EFFECTIVENESS OF CALISTHENIC EXCERCISES ON SELF ESTEEM AMONG OLD AGE PEOPLE

Savitha B

Assistant Professor,
Department of Psychiatric Nursing,
Dr. M. V. Shetty College of Nursing, Mangalore, Karnataka, India

Abstract:

Aim: Aim of the study is to assess the effectiveness of calisthenics on self-esteem among old age people in selected old age home in Mangalore.

Methods:

Quantitative evaluative approach with quasi experimental design was used in this study. Non-probability purposive sampling technique was used to select 30 old age people and allotted them in experimental and control group. Rosenberg self-esteem scale was used to assess the self-esteem among old age people. After pre-test calisthenics exercises were taught to the subjects for 7 days and on 7th day post-test was collected.

Results:

Results shows that in pre-test 80% of sample had normal self-esteem, 20% had low self-esteem in experimental group, 53.3% of sample had normal self-esteem, 47% had low self-esteem in control group. In post-test 7% of sample had high self-esteem, 93% had normal self-esteem in experimental group, 60% of sample had normal self-esteem and 40 % sample had low self-esteem in control group.

In experiment group mean post-test self-esteem 18.8 ± 2.767 was higher than mean of the pre-test self-esteem scores 15.93 ± 1.926. The calculated paired 't' value (4.86) which is significant at 0.05 level of significance. Comparison of post-test value of experiment group and controlled group shows that unpaired t' test value 5.564 which is significant at 0.05 level of significance. Hence research hypotheses accepted.

Conclusion: Study finding concludes that calisthenics exercises are effective to improve the self-esteem of old age people.

Keywords: Calisthenics, effectiveness, old age people, old age home, self esteem

I. INTRODUCTION

The Greying of the Nation was a common phrase that described the process of a significant worldwide increase in the population, a large proportion of who are older adults. In recognition of this increase, 1999 was designated by the United Nations as The Year of the Older Person.[1] By 2050, the world's population aged 60 years and older is expected to total 2 billion, up from 900 million in 2015. Today, 125 million people are aged 80 years or older. By 2050, 80% of all older people will live in low- and middle-income countries.[2]

At the biological level, ageing results from the impact of the accumulation of a wide variety of molecular and cellular damage over time. This leads to a gradual decrease in physical and mental capacity, a growing risk of disease, and ultimately, death. Beyond biological changes, ageing is also associated with other life transitions such as retirement, relocation to more appropriate housing, and the death of friends and partners. Common conditions in older age include hearing loss, cataracts and refractive errors, back and neck pain and osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression, and dementia.[2]

Calisthenics exercises use your bodyweight, along with gravity, as resistance in strength exercises, rather than free weights or exercise machines. Calisthenics exercises range from very simple (like squats), to advanced, such as muscle ups.[3] Calisthenics holds some major benefits especially for seniors. Beginning from around the average of 50, seniors begin to experience losses in muscle mass. This is a very natural process known as sarcopenia. There are various causes of sarcopenia, but calisthenics is only effective for the inability to replenish and replace skeletal muscle that comes about as a result of age. It does this by increasing the ability of seniors to create, strengthen, and build muscle.[4]

Statement of the problem

A quasi-experimental study to assess the effectiveness of calisthenics on self-esteem among old age people in selected old age home in Mangalore.

Objectives of the study are to:

* Assess the level of self-esteem among old age people in selected old age homes at Mangalore in both experimental and control group.
* Assess the effectiveness of calisthenics on self-esteem among old age people in a selected old age home at Mangalore.
* Find the association between the pre-test score of self-esteem and selected baseline variables.

Hypothesis

* $H_1 1$: There is statistically significant difference between the pre-test and post-test level of self-esteem in experimental group.
* $H_1 2$: There is statistically significant differences in the post lest level of self-esteem between experimental group and control group
* $H_1 3$: There is statistically significant association between the pre-test self-esteem score and selected baseline variables.

II. MATERIAL AND METHODS:

Research approach: Quantitative evaluative approach was used in the study to assess the effectiveness of calisthenics on self-esteem among old age.

Research design and setting: The research design used in this study was quasi experimental study design. The research study was conducted at   selected old age home in Mangalore.

Population: In this study the population consists of 30 old age people from selected old age home in Mangalore.

Sample and sample size: The study sample comprise of 30 old age people from selected old age home Mangalore. In this study 15 are consider as experimental group and 15 are selected as control group.

Sampling technique: In this study non probability purposive sampling technique was found appropriate and was adopted for the study.

Sampling criteria:

Inclusion criteria
* Old age people from selected old age home in Mangalore.
* Old age people who were willing to participate in the study.

Exclusion criteria
* Old age people who were not available at the time of data collection.
* Old age people who were severely sick or bedridden at the time of data collection and psychologically unstable.

Data collection tool and technique

The instrument used for the study was Rosenberg self-esteem scale to assess the self-esteem of old age people and structured interview schedule method was used.

The tool consists of two parts;

Part 1: Baseline characteristics which contains 8 items for obtaining baseline information
Part 2: Rosenberg self-esteem scale used to assess the level of self esteem

Data collection procedure

Prior permission was obtained from the concerned authority of the selected old age home. Keeping in mind the ethical aspect of the research, data was collected after obtaining informed consent of sample. The respondents were assured of anonymity and confidentiality of the data information provided by them. The data was collected on 03/03/2018 to 08/03/2018. The researcher introduced themselves to the participants. The objectives of the study were explained to the old age peoples.

Statistical analysis:

➢ Frequency, frequency percentage, means, mean percentage and standard deviation was used to describe baseline variables and calculate level of self-esteem of old age people.
➢ Chi- square test was used to find out the association between level of self-esteem and baseline variables.
➢ Paired 't' value of pre-test and post-test level of self-esteem in experimental group and unpaired 't' value of post test score of self-esteem in experimental and control group were calculated

III. RESULTS:

Part I: **Description of demographic characteristics of the sample.**
Table No. 1: Frequency and percentage distribution of the samples according to baseline characteristics

N=30

SI. NO	DEMOGRAPHIC VARIABLES	FREQUENCY (f)	PERCENTAGE (%)

1.	Age in years
	  a) 60-70
	  b) 71-80
	  c) 81-90
		27
		2
		1
			90
			6.6
			3.3

2.	Gender
	  a) Male
	  b) Female
		16
		14
			53
			46

3	Education
	  a) No formal education
	  b) Primary
	  c) Higher secondary
	  d) Any other specify
		7
		14
		7
		1
			23.3
			46.6
			23.3
			3.3

4	Religion
	  a) Hindu
	  b) Christian
		2
		28
			6.6
			93.3

5.	Marital status
	  a) Unmarried
	  b) Married
		9
		21
			30
			70

6.	Reasoning for joining old age home
	  a) Neglected
	  b) Being alone
	  c) Could not adjust with family
	  d) Self-interested
		20
		2
		6
		2
			66.6
			6.6
			20
			6.6

7.	Do you have the habit of doing exercises
	  a) Yes
	  b) No
		30
		0
			100
			0

8.	If yes how often you will do
	  a) Daily
	  b) Weekly
	  c) Monthly
		9
		15
		6
			30
			50
			20

Data presented in Table No.1 shows that majority (90%) of the sample belongs to the age group of 60 years – 70 years, 53% of them were males. Most (46.6%) of them had primary education, 93.3% of them belonged to Christian religion and 70% were married. Due to the neglect by family members most of them (66.6%) joined old age home. Most (100%) of them had the habit of doing exercises and 50% of them were doing weekly.

Part II: Level of self-esteem among old age people in experimental and control group.
Table No 2: Frequency distributions of samples according to pre-test and post-test level of self-esteem in experimental group.

N =15

SI. No	Level of self esteem	Range	Pre test		Post test	
			Frequency (f)	Percentage (%)	Frequency(f)	Percentage (%)
1	High	Above 25	0	0	1	7
2	Normal	15-25	12	80	14	93
3	Low	Below 15	3	20	0	0

Table 2 shows that most of them (80%) where have normal self-esteem and some of them (20%) were having some low self-esteem in pre-test. In post-test some of them (7%) were having high self-esteem and most of them have (93%) were having normal self-esteem.

Table No 3: Frequency distribution of sample according to pre-test and post-test level of self-esteem in control group

N = 15

SI. No	Level of self esteem	Range	Pre test		Post test	
			Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	High	Above 25	0	0	0	0
2	Normal	15 -25	8	53.3	9	60
3	Low	Below 15	7	46.6	6	40

Table No. 3 shows that in pre-test most of them (53.3%) having normal self-esteem and some of them (46.6%) having low self-esteem and in post-test most of them (60%) having normal self-esteem and some of them (40%) having low self-esteem.

Part III Effectiveness of calisthenics on self esteem

Table No 4: Range, mean, standard deviation, mean percentage and 't' value of pre-test and post-test level of self-esteem in experimental group

N = 15

SI. No.		Mean	Standard deviation	Mean Percentage (%)	't' value
1	Pre test	15.93	1.926	63.72	
2	Post test	18.8	2.767	75.2	4.86

Table No 4 data shows that mean post-test self-esteem 18.8 ± 2.767 was higher than mean of the pre-test self-esteem scores 15.93 ± 1.926. The mean percentage of pre-test was 63.72% and post-test was 75.2. The calculated 't' value (4.86) which is higher than table value at the level 0.05 significant . Hence the H_11 is accepted.

Table 5: Range, mean, standard deviation means difference of pre-test and post-test level of self-esteem in control group

N =15

SI. No.		Mean	Standard deviation	Mean Percentage (%)
1	Pre test	15.666	3.318	62.664
2	Post test	15.2	3.529	60.8

Table No 5 data shows that mean pre-test self-esteem score is 15.666 ± 3.318 and post test score is 15.2 ± 3.529 and mean percentage of pre-test is 62.664% and post-test is 60.8% .

Comparison of post test score of self-esteem of experimental and control group.

Table No 6: Mean, standard deviation, mean difference and 't' value of post test score of self-esteem in experimental and control group.

N = 30

Group	Mean score	SD	Mean percentage (%)	't' value
Experimental group	18.2	2.767	72.8	
Control group	15.2	3.529	60.8	5.564

Table 6 shows that in experimental group the mean score is 18.2 ± 2.767, and the mean percentage is 72.8%. In control group the mean score 15.2 ± 3.529 and the mean percentage is 60.8%. The calculated 't' value is 5.564 which is higher than table value at the level 0.05 significant. Hence the H_12 is accepted.

Part IV: Association between self-esteem and baseline variables.

Table No 7: Association between pre-test level of self-esteem and baseline variables.

N = 15

SI. No	Variable	X^2	(df)	Table value	Significance
1.	Age	0.626	2	5.991	NS
2.	Gender	8.061	1	3.841	S
3.	Education	1.275	4	9.488	NS
4.	Religion	7.27	1	3.84	S
5.	Marital status	8.061	1	3.81	S
6.	Reasons for joining old age home	0.775	3	7.815	NS
7.	Habit of doing exercise	0	1	3.81	NS
8.	How often exercise done	2.117	2	5.991	NS

Table No 7 shows that age, education, reason for joining old age home, habit of doing exercise, how often exercise done are not significant at the level of 0.05. Gender, religion, marital statuses are significant at the level of 0.05. Hence H_13 is partially accepted

DISCUSSION

Study result shows that highest percentages [90%] of the participants were in the age group of above 60-70 years, most of the samples (53%) were males. Highest percentage [46.6%] of the participant had primary education, majority [93.3%] participant belong to Christian. Highest percentages [70%] of the participant are married; Most of the (66.6%) participants are neglected from the family. All [100%] of the participant had the habit of doing exercises, highest percentages [50%] of the samples were doing exercise weekly.

Results also shows that during pre-test in experimental group majority [80%] of old age people having normal self-esteem, only [20%] had low self-esteem, where as in control group 53.3 % had normal self-esteem and 46.7% of old age people had low self-esteem. During post-test it revealed that in experimental group 7% had high self-esteem and 93% had normal self-esteem, no samples were had low self-esteem, whereas in control group 60% had normal self-esteem and 40% had low self-esteem.

When comparing pre-test and post-test score of experimental group it revealed that mean post-test score 18.8 is greater than mean pre-test score 15.93 and calculated t' value 4.86 which is greater than table value which is significant at 0.05 level of significance hence H_11 is accepted. While comparing post-test score of experimental and control group it revealed that in experimental group the mean score was 18.2 ± 2.767 which was greater than the mean score 15.2 ± 3.529 of control group. Unpaired t' test was used to compare the score and it shows that the calculated t' value 5.564 which is higher than table value and significant at the 0.05 level of significant. Hence the H_12 is accepted.

Chi square was computed in order to find association between pre-test self-esteem score and selected baseline variables. It is found that there was significant association between gender, marital status, religion with baseline variables and no significant association found between age, education, reason for joining old age home, habits of doing exercises with selected demographic variables. Hence H_13 is partially accepted.

Above findings were consistent with the study which conducted to evaluate the effectiveness of Calisthenics on self-esteem among elderly. Quantitative research approach, quasi experimental nonequivalent control group pretest posttest design was used to collect the data from 70 elderlies (35 in experimental group and 35 in comparison group) by using convenience sampling technique. The tools used were Sample characteristics Performa and Rosenberg's Self Esteem Scale. Calisthenics was given to experimental group thrice a week for four weeks. A significant difference was found in terms of self-esteem between the experimental and comparison group after intervention (t= 17.47 and p=0.001) at 0.05 level of significance. Hence, Calisthenics was found effective in increasing self-esteem among elderly.[5]

REFERENCES:

1. Ramaswamy Banu. Older people – An introduction. Physiopedia. [online]. Cited on 16/01/2021. Available from URL: https://www.physio-pedia.com/Older_People_-_An_Introduction

2. Aging and health. World health organization news room. 5 February 2018. [online]. Cited on 15/01/2021. Available from URL: https://www.who.int/news-room/fact-sheets/detail/ageing-and-health

3. Calisthenics: What it is and how to incorporate it into your workout routine. March 6 2020. [online]. Cited on 15/01/2021. Available from URL: https://www.sweat.com/blogs/fitness/calisthenics#:~:text=Calisthenics%20exercises%20use%20your%20bodyweight,entire%20torso%20above%20the%20bar)

4. Sue Holmes. How old is too old for calisthenics. [online]. Cited on 15/01/2021. Available from URL: https://thepostnewspaper.net/2020/05/09/how-old-is-too-old-for-calisthenics/#:~:text=There%20are%20various%20causes%20of,%2C%20strengthen%2C%20and%20build%20muscle

5. Nilu Moirangthem, Srinivasan Palanivelu, Dhanesh Garg, Jyoti Sarin. Evaluate the effectiveness of calisthenics on self esteem among elderly residing in selected old age homes of Haryana, India. Indian Journal of Forensic medicine and toxicology. July September 2020, Volume 14 (3) 480 – 6. Available from URL: https://www.researchgate.net/publication/344070469_Evaluate_the_Effectiveness_of_Calisthenics_on_self-esteem_among_Elderly_Residing_in_Selected_Old_Age_Homes_of_Haryana_India-_httpmedicopublicationcomindexphpijfmtarticleview10407_Scopus