ADDED EFFECT OF MWM IN OSTEOARHTHRITIS OF KNEE PATIENTS AMONG ELDERLY

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ABSTRACT
This study examines how treatment with the mobilization with movement (MWM) affects pain and physical function of geriatric patients with osteoarthritis. Methods: Thirty patients diagnosed with osteoarthritis were divided into an experimental group (n=15), and a control group (n=15). The experimental group was treated with the MWM technique. The control group was treated with conventional physical therapy Results: No Statistically significant differences were found after the intervention in the experimental group in the visual analog scale and physical function scores. Conclusion: The treatment of degenerative osteoarthritis patients using the MWM technique is not effective for reducing pain and improving physical functions among elderly patients with rheumatoid arthritis.
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Key words: Mobilization with movement, OA, Knee joint, Elderly

I.INTRODUCTION

A joint is where two or more bones meet, the joint allows the bones to move freely but within limits. The knee is the largest joint in the body and also one of the most complicated. It needs to be strong enough to take our weight and must back into position so we can stand upright, but it also has to act as a hinge so we can walk and must withstand extreme stresses, twists and turns, such as when we run or play sports

Osteoarthritis (OA) is a chronic joint disease. Which commonly affects the knee. OA can cause pain, stiffness, swelling, joint instability and muscle weakness, all of which can lead to impaired physical function and reduced quality of life. Osteoarthritis (OA) the most common form of arthritis, is a progressive joint disorder characterized by gradual loss of cartilage.The knee joint is where your femur and tibia meet. The end of each bone is covered with cartilage which has a smooth, slippery surface that allows without friction, your knees have two additional rings of cartilage between the bones[1].

Osteoarthritis (OA) is the most common joint disease causing disability. OA is a disease process of axial and peripheral joints. It is characterized by progressive deterioration and loss of articular cartilage and by reactive bone changes at the margins of the joints and in the subchondral bone. Clinical manifestations are characterized by slowly developing joint pain, stiffness and joint enlargement with limitations of motion. Knee osteoarthritis results from mechanical and idiopathic factors that alter the balance between degradation and synthesis of articular cartilage and subchondral bone, the etiology of knee OA is not entirely clear, yet its incidence increases with age and in women, the etiology may have genetic factors affecting collagen, or traumatic factors, such as fracture or previous meniscal damage .obesity is a risk factor for the development and progression of OA[2].

Early degenerative changes predict progression of the disease. Underlying biomechanical factors, such as varum or valgum of the tibial femoral joint may predispose people in OA.Mulligan's Movement With Mobilization (MWM) is a manual therapy technique in which a manual force usually in the form of a therapist-applied pain-free accessory joint glide applied with active movement of the gilding segment and sustained while a previously impaired action(e.g. painful reduced movement, painful muscle contraction) is performed. MWM found more effective in improving pain, joint stiffness, range of motion, and walking distance in patients with osteoarthritis of the knee, the mechanism by which MWM achieves pain relief in OA knee are due to biomechanical effect correcting positional fault; and neuro physiological effect in which changes in central and knee descending pain processing mechanisms.

Knee tape is used by physiotherapists to manage knee pain. Initially developed to treat patella femoral pain syndrome (PFPS) evidence suggests taping may health individuals with knee OA[3].

The basic rationale for taping is to provide protection and support to an injured part while permitting optimal functional movement. It is essential rehabilitation tool which enhances healing by allowing early activity within carefully controlled ranges. It permits an early return to sports/day-to-day activities by protecting the area from further injury and avoids compensatory injury elsewhere.But geriatric rehabilitation with MWM or Taping is highly controversial because of the frail bones and joints[4]

II.METHODOLOGY

Convenient sampling method was employed and Totally 30 Patients are included in the study and the geriatric subjects of Age group 68-78 years were included and participants with Cardiac conditions. Hypertension, Neurological conditions of lower limbs, other Musculoskeletal pathologies of lower limbs were excluded out of the study and the assessment parameter used is VAS

Procedure

30 subjects were selected as per inclusion and exclusion criteria. An informed consent statement was obtained from them. Conventional exercises were delivered to each of the participants. exercises consisted of stretching for 5 minutes. The MWM combines active physiological exercises with vibrations, compression, and stretching are applied to the knee joint without causing pain. The technique is now recognized in manual therapy worldwide. In this study, the therapist first placed each patient's leg on the affected side on a 30 cm high table. After positioning himself or herself behind the patient, the therapist held the patient's lower leg with both hands and rotated the tibia inward upon the thigh while the patient flexed his/her knee. The patient was then instructed to perform the motion of knee flexion ten times.The present study's program was performed within a range that caused no pain. The subjects repeated the motion of knee joint gliding without pain. The program consisted of three sessions and after the end of each session, a 30-second break was provided[5].(Chan-Woo Nam, Min-Sik Yong and Young-Min Kim)

The degree of pain was scored between a 0 to 10 points on a Visual Analogue Scale (VAS). The subjects marked their own scores before the treatment began and again six weeks after the treatment had been completed.

SPSS for Windows (Version 18.0) was used. In order to examine differences in the effects of the intervention between the experimental and control groups, the independent samples t-test and paired t-tests were performed. The statistical significance level was chosen as 0.05

III.DATA ANALYSIS

Data analysis made usingSPSS (version 18) software.

TABLE 1- COMPARISON OF VAS SCORE BEFORE AND AFTER MWM

VAS	PRE TEST(n=15)	POST TEST(n=15)
EXPERIMENTAL GROUP	56.00	60.00
CONTROL GROUP	57.00	55.00

IV.RESULTS

The results show that the performance of the participants has not improved after the application of MWM

DISCUSSION

This study was performed using an experimental group with MWM and a control group that received conventional exercises. Each group consisted of 15 subjects, and over a six-week period, three treatment sessions were conducted weekly. During the intervention to the knee joint, pain perception were evaluated. Osteoarthritis is the most common type of arthritis that causes disabilities or problems in elderly populations. Women have a higher incidence of degenerative osteoarthritis than men. With the advancement of age, the degenerative changes progress.

The degrees of pain were paid attention by some researchers , occurrence of pain due to degenerative osteoarthritis . pain is the predominant indicator of OA and the delivery of health care aids in complete recovery from degenerative osteoarthritis[6]

In the present study, regarding Mulligan Technique MWM was verified as not effective at eliminating or reducing pain and physical dysfunction caused by degenerative osteoarthritis. Therefore, conventional stretching exercise can be suggested as an treatment for relieving pain in degenerative osteoarthritis patients.

Limitations of this study include the small number of subjects, which makes it difficult to make generalizations of the findings, and the selection of subjects within a limited geographical area, which precludes comparison with other regions.

CONCLUSION

The functional performance has not increased after the application of MWM to knee joint for 10 minutes. And at the tenth minute the VAS has increased .Further studies are needed to validate in performing MWM for elderly and middle age adults .

REFERENCES

1. Dingwell JB, Cusumano JP: Nonlinear time series analysis of normal and pathological human walking. Chaos, 2000, 10: 848–863 [PubMed]
2. Bae SS: Isotonic contraction of combining the biomechanical interpretation of proprioceptive neuromuscular facilitation. J Korean Soc Phys Ther, 2002, 14: 81–85
3. Park RJ, Park CG, Han DW: Activity of daily living of patients with total knee arthroplasty study on ability to perform. J Korean Soc Phys Ther, 2003, 15: 889–900
4. Kovar PA, Allegrantc JP, Mackenzie CR: Supervised is fitness walking in patients with osteoarthritis of the knee. Ann Intern Med, 1992, 116: 529–534 [PubMed]
5. Han TR, Bang MS: Rehabilitation Medicine, 3rd ed. Seoul: Kunja, 2008
6. Cole D, Finch E, Gowland C, et al. : Physical Rehabilitation Outcome Measures. Baltimore: Williams & Wilkins, 1994, pp 27–31.