



ORIGINAL ARTICLE

## Eye disease in international adoption: Importance of the region of origin<sup>☆</sup>



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### KEYWORDS

Internationally adopted children;  
Ocular pathology;  
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### Abstract

**Introduction:** To describe the ophthalmological conditions seen in children adopted internationally by Spanish families, and to assess the influence of the region of origin and the preadoption period of institutional care on these conditions.

**Materials and methods:** A descriptive, observational, cross-sectional study was conducted on 232 children divided into four groups according to region of origin: Group 1, Eastern Europe ( $n = 95$ ); Group 2, Asia ( $n = 95$ ); Group 3, Central and South America ( $n = 26$ ); and Group 4, Africa ( $n = 16$ ). A complete ophthalmological study was carried out and the groups were compared for the prevalence of ophthalmological conditions.

**Results:** Among the total, 57.8% (134) of children presented ophthalmological abnormalities. The prevalence of ametropia was strongly correlated with the region of origin, and was significantly higher in Group 3 (65.4%) compared to the remaining groups. Strabismus and optic nerve hypoplasia (15.8% and 3.2%, respectively) were more prevalent in Group 1. The preadoption institutional care period was longer in children in Groups 1 and 3 (24.5 and 27.7 months, respectively).

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**PALABRAS CLAVE**

Niño procedente de adopción internacional;  
Patología ocular;  
Región geográfica de origen

*Conclusions:* Children adopted from Central and South America had the highest prevalence of ametropia. Adopted children from Eastern Europe showed a weak tendency to present strabismus and optic nerve hypoplasia. Adoptive parents, paediatricians and ophthalmologists should be aware of the high prevalence of ophthalmologic conditions in internationally adopted children and provide the means for a prompt diagnosis and appropriate treatment.

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**Patología ocular en adopción internacional: importancia de la región de origen****Resumen**

*Introducción:* Los niños adoptados tienen una mayor prevalencia de patología oftalmológica. El objetivo es estudiar la patología oftalmológica en niños españoles procedentes de adopción internacional, valorando la influencia de la región geográfica de origen y del periodo institucional preadoptivo.

*Material y métodos:* Se realizó un estudio prospectivo en 232 niños. Se establecieron 4 grupos según la región geográfica de origen: grupo 1: Europa del Este (n=95); grupo 2: Asia (n=95); grupo 3: América Central y Sudamérica (n=26), y grupo 4: África (n=16). Se realizó un estudio oftalmológico completo.

*Resultados:* El 57,8% (134) de los niños presentaron patología oftalmológica. La prevalencia de ametropía se correlacionó significativamente con la región geográfica de origen, siendo estadísticamente superior en el grupo 3 (65,4%) con respecto a la del resto de grupos. El estrabismo y la hipoplasia del nervio óptico fueron más prevalentes en el grupo 1 (el 15,8 y el 3,2%, respectivamente). El periodo institucional preadoptivo fue significativamente mayor en los niños de los grupos 1 y 3 (24,5 y 27,7 meses, respectivamente).

*Conclusiones:* Los niños procedentes de adopción internacional de América Central y Sudamérica son el grupo con mayor prevalencia de ametropía. A pesar de no existir diferencias estadísticamente significativas, los niños procedentes de Europa del Este presentaron una mayor tendencia a presentar estrabismo e hipoplasia de nervio óptico. Los padres adoptivos, pediatras y oftalmólogos deben conocer la elevada prevalencia de problemas oftalmológicos y velar por un diagnóstico precoz y un tratamiento adecuado.

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**Introduction**

International adoption has increased exponentially in the past two decades.<sup>1</sup> In Spain, international adoptions are increasingly frequent.<sup>2</sup>

Internationally adopted children have specific characteristics that may lead to disease: prenatal exposure to alcohol, drugs, tobacco or other substances. They usually live in overcrowded quarters, with poor hygiene conditions, inadequate or insufficient nutrition and a limited number of caregivers. Many of them come from regions endemic for specific infectious diseases.<sup>3</sup>

Children at a severe disadvantage receive deficient health care, so they are susceptible to developing a greater number of diseases.<sup>4</sup>

Many of these factors may affect immature visual pathways and developing eyes.

Although there are some references to the visual and ocular status of internationally adopted children in the literature,<sup>1</sup> only one study has been published specifically on this subject. There is a high prevalence of ophthalmological

findings in children adopted from Eastern Europe.<sup>5</sup> Little is known about ophthalmological pathology in these children. A recent study has correlated ophthalmological and neuropaediatric findings in children adopted from Eastern Europe.<sup>6</sup>

This paper presents the first systematic study on the ocular and visual status of children adopted from different regions.

**Materials and methods**

From January 2010 to January 2012, the ophthalmology department of the Fundació Hospital de Nens of Barcelona studied 232 internationally adopted children. This prospective study was approved by the research council of the Fundació Hospital de Nens de Barcelona (University of Barcelona).

All patients were assessed by the same multidisciplinary team consisting of a paediatric ophthalmologist, a paediatric

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