EXERCISE-BASED INTERVENTION TO PREVENT EXCESSIVE GESTATIONAL WEIGHT GAIN: A RANDOMIZED CONTROLLED TRIAL

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Background and objectives: We aimed to examine the effect of moderate-intensity exercise-based intervention performed from the 9th week of pregnancy on maternal weight gain. Methods: A total of 962 healthy gravidae were randomly assigned to either a standard care or exercise intervention group. The intervention included moderate-intensity aerobic and resistance exercises performed 3 times per week (50-55 minutes per session). Women were categorized according to their pre-pregnancy body mass index (BMI) into normal-weight (n=687) and overweight/obese (n=275) groups. Excessive gestational weight gain was calculated on the basis of the 2009 IOM recommendations. Gestational body weight gain was calculated on the basis of the pre-gravid weight and weight at the last clinic visit before delivery.

Results: Women in the intervention group gained less weight (adjusted mean difference 1.039 kg, 95%CI: 0.534-1.545, P = 0.00001) and were less likely to gain weight above the IOM recommendations (OR: 0.625, 95%CI: 0.461-0.847, P = 0.002) than women who received standard care. Main treatment effects by BMI category revealed that normal-weight women in the intervention group gained less weight (adjusted mean difference 1.393 kg, 95%CI: 0.813-1.972, P = 0.00003) and were less likely to gain weight above the IOM recommendations (OR: 0.508, 95%CI: 0.334-0.774, P = 0.002) than normal-weight women who received standard care. No significant effect was observed in overweight/obese women, yet normal-weight women were less likely to gain weight above the IOM than overweight/obese women (OR: 0.247, 95%CI: 0.145-0.422, P < 0.000001).

Conclusions: Exercise of moderate-intensity performed over the second-third trimesters of pregnancy can be used to prevent excessive gestational weight gain in normal-weight women.