

## عنوان مقاله:

The Effects of Resistance Training With and Without Electrical Muscle Stimulation on Body Composition of Obese Women

## محل انتشار:

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## خلاصه مقاله:

**Background and Purpose:** Nowadays, total body resistance exercise has been added to instability training and has become popular for improving health and sports performance. Resistance training is a beneficial way to improve body composition and increase muscle strength. This study aims to evaluate the effect of suspension training (total resistance exercises [TRX]) with and without electrical muscle stimulation (EMS) on body composition and muscle strength in obese women. **Materials and Methods:** This quasi-experimental research is an applied study in terms of research goal. A total of ۳۶ Class ۱ obese women (mean±SD age: ۳۰.۹±۵.۳ years, mean±SD body mass: ۹۵.۴±۹.۴ kg, mean±SD height: ۱۶۸.۲±۷.۸ cm) were randomly selected from qualified volunteers and grouped randomly into three groups (n=۱۲ for each group): EMS, TRX, and TRX-EMS. The TRX group performed ۸ weeks of suspension resistance training (۳ sessions per week), and the TRX-EMS group performed the TRX exercises wearing a whole-body suit that provided electrical stimulation. EMS intervention includes ۳ applications of ۹۰ min/۳ days per week for ۸ weeks. Data were analyzed by analysis of covariance at a significance level of ۰.۰۵ using SPSS software. **Results:** Findings of this study demonstrate significant differences in body composition measurements among three groups after ۸ weeks of interventions ( $P \leq 0.05$ ). All three interventions increased muscle strength after ۸ weeks. TRX+EMS was the most effective intervention on body composition measures (-۴.۳% in body mass index [BMI], -۷.۲% in body fat mass [BFM], and +۳.۶% in skeletal muscle mass [SMM]) and muscle strength (۲۱.۹۳% in BP-۱RM and ۲۷.۴% in LP-۱RM). Also, these findings may indicate that EMS was the least effective intervention on body composition and muscle strength compared with the TRX and TRX-EMS. **Conclusion:** According to these results, it is suggested that obese women use EMS with suspension training to lose weight and improve body composition and strength.

## کلمات کلیدی:

Resistance training, Electrical stimulation, Overweight, Body mass index (BMI), Muscle strength, Body composition

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