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## 47 – Cardiovascular risk assessment in children

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**Introduction:** For adult population the different clustering methods of cardiovascular risks (metabolic syndrome (MS), scoring systems improved from that of the Framingham Heart Study) have been proved their scientific and practical value. Similarly, there is a clear need for evaluating cardiovascular risk status already in childhood, giving chance for targeted intervention.

**Method:** In a sample of 196 children (boy:girl ratio 50.5:49.5%; mean age 7.2 (SD 1.18) years), antropometric parameters and the levels of serum lipids, fasting glucose, insulin, adiponectin and leptin were measured. We determined the presence of metabolic syndrome according to four definitions. We applied the cardiovascular risk scoring system of Brambilla of two clusters: (i) individual parameters (obesity, overweight, waist circumference/height ratio, hypertension, small for date birth weight and male gender) and (ii) Family history of early CVD, diabetes type 2, hypertension and dyslipidemia.

**Results:** The prevalence of overweight and obesity was 17.9% and 11.8%, respectively. The prevalence of metabolic syndrome according NHLBI, NCEP, Ferranti and Cook were 6.9%, 5.3%, 9% and 1.6%, respectively. Using the mean + SD of Brambilla score as cut-off, 15.6% showed elevated score value. Linear regression model revealed no connection between Brambilla score and MS, which indicates their different approach of risk estimation. The former showed stronger correlation than most of the MS definitions with laboratory parameters and with linear regression a better explanatory value than all of MS definitions (R<sup>2</sup> 0.339 *v.* 0.068–0.146 for leptin).

**Conclusions:** Expanding the cluster of parameters screening the childhood cardiovascular risk with new markers and approaches may improve its predictive value.

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## 48 – Hypertension and obesity amongst students in a group of schools in the area of Monteverde in Rome

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**Introduction:** We wanted to verify the current prevalence of obesity and arterial hypertension, in an area with a medium–high socio-economic status in Rome, after numerous awareness campaigns on correct nutrition and regular physical activity.

**Method:** The study included 693 students from the first and second year of middle school in five schools in the area of Monteverde in Rome. Each student was weighed and measured with a waist measurement carried out in accordance with the OMS indications; blood pressure was measured using an OMRON 2, which was validated using a mercury sphygmo manometer. The family history of hypertension was also measured.

**Results:** Results demonstrate that 5.2% of the youth (all male) had pre-hypertension and 7.8% hypertension (equally divided between male and female); the evaluation of hypertension was conducted taking into consideration the most recent TASK FORCE tables. The diagnosis showed that 23.1% of the children were overweight while 3.3% were obese (evaluation made in accordance with Cole *et al.*). There was a family history of hypertension in 24% of the cases. The waist measurement made it possible to identify the 3.3% of the subjects that were obese.

**Conclusions:** One can conclude with a positive evaluation of the reduction of obese subjects in these