

# 7<sup>th</sup> Obesity & Endocrinology Specialists Congress

October 10-12, 2016 Manchester, UK

## Benefits of regular exercise on inflammatory and cardiovascular risk markers in normal weight, overweight and obese adults

**Maria Fernanda Cury-Boaventura**  
University of Cruzeiro do Sul, Brazil

Obesity is a worldwide epidemic that increases the risk of several well-known co-morbidities. There is a complicated relationship between adipokines and low-grade inflammation in obesity and cardiovascular disease (CVD). Physical activity practices have beneficial health effects on obesity and related disorders such as hypertension and dyslipidemia. We investigated the effects of 6 and 12 months of moderate physical training on the levels of adipokines and CVD markers in normal weight, overweight and obese volunteers. The 143 participants were followed up at baseline and after 6 and 12 months of moderate regular exercise, 2 times a week, for 12 months. The volunteers were distributed into 3 groups: Normal weight group (NWG), overweight group (OVG) and obese group (OBG). We evaluated blood pressure, resting heart rate, anthropometric parameters, body composition, fitness capacity (VO<sub>2</sub>max and isometric back strength), cardiovascular markers (CRP, total cholesterol, LDL-c, HDL-c, homocysteine) and adipokine levels (leptin, adiponectin, resistin, IL-6 and TNF-alpha). There were no significant changes in anthropometric parameters and body composition in any of the groups following 6 and 12 months of exercise training. Leptin, IL-6 levels and systolic blood pressure were significantly elevated in OBG before the training. Regular exercise decreased HDL-c, leptin, adiponectin and resistin levels and diastolic blood pressure in OVG. In OBG, exercise diminished HDL-c, homocysteine, leptin, resistin, IL-6 and adiponectin. Moderate exercise had no effect on the body composition; however, exercise did promote beneficial effects on the low-grade inflammatory state and CVD clinical markers in overweight and obese individuals.

### Biography

Maria Fernanda Cury-Boaventura has completed her PhD on Human Physiology and Post-doctoral studies from University of São Paulo. She is Professor and Researcher at Institute of Physical Activity and Sport Sciences since 2007. She has published more than 40 papers in reputed journals and has been serving as an Editorial Board Member of repute.

mafecuryb2009@hotmail.com

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