
2.	Decreased appetite	<ul style="list-style-type: none"> <li>• No</li> <li>• Occasional</li> <li>• Prolonged</li> </ul>	0 1 2		
3.	Hardening of stools	<ul style="list-style-type: none"> <li>• Normal consistency</li> <li>• Somewhat hard</li> <li>• Hard and fragmented</li> </ul>	0 1 2		
4.	Bloody stool	<ul style="list-style-type: none"> <li>• No</li> <li>• Occasional episodes</li> <li>• Frequent episodes</li> </ul>	0 1 2		
5.	Painful defecation	<ul style="list-style-type: none"> <li>• No pain</li> <li>• Occasional aches</li> <li>• Severe or prolonged</li> </ul>	0 1 2		
6.	Incomplete emptying	<ul style="list-style-type: none"> <li>• Feeling of complete evacuation</li> <li>• Occasional feelings of incomplete evacuation</li> <li>• Regular feelings of incomplete evacuation</li> </ul>	0 1 2		
7.	Fullness of abdomen	<ul style="list-style-type: none"> <li>• No fullness</li> <li>• Occasional discomfort</li> <li>• Continuous discomfort</li> </ul>	0 1 2		
8.	Rectal fullness or pressure	<ul style="list-style-type: none"> <li>• No fullness</li> <li>• Occasional troublesome</li> <li>• Continuous discomfort</li> </ul>	0 1 2		
9.	Passing small volume of stools	<ul style="list-style-type: none"> <li>• No</li> <li>• Occasional</li> <li>• Regularly</li> </ul>	0 1 2		
10.	Urge but inability to pass stool	<ul style="list-style-type: none"> <li>• Normal control</li> <li>• Occasional feelings of urgency</li> <li>• Always inability to pass stool</li> </ul>	0 1 2		
11.	Total				

**Severity scores for constipation:**

**Key:**

No : 0

Some what : 1

Severe : 2

**LEVEL OF CONSTIPATION:**

Mild : 1 to 6

Moderate : 7 to 12

Severe : 13 to 20

No constipation : 0

## SECTION - A

### SOCIO DEMOGRAPHIC PROFILE:

Subject no :

1) Age of the person

- a) 20 - 40 years  b) 41 - 50 years  c) 51 – 60 years   
d) > 60years

2) Sex

- a) Male  b) Female

3) Marital status

- a) Married  b) Unmarried  c) Divorced   
d) Widower / widow

4) Religion

- a) Hindu  b) Muslim  c) Christian  d) Others

5) Type of family

- a) Nuclear  b) Joint  c) Broken

6) Educational status

- a) Illiterate  b) Elementary  c) Higher secondary   
d) Diploma  e) Graduate and above

7) Occupation

- a) Government  b) Private  c) Business   
d) Unemployed  e) Coolie



8) Income

- a) < Rs 1000 / month       b) Rs 1001- 2000 / month   
c) Rs 2001- 5000 / month       d) > Rs 5000 /month

9) Area of residence

- a) Urban       b) Rural

10) Dietary pattern

- a). Vegetarian       b) Non- vegetarian       c) Mixed

## SECTION – B

### PHYSIOLOGICAL PARAMETERS:

1) Activities of daily living

a) Sedentary  b) Moderate  c) Heavy

2) The duration of problem of constipation is started from

a) Few days  b) few months   
c) years together  d) don't know

3) Frequency of bowel movements

a) Once in a week  b) Twice in a week   
c) Thrice in a week  d) Once a day

4) Consistency of bowel movements

a) Hard and dry  b) Solid   
c) Semi solid  d) Watery

5) Fluid intake per day

a) Less than 1000 ml per day  b) 1000 to 2000 ml per day   
c) More than 2000 ml per day

6) Intake of laxatives

a) Regularly  b) Alternative days   
b) Once in a week  d) Occasionally  e) Never

7) Intake of fiber diet

a) Low fiber diet  b) Moderate fiber diet  c) Fiber rich diet

8) Appetite

a) Poor  b) Mild  c) Moderate  d) severe

9) Defecation

a) Painful  b) Incontinence  c) Urge but inability to pass

## **PROTOCOL OF ABDOMINAL MASSAGE:**

### **Objectives:**

- To relieve constipation.
- To strengthen the abdominal muscles.

### **Articles:**

A tray containing:

ARTICLES	PURPOSES
Mackintosh	To protect the bed linen
Towel	To clean the patient with water
Bowl with plain water	To clean the abdomen.
Lavender oil and coconut oil mixed in a bottle equal portions.	To apply on the abdomen to avoid friction. Lavender oil increases muscle relaxation and improves peristaltic movement.
1ml syringe / dropper	To take the lavender oil from bottle
Clean gauze piece	To clean the abdomen before and after finishing the massage
Kidney tray	To receive the wastes

### **Preparation of the subject:**

- Explain the procedure to the subject.
- Provide privacy.
- Arrange the articles near the bed side.
- Make the subject comfortable in supine position.
- Make sure the subject emptied his /her bladder.

### Steps of the procedure :- performance phase:

STEPS OF THE PROCEDURE	PURPOSES
<ol style="list-style-type: none"> <li>1. Wash hands.</li> <li>2. Position the subject with knees slightly flexed.</li> <li>3. Add 1 ml of coconut oil with 1ml of lavender oil in a container as per required quantity .Take 5 ml in the palms and spread it and apply over the abdomen.</li> <li>4. Start the massage from right to left side from umblicus.</li> <li>5. Massage in small circular movements with finger tips around the umbilicus.</li> <li>6. Start on the right side down in the right iliac region in circular upward until the rib cage in the right hypochondriac region.</li> <li>7. Move in circular movements laterally from the right hypochondriac region to the left hypochondriac region.</li> <li>8. Move in circular movements downward from left hypochondriac region to the left iliac region .</li> <li>9. Make long strokes from left iliac to the right iliac region.</li> <li>10. Complete the massage with small circular movements around the umbilicus.</li> </ol>	<p>To prevent the cross infection</p> <p>To relax the abdominal muscles</p> <p>To prevent friction and ease the massage</p> <p>As per the anatomical position of the intestine</p> <p>It strengthen the abdominal muscles</p> <p>It strengthens the ileo ceacal valve and moves the stagnant fecal matter</p> <p>It strengthens the muscles of the colon and push the colonic content along the transverse colon</p> <p>To push the colonic contents along the descending colon</p> <p>To push the colonic contents along the sigmoid colon</p> <p>To improve circulation.</p>

**After care of the procedure:**

- Clean the subject thoroughly.
- Replace the articles.
- Wash hands .
- Assess for any expulsion of fecal matter within 15 to 30 minutes.
- If no, repeat the procedure once again.
- Record the procedure and its out come .



**INSTITUTIONAL ETHICS COMMITTEE**  
**MADRAS MEDICAL COLLEGE, CHENNAI -3**

EC RegNo.ECR/270/Inst./TN/2013

Telephone No : 044 25305301

Fax : 044 25363970

Date:22.07.2013

**CERTIFICATE OF APPROVAL**

To  
V.Vasanthi,  
M.Sc.,(N) II year,  
College of Nursing,  
Madras Medical College, Chennai-3.

Dear Vasanthi

The Institutional Ethics committee of Madras Medical College, reviewed and discussed your application for approval of the proposal entitled "A Study to assess the effectiveness of abdominal massage with aroma oil (Lavender oil) for relieving constipation among bedridden patients admitted in selected wards at Rajiv Gandhi Government General Hospital, Ch.03" No.07072013.

The following members of Ethics Committee were present in the meeting held on 06.07.2013 conducted at Madras Medical College, Chennai -3.

1. Dr.G.SivaKumar, MS FICS FAIS --- Chairperson
2. Prof. R. Nandhini MD -- Member Secretary  
Director, Instt. of Pharmacology ,MMC, Ch-3
3. Prof. Shyamraj MD -- Member  
Director i/c , Instt. of Biochemistry , MMC, Ch-3
4. Prof. P. Karkuzhali. MD -- Member  
Prof., Instt. of Pathology, MMC, Ch-3
5. Prof. Kalai Selvi -- Member  
Prof of Pharmacology, MMC, Ch-3
6. Prof. Siva Subramanian, -- Member  
Director, Instt. of Internal Medicine, MMC, Ch-3
7. Thiru. S. Govindsamy. BABL -- Lawyer
8. Tmt. Arnold Saulina MA MSW -- Social Scientist

We approve the proposal to be conducted in its presented form.

Sd/ Chairman & Other Members

The Institutional Ethics Committee expects to be informed about the progress of the study, and SAE occurring in the course of the study, any changes in the protocol and patients information / informed consent and asks to be provided a copy of the final report.

*R Nandini*

Member Secretary, Ethics Committee



Lr. no. 286/CON/MMC/Chennai-3 dt-16.07.13.

From:

**Mrs. V.Vasanthi,**  
M.Sc (Nursing) II year,  
College of Nursing,  
Madras Medical College,  
Chennai-3.

To:

**The Dean,**  
Madras Medical College,  
Chennai-03.

Through Proper Channel,

Respected Sir,

**Sub: Requesting Permission to conduct a research study - reg**

I, Mrs. V.Vasanthi, studying M.Sc.Nursing II year, College of nursing, Madras Medical college, kindly request you to grant me permission for the study proposed to conduct on the topic "A Study to assess the effectiveness of Abdominal massage with Aroma oil (lavender oil) for relieving constipation among bedridden patients admitted in selected wards at Rajiv Gandhi Government General Hospital in Chennai-03." to fulfill the requirement of data collection. I assure you that it will not interfere with routine activities of the study settings.

Forwarded  
by  
16/07/13

Thanking you,

Date: 16/07/13  
Place: Chennai-3

Yours obediently,

*V. Vasanthi*  
(V.Vasanthi)

Ly.No: 286 | CON | MMC / Chennai-3 dt 16.07.13.

From:

**Mrs. V.Vasanthi.**  
M.Sc (Nursing) II year,  
College of Nursing,  
Madras Medical College,  
Chennai-3.

To:

**The Professor and HOD,**  
Department of Internal Medicine,  
Rajiv Gandhi Government General Hospital,  
Chennai-03.

*Received  
15/7/13*

Through Proper Channel,

Respected Sir,

**Sub: Requesting Permission to conduct a research study - reg**

I, Mrs. V.Vasanthi, studying M.Sc.Nursing II year, College of nursing, Madras Medical college, kindly request you to grant me permission for the study proposed to conduct on the topic "A Study to assess the effectiveness of Abdominal massage with Aroma oil (lavender oil) for relieving constipation among bedridden patients admitted in selected wards at Rajiv Gandhi Government General Hospital in Chennai-03." to fulfill the requirement of data collection. I assure you that it will not interfere with routine activities of the study settings.

*forwarded  
15/7/13*

Thanking you,

Date: 15/7/13

Place: Chennai-3

Yours obediently,

*V.Vasanthi*

(V.Vasanthi)

CERTIFICATE OF CONTENT VALIDITY

This is to certify that a tool prepared by Mrs. V.Vasanthi, M.Sc. Nursing, II year of Madras Medical College of Nursing, undertaking a research study , "A study to assess the effectiveness of abdominal massage with aroma oil (lavender oil ) for relieving constipation among bedridden patients admitted in selected wards at Rajiv Gandhi Government General Hospital, Chennai - 03." has been validated by me and is found to be valid and up to date.

Signature:

Name:

Date:

Place:

Seal:

*V. Vasanthi*  
Designation:  
**DIRECTOR AND PROFESSOR**  
Institute of Internal Medicine  
Madras Medical College,  
Govt. General Hospital,  
Madras-600 003

EVALUATION CHECKLIST FOR THE VALIDATION OF TOOL

NAME OF THE EXPERT:

Kindly go through the tool and give your valuable opinion in the criteria table. If the tool is not meeting the criteria, please give your valuable suggestions in the remarks column.

S.No	CRITERIA	MODIFICATION	SUGGESTIONS
1.	Proforma for socio-demographic data	nil	nil.
2.	Tools and check list	correct. she can start the proceedings.	

*U. Anil*  
3/11/13.

Signature of expert  
**DIRECTOR AND PROFESSOR**  
Institute of Internal Medicine  
Madras Medical College,  
Govt. General Hospital,  
Madras-600 063

CERTIFICATE OF CONTENT VALIDITY

This is to certify that a tool prepared by Mrs. V.Vasanthi, M.Sc. Nursing, II year of Madras Medical College of Nursing, undertaking a research study , "A study to assess the effectiveness of abdominal massage with aroma oil (lavender oil ) for relieving constipation among bedridden patients admitted in selected wards at Rajiv Gandhi Government General Hospital, Chennai - 03." has been validated by me and is found to be valid and up to date.

Signature:

Name:

Date:

Place:

Seal:

  
Designation:  
**PRINCIPAL**  
**MADHA COLLEGE OF NURSING**  
**MADHANAGAR, KUNDRATHUR**  
**CHENNAI - 600 068**  
**PHONE. 2478073F**

Bharani's



**THE YOGA** AND  
**MASSAGE** CENTER

**Dr.J.RAMESH.,M.D.(AM),**

REGD.NO: 52812  
22, RAILWAY STATION ROAD,  
GUDUVANCHERY,  
CHENNAI -603202

**DATE: 20/06/2013**

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that Mrs.V.Vasanthi I Year M.Sc.,(Nursing) had undergone a special training programme on Abdominal massage (Aromatherapy) from 09.06.2013 to 18.06.2013 She has specialized in abdominal massage for relieving constipation and she has been qualified to provide the abdominal massage to the people.

*J. Ramesh*  
Reg-no: 52812

**Dr. J. RAMESH, MD,(AM),**  
**BARANIS YOGA & MASSAGE CENTRE,**  
**GUDUVANCHERRY, CHENNAI-603 202**



**SAI RAM VIDYALAYA**

48/73, Anna Street, Madipakkam, Chennai-91.

## **CERTIFICATE OF ENGLISH EDITING**

### **TO WHOMSOEVER IT MAY CONCERN**

This is to certify that the dissertation "A Study to assess the effectiveness of abdominal massage with aroma oil ( Lavender Oil) for relieving constipation among bedridden patients admitted in selected wards at Rajiv Gandhi Government General Hospital Chennai- 03" done by Mrs.V.Vasanthi, II year M.Sc Nursing, College of Nursing, M.M.C. has been edited for English Language appropriateness.

**Mrs R.GEETHA, M.A.,M.Ed.,M.Phil**  
Principal,  
**SAIRAM VIDYALAYA**  
**MADIPAKKAM, CHENNAI-91.**

## ஆய்வு தகவல் தாள்

பங்கேற்பாளர் பெயர் :  
ஆராய்ச்சியாளர் பெயர் :  
ஆய்வு தலைப்பு : கிராஜீவ்காந்தி அரசு பொது மருத்துவமனையில் உள்நோயாளிகளாக அனுமதிக்கப்பட்ட மூத்த மருக்கையாக இருக்கும் நோயாளிக் கு வாசனை திரவிய எண்ணெய் (லாவண்டர் எண்ணெய்) தடவி, வயிற்றுப் பிசைதல் மூலம் மலச்சிக்கலை நீக்கும் திறனை ஆராய்தல் பற்றிய ஆய்வு.

இந்த ஆய்வு சென்னை ராஜீவ்காந்தி அரசு பொது மருத்துவமனையின் தேர்ந்தெடுக்கப்பட்ட உள் நோயாளிகள் பிரிவில் மேற்கொள்ளப்பட உள்ளது.

நீங்கள் இந்த ஆய்வில் பங்கேற்க அழைக்கிறோம். நீங்கள் இந்த ஆய்வில் பங்கேற்கலாமா அல்லது வேண்டாமா? என்பதை முடிவு செய்ய இந்த ஆவணத்தில் உள்ள தகவல் உதவியாக இருக்கும். உங்களுக்கு ஏதேனும் சந்தேகம் இருந்தால் நீங்கள் எங்களிடம் வெளிப்படையாக கேட்கலாம்.

எங்களுடைய அடிப்படை தகுதிகளில் நீங்கள் திருப்தியாக இருப்பதால் உங்களை இந்த ஆய்வில் பங்கேற்க அழைக்கிறோம்.

**ஆய்வின் நோக்கம் மற்றும் செயல்பாடு:**

வாசனை திரவிய எண்ணெய் (லாவண்டர் எண்ணெய்) தடவி, வயிற்றுப் பிசைதல் மூலம் மலச்சிக்கலை நீக்கும் திறனை ஆராய்தல் பற்றிய ஆய்வு.

இந்த ஆய்வில் உங்கள் பெயர், வயது, பரிந்துரைக்கப்பட்ட மருந்து களின் பெயர், சிகிச்சை கால அளவு ஆகிய தகவல்கள் பெற்றுக் கொள்வோம்.

சில தகவல்கள் உங்களிடம் பெறப்படும்:

உங்களுக்கு உங்களுடைய மருத்துவத் தகவலை இரகசியமாக வைக்க உரிமை உண்டு. நீங்கள் இந்த ஆய்வில் கையொப்பமிடுவதால் நீங்கள் உங்களுடைய தகவலை ஆய்வு குழு மற்றும் நிறுவனத்திடம் காட்ட வேண்டும். இந்த ஆராய்ச்சியின் தகவல்கள் விஞ்ஞான இதழ்கள் மற்றும் விஞ்ஞான கூடத்தில் வெளியிடப்பட்டாலும் உங்களுடைய அடையாளங்கள் காட்டப்படமாட்டாது.

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ஆராய்ச்சியாளர் கையொப்பம்  
தேதி:

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பங்கேற்பாளர் கையொப்பம்  
தேதி:



## சுய ஒப்புதல் படிவம்

### ஆய்வு செய்யப்படும் தலைப்பு

“கிராஜீவ்காந்தி அரசு மொது மருத்துவமனையில் உள்நோயாளிகளாக அனுமதிக்கப்பட்ட படுத்த படுக்கையாக இருக்கும் நோயாளிக் கு வாசனை திரவிய எண்ணெய் (லாவண்டர் எண்ணெய்) தடவி, வயிற்றுப் பிணைதல் மூலம் மலச்சிக்கலை நீக்கும் திறனை ஆராய்தல் பற்றிய ஆய்வு”

பங்கு பெறுபவரின் பெயர்: வயது: தேதி: உள் நோயாளி எண்:

..... என்பவராகிய நான் இந்த ஆய்வின் விவரங்களும் அதன் நோக்கங்களும் முறையாக அறிந்து கொண்டேன். எனது சந்தேகங்கள் அனைத்திற்கும் தகுந்த விளக்கம் அளிக்கப்பட்டது. இந்த ஆய்வில் முழு சுந்திரத்துடன் மற்றும் சுயநினைவுடன் பங்கு கொள்ள சம்மதிக்கிறேன்.

எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்துகொண்டு நான் எனது சம்மதத்தைத் தெரிவிக்கிறேன். இச்சுய ஒப்புதல் படிவத்தை பற்றி எனக்கு விளக்கப்பட்டது.

இந்த ஆய்வின் பற்றிய அனைத்து தகவல்களும் எனக்கு தெரிவிக்கப்பட்டது. இந்த ஆய்வில் எனது உரிமை மற்றும் பங்கினை பற்றி அறிந்து கொண்டேன்.

இந்த ஆய்வில் பிறரின் நிர்பந்தமின்றி என் சொந்த விருப்பத்தின்பேரில் தான் பங்கு பெறுகிறேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் பின்வாங்கலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்து கொண்டேன்.

இந்த ஆய்வில் கலந்து கொள்வதன்மூலம் என்னிடம் பெறப்படும் தகவலை ஆய்வாளர் இன்ஸ்டிடியூசனல் எத்திக்ஸ் கமிட்டியினிடமோ, அரசு நிறுவனத்திடமோ தேவைப்பட்டால் பகிர்ந்து கொள்ளலாம் என சம்மதிக்கிறேன்.

இந்த ஆய்வின் முடிவுகளை வெளியிடும்போது எனது பெயரோ, அடையாளமோ வெளியிடப்படாது என அறிந்து கொண்டேன். இந்த ஆய்வின் விவரங்களைக் கொண்ட தகவல்தாளைப் பெற்றுக் கொண்டேன். இந்த ஆய்விற்காக வயிற்றைத் தடவி பரிசோதனை செய்துக் கொள்ள சம்மதிக்கிறேன்.

இந்த ஆய்வில் பங்கேற்கும்பொழுது ஏதேனும் சந்தேகம் ஏற்பட்டால், உடனே ஆய்வாளரை தொடர்பு கொள்ள வேண்டும் என அறிந்து கொண்டேன்.

நான் இந்த ஆய்வில் வயிற்று பகுதியை தொட்டு பரிசோதிக்க சம்மதிக்கிறேன்.

இச்சுய ஒப்புதல் படிவத்தில் கையெழுத்திடுவதன்மூலம் இதுவுள்ள அனைத்து விஷயங்களும் எனக்கு தெளிவாக விளக்கப்பட்டது என்று தெரிவிக்கிறேன் என்று புரிந்து கொண்டேன். இச்சுய ஒப்புதல் படிவத்தின் ஒரு நகல் எனக்கு கொடுக்கப்படும் என்று தெரிந்து கொண்டேன்.

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ஆராய்ச்சியாளர் கையொப்பம்  
தேதி:

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பங்கேற்பாளர் கையொப்பம்  
தேதி:

## சுய ஒப்புதல் படிவம்

### ஆய்வு செய்யப்படும் தலைப்பு

“கிராமீயகாந்தி அரசு யோசனை மருத்துவமனையில் உள்நோயாளிகளாக அனுமதிக்கப்பட்ட புகுந்த புகைகையாக இருக்கும் நோயாளிக் கு வாசனை திரவிய எண்ணெய் (லாவண்டர் எண்ணெய்) தடவி, வயிற்றுப் பிணைதல் மூலம் மலச்சிக்கலை நீக்கும் திறனை ஆராய்தல் பற்றிய ஆய்வு”

பங்கு பெறுபவரின் பெயர்: வயது: தேதி: உள் நோயாளி எண்:

..... என்பவராகிய நான் இந்த ஆய்வின் விவரங்களும் அதன் நோக்கங்களும் முறையாக அறிந்து கொண்டேன். எனது சந்தேகங்கள் அனைத்திற்கும் தகுந்த விளக்கம் அளிக்கப்பட்டது. இந்த ஆய்வில் முழு சுந்திரத்துடன் மற்றும் சுயநினைவுடன் பங்கு கொள்ள சம்மதிக்கிறேன்.

எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்துகொண்டு நான் எனது சம்மதத்தைத் தெரிவிக்கிறேன். இச்சுய ஒப்புதல் படிவத்தை பற்றி எனக்கு விளக்கப்பட்டது.

இந்த ஆய்வின் பற்றிய அனைத்து தகவல்களும் எனக்கு தெரிவிக்கப்பட்டது. இந்த ஆய்வில் எனது உரிமை மற்றும் பங்கினை பற்றி அறிந்து கொண்டேன்.

இந்த ஆய்வில் பிறரின் நிர்ப்பந்தமின்றி என் சொந்த விருப்பத்தின்பேரில் தான் பங்கு பெறுகிறேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் பின்வாங்கலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்து கொண்டேன்.

இந்த ஆய்வில் கலந்து கொள்வதன்மூலம் என்னிடம் பெறப்படும் தகவலை ஆய்வாளர் இன்ஸ்டிடியூசனல் எத்திக்ஸ் கமிட்டியினிடமோ, அரசு நிறுவனத்திடமோ தேவைப்பட்டால் பகிர்ந்து கொள்ளலாம் என சம்மதிக்கிறேன்.

இந்த ஆய்வின் முடிவுகளை வெளியிடும்போது எனது பெயரோ, அடையாளமோ வெளியிடப்படாது என அறிந்து கொண்டேன். இந்த ஆய்வின் விவரங்களைக் கொண்ட தகவல்தாளைப் பெற்றுக் கொண்டேன். இந்த ஆய்விற்காக வயிற்றைத் தடவி பரிசோதனை செய்துக் கொள்ள சம்மதிக்கிறேன்.

இந்த ஆய்வில் பங்கேற்கும்பொழுது ஏதேனும் சந்தேகம் ஏற்பட்டால், உடனே ஆய்வாளரை தொடர்பு கொள்ள வேண்டும் என அறிந்து கொண்டேன்.

நான் இந்த ஆய்வில் வயிற்று பகுதியை தொடர் பரிசோதிக்க சம்மதிக்கிறேன்.

இச்சுய ஒப்புதல் படிவத்தில் கையெழுத்திடுவதன்மூலம் இதிலுள்ள அனைத்து விஷயங்களும் எனக்கு தெளிவாக விளக்கப்பட்டது என்று தெரிவிக்கிறேன் என்று புரிந்து கொண்டேன். இச்சுய ஒப்புதல் படிவத்தின் ஒரு நகல் எனக்கு கொடுக்கப்படும் என்று தெரிந்து கொண்டேன்.

ஆராய்ச்சியாளர் கையொப்பம்  
தேதி:

பங்கேற்பாளர் கையொப்பம்  
தேதி:

