تأثیر مکمل‌های مولکولی مینرال و ویتامین D بر پروفايله‌ها منابعی

اکسیداتیو در زنان باردار در معرض خطر پرداکلاپسی: یک کارآزمایی بالینی

خلاصه:

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Effect of multi mineral-vitamin D supplementation on metabolic profiles, hs-CRP and oxidative stress in pregnant women at risk for pre-eclampsia: a randomized controlled clinical trial

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Abstract:

Background: The purpose of this study was to determine the favorable effects of multi mineral-vitamin D supplementation on metabolic profiles, serum hs-CRP and biomarkers of oxidative stress among Iranian pregnant women at risk for pre-eclampsia.

Materials and Methods: This randomized single-blind controlled clinical trial was conducted among 48 pregnant women, primigravida, at risk for pre-eclampsia aged 18-40 years at their third trimester. Pregnant women were randomly assigned to receive either the multi mineral-vitamin D supplements (n=24) or the placebo (n=24) for 9 weeks. Fasting blood samples were taken at baseline and after 9 weeks of intervention to measure metabolic profiles, hs-CRP and oxidative stress parameters.

Results: Consumption of multi mineral-vitamin D supplements as compared to the placebo resulted in a significant decrease in FPG (-11.7 vs. -2 mg/dL, \(P=0.01\)), serum insulin levels (-0.96 vs. 2.65 \(\mu\)IU/ml, \(P=0.04\)) and a marginally significant decrease in HOMA-IR (-0.34 vs.0.6, \(P=0.06\)). Also, multi mineral-vitamin D supplementation resulted in a significant decrease in serum hs-CRP levels as compared to the placebo (-1411.7 vs. 1503 ng/ml, \(P=0.01\)). Moreover, the mean changes for plasma TAC (151.94 vs. -19.69 mmol/l, \(P=0.002\)) and total GSH levels (205.82 vs. -32.3 \(\mu\)mol/l, \(P=0.02\)) were significantly different between the two groups.

Conclusion: In conclusion, consumption of multi mineral-vitamin D supplements for 9 weeks during pregnancy among pregnant women at risk for pre-eclampsia resulted in a significant decrease in FPG, serum insulin, hs-CRP and increased levels of plasma TAC and total GSH as compared to the placebo group.

Keywords: Supplementation, Metabolic profiles, Hs-CRP, Oxidative stress, Pre-eclampsia