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Impact of supervised physical exercise program on positive mental health of geriatric Males population of Chhattisgarh

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Abstract

According to statistical estimates, increase in elderly population in India by the year 2021 will be 10.7% and 12.40% by the year 2026. In order to deal with social and economical impact of ageing it is necessary that geriatric population remains mentally healthy. In this context the aim of the present study was to assess the effect of supervised physical exercise program on positive mental health of elderly males. To conduct the study, 30 elderly males with an average age of 64.12 years were selected as sample. The inclusion criteria for selection of subjects was scores of less than 14 on positive mental health scale. The entire sample was selected from Durg district of Chhattisgarh. To collect data on positive mental health of elderly males, PMHI prepared by Agashe and Helode (2007) was used. The physical exercise program was designed as per the suitability and requirement of elderly males. The duration of this supervised physical exercise program was six months. The data on positive mental health was collected prior to commencement of study period, after two months of study period, after four months of study period and after the end of six months study period. Repeated Measure ANOVA statistics revealed that positive mental health in elderly males was enhanced significantly due to supervised physical exercise program. It was concluded that supervised physical exercise program of six months may be used as therapeutic tool to improve positive mental health in elderly males.

Keywords: Supervised, Geriatric depression

Introduction

The term mental health is so commonly used that it is extremely difficult to define it clearly. According to Manninger (1930) mental health is the adjustment made by a person to the world and with other persons so as to live happily. Manninger (1930) included even temper and appropriate social behaviour in defining mental health. Jahoda (1958) [5] defined mental health in the context of cognitive aspects related to accurate perception of knowledge regarding self. Jahoda also incorporated factors such as environmental mastery, autonomy and self growth in defining mental health. Allport (1961) [1] included conscience augmentation, bringing together way of thinking of life, sensible adapting aptitudes, capacities and observation, warm and profound connection of self to other people, caring attitude for every single living animal as the criteria of psychological well-being or mental health. Vaillant (2003) [12] described mental health as an ideal state to function efficiently, encompassing qualities such as love and wisdom, social emotional intelligence, subjective wellbeing and adequate coping ability. Vaillant (2003) [12] considered positive mental health as multidimensional incident. The positive aspect of mental health was also conceptualised by Strupp and Hadley (1977) [10] in which they included self acceptance, ego strength and philosophy of life in their conceptual model of positive mental health. Hence psychological well-being or positive mental health is much more than the psychological issues such as depression, anxiety etc. Positive characteristics such as enthusiasm for living, purpose in life, self confidence and self esteem forms positive mental health. So keeping the sub factors of positive mental health in contention it is even more important in elderly people because keeping the positive mental health status among elderly will solve other psycho-social problems of ageing. In India the elderly population will be around 10.7% and is likely to increase in the coming years. With ever changing social and family dynamics, the psychological problems such as depression in

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elderly has also risen dramatically. To address the issue of psycho-social problems in elderly, various measures have been advocated and physical exercise also emerged as one such measure. Researchers such as Bull *et al.*, (1999) [2], Emery and Gatz (1990) [3], Mather *et al.*, (2002) [7], Prashantha *et al.*, (2015) [8], Thilak *et al.*, (2016), Hallgren, *et al.*, (2016) have scientifically quoted the usefulness of physical exercise on management of psychological problems in elderly. So far no study yet has been conducted in which impact of supervised physical exercise program has been observed on positive mental health of elderly males. Hence the present study was planned to assess the effect of six months physical exercise program on positive mental health of elderly males.

Objective of the Study

The objective of the present study is to assess the impact of six months supervised physical exercise program on positive mental health of elderly males.

Hypothesis

It was hypothesized that six months supervised physical exercise program will yield in enhancement of positive mental health among elderly males.

Methodology

Sample

To conduct the study, 30 elderly males with an average age of 64.12 years were selected as sample. The inclusion criteria for selection of subject were score of less than 14 on positive mental health scale. The entire sample was selected from Durg district of Chhattisgarh. Purposive sampling method was adopted in the present study.

Tools

Positive mental health inventory

To assess positive mental health in elderly males, three dimensional positive mental health inventory prepared by Agashe and Helode (2007) was used. It is based on dimensions such as self acceptance, ego strength and philosophy of life respectively. It consists of 36 questions. This inventory is highly reliable and valid.

Physical exercise protocol

A physical exercise protocol of six months was formulated by the researcher. This protocol includes 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 exercise was 90 minutes/day and five days in a week.

Procedure

30 elderly male subjects from Durg district was selected as sample after following the inclusion criteria of scores less than 14 on positive mental health scale. After medical check-up and ethical considerations subjects participated in six months physical exercise program under the supervision of researchers. The positive mental health inventory was administered thrice with 02 months time interval. Repeated measure ANOVA technique was used to analyse the data. The results are presented in table no. 1 and 2 respectively.

Result and Discussion

Table 1: Pre-post test statistics of scores on positive mental health repeated measures a nova - test of within subject effects

Time Interval	N	Positive Mental Health	
		Mean	S.D.
Pre-test	30	10.56	2.81
After 02 months	30	11.23	3.10
After 04 months	30	13.90	2.39
After 06 months	30	18.80	3.23

F= 48.26, $p < .01$

Results obtained through Repeated Measures ANOVA indicate that mean positive mental health scores varies significantly during six months study period. The pre test mean score on positive mental health was 10.56 while 02 months it was 11.23, after 04 months it was 13.90 and after 06 months it was 18.80. The calculated F=48.26 also confirms the variation in positive mental health mean scores during six months study period at .01 level of statistical significance.

To minutely examine the changes in mean scores on positive mental health during different study conditions, pairwise comparison was carried out. Results shown in table 2

Table 2: Pairwise Comparison with Significance Level .05

Mean (I)	Mean (J)	Mean Difference (I-J)
Pre-test	After 02 months	-.26
	After 04 months	-2.96*
	After 06 months	-5.03*
After 2 months	After 04 months	-2.70*
	After 06 months	-4.76*
After 04 months	After 06 months	-2.06*

*Significant at .05 level

Perusal of entries shown in table 2 reveal that mean score on positive mental health increased significantly after 04 months from start of study period and at the end of 6 months of study period as compared to pre-test mean scores. The mean difference of 2.96 and 5.03 also confirms these facts at .05 of statistical significance.

No significant different was observed in pre-test mean positive mental health score and mean positive mental health score after 02 months. The mean difference of 0.26 was not found to be statistically significant.

Perusal of entries shown in table 2 reveal that mean score on positive mental health increased significantly after 04 months from start of study period and at the end of 6 months of study period as compared to mean scores on positive mental health after 02 months from commencement of study period. The mean difference of 2.70 and 4.76 also confirms these facts at .05 of statistical significance.

Perusal of entries shown in table 2 reveal that mean score on positive mental health increased significantly after 06 months from start of study period as compared to mean scores on positive mental health after 04 months from commencement of study period. The mean difference of 2.06 also confirms these facts at .05 of statistical significance.

Result and Discussion

In the present study gradual enhancement in positive mental health among elderly males was observed during six months of supervised physical exercise program. Spirduso and Cronin (2001) [9] in their review also reported that physical activity and exercise improves overall quality of life in elderly people.

They opined that due to physical exercise elderly people continue to do their regular day-to-day activities normally which has a positive effect on their psychological and subjective well-being. Another reason may be attributed to mood enhancing effect of physical exercise which reflect in better positive mental health.

Conclusion

On the basis of results it may be concluded that supervised physical exercise program of six months enhance positive mental health in elderly males. It may also be concluded that supervised physical exercise program of six months may be used as therapeutic tool to improve positive mental health in elderly males.

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