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Effect Of Exercise Program On Physical Ability In Elderly People

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Abstract:

The aim of this study was to see the effect of an exercise program on the physical ability of elderly people. For the present problem, the subjects were selected from the elderly people residing in the Tehsil of Yavatmal district of Vidarbha. The age of the selected subjects was between 60 and 70 years. Using the available sampling method for selection of subjects, 25 male subjects were selected who were willing to participate in the study voluntarily and did not have any serious illness. The selected 25 subjects were pre-tested and then a 12-months exercise program was organized. The exercise program was conducted for 6 days in a week and one day was given for rest. To test the physical ability of the subjects, grip strength, leg strength, back strength and flexibility were measured. grip dynamometer was used to measure hand strength, Leg dynamometer was used to measure leg strength, Back dynamometer was used to measure back strength and Sit and Reach test was used to measure flexibility. Descriptive statistical method and paired t-test was used to perform statistical analysis of subjects before and after testing. The critical level was set at 0.05. it was concluded that physical capabilities can be improved if exercise training is given even in old age. This study showed significant improvement in right hand strength, back strength, leg strength and flexibility and collectively, exercise training has shown a positive effect on physical capability. The researchers suggest that if exercise training is given in old age under proper guidance, then the physical and mental risks of old age can be reduced.

Keywords: Exercise, Physical Ability, Elderly People

1. Introduction:

It is very important to remain healthy at all stages, but in old age, the lifestyle has a great impact. In this stage, physical activities that give pleasure are very important. Physical activities that give pleasure should be done in this stage. In old age, such sources should be found from which physical and mental damage can be compensated by getting pleasure. Many changes take place in the body during old age. In old age, some changes keep happening in the body according to physiology, which is not possible to stop, but it can be reduced to some extent. In old age, the spine can bend forward, or there is a change in the way of walking due to the looseness in the bones of your knees and waist. Therefore, by doing some physical activities, the capacity of muscles can be increased, which can also increase the capacity of hands and legs. In old age, the heart and blood circulation system also undergo changes. The capacity to circulate blood, especially in a stressful situation, decreases. The strength of the heart muscles to contract decreases. The arteries that carry blood become easier, which increases blood pressure. The capacity of the receptor system near the aorta near the heart decreases, due to which the blood pressure does not remain normal in different postures of the person. There is a change in the respiratory system, the flexibility of the lungs decreases. The size of the muscles decreases and along with this the amount of fat decreases. Due to changes in the spine, the height of the person decreases. To bring about changes in muscles and bones, a specific exercise and balanced diet is required. If these things are taken care of from the early stage, then these changes can be reduced. Along with this, there is a change in sleep as well. Old people lose sleep several times during the night. If more care is taken of this at the beginning of old age, then the dangers that arise in old age can be avoided. This study was conducted to shed light on exercise and its importance.

2. Methodology:

For the present problem, the subjects were selected from the elderly people residing in the Tehsil of Yavatmal district of Vidarbha. The age of the selected subjects was between 60 and 70 years. Using the available sampling method for selection of subjects, 25 male subjects were selected who were willing to participate in the study voluntarily and did not have any serious illness. The selected 25 subjects were pre-tested and then a 12-months exercise program was organized. The exercise program was conducted for 6 days in a week and one day was given for rest. To test the physical ability of the subjects, grip strength, leg strength, back strength and flexibility were measured. grip dynamometer was used to measure hand strength, Leg dynamometer was used to measure leg strength, Back dynamometer was used to measure back strength and Sit and Reach test was used to measure flexibility.

Training Program:

The training program was conducted 6 times a week for 60-minute sessions over a total of 12 months. The training program consisted of a warm-up followed by walking, including a brisk walk.

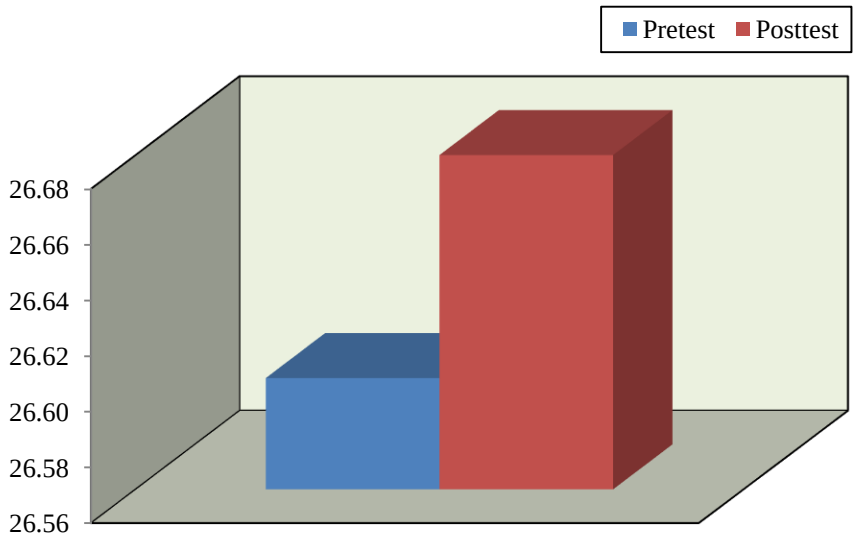
3. Statistical Techniques:

Descriptive statistical method and paired t-test was used to perform statistical analysis of subjects before and after testing. The critical level was set at 0.05.

Table 1: Table showing the comparison of left grip strength pretest and post test of elderly people

Test	N	Mean	SD	SE	MD	Ot	df	Tt
Pretest	25	26.60	5.77	1.64	0.08	0.152	24	2.064
Posttest	25	26.68	5.85					

Table 1 shows a comparison of the left hand grip strength of elderly people group before and after the test. The mathematically paired 't' value obtained by statistical analysis of numbers is (0.152) which is less than the table value (2.064).

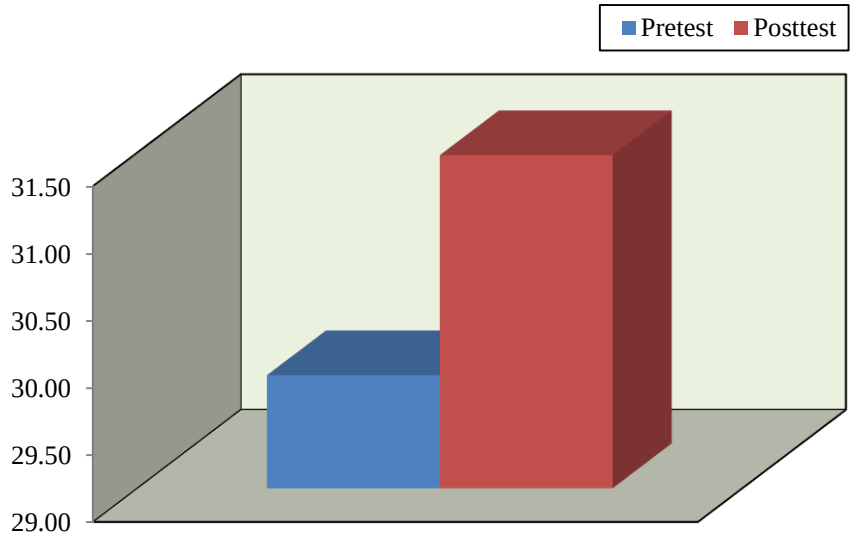


Graph 1: showing the mean difference of left hand grip strength pretest and post test of elderly people

Table 2: Table showing the comparison of right grip strength pretest and post test of elderly people

Test	N	Mean	SD	SE	MD	Ot	df	Tt
Pretest	25	29.84	4.77	1.30	1.64	3.834	24	2.064
Posttest	25	31.48	4.44					

Table 2 shows a comparison of the right-hand grip strength of elderly people group before and after the test. The mathematically paired 't' value obtained by statistical analysis of numbers is (3.834) which is greater than the table value (2.064). Based on the results obtained, it was concluded that the 12 months exercises training program has a positive effect on the right-hand grip strength of the elderly people.

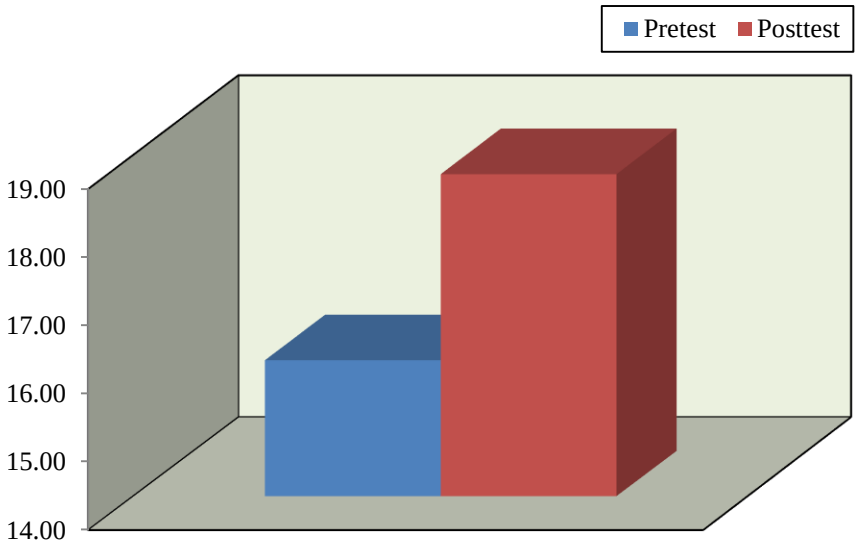


Graph 2: showing the mean difference of right hand grip strength pretest and post test of elderly people

Table 3: Table showing the comparison of back strength pretest and post test of elderly people

Test	N	Mean	SD	SE	MD	Ot	df	Tt
Pretest	25	16.00	4.65	1.34	2.72	5.283	24	2.064
Posttest	25	18.72	4.79					

Table 3 shows a comparison of the back strength of elderly people group before and after the test. The mathematically paired 't' value obtained by statistical analysis of numbers is (5.283) which is greater than the table value (2.064). Based on the results obtained, it was concluded that the 12 months exercises training program has a positive effect on the back strength of the elderly people.

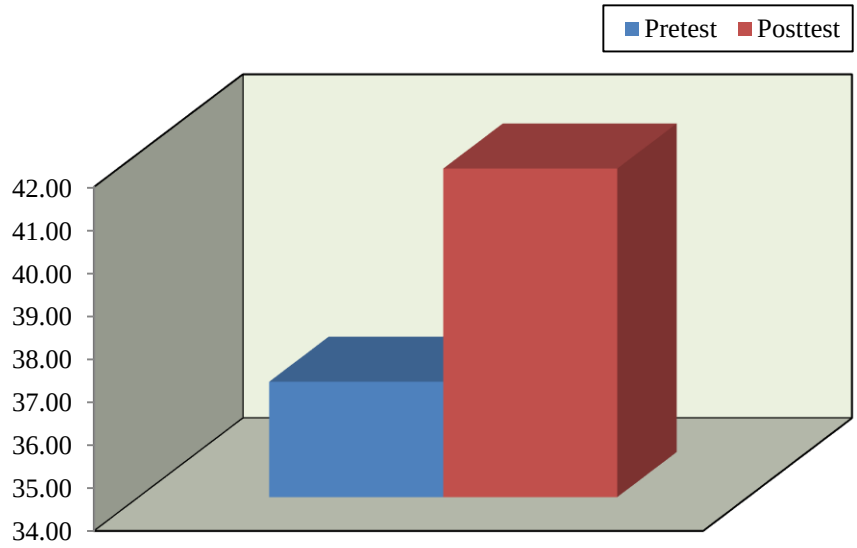


Graph 3: showing the mean difference of back strength pretest and post test of elderly people

Table 4: Table showing the comparison of leg strength pretest and post test of elderly people

Test	N	Mean	SD	SE	MD	Ot	df	Tt
Pretest	25	36.68	5.14	1.53	4.96	5.517	24	2.064
Posttest	25	41.64	5.68					

Table 4 shows a comparison of leg strength of elderly people group before and after the test. The mathematically paired 't' value obtained by statistical analysis of numbers is (5.517) which is greater than the table value (2.064). Based on the results obtained, it was concluded that the 12 months exercises training program has a positive effect on the leg strength of the elderly people.

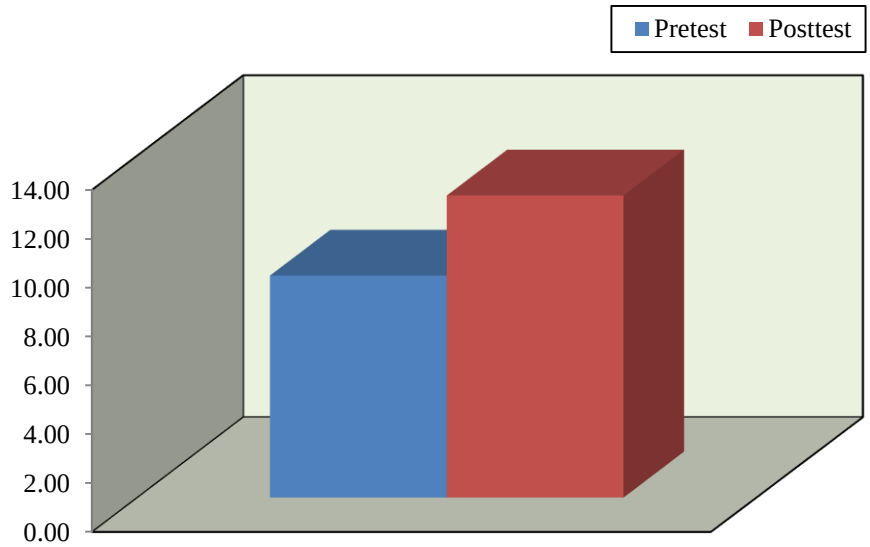


Graph 4: showing the mean difference of leg strength pretest and post test of elderly people

Table 5: Table showing the comparison of flexibility pretest and post test of elderly people

Test	N	Mean	SD	SE	MD	Ot	df	Tt
Pretest	25	9.08	2.75	0.68	3.28	7.491	24	2.064
Posttest	25	12.36	2.02					

Table 5 shows a comparison of the flexibility strength of elderly people group before and after the test. The mathematically paired 't' value obtained by statistical analysis of numbers is (7.491) which is greater than the table value (2.064). Based on the results obtained, it was concluded that the 12 months exercises training program has a positive effect on the flexibility of the elderly people.

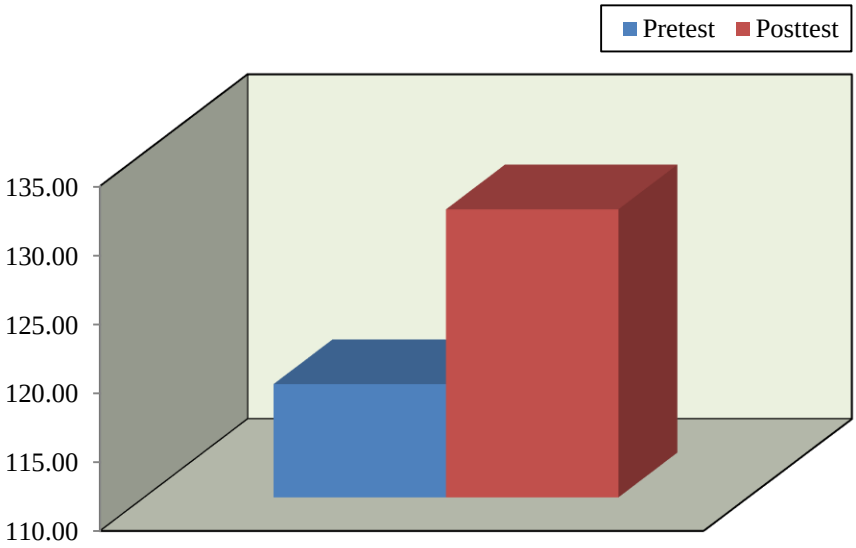


Graph 5: showing the mean difference of flexibility pretest and post test of elderly people

Table 6: Table showing the comparison of physical ability pretest and post test of elderly people

Test	N	Mean	SD	SE	MD	Ot	df	Tt
Pretest	25	118.20	13.72	3.86	12.68	7.426	24	2.064
Posttest	25	130.88	13.54					

Table 6 shows a comparison of the physical ability of elderly people group before and after the test. The mathematically paired 't' value obtained by statistical analysis of numbers is (3.834) which is greater than the table value (2.064). Based on the results obtained, it was concluded that the 12 months exercises training program has a positive effect on the physical ability of the elderly people.



Graph 6: showing the mean difference of physical ability pretest and post test of elderly people

4. Conclusion:

it was concluded that physical capabilities can be improved if exercise training is given even in old age. This study showed significant improvement in right hand strength, back strength, leg strength and flexibility and collectively, exercise training has shown a positive effect on physical capability. The researchers suggest that if exercise training is given in old age under proper guidance, then the physical and mental risks of old age can be reduced.

5. Reference:

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