Original Research Paper

Community Medicine



AN EXPERIMENTAL STUDY ON THE EFFECTIVENESS OF ISOMETRIC EXERCISE ON PAIN PERCEPTION AND FUNCTIONAL MOBILITY AMONG ELDERLY WITH OSTEOARTHRITIS IN SELECTED OLD AGE HOMES AT MANGALORE

Mrs. Dona Sunny Lecturer.

ABSTRACT Background: Osteoarthritis (0A) is the most common form of arthritis and a leading cause of disability worldwide, largely due to pain, the primary symptom of the disease. The aetiology of pain in OA is recognized to be multifactorial, with both intra-articular and extra-articular risk factors. Most older people with chronic peripheral joint pain do not consult a doctor, a major reason being that joint pain, stiffness and functional disability are seen as an inevitable part of ageing for which the doctor can do little. The best way to keep osteoarthritis under check is to exercise regularly. Exercise is a big plus for elderly people Isometric exercise is found to be one of the effective methods in reducing joint pain and improving functional mobility. Throughout ageing process this exercise can reduce the joint pain and increases the functional mobility. A study was undertaken to evaluate the effectiveness of isometric exercises on pain perception and functional mobility among elderly with osteoarthritis at selected old age homes at Mangalore.

- To determine the level of pain perceived by elderly as measured by using numerical pain rating scale.
- To identify the level of functional mobility among elderly as measured by using modified osteoarthritis WOMAC index scale.
- · To evaluate the effectiveness of isometric exercise on level of pain among elderly with osteoarthritis.
- To evaluate the effectiveness of isometric exercise on improvement of functional mobility among elderly with osteoarthritis.
- To find an association of pain perception and functional mobility among elderly with osteoarthritis and with their selected demographic variables

Method

An experimental research approach with pre experimental one group pre-test post-test design was used for this study. The sample consisted of 50 elderly people with osteoarthritis were selected by non-probability purposive sampling technique. The study was conducted in the selected old age homes at Mangalore. The internal consistency and the reliability was established by using split half method with Karl Pearson's correlation formula. The reliability coefficient of the whole test was then estimated using Spearman Brown Prophecy formula. The reliability was found to be highly reliable. The data was collected using numerical pain rating scale and modified osteoarthritis WOMAC index scale. Following the pre-test, on the second day isometric exercise was taught to samples for 15 minutes for four weeks and instructed them to practice it every day for a period of 15 minutes under supervision. On every weekend post-test was conducted using the same tool. The data was analysed using descriptive and inferential statistics.

Results

- The most (64%) of subjects were in the age group of 55-65 years
- 28% of elderly people had education up to higher secondary
- Highest percentage(48%) of the elderly were married
- Majority (34%) elderly people were stayed in old age home for 6-10 years
- Most (40%) elderly people were separated willingly
- 40% of elderly people had pain since 6-10 years
- Most (86%) elderly people were performed exercise
- Majority (80%) elderly people were received physiotherapy
- All 100% of subjects had severe joint pain in the pre-test
- 100% of subjects had very severe functional disability in the pre-test
- The mean post-test (.38) pain score was significantly lower than the mean pre-test (7.88) pain score after the administration of isometric exercise programme.
- The mean post-test (7.10) functional mobility score was significantly lower than the mean pre-test (75.30) functional mobility score after the administration of isometric exercise programme.
- The isometric exercise is an effective method for reduction of pain among elderly with osteoarthritis which was evident by the mean post-test 4 score (.38t.49) showed a decrease in the level of pain. The difference in the pre-test and post-test are statistically significant at 0.5 level of significance F(3709) = 2.42, $p < 0.05^{**}$).
- The isometric exercise is an effective method for improvement of functional mobility among elderly with osteoarthritis which was evident by the mean post-test 4 score (7.10t1.66) showed an improvement of functional mobility. The difference in the pre-test and post-test are statistically significant at 0.5 level of significance (F-22756.22)-2.42.p< 0.05**).
- There was no significant association of pre-test pain perception score of elderly with osteoarthritis and the selected demographic variables.
- There was no significant association of pre-test functional mobility score of elderly with osteoarthritis and the selected demographic variables.

Interpretation And Conclusion

The findings of the study indicate that isometric exercise is effective in improvement of functional mobility and reduction of degree of pain among elderly with osteoarthritis. Isometric exercises have become increasingly popular, because they have been proven to be effective in helping people maintain and achieve a fit and healthy body. The need of further improvement in knowledge still exists in this area. The researcher emphasizes the role of doctors, health professionals and social workers in imparting the knowledge of elderly people on the importance of isometric exercises for reduction of joint pain and improvement of functional mobility.

KEYWORDS : Effectiveness; isometric exercises; pain perception; functional mobility; elderly.

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