



ORIGINAL ARTICLE

Back school: A simple way to improve pain and postural behaviour[☆]



M. Jordá Llona*, E. Pérez Bocanegra, M. García-Mifsud, R. Jimeno Bernad, R. Ortiz Hernández, P. Castells Ayuso

Servicio de Medicina Física y Rehabilitación, Hospital Universitario Doctor Peset, Valencia, Spain

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KEYWORDS

Back pain;
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Abstract

Introduction: Non-specific back pain in children and adolescents has a high prevalence. The aim of this study is to show a Juvenile Back School (JBS) programme and its results in our hospital. **Materials and methods:** A total of 139 patients referred to a Juvenile Back School for advice due to pain, deformity or back asymmetry, were included in a prospective observational study. Variables: age, gender, pain, correct postures, sports activities and adherence to JBS and appreciation of these parameters by their parents. Variables were measured with a numerical pain scale and with a survey completed in the first session and 3 months after finishing the JBS.

Results: A total of 119 patients completed the study (78 female and 41 male). The average was 13.97 ± 2.29 years (9–20). Three months after JBS, the median pain intensity was reduced from 3 to 0 ($p < 0.0001$). There was an improvement in patient postures from 21% to 83% ($p < 0.0001$). Patients did not increase their sport activity after the JBS, although its regular practice was linked with pain improvement after JBS ($p < 0.02$). Performing exercises did not lead to a decrease in pain. There was a poor correlation between parents and children in the evaluation of post-JBS pain.

Conclusion: A back school programme could probably contribute to reduce non-specific back pain and improve postural behaviour in young people.

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* Corresponding author.

E-mail address: clinicajorda@gmail.com (M. Jordá Llona).

PALABRAS CLAVE

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 Niño;
 Postura;
 Terapia por ejercicio

Escuela de espalda: una forma sencilla de mejorar el dolor y los hábitos posturales**Resumen**

Introducción: El dolor inespecífico de espalda en niños y adolescentes es muy prevalente. El objetivo de este estudio es presentar un programa de Escuela de espalda juvenil (EDEJ) y sus resultados en nuestro servicio.

Material y método: Estudio observacional y prospectivo con 139 pacientes, remitidos a la consulta de raquis juvenil por dolor, deformidad o asimetría en la espalda. Variables: edad, sexo, dolor, adopción de posturas correctas, actividad deportiva, adherencia a la EDEJ y percepción de estos parámetros por sus padres. Se midieron las variables mediante una escala numérica del dolor y una encuesta administradas en la primera sesión y a los 3 meses tras la EDEJ.

Resultados: El estudio fue completado por 119 pacientes (78 mujeres y 41 hombres) con una edad media \pm desviación estándar de $13,97 \pm 2,29$ años (9-20). La mediana de la intensidad del dolor se redujo de 3 a 0 a los 3 meses tras EDEJ ($p < 0,0001$). Aumentaron los pacientes que mejoraron su actitud postural, del 21 al 83% ($p < 0,0001$). No se confirmó un aumento de práctica deportiva post-EDEJ, aunque su práctica habitual se relacionó con una mejoría de dolor post-EDEJ ($p < 0,02$). La realización de los ejercicios no asoció disminución del dolor. Existió mala correlación entre la valoración de padres e hijos sobre el dolor post-EDEJ.

Conclusión: Un programa de escuela de espalda podría contribuir a disminuir el dolor inespecífico de espalda y mejorar los hábitos posturales en jóvenes.

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Introduction

Back pain is one of the most frequent medical problems from the third decade of life. In industrialised countries, between 58% and 84% of adults suffer from it at some point in their lifetimes.¹ Back pain has an impact on personal, professional, and socioeconomic levels, as it entails a serious economic burden² that embraces sick leave, healthcare visits and complementary examinations, treatments, and even worker's compensation and disability.³ Consequently, for some years now efforts have been made to promote back pain prevention at the healthcare and workplace levels, by the development and diffusion of guidelines to prevent low back pain through what we term "Back School".

But what about children? What is the prevalence of back pain in schoolchildren? And, most importantly, can health professionals or educators prevent it from developing in adulthood?

The data found in the literature shows that the prevalence of non-specific back pain in children and adolescents is almost as high as in adults, ranging between 4.7% and 74.4%,⁴ although only 24% of these children seek medical attention for their back pain.⁵ Since there is moderate evidence that back schools are effective in adult patients with recurrent and chronic low back pain in an occupational setting,⁶ we thought of developing guidelines and exercises for the schoolchildren that visit our offices. This gave rise to what is known as the Juvenile Back School (JBS) in our centre. The aim of this study is to present the JBS and its results in our department.

Materials and methods

We conducted a prospective observational study at the Hospital Universitario Dr. Peset of Valencia, with patients who

were seen for back pain, deformity, or asymmetry in the youth spine clinic of our Rehabilitation department, which were referred for participation in the JBS between April 2010 and April 2011.

We excluded from the study those patients who had a diagnosed back pathology (spinal disc herniation, spondylosis, deformities, etc.) or scoliosis with a Cobb angle $>25^\circ$.

We gathered data for the following variables: age, sex, pain, severity of pain measured by a numerical scale (NS) ranging from 1 to 10, adoption of correct postures, regular physical activity, adherence to the JBS, and perception of these parameters by the patients' parents after completion of back school.

Juvenile Back School Programme

The JBS programme comprises three sessions – one informational session and two practise sessions – each lasting 1 h, to which the children come accompanied by one adult in the family environment that can overview treatment compliance after the programme.

The informational session is taught by a rehabilitation physician. It is held on the first day and includes basic information on the anatomy and function of the spine, lifestyle measures, the importance of posture, factors involved in back pain, and ergonomic guidelines for the different settings in the child's life (home, school and social environment). The importance of sports activities is discussed, encouraging the practise of sports in a regular and appropriate manner, as well as the transportation of school materials, teaching how to carry the school bag and what the appropriate load is depending on the child's weight. At the end of the session, there is an open discussion to address doubts or concerns, and the attendees are provided with an illustrated handout of the contents (Fig. 1).

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