

Prevalence and Association of Cardiovascular Risk Factors in Children. Research Protocol.

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Background and objectives: Several variables contribute to the development of cardiovascular risk factors (CRF) since childhood (Steele, Brage, Corder, Wareham, & Ekelund, 2008). The first aim of this cross-sectional study is to determine prevalence of sedentary behavior (SB), physical activity (PA), physical fitness (PF), body composition (BC), nutrition and other CRF (blood pressure (BP), resting heart rate (RHR), clinical family history and blood variables), in children (7–10 years). The second goal is to analyze associations between SB, PA, PF, BC, and nutrition. Also, we intend to study associations of these variables with other CRF, especially blood variables.

Methods: SB and PA will be assessed using Adolescent Sedentary Activity Questionnaire (Hardy, Booth, & Okely, 2007) and accelerometers (ActiGraph GT3X 256 MB) for seven consecutive days. PF will be assessed using FitnessGram protocol (cardiorespiratory fitness by 20-m shuttle run test). Body weight will be measured with an electronic scale (Omron BF511T) and height with a portable stadiometer (Seca 206). The body mass index will be calculated by Quetelet equation (1969). Waist circumference will be measured at the narrowest point between the lower rib and the iliac crest. Nutrition will be evaluated using Semi-Quantitative Food Frequency Questionnaire (Lopes, 2000) and Child Eating Behaviour Questionnaire (Viana & Sinde, 2008) for evaluation of eating behaviour by a nutritionist. Blood pressure and RHR will be measured using Hartmann Tensoval Duo Control. Blood samples will be collected after an overnight fast.

Expected Results: We expect to verify that it is precisely in childhood that some variables begin to exert influence to the early development of CRF. Furthermore, we expect to confirm the recent scientific evidence pointing to the existence of independent associations between those variables.

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