

**EFFECT OF ABDOMINAL MASSAGE ON  
CONSTIPATION AMONG PATIENTS WITH  
CEREBROVASCULAR ACCIDENT AT  
SRI RAMAKRISHNA HOSPITAL, COIMBATORE.**

**REG. NO. 30091403**

A Dissertation submitted to  
**The Tamilnadu Dr. M.G.R. Medical University,**  
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In partial fulfillment of the requirements for the  
Award of the Degree of

**MASTER OF SCIENCE IN NURSING**

**2010**

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PATIENTS WITH CEREBROVASCULAR ACCIDENT

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### **Abstract**

An interventional study was conducted to assess the effectiveness of abdominal massage on constipation among patients with cerebrovascular accident. Quasi experimental one group pretest posttest design was used in the study. Purposive sample of patients with cerebrovascular accident (N=11) who had constipation were included in the study. Constipation Assessment Scale (Mc Millan & William, 1989) was used to identify the level of constipation before and after abdominal massage. The data was analysed with descriptive and inferential statistical methods. The result revealed that there was a significant difference in the level of constipation before and after abdominal massage. Hence, it can be concluded that the abdominal massage is found to be an effective measure in relieving constipation for patients with cerebrovascular accident.

## **Effect of Abdominal Massage on Constipation among Patients with Cerebrovascular Accident at Sri Ramakrishna Hospital, Coimbatore.**

Cerebrovascular accident or stroke is a major public health concern. The body's most organized and complex system is the nervous system which profoundly controls both psychological and physiological function. Brain serves to monitor and regulate all body systems. Brain requires a steady supply of oxygen in order to function effectively.

Cerebrovascular Accident occurs when there is inadequate blood flow to a part of the brain or hemorrhage into the brain. Functions such as movement, sensation, or emotions that were controlled by the affected area of the brain are lost or impaired. The severity of the loss of function varies according to the location and extent of the brain involved (Lewis, 2009).

Cerebrovascular accident is the third leading cause of death next to heart disease and cancer. It is also the second cause of mortality world wide. Approximately 7,00,000 people experience stroke each year in US and 5,00,000 of these are new strokes and 2,00,000 are recurrent strokes. It is the leading cause of serious, long – term disability (Polaski, 2010).

Among adults aged 20 years and older, the prevalence of strokes in 2005 was 6,50,000 (about 2,60,000 males and 3,90,000 females), which indicates that cerebrovascular accident can occur in earlier years of life also. The incidence of cerebrovascular accident in India is about 250 – 350 /10,000 cases every year which is growing at a drastic rate (Basavanthappa, 2007).

Stroke can have an effect on many body functions, including motor activity, elimination, intellectual function, sensory – perceptual alterations, personality, affect, sensation and communication. The functions affected are directly related to the artery involved and area of the brain it supplies (Lewis, 2009).

As per an article entitled Cerebrovascular Accident by Pirasan foundation, symptoms appearing after the occurrence of Cerebrovascular Accident are very strong head aches, hemiplegia – paralysis of one side of the body in the face, arm or leg, numbness and weakness, loss of control of the urinary bladder and large intestinal muscles or constipation, inability to swallow, blurred vision, double vision, partial or complete loss of hearing and taste, difficulty in breathing, lack of balance and difficulty in walking, fainting, difficulty in speech.

Among patients with Cerebrovascular Accident most problems with urinary and bowel elimination occur initially. Although motor control of the bowel is not usually a problem, the patients suffer from constipation. Constipation is associated with immobility, weak abdominal muscles and diminished response to the defecation reflex (Black, 2009).

Almost every one experiences occasional constipation and it is an universal problem. As per an article entitled what causes constipation, constipation can be a functional consequence of various disorders like diabetes, hypothyroidism, multiple sclerosis, parkinsonism, cerebrovascular accident and even more and also a frequent side effect of drugs like opioids, anticholinergics, anticonvulsants, calcium channel blockers. In many adults however occasional constipation can be attributed to physical inactivity, lack of fluids and failure to respond to the urge to defecate.

Constipation is a symptom and not a disease. Constipation may be defined as fewer than 3 bowel movements per week. This infers the passage of dry, hard stool or no passage of stool (Basson, 2010). Constipation usually includes decreased frequency of bowel movements less 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 relieve 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.

Abdominal massage stimulate 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.

### **1.1. NEED FOR THE STUDY**

Constipation results in discomforts for the patients 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.

Valsalva maneuver, which occurs during straining to pass hardened stools may cause serious problem in patients with constipation. During the straining the patient takes a deep inspiration, the breath is held, and the glottis closes and traps the air. The

abdominal muscle contract and try to push against the colon which results in increased intra abdominal pressure and intrathoracic pressure and reducing venous return to the heart. This results only in increasing the discomfort and not decreasing it (Lewis, 2007).

To prevent these discomfort, patients are given laxatives or enemas to be relieved from constipation. The prolonged use of laxative 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 laxatives (Lewis, 2007).

A study conducted among 140 patients with cerebrovascular accident, to identify the complication among stroke patients revealed that about 22.9% of cases had complaints of constipation (Doshi, Say, Young & Doraisamy, 2003).

An article entitled massage therapy and healthy living in believe massage therapy magazine explains that abdominal massage can serve as a better means to relieve constipation, which not only relieves discomfort but also improves the bowel motility and function by increasing the muscle tone of the abdominal wall and there by physically remove the contents of the intestine. There is an increase in interest for non-pharmacological measures among both patients and the health care professionals which has paved the way for research studies with better measures.

An article entitled constipation remedies in family health guide explains that abdominal massage when used properly can be an efficient nursing intervention for



treating constipation among patients, who due to immobility are often suffering with this problem.

A study conducted in Don-evi medical center, Korea among patients with Cerebrovascular Accident who had constipation concluded that there was a significant improvement in the frequency of defecation and decrease in severity of constipation after abdominal massage in the experimental group compared to the control group (Joen & Jung, 2006).

A case study report presented by Harrington and Haskvitz (2006) reveals that a 85 year old woman with complaints of constipation was given abdominal massage daily, since the treatment with stool softeners was unsuccessful. On the follow up after 13 weeks the patient reported a return of normal bowel frequency and function.

As constipation is a major complication for the patients with Cerebrovascular Accident, the present researcher decided to do a study on the effect of abdominal massage on constipation among patients with Cerebrovascular Accident.

## **1.2. STATEMENT OF THE PROBLEM**

EFFECT OF ABDOMINAL MASSAGE ON CONSTIPATION AMONG PATIENTS WITH CEREBROVASCULAR ACCIDENT AT SRI RAMAKRISHNA HOSPITAL, COIMBATORE.

## **1.3. OBJECTIVES**

1.3.1. To assess the level of constipation among patients with cerebrovascular accident.

1.3.2. Abdominal massage to patients with constipation.

1.3.3. To evaluate the effect of abdominal massage on constipation among patients with cerebrovascular accident.

#### **1.4. OPERATIONAL DEFINITIONS**

##### **1.4.1. Abdominal massage**

Abdominal massage is a technique of massaging over the anatomical position of the colon to stimulate peristalsis, aid in digestion and relieving constipation.

##### **1.4.2. Cerebrovascular Accident**

A sudden neurologic deficit occurs due to lack of blood supply to the brain cells resulting from either ischemia or hemorrhage.

##### **1.4.3. Constipation**

Infrequent bowel movements less than three days per week, difficulty in defecation or the sensation of incomplete bowel evacuation.

#### **1.5. CONCEPTUAL FRAME WORK**

##### **LYDIA HALL'S CORE, CARE AND CURE MODEL**

Lydia Hall's nursing theory was selected for this study. She developed this theory at a time when health care was dominated by the practice of medicine, her ideas of nurses controlling nursing care were considered revolutionary.

Her model consists of 3 interlocking circles. The CORE, CARE & CURE circles each of which represents a specific aspect of nursing.

**The Core Circle**

It refers to the patient and includes nursing care and developing an interpersonal relationship with patients which allows the patient to express feelings about desire. Patients with cerebrovascular accident who have constipation were selected for the study. Patient's demographic profile and their physiological parameters were assessed. Assessment of the level of constipation was done using Constipation Assessment Scale (Mc Millan & William, 1989).

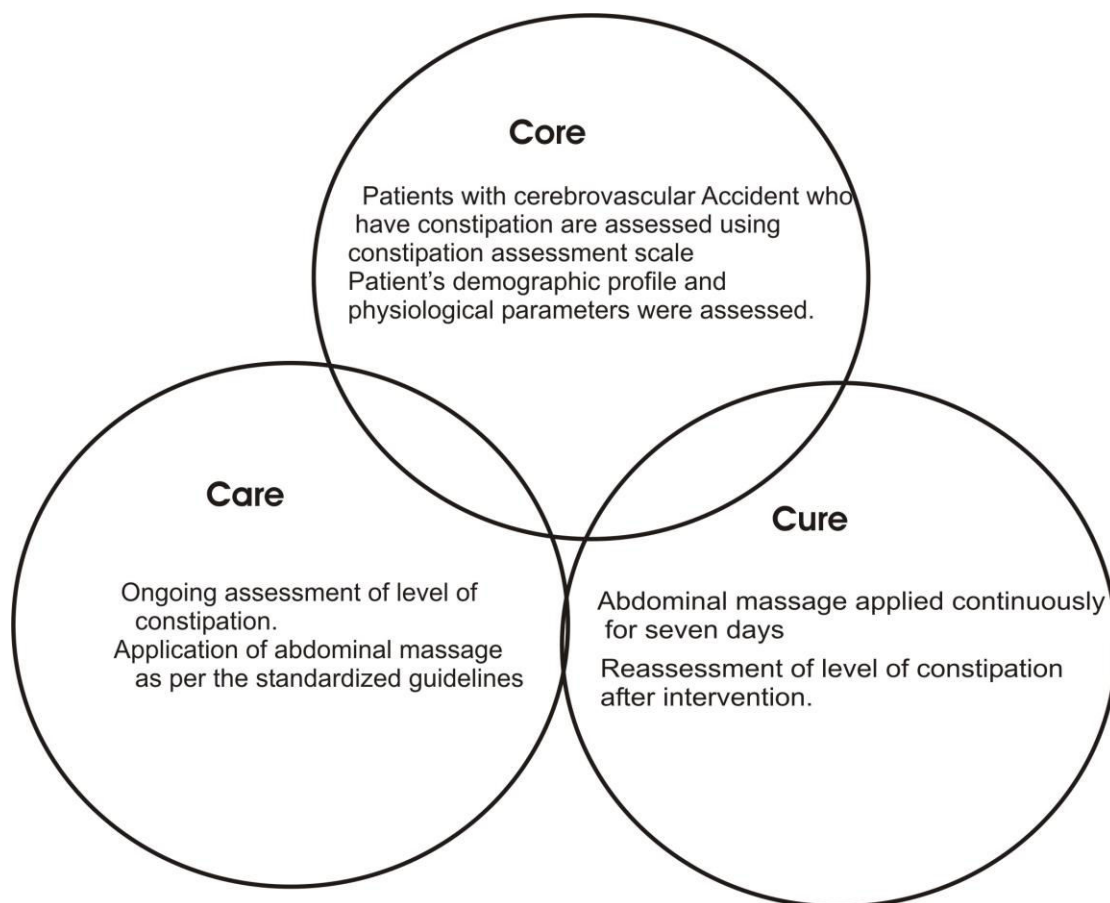
**The Care Circle**

Care focuses on hands on bodily care and the belief that a caring touch and thorough assessment is therapeutic. It refers to the patients body which represents the nurturing aspect of nursing care. In this study, the ongoing assessment on the level of constipation was done followed by application of abdominal massage as per the standardized guidelines.

**The Cure Circle**

It refers to the pathological process of the diseases and involves helping the patient and family through the interventional measures. The function of the nurse is to assist the patient and her family in coping with treatment. It is a collaborative practice. Abdominal massage was applied continuously for seven days and reassessment of level of constipation was done, to find the effect of abdominal massage.

**FIG.1.1.**  
**CONCEPTUAL FRAMEWORK OF LYDIA HALL'S**  
**CORE, CARE, CURE MODEL**



(Wesley, 1994)

## **1.6. PROJECTED OUTCOME**

Abdominal massage will relieve constipation among patients with cerebrovascular accident.

## **REVIEW OF LITERATURE**

In the present chapter the researcher organised the literature related to the present study. It consist of the following subdivisions

1. Literatures related to Constipation
2. Literatures related to Abdominal Massage
3. Literatures related to Abdominal Massage for the Relief of Constipation

### **2.1. LITERATURES RELATED TO CONSTIPATION**

A study was conducted in Ghent University Hospital, Belgium among 90 spinal cord injury patients to identify gastrointestinal complication using questionnaire. The study concluded that 58% of patients with spinal cord injury above L<sub>2</sub> suffer from constipation and tetraplegic patients had the highest prevalence of constipation (De Looze, Laere, De Muynck, Beke & Elewaut, 1998).

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

A prospective study was conducted by Robain, Chenneville, Petit and Piera (2002) to evaluate the incidence of constipation after recent vascular hemiplegia

among 152 patients. Constipation is a major problem of institutionalized patients and the results revealed that about 60% had constipation.

A retrospective care study review of patients was conducted among 140 cases to identify the complications among stroke patients. In this study constipation was one of the main complication, in about 22.9% of the cases (Doshi, Say, Young & Doraisamy, 2003).

A study was conducted 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 (Otegbayo, Talabi, Akere, Owolabi, Owolabi & Oguntoye, 2006).

A study by Bracci, et al., (2007) was conducted among 90 consecutive hemiplegic patients and 80 orthopedic patients 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 hemiplegic patients.

A prospective cohort study was conducted among 154 patients admitted with stroke to investigate the prevalence of new-onset constipation and its impact on stroke. The result was that 55.2% of patients had complaints of constipation (Su, et al., 2009).

## **2.2. LITERATURES RELATED TO ABDOMINAL MASSAGE**

A cross over design with random blind assignment was 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 (Han, Yang & Kim, 2003).

A study was conducted by Kim and Hwang (2005) to examine the effect of abdominal massage on menstrual cramps. It was found to be very effective for the relief of menstrual cramps and dysmenorrhea.

A non-equivalent control group pre-post test quasi-experimental study by Kim (2007) was conducted to verify the effect of aromatherapy massage on abdominal fat and body image in post menopausal women. The results suggest that aromatherapy massage could be utilized as an effective intervention to reduce abdominal subcutaneous fat, waist circumference and to improve body image in post-menopausal women.

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



### **2.3. LITERATURES RELATED TO ABDOMINAL MASSAGE FOR THE RELIEF OF CONSTIPATION**

Ernest (1999) conducted a systematic review of controlled clinical trials revealed that massage therapy could be a promising treatment for chronic constipation.

Emly (1993) conducted a 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.

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

Preece (2002) had done a study on 15 patients attending the day care center who were referred for abdominal massage for constipation. All the patients 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 decline in the uncomfortable symptoms associated with constipation.

Jeon & Jung (2002) conducted a study for developing an efficient nursing method for the management of constipation by using abdominal massage among 31 patients 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 patients with cerebrovascular accident.

A study on randomized control group pretest posttest design was conducted 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 (Kim, Sakong, Kim & Kim, 2002).

Harrington & Haskvitz (2005) conducted a case study on a 85 year old woman with complaint of progressively worsening constipation. The study results shows that she had improvement in bowel movements and return of normal bowel frequency and function without the need to strain or use digital evacuation.

A case study of a 64 year old woman with Human – T lymphatic 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 led to intermittent defecation, elicited bowel sensation and improved rectal waves which was observed through an abdominal radiograph (Liu, et al., 2005).

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

A quasi experimental study conducted among seven patients with quadriplegia caused by spinal cord injury who had the problems of constipation in an University in Germany shows that, abdominal massage provides distinctive changes in the frequency and duration of defecation and most patients regarded the massage as a comfortable intervention (Albers, Cramer, Fischer, Meissner, Schurenberg & Bartholomey, 2006).

An uncontrolled clinical study conducted among 24 patients to assess the effects of abdominal massage on bowel function in patients with spinal cord injury shows that abdominal massage had positive effects in relieving bowel dysfunction (Aya, Leblebici, Sozay, Bayramoglu & Niron, 2006).

An article on abdominal massage for constipation in complementary and alternative medicine by Ume Amy University research report (2009) states that abdominal massage significantly decreased severity of gastrointestinal symptoms, constipation and abdominal pain and also increased frequency of bowel movements.

Brown (2009) published a report on a clinical trial conducted among patients with multiple sclerosis which states that the experimental group who had abdominal massage had reduced severity of abdominal symptoms including constipation and pain.

A study was conducted in Glasgow Caledonian University United Kingdom to determine the feasibility of undertaking abdominal massage in people with multiple sclerosis. The results indicate an improvement in constipation symptoms as demonstrated by decrease in constipation scoring system; however the massage group improved significantly more than the control group (Mcclurg, Hagen, Hawkins & Lowe Strong, 2010).

## **METHODOLOGY**

The present study is designed to assess the effectiveness of abdominal massage on constipation among patients with cerebrovascular accident. The methodology of the present study includes research design, setting, population, criteria for sample selection, variables of the study, data collection, validity of the tool, hypothesis, reports of pilot study, main study and techniques of data analysis and interpretation.

### **3.1. RESEARCH DESIGN**

The research design selected for the study was quasi experimental one group pretest and posttest design.

### **3.2. SETTING**

General Wards, Neuro Wards, Special and Deluxe wards of Sri Ramakrishna Hospital, where the present study was conducted, approximately 300 patients were admitted with cerebrovascular accident in a year which is 12% of the annual record.

### **3.3. POPULATION**

The population for the present study was patients with cerebrovascular accident with complaints of constipation. The monthly census ranges approximately between 30-40 patients.

### **3.4. CRITERIA FOR SAMPLE SELECTION**

#### **3.4.1. Inclusion Criteria**

- (i) Patients with cerebrovascular accident with complaints of constipation for three days or more.

### **3.4.2. Exclusion Criteria**

- (i) Patients with cerebrovascular accident with altered level of consciousness.
- (ii) Patients with gastrointestinal problems like gastritis, acid peptic disease etc.
- (iii) Patients who are kept Nil per oral.

### **3.5. SAMPLING**

Purposive sample of patients with cerebrovascular accident identified with constipation (N=11) were selected for the study.

### **3.6. VARIABLES OF THE STUDY**

#### **3.6.1. Dependent Variable**

Level of constipation among patients with Cerebrovascular Accident.

#### **3.6.2. Independent Variable**

Abdominal massage was deliberately used to alter the level of constipation.

### **3.7. MATERIALS**

#### **3.7.1. Demographic Data Profile**

Demographic data includes the sample's age, gender, diagnosis, education, occupation and the wards they are admitted.

#### **3.7.2. Assessment of Physiological Parameters**

This assessment tool contains information regarding patients vital signs and blood pressure, activity level, range of motion, amount of fluid intake and output and the type of diet which includes liquid, semisolid or solid diet.

### **3.7.3. Constipation Assessment Scale (Mc Millan & William, 1989)**

The Constipation Assessment Scale developed by Mc Millan and William in the year 1989 was adopted for this study. It has eight characteristic symptoms with three points. These symptoms include

- Abdominal distention/bloating
- Change in amount of gas passed
- Inability to pass stool
- Less frequent bowel movements
- Oozing liquid stools
- Rectal fullness or pressure.
- Rectal pain at bowel movements
- Small volume or size of stool
- Urge but inability to pass stool

The patient was interviewed and the symptoms are scored as 0, 1, or 2. This standardized scale was used for the assessment of constipation among patients with cerebrovascular accident.

### **3.7.4. Administration of the tools**

The patients baseline data necessary for the study was collected as demographic profile from patient, family members and the patients records.

The assessment of physiological parameters was done on the first day of data collection.

The level of constipation was assessed using the constipation assessment scale. It consists of eight items scored in three points, as follows:

Abdominal distention/bloating is assessed as, if not present for the patient it is scored 0, mildly present and abdominal girth increases by 1 or 2 cm it is scored 1 and severely present with abdominal girth increased above 2 cm it is scored 2. Assessed the change in amount of gas passed as normally passed as 0, partially passed as 1 and completely or increasingly passing gas as 2. Assessing the ability to pass stool as the patient who has normal ability was scored as 0, difficulty to pass stool as 1 and severe difficulty in defecation as 2. The less frequent bowel movements was assessed if the patient had normal frequency once in a day as 0, decreased frequency of passing stool once in 3 days as 1 and decreased frequency or absence of passing stool once in a week as 2. Oozing liquid stools was assessed for the patient as if not present scored 0, mild oozing as 1 and severe oozing of liquid stools with hard feces as 2. The assessment of rectal fullness or pressure was assessed, if the patient had no fullness or pressure scored as 0, mild fullness of feces as 1 and severe pressure or fullness as 2. Rectal pain at bowel movement was assessed for the patient as, if no pain scored 0, mild pain at bowel movements as 1 and severe pain as 2. Small volume or size of stool was scored as, the patient excreted normally as 0, mild bowel evacuation as 1 and incomplete bowel evacuation as 2. Urge but inability to pass stool was assessed as, ability to pass at urge as 0, difficulty or hard to pass stool with urge as 1 and severe inability to defecate as 2.

### **3.7.5. Interpretation of the tool**

The scores were added and the total score was calculated between 0-16 score and interpreted as 0- no problem of constipation, between 1-8 as some problem and between 9-16 as severe problem of constipation.

### 3.7.6. Abdominal massage for patients with constipation

Massage emerged from the Greek word “Massein” meaning “to knead” or the Arabic word “mas” h’ meaning ‘to press softly is one of the oldest form of medicine known to man and can be traced back to the early Chinese medical manuscripts. Massage is simply the manipulation of the soft tissues of the body.

Hence, the researcher has planned to provide abdominal massage for the patients who had complaints of constipation. Abdominal massage was applied daily in the morning hours for seven days.

#### **Interventional procedure**

- Step 1 :        Assessment of level of constipation before the abdominal massage.
- Step 2:        Position the patient supine with knees slightly flexed.
- Step 3 :        Apply coconut oil.
- Step 4:        Start the massage from right to left of the abdomen.
- Step 5:        Massage in small circular movements with fingertips around the umbilicus.
- Step 6:        Start to massage in the right iliac region in circular movement upward until the rib cage in the right hypochondriac region.
- Step 7 :        Move in circular movements laterally from the right hypochondriac region to the left hypochondriac region.
- Step 8 :        Move in circular movements downward from left hypochondriac region to the left iliac region.
- Step 9 :        Make long stroke from left iliac to the right iliac region.
- Step 10:       Complete the massage with small circular movements around the umbilicus.



### **3.8. VALIDITY OF THE TOOL**

The tool was validated under the guidance of experts in the specialized area.

### **3.9. HYPOTHESIS**

H<sub>1</sub>: There is a significant difference in the level of constipation before and after abdominal massage.

### **3.10. PILOT STUDY**

Pilot study was conducted to find out the feasibility and practicability of the study. The study was conducted at Neuro ward, Special and Deluxe wards of Sri Ramakrishna Hospital, Coimbatore for ten days in the month of May 2010. The data was collected from seven samples using the constipation assessment scale (Mc Millan & William, 1989) and assessment of physiological parameters. Abdominal massage was applied as an intervention. There was a significant difference observed before and after abdominal massage.

### **3.11. MAIN STUDY**

The main study was conducted to meet the objectives of the present study. A purposive sampling technique was used to select the samples. The base line data were obtained from the patient, family members and the patients records. The assessment of physiological parameters was carried out. The level of constipation was scored using constipation assessment scale (Mc Millan & William, 1989) prior to the intervention. Abdominal massage was applied to the patients who had constipation daily for seven days. The constipation assessments scale was used to reassess the level of constipation after intervention.

### **3.12. TECHNIQUES OF DATA ANALYSIS AND INTERPRETATION**

The data was analysed using descriptive and inferential statistics.

## **DATA ANALYSIS AND INTERPRETATION**

The study aimed to assess the effect of abdominal massage on constipation among patients with cerebrovascular accident. Data was collected from 11 samples. The findings were tabulated, and interpreted in this chapter. The data was analysed using descriptive and inferential statistics.

### **SECTION – I**

#### **4.1. DEMOGRAPHIC DATA**

The samples were selected based on the diagnosis and the presence of constipation complaints. The demographic data collected were Age, Gender and Wards they were admitted.

**TABLE 4.1**  
**DISTRIBUTION OF DEMOGRAPHIC DATA**

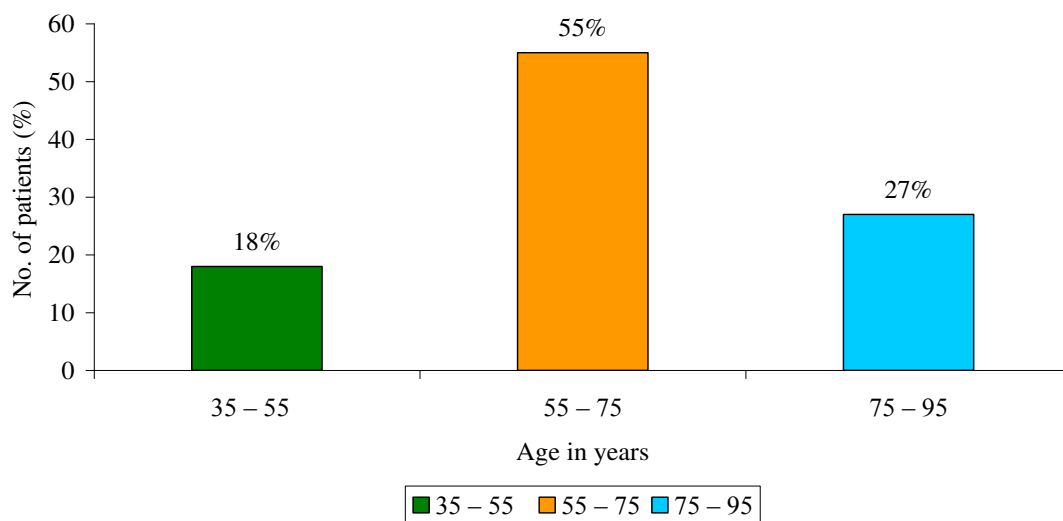
(N=11)

Demographic data	No. of patients	Percentage (%)
Age in years		
35 – 55	2	18
55 – 75	6	55
75 – 95	3	27
Gender		
Male	2	18
Female	9	82
Ward		
Neuro ward	5	46
Special wards	4	36
Deluxe wards	2	18

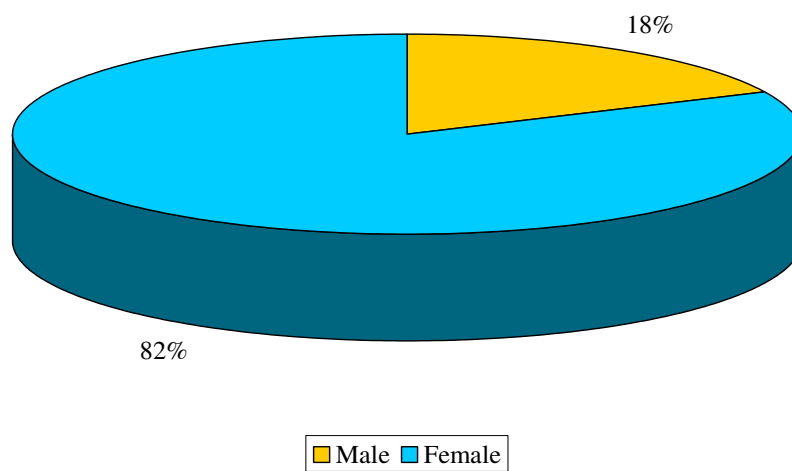
The table shows that majority of patients (ie.) 55% belongs to the age group of 55-75 years, 18% of patients belong to the Age group of 35-55 years and 27% belongs to 75-95 years. Distribution by Gender shows that 18% of patients were males and 82% of patients were females. Distribution by the type of ward admission shows that 46% of patients were admitted in neuro ward, 36% in special wards and 18% in deluxe wards.

The data was interpreted as majority of patients were in the age group of 55-75 years as by the percentage of 55% (6), most of the patients were female 82% (9).

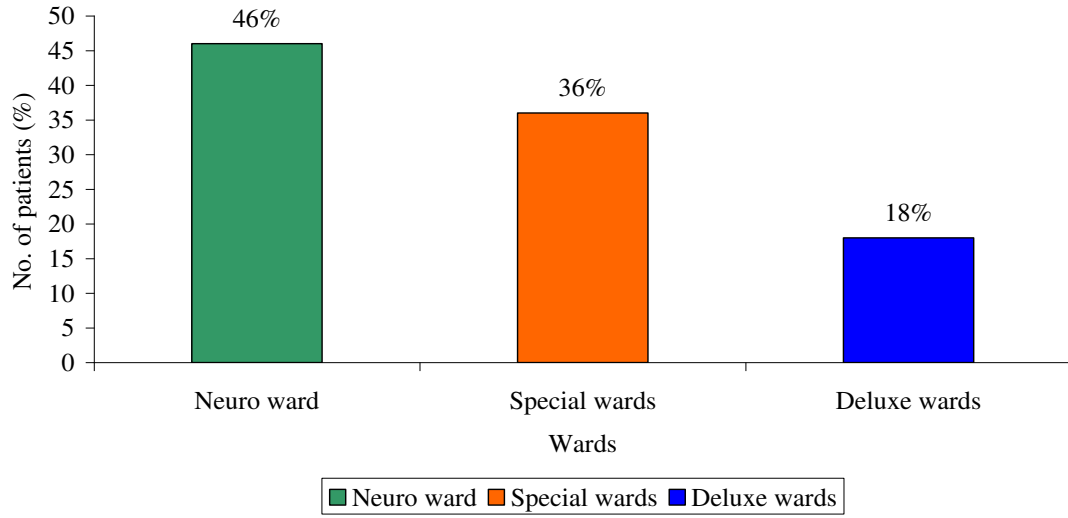
**FIG. 4.1.**  
**DISTRIBUTION BY AGE**



**FIG. 4.2.**  
**DISTRIBUTION BY GENDER**



**FIG. 4.3.**  
**DISTRIBUTION BY TYPE OF WARD ADMISSION**



## SECTION – II

### 4.2. ANALYSIS OF PHYSIOLOGICAL VARIABLES

The physiological variables included for analysis were blood pressure, temperature, pulse, respiration, abdominal girth, activity level, range of motion exercises, diet, and amount of fluid intake and output.

Distribution related to blood pressure shows that systolic blood pressure ranges between normal for 73% of patients and increased level between 140-160 mmHg among 27% of patients and diastolic pressure ranges normal for 45% and increased level between 90-100 mmHg among 55% of patients. Distribution by temperature shows that all patients had normal temperature. Distribution by pulse rate shows that 9% had normal pulse and 91% had tachycardia. All the patients had normal respiratory rate. Distribution on abdominal girth shows that 27% had 60-80cm and 73% had 80-100 cm. The activity level of the patient reveals that 64% were dependent on others for their activities, 27% were partially dependent and 9% were able to do their activities independently. Distribution of patients by range of motion exercises shows that 45% were able to do active exercises and 55% were able to do passive exercises. Distribution of patients by amount of fluid intake shows that 18% had 1000-1500ml, 46% had 1500-2000ml and 36% had 2000-2500ml and fluid output level shows that 36% have 900-1400ml, 46% have 1400-1900ml and 18% have 1900-2500 ml of output. Distribution of patients by diet shows that 90% had solid diet and 10% had liquid diet.

## SECTION – III

**4.3. COMPARISON ON LEVEL OF CONSTIPATION BEFORE AND AFTER ABDOMINAL MASSAGE**

Patients were assessed for the level of constipation using the constipation assessment scale by Mc Millan & William (1989). Among the samples, 10 samples had the score between 1-8 which indicates some problem of constipation and one patient had the score between 9-16 which indicates severe constipation. Abdominal massage was given daily in the morning for seven days.

**TABLE 4.2.**  
**COMPARISON ON LEVEL OF CONSTIPATION BEFORE AND AFTER ABDOMINAL MASSAGE**

(N=11)

Sample No.	Constipation Assessment Scale scores on Level of constipation	
	Before	After
1	10	0
2	7	0
3	8	0
4	6	0
5	4	1
6	5	1
7	5	0
8	5	2
9	7	1
10	8	0
11	6	0



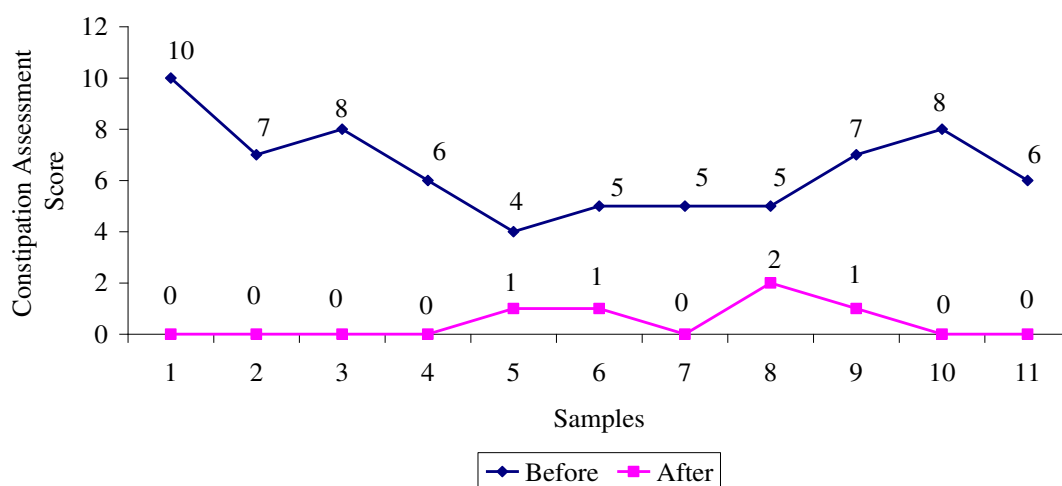
The patient was given the scores as per the existence of eight characteristics items in the Constipation Assessment Scale. The characteristic symptoms are assessed and scored as follows: Abdominal distention/bloating if not present as 0, if mildly present as 1 and severely present as 2. The change in amount of gas passed is scored as normally passed as 0, partially passed as 1 and completely or increasing gas as 2. The inability to pass stool as normal ability as 0, difficulty to pass stool as 1 and severe difficulty in defecation as 2. The less frequent bowel movements was scored as normal frequency once in a day as 0, decreased frequency of passing stool once in 3 days as 1 and decreased frequency or absence of passing stool once in a week as 2. Oozing liquid stools was scored as if not present 0, mild oozing as 1 and severe oozing of liquid stools with hard feces as 2. The rectal fullness or pressure was scored as no fullness or pressure as 0, mild fullness of feces as 1 and severe pressure or fullness as 2. Rectal pain at bowel movement was scored as, if no pain 0, mild pain at bowel movements as 1 and severe pain as 2. Small volume or size of stool was scored as, the patient excreted normally as 0, mild bowel evacuation as 1 and incomplete bowel evacuation as 2. Urge but inability to pass stool was assessed as, ability to pass at urge as 0, difficulty or hard to pass stool with urge as 1 and severe inability to defecate as 2.

The constipation assessment scale score shows that the score 0 - indicates No problem of constipation, 1-8 – indicates some problem of constipation and 9-16 indicates Severe Problem of constipation.

Hence, the table reveals that about ten patients had some problem of constipation and one patient had severe constipation before abdominal massage

whereas after abdominal massage seven patients were relieved of constipation and four patients had some problem of constipation and the patients were able to defecate normally after abdominal massage.

**FIG. 4.4.**  
**COMPARISON ON LEVEL OF CONSTIPATION BEFORE AND AFTER ABDOMINAL MASSAGE**



## SECTION – IV

#### 4.4. ANALYSIS ON EFFECTIVENESS OF ABDOMINAL MASSAGE ON CONSTIPATION

Paired ‘t’ test was used to analyse the effectiveness of abdominal massage on constipation.

**TABLE 4.4.**  
**ANALYSIS ON LEVEL OF CONSTIPATION**  
**BEFORE AND AFTER ABDOMINAL MASSAGE**

(N=11)

Abdominal Massage	Mean	Mean (%)	SD	Mean Difference	t
Before	2.9583	26.89	1.7233		
After	0.4545	1.893	0.6874	0.965	10.488**

**\*\*significant at 0.01**

The above table shows the computed mean and respective standard deviation of constipation assessment scale scores obtained before and after the application of abdominal massage. The data shows a decrease in mean score from 2.9583 to 0.4545 with a mean difference of 0.965.

The calculated ‘t’ value 10.488 was compared with table value 2.76 at 10 degrees of freedom at 0.01 level of significance. The calculated value is higher than the table value, thus the hypothesis was accepted. Hence, there is a significant difference in the level of constipation after the application of abdominal massage.

## **RESULTS AND DISCUSSION**

The study to assess the effectiveness of abdominal massage was conducted in the neuro ward, deluxe ward and special wards of Sri Ramakrishna Hospital, Coimbatore. The patients with Cerebrovascular Accident who had constipation were selected for the study. Initial assessment was done to find out the level of constipation. Abdominal massage was applied to each patient and on going assessment was done daily for seven days. The level of constipation was reassessed after a period of seven days.

### **5.1. INITIAL ASSESSMENT OF THE PATIENTS**

#### **5.1.1. Demographic Data**

Majority of the patients 55% (6) were in the age group of 55-75 years and 18% (2) were in the age group of 35 – 55 years and 82% (9) were females and 18% (2) were males. According to the ward admission 46% (5) were in neuroward, 36% (4) in special wards and 18% (2) in deluxe wards.

A study conducted by Mc Crea, et al., (2010) reveals that both younger and middle-aged patients are more than twice as likely as older patients to have constipation. A study by Mc Crea, et al., (2009) shows that women experienced a number of constipation symptoms and abnormal bowel habits more frequently than men.

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

### 5.1.2. Physiological Variables

Majority of the patients about 73% (8) had 120 – 140 mm Hg, 27% (3) had 140-160 mm Hg of systolic blood pressure and 55% (6) had 90-100 mm Hg, 45% (5) had 80-90 mm Hg of diastolic blood pressure.

Regarding vital signs, all the patients (11) 100% had normal temperature of 98.5 – 99.55°F. In pulse rate 91% (10) had 70-90 beats per minute and 9% (1) had 50-70 beats per minute. All the patients had normal respiratory rate.

In regard to the abdominal girth 73% (8) of patients had 80-100 cm and 27% (3) had 60-80 cm.

Among the patients 64% (7) were dependent on others to carryout their activities, 27 % (3) were partially dependent on others for their activities and 9% (1) was able to do their activities independently. A study conducted by Su, et al., (2009) shows that the occurrence of constipation on stroke patients is associated with dependence in their activity which is significant to the study.

As per range of motion exercises 55% (6) patients were able to do only passive exercises and 45% (5) were able to do active exercises. Regarding amount of fluid intake 46% (5) patients had 1500- 2000 ml, 36% (4) had 2000-2500 ml and 18% (2) had 1000-1500ml of fluid per day and regarding output, 46% (5) patients had 1400-1900 ml, 36%(4) had 1900-2500 ml and 18% (2) had 900-1400 ml of output. Regarding dietary intake among the patients 90% (10) had solid diet and only 10% (1) had liquid diet.

An e-zine article titled constipation reveals that, the lack of exercises is associated with reduced peristalsis and causes constipation. It also states that lack of water or fluid makes it difficult for the contents to be moved forward during peristalsis.

### **5.1.3. Initial Assessment of Level of Constipation**

Assessment was done to identify the level of constipation in the patients using the constipation assessment scale (Mc Millan & William, 1989). Among 11 patients, 10 patients had some problem of constipation and one patient had severe problem of constipation.

## **5.2. ABDOMINAL MASSAGE FOR PATIENTS WITH CONSTIPATION**

After the assessment of the level of constipation abdominal massage was applied to the patient along the ascending, transverse and descending colon.

## **5.3. EFFECTIVENESS OF ABDOMINAL MASSAGE ON CONSTIPATION**

Ongoing assessment was done to assess the level of the constipation and scoring was done based on the relief of symptoms. The level of constipation before and after abdominal massage was compared based on the scoring in the Constipation Assessment Scale (Mc Millan & William, 1989).

The paired 't' test was used to prove the effect of the abdominal massage. The mean percentage of constipation assessment scores before abdominal massage was 27% and after was 1.9%. The standard deviation was obtained. The 't' value is found to be greater than the table value 2.76 at 10 degrees of freedom at 0.01 level of significance. These findings are consistent with the studies conducted by Aya (2006),

Research report of Umeay University (2009), Ernst (1999), Joen (2002) and Preece (2002) has resulted that there is a significant difference in the level of constipation after the abdominal massage. Hence, abdominal massage can be used as an effective nursing intervention for patients with constipation.

## **SUMMARY AND CONCLUSION**

This chapter summarizes the major findings, limitations, implications in the field of nursing education, nursing practice, nursing research and recommendations.

The study was conducted to assess the effect of abdominal massage on constipation among patients with cerebrovascular accident. The study design was quasi experimental one group pretest posttest design. The data was collected for a period of 30 days at Sri Ramakrishna Hospital, Coimbatore. Sample of 11 patients were included in the study. The level of constipation was assessed using the Constipation Assessment scale (Mc Millan & William, 1989).

### **6.1. MAJOR FINDINGS OF THE STUDY**

1. The level of constipation was found to be mild and severe before the application of abdominal massage.
2. After the application of abdominal massage, the level of constipation reduced among the patients with cerebrovascular accident.
3. The significant difference in constipation assessment scale score was identified by comparing the level of constipation before and after abdominal massage.

### **6.2. LIMITATIONS**

1. The study was limited only to patients with cerebrovascular accident.
2. The effect of abdominal massage on spinal cord injuries, Parkinsonism disease, irritable bowel syndrome etc., are not identified.



3. A few number of patients were only studied, which limits the generalization of the result herein obtained.

### **6.3. IMPLICATIONS**

#### **6.3.1. Nursing Education**

Cerebrovascular accident is the third common cause of death both in developed and developing countries. The patients with cerebrovascular accident have the problem with elimination mainly constipation. Providing such patients with an effective nursing care rather than the dependence on pharmacological management will enable them to improve their quality of life.

Health care personnels and patients are more interested towards alternative and complementary therapies for their care and abdominal massage is one among them. Nursing education is concerned with the holistic approach in patient care and it is appropriate to include such theories into curriculum for betterment of patients and in the nursing profession.

#### **6.3.2. Nursing Practice**

The nurse working in the neurological unit should be taught and trained in implementing complementary and alternative therapies to bring out positive physical and psychological response in patients by relieving the symptoms with effective nursing measures. Hence, the application of abdominal massage can be used as an adjunctive to other pharmacological treatment to promote comfort and well being among the patients with cerebrovascular accident.

### **6.3.3. Nursing Research**

The nursing research need to focus on the evidence based and holistic practice by understanding the different and varied techniques that can bring about significant physical and psychological outcomes for patients with cerebrovascular accident.

The nursing research intended to offer up to date suggestions in implementing proper technique of abdominal massage as one of the nursing care for relieving constipation and thereby improving quality of life.

### **6.4. RECOMMENDATIONS**

1. The study can be conducted on elderly clients to assess the effect of abdominal massage on constipation.
2. An extensive experimental study can be conducted for a large number of sample in the health settings.
3. Further research can be conducted to find out the effect of abdominal massage on patients with other disease conditions like Parkinsonism, spinal cord injury, irritable bowel syndrome etc and having constipation.
4. The primary care givers can be educated and trained to practice abdominal massage in home settings using a skill module.
5. The study can be conducted on women at the menopausal age to relieve menopausal symptoms.
6. Staff nurses can be reinforced to implement abdominal massage as a nursing intervention for constipation.

## **6.5. CONCLUSION**

Cerebrovascular accident tends to be the leading cause of death or inability among patients. Constipation is a complication faced by these patients. Abdominal massage is one of the non- pharmacological and complementary therapy. The researcher used this as an intervention, and found that abdominal massage relieves constipation. Hence, abdominal massage is an effective therapy to relieve constipation in patients with cerebrovascular accident.

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## ANNEXURE – I

### Paired ‘t’ test

To test the hypothesis, ‘t’ test was applied to find out the significant difference before and after abdominal massage.

$$t = \frac{\bar{d}}{\frac{SD}{\sqrt{n}}}$$

$$SD = \sqrt{\frac{\sum (d - \bar{d})^2}{n - 1}}$$

$\bar{d}$  = Mean of difference between pretest and post test score

SD = Standard deviation of the pretest and post test score

n = Number of samples

## APPENDIX - I

### LETTER SEEKING PERMISSION FOR CONDUCTION OF RESEARCH STUDY

From

C.HELEN PRATHIBA  
M.Sc (N) I year  
College Of Nursing  
Sri Ramakrishna Institute of Paramedical Sciences  
Coimbatore.

To

Dr.K.Asokan M.D(Med) D.M Neuro  
Chief Neurologist  
Sri Ramakrishna Hospital  
Coimbatore.

Through

The Principal  
College of Nursing  
Sri Ramakrishna Institute of Paramedical Sciences  
Coimbatore.

Subject: Letter requesting permission for conducting the research study

Respected Sir,

I Helen Prathiba.c. doing my M.Sc(N) I year in Sri Ramakrishna Institute of Paramedical Sciences, as a part of my requirement under The Dr. M.G.R. Medical University to conduct a Research, I have been allotted for the research study on "Effect of Abdominal massage for constipation among patients with cerebrovascular accident at selected hospitals, Coimbatore."

I hereby request you to permit me for conducting the research among the patients with cerebrovascular accident during the month of April and June 2010 in your well established hospital. I assure you that, I will adhere to your hospital rules and regulations. I am grateful to you, when I have been given an opportunity to do my research in your hospital. So kindly do the needful.

Thanking You

Coimbatore

*H. Prathiba.C.*  
PRINCIPAL  
College of Nursing,  
Sri Ramakrishna Institute of Paramedical Sciences  
Coimbatore - 641 044.

Yours sincerely  
*H. Prathiba.C.*  
Helen Prathiba.C.

## APPENDIX - II

From

**C. HELEN PRATHIBA**

M.Sc Nursing II year,

College of Nursing,

Sri Ramakrishna Institute of Paramedical Sciences,

Coimbatore -44.

Through

**The Principal,**

College of Nursing,

Sri Ramakrishna Institute of Paramedical Sciences,

Coimbatore -44.

To

*DR. K. ASOKAN M.D.D.M (NEURO)*

*CHIEF NEUROLOGIST,*

*SRI RAMAKRISHNA HOSPITAL,*

*COIMBATORE.*

Sub: Requisition for tool Validation –reg.

Respected Sir,

I have selected a project work topic entitled, “EFFECT OF ABDOMINAL MASSAGE ON CONSTIPATION AMONG PATIENTS WITH CEREBROVASCULAR ACCIDENT AT SRI RAMAKRISHNA HOSPITAL, COIMBATORE ” for the requirement of M.Sc Nsg Degree, the following tools are tend to be used. Hence, I request you to kindly give valuable suggestion and necessary modification in the same.

Thanking you,

Yours faithfully,



PRINCIPAL

College of Nursing,

Sri Ramakrishna Institute of Paramedical Sciences

Coimbatore - 641 044.



From  
**HELEN PRATHIBA.C,**  
II year M.Sc (Nursing),  
College of Nursing,  
Sri Ramakrishna Institute of Paramedical Sciences,  
Coimbatore -641044.

To  
**THE PRINCIPAL,**  
College of Physiotherapy,  
Sri Ramakrishna Institute of Paramedical Sciences,  
Coimbatore - 641044.

Through  
**THE PRINCIPAL,**  
College of Nursing,  
Sri Ramakrishna Institute of Paramedical Sciences,  
Coimbatore - 641044.

Respected Sir/Madam,

Sub: Letter requesting consent for conducting the research study.

I, Helen Prathiba, II Year M.Sc (Nsg) in College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, Coimbatore – 641044 as a part of the curriculum under Dr. M.G. R. Medical University to conduct research, I have selected the research topic on **“EFFECT OF ABDOMINAL MASSAGE FOR CONSTIPATION AMONG CEREBRO VASCULAR ACCIDENT PATIENTS AT SRI RAMAKRISHNA HOSPITAL, COIMBATORE”** as my research study.

I hereby request you to give consent for conducting the research among cerebro vascular accident patients.

Thanking you

Yours faithfully,

Coimbatore  
Date:

  
(HELEN PRATHIBA.C)



**FORMAT FOR CONTENT VALIDITY**

Name of the expert : R. MAGESH

Address : ASSOCIATE PROFESSOR,  
GKNM INSTITUTE OF NURSING,  
COIMBATORE.

Total content for the tool :  Adequate/  Inadequate

Kindly validate each tool and tick wherever applicable.

Sl. No.	No. of tool selection	Strongly agree	Agree	Need modification	Remarks
1.	Section - 1	<input checked="" type="checkbox"/>			
2.	Section - 2	<input checked="" type="checkbox"/>			
3.	Section - 3	<input checked="" type="checkbox"/>			
4.	Section - 4				
5.	Section - 5				

Date: 3/06/10

  
Signature of the Expert

**FORMAT FOR CONTENT VALIDITY**

Name of the expert : Prof. Soniya Das.

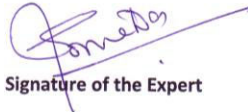
Address : Principal,  
K.G. College of Nursing,  
K.G. Hospital,  
Coimbatore.

Total content for the tool :  Adequate/  Inadequate

Kindly validate each tool and tick wherever applicable.

Sl. No.	No. of tool selection	Strongly agree	Agree	Need modification	Remarks
1.	Section - 1		✓		? Surgery done non-sterile
2.	Section - 2		✓		? Level of consciousness.
3.	Section - 3		✓		
4.	Section - 4		✓		As methodology is not attached. Can't comment.
5.	Section - 5		✓		

Date:

  
Signature of the Expert



**FORMAT FOR CONTENT VALIDITY**

Name of the expert : DR. ASOKAN, M.D. D.M (NEURO)  
CHIEF NEUROLOGIST.

Address : SRI RAMAKRISHNA HOSPITAL,  
AYARAMPALAYAM.  
COIMBATORE.

Total content for the tool :  Adequate/  Inadequate

Kindly validate each tool and tick wherever applicable.

Sl. No.	No. of tool selection	Strongly agree	Agree	Need modification	Remarks
1.	Section - 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Section - 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.	Section - 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.	Section - 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.	Section - 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Date:

  
Signature of the Expert


## APPENDIX - IV

*Dr. Suresh Kumar.*

**BPT.MIAP**  
**Children's physiotherapy centre**  
**No.4, sundaramudaliar street**  
**Ulsoor**  
**Bangalooru**  
**Phone 9164544299**  
[Sureshw80@yahoo.com](mailto:Sureshw80@yahoo.com)

*This is to be certified that C.HELEN PRATHIBA  
Msc Nursing has undergone training in providing massage therapy in  
relief of constipation and has been qualified to provide the massage to  
the people.*

Date 4 April 2010  
place Bangalooru

  
Dr. W.Suresh Kumar

## **APPENDIX - III**

### **SECTION – A**

#### **DEMOGRAPHIC VARIABLES**

Sample Number :  
Age :  
Gender :  
Education :  
Occupation :  
Diagnosis :  
Ward :  
Date of admission :

### **SECTION – B**

#### **PHYSIOLOGICAL PARAMETERS**

Blood pressure : mm of Hg  
Temperature : °F  
Pulse : beats/minute  
Abdominal girth : cms  
Activity level :  
Range of motion exercise :  
Amount of fluid intake :  
Diet :

## PROTOCOL FOR ABDOMINAL MASSAGE

### OBJECTIVE

- To relieve constipation
- To strengthen the abdominal muscles

### ARTICLES

A tray containing

Articles	Purposes
<ul style="list-style-type: none"><li>• Mackintosh</li></ul>	<ul style="list-style-type: none"><li>• To protect the bed linen</li></ul>
<ul style="list-style-type: none"><li>• Towel</li></ul>	<ul style="list-style-type: none"><li>• To clean the patient</li></ul>
<ul style="list-style-type: none"><li>• Bowl</li></ul>	<ul style="list-style-type: none"><li>• To take water for cleaning</li></ul>
<ul style="list-style-type: none"><li>• Coconut oil</li></ul>	<ul style="list-style-type: none"><li>• To apply for the patient</li></ul>

### PREPARATION OF THE PATIENT

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

## STEPS OF THE PROCEDURE

Articles	Purposes
<ol style="list-style-type: none"> <li>1. Wash hands</li> <li>2. Position the patient supine with knees slightly flexed.</li> <li>3. Apply coconut oil.</li> <li>4. Start the massage from right to left.</li> <li>5. Massage in small circular movements with fingertips around the umbilicus.</li> <li>6. Start on the right side down in the right iliac region in circular movements upward until the ribcage 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 stroke from left iliac to the right iliac region.</li> <li>10. Complete the massage with small circular movements around the umbilicus.</li> </ol>	<ul style="list-style-type: none"> <li>• To prevent cross infection.</li> <li>• To relax the abdominal muscles</li> <li>• To prevent friction and ease the massage.</li> <li>• As per the anatomical position of the intestine.</li> <li>• It strengthens the abdominal muscles.</li> <li>• It strengthens the ileocaecal valve and move the stagnant fecal matter.</li> <li>• It strengthen the muscles of the colon and push the colonic content along the transverse colon.</li> <li>• To push the colonic content along the descending colon.</li> <li>• To push the colonic content along the sigmoid colon.</li> <li>• To improve circulation.</li> </ul>

## AFTER CARE OF THE PROCEDURE

- Clean the patient thoroughly.
- Replace the articles
- Wash hands
- Record the procedure.

## SECTION – C

### CONSTIPATION ASSESSMENT SCALE

Item	Problem			Score
	(0)	(1)	(2)	
Abdominal distention or bloating				
Change in amount of gas passed rectally				
Less frequent bowel movements				
Oozing liquid stools				
Rectal fullness or pressure				
Rectal pain with bowel movements				
Small stool size				
Urge but inability to pass stool				
TOTAL				

Mc. Millan, S.C; William F.A; (1989)

#### KEY

- 0 - No problem of constipation
- 1-8 - Some problem of constipation
- 9-16 - Severe problem of constipation

மலச்சிக்கல் மதிப்பீடு அளவுகோல்

வ. எண்.	விவரம்	0	1	2	மொத்தம்
1.	வயிறு உப்பசம் (அ) வீக்கம்				
2.	காற்று பிரிதலில் மாற்றம்				
3.	குறைந்த முறைகள் மலம் கழித்தல் (அ) குடல் அசைவு				
4.	நீர் போல் மலம் வெளியேறுதல் (அ) கழித்தல்				
5.	ஆசன வாயில் அழுத்தம் (அ) நிறைவு				
6.	ஆசன வாயில் வலி				
7.	குறைந்த அளவு மலம் கழித்தல்				
8.	உணர்தல் ஆனால் மலம் கழிக்க இயலாமை				
	மொத்தம்				

மதிப்பீடு

0 - பிரச்சனை இல்லை

1-8 - சிறிதளவு மலச்சிக்கல் பிரச்சனை

9 - 16 - அதிகபட்சம் மலச்சிக்கல் பிரச்சனை