

Efficacy of mobilization with movement in treatment of chronic ankle sprain

Alshaimaa K . Abd Elaal^a , Khaled E. Ayad^a , Hatem M. ELazizi^b , Abdelgalil A. Abdelgalil^a

^a *Cairo University, Faculty of Physical Therapy, Department of Physical Therapy for musculoskeletal disorders, Cairo, Egypt*

^b *Cairo University, Faculty of Medicine, Department of Radiology, Cairo, Egypt*

ABSTRACT

Background: Patients with chronic ankle sprains have a tendency to produce repeated ankle sprain associated with positional fault of the distal fibula which contributes to abnormal physiologic motions. **Purpose:** to detect the effects of mobilization with movement (MWM) followed by taping on the positional fault of distal fibula, range of motions (ROM) of the ankle joint complex, pain and balance control in chronic ankle sprain. **Methods:** Fifteen patients with chronic ankle sprain participated in this study with age 25.07(\pm 6.28) years, height 160.67(\pm 8.84) cm and weight 70.73 (\pm 13.14) kg. The patients' ankles (affected and normal sides) were examined by Omni Diagnost Fluoroscope to detect anterior positional faults of distal fibula, and then the ROM of ankle joint complex was assessed. Pain intensity was assessed by numerical pain rating scale and balance control by Balance Master System including unilateral stance eyes open and closed (USEO/USEC) and all variables were measured pre and post treatment comparing with normal side. **Results:** MWM and taping showed significant correction of positional faults of distal fibula with means of 22.53 (\pm 3.39), 26.79 (\pm 3.62) and 28.20 (\pm 3.38) mm for pre treatment, post treatment and normal side respectively ($P < 0.05$), also significant improvement in ankle dorsiflexion ROM with means of 13.13 (\pm 4.84), 17.67 (\pm 4.73) and 29.60 (\pm 2.20) degrees for pre treatment, post treatment and normal side respectively and in subtalar inversion ROM there was significant improvement with means of 12.20 (\pm 5.10) and 15.53 (\pm 3.58) degrees for pre treatment and post treatment respectively but no significant differences between post treatment and normal side with mean of 16.07 (\pm 2.37) degree. In subtalar eversion ROM there was significant improvement with means of 7.20 (\pm 3.17), 8.87 (\pm 3.23) and 9.27 (\pm 1.94) degrees for pre treatment, post treatment and normal side respectively. Results showed also, significant reduction of pain intensity with means of 4.87 (\pm 0.99), 2.87 (\pm 0.99) and, 0.00 (\pm 0.00) for pre treatment, post treatment and normal side respectively and also, significant improvement in USEO with means of 1.29 (\pm 0.42), 0.89 (\pm 0.29) and 0.34(\pm 0.15)deg/sec and in USEC with means of 2.15 (\pm 0.66), 1.66 (\pm 0.40) and 0.94 (\pm 0.29) deg/sec for pre treatment, post treatment and normal side respectively. **Conclusion:** MWM followed by taping is effective in correcting the positional faults of distal fibula with significant improvement in ankle joint complex ROM, balance control and reduction in pain intensity. Further research is planned with a larger sample size, an additional treatment group and control (no treatment) group with multiple sessions to detect further effects of MWM and taping. **Implication:** MWM can be widely applied to realign malposition of distal fibula of ankle joint and taping has a role in maintaining this correction and realignment of joint structures. MWM and taping are useful therapy modalities in improving active ROM, balance control and reducing pain in chronic ankle sprain.

Key words: Mobilization with Movement

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Ethical approval:

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