

Bisphenols A and S exposure induces an increase in triglyceride and oxidative stress, and a decrease in physical fitness

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Bisphenol A and S (BPA and BPS) are widely used in food packaging. High levels of those BPA and BPS in human specimens have been linked with the development of several diseases. This study aimed to verify the relationship between levels of BPA, BPS, oxidative stress, and their influence on lipid profile in overweight/obese young adults. Normal weight ($BMI \leq 25$) and overweight/obese ($BMI \geq 25$) participated in 2 separate testing days. An oral glucose tolerance test (OGTT) was performed using 50 g of maltodextrin on both days. On the “Exercise” testing day, subjects ran for 30-minutes, while on the “Rest” day, they remained seated. Urinary BPA, BPS and oxidative stress, lipid profile, and body fat were assessed. Distance ran was used to determine physical fitness. The exercise, 30 minutes of running, decreased blood glucose compared to resting day. That decrease was negatively associated with the percentage of body fat ($r = -0.505$). There was no difference of urinary levels of BPA, BPS and oxidative stress between normal and overweight/obese subjects. Urinary BPA and oxidative stress were negatively associated with physical fitness ($r = -0.45$ and 0.51 , respectively), while BPS was associated with an increase in oxidative stress and triglycerides ($r = 0.82$ and 0.51 , respectively). Exposure to BPA and BPS induced increased levels of oxidative stress and triglycerides and decreased physical fitness, increasing the risk for developing metabolic diseases.