Changes in knowledge, preferences, auto-efficacy and resource availability after a summer program on physical activity promotion

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In order to promote physical activity and healthy lifestyles, a summer course (“Playing to Gain Health”) was designed and implemented during three weeks in a playful, carefree and non-violent atmosphere. The physical activity program in this model included 30 min of moderate and 15 min of light physical activity as well as educational sessions on physical activity topics. A group of young people aged 18-22 years provided an emotionally and physically safe ambiance for development of the program. A questionnaire about physical activity concepts was applied before and after the program including items on four categories: Knowledge, preferences, auto-efficacy and resource availability. The program was applied twice 2010 and 2011 and 91 children (5-13 y) participated. After the course, a greater proportion of children answered satisfactorily to questions in all the four categories but only significant changes were found in the knowledge dimension (paired t-test; p=0.00). We consider that the observation period is not long enough to detect changes in other dimensions. Further observations should analyze if acquired knowledge can impact preferences and attitudes at long term.

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Weight loss induced by caloric restriction and exercise and the effect in immune system from obese animals

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During obesity establishment immune cells resident in adipose tissue become important as sources of pro-inflammatory mediators. Exercise and caloric restriction are important non-pharmacological tools against body mass increase and are poorly investigated concerning their effects on immune cells of adipose tissue in obese organisms, especially when a high fat diet is consumed. Thus, after a previous period of high fat diet consumption, mice were submitted to chronic swimming training or 30% caloric restriction in order to investigate the effect of both interventions on immune cells resident in adipose tissue. Our results demonstrated that both exercise and caloric restriction were able to reduce body mass in animals consuming high fat diet. However, in general, such strategies induced different chances in the numbers of immune cells resident in adipose tissue or in serum cytokines/chemokines produced by mice in a fat diet regimen. Specifically, exercise was able to increase NK number in adipose tissue and serum levels of IL-6 and RANTES while caloric restriction increased CD4/CD8 ratio and increased MCP-1 levels. Together, these data suggest that body mass reduction is not the only prerequisite to determine the effects of exercise or caloric restriction and reinforce the idea that the combination of both strategies is better than their single utilization. We also investigated the role of leptin in these parameters using theleptin deficient mice (ob/ob) after swimming protocol. We observed that exercise didn't affected the food intake, body weight but modified immune cells of adipose tissue in ob/ob mice, highlighting the leptin role in exercise and in adipose tissue inflammation.

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