

## **Role of footwear alteration along with conventional physiotherapy in Osteoarthritis knee**

**Kanimozhi, D<sup>1</sup>.; Multani, N.K<sup>2</sup>.; Pragma<sup>3</sup>**

<sup>1</sup>Clinical Physiotherapist, Department of Physiotherapy, Punjabi University, Patiala-147001, Punjab. India. Email: kaninarkeesh1976@gmail.com

<sup>2</sup>Professor, Department of Physiotherapy, Punjabi University Patiala-147001, Punjab. India. Email: drnkmultani@rediffmail.com

<sup>3</sup>Clinical Physiotherapist, Department of Physiotherapy, Punjabi University, Patiala-147001, Punjab. India. Email: drpragma82@gmail.com

### **Abstract**

In spite of vast array of conservative treatment interventions for medial knee osteoarthritis, their effectiveness in its management is still contentious. Numerous researchers have suggested the role of footwear modification in reducing medial knee joint space load and hence reducing pain and improving functional status. However, most of the studies were cross-sectional in nature and have not seen the alteration in compendium of factors like radiographic changes, static alignment, kinesiological factors, gait parameters and most importantly plantar pressure distribution following 6 months of footwear modification along with conservative physiotherapy. The results of the present study suggested that footwear alteration along with conventional physiotherapy was effective not only in improving clinical outcomes but also increasing medial knee joint space width, changing static alignment, improving kinesiological factors, gait parameters and plantar pressure distribution in patients of osteoarthritis knee.

**Key Words: Footwear alteration; Knee; Osteoarthritis; Joint Space Width; Static alignment; Kinesiology; Gait; Plantar pressure; Pain; Functional status**

### **Introduction**

Osteoarthritis of the knee is a common painful chronic disease whose prevalence is increasing and for which there are few efficacious treatment options (*Felson et al, 2000*). The increase in rates of knee replacement for osteoarthritis has made the identification of effective nonsurgical treatments a high priority. Medial osteoarthritis is one of the most common subtypes of knee osteoarthritis (*Parkes et al, 2013*). It was directly linked with a varus deformity causing a change in the axial alignment on the knee and with the static load bearing axis transmitting through the medial side rather than the center of the knee. This change in alignment and load bearing axis

of the knee will increase the loading transmitted through the medial compartment and accelerate the degeneration of the cartilage, which is believed to be one of the main causes of medial knee OA (*Mehta and Mulgaonkar, 2004*). In the light of these cross-sectional studies, the present study was carried out in a longitudinal design with an aim to not only provide symptomatic relief to OA knee patients but also address the biomechanical alterations.

Lateral wedge insoles are used for conservative treatment of OA when there is medial compartment narrowing. Although knee OA is not a foot condition, foot orthosis can alter the ground reaction