

Effect of Regular Physical Exercise on Ego-strength of Elderly Women: A Single Group Pre-Post Study

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ABSTRACT

The objective of this study is to assess the effect of regular physical exercise on the ego strength of elderly females. It was hypothesized that six months of supervised interventional physical exercise would significantly improve the ego strength of elderly women. To conduct the study 50 elderly women were selected purposively from the Raipur district of Chhattisgarh. Only those elderly women with scores below 06 on the ego strength component were selected purposively. The ego-strength of selected elderly women, a positive mental health inventory by Agashe and Helode (2007) was used. The six-month interventional physical exercise protocol was prepared and administered. The results revealed a decrease in the ego-strength dimension of positive mental health after 06 months of a physical exercise program. It may be due to elderly women realising their physical limitations during physical exercise programs that lead to their decreased ego-strength. It was concluded that ego strength in elderly females decreased after 06 months of an interventional physical exercise program. Therefore, a study with a longer duration is needed to authenticate this result scientifically.

Keywords: Ego-strength, Interventional physical exercise program, Elderly women,

INTRODUCTION:

Ego strength is a psychological concept. It gives a reflection of a person's capacity to deal with stress and adverse situations with resilience and a balanced emotional state. Ego-strength is essential for maintaining their identity and sense of purpose in life. Ego-strength allows an individual to maintain their self and adapt to changing environment. Ego-strength as a psychological concept was first introduced by Erikson. Erikson included it in the psychosocial stages of development. Erikson regarded ego strength as an essential part of elderly life because it enables them to adopt proper coping mechanisms to navigate later life challenges. Ego-strength enables an individual to make decisions more purposefully and bounce back from setbacks. Ego-strength is also a part of the concept of positive mental health. It is possible that a person may not be suffering from psychological or mental disorders or problems but he may not have a positive attitude towards life. Positive mental health denotes emotional flexibility and good coping skills. The psychoanalytic theory also describes ego strength. According to this theory, ego strength fulfils the demands of the id and the superego. Ego strength is also an integral element of mental well-being which is an essential ability to maintain own identity and self-awareness in the event of adverse situations, distress and pain. So, it can be said that a coping mechanism to fight stressful situations is strongly related to ego strength. Schneiders (1965) also opined that the absence of mental disease can not guarantee that the person is happy in life with a sense of purpose. In this regard positive mental as a concept was introduced in 1975 by Chaplin. Ray and Najman (1987) defined positive mental health as the ability of an individual to deal with emotional and behavioural challenges effectively. Psychologists included ego strength with self-acceptance and philosophy of life while defining positive mental health. Strupp and Hadley (1977) also included ego-strength along with self-acceptance and philosophy of life while defining the concept of positive mental health. Hence ego-strength as part of positive mental health holds a key for quality of life in the elderly population. In India, the elderly population is growing steadily because of improved healthcare facilities. But it is essential to look after the positive mental health of the elderly population because there is a lack of geriatric healthcare in India and this will create a situation where our economy will be burdened. The elderly population is considered the backbone of our society and good positive mental health is mandatory so that the young working population is not overburdened while taking care of the elderly population. Taking these facts into account it is essential to look for alternative therapy to maintain and boost the positive mental health of the elderly. One such therapy may be the use of regular physical exercise because studies have shown the benefits of it to reduce psychological stress and mood states (Maung et al., 2002; Fluetsch et al., 2019). Despite knowing the benefits of regular physical exercise, the effect of regular physical exercise on an ego-strength component of positive mental health has not been assessed, hence the present study was planned.

REVIEW OF LITERATURE

Monteiro-Junior et al. (2017) reported that the group of physically active elderly had less tension, fatigue and overall mood disturbance as compared to the group of physically inactive elderly. Meredith, Troutman-Jordan

et al. (2020) in this study reported that the frequency of mood disturbance in the elderly participating in physical exercise was less. Jae-Hyun Kim (2022) reported that the elderly involved in regular physical exercise have lower odds of reporting depressive symptoms. Maung et al. (2022) found that engaging in regular physical exercise serves as an effective therapeutic approach for alleviating symptoms of depression and anxiety among elderly individuals living in old age homes. Hou et al. (2024) scientifically demonstrated the positive impact of physical exercise on the mental health of the elderly. Their study revealed a strong and beneficial relationship between physical activity and mental well-being, which was influenced by the mediating factor of social competence.

Objective of the Study

The objective of this study is to assess the effect of regular physical exercise on the ego strength of elderly females.

Hypothesis

It was hypothesized that six months of supervised interventional physical exercise would significantly improve the ego strength of elderly women.

METHODOLOGY

Sample :

To conduct the study 50 elderly women were selected purposively from the Raipur district of Chhattisgarh. Only those elderly women with scores below 06 on ego strength were selected purposively.

TOOLS

Positive Mental Health Inventory

The ego-strength of selected elderly women was assessed through positive mental health inventory of Agashe and Helode (2007). This inventory consists of 36 items based on components such as self-acceptance, ego-strength and philosophy of life respectively. The test-retest reliability coefficient of 0.723 proves the reliability of this inventory while the inventory enjoys sufficient face validity. To meet the objective of this study, data on ego strength was used.

Physical Exercise Program:

The six-month interventional physical exercise protocol was based on the following:

Warm-up

Upper Body

1. Neck rotation - (Head turns), 2. Neck side stretch (Head tilts), 3. Neck flexion/extension, 4. Hand flexion / extension, 5. Prayer Stretch, 6. Elbow flexion/extension, 7. Shoulder circles, 8. Shoulder and upper back stretch, 9. Chest stretch, 10. Shoulder stretch, 11. Car and cow stretch and 12. Side bends.

Lower Body

1. Side stretch, 2. Chest to knee, 3. Knee to chest, 4. Rotators stretch, 5. Hamstring stretch, 6. Ankle circles, 7. Standing quadriceps stretch, 8. Standing calf stretch

Cool down

Procedure

50 elderly women were selected purposively from the Raipur district of Chhattisgarh. Only those elderly women with scores below 06 on ego strength were selected purposively. The data on ego strength was collected after 02 months, 04 months and 06 months since the beginning of the study period. After scoring and tabulation, the data was analysed. Results are given in the following tables.

RESULT AND DISCUSSION

Table 1
Descriptive Statistics of Ego Strength in Elderly Women During Different Stages of Study Periods

Study Periods	N	Ego Strength	
		Mean	S.D.
Pre-test	50	5.56	1.29
After 02 months	50	5.14	0.90
After 04 months	50	4.56	0.73
After 06 months: Post-test	50	4.78	0.78

Table 1 (a)

Within Subject Repeated Measures ANOVA

Source	Degree of Freedom (df)	Sum of Squares	Mean Square	F	Sig.
Within Subject	03	28.740	9.580	15.51	p<.01
Error	147	90.760	0.617		

The F ratio of 15.51 calculated in Table 1 (a) indicates a statistically significant difference in mean scores on ego strength in elderly females in different study periods at 0.01 level of significance. It shows the effect of a six-month interventional physical exercise program on the ego strength of elderly women.

To further analyse the difference in mean ego strength scores of elderly women in different study periods, the Least Significant Difference Test was conducted. Since the F-ratio is statistically significant, the analysis of mean differences through this test is justifiable. Results are given in table 1(b).

Table 1(b)

Pairwise Comparisons of Mean Ego Strength Scores in Elderly Women Across Study Periods - LSD Test, p<.05

Mean (I)	Mean (J)	Mean Difference (I-J)
Pre-test (M=5.56)	After 02 months (M=5.14)	0.420*
	After 04 months (M=4.56)	1.000*
	After 06 months (M=4.78)	0.780*
After 02 months (M=5.14)	After 04 months (M=4.56)	0.580*
	After 06 months (M=4.78)	0.360*
After 04 months (M=4.56)	After 06 months (M=4.78)	-0.220

* Significant at .05 level

- The mean pre-test score on ego strength for elderly women was 5.56 and it was 5.14 after 02 months of the study period. It indicates a significant decrease in ego-strength of elderly females after 02 months of the study period as compared to the beginning of the study. The mean difference of 0.42 proves this finding at 0.01 level of significance.
- The mean pre-test score on ego strength for elderly women was 5.56 and it was 4.56 after 04 months of study period. It indicates a significant decrease in ego-strength of elderly females after 04 months of the study period as compared to the beginning of the study. The mean difference of 1.00 proves this finding at 0.01 level of significance.
- The mean pre-test score on ego strength for elderly women was 5.56 and it was 4.78 after 06 months of the study period. It indicates a significant decrease in ego-strength of elderly females after 06 months of the study period as compared to the beginning of the study. The mean difference of 0.78 proves this finding at 0.01 level of significance.
- The mean ego strength score for elderly women after 02 months of study was 5.14 and it was 4.56 after 04 months of study period. It indicates a significant decrease in ego-strength of elderly females after 04 months of the study period as compared to what it was after 2 months of the study period. The mean difference of 0.58 proves this finding at 0.01 level of significance.
- The mean ego strength score for elderly women after 02 months of study was 5.14 and it was 4.78 after 06 months of study period. It indicates a significant decrease in ego-strength of elderly females after 06 months of study period as compared to what it was after 2 months of the study period. The mean difference of 0.36 proves this finding at 0.01 level of significance.
- The mean ego strength score for elderly women after 04 months of study was 4.56 and it was 4.78 after 06 months of study period. It indicates an increase in ego-strength of elderly females after 06 months of the study period as compared to what it was after 2 months of the study period but the mean difference of -0.220 was statistically non-significant.

The results revealed a decrease in the ego-strength dimension of positive mental health after 06 months of a physical exercise program. It may be due to elderly women realising their physical limitations during physical exercise programs that lead to their decreased ego-strength.

CONCLUSION

It was concluded that ego strength in elderly females decreased after 06 months of an interventional physical exercise program as compared to the beginning of the study period but increased during the last two months of study period, therefore, a study with a longer duration is needed to authenticate this result scientifically.

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