

JOINT EVENT

10th International Conference on **Childhood Obesity and Nutrition**
&
2nd International Conference on **Metabolic and Bariatric Surgery**

June 12-13, 2017 Rome, Italy

General and central obesity is associated with snack quality in primary school children in Shiraz

Shiva Faghih and Saeed Ghobadi
Shiraz University of Medical Sciences, Iran

Statement of the Problem: Increasing prevalence of childhood obesity has been associated in part to diet quality. This study examined the relationship between body composition and nutritional quality of the meals, in primary school children in Shiraz (Iran).

Methodology & Theoretical Orientation: This cross-sectional study was done on 431 primary school student (219 boys and 212 girls) aged between 6 and 10 years. Using standard methods anthropometric indices including weight, height, body fat and waist circumference (WC) were measured and body mass index (BMI) was calculated. Also, three 24-h dietary records (two weekdays and one weekend) were taken. The linear regression test was used to determine relationship between percent of energy intake of macronutrients in each meal with body composition. Data were analyzed using SPSS version 19.

Findings: The mean age of participants was 7.8 ± 1.03 years and the mean BMI was 16.03 ± 2.71 kg/m². Results showed that WC was inversely associated with the percentage of energy intake from breakfast ($\beta = -2.04$; CI: -4, 0.002) but it was not significant anymore after adjustment for total energy intake. Also, the percentage of energy intake from fat content of snacks were significantly associated with BMI ($\beta = 1.47$; CI: 0.36, 2.59), and WC ($\beta = 0.43$; CI: 0.02, 0.85) even after adjusting for total energy intake. There were no associations between other meals quality and body composition indices.

Conclusion & Significance: Our study showed that snacks quality but no other meals were associated with WC and BMI, and having fatty snacks was related to central and abdominal obesity among children.

shivafaghih@gmail.com

Obesity as a metabolic disorder regulated by insulin: Childhood obesity largely free from insulin resistance would be treated easily by carbohydrate restriction

Song Jae Lee¹ and Sang Won Shin²
¹Chungnam National University, South Korea
²Korea University, South Korea

Statement of the Problem: Most previous researches on obesity are based on the premise that obesity is simply caused by imbalance between calorie intake and expenditure and thereby, metabolism involved in obesity is almost ignored. As a result, we have no consensus yet on the cause of the obesity.

Methodology & Theoretical Orientation: We have reviewed the basics of the metabolism and physiology behind the fat accumulation in the fed state and fat mobilization in the fasted state in healthy individuals without any sign of insulin resistance—most children would be metabolically healthy.

Findings: The postprandial hyperglycemia and subsequent postprandial hyperinsulinemia induced when relying on CRD would enhance fat accumulation in the fed state. Postprandial hyperinsulinemia would then transition to basal hyperinsulinemia—a relatively low level of insulin in the fasted state—and not only inhibit lipolysis, lowering the level of plasma acids, but also suppress hepatic glucose production (HGP), lowering the level of plasma glucose. The enhanced fat accumulation in the fed state combined with limited lipolysis in the fasted state would lead to net weight gain. Furthermore, the low level of plasma fatty acids and glucose—the energy fuel—in the fasted state is likely to induce intense hunger and physiological weakness, which are in turn likely to induce overfeeding and physical inactivity, respectively, leading to positive energy balance and eventual obesity.

Conclusion & Significance: Obesity is a metabolic disorder proceeding in the physiological condition of hyperglycemia and subsequent hyperinsulinemia induced when relying on CRD. Healthy obesity exhibiting no sign of insulin resistance yet, frequently observed in children would be treated relatively by carbohydrate restriction or more specifically by reliance on fat rich diet (FRD).

sjlee@cnu.ac.kr