

## Concurrent Session 4: Dietary Interventions for Metabolic Syndrome & Obesity

### *Shape up for Life: a community-based diet and lifestyle program for metabolic syndrome*

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**Background** – Diet and exercise modifications are recommended to counteract obesity and the metabolic syndrome (MetS) but there is limited evidence of their feasibility and effectiveness in a community setting.

**Objective** – To conduct a randomised controlled community-based trial to evaluate sustainable effects of a 4-month combined diet (non-energy restricted) and physical activity intervention on body composition and metabolic health.

**Design** – 111 females and 42 males (mean age 45 years) with MetS (IDF criteria) were matched and randomly allocated to intervention (n= 103) or control (n= 50). The 4-month intervention comprised weekly education and peer support to increase physical activity (1 session/wk) and improve diet quality according to national guidelines. The latter focused on dietary fat, salt and glycemic index, aided by provision of healthy food samples. Weekly group exercise sessions were held to encourage additional physical activity. Controls maintained their customary lifestyle. Outcome measures included anthropometry and body composition (DXA), blood pressure and arterial compliance, fasting blood lipids, glucose and insulin and measures of physical fitness. Diet was monitored using food frequency questionnaires.

**Outcomes** – Data (mean  $\pm$  SEM of change from baseline for intervention and control groups respectively) obtained from n= 120 participants who completed to 4 months reveal several significant improvements compared with the control group, including greater improvements in weight ( $-2.45 \pm 0.42$  vs  $-0.64 \pm 0.54$  kg,  $P=0.02$ ), BMI ( $-0.94 \pm 0.15$  vs  $-0.25 \pm 0.17$  kg/m<sup>2</sup>,  $P= 0.01$ ), waist circumference ( $-4.4 \pm 0.6$  vs  $-1.2 \pm 0.8$  cm,  $P= 0.007$ ), whole body fat mass ( $-2.18 \pm 0.31$  vs  $-0.51 \pm 0.44$  kg,  $P= 0.007$ ), body percent fat ( $-1.29 \pm 0.19$  vs  $-0.15 \pm 0.36\%$ ,  $P= 0.004$ ), abdominal fat mass ( $-223 \pm 26$  vs  $-71 \pm 38$  g,  $P= 0.004$ ) and mean arterial pressure ( $-1.5 \pm 0.8$  vs  $+2.0 \pm 1.6$  mmHg,  $P= 0.05$ ).

**Conclusions** – Preliminary analysis demonstrates the potential of this combined lifestyle approach to counteract MetS.

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