



# EFFECTIVENESS OF JACOBSON'S PROGRESSIVE MUSCLE RELAXATION TECHNIQUE (JPMRT) ON THE LEVEL OF DEPRESSION AMONG THE ELDERLY RESIDING AT SELECTED URBAN COMMUNITY, SILIGURI.

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**Abstract:** Depression, a common disorder among elderly is recognized as a serious public health concern. Due to retirement, social insecurity, loneliness, decline in physical health status elderly are more prone to develop psychological problems mainly depression. Jacobson's progressive muscle relaxation technique is non-pharmacological method of deep muscle relaxation to reduce stress among the elderly. A quasi experimental one group pre-test post-test study was conducted with the aim to assess the effectiveness of Jacobson's progressive muscle relaxation technique on the level of depression among the elderly and to find out the association with selected demographic variables. Conceptual framework was based on Karl Ludwig Von Bertalanffy's General System Theory. Data was collected from 73 elderly through purposive sampling technique before and after intervention by using Geriatric Depression Scale at Sattyajit Nagar urban community area, Siliguri. Analysis was done by using descriptive and inferential statistics. Findings revealed that 46.57% of elderly had moderate depression, 38.35% had mild depression and 15.06% had severe depression. After providing Jacobson's progressive muscle relaxation technique 13.69% of elderly had moderate depression, 72.60% had mild depression and 13.69% had no depression. Based on data collection the pre-test mean score is  $9.383 \pm 2.071$  and post-test is  $6.684 \pm 2.183$ . The calculated 'r' value is 0.24 showing mild positive correlation between pre and post-test score which was found to be statistically significant with the 't' value of  $2.772^{**}$  at  $p \leq 0.01$  level of significance. Significant association were found between level of depression with demographic variables like age and religion at  $p \leq 0.05$ , gender, type of family, presence of care giver, level of education and source of income at  $p \leq 0.50$  level of significance. The study concluded that Jacobson's progressive muscle relaxation technique was effective in reducing level of depression among elderly.

## INTRODUCTION

Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. [1]The concept of health as defined by world health organization is comprehensive and positive.It is comprehensive because it refers to well-being of all dimensions of life i.e., physical,mental,and social.A fourth dimension, i.e., spiritual dimension is added to this definition in recent years.It is positive because it is not just the absence of disease, but it refers to a complete state of well-being and reflects holistic nature of the human being. This definition doesn't permit variations or degree of health it denotes perfect health which is an ideal goal to some amounts of stress is necessary to maximize one's potential and achieve self-actualization.[2]Mental health is a state of balance between the individual and the surrounding world, a state of harmony between oneself and others, a co-existence between the realities of self and that of other people and the environment. [3]Depression, a common disorder among elderly is recognized as a serious public health concern. Due to retirement, social insecurity, loneliness, decline in physical health status elderly are more prone to develop psychological problems mainly depression.

Jacobson's ProgressiveMuscle Relaxation Technique (JPMRT) is a relaxation practice to reduce stress and build awareness of sensations of tension and deep relaxation in various muscle groups. It is often recommended to deepen awareness and train the body to relax more deeply. Progressive Muscle Relaxation (PMR) is a non-pharmacological method of deep muscle relaxation, based on the premise that muscle tension is the body's psychological response to anxietyprovoking thoughts and that muscle relaxation blocks anxiety.`The technique involves learning to monitor the tension in specific muscle groups by first tensing and then relaxing each muscle group. When this tension is released, the attention is directed towards the differences felt during tension and relaxation so that the patient learns to recognize the contrast between thephases.

## NEED OF THE STUDY

Jacobson's Progressive Muscle Relaxation Technique (JPMRT) is a widely used therapy that was originally developed by Dr. Edmund Jacobson's in the early 1920s. Progressive Muscle Relaxation exercise can be used to alleviate disturbing and disruptive emotional symptoms such as anxiety, depression, and insomnia. The first step of Progressive Muscle Relaxation Technique is to apply muscle tension to a specific part of the body. Then take a slow deep breath and squeeze the muscles for fewseconds. After about few seconds let all the tightness flow out of the tensed muscles. One should feel the muscles become loose and limp as the tension flows out. It is important to focus on and notice the difference between tension and relaxation very deliberately. This is the most important part of the whole exercise.[4]

A study was conducted in 2022 to assess the effect of progressive muscle relaxation technique on self-esteem and self-efficacy in multiple sclerosis patients. Low self-esteem and inefficiency are major problems in multiple sclerosis patients. This clinical trial was conducted on 100 multiple sclerosis patients who were randomly divided into two groups of experimental (n =50) and control(n=53). The experimental group received Progressive Muscle Relaxation Technique in 60 minutes sessions twice a week for four weeks. The mean score of self-esteem between the control(26.02± 8.33) and the experimental (29.98±7.02) were significantly different. The mean score of self-efficacy was significantly different between the control and experimental group. Due tothe effectiveness of Progressive Muscle Relaxation on self-esteem and self-efficacy of multiple sclerosis patients, its safety and simplicity, this can be used as a complementary therapy to enhance the level of self-esteem and self-efficacy of multiple sclerosis patients.[5]

GhodaAjay et.al (2021) conducted a study to assess the effectiveness of Progressive Muscle Relaxation Therapy on anxiety and depression among elderly people residing in selected old age homes of Rajasthan. Pre-experimental research approach with one group pre-test post-test design was used to conduct the study. Non-probability convenient sampling technique was adopted to select 50 elderly people. Hamilton Anxiety Rating Scale and Geriatric Depression Scale were used to assess anxiety and depression, respectively. Progressive Muscle Relaxation Technique (PMRT) was implemented and conducted once a day for 10 days for 20-30 minutes. Findings revealed that 28.0% elderly had moderate anxiety and 100% had depressive symptoms at baseline. After PMRT anxiety and depression reduced significantly at  $p < 0.05$ . Thus, Progressive Muscle Relaxation is effective in reducing level of anxiety and depression among the elderly. [6]

Maharjan Gayatri Ms et.al(2019) conducted a quasi-experimental one group pre-test and post-test study to assess the effectiveness of Progressive Muscle Relaxation Technique on stress among Nursing Students in Krupanidhi College of Nursing, Carmelaram, Bangalore. Seventy nursing students were selected by purposive sampling technique. Progressive Muscle Relaxation was taught to subjects for 10 consecutive days and post-test was done on 11th day. Analysis was done using descriptive and inferential statistics. The study findings highlight that mean stress score of post-test was lower than mean pre-test score of the subjects. Thus, it is concluded that the Progressive Muscle Relaxation was effective in reducing the stress among nursing students. [7]

To provide a better life for their family most of the people are working and because of their job they are unable to spend quality time with family members and take care of them. This can take a negative impact on family members especially elderly. Due to retirement, social insecurity, loneliness, decline in physical health status their quality of life become poor and are more prone to develop psychological problems mainly depression. So, the researchers felt the need to assess depression and assess the effectiveness of Progressive Muscle Relaxation Technique to reduce depression.

## OPERATIONAL DEFINITION

**Level of depression-**In this study, according to Geriatric Depression Scale, score of 0-4 is considered as normal, 5-8 indicates mild depression, 9-11 indicates moderate depression and 12-15 indicates severe depression.

**Elderly-**In this study, elderly refers to people aged 60 years and above.

**Jacobson's Progressive Muscle Relaxation Technique (JPMRT)-**In this study, JPMRT refers to a relaxation technique. The researchers made elderly sit on a chair with back rest, then instructed them to tighten each muscle groups by counting 1,2,3.....10 and hold for 10 seconds, and then relax muscle groups again by counting 1,2,3.....10.

**Effectiveness-**In this study, effectiveness refers to the extent to which Jacobson's Progressive Muscle Relaxation Technique reduces the level of depression among elderly as assessed by Geriatric Depression Scale.

## HYPOTHESIS

**H1-** There will be a statistically significant difference between level of depression among elderly and Jacobson's Progressive Muscle Relaxation Technique at 0.01 level of significance.

**H2-** There will be statistically significant association between pre-test score of level of depression with selected demographic variables.

## CONCEPTUAL FRAMEWORK

Conceptual framework for this study is derived from the General System Theory designed by Ludwig von Bertalanffy (1986) which deals with a general science of 'wholeness.' It emphasizes relationships between the whole and the parts and describes how parts function and behave. The peculiarity of open system is that they allow energy, matter, and information to move freely between systems and boundaries. The systems interaction has three components:-Input, Throughput and Output.[8]

**Input-** It refers to what enters the system from outside. In this study, the input consists of demographic variables and level of depression which is assessed by Geriatric depression scale.

**Throughput-**This refers to the transformation of input into output by the system. In this study, the throughput is implementation of Jacobson's Progressive Muscle Relaxation Technique.

**Output-**Output refers to what leaves the system outside of themselves. In this study, output was categorized into two parts, reduction in the level of depression and no reduction in the level of depression.

## METHODOLOGY

A quasi-experimental one group pre-test post-test research design was adopted for this study. The sample of this research study was 73 elderly residing at selected urban community, Siliguri through purposive sampling technique. Non-probability convenient sampling technique was used to select the setting. The instrument used to assess the level of depression among elderly was Geriatric Depression Scale (GDS) through structured interview schedule. Jacobson's Progressive Muscle Relaxation Technique is the intervention given to the group for 20 minutes for 5 days in a week for consecutive 4 weeks. Pre-test and post-test were done before and on the 30<sup>th</sup> day of the intervention respectively.

## DATA ANALYSIS

Data was organized, tabulated, and interpreted using descriptive and inferential statistics. Paired t-test was used to assess the effectiveness of Jacobson's Progressive Muscle Relaxation Technique to reduce level of depression among the elderly. Correlation-coefficient and chi-square test examined the relationship and association between selected demographic variables.

## RESULT

### Description of sample characteristics

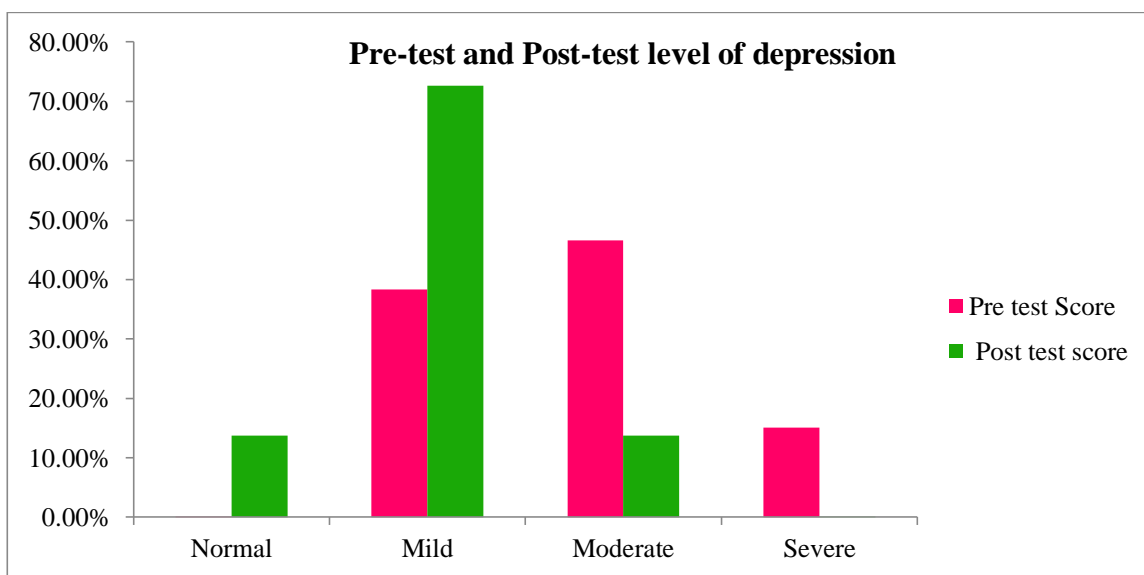
The data presented in table 1 shows that most of the respondents were between the ages 60-70 years (58.90%), 71-80 years (32.87%) and more than 80 years (8.21%). Male respondents were 53.42% and female respondents were 46.57%. Majority of the respondents that is 68.49% were Hindu and 31.50% of respondents were Muslim. Majority of them (66.75%) were married, (32.87%) were widow and remaining (1.36%) were unmarried. Most of the respondents (47.94%) were illiterate, 36.98% had primary education, 10.95% had secondary education, graduation and more were 2.73% and 1.36% had higher secondary education. Majority of the respondents (80.82%) had no source of income whereas 19.17% of respondents had a source of income. Maximum of the respondents 71.23% belonged to nuclear family whereas 28.76% of the respondents belonged to joint family. Most of the respondents that is 94.52% were taken care by their family members and 5.47% were not taken care by anyone.

**Table 1** Frequency and percentage distribution of sample characteristics.

Sample	Characteristics	Frequency	Percentage%
Age in years	60-70	43	58.90
	71-80	24	32.87
	80 and above	06	8.21
Sex	Male	39	53.42
	Female	34	46.57
Religion	Hindu	50	68.49
	Muslim	23	31.50
Marital status	Married	48	65.75
	Unmarried	01	1.36
	Widow	24	32.87
Education	Illiterate	35	47.94
	Primary	27	36.98
	Secondary	08	10.95
	Higher secondary	01	1.36
	Graduation or more	02	2.73
Source of income	Yes	14	19.17
	No	59	80.82
Type of family	Nuclear	52	71.23
	Joint	21	28.76
Presence of care giver	Family members	69	94.52
	None	04	5.47

### Comparison of pre-test and post-test level of depression among the elderly

**Figure 1** shows that 46.57% of elderly had moderate depression, 38.35% had mild depression and 15.06% had severe depression. After providing Jacobson's progressive muscle relaxation technique 13.69% of elderly had moderate depression, 72.60% had mild depression and 13.69% had no depression.



**Figure 1** Bar diagram showing percentage distribution of pre-test and post-test level of depression score.



The data presented in table 2 shows that the mean and standard deviation of pre-test score of the respondents were 9.383 and 2.071 respectively and the mean and standard deviation of post-test score of the respondents were 6.684 and 2.183. The mean difference is 2.699.

**Table 2** Mean, standard deviation and mean difference of the pre-test and post-test depression score

n=73			
Test	Mean	Standard Deviation	Mean Difference
Pre-test	9.383	2.071	2.699
Post- test	6.684	2.183	

### Effectiveness of Jacobson's progressive muscle relaxation technique on level of depression among the elderly

The data in table 3 shows that pre-test mean score is  $9.383 \pm 2.071$  and the post-test mean score is  $6.684 \pm 2.183$ . The mean difference is 2.699. The calculated paired 't' test value 2.772 is highly significant than the table value 2.66. This shows that Jacobson's Progressive Muscle Relaxation Technique was effective in reducing the level of depression among older adults at  $p < 0.01$  level of significance. Hence, Jacobson's progressive muscle relaxation technique is effective in reducing level of depression among elderly.

**Table 3** Mean, standard deviation, mean difference and 't' value of the pre-test and post-test depression score

n=73					
Test	Mean	Standard Deviation	Mean Difference	df	Paired 't' test
Pre-test	9.383	2.071	2.699	72	2.772 **
Post- test	6.684	2.183			

$df(72) = 2.66, p < 0.01$

## DISCUSSION

The present study shows that Jacobson's Progressive Muscle Relaxation Technique was effective in reducing the level of depression among elderly. The findings are consistent with the previous studies that found Jacobson's Progressive Muscle Relaxation Technique effective in reducing the level of depression among elderly. [5,6,7]

## CONCLUSION

The study concluded that providing Jacobson's Progressive Muscle Relaxation Technique was effective in reducing the level of depression among elderly. Jacobson's Progressive Muscle Relaxation Technique is a low cost and effective intervention which can be implemented by the health care providers in different health care settings. The study can be replicated with a larger sample so that the findings can be generalized to a larger population. The study can be replicated in other states of India, both urban and rural areas.

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