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Effectiveness of progressive muscle relaxation technique on level of anxiety among institutionalized elderly

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Abstract
Background: Anxiety disorders are blanket terms covering several different forms of abnormal and pathological fear and anxiety which only came under the aegis of psychiatry at the very end of the 19th century. The author emphasizes that a certain level of anxiety can cause many disease. It is good that one learns how to control anxiety or at least reduce it by a progressive muscle relaxation technique
Objectives: To determine the effectiveness of Progressive Muscle Relaxation Technique on anxiety among institutionalized elderly residing at selected old age homes.
Materials and methods: Evaluative research approach was used. A quasi-experimental design was used for the study on 50 samples among institutionalized elderly residing at selected old age homes. The data was collected by using Standard Geriatric Assessment Scale and structured socio demographic questionnaire. Frequency, distribution analysis was performed.
Result: Out of 50 subjects 34 (68%) elderly have severe anxiety, 1 (2%) has moderate anxiety, 7 (14%) has mild anxiety and 8 (16%) has minimum anxiety among institutionalized elderly and in pretest mean 3.2 ± 1.2 which is extremely significant with P Value < 0.0001
Conclusion: Finding of study imply that institutionalized elderly are having severe anxiety. Non-pharmacological anxiety should be emphasized in nursing curriculum to provide complementary therapies to the elderly.

Keywords: Assess, anxiety, institutionalized elderly, old age home

Introduction

Anxiety is a common illness among older adults, affecting as many as 10-20 percent of the older population, though it is often undiagnosed. Phobia-when an individual is fearful of certain things, places or events-is the most typical type of anxiety. Among adults, anxiety is the most common mental health problem for women and the second most common for men, after substance abuse. Both patients and physicians may miss a diagnosis of anxiety because of other medical conditions and prescription drug use, or particular situations that the patient is coping with. Untreated anxiety can lead to cognitive impairment, disability, poor physical health, and a poor quality of life. Fortunately, anxiety is treatable with prescription drugs and therapy [1].

The population of India is 1.039 billion. Nearly 81 million constitute the elderly. According to WHO (2010) 524 million people were aged 65 years in the world's population. In India, most of the elderly people suffer from any one form of mental illness like depression and dementia. Magnitudes of health problems are high among old age patients. These health problems are caused by long-term stress in elderly, either directly or as a psychological reaction to the illness. By 2030, there will be about 72.1 million older persons, more than twice their number in 2000. People 65+ represented 12.4% of the population in the year 2000, but are expected to grow to be 19% of the population by 2030 [2].

Anxiety is a general term for several disorders that cause nervousness, fear, apprehension and worrying. These disorders affect how we feel and behave, and they can manifest real physical symptoms. Mild anxiety is vague and unsettling, while severe anxiety can be extremely debilitating, having a serious impact on daily life. Anxiety disorder is divided into generalized anxiety, phobic, and panic disorders, each has its own characteristics and symptoms and they require different treatment. The emotions present in anxiety disorders range from simple nervousness to bouts of terror [3].

Progressive muscle relaxation is a systematic technique for achieving a deep state of relaxation, developed by Dr. Edmund Jacobson more than fifty years ago. Research studies on Progressive muscle relaxation reveals that it is helpful for older people with anxiety disorders [4].

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Rob conducted a study on the progressive muscle relaxation technique with audio assistance in the elderly individuals. The measurement by State Trait Anxiety Inventory scale showed that each treatment condition to be equally effective in producing significant changes in anxiety level of the client. The author emphasizes that a certain level of anxiety can cause many disease. It is good that one learns how to control anxiety or at least reduce it by a progressive muscle relaxation technique [5].

There are currently 580 million people in the world who are aged 60 years or older. This figure is expected to rise to 1,000 million by 2020- a 75% increase compared with 50% of the population on the whole. Most of the older people over 60% of them live in developing countries. By 2020 there will be 1,000 million populations with over 700 million in the developing world [6].

So this study was undertaken to assess the effectiveness of P.M.R.T on level of anxiety among the elderly residing in old age home and its association with socio-demographic variables.

Materials and methods

Research Approach	:	Evaluatory Approach
Research Design	:	Quasi-Experimental
Setting of the study	:	Selected Old age Home
Study Subjects	:	Institutionalized elderly
Sample Size	:	50
Sampling Technique	:	Non-probability purposive sampling technique
Data collection tool	:	Structured questionnaire
Section A	:	Socio-demographic variables
Section B	:	Standard questionnaire on level of anxiety

Ethical Clearance: The study approved by ethical committee before initiation of study formal permission taken from selected institution Old-age home. Written informed consent was obtained from respondents. Confidentiality of subjects was maintained.

Method of data collection

After formal permission the tool was administered to study subjects in selected old age home, a time schedule was planned for collecting the data in-order to obtain response each participant was assured about the confidentiality of their response. The average time taken for each data collection was 30 minutes. The study was followed by one group pre-test design. In pre-test the Geriatric Anxiety Scale was administered to assess the level of anxiety of old-age subjects. The total number of items were 10. Each item ranges from (0-3), 0 score indicates not at all, 1 score indicates sometimes, score 2 indicates most of the time and score 3 indicates all of the time. Data collected was tabulated and analyzed by using descriptive and inferential statistics. Tabulation of data in-terms of frequency, percentage, mean, standard deviation and range was used to summarize the study.

Major findings of the study

According to socio-demographic variables majority of the samples 18 (36%) belongs to age group of 55-65 years, in-terms of gender 32 (64%) subjects were female. Educational status of the subjects 14 (28%) are from secondary education. Majority of the marital status of the subjects 21 (42%) are widow whereas monthly income up-to rupees 3000 and less also those with no pension are 16 (32%) subjects.

Table 1: Frequency and percentage distribution according to level of anxiety.

Area of analysis	Level of anxiety	No. of subjects	%	Area of analysis	Level of anxiety	No. of subjects
Pre-test	Minimum	08	16%	**Post-Test**	19	38%
	Mild	07	14%	Mild	13	26%
	Moderate	01	2%	Moderate	14	28%
	Severe	34	68%	Severe	04	8%
Total		50	100%	Total		

Table 2 - Depicts that majority of subjects 34 (68%) having severe anxiety in pre-test score before progressive muscle relaxation technique whereas in post-test 19 (38%) subjects are having minimal anxiety after progressive muscle relaxation technique.
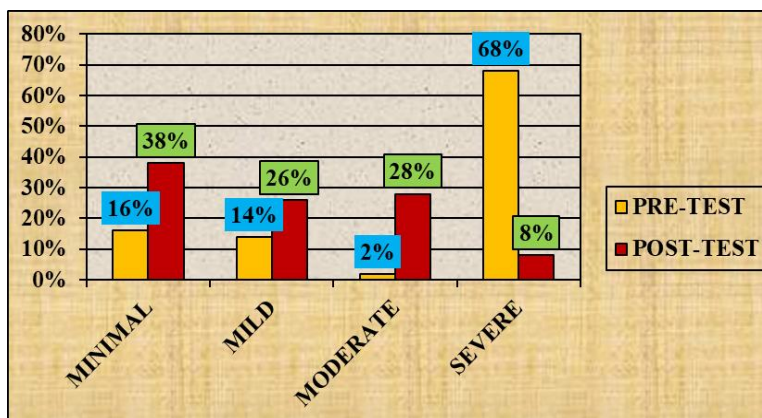
Table 2: Distribution of subjects according to mean, SD, P value and range of pre-test and post-test level of anxiety regarding effectiveness of P.M.R.T. among institutionalized elderly.

N=50

Area of analysis	Mean	S.D	P Value	H-L
Part A (Pre-test level of anxiety regarding effectiveness of P.M.R.T. among institutionalized elderly**.**)	3.2	1.229	<0.0001	3
Part A (Post-test level of anxiety regarding effectiveness of P.M.R.T. among institutionalized elderly.)	2	0.986	<0.0001	3

Table 3: Testing of hypothesis for Pre & Post-test level of anxiety of evaluation of effectiveness of P.M.R.T. among institutionalized elderly.

N=50

Pre intervention $\bar{X} \pm S.D$	Post intervention	Mean difference	P Value
3 ± 1	2 ± 1	1	< 0.0001

There is association between age, gender, education, marital status and pension of the socio-demographic variables of subjects and post level of depression is at $p < 0.05$ level of significance. Hence H₃ is accepted.

Major finding of the study
Out of 50 respondents, Majority of the subjects 18 (36%) were in the age group of 55-65. With respect to gender 18 {36%) of the elderly were males compared to females 32 {64%). About 14 (28%) of elderly were having Secondary school education. Regarding marital status, 21 (42%) elderly were widow and 15 (30%) were married. Majority 16 (32%) elderly were having pension less than rupees 3000 also 16 (32 %) were no pension.

A study conducted by Sheetal Barde (2013) [7]**:** Results shows in pre-intervention the mean average, 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. Finding indicated that the Jacobson Progressive muscle relaxation technique was effective for anxiety reduction among elderly orthopedic patients.
- There was significant association between pension ('χ²'6.936) regarding pre-level of anxiety.
- There was no significant association between age ('χ²'0.0656), gender ('χ²'1.364), education status ('χ²'0.016), marital status('χ²'0.8823) regarding pre-level of anxiety.

Discussion
Ageing is a phase of life and a biological process which cannot be postponed indefinitely. The people who lived past sixty years of age are commonly known as aged or elderly. They are also considered as persons in the "third age". Old age is the closing period of lifespan (Harlock). Each grey hair can be considered as the reservoir of knowledge and experience.
In this century, relaxation training (RT) is a skill that has been repeatedly validated by nursing, medical and psychology researchers as a complementary intervention that is effective for a wide range of clinical situations. Relaxation can be employed by nurses and patients to offset the negative effects of stress, illness, and surgery while promoting healing. Relaxation techniques such as deep breathing, visualization, progressive muscle relaxation, meditation, and yoga helps relaxation response.
A study was conducted on feelings of anxiety among community living older persons. 540 community living people aged 70 years or older were selected to collect data by means of self-administered questionnaire. The results show that 51.6% of the elderly people have the feelings of anxiety. The study concluded that feelings of anxiety are more common in elderly peoples [8].

Table 2: Effectiveness of progressive muscle relaxation technique on level of anxiety.

It shows that in pre-test 34 (68%) subjects were having severe anxiety level and it reduced in post-test 19 (38%) after progressive muscle relaxation technique.

A study by by Lisa Sam (2014) [8]**:** the mean level of anxiety during pre-test was 89.8 and during post-test it was reduced to 69.5. The present study supported by these research findings. The anxiety level was reduced from moderate to a mild level. Progressive muscle relaxation technique was effective in reduction of anxiety level from severe to moderate, moderate to mild and mild to minimal.

A study by Lolak *et al*. on effects of progressive muscle relaxation training in anxiety on old age persons.83 subjects (>55years) were selected and assigned to experimental and control group. The experimental group received intervention for 8 weeks. The levels of anxiety were measured by means of Beck anxiety inventory. The results indicate that there is significant reduction in anxiety level ($p<0.0001$). The study concluded that progressive muscle relaxation is effective in reducing anxiety [9].

Association between pre-level Anxiety and selected demographic variables. Calculated value of chi-square shows that there was significant association between pension ($p<0.008$) level of significance regarding pre-level of anxiety at $p<0.05$ level of significance Hence H₃ is accepted.

Association between post-level Anxiety and selected demographic variables.
Calculated value of chi-square shows that there was significant association between gender ($p <0.021$) and education {p <0.015) level of significance regarding post-level of anxiety at $p<0.05$ level of significance Hence H₃ is accepted.

Conclusion
Based on the findings the study concluded that mean anxiety of the subjects before progressive muscle relaxation therapy and the same after progressive muscle relaxation therapy was statistically highly significant. This study identified that Progressive muscle relaxation technique needs to be implemented as a part of other therapies and to be practiced by the nurse in day to day activities.

Limitation: The study was limited to 50 subjects only.

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