

Objective. Menopause is characterized by the presence of emotional instability and greater dissatisfaction with life. Therefore, we aimed to analyze the effects of an exercise intervention on quality of life and optimism in perimenopausal women.

Method. Fourteen perimenopausal women (54.1 ± 3.2 years) participated in a 9 weeks (60 minutes/session, 3 days/week) moderate-vigorous intensity (12-16 rating of perceived effort) exercise intervention (aerobic and resistance exercise mainly). Health-related quality of life and general optimism and pessimism were evaluated by means of the Short-Form Health Survey (SF-36) and the Revised Life Orientation Test, respectively. Non-parametric Wilcoxon signed ranks test for paired samples was used.

Results. The exercise program improved physical function by 12% ($P < 0.05$) and emotional role by 18% ($P = 0.05$). No statistically significant differences were found for the remaining SF-36 dimensions. After the exercise intervention participants' general optimism improved 21% ($P < 0.05$).

Conclusion. An exercise intervention program is successful by improving the physical functioning and general optimism of perimenopausal women. Because of the small sample size, the results must be taken cautiously. Future studies with greater sample sizes should confirm the present results.

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High intensity strength training in overweight adults at workplace: a pilot study

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Keywords: Resistance training; Health; Hypertension; Physical fitness

Objective. The purpose of this pilot study was to determine (a) the effects of high intensity strength training at workplace on blood pressure, fat percentage and physical fitness in overweight adults, and (b) the influence of this intervention on the blood pressure in a subsample of hypertensive subjects.

Methods. Overweight adults ($n = 15$) aged 42,8 years underwent anthropometric assessment (weight, fat percentage, waist circumference, and triceps skinfold), physical fitness assessment (leg extensor power, upper body endurance, hand grip strength and Vo_{2max}) and blood pressure assessment before and after 8 weeks of high intensity resistance training at workplace. Each training session consist of 16 sets of 45 repetitions performed at 1 repetition per second decreasing load at muscular failure starting at 60% of repetition maximum (RM).

Results. Weight, body fat percentage, and triceps skinfold decreased significantly with the high intensity resistance training protocol at workplace (all $p < 0.05$). Performance in physical fitness tests increased significantly with training (all $p < 0.05$), except for handgrip strength. Both systolic and diastolic blood pressure decreased significantly with R-HIRT at workplace (all $p < 0.05$) in hypertensive subjects.

Conclusion. This protocol performed at workplace in this pilot study produces health and fitness benefits in overweight and hypertensive people.

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Reliability of an adaptation of the 20m shuttle run test to be use in preschool children: The PREFIT 20m shuttle run test

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Keywords: Preschoolers; Cardiorespiratory fitness; Aerobic capacity; Physical fitness; Reliable

Aim. To examine the reliability of the PREFIT 20m shuttle run test (modified version of the original 20m shuttle run test) in preschool children from 3 to 5 years group.

Methods. A total of 130 students (4.91 ± 0.89 years; 77 boys) participated in the study. The PREFIT 20m shuttle run test consisted in run back and forth between 2 lines 20m apart with an audio signal. The initial running speed is 6.5 km/h and it is increased by 0.5 km/h/min. The test finishes when the preschool children fail to reach the end lines concurrent with the audio signals on 2 consecutive occasions. On the other hand, the test ends when the child stops because of exhaustion. Bearing in mind the young age of the children, two evaluators ran with a reduced group of children (e.g. 4-8 preschoolers) in order to provide an adequate pace. All the participants performed the test twice, two weeks apart.

Results. Mean test-retest difference (systematic error) in the number of laps achieved was 2 laps (test = 25 laps, re-test = 27 laps) for all the participants. According to the sex, the systematic error was 1 lap for boys and 3.4 laps for girls. Mean difference were 1.8, 3.3 and 1.6 laps in 3, 4 and 5 years groups, respectively. Nevertheless, no significant differences were found between sex ($P = 0.360$) or age groups ($P = 804$).

Conclusions. Our results suggest the PREFIT 20m shuttle run test is reliable in preschool children. Future longitudinal or intervention studies using this test should take into account that changes in the test performance of 2 laps may be due to the variability of the measure, while wider changes would be attributable to the intervention or changes associated with age.

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Effectiveness of an exercise intervention on fatigue and sleep quality in midlife women: the FLAMENCO project

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Keywords: Menopause; Physical fitness; Latency; Sleep disorders; Health

Objective. The purpose of the current study was to determine the effects of an exercise intervention on fatigue and sleep quality in perimenopausal women.

Methods. Fourteen Spanish (54 ± 3) perimenopausal women from a health centre of Granada were enrolled to participate in a 9 weeks (60 minutes/session, 3 sessions/week) moderate-intensity (i.e. 12-16 rating of perceived effort) exercise intervention. We assessed fatigue severity by means of a Multidimensional Fatigue Inventory (MFI) with 5 domains: general fatigue, physical fatigue, mental fatigue, reduced activity, and reduced motivation. Each domain consists of 4 items and has a potential score range from 4 to 20, where higher scores indicate a high degree of fatigue. The sleep quality was assessed through the Pittsburgh Sleep Quality Index (PSQI) questionnaire with 7 "component" scores: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction before and after the exercise intervention. Because fatigue and sleep quality variables were not normally distributed, nonparametric tests were used (Wilcoxon test for paired samples).

Results and discussion. We observed an 18% decrease in reduced motivation fatigue and a 12% in the use of sleeping medications after 9 weeks of exercise intervention (both, $P < 0.05$). No differences were found in the remaining variables. Despite the results displayed, an improved tendency in all the MFI and the PSQI domains after 9 weeks of exercise program was observed. However, due to the small sample size and the length of the exercise program we cannot confirm this approach significantly.

Conclusion. Overall, a moderate-intensity exercise intervention for 9 weeks (3 sessions/week) might improve motivation-related fatigue and reduce the pharmaceuticals cost average per habitant in Spanish perimenopausal women. The small sample size and the duration of the exercise intervention might have influenced the present results. Therefore, future studies with larger sample size are needed in order to corroborate our hypothesis.

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¿La ansiedad competitiva es independiente del género? Un estudio en los deportes de natación y baloncesto

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Palabras clave: Ansiedad somática; Ansiedad preocupación; Ansiedad desconcentración; Deportes individuales; Deportes colectivos; Rendimiento

Objetivos. El principal objetivo de nuestro estudio fue comprobar si existen niveles y categorías de ansiedad competitiva distintas entre deportistas de diferente género. Como objetivo secundario fue tratar de averiguar si el hecho de competir de forma individual o colectiva influye sobre esta relación.

Método. Ciento veintiséis deportistas de ligas y competiciones federadas de baloncesto y natación, de los cuales 80 eran hombres (63.5%) y 46 (36.5%) eran mujeres. Se les administró el cuestionario de ansiedad competitiva SAS-2 en período competitivo. En primer lugar se calcularon las medias y desviación típica de cada una de las variables en ambos sexos. Se realizaron ANOVA para estudiar las diferencias de medias entre los diferentes grupos.

Resultados. Con independencia del deporte practicado, las mujeres presentaron mayores valores de ansiedad que los hombres, siendo significativas las diferencias para la ansiedad somática (mujeres $X = 1.80$, $DE = 0.67$ y hombres $X = 1.50$, $DE = 0.55$) y competitiva (mujeres $X = 1.96$, $DE = 0.51$ y hombres $X = 1.75$, $DE = 0.46$). En baloncesto, las mujeres no presentaron valores significativos de ansiedad respecto a los hombres. En natación, las mujeres presentaron valores significativos en ansiedad somática (mujeres $X = 2.15$, $DE = 0.70$ y hombres $X = 1.64$, $DE = 0.68$), también en ansiedad preocupación (mujeres $X = 2.58$, $DE = 0.70$ y hombres $X = 2.01$, $DE = 0.56$) y, finalmente, en ansiedad competitiva (mujeres $X = 2.15$, $DE = 0.54$ y hombres $X = 1.73$, $DE = 0.47$).

Conclusiones. Si se analizan los valores de ansiedad con independencia del deporte practicado, las mujeres presentan mayores valores de ansiedad competitiva, siendo significativos los resultados en el caso de la natación. De esta forma, el deporte individual (natación), ha presentado mayores valores de ansiedad que el deporte colectivo (baloncesto) y ésta ansiedad ha ido ligada a componentes físicos (somáticos) y al momento de la competición. Respecto a la ansiedad preocupación (caso de la natación), no necesariamente es negativa, sino que puede ir acompañada de un mejor rendimiento.

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¿Se puede prevenir la obesidad infantil jugando? Gasto calórico en el programa de juegos MOV12

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Palabras clave: Obesidad infantil; Actividad física; Consumo de oxígeno; Acelerometría

Objetivos. (1) Examinar la tasa de gasto calórico en juegos incluidos en el programa de actividad física MOV12 para la prevención de la obesidad infantil. (2) Evaluar la validez de la frecuencia cardiaca (FC) y la acelerometría (AC) como indicadores indirectos del gasto calórico durante los juegos, utilizando como medidor principal la calorimetría indirecta (CI).

Material y métodos. Se estudió el gasto calórico de 32 niños de primaria ($9,9 \pm 0,6$ años de edad, $19,1 \pm 4,8$ kg \bullet m⁻² y el IMC $37,6 \pm 7,2$ ml \bullet kg⁻¹ \bullet min⁻¹), a través del consumo máximo de oxígeno en juegos del programa MOV12, en 40 sesiones con una duración de 90 minutos. Para ello se utilizó el Cosmed K4b2. Recogimos simultáneamente FC, AC y CI en cada niño.

Resultados. Se analizaron los datos de 30 juegos que se repitieron en al menos cuatro niños diferentes. El coeficiente de variación inter-sujeto dentro de un juego fue de 27% para CI, 37% para el