

Can a Physical Activity and Nutrition Intervention be effective in Children with Cardiovascular Risk Factors?

Rui Batalau ^{1,2}, Joana Cruz ², João Leal ², Magda Santos ², Ricardo Gonçalves ², Joana Cabrita ², João Carmo ², & António Palmeira ¹

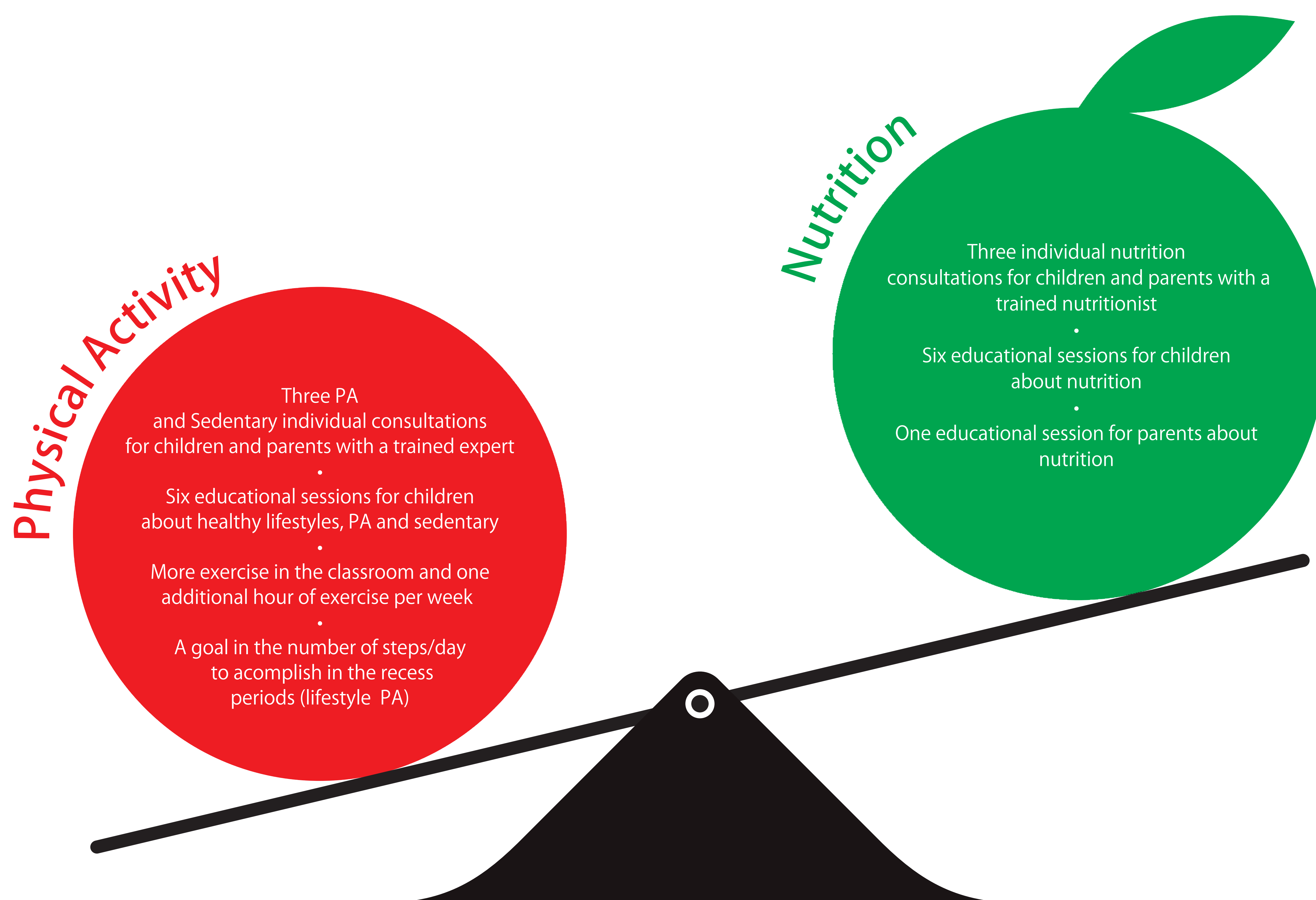
¹ Universidade Lusófona de Humanidades e Tecnologias (ULHT)

² Centro de Investigação em Desporto e Educação Física (CIDEF) do Instituto Superior Manuel Teixeira Gomes (ISMAT)

Background: Physical activity (PA), sedentary and nutrition represent modifiable behavioral risk factors, influencing physical fitness, body weight and adiposity, largely related to metabolic risk factors potentially leading to cardiovascular diseases and diabetes (Steele, Brage, Corder, Wareham, & Ekelund, 2008). Several studies have noted the importance of PA and its association with several variables related to children's health. At the same time, scientific evidence shows the relationship between the nutrition and some of major cardiovascular risk factors (CRF) manifested from childhood.

Methods: Participants will be children (7-10 years) previously classified through a cross-sectional study as being outside the desirable values on body composition and fitness. We designed a randomized controlled trial with the main purpose to determine whether a school intervention program, during 6 months, based on increased energy deficits related behavior is associated with statistically and clinically significant differences which represent improvements in physical activity and fitness, in body composition (BC) and other CRF, like blood variables and blood pressure.

MULTIDISCIPLINARY INTERVENTION SCHOOL PROGRAM



Results: With this unusual multidisciplinary intervention, but increasingly necessary and suggested in childhood, combining PA and nutrition trained experts and involving a parental/family component (OMS, 2009), it is expected to contribute in a statistically and clinically way for the reversion of several CRF.

Discussion: These expected results can alert researchers to the importance of idealize integrated interventions considering all the variables that influence the CRF. Also, we intend to determine the types and amounts of PA that are needed to reduce excessive adiposity and to maintain cardiovascular and metabolic health during childhood.

This work is being supported by the Portuguese Science Foundation (Fundação para a Ciência e a Tecnologia) through individual research grant (SFRH/BD/85518/2012) co-financed by the European Social Fund and Portuguese National Funds from MCTES. Research project approval was granted by the Portuguese Data Protection Committee (case n.º 10221/2012, authorization n.º 9130/2012) and the Ministry of Education (survey n.º 0339300001).