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EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION TECHNIQUE ON ANXIETY AND DEPRESSION AMONG INSTITUTIONALIZED ELDERLY RESIDING AT SELECTED OLD AGE HOMES

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ABSTRACT

Background : One of the measures to lower the level of anxiety and depression among institutionalized elderly. An effective way to prevent mental disorders and promote and restore mental health respectively through non-pharmacological management.

Aim: To determine the effectiveness of ProgressiveMuscle Relaxation Technique (P.M.R.T) on level of anxiety and depression.

Methodology: Study was conducted in old age home among 50 samples with informed consent. Standard questionnaire geriatric anxiety scale and geriatric depression scale was given as pre-test data collection procedure. Progressive muscle relaxation technique was administered as intervention for 10 days successively two sessions' morning and evening each day then post test data collection was done on 11th day.

Results : 1)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 which was effective in reduction of anxiety level from severe to moderate, moderate to mild and mild to minimal. Pretest Mean±S.D.(3 ±1) Posttest Mean±S.D.(2 ±1).**2) Effectiveness of progressive muscle relaxation technique on level of depression :** It shows that 23 (46 %) indicative depression in pre-test score and after post-test 40 (80 %) subjects were having normal level of depression after progressive muscle relaxation technique and in post-test only 10 (20 %) subjects still need comprehensive follow up assessment due to suggestive level of depression after progressive muscle relaxation technique which was effective in reduction of depression level from indicative to suggestive, suggestive to normal. Pretest Mean±S.D.(2 ±1) Posttest Mean±S.D.(1 ±1).

Conclusion : Progressive Muscle Relaxation Technique (P.M.R.T) is an effective non-pharmacological intervention in reducing Anxiety and Depression in institutionalized elderly. There was significant association between gender (p <0.021) and education (p<0.015) regarding post-level of anxiety at p<0.05 level of significance. There was significant association between age (p<0.005) gender (p <0.0001) education (p <0.048) marital status (p <0.001) and pension (p <0.0002) regarding post-level of depression at p<0.05 level of significance.

KEYWORDS : Effectiveness , Progressive Muscle Relaxation Technique , Anxiety , Depression, Institutionalized Elderly, Old Age Homes.

INTRODUCTION

" Youth is like a fresh flower in May, Age is like a rainbow that follows the storms of life Each has its own beauty."

- DAVID POLIS

Aging is an integral, natural part of life and it is a normal process of time related change, begins with birth and continues throughout life. Aging, which is an reality of the human existence on the planet earth, plays a crucial role in the global demographic transition. The life expectancy of the human being is increased in both developed and developing countries due to advancement and improvement of latest technology in medical field.

Old age is a phase of life cycle characterized by its own developmental issues, many of which are concerned with loss of physical agility and mental acuity, friends and loved ones and status and power. At the same time old age is associated with accumulation of wisdom and the opportunity to pass that on to future generations.

Successful aging is reflected in the ability of older people to adapt to physical, social and emotional losses and to achieve contentment, security and life satisfaction. Changes in life patterns are inevitable over a life time, older people need resiliency and coping skills when confronting stresses and change.

Failure to adaptations of the aging which can lead to frustration, loneliness, bitterness, hopelessness, helplessness and insecurity which makes older people prone for later life depression.

Demographic ageing is a global phenomenon. By 2025, the world's population is expected to include more than 830 million people at an age of 65. India is still poised to become home to the second largest number of older persons in the world. Recent statistics related to elderly people in India,(according to census 2001), showed that the population of India is 1.029 billion. Nearly 77 million constitute the elderly population, among them 75% of elderly persons live in rural areas and 25% live in urban areas. The records show that 38millions are males and 39 millions are female population.[1]

PROBLEM OF THE STATEMENT:

"EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION TECHNIQUE ON ANXIETY AND DEPRESSION AMONGINSTITUTIONALIZED ELDERLY RESIDING AT SELECTED OLD AGE HOMES."

RESEARCH OBJECTIVES:

1. To assess the level of anxiety and depression before administering Progressive Muscle Relaxation Technique among institutionalized elderly residing at selected old age homes.

2. To determine the effectiveness of Progressive Muscle Relaxation Technique on anxiety and depression among institutionalized elderly residing at selected old age homes.

3. To find out the association between the level of anxiety and depression among institutionalized elderly residing at selected old age homes with selected demographic variables.

RESEARCH HYPOTHESIS:

H_0 : There will be no significant difference in the level of anxiety and depression after administering progressive muscle relaxation technique among institutionalized elderly residing at selected old age homes.

H_1: There will be significant difference in the level of anxiety and depression after administering progressive muscle relaxation technique among institutionalized elderly residing at selected old age homes.

H_2: There will be no significant association between the levels of anxiety and depression after administering progressive muscle relaxation technique with their selected demographic variables among institutionalized elderly residing at selected old age homes.

H_3: There will be significant association between the levels of anxiety and depression after administering progressive muscle relaxation technique with their selected demographic variables among institutionalized elderly residing at selected old age homes.

Research Settings:
Setting refers to the area where the study is conducted. The setting for the present study was conducted in old age home Kolhapur.

Population:
In present study the population consists of institutionalized elderly residing at old age homes.

Sample:
For the present study the samples were institutionalized elderly residing at old age homes.

Sample Size, Sample Technique:
The sample size decided for the study was 50.

The sample technique used for the study was Non-Probability Purposive Sampling technique.

Development of tool:
The tool consisted of standardized questionnaire .The standardized questionnaire was utilized by the investigator with permission as tool were used for public domain for identifying the anxiety and depression level of subjects.

It consists of 25 items i.e. Geriatric Anxiety Scale GAS – (10 items) & Geriatric Depression Scale GDS - (15 items).

The tool was organized into following two main sections as:
Section A : Socio-demographic variables (regarding age, gender, education, marital status and pension).

Section B : GAS – (10 items) & GDS -(15 items)

• **Data collection procedure :**
Step 1 : Formal permission will be obtained from ethical committee.

Step 2 : Formal permission will be obtained from Dean, Krishna Institute of Nursing Sciences, Karad, Dist : Satara.

Step 3 : Formal permission will be obtained from Dean, Dept. of Physiotherapy, KIMSDU, Karad, Dist :Satara for Progressive Muscle Relaxation Technique (P.M.R.T.) training with certificate.

Step 4 : Formal permission will be obtained from selected old age homes by lottery method.

Step 5 : Screening of subjects from selected old age homes with informed consent.

Step 6 : Self- introduction of the investigator.

Step 7 : Administer pre-test by standard questionnaire to assess the level of anxiety and depression among institutionalized elderly at selected old age home.

Step 8 : Intervention of progressive muscle relaxation technique(P.M.R.T.) from the pre-test day one day-30-45 min one session in the morning and one session in the evening for 10 days successively.

Step 9 : Administer post-test by standard questionnaire to assess level of anxiety and depression on 11th day without intervention.

Step 10 : Data collected was tabulated and analyzed.

Plan for data analysis:
The data obtained was analyzed in terms of the objectives of the study using descriptive and inferential statistics.

The plan of data analyses was as
a) Tabulation of data in terms of frequency, percentage, mean, SD & range.
b) Classifying level of anxiety and depression score by using **Wilcoxon Sign Rank test.**

Statistical Treatment Applied:
Descriptive and inferential statistics was used to describe the data.
• Frequency and percentage were used to summarized the data.
• Mean, standard deviation was used to describe the level of anxiety and depression score.
• Inferential statistics were used to draw the following conclusions.

1) **Wilcoxon Sign Rank Test** used for testing Progressive Muscle Relaxation Technique effect & research hypotheses.

2) **Chi-square test** to find the association between level of anxiety and depression with demographic variables for testing the research hypotheses.

Table No. 1 Distribution of subjects according to socio-demographic variables.

• **N=50**

S.No	Socio-Demographic Variables	Frequency (F)	Percentage %
1	**Age in years :**	18	36
	a) 55-65	15	30
	b) 66-75	16	32
	c) 76-85	01	2
	d) 86 & above		
2	**Gender :**	18	36
	a) Male	32	64
	b) Female		
3	**Education :**	10	20
	a) No formal education	12	24
	b) Primary	14	28

	d) Higher secondary	06	12
	e) Graduate	06	12
	f) Post Graduate & above	02	4
4	**Marital status :**	13	26
	a) Unmarried	15	30
	b) Married	21	42
	c) Widow	01	2
	d) Divorced		
5	**Pension :**	16	32
	a) Rs. 3000 and Less	08	16
	b) Rs. 3001-6000	04	08
	c) Rs. 6001-9000	06	12
	d) Rs. 9001 & above	16	32
	e) None		

- The data presented in **Table -1** Indicates that majority of the samples 18 (36 %) belong 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 subjects 21 (42%) are widow whereas monthly income upto Rs.3000/- and less also those with no pension are 16 (32%) subjects.

Fig : 1. Graph showing Percentage Distribution of subjects according to age in years.
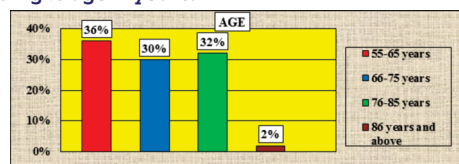

Fig : 2. Graph showing Percentage Distribution of subjects according to gender.
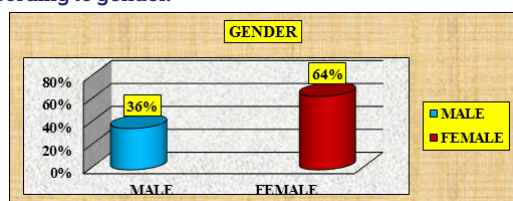

Fig : 3. Graph showing percentage distribution of subjects according to education.
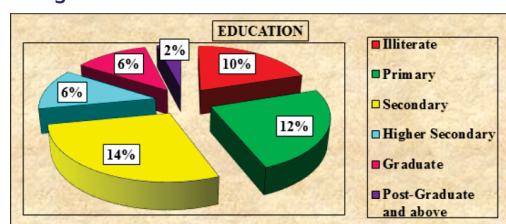

Fig : 4. Graph showing Percentage Distribution of subjects according to Marital Status.
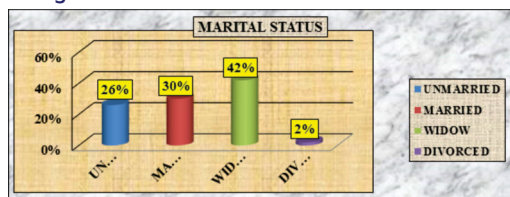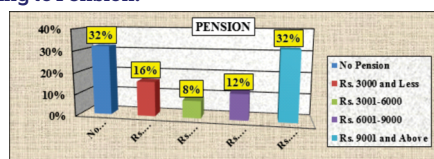

Fig : 5. Graph showing Percentage Distribution of subjects according to Pension.

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

N=50

AREA OF ANALYSIS	LEVEL OF ANXIETY	NO. OF SUBJECTS	%	AREA OF ANALYSIS	NO. OF SUBJECTS	%
PRE-TEST	MINIMUM	08	16%	POST-TEST	19	38%
	MILD	07	14%		13	26%
	MODERATE	01	2%		14	28%
	SEVERE	34	68%		04	8%
TOTAL		50	100%	TOTAL	50	100%

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.

Fig : 6 : Graph showing distribution of subjects according to level of anxiety in pre-test and post-test scores before and after intervention.
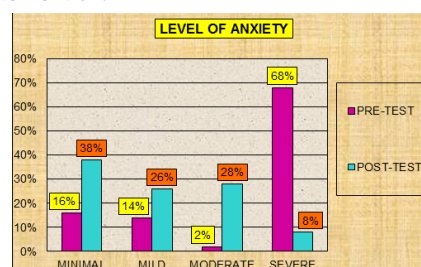

TABLE 3 : Effectiveness of progressive muscle relaxation technique on level of Depression.

N=50

AREA OF ANALYSIS	LEVEL OF DEPRESSION	NO. OF SUBJECTS	%	AREA OF ANALYSIS	NO. OF SUBJECTS	%
PRE-TEST	NORMAL	13	26%	POST-TEST	40	80%
	SUGGESTIVE	14	28%		10	20%
	INDICATIVE	23	46%		00	00
TOTAL		50	100%	TOTAL	50	100%

Table 3- Depicts that majority of subjects 23 (46%) having indicative depression and 14(28%) having suggestive depression needs follow up comprehensive assessment , 13(26%) subjects are having normal depression in pre-test score before progressive muscle relaxation technique whereas in post-test 40 (80%) subjects have normal depression and 10(20%) subjects are suggestive depression after progressive muscle relaxation technique and need comprehensive follow up assessment.

Fig : 7 : Graph showing distribution of subjects according to level of depression in pre-test and post-test scores before and after intervention.
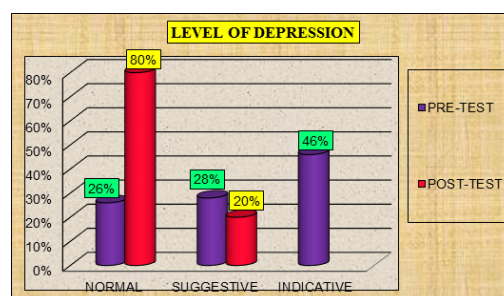
Table : 4 : Distribution of subjects according to mean, SD, P value and range of pre-test and post-test level of anxiety regarding effectiveness of P.M.R.T. among institutionalized elderly.

N=50

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

Above table depicts that the level of anxiety regarding effectiveness of P.M.R.T. among institutionalized elderly Pre-test mean (3.2) whereas in Post-test mean (2).

Table : 5 : Distribution of subjects according to mean, SD, P value and range of pre-test and post-test level of depression regarding effectiveness of P.M.R.T. among institutionalized elderly.

N=50

Area of analysis	Mean	S.D	P Value
Part B (Pre-testlevel of depression regarding effectiveness of P.M.R.T. among institutionalized elderly).	2	0.825	<0.0001
Part B (Post-testlevel of depression regarding effectiveness of P.M.R.T. among institutionalized elderly).	1	0.418	<0.0001

Above table depicts that the level of depression regarding effectiveness of P.M.R.T. among institutionalized elderly Pre-test mean (2) whereas in Post-test mean (1).

TABLE : 6 :Testing of hypothesis for Pre & Post-test level of anxiety of evaluation ofeffectiveness of P.M.R.T. among institutionalized elderly.

N=50

PRE INTERVENTION X – ± S.D	POST INTERVENTION	MEAN DIFFERENCE	P VALUE
3 ± 1	2 ± 1	1	< 0.0001

TABLE : 6 Depicts that the decrease in level of anxiety is statistically significant at p < 0.0001 levels. Therefore, the evaluation of effectiveness of P.M.R.T. among institutionalized elderly on level of anxiety decreased effectively. Hence, H_1 is accepted.

TABLE : 7 :Testing of hypothesis for Pre & Post-test level of depression of evaluation ofeffectiveness of P.M.R.T. among institutionalized elderly.

N=50

PRE INTERVENTION X – ± S.D	POST INTERVENTION	MEAN DIFFERENCE	P VALUE
2 ± 1	1 ± 1	1	< 0.0001

The data presented in Table indicates that the decrease in level of anxiety is statistically significant at p < 0.0001 levels. Therefore, the evaluation of effectiveness of P.M.R.T. among institutionalized elderly on level of anxiety decreased effectively. Hence, H_1 is accepted.

DISCUSSION :

A study conducted by Lisa Sam (2014) 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. The study reveals that anxiety among elderly was reduced due to progressive muscle relaxation technique which was evidenced by the pre and post test scores of current study. During the pretest period, the elderly persons most of them had moderate anxiety, but following progressive muscle relaxation technique administration, the post test scores showed that most of them had mild anxiety, so intervention was effective in reducing anxiety.[45]

Major findings of the study are summarized as follows:
Regarding the age of the elderly, 18 (36 %) were in the age group of 55- 65, 15 (30 %) were in the age group of 66-75, and 16 (32 %) were in the age group of 76-85 whereas 1 (2%) in the age group of 86 & above.

With respect to gender, 18 (36 %) of the elderly were males compared to females are 32 (64%).

About 14 (28%) of elderly were having Secondary school education.

Regarding marital status, 21(42 %) elderly were widow , 15 (30%) were married, 13(26 %) were unmarried and 1 (2 %) divorced .

Majority, 16 (32 %) elderly were having pension less than rupees 3000 also 16 (32 %) were no pension.

- There was significant association between pension ('$\chi^2$6.936) regarding pre-level of anxiety.
- There was no significant association between age ('$\chi^2$0.0656), gender ('$\chi^2$1.364), education status ('$\chi^2$0.016), marital status ('$\chi^2$0.8823) regarding pre-level of anxiety.
- There was significant association between education ('$\chi^2$4..922) and pension ('$\chi^2$9.129) regarding pre-level of depression.
- There was no significant association between age ('$\chi^2$0.102) , gender ('$\chi^2$3.273) , marital status ('$\chi^2$2.144) regarding pre-level of depression.

CONCLUSION :
Based on the findings of the study, the following conclusions were drawn.

- The 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.
- Findings of the study will act as a catalyst to carry out more extensive research in a large sample and in other settings, and such research work enforces evidence-based practice.
- The study recommends that progressive muscle relaxation technique should be given for more than ten days, and study should be conducted on a large sample.
- Non-pharmacological anxiety management should be emphasized in nursing curriculum. Training programs to nurses can be given on complementary therapies.

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