

The purpose of this study is to assess if a whole-body vibration exercise program from 12 weeks to 12.6 hertz of frequency. It will begin with repetitions from 30 seconds to 1 minute. The aim is to check if those are useful, safe and applicable in women with FM syndrome for the improvement of the dynamic balance.

**Material and Method:**

36 women with fibromyalgia syndrome have participated in this study. They were randomly assigned in two groups: 18 in the control group and 18 in the exercise group. The isometric force has been moderate using the isometric dynamometer system 3; the dynamic balance through the platform of balances Biodex Balance. The training program lasted 12 weeks, three weekly sessions were offered. Each session consisted of 6 repetitions to 12,5 Hertz with an initial duration of 30 seconds that was increased monthly, in 15 seconds. Between each repetition a rest of a minute existed.

**Results:**

The exercise group in relation to the control group, has improved in a significant way his dynamic balance improving the more those who had a smaller level of isometric force and those that had a greater weight because of the relative load of training was greater.

**Conclusions:**

A whole-body vibration exercise program is useful, safe and applicable to improve the dynamic balance in women with FM.

**ASSOCIATION BETWEEN SPORT PARTICIPATION AND THE DEGREE OF SEVERITY OF OBESITY IN CHILDREN AND ADOLESCENTS**

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**Introduction:** Nowadays, due to the dramatical change in people's lifestyles and the physical environment, children have few opportunities for active playing and spontaneous physical activity. Therefore, participation in organized physical activity such as physical education (PE) and sport teams are probably the major source for total activity. The increasing prevalence of childhood obesity in the last decades has been a growing concern, and it has been associated with low levels of physical activity. The aim of the present study was to determine the association between sport participation and the degree of severity of obesity.

**Methods:** The sample comprised 465 children and adolescents, from public schools and sport clubs in Funchal (Autonomous Region of Madeira), with a mean age of 13,72±1,64 years. According to their level of sport participation, subjects were classified in two groups: 1) only attending PE classes (Gp1), and 2) attending PE classes as well as playing sport in school and/or club sport teams (Gp2). Based on their body mass index (BMI), subjects were classified according to Cole et al. (2000) percentiles. Similarly, for percent body fat, subjects were classified according to the Lahman's (1987) health risk categories. Sport participation was assessed by self-report questionnaire.

**Results:** Subjects who only took PE classes (Gp1) presented a higher risk of being overweight (OR: 0,7; 95% C.I. 0,4-1,2) and obese (OR: 1,2; 95% C.I. 0,4-3,3) than that of Gp2. Similar results were found with subjects in Gp1, showing a greater risk of being in the moderately high or high health risk category (OR: 1,6; 95% C.I. 0,9-2,9) than their counterparts in Gp2. Subjects in Gp1 presented a significant risk (OR: 2,3; 95% C.I. 1,3-3,8) of falling in the very high health risk category when compared with Gp2.

**Conclusion:** Children and adolescents not participating in school/club sports had a greater risk of being obese, and a much greater risk of being in the highest health risk category.

**METABOLIC SYNDROME AND OBESITY IN CHILDREN AND ADOLESCENTS (3-15 YEARS) FROM MADEIRA (PORTUGAL)**

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Cardiovascular diseases (CVD) are the first cause of morbidity and mortality at world level. CVD appears mostly associated to a group of factors such as hypertension, dyslipidemia, elevated plasma glucose and obesity, whose constellation has been named the metabolic syndrome (MetS). The purposes of this study were: a) to determine the prevalence of MetS in a sample of Portuguese children and adolescents living in Madeira Island, and b) which components are the best predictor(s) of MetS in this sample.

**Methods:**

Participants in this study were 1496 children and adolescents ranging from 3 to 15 years of age from the public school system in the island of Madeira. Measures taken for each subject were: body composition (weight, height and waist circumference), blood pressure, triglycerides, glucose and C-HDL. MetS was diagnosed using the criteria established by Cook et al. (2003). Prevalence of obesity and overweight was determined according to the Cole et al. (2000) classification.

**Results:**

Results show that 17.6% of participants were overweight and 6.5% were obese. The prevalence of MetS was 4.5% (3.4% in girls and 5.7% in boys), and it raised with the increasing severity of obesity (1.1% in normal weight, 11.8% in overweight and 22.9% in obese subjects), as well as the increasing school level (4.0% in preschool, 4.8% in 5- 6th grades, and 5.5% in 7-9th grades). Logistic regression analysis showed that abdominal obesity was the MetS component that presented more risk for the diagnose of that condition (OR: 1.185; ICC 95% 1,122-1,251), followed by systolic blood pressure (OR:1.063; ICC 95% 1,016-1,112) and triglycerides concentration (OR:1.048; ICC 95% 1,035-1,062).

**Conclusions:**

The prevalence of the MetS was highest in boys than in girls and it increases with the severity of the obesity and school level. The best predictor of MS was the waist circumference.

**References:**

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