

## عنوان مقاله:

The Effects of Pulsed Ultrasound on Postural Sway in Women with Knee Osteoarthritis: A Randomized Clinical Trial

## محل انتشار:

مجله پژوهش در علوم توانبخشی، دوره 14، شماره 1 (سال: 1397)

تعداد صفحات اصل مقاله: 8

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## خلاصه مقاله:

**Introduction:** Poor postural control in patients with knee osteoarthritis (KOA), according to the abnormal excursions of center of pressure (COP), has been proven. On the other hand, the results of the previous studies indicate that pulsed ultrasound (PUS) improves joint and muscle structure and function. The aim of this study was to evaluate the effect of pulsed ultrasound on postural sways in patients with knee osteoarthritis. **Materials and Methods:** 11 healthy women and 22 women with bilateral knee osteoarthritis, who were matched in terms of age and weight, assigned randomly to three groups. The groups of the study included: sham ultrasound with exercise, ultrasound without exercise, and ultrasound with exercise. Subjects were examined in comfort double leg standing (CDLS), Romberg standing (RS), and near tandem standing (NTS) positions on a force plate. Pulsed ultrasound was used for 10 sessions at a frequency of 1 MHz and 1 W/cm<sup>2</sup>. In groups with exercise therapy, lower limb strengthening exercises were prescribed. **Results:** It was determined in baseline assessment that COP sways in mediolateral direction were affected more than other directions. After the treatment, in the ultrasound without exercise group, mediolateral (ML) range ( $P < 0.001$ ) and standard deviation of the mediolateral range of the COP ( $P < 0.001$ ) in comfort double leg standing (CDLS) position significantly increased. In the ultrasound with exercise group, anteroposterior (AP) range ( $P = 0.010$ ), standard deviation of mediolateral velocity ( $P = 0.010$ ), and mediolateral mean velocity ( $P = 0.010$ ) significantly decreased in Romberg standing position. **Conclusion:** In women with knee osteoarthritis, COP displacements in mediolateral direction was more affected than other sway directions. Pulsed ultrasound could improve the postural sways in mediolateral direction, and bring its parameters closer to the healthy group.

## کلمات کلیدی:

Osteoarthritis of knee, Postural balance, Ultrasound, Pressure

## لینک ثابت مقاله در پایگاه سیویلیکا:

