

## عنوان مقاله:

the The Effect of Four Months of TRX Training on Lumbar Bone Mineral Density and its Relationship with Serum Adiponectin Level in Osteopenic Women

## محل انتشار:

مجله بین المللی مطالعات سلامت, دوره 7, شماره 2 (سال: 1400)

تعداد صفحات اصل مقاله: 5

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## خلاصه مقاله:

**Background:** Osteoporosis is a systemic skeletal disease augmenting the risk of fractures. The biological mechanisms of bone osteogenic response to mechanical loads are not fully understood. This study aimed to determine the effects of four months of TRX training on lumbar bone mineral density (BMD) and its relationship with serum adiponectin in osteopenic women. **Methods:** In this quasi-experimental study, ۳۰ osteopenic women were selected by purposive sampling and then randomly divided into two groups of TRX (n=۱۵), and control (n=۱۵). The experimental group performed TRX exercise protocol for four months, three sessions a week, and ۴۵-۶۰ minutes per session. At the beginning and end of the intervention, blood samples were obtained to determine serum adiponectin using a specific ELISA kit (Bio vendor, Czech Republic). The bone mineral density of the lumbar was assessed by ۲D DEXA instrument (LEXXOS DIGITAL, USA). Data analysis was performed applying paired and independent sample student t-test and Pearson correlation in SPSS ۲۰ software. **Results:** Lumbar BMD (Pvalue=۰.۰۰۰) and serum adiponectin level (Pvalue=۰.۰۰۰) significantly increased in the TRX group compared to the control. In within-group comparison, significant elevations were observed in lumbar BMD (Pvalue=۰.۰۰۰) and serum adiponectin level (Pvalue=۰.۰۰۴) after TRX exercise. A statistically significant positive correlation was observed between lumbar BMD and serum adiponectin in osteopenic women (Pvalue=۰.۰۰۰). **Conclusions:** According to the results, it seems that TRX exercise can improve lumbar BMD and serum adiponectin levels in osteopenic women. **Keywords:** Osteopenia, TRX exercise, Lumbar bone mineral density, Adiponectin

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