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ORIGINAL ARTICLE

Effectiveness of a physical activity programme based on the Pilates method in pregnancy and labour[☆]

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KEYWORDS

Physical activity;
Pregnancy;
Training;
Safety

Abstract

Objective: To assess the effectiveness and safety of a physical activity programme based on use of the Pilates method, over eight weeks in pregnant women, on functional parameters, such as weight, blood pressure, strength, flexibility and spinal curvature, and on labour parameters, such as, type of delivery, episiotomy, analgesia and newborn weight.

Method: A randomised clinical trial was carried out on pregnant women, applying a programme of physical activity using the Pilates method, designed specifically for this population. A sample consisting of a total of 105 pregnant women was divided into two groups: intervention group (n = 50) (32.87 ± 4.46 years old) and control group (n = 55) (31.52 ± 4.95 years old). The intervention group followed a physical activity programme based on the Pilates method, for 2 weekly sessions, whereas the control group did not follow the programme.

Results: Significant improvements ($p < 0.05$) in blood pressure, hand grip strength, hamstring flexibility and spinal curvature, in addition to improvements during labour, decreasing the number of Caesareans and obstructed labour, episiotomies, analgesia and the weight of the newborns were found at the end of the intervention.

Conclusion: A physical activity programme of 8 weeks based on the Pilates method improves functional parameters in pregnant women and benefits delivery.

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PALABRAS CLAVE

Actividad física;
Embarazo;
Entrenamiento;
Seguridad

Efectividad de un programa de actividad física mediante el método Pilates en el embarazo y en el proceso del parto

Resumen

Objetivo: Valorar la eficacia y seguridad de un programa de actividad física por medio del método Pilates de ocho semanas de duración en mujeres gestantes sobre parámetros funcionales, como el peso, la tensión arterial, fuerza, flexibilidad, curvatura de la columna y parámetros en el parto, como tipo de parto, episiotomía, analgesia y peso del recién nacido.

Método: Se realizó un ensayo clínico aleatorizado sobre gestantes, consistente en la aplicación de un programa de actividad física mediante el método Pilates, diseñado específicamente para esta población. Se agrupó una muestra compuesta por un total de 105 mujeres gestantes, las cuales estaban divididas en grupo intervención ($n = 50$) ($32,87 \pm 4,46$ años) y grupo control ($n = 55$) ($31,52 \pm 4,95$ años). El grupo intervención asistió a un programa de actividad física por medio del método Pilates, durante 2 sesiones semanales, mientras que el grupo control no realizó el programa.

Resultados: Tras finalizar la intervención se observaron mejoras significativas ($p < 0,05$) en la tensión arterial, fuerza de prensión manual, flexibilidad isquiosural y curvatura de la columna y además mejoras en el proceso del parto, disminuyendo el número de cesáreas y de partos distócicos, de episiotomías, de analgesia y del peso del recién nacido.

Conclusión: Un programa de actividad física 8 semanas por medio del método Pilates mejora parámetros funcionales en las gestantes y podría beneficiar la finalización del parto.

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What is known?

There is some controversy about the type and volume of physical exercise pregnant women should do during pregnancy, labour and after birth.

What does this article contribute?

The effectiveness of a physical programme based on the Pilates method designed for pregnant women and its beneficial outcome during pregnancy and labour.

Introduction

Regular practice of moderate physical exercise has positive effects on a healthy pregnancy, with benefits during pregnancy, labour and after birth.¹⁻⁵

During labour, the benefits are reflected in the strengthening of muscles of the area involved, which reduces the pain and the effort needed to give birth. Pelvic movements also help to make ligaments more flexible, helping to increase the diameter of the opening of the cervix and facilitating a natural birth with no need for unnecessary caesarean sections or instrumental deliveries.⁶⁻⁸

Regarding the recommended physical activity, several sources emphasise light to moderate exercise (walking,

riding a bike or running). Despite this, in the last few years the recommendation for exercises which require greater physical effort have gained in relevance.⁹⁻¹² Different authors consulted do however agree on the duration of exercise (between 45 and 60 min) and frequency (2-3 times per week).¹³⁻¹⁵

There is also agreement regarding the most suitable time to start an exercise routine: that of the 20th week of pregnancy, with exercises of moderate intensity.¹⁶ Well directed physical activity therefore does not entail any risk to the mother and baby, and the future mother does not gain too much weight during pregnancy, reducing the possible appearance of high blood pressure and gestational diabetes.¹⁷

At present, the Pilates method is gaining significance as a possible type of activity and growing in strength for this group.¹⁸ The aim of this method is to achieve muscle harmony through the strengthening of the weakest muscles and the elasticity of hypertrophied muscles resulting in the person having greater control over their body, greater strength and elasticity but without damaging their back or joints.¹⁹ A Pilates programme during pregnancy requires adapting exercise to the new situation and changes in the body, and may begin in any stage of pregnancy regardless of the fact the women have never previously trained in this method.²⁰

Despite a search of the literature, no relevant information was found where the positive effects of the Pilates method had been analysed in this patient group.²¹ The aim of this article is therefore to assess the efficacy of a physical exercise programme using the Pilates method for eight weeks on the physical condition of pregnant women during pregnancy and once labour had been completed.

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