JOINT EVENT

Global Public Health Congress | Annual Congress on Nutrition & Healthcare

October 18-20, 2018 Paris, France

Relationship among physical activity and metabolic parameters in people living with HIV/AIDS

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Background & Aim: The use of antiretroviral therapy by people living with HIV/AIDS (PLHA) has been associated with morphological and metabolic abnormalities which contribute to increased risk of cardiovascular disease (CVD). Physical activities (PA) are known to be a protective factor against CVD and may contribute towards reducing obesity and fat metabolism disturbances. Standardized questionnaires are one of the methods to assess habitual PA. The aim of this study was to evaluate the relationship among PA and metabolic parameters PLHA.

Methods: Twenty-two (22) HIV-infected men undergoing ART participated in this study. Body weight (BW), BMI, and waist circumference (WC); body composition by DXA, biochemical exams, blood pressure, and resting energy expenditure (REE) were evaluated. The habitual PA over the previous 12 months was evaluated by Baecke questionnaire, which consists of 3 scores of PA include: occupational physical activity (OPA); leisure-time physical activity (LTPA); leisure and locomotion activities (LLA). The total score (TS) is obtained by adding this three scores. Data were processed using SPSS, p<0.05.

Results: All individuals were clinically stable with viral loud<50 copies/ml. The clinical characteristics and PA scores are shown in Table 1. The OFA score was associated negatively with BW (r=-0.52, p=0.012), BMI (r=-0.60, p=0.003), WC (-0.56, p=0.009), % body fat (%BF) (r=-0.69, r=0.000), total cholesterol (r=-0.51, p=0.019), LDL-C (-0.50, p=0.019), and leptin (r=0.63, p=0.002), and positively with REE/kg BW (r=0.68, p=0.000). The other scores did not present correlations with the metabolic parameters evaluated. When the OPA was separated according to tertile, the lower tertile had significantly higher peso (p=0.05), BMI (p=0.04), WC (p=0.03), %BF (p=0.000), leptin (p=0.03) and lower REE/BW (p=0.02), when compared with upper tertile, and had higher %BF (p=0.001) and leptin (p=0.04), when compared with intermediate tertile.

Conclusion: The occupational PA seems to be the best physical score to evaluate PA and the risk of metabolic changes in PLHA. Strategies that improve PA during work can contribute to prevention and control of metabolic changes in PLHA

Biography

Mariana Palma Guimarães is working as a Nutritionist since 2008. She received her Master Degree (2014) at Ribeirao Preto Medical School, University of Sao Paulo, Brazil, investigating the energy metabolism in people living with HIV/AIDS. Currently she is a Ph.D student at Ribeirao Preto Medical School, University of Sao Paulo, and fellowship (2018 March/ 2019 January) in Laboratory of Genetics and Molecular Biology of Mitochondrial Proteins and Related Diseases at the University of Barcelona, Barcelona, Spain. Her main line of investigation is the molecular and cellular alterations of adipose tissue and its relation with the metabolic alterations and energy metabolism of people living with HIV / AIDS.

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Journal of Nutrition & Food Sciences | ISSN : 2155-9600   GPHC & Nutrition & Healthcare 2018 | October 18-20, 2018 Paris, France   Volume 8

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