



ORIGINAL ARTICLE

Learning skills and academic performance in children and adolescents with absence epilepsy[☆]



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KEYWORDS

Epilepsy;
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Abstract

Introduction: Although cognitive and learning disorders have been described in patients with epilepsy, very few studies focus on specific disorders such as absence epilepsy. The aim of this study was to evaluate learning skills and academic performance in children and adolescents with absence epilepsy.

Methods: Observational case-control study. Cases were chosen from the Central League against Epilepsy's clinic in Bogotá, Colombia. Controls were selected from a private school and matched with cases by age, school year, and sex. Medical history, seizure frequency, antiepileptic treatment, and academic performance were assessed. Academic abilities were tested with *Bateria de Aptitudes Diferenciales y Generales* (BADyG) (a Spanish-language test of differential and general aptitudes). Data were analysed using Student *t*-test.

Results: The sample consisted of 19 cases and 19 controls aged between 7 and 16. In 15 patients, seizures were controlled; all patients had received antiepileptic medication at some point and 78.9% were actively being treated. Although cases had higher rates of academic failure, a greater incidence of grade retention, and more therapeutic interventions than controls, these differences were not significant. Similarly, there were no significant differences on the BADyG test, except for the immediate memory subcategory on which cases scored higher than controls ($P = .0006$).

Conclusion: Children treated pharmacologically for absence epilepsy, whose seizures are controlled, have normal academic abilities and skills for their age.

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PALABRAS CLAVE

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Aptitudes de aprendizaje y desempeño escolar en niños y jóvenes con epilepsia ausencia

Resumen

Introducción: Aunque se describen desórdenes cognitivos y trastornos del aprendizaje en pacientes que presentan epilepsia, son pocos los trabajos que estudian trastornos específicos como la epilepsia ausencia. El objetivo del presente trabajo fue evaluar las características escolares y las aptitudes del aprendizaje en niños y jóvenes que presentan epilepsia ausencia. **Métodos:** Investigación observacional analítica de casos y controles. Los casos fueron escogidos en la consulta de la Liga Central contra la Epilepsia de Bogotá. Los controles se seleccionaron de un colegio privado y fueron pareados con los casos por edad, grado escolar y sexo. Se evaluaron la historia clínica, la frecuencia de las crisis, el tratamiento farmacológico, el desempeño académico. Las aptitudes escolares se estudiaron por medio de la Batería de Aptitudes Diferenciales y Generales (BADyG). Los datos fueron analizados por medio del test T de Student.

Resultados: La muestra estuvo conformada por 19 casos y 19 controles entre los 7 y 16 años. Quince pacientes se encontraban controlados, todos habían recibido medicación antiepiléptica y el 78,9% se encontraba con tratamiento activo. Aunque los casos presentaron mayores fallas académicas, más incidencia en pérdidas de grado y mayores intervenciones terapéuticas que los controles, no hubo diferencias significativas. Igualmente no hubo diferencias en la prueba de BADyG, salvo en la subprueba de memoria inmediata en la que los casos tuvieron resultados superiores ($p=0,0006$).

Conclusión: Los niños con epilepsia ausencia tratados farmacológicamente y controlados en lo que se refiere a crisis tienen las aptitudes y competencias académicas que corresponden normalmente a su edad.

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Introduction

Impairment of cognitive functions, which in turn negatively impacts learning, is one of the most frequent problems in epileptic patients.^{1–6} As a general rule, epileptic patients show poorer academic performance, present a higher incidence of grade retention and repeated courses, need more psycho-pedagogical support, and are more frequently diagnosed with learning disorders. According to Jackson et al.⁷ academic difficulties are observed in up to 50% of cases. Such difficulties result from factors inherent to the patient's disease, including aetiology, location of the epileptogenic focus, age at disease onset, seizure frequency, EEG abnormalities, pharmacological treatment, various psychological disorders, psychiatric comorbidities, and the patient's lifestyle.^{3,8–11} They can also lead to school absenteeism and emotional disorders.^{12,13}

At present, schools do not offer an ideal environment in which children with epilepsy can develop academically. This situation arises because teachers are still unaware of the real aptitudes of children with epileptic syndromes, and they do not know what level of academic performance to expect from them.¹⁴

The present study aims to evaluate academic performance and learning skills in children with absence epilepsy younger than 17. Our ultimate purpose is to contribute to implementing pedagogical methods that may help these children improve their academic performance.

Patients and methods

We conducted an observational study to analyse patient and control groups. These groups consisted of children and adolescents aged 7 to 16 of both sexes, enrolled in elementary and secondary education. Cases were patients diagnosed with absence epilepsy who attended the Central League against Epilepsy clinic in Bogotá, Colombia, during 2011. The control group consisted of children and adolescents with similar characteristics to those listed above but lacking a diagnosis of epilepsy.

All patients and their parents or guardians were contacted by telephone. They were informed about the study and asked to participate. They later signed an informed consent form in order to be included in the study. Parents completed a questionnaire inquiring about various factors related to their children's absence epilepsy, academic performance, and social relationships.

Academic skills were assessed with the *Batería de Aptitudes Diferenciales y Generales* (BADyG), a Spanish-language test of differential and general aptitudes validated in Colombia. Different types of battery were used according to the grade level: E1 (1st and 2nd grade), E2 (3rd and 4th grade), E3 (5th, 6th, and 7th grade), and M (8th, 9th, 10th, and 11th grade). The Colombian education system includes 5 primary education grades for ages 6 to 11 (grades 1–5) and 6 secondary education grades for ages 12 to 18 (grades 6–11). To assess learning skills, we chose the sub-tests addressing linguistic, memory, and attention capacity, and the development of levels of reasoning.

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