International Journal of Trend in Scientific Research and Development (IJTSRD)
Volume 7 Issue 5, September-October 2023 Available Online: www.ijtsrd.com e-ISSN: 2456 – 6470

A Study to Assess the Effectiveness of Aerobic Exercise on Depression among Senior Citizens in Selected SMCH

Sheela[1], Vaishali[2]

[1]Assistant Professor, Saveetha College of Nursing, SIMATS, Chennai, Tamil Nadu, India
[2]B.Sc. (N) IV Year, Saveetha College of Nursing, SIMATS, Chennai, Tamil Nadu, India

ABSTRACT

INTRODUCTION: Depression is a common and disabling condition that affects over 120 million people worldwide [4] -at least one in five people during their lifetime- and has a significant impact on health status. While it is usually treated with antidepressants and/or psychological therapy, such treatments are not effective in all cases, and increasing attention has recently been given to some alternatives, and to aerobic exercise in particular.

OBJECTIVES:

1. To assess the pretest and post test level of depression among senior citizens.
2. To assess the effectiveness of Aerobic Exercise on depression among senior citizens in selected SMCH.
3. To associate the post test level of depression among senior citizens with their selected demographic variables.

METHODOLOGY: Quantitative research approach with experimental research design used to conduct the study in SMCH. Sample size 60. Sample technique Non-probability convenient sampling method. Likert scale used to Assess the Effectiveness of Aerobic exercise among senior citizen in selected SMCH.

RESULT: The findings of the analysis shows that the demographic variable number of children ((2=10.357, p=0.016) had statistically significant association with post test level of depression among senior citizens at $p<0.05$ level respectively and the other demographic variables had not shown statistically significant association with post test level of depression among senior citizens.

CONCLUSION: This study demonstrated that an aerobic exercise was found to be effective in reducing the level of depression among the senior citizens and it can be used as an alternative to anti depressants for treatment of depression in older persons.

How to cite this paper: Sheela | Vaishali "A Study to Assess the Effectiveness of Aerobic Exercise on Depression among Senior Citizens in Selected SMCH" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-7 | Issue-5, October 2023, pp.783-788, URL: www.ijtsrd.com/papers/ijtsrd60040.pdf

IJTSRD60040

INTRODUCTION

Increase in life expectancy all over the world had raised the number of elderly persons drastically. Ageing is an inevitable change which happens even with the best of health care and good nutrition. It is a normal change related to time that occurs throughout life. Ageing is characterized by a decreased capability to compensate and a decline in function efficiency (Lessay, 2008).

Each grey hair reflects the vast and extensive knowledge that a person had acquired over his/her lifetime. The eyes of elderly can visualize the pros and cons of activities. Older citizens act as guides for the young. It is the responsibility of the younger relatives to craft their evenings to make them enjoyable and unforgettable. It is the duty of the public to support the elderly in a calm manner to give them care and happiness, especially to those who are lonely and are not under the care of their children (Karim, 2007)

Depression is a common and disabling condition that affects over 120 million people worldwide [4] -at least one in five people during their lifetime- and has a significant impact on health status. While it is usually treated with antidepressants and/or

psychological therapy, such treatments are not effective in all cases, and increasing attention has recently been given to some alternatives, and to aerobic exercise in particular.

Depressive disorders among the aged are a paradigm of geriatric care in terms of the importance of prevention, differences in pathogenesis, diagnostic and therapeutic complexity, associated high risk of failure, and severe impact on quality of life. Old age is the time of life when emotional fragility is accentuated. In addition to neurobiological changes in the brain, ageing inevitably entails an important loss over the years, not only in terms of individuals' emotions, but also in terms of their physical condition and social status. Depression is the most common psychological disorder among people over the age of 65 years and affects approximately 15% of this age group.

MATERIALS AND METHODS:

Quantitative research approach was adopted for this study to accomplish the objectives of the study. The research design used for this study was one group pretest and post test research design. The dependent variable of the study The independent variable of the study was aerobic exercise. Demographic variable consisted of age, gender, language known, marital status, type of marriage, religion, educational status, type of family and number of children. The study was conducted at Saveetha Medical College & Hospital, Chennai. Population is the entire aggregation of geriatrics on whom the researcher would generalize the study findings. The population encompasses the target population and accessible population. All the senior citizens in Tamil Nadu are the target population of the study Accessible population of the study comprised of all senior citizens admitted at Saveetha Medical College & Hospital, Chennai. All the senior citizen patients admitted in Saveetha Medical College & Hospital, Chennai, who have fulfilled the sample selection criteria are the samples for the study. The sample size of the study comprises of 30 senior citizen patients admitted in Saveetha Medical College & Hospital, Chennai. The samples were selected by non-probability convenient sampling technique method.

RESUTS AND DISCUSSION:

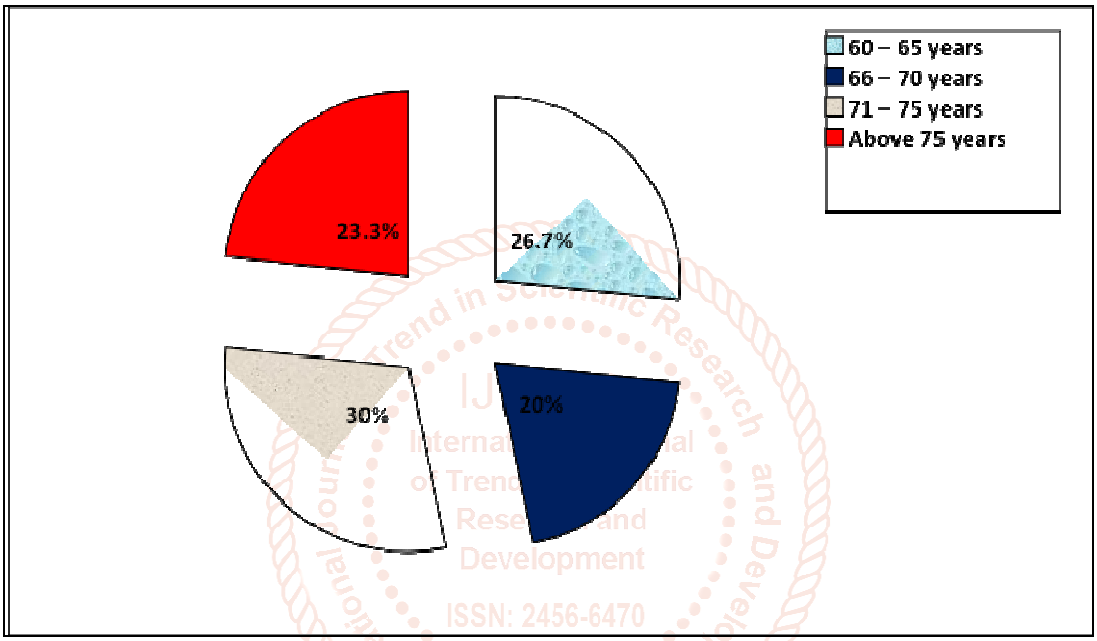
SECTION A: DESCRIPTION OF THE DEMOGRAPHIC VARIABLES OF SENIOR CITIZENS.

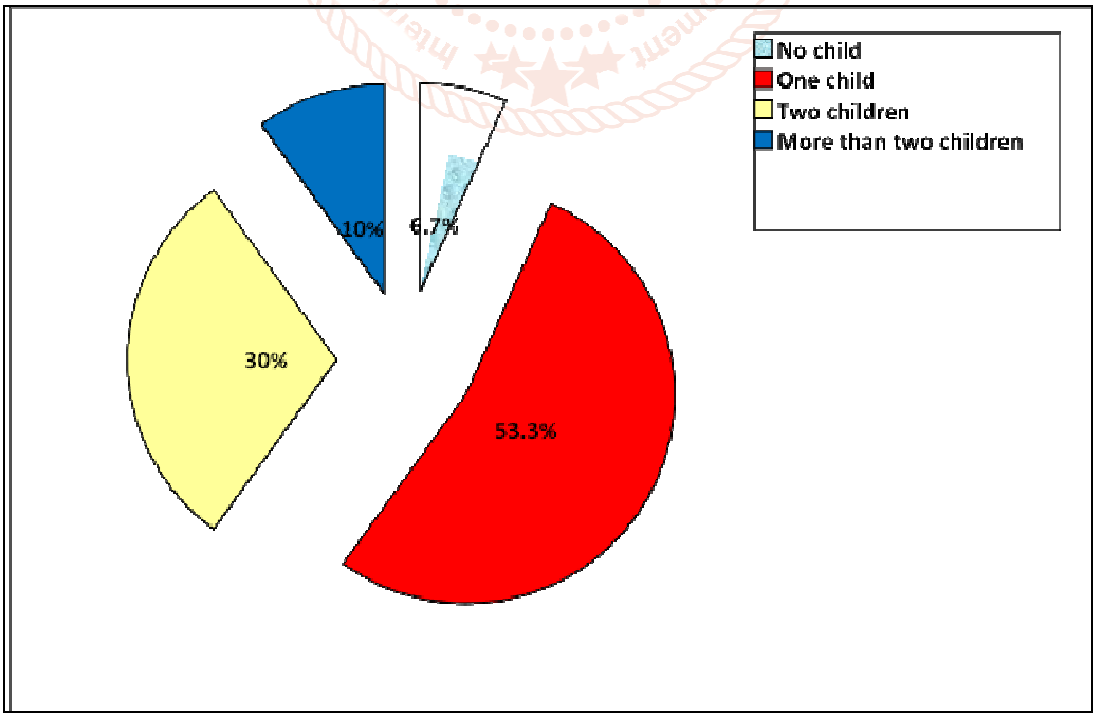
Table 1: Frequency and percentage distribution of demographic variables of senior citizens.

n = 30

Demographic Variables	F	%
Age in years		
60 – 65 years	8	26.7
66 – 70 years	6	20.0
71 – 75 years	9	30.0
Above 75 years	7	23.3
Gender		
Male	19	63.3
Female	11	36.7
Language known		
Tamil	20	66.7
Telugu	6	20.0
Hindi	1	3.3
Others	3	10.0
Marital status		
Married	16	53.3
Unmarried	2	6.7
Widow/ Widower	9	30.0
Divorced / Separated	3	10.0
Type of marriage		
Consanguineous	5	16.7
Non-consanguineous	25	83.3
Religion		
Hindu	20	66.7
Christian	7	23.3
Muslim	3	10.0
Others	-	-

Educational status		
Illiterate	5	16.7
Schooling	20	66.6
Graduate	5	16.7
Type of family		
Nuclear	23	76.7
Joint	7	23.3
Number of children		
No child	2	6.7
One child	16	53.3
Two children	9	30.0
More than two children	3	10.0





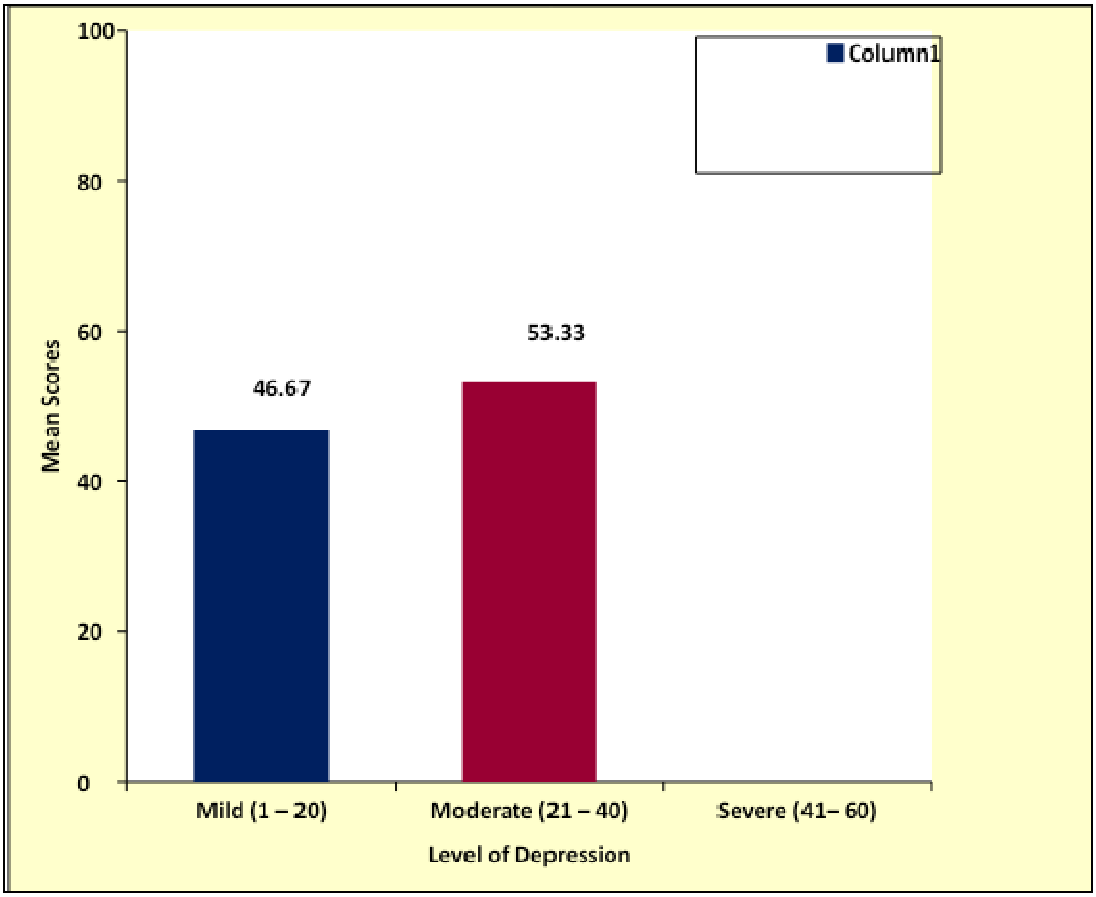
SECTION B: ASSESSMENT OF LEVEL OF DEPRESSION AMONG SENIOR CITIZENS.

Table 2: Frequency and percentage distribution of level of depression among senior citizens.

n = 30

Level of Depression	Pretest		Post Test	
	Frequency	Percentage	Frequency	Percentage
Mild (1 – 20)	2	6.67	14	46.67
Moderate (21 – 40)	16	53.3	16	53.33
Severe (41– 60)	12	40.0	0	0

The above table 2 shows that in the pretest, 16(53.33%) had moderate depression, 12(40%) had severe depression and 2(6.67%) had mild depression whereas in the post test, 16(53.33%) had moderate depression and 14(46.67%) had mild depression among senior citizens.



SECTION C: EFFECTIVENESS OF AEROBIC EXERCISE ON DEPRESSION AMONG SENIOR CITIZENS.

Table 3: Comparison of pretest and post test level of depression among senior citizens.

n = 30

Depression	Mean	S.D	Mean Difference & %	Paired 't' test & p-value
Pretest	37.90	8.59	**16.37**	**t = 16.209**
Post Test	21.53	5.79	**(41%)**	**p=0.0001, S*****

***p<0.001, S – Significant

The table 3 depicts that the pretest mean score of depression among senior citizens was 37.90±8.59 and the post test mean score of depression was 21.53±5.79. The mean difference score was 16.37 and the mean difference percentage was 41%. The calculated paired 't' test value of t = 16.209 was found to be statistically significant at p<0.001 level. This clearly infers that Aerobic Exercise on depression administered to the senior citizens was found to be effective in minimizing the level of depression among senior citizens in the post test.

SECTION D: ASSOCIATION OF LEVEL OF DEPRESSION WITH SELECTED DEMOGRAPHIC VARIABLES.

Table 4: Association of post test level of depression among senior citizens with their selected demographic variables.

n = 30

Demographic Variables	Mild		Moderate		Severe		Chi-Square Test & p-value
	F	%	F	%	F	%	
Age in years							$\chi^2 = 0.121$ d.f=3 p=0.989 N.S
60 – 65 years	4	13.3	4	13.3	-	-	
66 – 70 years	3	10.0	3	10.0	-	-	
71 – 75 years	4	13.3	5	16.7	-	-	
Above 75 years	3	10.0	4	13.3	-	-	
Gender							$\chi^2 = 0.433$ d.f=1 p=0.510 N.S
Male	8	26.7	11	36.6	-	-	
Female	6	20.0	5	16.7	-	-	
Language known							$\chi^2 = 1.406$ d.f=3 p=0.704 N.S
Tamil	9	30.0	11	36.7	-	-	
Telugu	3	10.0	3	10.0	-	-	
Hindi	1	3.3	0	0	-	-	
Others	1	3.3	2	6.7	-	-	
Marital status							$\chi^2 = 1.456$ d.f=3 p=0.692 N.S
Married	9	30.0	7	23.3	-	-	
Unmarried	1	3.3	1	3.3	-	-	
Widow/ Widower	3	10.0	6	20.0	-	-	
Divorced / Separated	1	3.3	2	6.7	-	-	
Type of marriage							$\chi^2 = 0.429$ d.f=1 p=0.513 N.S
Consanguineous	3	10.0	2	6.7	-	-	
Non-consanguineous	11	36.7	14	46.7	-	-	
Religion							$\chi^2 = 1.693$ d.f=2 p=0.429 N.S
Hindu	11	36.7	9	30.0	-	-	
Christian	2	6.7	5	16.7	-	-	
Muslim	1	3.3	2	6.7	-	-	
Others	-	-	-	-	-	-	
Educational status							$\chi^2 = 0.469$ d.f=2 p=0.791 N.S
Illiterate	2	6.7	3	10.0	-	-	
Schooling	9	30.0	11	36.6	-	-	
Graduate	3	10.0	2	6.7	-	-	
Type of family							$\chi^2 = 0.053$ d.f=1 p=0.818 N.S
Nuclear	11	36.7	12	40.0	-	-	
Joint	3	10.0	4	13.3	-	-	
Number of children							**$\chi^2 = 10.357$ d.f=3 p=0.016 S***
No child	2	6.7	0	0	-	-	
One child	8	26.7	8	26.7	-	-	
Two children	1	3.3	8	26.7	-	-	
More than two children	3	10.0	0	0	-	-	

*p<0.05, S – Significant, N.S – Not Significant

The table 4 shows that the demographic variable number of children **(χ^2=10.357, p=0.016)** had statistically significant association with post test level of depression among senior citizens at p<0.05 level respectively and the other demographic variables had not shown statistically significant association with post test level of depression among senior citizens.

CONCLUSION

This study demonstrated that an aerobic exercise was found to be effective in reducing the level of depression among the senior citizens and it can be used as an alternative to anti depressants for treatment of depression in older persons.

ACKNOWLEDGEMENT

We would like to extend our gratitude to the authorities of Saveetha College of Nursing and Saveetha Medical College Hospital for this study.

AUTHORS CONTRIBUTION

All the authors actively participate in the work of study. All the authors read and approved the final manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest

REFERENCES:

[1] Abhishek Kumar, Dilip Raj, Ajay Gupta, Amit Kumar (2021). Screening of Depression in Elderly Population Using a Geriatric Depression Scale in the Field Practice Area of Urban Health Training Centre Attached to SMS Medical College, Jaipur. Cureus 13(6): e15859. DOI 10.7759/cureus.15859.

[2] An T.M. Dao, et al., (2018). Factors Associated with Depression among the Elderly Living in Urban Vietnam. BioMed Research International; Volume 2018, Article ID 2370284.

[3] Bincy .K, Logaraj .M, Balaji Ramraj (2021). Depression and its associated factors among the older adults in rural, Tamilnadu, India. Clinical Epidemiology and Global Health 10: 100677.

[4] Blumenthal JA, Smith PJ, Hoffman BM. (2012). Is exercise a viable treatment for depression? ACSMs Health Fit J. 16:14–21.

[5] Brenda W. J. H. Penninx, et al., (2002). Exercise and Depressive Symptoms: A Comparison of Aerobic and Resistance Exercise Effects on Emotional and Physical Function in Older Persons With High and Low Depressive Symptomatology. Journal of Gerontology, Vol. 57B, No. 2, P124–P132.

[6] Buvneshkumar .M, John K. R., Logaraj .M (2018). A Study on Prevalence of Depression and Associated Risk Factors among Elderly in a Rural Block of Tamil Nadu. Indian J Public Health; 62:89-94.

[7] Esha Sharma and Shantha Seelan G (2017). A descriptive study to assess the level of depression among the elderly Residing in selected old age home at Jammu. International Journal of Recent Scientific Research, Vol. 8, Issue, 11, pp. 21781-21785.

[8] Jesús López-Torres Hidalgo (2019). Effectiveness of physical exercise in the treatment of depression in older adults as an alternative to antidepressant drugs in primary care. BMC Psychiatry, 19: 21.

[9] Lei Yao, et al., (2021). Effect of Aerobic Exercise on Mental Health in Older Adults: A Meta-Analysis of Randomized Controlled Trials. Frontiers in Psychiatry, Volume 12, Article 748257.

[10] Manju Pilania, et al., (2019). Prevalence of depression among the elderly (60 years and above) population in India, 1997–2016: a systematic review and meta-analysis. BMC Public Health volume 19, Article number: 832 (2019).

[11] Martin Underwood, et al., (2013). Exercise for depression in elderly residents of care homes: a cluster-randomised controlled trial. Lancet; 382: 41–49