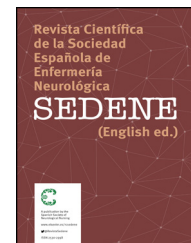




Enfermería Neurológica (English ed.)

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ORIGINAL ARTICLE

How to decrease cardiovascular risk factors in people with multiple sclerosis[☆]

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Received 20 December 2016; accepted 25 October 2017

KEYWORDS

Multiple sclerosis;
Cardiovascular
diseases;
Pulse pressure;
Aerobic activity;
Health education

Abstract

Background: There is an increased cardiovascular risk in people with multiple sclerosis (PwMS), which is associated with an increased risk of disease progression.

Objectives: To analyse the Cardiovascular Risk (CVR) of the sample in relation to Blood Pressure (BP) and to evaluate the effects of a combined health education and aerobic activity programme on Systolic Blood Pressure (SBP), Diastolic Blood Pressure (DBP), Pulse Pressure (PP) Body Mass Index (BMI).

To quantify adherence to treatment.

Method: Closed clinical trial performed at Mas Sabater Day Hospital (Multiple Sclerosis Foundation).

The treatment group (TG) participated in an individualised 2-day/week 12-week progressive aerobic training programme and attended a health education programme to encourage healthy habits. The control group (CG) received routine care.

Results: Twenty-two PwMS were analysed (n = 22). The initial CVR of the sample was PP 47.23 (10.019) mmHg, SBP 121.91 (17.73) mmHg and DBP 74.68 (10.01) mmHg.

The TG decreased their SBP values with an average of 3.27 mmHg, the CG increased them by an average of 17.00 mmHg. In the CG, the PP increased an average of 11.91 mmHg, while in the GT it decreased 3.18 mmHG. The BMI of the GC increased 0.35 points, while in the GT it decreased 0.21.

Conclusions: Aerobic training combined with a health education programme decreases CVR in PwMS. Control of vascular comorbidities should be part of the treatment of MS.

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PII of original article: S2013-5246(17)30022-3

[☆] Please cite this article as: Zabayo Neiro C, Martínez Lerín N. Cómo disminuir factores de riesgo cardiovascular en personas con esclerosi múltiple. Rev Cient Soc Esp Enferm Neurol. 2018. <https://doi.org/10.1016/j.sedene.2017.10.003>

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PALABRAS CLAVE

Esclerosis múltiple;
Enfermedad
cardiovascular;
Presión de pulso;
Actividad aeróbica;
Educación sanitaria

Cómo disminuir factores de riesgo cardiovascular en personas con esclerosis múltiple**Resumen**

Introducción: Existe un mayor riesgo cardiovascular (RCV) en personas con esclerosis múltiple (PcEM) que se asocia a un mayor riesgo de progresión de la enfermedad.

Objetivos: Analizar el RCV de la muestra en relación con la presión arterial (PA) y valorar los efectos de un programa combinado de educación para la salud y actividad aeróbica sobre los valores de PA sistólica (PAS), diastólica (PAD), presión de pulso (PP) e índice de masa corporal (IMC).

Cuantificar la adhesión al tratamiento.

Método: Ensayo clínico controlado realizado en el Hospital de Día Mas Sabater de la Fundación Esclerosis Múltiple.

El grupo tratamiento (GT) participó en un programa de entrenamiento aeróbico progresivo individualizado 2 días/semana 12 semanas complementado con un programa de educación sanitaria para la promoción de hábitos saludables. El grupo control (GC) realizó su actividad habitual.

Resultados: Se analizó una muestra de 22 PcEM. El RCV inicial fue de PP 47,23 (10,019) mmHg, PAS de 121,91(17,73) mmHg y PAD de 74,68 (10,01) mmHg.

El GT disminuyó sus valores de PAS con una media de 3,27 mmHg y el GC los incrementó una media de 17,00 mmHg. En el GC la PP aumentó una media de 11,91 mmHg, mientras que en el GT disminuyó 3,18 mmHg. En relación con el IMC, el GC lo aumentó 0,35 puntos mientras que el GT lo disminuyó 0,21.

Conclusiones: El entrenamiento aeróbico combinado con un programa de educación sanitaria disminuye el RCV en PcEM. El control de las comorbilidades vasculares debe formar parte del tratamiento de la EM.

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Introduction

Multiple sclerosis (MS) is a degenerative disease that affects the central nervous system. It is characterised by inflammatory lesions that result in a loss of myelin and axonal damage. These lesions cause a great many primary motor, sensory and cognitive symptoms. The disease course of between 80% and 90% of persons with MS (PwMS) is relapsing-remitting, characterised by attacks followed by a partial or total recovery. After a period from 10 to 15 years the disease enters a secondary progressive course where the level of disability increases. The disease is progressive in between 10% and 20% of PwMS.¹

MS is the second cause of disability in young adults. The latest studies indicate a rate in Spain of 125 cases per 100,000 inhabitants,² and a growing trend has been confirmed over recent decades.

In addition to the diseases' primary symptoms, several studies report health conditions that are more common in people diagnosed with MS.^{3,4} Depression, anxiety, high blood pressure (HPB), hypercholesterolaemia and chronic lung disease are the 5 prevailing non-autoimmune conditions.^{3,4}

The studies published to date are inconclusive, but it seems that PwMS have a risk of developing cardiovascular disease. In the progressive course of the disease venous thromboembolic disorders are more common, probably associated with immobility.^{4,5}

Marrie et al., in their study published in 2010, found that patients with MS with a vascular comorbidity during the course of their disease progressed to a score of 6 on the Expanded Disability Status Scale (EDSS) on average 6 years earlier than MS patients who had never experienced a vascular comorbidity.⁵ Therefore, vascular disease is associated with a significantly greater risk of the disability of PwMS progressing.

Most cardiovascular diseases can be prevented by tackling the risk factors that cause them, such as smoking, poor diet, physical inactivity and alcohol consumption.^{6,7}

Early detection and treatment that includes increased physical activity and promoting healthy habits are essential to prevent complications in the general population.⁷ In MS, establishing, defining and measuring the comorbidity will improve the management of the patient. In these cases, acting on the most common comorbidities delays progression of disability, which is linked to the number of concurrent processes and habits.

Despite the clinical course, which is often unpredictable, well-designed exercise programmes can increase cardio respiratory capacity, muscle strength and mobility and therefore provide benefits in terms of quality of life while reducing the risk of secondary disorders.

It is important to stress that controlled physical activity is not associated with a greater risk of relapse and the risk of adverse events is no greater than that of the healthy population.⁸

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