

# **“A Study to Assess the Effectiveness of Jacobson Progressive Muscle Relaxation Therapy on Level of Pain Among Cancer Patients Receiving Chemotherapy Admitted In Smvmch At, Puducherry”.**

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## **Abstract**

The effectiveness of Jacobson's Progressive Muscle Relaxation Therapy (JPMRT) in managing pain among cancer patients undergoing chemotherapy. Pain is a prevalent and distressing symptom in cancer treatment, often exacerbating patients' physical and emotional challenges. Conventional pain management strategies, primarily pharmacological, may have limitations, including side effects and potential dependency. JPMRT, a non-invasive technique, involves systematically tensing and relaxing muscle groups, promoting relaxation and reducing pain. A quasi-experimental pre-test and post-test control group design was employed to assess the impact of JPMRT. Cancer patients receiving chemotherapy were purposively sampled and divided into experimental and control groups. The experimental group participated in JPMRT sessions, while the control group received standard care without additional interventions. Pain levels were measured using a validated scale before and after the intervention. The results demonstrated a significant reduction in pain scores among participants who practiced JPMRT compared to those in the control group. Patients also reported enhanced relaxation and reduced stress. These findings suggest that JPMRT is an effective, cost-efficient, and non-pharmacological method to complement traditional pain management in oncology care, improving patients' quality of life. Further research is recommended to evaluate its long-term benefits across diverse patient populations.

**Keywords:** Chemotherapy, Cost-Efficient, Jacobson's Progressive Muscle Relaxation.

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## **I. INTRODUCTION**

**“They are only rare until it happens to your loved one”**

**-Bob Longhorn**

It is a widely-used procedure that was originally developed by Dr. Edmund Jacobson in the early 1920s. Dr. Jacobson published Progressive Relaxation in 1938, detailing this method of relaxation involving alternately tensing and relaxing 14 different muscle groups. In this relaxation technique, you focus on slowly tensing and then relaxing each muscle group. This can help you focus on the difference between muscle tension and relaxation. You can become more aware of physical sensations. Jacobson's relaxation technique is a type of therapy that focuses on tightening and relaxing specific muscle groups in sequence. It's also known as progressive relaxation therapy. By concentrating on specific areas and tensing and then relaxing them, you can become more aware of your body and physical sensations. It shows a connection between relaxation and blood pressure, perhaps because stress is contributing factor to high blood pressure. Research both old and Source and new provides some evidence that Jacobson's relaxation technique may help people with epilepsy reduce the amount and frequency of their seizures. Larger sample sizes are needed.

## **NEED FOR THE STUDY**

In India: In 2020 Statistics shows that clinical pathology study of 188 patients undergoing chemotherapy receiving Jacobson muscle relaxation technique 195(97%) of which 77% were males in this some of them discontinued chemotherapy due to pain. They were mainly associated with symptoms like body pain, nausea, vomiting. The most common symptom was pain (5.26%) followed by stress (3.77%). Some patients have swelling (4.71%). Two thirds of the individuals surveyed were males 65% which were in the age group between 25 to 40. These patients were practically confined to Jacobson muscle relaxation technique.

## II. REVIEW OF LITERATURE

**Aravind Bagga et. Al., (2020)**, was conducted a descriptive study on the pain level of chemotherapeutic patients being explored, while in initial evidence supported Jacobson muscle relaxation therapy and imbalance of T helper response, and evidence of impaired regulatory function and increased pain level. This study concludes that the pain level is reduced to an maximum extent and with some medication therapy such as corticosteroid therapy and avoid frequent relapse of pain level.

**Andreas Kronbichler et al., (2020)**, was conducted a descriptive study on recent trends and new trials of reducing pain level among chemotherapy receiving patients at department of oncology, University hospital, medical faculty, Henrich Heine university, Germany. The review focuses on Jacobson muscle relaxation therapy in reducing the pain level to oncology patients those who receive chemo drugs. Current treatment recommendations is based on randomized control trials. Recently only a few articles was published that will provide information on effectiveness and treatment of different treatment options to reduce the pain level.

### STATEMENT OF THE PROBLEM

“A STUDY TO ASSESS THE EFFECTIVENESS OF JACOBSON PROGRESSIVE MUSCLE RELAXATION THERAPY ON LEVEL OF PAIN AMONG CANCER PATIENTS RECEIVING CHEMOTHERAPY ADMITTED IN SMVMCH AT, PUDUCHERRY”.

### OBJECTIVES

- 1) To assess the effectiveness of Jacobson progressive muscle relaxation therapy on level of pain among patients who are receiving chemotherapy.
- 2) To associate the level of effectiveness regarding Jacobson progressive muscle relaxation therapy among cancer patients who are receiving chemotherapy with their selected demographic variables.

### ASSUMPTIONS

- 1) The investigator assumes that the patients may not have knowledge regarding the effectiveness of Jacobson muscle relaxation therapy in understanding, treating and reducing pain.
- 2) The tool prepared for the study will be sufficient for collecting information on the effectiveness of Jacobson muscle relaxation therapy in understanding and treating cancer patients to reduce the pain.

### DESCRIPTION OF TOOL

The tool used for this study consists of 2 sections namely,

#### Section A: Demographic Variables:

Age, Sex, Educational Status, Religion, Place of Residence, Marital status and Source of information.

**Section B: Objective type questionnaire** regarding effectiveness of Jacobson progressive muscle relaxation therapy on level of pain among cancer patients receiving chemotherapy.

### SCORING INTERPRETATION:

SCORING INTEPRETATION	SCORE
Inadequate	0-10
Moderate	11-20
Adequate	21-30

## III. RESEARCH METHODOLOGY

Research methodology is the systematic way to solve the research problem. Methodology of research organizes all the components of the study in such a way that was more likely to lead in answering the sub-problems that has been posted. It was important to select appropriate method to ensure the validity and accuracy of data and findings (Saunders, 2009). This chapter deals with methodology adopted to assess the knowledge regarding effectiveness of Jacobson progressive muscle relaxation therapy in understanding and treatment of cancer patients among patients, Puducherry. This chapter deals with the research approach, research design, setting, population, sample, sampling technique, selection and development of tool and data collection techniques and plan for data analysis.

### RESEARCH APPROACH & DESIGN

A quantitative research approach was adapted for this study & A experimental Research Design was adapted for this study.

**SETTING OF THE STUDY**

The study was conducted at SMVMCH, Puducherry.

**POPULATION**

The target population for this study comprises of patients at SMVMCH, Puducherry

**SAMPLE**

The sample for the study comprises of patient at SMVMCH, Puducherry during the time of data collection.

**SAMPLE SIZE**

The sample size consists of 30 patients.

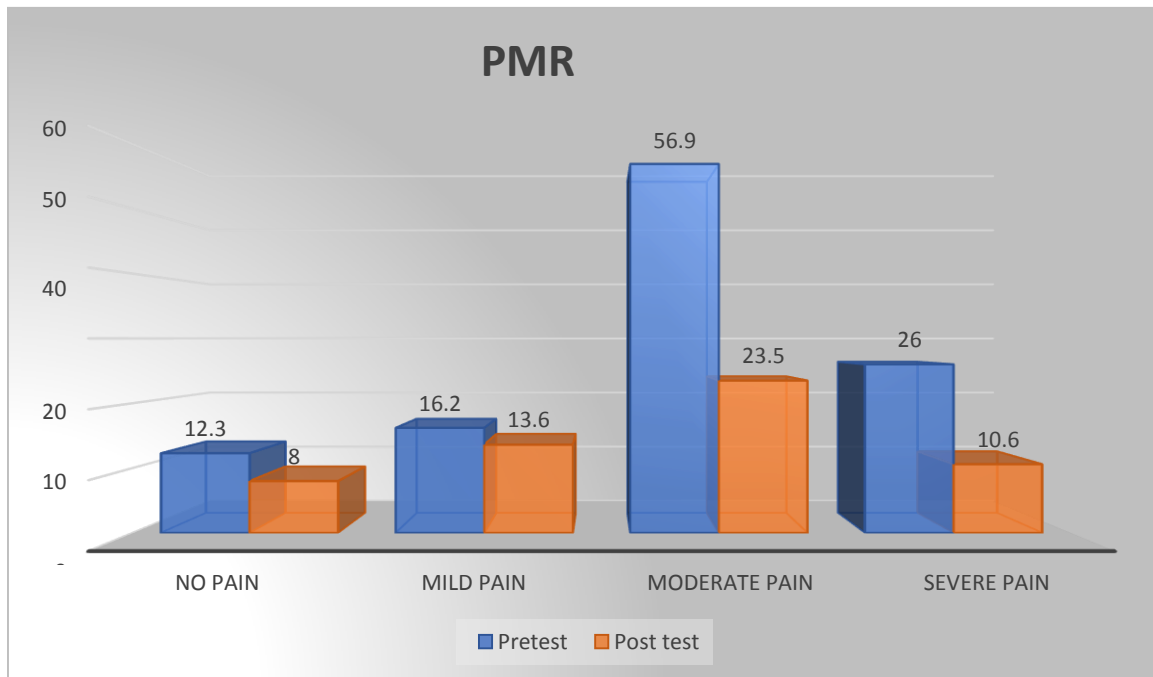
**SAMPLING TECHNIQUE**

Sampling technique is defined as the process of selecting a group of people or the other elements with which conduct a study. Purposive sampling technique is used for the present study.

**IV. RESULTS**

Shows that Frequency and percentage wise distribution of pre-test and post-test on effectiveness regarding Jacobson progressive muscle relaxation therapy in reducing pain among chemotherapy receiving patients. Out of 30 samples, it reveals that Frequency and percentage wise distribution of pre- test and post-test on effectiveness regarding Jacobson progressive muscle relaxation therapy in reducing pain among chemotherapy receiving patients. In pre test 18(56.9%) of them having moderate pain, 4(26%) of them having severe pain, 6(16.2%) having mild pain. After giving Jacobson progressive muscle relaxation therapy, the post test will be conducted, in post test level of pain was 2(11%) having no pain, 7(23.5%) having moderate pain, 4(13.6%) having mild pain and remaining 2(10.6%) of them having severe pain.

**Fig:1 Pretest And Post Test Score Level**



**Table – II: Demographic Data Frequency and Percentage Levels**

S.NO	DEMOGRAPHIC DATA	FREQUENCY	PERCENTAGE
	<b>Age</b>		
	a) 21-30 years	13	43.4
	b) 31-40 years	7	23.3
	c) 41-50 years	10	33.3
	d) Above 50 years	0	0
	<b>SEX</b>		
	a) Male	20	66.7
	b) Female	10	33.3
	<b>RELIGION</b>		
	a) Hindu	28	93.3
	b) Christian	2	6.7
	c) Muslim	0	0

	d) Others	0	0
	<b>Occupation</b>		
	a) Business	24	80
	b) Daily wages	3	10
	c) Unemployed	0	0
	d) Salaried	3	10
	<b>Income of the family per month</b>		
	a) Rupees <5000/-	19	63.7
	b) Rupees 5001- 10000/-	11	36.3
	c) Rupees 10001- 15000/-	0	0
	d) Rupees 150001 or above /-	0	0
	<b>Types of family</b>		
	a) nuclear family	15	50
	b) Joined family	13	43.3
	<b>Family history of any chronic diseases</b>		
	a) Yes	0	0
	b) No	16	56.3
	<b>Family history of cancer diseases</b>		
	a) Yes	0	0
	b) No	16	56.4
	<b>Bad habits</b>		
	a) Betal chewing	8	6.7
	b) Drinking alcohol	20	66.7
	c) Tobacco chewing	8	26.6
	d) Nil	0	0

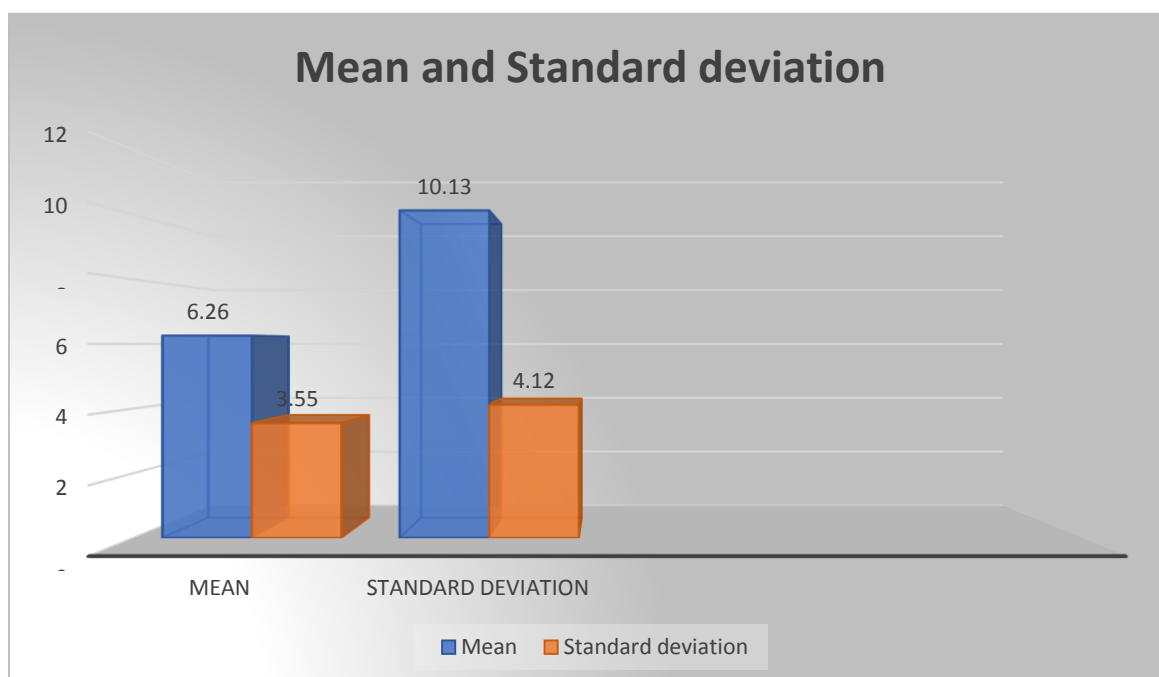
Reveals that, Frequency and Percentage wise Distribution of Demographic Variables among patients. The study result shows that out of 30 patients who were interviewed, Majority of the patients 13 (43.4%) were in the age group between 21-30 years. Most of the patients 20(60.7%) were males. Most of the patients 28 (93.3%) belongs to Hindu religion. Most of them, 15 (50%) have finished their secondary education. Majority of the patient’s occupation is business 24(80%). Majority of the patient’s dietary pattern is non-vegetarian 17(56.7%). Majority of the patients have no family history of cancer 16(56.4%). Most of the patients get source of information through television 13(43.3%). Majority of them, monthly income 19 (63.7%) below rupees 5000\month. Majority of the patients have bad habits of drinking alcohol 20(66.7%). Majority of the patients live in a nuclear type of family 15(50%).

**TABLE – II:** Mean and Standard deviation of pre-test and post-test on effectiveness regarding Jacobson progressive muscle relaxation therapy in reducing pain among chemotherapy receiving patients. [N=30]

	Mean	Standard deviation	P value
Pre-test	6.26	3.55	0.05
Post-test	10.13	4.12	

\*\*P<0.05 Highly significant

**Table II:** Shows that area wise mean and standard deviation of Jacobson progressive muscle relaxation therapy in reducing pain among chemotherapy receiving patients. The findings reveal that mean (6.26) in pre test and (3.55) in post test and standard deviation (10.13)pre test and 4.12 in post test.



**Figure 3: Mean and Standard deviation of pre-test and post-test on effectiveness regarding Jacobson progressive muscle relaxation therapy in reducing pain among chemotherapy receiving patients.**

## V. CONCLUSION

“A study to assess the effectiveness of Jacobson progressive muscle relaxation therapy on level of pain among cancer patients receiving chemotherapy admitted in SMVMCH at, Puducherry”. In pre test 18(56.9%) of them having moderate pain, 4(26%) of them having severe pain, 6(16.2%) having mild pain. After giving Jacobson progressive muscle relaxation therapy, the post test will be conducted, in post test level of pain was 2(11%) having no pain, 7(23.5%) having moderate pain, 4(13.6%) having mild pain and remaining 2(10.6%) of them having severe pain.

## NURSING IMPLICATIONS

The study had implications for nursing practice, nursing education, nursing administration and nursing research.

### NURSING PRACTICE

- This module was developed by the investigator can also be used by the nurses to practice. As member of the health care team, the nurses play an active role in promotion of health, prevention of disabilities, duration of illness and rehabilitation of deformities.
- It is widely acknowledged that nurses are crucial components in health care system. In their roles, nurses are regularly confronted with a variety of biological, physical and chemical hazards during the courses of performing their duties.
- The safety of nurses themselves, and subsequently that of their patients, depends directly upon the degree to which nurses have mitigating those hazards.
- It serves as a guideline for nurse administrators to plan continuing education program, additional instruction or training in the hospital or community area.

### NURSING EDUCATION

- Quality care through excellence in advanced nursing education” is just apt to meet the demand of good quality of nursing.
- Education is an integral part of the clinical governance agenda, which includes “education, clinical audit, clinical effectiveness, risk management, research and development and openness.”
- The introduction of a formalized educational program provides a nurse with evidence – based rationales from which they can challenge their practice, build and improve on their knowledge regarding progressive muscle relaxation therapy of patients for healthy well-being of patients.

- The nursing education program therefore should prepare nurses for providing effective and efficient nursing care to prevent pain to some reducible extent.
- Active participation of student nurses can be encouraged by providing opportunity for self-learning classroom teaching clinical teaching and junior most nursing students should be supervised and guided while performing care and educating the patients about healthy habits and diet pattern.
- Conducting conferences, seminars, continuing education on improvement in nutritional status and eating habits of patients should be done in order to improve the knowledge, practice and skill of all level of health care professionals.

#### **NURSING ADMINISTRATION**

- Nurse administrator can make necessary policies to implement the nursing care services for patients. Like people in other professions, nurses operate in an “age of accountability” where quality and cost issue drive the direction of health care.
- Nurse administrator should arrange seminars, conferences, workshops, hands on community training program related to Jacobson progressive muscle relaxation therapy.

#### **NURSING RESEARCH**

- In the past, many actions of the nurses have been based on training or authorities which are no longer acceptable in the age of research-based practice. Nurses should be able to justify the decisions they make and the care that they provide.
- Research can help increase the body of nursing knowledge which improves the care provided. Research on nurse performance can reveal clinically and community significant findings.

#### **RECOMMENDATIONS**

- A similar study can be conducted by large number of samples in future.
- The study was conducted to particular group of patients at particular age.
- A prospective study can also be conducted.
- Study based on daily life of patients to do their daily task.
- The study helps to the hospital authority and community health settings to make new policies and standards for best quality care for patients and increase the knowledge of other health care providers also.

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