

Quadriceps Strength of Patients of Osteoarthritis Knee: Relationships to Pain and Disability

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Abstract

The study was conducted on two hundred patients ranging in age from 40 to 70 years with established osteoarthritis knee to examine the association of quadriceps strength with pain and disability of knee osteoarthritis. In addition the relationships between various components of health related fitness, pain, effusion and disability were also examined in the present study. Quadriceps strength seems to be an independent contributor to the severity of osteoarthritis knee; the findings illustrate the need of improving the muscle function in these patients. No association between knee pain and disability indicates that functional limitations in patients with osteoarthritis should be explored separately from the evaluation of symptoms.

Key Words: **Isotonic, Isometric, Lean Body Mass, % Fat**

Introduction:

Osteoarthritis has the distinction of being the oldest and most prevalent chronic joint disease known to humanity. Worldwide it touches the lives close to one billion people (Gordon, 1993). This is particularly apparent at the knee joint, one of the commonest sites to be affected. Despite major efforts in the past, little is known about the risk factors associated with pain and disability of osteoarthritis knee compared to other diseases with major public health impact. Recent attention has focused on Quadriceps mechanism. Quadriceps strengthening exercises are widely recommended for osteoarthritis knee based on longitudinal studies showing decreased muscle strength in patients of osteoarthritis knee in comparison to their healthy counterparts. (Tan et al., 1995; and Wessel, 1996). Studies of elderly, generally healthy subjects, have reported relationships between muscle strength and functional status (Hyatt et al., 1990). Such associations, however, have not yet been

examined in patients of osteoarthritis knee.

The aim of the study was to examine the association of quadriceps strength with pain and disability of knee osteoarthritis. In addition the relationships between various components of health related fitness, pain, effusion and disability were also examined in the present study.

Materials and Methods:

Subjects: Two hundred patients with established osteoarthritis knee ranging in age from 40 to 70 years from physiotherapy O.P.D., Lyallpur Khalsa College, Guru Nanak Mission Hospital, Mangat Hospital and Oberoi Hospital of Jalandhar City (Punjab, India) were recruited for the study.

Clinical Health Status:

Pain, tenderness, effusion were recorded depending upon the severity and graded as per criteria laid by Livesly et al. (1991).

Body Composition: