

A Quasi Experimental Study to Evaluate the Effectiveness of Isometric Exercise for Senior Citizens Suffering from Osteoarthritis at Selected Old Age Homes in Kanpur, Uttar Pradesh

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Abstract: This paper presents a quasi-experimental study to evaluate the effectiveness of isometric exercise for senior citizens suffering from osteoarthritis at selected old age homes in Kanpur, Uttar Pradesh

Keywords: Isometric Exercise, Osteoarthritis

1. Introduction

Aging is an inevitable process and cannot be avoided, yet we can live happy, healthy and productive lives and the period of ill health can be squeezed into the shortest possible time before we leave the world. Maintaining physical and mental capabilities as long as possible is called successful aging. The population of the senior citizen has been increasing over the years, as per the UNESCO estimation, globally the number aged 60+ is likely to increase to 590 million in 2025. About 8% of the total population is 60 years. There has been a remarkable increase in the growth of the elderly population. In India 5.3% of males and 4.8% females are aged more than 65 years. Old age cannot be healed or prevented. However much can be done by the health workers in helping the elderly to lead a normal life which is necessary for them to perform their activities of daily living [ADL] smoothly. The commonest obstacle for elderly to carry out ADL is the joint pain and decreased mobility. Worldwide osteoarthritis is the most common articular disease of people aged 65 years and older, it represents major cause of disability in the India.

2. Methodology

This study was a quasi-experimental study to evaluate the effectiveness of isometric exercise for senior citizens suffering from osteoarthritis at selected old age homes in Kanpur. Sample size was 100. A self-structured questionnaire was used to assess level of functional ability of the senior citizens before teaching isometric exercise. The exercise schedule was conducted only to the senior citizens in the experimental group.

3. Data Analysis

The statistical analysis showed that the experimental group scored more score than the control group in the post test. When comparing the pre test with post test value there was increase in the functional ability in the experimental group than control group. The calculated 't' value was statistically highly significant at $p < 0.001$ level which clearly shows that there is significant difference in the functional ability among senior citizens before and after giving isometric exercise in the experimental group.

4. Major findings of the study

1. With respect to age, majority 10(33.33) were in the age group of 60 – 65 years in the experimental group and whereas in the control group majority 12(40%) were in the age group of 66 – 70 years. Regarding the marital status of the senior citizens in the experimental group, majority 17(56.67%) were widow and in the control group, majority 11(36.67%) were widow.
2. Considering the duration of joint pain in the experimental group, majority 14(46.67%) has been experiencing joint pain for one to two years and in the control group majority 16(53.33%) has been experiencing joint pain for one to two years. Regarding the diagnosis of osteoarthritis in the experimental group, majority 15(50%) were diagnosed for osteoarthritis on the left knee and in the control group majority 14(46.67%) were diagnosed for osteoarthritis on the left knee.
3. With respect to body built in the experimental group, majority 20(66.67%) of senior citizen's body built was normal and in the control group, majority 19(63.33%) body built was normal. With respect to family history of osteoarthritis in the experimental group, majority 26(86.67%) had no family history of osteoarthritis and in the control group,
4. In the pre test majority of the senior citizens 24(80%) had

low level of functional ability and in the post test majority 28(93.33%) had moderate level of functional ability in the experimental group.

5. In the experimental group, the pre test mean score was 83.07 with S.D 7.39 and the post test mean score was 48.17 with S.D 7.67. The calculated 't' value of 30.722 was statistically highly significant at $p < 0.001$ level which clearly shows that there is a significant increase in the level of functional ability among senior citizens before and after giving the isometric exercise in the experimental group
6. The post test level of functional ability between the two groups were calculated and the calculated 't' value of -13.015 was statistically highly significant at $p < 0.001$ level.
7. This clearly shows that the isometric exercise had significant effect by improving the level of functional ability among senior citizens in the experimental group than the control group.
8. The demographic variable body built had shown statistically high significant association with the level of functional ability among senior citizens at $p < 0.001$ level and the other demographic variables had not shown any statistically significant association with the level of functional ability among senior citizens in the experimental group.

5. Conclusion

The study concludes that the isometric exercises had

significant effect by improving the level of functional ability among senior citizens in the experimental group than the control group. As by concluding that the hypothesis stated is accepted.

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