EFFECTS OF ZINC AND SELENIUM SUPPLEMENTATION ON THYROID FUNCTION OF OVERWEIGHT OR OBESE HYPOTHYROID FEMALE PATIENTS

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Background: Micronutrient deficiencies of zinc and selenium can lead to thyroid dysfunction. The objective of this study was to determine the effects of zinc and selenium supplementation on thyroid function of overweight or obese hypothyroid female patients. Methods: This was a double-blind randomized clinical trial study. Sixty-eight overweight or obese hypothyroid female patients randomly allocated in one of the four supplementation groups receiving zinc+selenium (zinc gluconate contains 30 mg zinc and selenium yeast contains 200 µg selenium), zinc+placebo, selenium+placebo or placebo+placebo for 12 weeks. At baseline and at the end of the study, general information, anthropometric factors, dietary intake and biochemical parameters were measured. Physical activity questionnaire was completed. The N4 and SPSS software version 16 were performed for nutritional and statistical analysis. Results: After the intervention period, no significant changes were found in serum zinc and selenium levels. Significant increase was observed in serum FT3 levels in the zinc+selenium group (p<0.05) and zinc+placebo (p<0.01) compared to baseline. This effect was significant in the zinc+placebo group compared to those in the selenium+placebo or placebo+placebo groups (p<0.05). Serum FT4 increased and TSH decreased significantly in the zinc+selenium group (p<0.05). TT3 and TT4 had a significant reduction in the selenium+placebo group (p<0.05). No significant changes were found for TT3, FT4, TT4 or TSH between groups. Conclusions: This study showed some evidence of supplementation effects of zinc alone or in combination with selenium on thyroid function of overweight or obese hypothyroid female patients.