

# EFFICACY OF BREATHING EXERCISE AND CONTRIBUTION OF ENVIRONMENTAL FACTORS IN HOSPITAL AND IN HOME FOR THE PROMOTION OF WOUND HEALING AMONG THE PATIENTS UNDERGONE ABDOMEN SURGERY AT CHENGALPATTU GOVERNMENT MEDICAL COLLEGE AND HOSPITAL, CHENGALPATTU

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## Abstract

The aim of the study is to evaluate the effectiveness breathing exercises, environmental factors in promotion of wound healing among the patients under went abdominal surgery at Chengalpattu Government medical College and Hospital, Chengalpattu. **Design:** True experimental - pre test and post test design. Client were selected using simple random sampling method. **Setting of the Study:** The study was conducted in Chengalpattu Government medical College and Hospital, Chengalpattu. **Subjects:** A total of 150 members were included in the study out of which 75 were experimental group and 75 were control group Interventions: The experimental group received breathing exercises and and control group no interventions Main outcome measure: Pre and post test was conducted by using standardized memorial assessment scale before and after intervention. **Findings:** The mean pre test value for experimental group is 4.2 and mean post test value is 2.4 and it is highly significant at the level of  $p < 0.001$ . **Conclusion:** The study conducted that selected nursing intervention breathing exercises is effective in wound healing among abdominal surgery patients.

**Keywords:** Breathing Exercises, Wound Healing, Environmental Factors, Abdomen Surgery.

## INTRODUCTION

Breathing exercises are manual techniques commonly used in clinical practice. They can affect breathing patterns and thoracoabdominal movement, prioritize one compartment of the chest wall (CW) over another, and change the degree of participation of the respiratory muscles

Diaphragmatic breathing is one of the most widely used and studied exercises in clinical practice It aims to improve pulmonary ventilation, mainly to the dependent zones of the lungs by promoting greater respiratory displacement of the abdominal compartment

Currently, breathing pattern and thoracoabdominal movement can be assessed by optoelectronic plethysmography (OEP). This device performs a tricompartamental analysis of volume variations without presetting the degree of freedom of the CW, thus allowing a more detailed analysis of the effects of breathing exercises on the ventilation of different CW compartments

The breathing exercises assessed in this study were selected based on their effect on different lung zones Because pursed lip breathing is usually associated with breathing

exercises in clinical practice it was added to the exercises with oral expiration in this study.

Thus, the study assessed the effect of breathing exercises (diaphragmatic breathing, inspiratory sighs, SMI, and intercostal breathing) on the breathing pattern and thoracoabdominal movement in participants.

Through a wide variety of study are done in patients who underwent abdominal surgeries the most important thing is to provide adequate medication and support to better recovery

Datamonitor (2011) estimates that there were 7.4 million major abdominal surgeries per year in the world. This number is not expected to change significantly, growing to 8.1 million surgeries in 2020 in world. In India the incidence of abdominal surgery is 12.6% among adult males and 20.8% among adult females.

Smeltzer. S. C (2010) said that abdominal surgery is the most common intervention needed for major abdominal problems in recent years. Postoperative pain is caused by tissue damage that induces release of chemical mediators from the

surgical wound. The four processes of pain are transduction, transmission, perception and modulation. Pain medication is the gold standard for acute postoperative pain relief.

Sona Chaturvedi (2012) stated that postoperative pain is both distressing and detrimental to the patient. The management of postoperative pain involves assessment of the pain in terms of intensity at rest and activity associated pain, treatment by pharmacological and non pharmacological means as well as monitoring induced sideeffects. Besides being physically and emotionally disabling, the pain is associated with various physiological effects of increased perioperative stress response.

To assess the severity of specific symptoms for clients with abdominal surgery undergoing therapy among experimental and control group and to evaluate the effectiveness of breathing exercises among Clients undergoing abdominal surgery in an experimental group in order to associate the post test scores of patients with selected demographic and clinical variables among experimental and control group.

### **Hypothesis**

- H1: There will be significant difference in wound healing before and after selected nursing interventions among the experimental group
- H2: There will be a significant association between the post test score with selected demographic clinical variables among the client in experimental group.

### **Effectiveness**

In this study it refers to outcome of wound healing after selected nursing interventions among the client undergone abdominal surgery in surgical department at Chengalpattu Government medical College and Hospital, Chengalpattu

### **Selected Nursing Interventions**

It refers to nursing care provided to treat with providing protein diet, breathing exercises and wound cleaning with normal saline was done to all patients

## **Severity of Specific Symptoms**

Refers to following measure they are measured by wound healing scale

## **Abdominal Surgery Patients**

It refers to patients getting treatment from abdominal surgeries in Chengalpattu Government medical College and Hospital Chengalpattu

## **PROJECT OUTCOMES**

At the end of the study the client will have adequate knowledge Regarding protein diet breathing exercises and saline dressing importance in their lives and has good wound healing.

For this research adopted the Wiedenbach's Helping Art of Clinical Nursing theory (1964) as a base for developing the conceptual framework. This theory directs an action towards an explicit goal. It has 3 factors

1. Central purpose
2. Prescription
3. Realities

## **METHODOLOGY**

### **Inclusion Criteria**

1. Age group between 15 - 45 years ( Male & Female)
2. Person who had Abdominal surgery clients
3. Client with Elective and Emergency surgery

### **Exclusion Criteria**

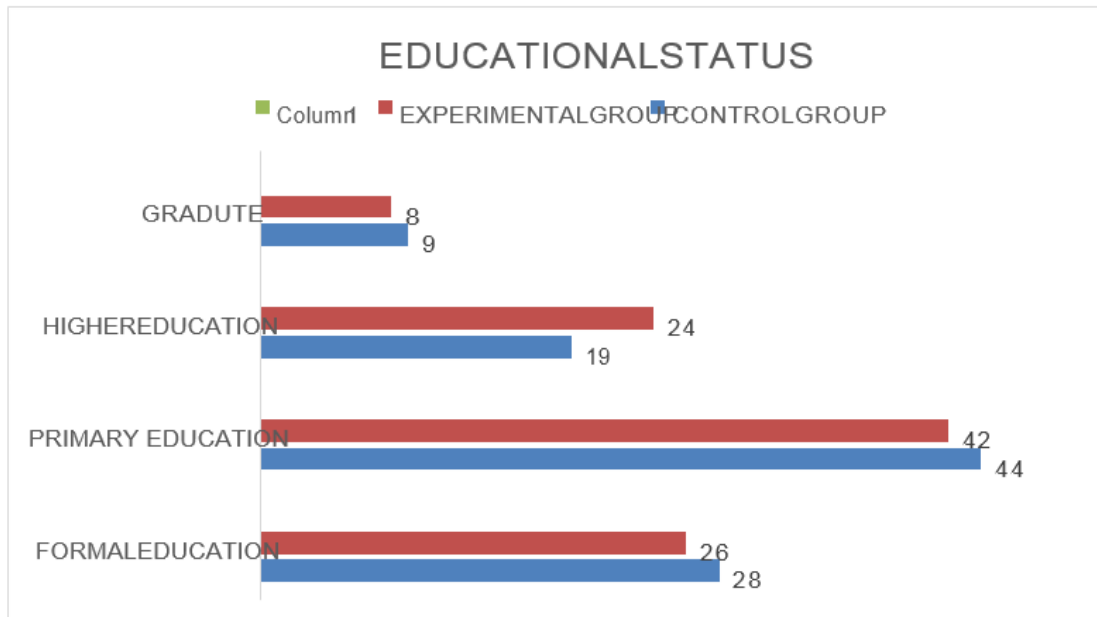
1. Patient with psychiatric problems
2. Client more than 45 years
3. Client with other complications such as Renal, Hepatic impairment, tuberculosis, HIV and AIDS.

### **Sample Size**

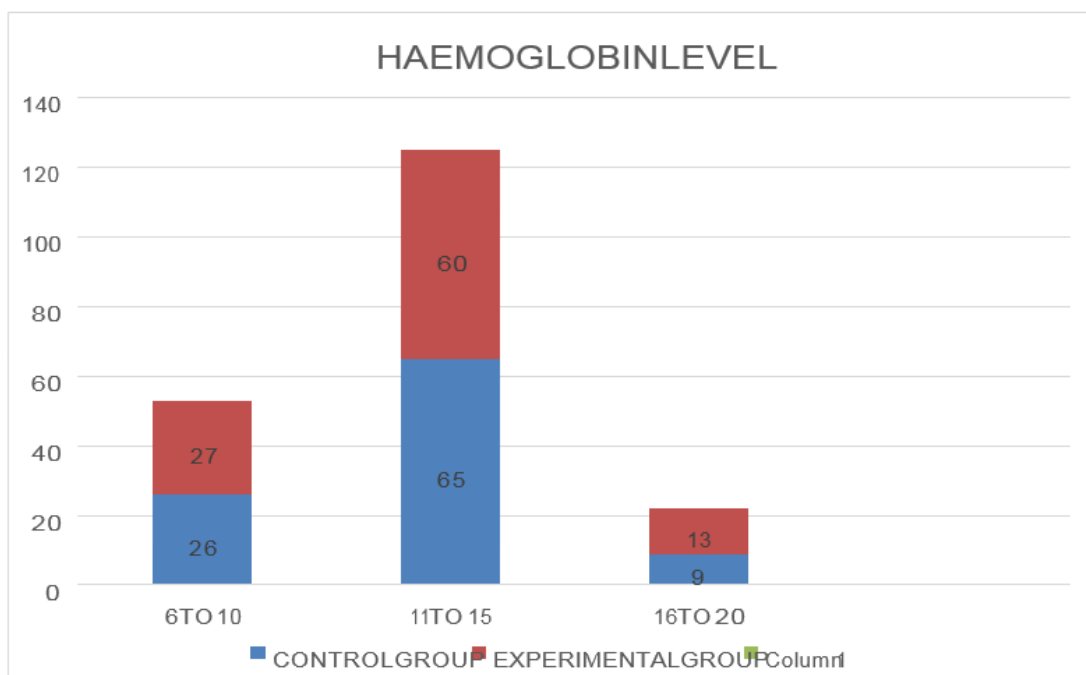
150 in which 75 were experimental group and 75 were control group

1. Selection of subjects (Random sampling)
2. Aessments of abdominal surgery clients Using validated Questionnaire
  
1. Hospital based Nursing Interventions will improve wound healing process.
2. Hospital based Nursing Interventions will help to prevent infection and complication
3. Hospital based Nursing Interventions is cost effective and reduces hospitalization and make the client functionally independent
4. Aid the client to adjust with the changesin the occupation

## Demographic Data

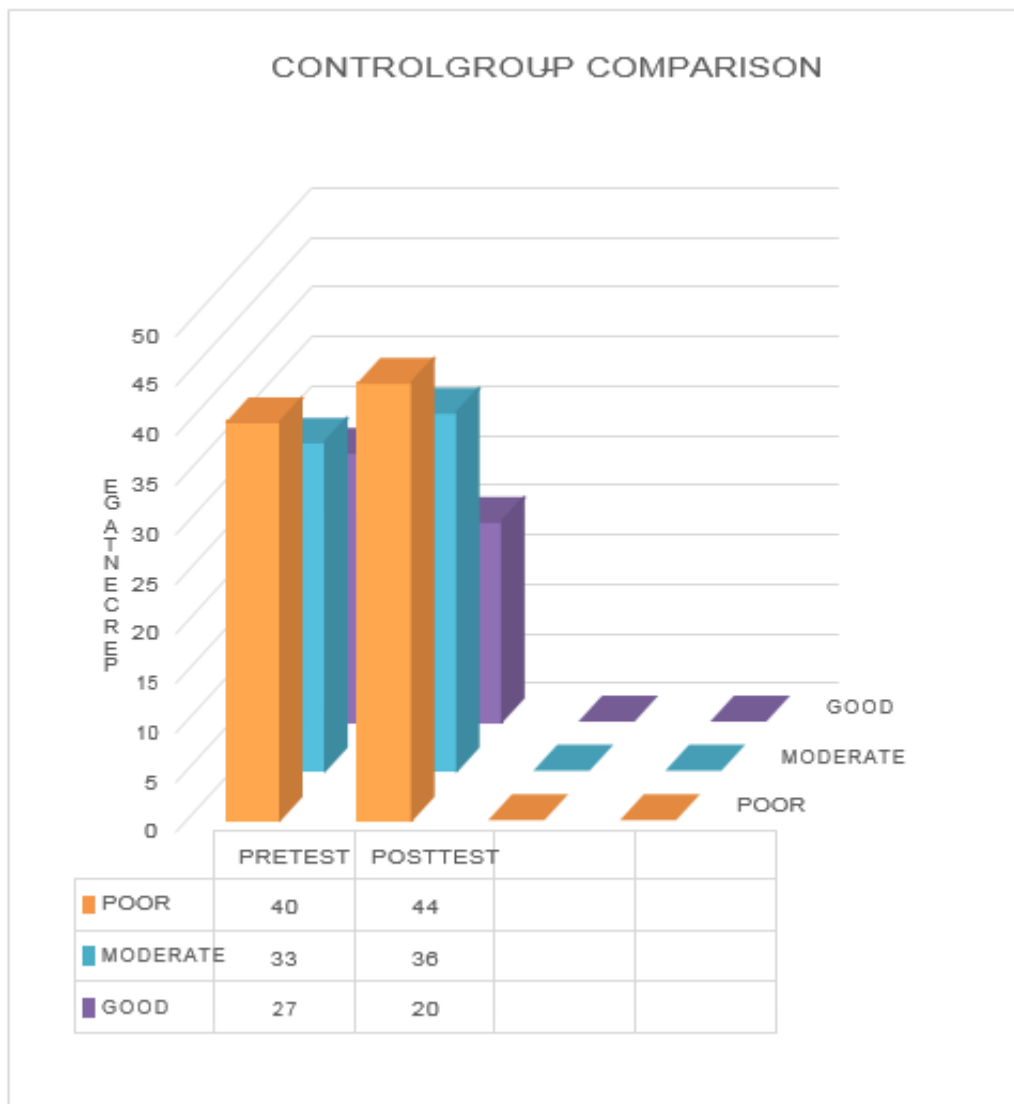


## Clinical variables



A pilot study will be conducted with 10% of the total samples, propose to validate the questionnaire.

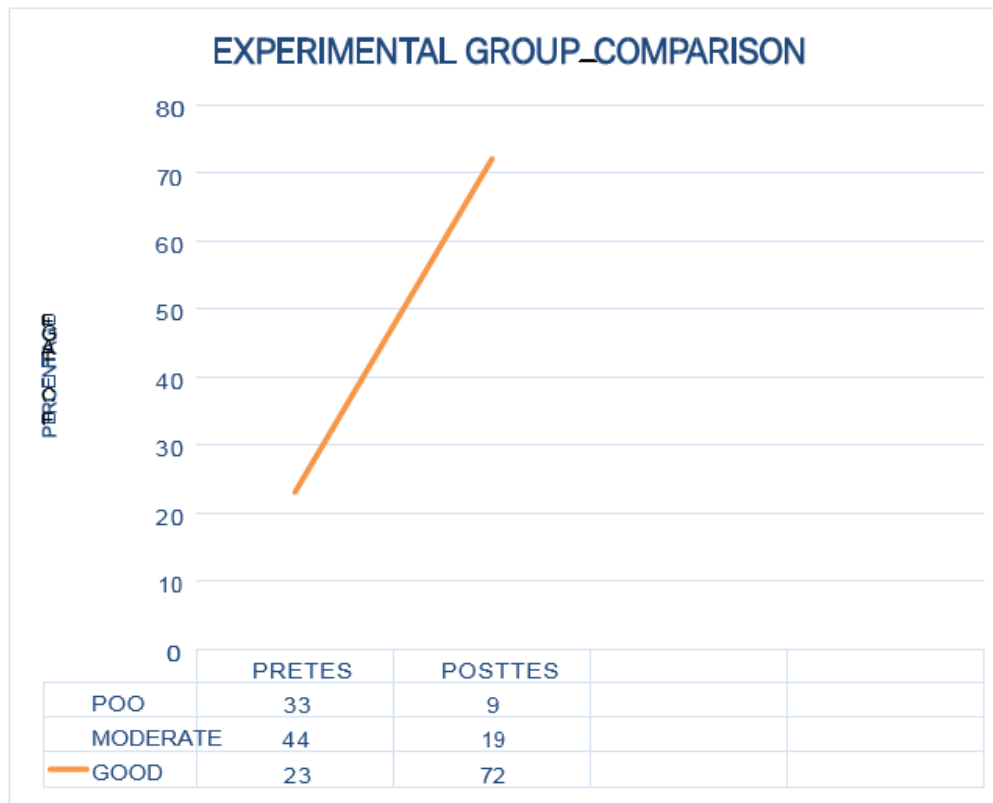
## PROJECTED OUTCOME



To Minimize the social and economic burden of surgical wound interfere of the normal routine activity of individual, care of the family and regain to the work and to improve good wound healing

## CONTENT VALIDITY

The tool used for this study was given to five experts in the filed of nursing and medicine for content validity. Suggestions were considered and appropriate changes were made and found to be valid.



The pain assessment scale, physical activity scale and wound healing scale are multidimensional tool developed to evaluate measure the prevalence, characteristics and evaluating the outcome of nursing interventions The author who invented this tool has conducted a study to evaluate its reliability and validity One seventy five Clients were included in this study

We will maintain Confidentiality about all the clients with abdominal surgery Answers given, name and demographic data, etc.,. We will utilize the data only for research purpose.

I received the explanation about the nature and purpose of the above described study, its risks and benefits that is involved in its performance.

### SCORING PROCEDURE

Total scoring -27

Poor wound healing - 1 to 9

Moderate wound healing - 10 to 18

Good wound healing -19 to 27

The first objective of the study was to assess the severity of specific symptoms for clients with abdominal surgery undergoing therapy among experimental and control group.

The second objective is to evaluate the effectiveness of breathing exercises among Clients undergone abdominal surgery in experimental group

Thus H1- Hypothesis "There will be significant difference in severity of specific symptoms before and after selected nursing interventions among experimental group" was retained.

The third objective of the study was to associate the post test scores with Selected Demographic Variables.

There is no significant association between the post test scores with selected demographic variables for experimental group and control group.

Thus H<sub>2</sub> "There will be a significant association between the post test scores with selected demographic and clinical variables among the Clients in experimental group" was retained.

## **SUMMARY AND CONCLUSION**

The health care provided at hospital plays an important role in the progress. Hence "A Study to evaluate the effectiveness of breathing exercises promotion of wound healing among the patients Undergone Abdomen surgery at Chengalpattu Government medical College and Hospital, Chengalpattu" was undergone to see the effectiveness

The study was done on one hundred and fifty clients based on the inclusion and data was collected through simple randomised method (lottery) and 75 client for experimental group and 75 client for control group were made

An extensive review of literature for this study was done by the investigator herself which helped her to develop the conceptual framework and to determine the method of data collection, tool and methodology of the study was simple randomised technique by the lottery method. The research design is true experimental pretest and post test design. Formal permission was obtained from Medical and surgical Head of the department. The data was collected between the period of 24 .03.19 to .04.2023 the conceptual framework adopted for the study was Wiendenbach theory model.

Sample were collected in medical and surgical department, to identify abdominal surgery patients, Standardized tools were used for data collection. Seven experts did content validity and tool were found to be reliable The protein diet, breathing exercises and saline dressing was administered only to experimental group the intervention was carried for consecutive. Days and three follow up visit after discharge is advised and post test was conducted for both groups

With regard the age out of 75 sample of experimental group

According to educational status out of 75 sample of experimental group

The results were satisfactory with good wound healing of 72% of the experimental group and 19% with moderate wound healing in the experimental group those who received protein diet, breathing exercises and saline dressing.

In control group those who not received nursing interventions shows 27% good wound healing and 33% of moderate wound healing

There is no association of posttest level of distribution of symptoms in control group with selected demographic variables

There is no association of posttest level of distribution of symptoms in control group with demographic variables

The breathing exercises help them to made in better progression of wound healing in super fast process based on the finding the statistical evidence that these measures improve the wound healing process.it increase the health and reduce the hospital stay fter surgery.The results suggested the association between the post test measures of symptoms levels in the demographic variables

Thus the study of the effectiveness of selected nursing interventions among the abdominal surgery patients had shown improve and good wound healing and therefore it was efficient

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