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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 (R² 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

schools, probably tied to a long series of suggestions regarding nutrition and physical activity provided by teachers and parents, even if the incidence of hypertension remain high. There is an evident need to better

monitor the consumption of alcoholic drinks and salty foods.

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49 – Obesity and hypertension today in comparison to past years

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Introduction: We wanted to compare the past situation regarding the prevalence of obesity and hypertension in Italy, above all in Rome, with the current situation in the City of Rome in order to verify eventual changes that have occurred following the issuing of suggestions by experts on a correct diet and better physical activity.

Methods: Two thousand forty-five children between the ages of 6 and 17 years in three Italian cities (Varese, Rome, Catanzaro) were compared with about 700 children in Rome aged 10–12 years. The first study was carried out in 2005–2008, the second in 2010. In both studies the height-weight measurement was carried out in accordance with data collection criteria, while for the second study the measure of blood pressure was done using OMRON2, calibrated with the mercury sphygmomanometer used in the earlier study.

The diagnoses of obesity and hypertension was made using the same standards in both studies: Cole

and coll. for obesity and the TASK FORCE table for hypertension.

Results: In the first study 6.1% of the sample was obese (6.1% in Rome) while 19.8% were obese (21.7% in Rome); taken together 5.5% had hypertension (3.1% in Rome). In the second study, the more recent one, 3.3% were obese (23.1% were overweight) and 7.8% had hypertension.

Conclusion: We can affirm that obesity has decreased in the last few years (in terms of stationary overweight children) while hypertension has increase. It is probable that the continuous nutritional suggestions to increase the intake in fruit, vegetables and fish have brought results while it is necessary to fight to reduce the consumption of salt and alcoholic drinks.

Conflict of Interest: None.

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50 – The influence of lifestyle on obesity and arterial hypertension

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Introduction: Evaluate the attention paid by the family and minors to correct nutritional habits, physical activity and lifestyle changes in recent years.

Method: Two questionnaires, completed both by parents and minors, were used to gather data. The study included 381 males and 312 females from five schools in

Rome during the 2009–2010 school year. The weight, height and blood pressure were measured for each minor. The questionnaires included a series of questions regarding eventual reductions in the consumption of past, condiments and fats *v.* an increase in the intake of fruit, vegetables and fish. The questions also focused