



## RESEARCH ARTICLE

### EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION VERSUS MUSIC THERAPY ON ANXIETY AMONG ELDERLY RESIDING AT SELECTED GERIATRIC HOMES AT PUNE CITY

**\*Sheetal Barde, Dr. Jayalakshmi, N. and Dr. Sheela Upendra**

Symbiosis College of Nursing, Symbiosis International University, Pune, Maharashtra

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#### ABSTRACT

The present study tries to explore the effect of Progressive Muscle Relaxation Vs Music Therapy on Anxiety among Elderly residing at selected Geriatric Homes. Anxiety is a normal emotion. All human beings develop it as a means of Protection from danger and threat when we perceive danger. The present study aims to investigate the Effectiveness of progressive muscle relaxation versus music therapy on anxiety among elderly residing at selected geriatric homes at Pune city. For this study data was collected randomly from Janseva Foundation's Old age Home, Pune from 150 Elderly. "Geriatric Anxiety Scale" was used to assess the Anxiety level of Elderly. Initially Anxiety in Elderly was assessed using the scale followed by Interventions to PMR group and Music Therapy group for 7 days and no interventions to control group and again posttest was taken using the same scale. The result of the present study revealed some significant findings that Progressive Muscle Relaxation Therapy and Music Therapy both were effective to relieve anxiety and it was also found that Progressive Muscle Relaxation Therapy is more effective than Music therapy on anxiety.

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## INTRODUCTION

Anxiety is a normal emotion. All human beings develop it as a means of Protection from danger and threat when we perceive danger. Human body undergoes a number of autonomic physiological changes such as perspiration, restlessness, discomfort, palpitation and tightness in the chest. (Ahuja, 2002) Anxiety is defined as a danger signal felt and perceived by the conscious portion of the personality with or without stimulation from external situation. (Diagnostic and statistical manual of Mental disorders (DSM IV), 1994) According to Gross (1969) anxiety reactions carry an unpleasant emotional tone, which may perhaps have survival nature, in predisposing the individual to avoid circumstances, which evoke the reaction. (Gross *et al.*, 1999) Psychotherapy is indeed effective. The theoretical bases of the techniques used and the strictness of adherence to those techniques are both not factors. The therapist's strength of belief in the efficacy of the technique is a factor (Upendra and Barde, 2015). Too little anxiety or too much anxiety can cause problem. Individuals who feel no anxiety when faced with an important situation may lack alertness and focus. On other hand, individual who experience

an abnormal high amount of anxiety often feels overwhelmed, immobilized and unable to accomplish the tasks at hand (Upendra, 2013). It is estimated that about 25% of the population will experience an anxiety disorder at some stage of their life. Women are twice more likely to suffer from an anxiety disorders than men. Unfortunately, only 50% of people receive treatment for their disorder. Anxiety problem often leads to mental disorders. People with anxiety disorders are also at higher risk of being affected by substance abuse. So it needs to be addressed before an anxiety disorder can be effectively treated. (Boemer, 2004)

Horne-Thompson A, Grocke D conducted a study on effectiveness of a single music therapy session in reducing anxiety for terminally ill patients. Results demonstrated a significant reduction in anxiety for the experimental group on the anxiety measurement of the ESAS ( $p = 0.005$ ). The study supports the use of music therapy to manage anxiety in terminally ill patients. (Horne-Thompson and Grocke, 2008) The aim of this study is to reduce the anxiety of the elderly persons by the number of the health team members. The mental health nurse should understand the nature of the anxiety among the elderly person and can play an important role in reducing the anxiety of the elderly persons by practicing progressive muscle relaxation technique and Music therapy and to find out which is the most effective method to reduce anxiety.

**\*Corresponding author: Sheetal Barde**

Symbiosis College of Nursing, Symbiosis International University,  
Pune, Maharashtra.

## MATERIALS AND METHODS

### Objectives:

1. To assess the baseline level of anxiety among elderly persons in experimental 1, experimental 2 and control group.
2. To determine the anxiety level in elderly persons after the interventions in experimental1, experimental2 and control group.
3. To compare the difference in anxiety between experimental 1, experimental 2 and control group.
4. To associate the relationship between selected background variables in experimental 1, experimental 2 and control group.

### Hypothesis:

1.  $H_0$ : There will be no effect of Progressive Muscle Relaxation and Music Therapy on Anxiety in Elderly.
2.  $H_1$ : There will be significant effect of Progressive Muscle Relaxation and Music Therapy on Anxiety in Elderly.
3.  $H_2$ : Progressive Muscle Relaxation will have more significant effect on Anxiety as compared to Music therapy.
4.  $H_3$ : Music therapy will have more significant effect on Anxiety as compared to Progressive Muscle Relaxation.

### Sample

A Sample of 150 Elderly people from Janseva foundation's Old Age Home, Pune, Maharashtra were chosen through simple random sampling method.

### Research Design

The design which is used to intellectualize the study and analyse the data is Experimental design in which scores of the subjects before and after intervention are compared using t-test.

### Tool Used

For this study data was collected randomly from Janseva Foundation's Old Age Home, Pune on 150 elderly through Geriatric Anxiety Scale (GAS).

## RESULTS

### Section I. Baseline proforma would be analyzed using frequency and percentage

It shows that before the intervention in control group the mean average of anxiety is 13.62 where as 14.62 in experimental 1 group and 11.94 in experimental 2 group. The standard deviation for the control, experimental 1 and experimental 2 groups are 3.050, 2.539 and 4.740 respectively.

**Table 1. Description of respondents according to Demographic variables using Frequency and Percentage Frequency**

N= 150		
Demographic Variables	Frequency	Percentage Frequency
Q-1. Age		
50 – 55yrs	15	10
56 - 60yrs	21	14
61 - 65yrs	54	36
More than 65yrs	60	40
Total=	150	100
Q-2. Gender		
Male	79	52.67
Female	71	47.33
Total=	150	100
Q-3. Professional Qualification		
High School	85	56.67
Graduate	41	27.33
Post Graduate	5	3.33
Others	19	12.67
Total=	150	100
Q-4. Type of Family		
Nuclear	63	42
Joint	61	40.67
Extended	13	8.67
Others	13	8.67
Total=	150	100
Q-5. From how long you are staying here?		
≥ 5 Yrs	69	46
≤ 5 Yrs	81	54
Total=	150	100
Q-6. Any Medical Illness?		
Diabetes	44	29.33
Hypertension	49	32.67
Anxiety Disorder	8	5.33
Any Other Specify	49	32.67
Total=	150	100
Q-7. Are you currently working?		
Yes	0	0
No	150	100
Total=	150	100
Q-8. Source of Financial Assistance		
Pension	26	17.33
Self (employment)	20	13.33
Family	87	58
Others specify	17	11.33
Total=	150	100

### Section II: Data on baseline Anxiety level was planned to analyze in terms of mean, mean percentage and standard deviation

**Table 2. Descriptive statistics of Baseline Anxiety in the Study Groups**

Group	Mean	SD	SE Mean
Experimental 1 group	14.620	2.539	0.359
Experimental 2 group	11.940	4.740	0.670
Control group	13.620	3.050	0.431

### Section III: Data on Anxiety level after intervention was planned to analyze in terms of mean, mean percentage and standard deviation

**Table 3. Descriptive statistics of Anxiety after intervention in the Study Groups**

Group	Mean	SD	SE Mean
Experimental 1 group	5.160	3.401	0.481
Experimental 2 group	4.220	2.566	0.363
Control group	13.800	2.740	0.388

It shows that after the intervention in control group the mean average of anxiety is 13.800 where as 5.160 in experimental 1 group and 4.220 in experimental 2 group. The standard deviation for the control, experimental 1 and experimental 2 groups are 0.388, 0.481 and 0.363 respectively.

#### Section IV: Data on comparing the difference in anxiety between experimental 1, Experimental 2 and control group was planned to analyze in terms of mean, mean percentage and standard deviation.

As the mean anxiety of groups is not same we consider difference in anxieties of control and experimental groups. Now,

- $\mu_1$ : Mean of difference in pre anxiety score and post anxiety score of control group.
- $\mu_2$ : Mean of difference in pre anxiety score and post anxiety score of experimental 1 group.
- $\mu_3$ : Mean of difference in pre anxiety score and post anxiety score of experimental 2 group.

**Table 4. Comparison of Anxiety in the Study Groups after intervention**

H0	H1	T-value	P-value	df	Conclusion
$\mu_1 = \mu_2$	$\mu_1 > \mu_2$	2.35	0.011	98	Reject H0 at 5% level of significance
$\mu_1 = \mu_3$	$\mu_1 > \mu_3$	-11.3	0.000	98	
$\mu_2 = \mu_3$	$\mu_2 > \mu_3$	-20.46	0.000	98	

#### Section V: Data related to associating the relationship between selected background variables in experimental and control group was planned to analyze by using Chi-square test.

#### Binary Logistic Regression: Pre score versus Q-1, Q-2, Q-3, Q-4, Q-5, Q-6, Q-8

Link Function: Logit

Response Information

Variable	Value	Count
Pre scor	2	75 (Event)
	1	10
Total		85

Logistic Regression Table

					Odds	95% CI	
Predictor	Coef	SE Coef	Z	P	Ratio	Lower	Upper
Constant	0.779	3.007	0.26	0.796			
Q-1	0.5110	0.3745	1.36	0.172	1.67	0.80	3.47
Q-2	-1.9588	0.9637	-2.03	0.042	0.14	0.02	0.93
Q-3	-0.5839	0.4263	-1.37	0.171	0.56	0.24	1.29
Q-4	1.1246	0.6958	1.62	0.106	3.08	0.79	12.04
Q-5	-0.0304	0.7819	-0.04	0.969	0.97	0.21	4.49
Q-6	-0.2872	0.3650	-0.79	0.431	0.75	0.37	1.53
Q-8	1.1465	0.5004	2.29	0.022	3.15	1.18	8.39

Log-Likelihood = -23.422

Test that all slopes are zero:  $G = 14.733$ ,  $DF = 7$ , **P-Value = 0.040**

## DISCUSSION

The present study tries to explore the effect of Progressive Muscle Relaxation Vs Music Therapy on Anxiety among Elderly residing at selected Geriatric Homes. Results conclude that PMR group and Music group are having significant difference after the intervention (test). And for control group there is no significant difference after the intervention. The p-values are less than 0.05, we reject H0 (Null hypothesis) at 5% level of significance and accept H1 (Alternative hypothesis). From this test, we conclude that PMR group is most effective than music as well as control group. And Music group is more effective than control group. As p-value for Gender and Source of Financial Assistance are less than 0.05, we reject H0 at 5% level of significance. We can say that Gender and Source of Financial Assistance are the associating relationship between background variables for each group treatment (test) for anxiety. The statistic G or the log-likelihood ratio test which is a chi-square test, as p-value for log likelihood test is 0.04 which is significant; indicating that there is sufficient evidence the coefficient (coef) for all the group (test) is different from zero. Similar results was found by Davy Vancampfort, Marc De Hert, Jan Knapen *et al.* they found that only within progressive muscle relaxation, participants ( $n=27$ ) showed decreased state anxiety, psychological stress and fatigue and increased subjective well-being. Between-group differences in post scores were found for state anxiety, subjective well-being and psychological stress, but not for fatigue. The effect size favouring progressive muscle relaxation was 1.26 for subjective well-being and -1.25 and -1.02 for respectively state anxiety and psychological stress (Davy Vancampfort *et al.*, 2011). Kim KB, Lee MH, Sok SR suggested that patients undergoing hemodialysis who received music therapy would have less anxiety than patients undergoing hemodialysis who did not receive music therapy was supported ( $F=8.05$ ,  $p=.008$ ). The results of this study suggest that music therapy may be applied as a method of nursing intervention contributing to the improvement of quality of life by reducing their anxiety and depression of patients undergoing hemodialysis (Kim *et al.*, 2006). Sheetal Barde suggested in her study that in the pre intervention stage, the anxiety level in elderly orthopaedic patients in experimental and control groups revealed that anxiety tended to differ from the mean by  $\pm 5.16$  in control group and  $\pm 8.15$  in experimental group, whereas in post intervention stage, there was a significant mean anxiety reduction that tended to differ from the mean by  $\pm 4.938$  in control group and  $\pm 4.426$  in experimental group. In pre intervention, maximum anxiety in control group was 74 and in experimental group it was 85, whereas in post intervention, in control group the mean average of anxiety was 65.2 and 46.7 in experimental group. Findings indicated that the Jacobson Progressive muscle relaxation technique was effective for anxiety reduction among elderly orthopaedic patients (Barde, 2013).

## Conclusion

Anxiety is an unpleasant emotional state, which mainly has two components, the physiological component and the psychological component. Elderly is a crucial period where they can be more vulnerable to develop physical and

psychological trauma. They are said to be suffering from chronic diseases due to physical, psychological and emotional problems and how the nervous system inter communicate anxiety has been shown to alter susceptibility to various mental disorders. Therapeutic use of relaxation and Music Therapy responds positively in anxiety related disorders.

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