REVIEW OF RESEARCH
IMPACT FACTOR : 5.7631(UIF) UGC APPROVED JOURNAL NO. 48514 ISSN: 2249-894X
VOLUME - 7 | ISSUE - 11 | AUGUST - 2018

AN EXPERIMENTAL STUDY ON DEPRESSION IN GERIATRIC FEMALE POPULATION: WITH REFERENCE TO PHYSICAL EXERCISE PROGRAM

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ABSTRACT

In this experimental study, efficacy of physical exercise program as intervention method in management of depression in elderly females was assessed. The sample consists of 50 elderly females (Average age 64.79 years) without any major physical disability. The study area of this study was confined to Durg district of Chhattisgarh. Hindi version of Geriatric Depression Scale prepared and standardized by Ganguly et al. (1999) was used to collect data on specified dimension i.e. depression. Six months physical exercise program was chalked out by the researcher keeping the age group in mind. The data was collected before, after 02 months, after 04 months and after the completion of 06 months of study period. Repeated Measures ANOVA was preferred as statistical tool in the present study. Result indicates significant impact of physical exercise program in reducing depression among elderly female participants during the course of six months physical exercise program. It was concluded that depression in elderly females can be cured with the help of supervised physical exercise program.

KEY WORD: *Elderly females, Geriatric Depression, Physical Exercise.*

INTRODUCTION

Advanced medical facilities with somewhat better nutrition and health care facilities since independence led to increase in geriatric population in India. Investment in health sector and nutrition have reduced morality rates in India which subsequently led to demographic changes in India. According to report of United Nations Population Fund 2017. 'Caring for Our Elders: Early Responses', ageing population in India have risen to 8.6% in 2011 as compared to mere 7.5% in 2001. As per prediction the population of senior citizen will be around 19% by the year 2050. It means that care for geriatric population comes under great financial burden. It is true that population ageing is usual but it comes with various physical and psychological problems in geriatric age group. One of the major mental disorders associated with geriatric population is depression. There are number of factors associated with depression in elderly population. Researchers identified biological, social, physical and psychological factors as predictors of geriatric depression. [Prashantha et al. (2015), Thilak et al. (2016), Kartik Patil et al. (2016)] Low level of serotonin and norepinephrine neurotransmitter chemicals in the brain, death of loved ones, socio economic status, urban-rural belongingness, death of loved one and social isolation are some of the factors identified to be associated with geriatric depression. Factors associated with ageing such as financial hardship, physical discomfort, illness, transition from work to retirement also contribute to depression in elderly people. Geriatric depression even worsens the problems of ageing even more. Depression in elderly is hard to diagnose but proper treatment always increase quality of life.

EXISTING KNOWLEDGE

Since depression occurs due to several associated factor, it is not possible to treat depression with a single therapy. Hence it has been advocated that depression may be treated with anti-depressant medication along with lifestyle changes. One of the other therapeutic tool advocated for treatment of geriatric depression is physical exercise. Frazer et al. (2005) opined that physical exercise is an excellent alternative to cure depressive symptoms. Researchers like Mather et al. (2002) Fountoulakis et al. (2003) scientifically documented the beneficial effect of physical exercise as a therapeutic tool in treatment of depression. They opined that physical exercise improves functional ability and mood states which in turn reduces depression. Contrary to these, some researchers namely Blumenthal et al. (1982), Emery and Gatz (1990), Nieman et al. (1993) did not find the efficacy of physical exercise in treatment of geriatric depression. In view of gaps in knowledge regarding the efficacy of physical exercise in treatment of depression, the researcher decided to conduct this study.

OBJECTIVE OF THE STUDY

The single and main objective of the present study was to evaluate the efficacy of physical exercise program of certain duration in management of depression in elderly females.

Hypothesis

It was hypothesized that six months physical exercise program will significantly decrease depression in elderly females.

METHODOLOGY

Sample :

50 elderly females (Average age 64.79 years) without any major physical disability were selected as sample in the present study. Selected subjects have scores of more than 10 in geriatric depression scale (GDS). The sample comprise of elderly females residing in Durg District of Chhattisgarh. The sample for the present study was selected purposively.

Tools

Geriatric Depression Scale

To assess geriatric depression in elderly females, Geriatric Depression Scale (GDS) was used. This scale is standardized by Ganguly et al. (1999). Hindi version of this scale consist of 30 yes/no type statements. Scores greater than 10 indicate depression. This scale is highly reliable and valid.

Physical Exercise Program:

The physical exercise program consists of warm up, upper body exercise of neck, elbow, prayer stretch, elbow flexion / extension, shoulder circles and upper back stretch, chest/shoulder/car and cow stretch and side bends. The lower body exercises include side, rotator and hamstring stretch, ankle circles etc. and finally cool-down. The duration of this exercise was 90 minutes / day. The physical exercise program was administered five days in a week.

Procedure:

After initial screening 50 elderly female subjects with scores of more than 10 on geriatric depression scale were selected as sample. Detailed information regarding previous history of medical complications was obtained. Only those subjects without any physical disability and major illness were selected. Physical exercise program of six months was administered under researcher's supervision. Data pertaining to depression was collected after 02 month, 04 months and 06 months. To analyse data Repeated Measures ANOVA technique was used. Analysis of data is presented in table 1 and 2 respectively.

Analysis of Data

Table 1
Pre-Post Test Statistics of Mean Scores on Depression Scale among Elderly Females in Different Stages of Study Period
Repeated Measures ANOVA – Test of Within Subject Effects

Conditions	N	Depression	
		Mean	S.D.
Pre-test	50	19.00	5.18
After 02 months	50	13.80	5.32
After 04 months	50	6.64	4.73
After 06 months	50	2.66	2.34
F= 245.06, p<.01			

Results obtained through Repeated Measures ANOVA indicate that mean scores on depression scale among elderly females vary significantly in four study conditions i.e. pre-test (M=19.00), after 02 months from commencement of physical exercise program (M=13.80), after 04 months from commencement of study period (M=6.64) and at the end of the six months physical exercise program (M=2.66). [F=245.06, p<.01]

The mean difference in depression scores in various stages of study period was compared with the help of Least Significant Difference Test. The same are presented in table 2.

Table 2
Least Significant Difference Test with Significance Level .05

Mean (I)	Mean (J)	Mean Difference (I-J)
Pre-test	After 02 months	5.20*
	After 04 months	12.36*
	After 06 months	16.34*
After 2 months	After 04 months	7.16*
	After 06 months	11.14*
After 04 months	After 06 months	3.98*

* Significant at .05 level

Perusal of entries shown in table 2 reveal that mean score on depression significantly reduced after 02 months from start of study period, 04 months from start of study period and at the end of 6 months of study period as compared to what they were at the commencement of study period. The mean difference of 5.20, 12.36 and 16.34 also confirms these facts at .01 of statistical significance.

The mean score on depression as shown in table 2 significantly reduced after 4 months from start of study period, and at the end of 6 months of study period as compared to what they were after 02 months from commencement of study period. The mean difference of 7.16 and 11.14 also confirms these facts at .01 of statistical significance.

Similarly mean score on depression as shown in table 2 significantly reduced after 6 months from start of study period as compared to what they were after 4 months from commencement of study period. The mean difference of 3.98 also confirms this at .01 of statistical significance.

RESULT AND DISCUSSION

Results indicate significant decrease in depression scores of elderly females during the course of six months of physical exercise program. The mean scores on depression after completion of six months of

physical exercise program was found to be significantly lower when compared with depression scores prior to commencement of physical exercise program.

The results once again reiterate the effectiveness of physical exercise program in controlling depression in elderly. The results are also consistent with findings reported by Mridha and Banerjee (2010), Minghelli et al. (2013), Trajkov et al. (2018) in their studies. The results also highlight the importance of group physical exercise activity for social connectedness among elderly females.

CONCLUSION

Results of the present study leads to a conclusion that group based physical exercise program may be used as therapeutic tool to control depression in elderly females.

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