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Effectiveness of Progressive Muscle Relaxation and Activity Schedule on Depression and Activities of Daily Living Among Elderly Patients

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ABSTRACT
Most commonly the depressive syndrome is observed among the elderly. Depression is a syndrome and a disorder; it involves episodes of sadness, loss of interest, pessimism, negative beliefs about the self, decreased motivation, behavioural passivity, suicidal thoughts and impulses, changes in sleep, appetite and sexual interest. Depression is a mental illness, which currently accounts for nearly 30% of people between the age of 45 and 75years in India. The title of the study was to assess the effectiveness of progressive muscle relaxation and activity schedule on depression and activities of daily living among elderly patients. The research design adopted for this study was quasi-experimental pretest and posttest with control group design. The tool used for this study was Geriatric depression scale and ADL checklist. PMR and AS was given to the patients on an one-to-one basis to each participant to reduce muscle tension and motivated them to do their daily living activities independently. The study result showed that the mean value of depression in the study group decreased from 17.27 to 12.73 ($p < 0.001$ level) and the mean value of ADL in the study group increased from 2.87 to 4.33 ($p < 0.001$ level) and in the control group and there was no significant change in the mean score of depression and ADL. Also there was a significant difference in the posttest mean score of level of depression and ADL between the study and control group at $p < 0.001$ level. So, PMR and ADL was found to be more effective in reducing the level of depression and improving to do their daily living activities of elderly patients independently.
Keywords: *depression, progressive muscle relaxation, activities of daily living, independently.*

INTRODUCTION

Most commonly the depressive syndrome is observed among the elderly. Depression is a syndrome and a disorder. The elderly with depression exhibits physical cognitive behavioural and emotional changes in their day to day practice. As a disorder it manifests as unipolar or bipolar disorder. Depression is a problem, but it is not a normal part of aging. If occurs, not recognized early or treated. Major Depression (MD) is a second largest health problem worldwide and it is caused by illness, and disability in throughout the world. . Depression is a mental illness, classified as a mood disorder,

which currently accounts for nearly 30% of people between the age of 45 and 75years in India. The changes in the elderly may higher risk of depression, such as retirement, chronic illness, children migration and loss for loved ones. Progressive Muscle Relaxation (PMR) is structured to help the individual to cope effectively in the form of stress management and avoid related bio psychosocial problems. It is relax mind, body and enhance the overall wellbeing. Regular practice of PMR gives an intimate familiarity with tension as well as complete relaxation felt in different parts of the body. This awareness helps to spot and counteract the first signs of the muscular tension that accompanies stress and depression. When body relaxes mind also gets relaxed. We can combine deep breathing with PMR for an additional effect to reduce depression level, the expected changes are seen more quickly. Activities Scheduling (AS) are routine activities that people tend to do every day without needing assistance, the basic six activities are eating, bathing, dressing, toileting, transferring (walking), and continence. If a person can perform daily AS without assistance, then they are independent. Some measurement scales are shown to rank the severity of a person's disease, according to which the individual performance these AS can be planned.

METHODS AND APPROACH

A quasi-experimental adopted for the study, pre and posttest with control group design. Data collection procedure done to elderly patients with depression, who met the inclusion criteria were selected and a written consent was obtained from the participants. The purposive sampling technique was used in this study. The investigator collects the background variables, the level of depression by using GDS tool and AS used to assess their ADL during the pretest for the both groups. The reliability of the GDS which was 0.89 and interrated method was used on ADL checklist was 0.62. The elderly patients practiced the PMR technique of relaxation of arms, relaxation of facial area with neck shoulders and upperback, relaxation of chest, stomach and lower back, relaxation of hips thighs and calves followed by complete body relaxation for 20-30 min. AS was prepared and given to the elderly patients like brushing, walking, bathing, grooming, eating properly and washing clothes. After instruction of each item, the investigator encouraged the elderly patient to demonstrate and it should practice for 7 days.

CONCEPTUAL FRAMEWORK

The Callista Roy's Adaptation Model (1964) used as conceptual framework in the study. Roy views man as a bio psychosocial being. Human begins are in constant interaction with a changing environment. To cope with a changing world, man uses both innate and acquired mechanisms, which are biological, psychological and social in origin. To adapt, man must respond positively to environmental changes. The nurse can set the goal in the adoptation, implement interventions aimed at managing the stimuli and evaluate whether the adaptative goals have been met by manipulating the stimuli. The selected theory is based on the concepts, which describes nursing in four steps: inputs, throughput, outputs and feedback. 'Input' consists of demographic variables, depression and AS of the elderly patients, 'throughput' consists of practice of PMR and AS 'output' denotes the evaluation of change in the level of depression of the elderly, if there is no change in the level of depression then the feedback is to reassess the level of depression of the elderly patients by using demographic variables and GDS. The present study is aimed to identify the level of depression among the elderly patients to overcome their difficulties to reduce level of depression by practicing progressive muscle relaxation and activity schedule.

DATA ANALYSIS

Descriptive and inferential statistics were used Frequency, Percentage, Mean and Standard deviation to Describe the level of depression and

ADL among elderly patients in the study and the control group and Inferential statistics by Paired 't' test to Evaluate the effectiveness of PMR and AS on depression and ADL score among elderly patients with in the study and the control group, Independent 't' test to Compare the pretest and posttest of PMR and AS on depression and ADL score among elderly patients between the groups and with chi square to Associate the level of depression and ADL with selected background variables of elderly patients during pretest and posttest

ETHICAL CONSIDERATION

Obtained permission from IEC and HOD of medicine from SRU, The investigator introduced herself to the participants and explained about the procedure. The sample was selected through purposive sampling technique. The sample size was 60 who met the inclusion criteria. The written consent obtained from both the group.

RESULTS

Table 1 and 2 shows the frequency and percentage distribution of the level of depression in the pretest of the study group and the control groups, 29 (96.7%) elderly patients had mild depression and one (3.3%) had severe level of depression and in the posttest of the study group, two (6.7%) had normal depression, 28 (93.3) had mild depression, and in the control groups, one (3.3%) elderly patient had normal depression, 25 (83.3%) had mild depression and four (13.3%) had moderate level of depression. In ADL the pretest of the study group, 18 (60.0%) elderly patients were partially dependent and 12 (40.0%) were independent and 12 (40.0%) elderly patients were partially dependent and 18 (60.0%) were independent in the control group and in the posttest of the study group, 6 (20.0%) elderly patients were partially dependent and 24 (80.0%) were independent and 7 (23.3%) elderly patients were partially dependent and 23 (76.6%) were independent in the control group

Table 3 and 4 depicts the mean value of depression among the elderly patients in the study group was 17.27 with the *SD* of 1.202 in the pretest and the mean value was 12.73 with the *SD* of 1.639 in the posttest. There was a statistically significant reduction in the level of depression during pretest than the posttest through paired *t* test value of 11.488 at $p< 0.001$. In the study group the mean value of ADL among the elderly patients was 2.87 with the *SD* of 1.871 in the pretest while the mean value was 4.33 with the *SD* of 1.295 in the posttest. There was a statistically significant difference in the ADL between the pretest and posttest with a paired *t* test value of –4.523 at the level of $p<0.001$

Table 1 Frequency and percentage distribution of the level of depression among the elderly patients in the study and the control groups (N

Durationnof the study	Level of depression	Study group (n=30)		Control group (n=30)		χ2and *p* value
		No.	%	No.	%	
Pretest	Normal Mild Severe	0 29 01	0 96.7 03.3	0 29 01	0 96.7 03.3	 0.000*** 1.000
Posttest	Normal Mild Severe	02 28 0	06.7 93.3 0	01 25 4	03.3 83.3 13.3	 0.351 0.554

Table 2 Frequency and percentage distribution of ADL among the elderly patients in the study and the control groups (N=60)

Group	Duration of the study	Mean	*SD*	Paired *t* value	*p* value
Study group	Pretest	2.87	1.871	-4.523	0.000***
	Posttest	4.33	1.295		
Control group	Pretest	3.87	1.502	-1.570	0.127 (NS)
	Posttest	4.43	1.278		

Table 3 Comparison between depression among the elderly patients within the study and the control groups (N=6

Group	Duration of the study	Mean	*SD*	Paired *t* value	*p* value
Study group	Pretest	17.27	1.202	11.488	0.000***
	Posttest	12.73	1.639		
Control group	Pretest	17.23	1.194	-0.108	0.915 (NS)
	Posttest	17.27	1.202		

Table 4 Comparison between ADL among the elderly patients within the study group and the control group (N=60)

Duration of the study	Activities of daily living	Study group (N=30)		Control group (N=30)		χ2and *p* value
		No.	%	No.	%	
Pretest	Partially Dependent Independent	18 12	60.0 40.0	12 18	40.0 60.0	0.121 2.400
Posttest	Partially Dependent Independent	06 24	20.0 80.0	07 23	23.3 76.6	0.098 0.754

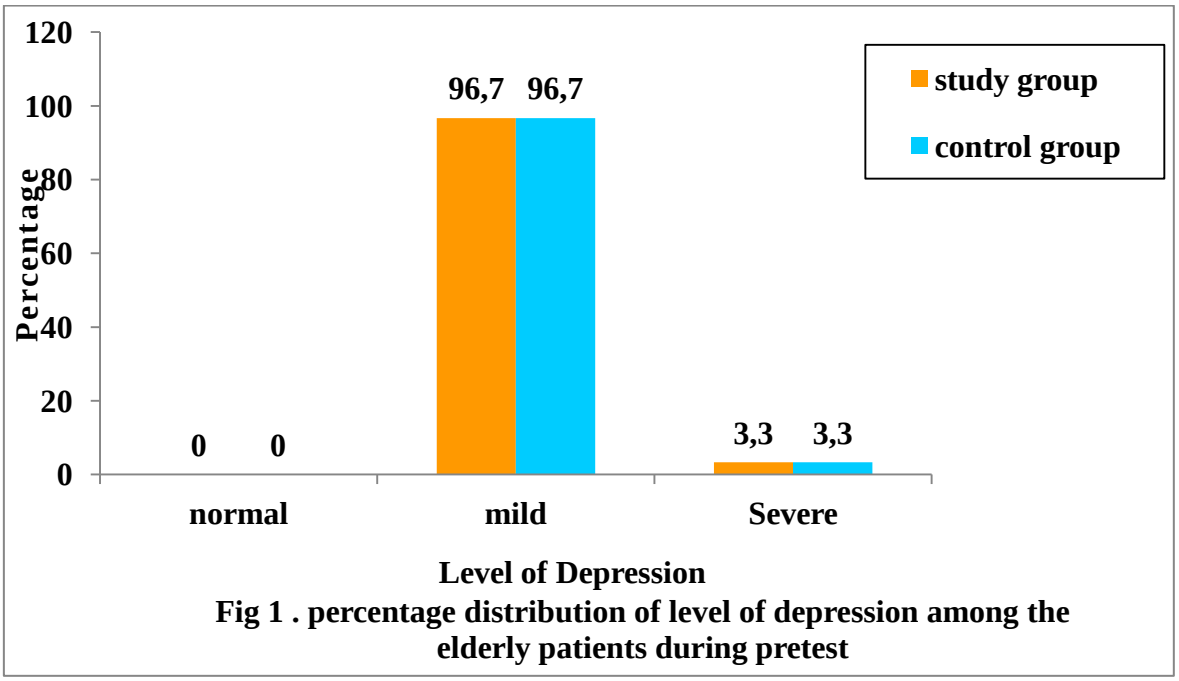

Fig 1 . percentage distribution of level of depression among the elderly patients during pretest

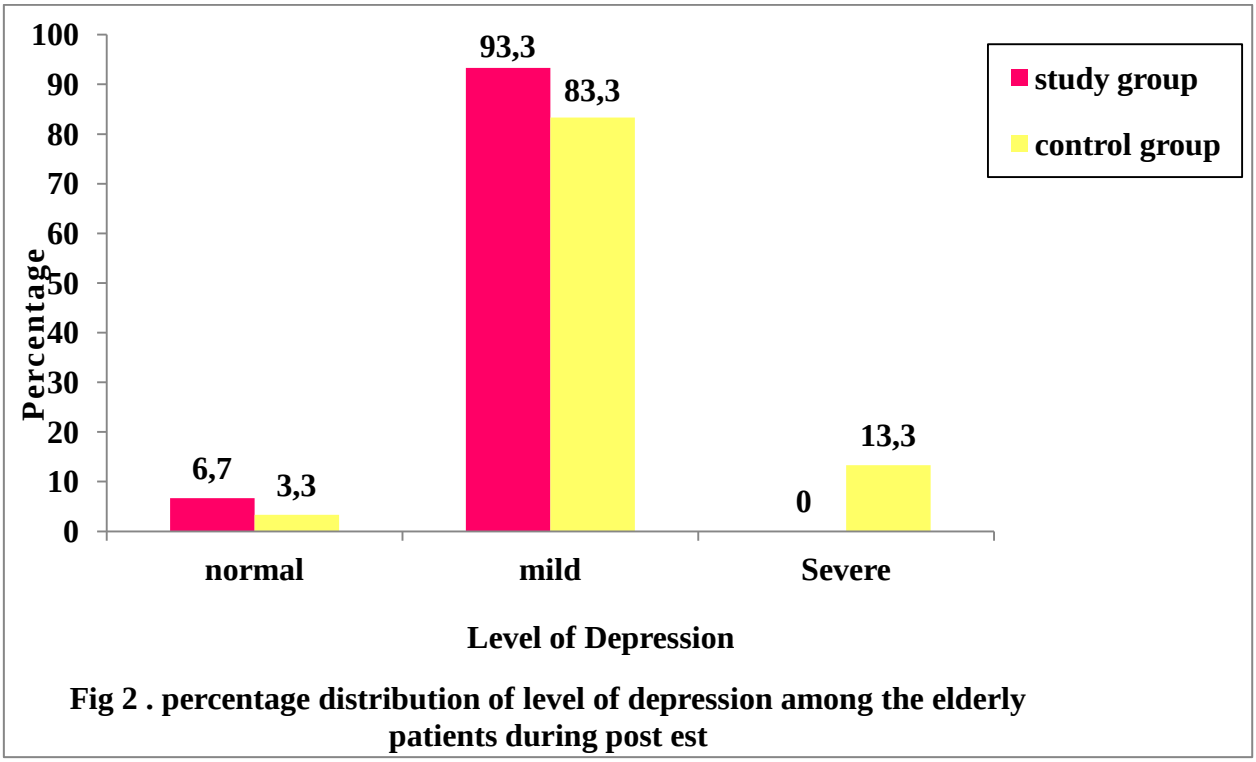

Fig 2 . percentage distribution of level of depression among the elderly patients during post est

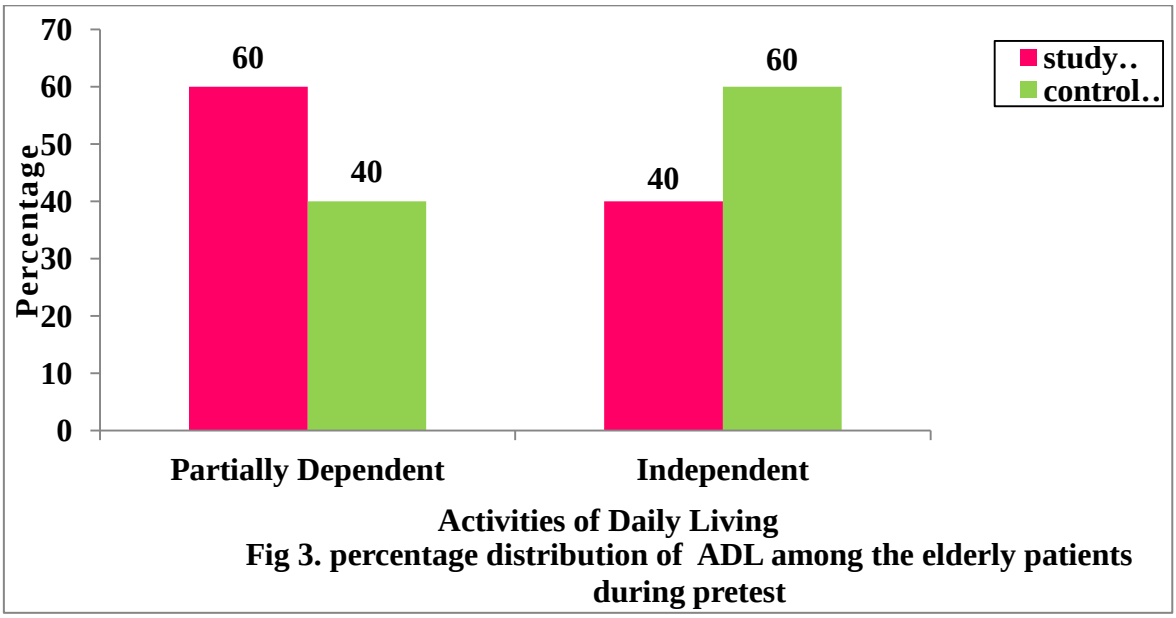

Fig 3. percentage distribution of ADL among the elderly patients during pretest

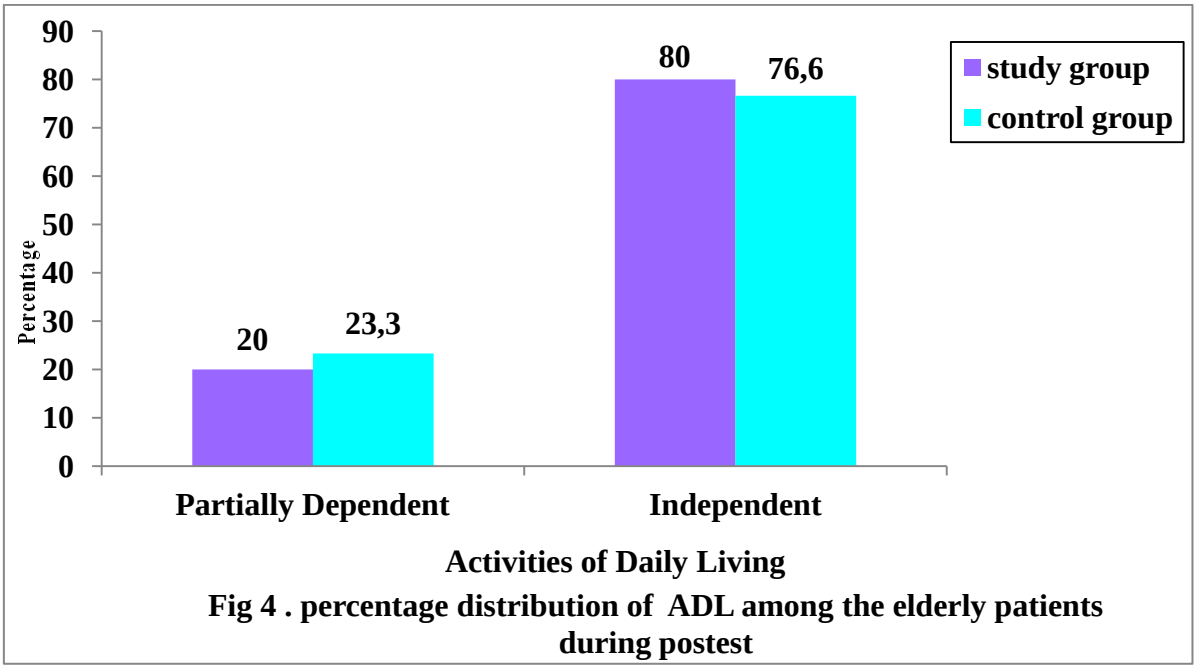

Fig 4 . percentage distribution of ADL among the elderly patients during postest

DISCUSSION

The frequency and percentage distribution of demographic variables among the elderly patients that majority of the patients 10 (33.3%) in the study and 11 (33.3%) in the control group were in the age group of 61-75years in the study group and 11(36.7%) in the control group. Regarding marital status of the elderly patients, an equal distribution of 21 (70.0%) was married in the study and the control groups. In monthly income, 22 (73.3%) had earned ≤ Rs.5000 in the study group and the control groups. With regard to the type of family 18 (60.0%) in the study group and 16 (53.3%) elderly patients in the control group were from the nuclear family.

The level of depression and ADL among elderly patients shows that in the pretest of the study group and the control groups, 29 (96.7%) elderly patients had mild depression and one (3.3%) had severe level of depression and the posttest of the study group, two (6.7%) had normal depression, 28 (93.3) had mild depression, and in the control groups, one (3.3%) elderly patient had normal depression, 25 (83.3%) had mild depression and four (13.3%) had moderate level of depression.

The pretest of the study group, 18 (60.0%) elderly patients were partially dependent and 12 (40.0%) were independent and 12 (40.0%) elderly patients were partially dependent and 18 (60.0%) were independent in the control group and in the posttest of the study group, 6 (20.0%) elderly patients were partially dependent and 24 (80.0%) were independent and 7 (23.3%) elderly patients were partially dependent and 23 (76.6%) were independent in the control group.

The pretest mean value of depression among the elderly patients in the study group was 17.27 with the *SD* of 1.202 and in the control group, the pretest mean value was 17.23 with the *SD* of 1.194 and table 5 shows that the pretest mean value ADL among the elderly patients in the study group was 2.87 with the *SD* was 1.871 and in the control group pretest the mean value was 3.87 with the *SD* of 1.502.

The comparison of pre and posttest mean score of depression among elderly patients within the study and the control group, the paired *t* value of the study group was 11.488 which was statistically significant at $p<0.001$ level. The findings of the mean comparison of depression between the study and the control groups, and the independent *t* test value was -12.220 which was statistically significant at $p<0.001$ level.

The comparison of pre and posttest mean scores of depression among elderly patients between the study and the control groups, the paired *t* value of

the study group was -4.523, and the control group was -1.570. The pretest value of the study group and the control group had an independent *t* test value of -2.283 and the *p* value of 0.026 and the posttest of the study group and the control group had an independent *t* test value of -0.301 and the *p* value of 0.765.

CONCLUSION

Depression among the elderly patients is a major problem in the society. The present study findings suggest the PMR and AS decreases the level of depression and promote ADL in the elderly patients. PMR and AS promotes both mental as well as physical health of the elderly

NURSING IMPLICATIONS

1. Nursing practice

Nurses play a vital role in providing care and spend maximum time with the patients in all the wards. For most of the elderly patients who experience depression. PMR and AS can be implemented along with the other treatment to reduce depression. The nurse has to motivate and rehabilitate the patients to practice PMR and AS in their day-to-day life.

2. Nursing education

In the current scenario, depression in elderly is one of the major problems faced because of the loneliness and institutionalization of the aged. PMR and AS are to be emphasized in the nursing education to get relief from stress, anxiety and depression. The nursing students need to be educated regarding the PMR and AS

3. Nursing administration

The nurse administrator should promote the hospital policies and procedures that facilitate the training on PMR and AS to the elderly patients. This PMR and AS module can be fed into the computer, internet for wider use by nurses in hospitals.

4. Nursing research

Research is needed to examine the role of nurse in training and encouraging the patient to practice the self-care module. The finding of the research is very important and should be utilized in the follow up practice.

RECOMMENDATIONS

1. A similar study can be done with a larger sample size.
2. A similar study can be conducted in the community setting.
3. This study can be conducted among patients with mental illness.
4. A similar study can be conducted in the old age homes

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