



ORIGINAL ARTICLE

Psychomotor development and learning difficulties in preschool children with probable attention deficit hyperactivity disorder: An epidemiological study in Navarre and La Rioja^{☆,☆☆}



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Abstract

Introduction: ADHD symptoms begin to appear at preschool age. ADHD may have a significant negative impact on academic performance. In Spain, there are no standardised tools for detecting ADHD at preschool age, nor is there data about the incidence of this disorder.

Objective: To evaluate developmental factors and learning difficulties associated with probable ADHD and to assess the impact of ADHD in school performance.

Methods: We conducted a population-based study with a stratified multistage proportional cluster sample design.

Results: We found significant differences between probable ADHD and parents' perception of difficulties in expressive language, comprehension, and fine motor skills, as well as in emotions, concentration, behaviour, and relationships. Around 34% of preschool children with probable ADHD showed global learning difficulties, mainly in patients with the inattentive type. According to the multivariate analysis, learning difficulties were significantly associated with both delayed psychomotor development during the first 3 years of life (OR: 5.57) as assessed by parents, and probable ADHD (OR: 2.34)

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PALABRAS CLAVE

Attention Deficit
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Conclusions: There is a connection between probable ADHD in preschool children and parents' perception of difficulties in several dimensions of development and learning. Early detection of ADHD at preschool ages is necessary to start prompt and effective clinical and educational interventions.

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Desarrollo psicomotor y dificultades del aprendizaje en preescolares con probable trastorno por déficit de atención e hiperactividad. Estudio epidemiológico en Navarra y La Rioja

Resumen

Introducción: Los síntomas del TDAH emergen a partir de la edad preescolar. El TDAH en preescolares implica una importante repercusión académica posterior. En España no hay instrumentos normalizados (idioma y cultura) para la detección del TDAH en preescolares ni disponemos de datos de su impacto.

Objetivos: Evaluar factores de desarrollo y dificultades de aprendizaje asociados con probable TDAH y valorar la repercusión del probable TDAH en el ámbito escolar en niños preescolares.

Métodos: Estudio poblacional en el que se aplicó un muestreo polietápico-estratificado proporcional por conglomerados.

Resultados: Detectamos diferencias significativas entre probable TDAH y percepción parental de dificultades en el desarrollo del lenguaje expresivo, comprensión y psicomotricidad fina y en el área de emociones, concentración, conducta y relaciones. El 34% de preescolares con probable TDAH presentaban dificultades en el aprendizaje global. La interferencia se manifestó predominantemente en el subtipo inatento. En el análisis multivariante, las dificultades en el aprendizaje se asociaron a la presencia de un desarrollo psicomotor retrasado en los 3 primeros años de vida (OR: 5,57) valorado por los progenitores y al probable TDAH (OR: 2,34).

Conclusiones: El probable TDAH en preescolares se ve asociado a la percepción parental de dificultades en varias dimensiones del desarrollo y el aprendizaje. Es importante realizar una detección precoz del TDAH en la época preescolar para iniciar de forma temprana intervenciones clínicas y educativas efectivas.

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Introduction

Clinical manifestations of attention-deficit/hyperactivity disorder (ADHD) vary throughout a patient's life. In preschool children (3 to <7 years), who are still developing such skills as attention or impulse inhibition, establishing the boundary between normal and pathological inattention, hyperactivity, and impulsivity is not straightforward.^{1,2}

During the preschool years, children acquire the social, behavioural, and academic skills necessary to perform satisfactorily in school. They learn to focus their attention, interact with their peers, and follow class rules. During this period, they also acquire basic literacy skills. Starting school without these skills increases the likelihood of performing poorly at school in the future.³

It is difficult to determine whether subsequent learning disorders are due to incomplete acquisition of basic skills or rather to the persistence of ADHD symptoms over time. Between 70% and 80% of preschool children with ADHD continue to display symptoms during school age⁴; 59% to 67% of these children will continue to experience ADHD symptoms

during adolescence.^{5,6} Severity of ADHD symptoms during preschool age constitutes the main predictor of ADHD persistence at older ages.⁷

Multiple studies support an association between ADHD symptoms and poor school performance between the ages of 6 and 12 years.^{8,9} However, few studies have analysed this association in preschool children, and there are substantial methodological differences between them. Several retrospective studies have reported an association between poor overall performance in reading and writing tasks and the presence of ADHD symptoms during preschool age.^{10–12} Longitudinal studies have found that children displaying ADHD symptoms during the preschool years perform poorly in such areas as spelling, reading, and mathematics.^{13–15} The association between ADHD symptoms and school problems becomes more significant as children make their way through school.¹⁶

Children with predominantly inattentive-type ADHD display poorer academic performance than those with hyperactive-impulsive ADHD. According to Pastura et al.,¹⁷ inattention seems to be the factor of ADHD which is

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