XXIV Doctoral Course in

“Biomedical and Methodological Aspects of Preventive and Adapted Physical Activity”

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Physical activity effects on health, fitness status and psychological well-being on prison population

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Abstract

Detention in overcrowded conditions, coupled with unhealthy behaviours such as smoking, drug abuse, inactive lifestyle and irregular diet, leads to the development of a high rate of acute and chronic physiological and psychological diseases.

The aim of the study was to determine which kind of physical activity could be useful to inmate population in order to improve their health and fitness status and psychological well being. A repeated measure design was used to evaluate the effects of two different training protocols on subjects in a state of detention, tested at the beginning and at the end of the experimental protocol.

Seventy-five subjects were enrolled in the study and randomly allocated to one of the three treatment groups: the cardiovascular-resistance training protocol group (CRT), the high-intensity resistance training protocol group (HIRT), and a control group (C). All subjects underwent a clinical assessment, fitness tests and completed the Symptom Checklist-90-Revised (SCL-90-R), to assess psychological well-being.

MANOVA revealed significant multivariate effects on group (F2.40=2.889; p<0.01) and (F2.61=1.813; p<0.01), group-training interaction (F2.40=1.994; p<0.05) and (F2.61=1.988; p<0.01), regarding health and fitness parameters, and psychological well being, respectively. Both moderate and intensive training protocols produced significant gains in the functional capacity (cardio-respiratory capacity and cardiovascular disease risk decrease) of inmates. An increase of body mass index (p<0.01) and triglycerides plasma concentration near the significance level (p=0.06), were observed in inactive inmates over the same time period. The CRT group showed a significant decrease in the level of interpersonal sensitivity (p<0.01) and Global Severity Index (p<0.01), whereas the HIRT group showed a significant decrease in anxiety level and phobic anxiety (p<0.05). The level of depression significantly
decreased in both the groups (p<0.05), conversely, depression significantly increased among the control group (p<0.05).

The significant gains obtained in functional capacity and psychological well being reflect the great potential of exercise interventions for improving the health status of incarcerated people. CRT protocols, as moderate-intensity training, resulted the most effective protocol to reach the best fitness level, and to improve inmates’ depression, interpersonal relationships, and general well-being.