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Rationale: Overweight and obesity, which have been associated with metabolic syndrome, have become a worldwide public health concern in childhood. This study aimed to determine the risk of metabolic syndrome in overweight/obese secondary school students in Vietnam.

Methods: A cross-sectional study was carried out in 3,586 children aged 11–15 years in two secondary schools in Dong Da and Phuong Mai districts, Hanoi City in 2014. Children's weight, height, waist circumference, blood pressure and demographic data were collected, and overweight (BAZ >1 and <2) and obesity (BAZ ≥2) were identified. From all identified overweight/obese children, 330 children were randomly selected and their fasting plasma triglycerides, HDL cholesterol and glucose were measured to determine metabolic syndrome. Metabolic syndrome was defined according to the International Diabetes Federation criteria as central obesity and any two of raised triglycerides, reduced HDL cholesterol, raised blood pressure, or raised fasting plasma glucose.

Results: The prevalence of overweight/obesity was 34.4%. Among the 330 children, 14.8% had metabolic syndrome with no significant difference in prevalence between girls and boys. Obese children and children aged >13 years were at a higher risk of metabolic syndrome than overweight children (OR 2.9; 95% CI 1.4, 5.9) and children aged ≤13 years (OR 2.7; 95% CI 1.5, 5.1), respectively. Three risk factors were present in 77.6% of children, and ≥ four risk factors in 22.4% of children. The prevalence of raised blood pressure was 14.5%, raised triglycerides 15.2%, reduced HDL cholesterol 20.9%, and raised fasting plasma glucose 17.9%.

Conclusions: Metabolic syndrome has become a health problem in school children, particularly in obese children and older children. Urgent effort is needed to reduce the risk of metabolic syndrome and its possible implications on child and future health.

Disclosure of interest: None declared.

SUN-P338

SLEEVE GASTRECTOMY AND GASTRIC BYPASS INDUCE SIMILAR BENEFICIAL CHANGES ON PLASMA APOLIPOPROTEINS A AND B, HIGH DENSITY LIPOPROTEINS AND OXIDIZED LOW DENSITY LIPOPROTEINS IN OBESE WOMEN

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Rationale: The beneficial effects in lipid profiles after obesity surgery might be associated with the decrease in cardiovascular risk. However, direct comparison between different surgical techniques has not been extensively performed.

Methods: In the present study we compare 20 obese women submitted to laparoscopic Roux en Y gastric bypass (RYGB) with 20 women submitted to sleeve gastrectomy (SG). Twenty control women matched for age and baseline cardiovascular risk were also included. Both patients and controls were followed up for one year after surgery or conventional treatment with diet and exercise, respectively. Lipid profiles were measured at baseline, 6 months and 1 year after. Carotid intima-media thickness was measured by ultrasonography at baseline and at the end of study.

Results: After one year of follow-up, women submitted to bariatric surgery presented with a decrease in total cholesterol, oxidized-LDL and ApoB concentrations, and an increase in HDL and ApoA levels that occurred regardless of the surgical procedure performed. LDL concentrations, however, decreased only after RYGB whereas Lp(a) showed no changes at one year of follow-up in any group of obese women. We did not observe

any correlation between the changes in serum lipid concentrations and those observed in carotid intima-media thickness.

Conclusions: Sleeve gastrectomy and gastric bypass induce a similar beneficial effect on serum lipids in women with high cardiovascular risk one year after surgery.

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IMPLICATION OF THE GUT MICROBIOTA IN PERSONALIZED METABOLIC RESPONSE TO DIETARY INULIN IN OBESE PATIENTS

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Rationale: Dietary supplementation with inulin as a prebiotic has been shown to lessen obesity and related metabolic disorders in some individuals. Using mice transferred with the fecal microbiota from obese patients, we have addressed the following question: do the characteristics of the gut microbiota in obese individuals explain the different physiological response to inulin?

Methods: The gut microbiota of four-week old mice was depleted using antibiotics. Mice were then colonized with stools from one of the four human obese patients (hum-ob) selected for different gut microbiota composition (alpha-diversity indexes, *Bifidobacterium* levels...). Conventional and hum-ob mice (n = 6–9 mice per group) were then fed with a high-fat diet (HFD) during four additional weeks, supplemented or not with native inulin (Cosucra).

Results: We demonstrated that antibiotics effectively depleted more than 99.8% of fecal total bacteria in mice. Hum-ob mice tended to gain a higher body weight during a HFD, compared to the conventional ones. Inulin supplementation largely reduced the body weight of hum-ob mice for only one donor (p<0.05). Inulin significantly reduced the hepatic steatosis (lipids and triglycerides content), as well as the increased adiposity induced by a HFD and/or gut microbiota transfer for two donors. Despite an increased cecal content – signing gut fermentation – observed in all humanized mice, the increase in *Bifidobacterium* spp. was not found for each donor suggesting that the inulin response could differ depending on the gut microbiota.

Conclusions: Our work using a model of gut microbiota transfer from patients into mice highlighted the differential response of humanized mice to dietary supplementation with inulin. We propose that the gut microbiota is an important component to be taken into account for personalized nutrition related to prebiotic dietary fibers in the future.

Disclosure of interest: None declared.

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OBE SOGENIC ENVIRONMENT AMONG ADOLESCENT STUDENTS FROM A DEVELOPING MUNICIPALITY IN THE INTERIOR OF SÃO PAULO – BRAZIL

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Rationale: Brazil is in a scenario of significant changes in population weight control, a phenomenon known as nutritional transition (NT), where the consumption of ultra-processed foods can lead to chronic diseases. This study aimed to identify nutritional status and food intake, correlating them with NT.

Methods: A cross-sectional study with 703 schoolchildren from a municipality in the interior of the state of São Paulo, Brazil, which has high Human Development Indexes (HDI of 0.811). Participants completed the