

## 799-P

### Lifestyle Intervention Improves Insulin Resistance

Joshua Lowndes *Orlando, FL*; Theodore Angelopoulos, James Rippe  
*Celebration, FL*

Insulin resistance is a silent condition that increases the chances of developing diabetes and heart disease. High plasma levels of insulin and glucose due to insulin resistance often lead to metabolic syndrome and type 2 diabetes and atherosclerosis. Accelerated atherosclerosis is a major burden of diabetes. We examined the effects of a Hypocaloric diet and exercise (DEX;  $n = 71$ ) or exercise only (EO,  $n = 60$ ) on glucose, insulin and insulin resistance (HOMA) in 131 participants (BMI 22–40) for 24 weeks. Both groups received an exercise prescription recommending a minimum of 15 min of moderate physical activity, 3 days per week and progressing to 45 min, 4 days per week by week 12. They also met with an exercise physiologist once weekly for 12 weeks and biweekly thereafter. Additionally, the DEX group followed a DASH style eating pattern and incorporated one commercially prepared frozen meal and one other selected grocery item each day for 26 weeks and received dietary counseling from a dietician once weekly for 12 weeks and biweekly thereafter. Results for the first 12 weeks have previously been presented. Weight loss was greater ( $P < 0.001$ ) in the DEX compared to EO group ( $-17.70 \pm 10.11$  vs.  $-6.23 \pm 8.12$  lbs). Additionally, greater improvements were made in fasting insulin ( $-3.92 \pm 4.78$  vs.  $-1.45 \pm 4.67 \mu\text{U/ml}$ ), glucose ( $-2.34 \pm 10.05$  vs.  $2.48 \pm 9.02$  mg/dl) and HOMA insulin resistance ( $-0.92 \pm 1.12$  vs.  $-0.30 \pm 1.15$ ) in DEX compared to EO ( $P < 0.01$ ) These data suggest that a structured diet plan that incorporates prepared convenience meals and regular exercise can successfully reduce insulin resistance thus reducing the risk for diabetes and cardiovascular disease.

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