Obesity trebles in Brazilian schoolchildren over a 30-year period

It’s been well recognized that primary prevention of cardiovascular disease should start in childhood. The early identification and effective approach of cardiovascular risk factors is of the utmost importance.

In Brazil, there are limited data about cardiovascular risk factors in young ages; also, epidemiological trends of these risk factors over time are unknown.

The Rio de Janeiro Study is a study on blood pressure (BP) and other cardiovascular risk factors in young populations, from childhood and adolescence. It started in 1983, evaluating children aged 6–9 years at their schools. In 1987, we examined 3897 adolescents 10–15 years at their schools, all close to the University. Since June 2015, we have been returning to the same schools, almost 30 years later, and we examined 1722 adolescents of the same age group. The objective is to compare the incidence of hypertension and overweight/obesity between the two evaluations over an interval of 30 years.

We found that the overall prevalence of overweight/obesity almost doubled during the 30 years. Analysing obesity and overweight individually, it was observed that the obesity rate has increased much more than overweight prevalence, it trebled. Thirty years ago, obesity prevalence was 6.4% and currently the rate is 18.2%, while overweight prevalence increased from 10.8–14.4%. It is even more alarming to note that the highest incidence of overweight/obesity was observed at younger ages, 10–12 years, both for boys and girls, except for girls aged 10 years. In 2016, central obesity was present in 46% of the schoolchildren and 60% did not take part in any physical activity.

Trends in the prevalence of hypertension were the opposite. Current prevalence was lower than 30 years ago (10.8 and 8.4%, respectively), possibly due to methodological differences in BP measurement. Thirty years ago, we measured BP in the supine position using the auscultatory method (stethoscope) and currently, we have been using the oscillometric method in the seated position.

It was interesting to note that although isolated systolic hypertension (ISH) was the most common presentation in both evaluations, it decreased from 79.3–56.6% in 30 years. In contrary, isolated diastolic and systo-diastolic hypertension increased their prevalence, and we know that these forms carry a worse prognosis than ISH.

These observations are probably related to some modern lifestyle factors, mainly to an unhealthy diet with high sodium intake and physical inactivity. Particularly in large cities, unhealthy habits are imposed on children and adolescents, and we have been noticing that children are being exposed to inadequate food since very early in life.

Moreover, a Brazilian survey showed that less than 30% of male adolescents and less than 20% of female adolescents practice 300 min of physical activity per week. More than 60% preferred watching TV more than 2 h per day. Sedentary leisure time is really a big problem nowadays.

Obesity in children and adolescents is frequently associated with other cardiometabolic risk factors and can add risk to the development of hypertension, dyslipidaemia, and hyperinsulinemia, and chronic inflammation in adulthood, increasing the risk of morbidity and mortality and raising public health concerns. Also, it can be associated with low self-esteem and even depression.

Therefore, we want children and adolescents to develop healthy habits, starting with good nutrition, which is much better and easier than having to modify them later on in life. Physical activity must be emphasized and the priority is daily activity and aerobic exercise. Reducing sedentary leisure time is also a critical challenge.

Of greatest importance is the involvement of the family in this process. In our experience, if the family is not convinced and does not take part in the changes, nothing will happen. A multiprofessional team should be involved and is an important tool to success. Public policies must be adopted in order to regulate food in school canteens and impose restrictions on food advertising.

Approaching young individuals represents a unique opportunity to effectively promote cardiovascular prevention. So, the earlier the intervention the better the cardiovascular protection. We do believe this would be the best strategy to actually change the adverse scenario of cardiovascular diseases.