International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2013): 6.14 | Impact Factor (2013): 4.438

# The Effects of Progressive Muscular Relaxation Exercise among Geriatric Patients with Psychiatric Illness

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**Abstract:** ***Aims and objectives: The purpose of this study was to evaluate the effect of Progressive Muscular Relaxation Exercise program on elderly patients in quality of life, functional capacity and the objectives are to identify the level of stress. To test the effect of stress management among elderly persons in the rehabilitation setup. Methodology: Inclusion criteria: geriatric patient, Age group 60 years and above, Patient at rehabilitation setup. Sample: 30 geriatric patients, age group of 60 and above year's studies are conducted at the rehabilitation center. Exclusion criteria: patient with deaf and dump, vision loss. Results: The results showed that there was a significant difference between the pre and post test of stress questionnaire. The mean test score at base line was 34.47(SD= +/_ 7.24). It was significantly reduced to 23.43(SD =+/-8.70) if P=0.00 after the intervention. Conclusion: This study concluded that Progressive Muscular Relaxation Exercise program on elderly patients are effective in their quality of life and their functional activities.***

**Keywords:** level of stress, Jacobsen technique, elderly patients, stress questionnaire

## 1. Introduction

Stress is, in some ways, a psychological/physiological response to stimuli. The stimuli can be externally or internally generated. Stress is a response to something. It manifests as worry, fear, anxiety, anger, depression, and so on. There are stressors, and there are stress responses. The elderly face stress from various situations, which are Caring for a sick spouse, Loosing a spouse and feel lonely and alone, Death of other relatives and friends that one may have been close to: reducing physical strength and a realization that one is not as fit and strong as one used to be, worries about finances after retirement and the fear of institutionalization, no one to talk to and a feeling of dejection at being dependent on someone. All these can cause a lot of harm to self-esteem and send confidence levels spiraling down to abysmal levels. For those who have been independent and led a respectable life, it can be extremely stressful. They are at a stage in life where they may face extended and critical health problems. Even though the events and situations that cause stress may be different for the elderly, the techniques that one can use are similar. Exercising regularly works as part of an ongoing stress-management program for seniors, even for those with limited mobility.

Progressive muscle relaxation is a technique that involves tensing specific muscle groups and then relaxing them to create awareness of tension and relaxation. It is termed progressive because it proceeds through all major muscle groups, relaxing them one at a time, and eventually leads to total muscle relaxation. it is an easy to learn skill that with some practice can be used to manage stress and the symptoms of anxiety. stress can negatively affect our emotional and psychological well being. In the fast-paced and complicated world in which we live, managing stress is an essential part of living a healthy life. According to the author of Rausch state that the effectiveness of brief group training in meditation or Progressive Muscular Relaxation reduces state anxiety after exposure to a transitory stressor.

## 2. Literature Review

Blanchard (1990) conducted a comparative study of Progressive Muscular Relaxation and Cognitive training on sixty-six headache patients were randomly assigned for eight weeks. He founded that a measure of clinically significant change showed a trend for PMR+Cognitive training to be to PMR alone.

Alexander Molassiotis (2002) started the study of randomized controlling trial designed to assess the effectiveness of Progressive Muscular Relaxation Training in the clinical management of chemotherapy-related nausea and vomiting as an adjuvant intervention to accompany pharmacological anti-emetic treatment. He suggest that PMRT is a useful adjuvant technique to complement anti-emetics for chemotherapy-induced nausea and vomiting and that incorporation of such interventions in the care plan can enhance the standard of care of cancer patients who experience side effects of chemotherapy. The significantly effects were mainly evident on the 4 post-chemotherapy days, when difference were statistically significant.

Laura A (2002) investigated the experimental study of the impact of abbreviated PMR on salivary cortisol. He finds that a brief relaxation exercise led to experimental subjects having significantly lower levels of posts-intervention heart rate, state anxiety, perceived stress, and salivary cortisol than control subjects, as well as increased levels of self-report levels of relaxation. The results of this study have implications for the use of relaxation training in enhancing immune function.

Greg Feld man (2010) experimented the study of differential effects of mindful breathing, PMR and loving-kindness

meditation on decentering and negative reactions to repetitive thoughts among the students. He found that mindful breathing may help to reduce reactivity to repetitive thoughts. Its results help to provide further evidence of decentering as a potential mechanism that distinguishes mindfulness practice from other credible stress-management approaches.

Shahyad Ghonchen (2004) formulated the study of PMR, yoga stretching, and ABC relaxation theory on forty participants were randomly divided in to two groups and taught PMR or yoga stretching exercises. The results suggest the value of supplementing traditional somatic conceptualizations of relaxation with the psychological approach embodied in ABC relaxation theory.

Laura A (2005) conducted a study of the impact of Abbreviated Progressive Muscular Relaxation on Salivary Cortisol and Salivary Immunoglobulin A(S lg A) on forty one subjects were led through APMRT during a 1-h laboratory session. The data suggest that relaxation training may play a role in immunoenhancement.

## 3. Methodology

Clients should be admitted and rehabilitated in the rehabilitation centers for more than three months. They must be screened out by using Brief Psychiatry Rating Scale. Inclusion criteria: all are psychosis and the ages are not below 60 years. Exclusion criteria: they should not have hearing difficulty and speech difficulty, neurosis. Apart from the other stress management technique Progressive Muscular Relaxation Exercise are introduced in this study. Sample size: 30 patients arrived by based on previous studies**.** Study design: experimental study. Stress questionnaires are used in this study. Score interpretations are 0-17 low stress, 18-35 medium stress, 36-52 high stress. Data analysis: it is carried out uses SPSS (version 15).

Stress questionnaires are explained and collected the answers from the patients with help of centers staff after getting priority permission from the center manager and the patients. And then orientation about the purpose of doing PMRE otherwise known as Jacobsen technique to the patient. It is practiced individually or group which commanded by the staff or the Occupational Therapist at a time in the center. Sessions are half an hour in the morning, half an hour in the evening/Day, 21 hours/month for four months. This techniques introduced to them apart from the other activities such as medication, chair exercise, tai - chi, walking, gardening and pets care. PMR may not be suitable for individuals with bone or muscle pain; people with limited concentration and extreme fatigue may need shorter techniques. PMR has two processing one is tensing the muscle groups and the another one is relaxing the tightened muscle groups. the following steps are

Step 1: Assume a comfortable position. You may lie down; loosen any tight clothing, close your eyes and be quiet.

Step 2: Assume a passive attitude. Focus on yourself and on achieving relaxation in specific body muscles. Tune out all other thoughts.

Step 3**.** Tense and relax each muscle group as follows:

- Forehead - Wrinkle your forehead, try to make your eyebrows touch your hairline for five seconds. Relax.
- Eyes and nose - Close your eyes as tightly as you can for five seconds. Relax.
- Lips, cheeks and jaw - Draw the centers of your mouth back and grimace for five seconds. Relax. Feel the warmth and calmness in your face.
- Hands - Extend your arms in front of you. Clench your fists tightly for five seconds. Relax. Feel the warmth and calmness in your hands.
- Forearms - Extend your arms out against an invisible wall and push forward with your hands for five seconds. Relax.
- Upper arms - Bend your elbows. Tense your biceps for five seconds. Relax. Feel the tension leave your arms.
- Shoulders - Shrug your shoulders up to your ears for five seconds. Relax.
- Back - Arch your back off the floor for five seconds. Relax. Feel the anxiety and tension disappearing.
- Stomach - Tighten your stomach muscles for five seconds. Relax.
- Hips and buttocks - Tighten your hip and buttock muscles for five seconds. Relax.
- Thighs - Tighten your thigh muscles by pressing your legs together as tightly as you can for five seconds. Relax.
- Feet - Bend your ankles toward your body as far as you can for five seconds. Relax.
- Toes - Curl your toes as tightly as you can for five seconds. Relax.

Step 4: Focus on any muscles which may still be tense. If any muscle remains tense, tighten and relax that specific muscle three or four times

Step 5: Fix the feeling of relaxation in your mind. Resolve to repeat the process again. Remember, people respond differently to various activities. Some feel pleasant or refreshed, and others feel calm and relaxed after an activity like this one. Some people notice little change the first time, but with practice, their control increases - as well as the benefits. If you practice this activity, your relaxation should increase. After the tentative period the same stress questionnaires are used as a post test for the finding of the study.

## 4. Results

**Table-1** Shows the questionnaires series from 1-17 as a low level of stress. Pre -test score was one and the post-test score was thirteen. these scores are indicates the levels but not the number of the subjects.

**Table-2** Reveals that the range from 18- 35 as a medium level of stress. Pre -test score was seventeen and the post-test score was fourteen.

**Table-3** depicts that the range from 36-52 as a high level of stress. Pre -test score was twelve and the post-test score was four.

**Table-4** shows the difference between values of the pre - intervention and the post-intervention among the thirty participants. it was observed that Mean test score at base line was 34.43 SD=7.24. it was significantly reduced to 23.43 SD=8.70 if the P value was 0.000 after the intervention.

**Table 1:** Pre and Post values of low range

| Range | Pre -test | Post-test |
|---|---|---|
| 1 - 17 | 1 | 13 |

**Table 2:** Pre and Post values of medium range

| Range | Pre - test | Post - test |
|---|---|---|
| 18 - 35 | 17 | 14 |

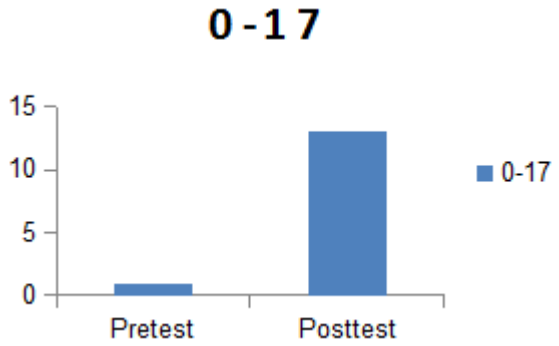
**Table 3:** Pre and Post values of high range

| Range | Pre -test | Post-test |
|---|---|---|
| 36 - 52 | 12 | 4 |

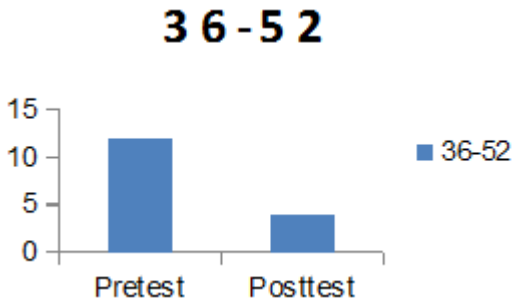
**Table 4:** Pre and Post test values of all ranges

| Intervention | Participants | Mean | Standard Deviation | P value |
|---|---|---|---|---|
| Before | 30 | 34.47 | 7.24 | |
| After | 30 | 23.43 | 8.70 | |

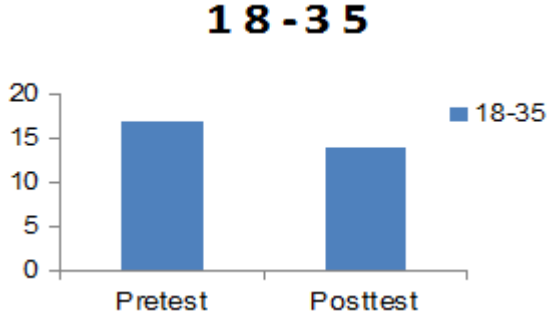
The results of the present study show that there is a significant improvement in reducing the level of stress among the geriatric patients with psychiatric illness.



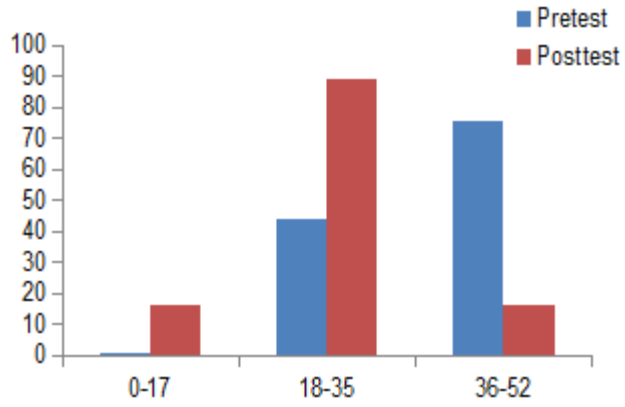

**Graph 1:** Low range of pre and post test values




**Graph 2:** medium range of pre and post test values




**Graph 3:** high range of pre and post test values




**Graph 4:** Pre and post test values of all ranges

## 5. Discussion

Stress is an essential part of our life. Live without stress is highly appreciable when there is no even or situation occurred deadly. Older adults might not be suffering from work-related stress, but their stress levels can be high. Even though the events and situations that cause stress may be different for the elderly, the techniques that one can use are similar. PMRE/Jacobsen technique was initiated with the each one well-functioning for only few minutes rather than the other activities during the day. Patients feel relaxed and comfortable while practicing the technique actual time for practicing this around twenty to twenty five minutes take to complete the whole processes.

On the basis of analysis of the results the alternate hypothesis stating that implementing the Jacobsen technique was effective among these patients in their daily life. Pre score of all the tables indicates that the level of stress which are range from low to high but not the number of patients in the study. After the intervention post score of all shows the changes in the level of stress. That means those are having high level of stress can be reduced in to medium level and those are having medium level of stress can be stepped in to low level. The results of the study was not mentioned that how many participants are prone to the different level of stress; only the mean value indicates the difference between the pre and post tests so it should be assumed that there is a significant improvement in reducing the level of stress among the geriatric patients with psychiatric illness.

Stress levels are more in the elderly patients before the occupational therapy intervention by introducing the Jacobsen. It may be various events and situations which can cause the stress, this can be reduced after the intervention with highly cautious. The PMRE is more important apart from the other techniques in reducing the stress level among the elderly patients.

## 6. Conclusion

Based on the results, we found that Progressive Muscular Relaxation Exercise / Jacobsen technique should be established for reducing the level of stress on the older patients.

## 7. Future Recommendation

The present study suggested that the number of the participants can be increased and extended the time period for the further research studies. Here the outcome measures are not evaluated by using standardized tool but in future it may include in the same study.

## 8. Acknowledgements

We would like thank to the mental health center in Pondicherry for allowing us to collect the data and intervening the technique to the patients. we also extend our sincere thanks to Mr. Harichandran who helped with the statistics.
We would like to thank all the clients who participated in the study.

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