

Effectiveness of Deep Friction Massage and Isometric Exercises in “Osteoarthritic Knee”

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Abstract

Objective: To compare the effect of isometric exercises and deep friction massage on osteoarthritis knee. **Methods:** Total number of participants were 40 (both male and female) . Equal number of participants were randomly assigned into two groups i.e. A and B. According to the Inclusion and Exclusion criteria and carried out at CSSH (Meerut) in department of physiotherapy. Ultrasonic modality was given to patients in both the groups. Group A was given Isometric Exercises while Group B was given Deep Friction Massage.

The study design was of pre and post test comparative design with Group A and B. **Results:** To find out the effect of six days of treatment on both the group. **Conclusions:** We conclude from our study that though improvement comes from both the techniques but Isometric Exercises provide better results then to Deep Friction Massage.

Keywords: Osteoarthritis; Deep friction massage; Isometric Exercises.

Introduction

Osteoarthritis is a non inflammatory degenerative disorder of joints characterized by progressive deterioration of the articular cartilage and formation of new bone (osteophytes). It is primary when the etiology is unknown and secondary when it follows some known cause - e.g. trauma, infection, rheumatoid arthritis, etc. It is more common in weight bearing joints such as hip and knee. The concept of “wear” and “tear” is generally attributed as a cause of osteoarthritis.[1]

Osteoarthritis (degenerative joint disease, osteoarthrosis) is characterized by thinning and destruction of the hyaline cartilage of joints, followed by remodelling of underlying bony surface. It is essentially non-inflammatory. Repeated heavy occupational stress on joints

may increase the prevalence of osteoarthritis. Some of osteoarthritis is genetically related. The medial compartment of the knee transmits a higher proportion of weight than the lateral compartment. As the cartilage begins to degenerate, stress of weight bearing frequently leads to narrowing of medial compartment. This may ultimately leads to genu varum, similar to bow legs where the knees curve outward.[2]

Osteoarthritis is often regarded as a progressive process associated with getting older. It should be regarded as the end result of abnormal mechanical, inflammatory, metabolic, physiological or pathological factors. The incidence of the disease is higher in the elderly. Radiological symptoms may be present only in some 15% of those with radiological change, but after the age of 60 over 80% of the population will have some radiological symptoms of osteoarthritic changes.[3]

Osteoarthritis (OA) is the most common joint disorder in a large number of people older than 65 years. Knee OA is more commonly associated with disability than OA of any other joint. Prevalence increase with

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age, and radiographic abnormalities are present in more than 30% of persons older than 65 years, with approximately 40% of these persons being symptomatic.[4]

Van Saase *et al* (1989) reported that knee pain is one of the most commonly reported musculoskeletal disorders which estimates that it will affect 30-40% of population by age of 65 years. It has been demonstrated that physiotherapy intervention is effective in reducing pain and improving activity in people with anterior knee pain. Manual therapy techniques including mobilization, stretching soft tissue massage are also used in the treatment in OA knee (Cyriax 1977).[5]

The femorotibial joint are the target sites for osteoarthritis of the knee joint isolated patellofemoral osteoarthritis is relatively rare. The incidence of symptomatic isolated patellofemoral osteoarthritis in patients older than 55 years has been estimated to be 8% of women and 2% of men. Eight % have pain and difficulty during climbing and descending stairs. Patellofemoral joint lesions have been found to be lateral in 89% of all of patellofemoral osteoarthritis.[1]

Osteoarthritis is one of the most common cause of pain and disability in the western world and it effect upto 80% of people over the age of 65 (Brandt 2000). Despite numerous research studies, the exact pathways and triggers involved in OA are still the cause of some debate. OA is some time known as "degenerative joint disease". Both men and women are affected but the joint distribution pattern is different.[6]

Need of Study

Osteoarthritis knee is a common problem in both male and female population.

The effective treatment protocol is still lacking, this study is intended to find out an effective treatment for treating osteoarthritis knee.

Hypothesis

Experimental Hypothesis (H1): ultrasound

with isometric exercise (VMO) with deep friction massage techniques will have different effect on improvement in patients with osteoarthritis of knee.

Null hypothesis (H0): ultrasound with isometric exercise (VMO) with deep friction massage will have similar effect on improvement on patients with osteoarthritis knee.

Aims and Objectives

To study the effect of ultrasound with isometric exercises (VMO) on subject with osteoarthritis knee.

To study the effect of ultrasound with deep friction massage on subject with osteoarthritis knee.

To compare the effect of both treatment techniques.

Purpose and Significance of Study

To find out an effective treatment which will help osteoarthritis of knee.

To improve functionally in clinical sittings.

Materials and Methodology

1. Number of Subjects

The total number of participants were N= 40 (both male and female).

2. Sample Selection

Type of sampling = random

The subject diagnosed as osteoarthritis knee by orthopaedician who showed a sign and symptoms requested to participate in the study.

The purpose of study was explained to the subject.

An informed consent was taken from each subject.

All the patients were assessed using a similar