

SCHOOL INTEGRATION FOR PATIENTS WITH AMBLYOPIA

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Abstract

Aim: to identify the difficulties of social integration in patients with amblyopia, as well as the correlation between school results and the level of amblyopia.

Material and methods: An observational prospective study was performed in an interval of 2 years (2012–2014) for 43 amblyopic patients (24 females and 19 males), with age between 7 and 24 years. Patients were treated in ”Sf. Spiridon” Hospital and Stereopsis Ophthalmological Clinic, Iasi. The patient or the assistant (parent, social assistant or grandparent) have filled in a questionnaire with 15 topics about school results and integration. Clinical parameters were registered for each patient: corrected visual acuity, type of optical correction, type of amblyopia, type of school attended, position in the desk, school results, behavior attitude, family involvement. All data was statistically analyzed.

Results: The cases were classified in three types of amblyopia: strabismic amblyopia (11,63%), refractive amblyopia (67,44%) and deprivation amblyopia (20,93%). Depending on the value of visual acuity, one eye was with prosthetic, 11, 62% had moderate amblyopia and 32, 56% were cases with severe amblyopia. The majority of children were enrolled in normal schools (81,39%), 11,63% in special schools for children with low-vision and 2 patients were students (4,65%). Position of children in classroom was in 81,4% in first or second desk. Only 27,0% had very good results in school. Students had a social integration for study in faculties.

Conclusions: A child with severe amblyopia has good or very good scholar results if the involvement of family and society is increased. There is no correlation between the position in the desk and the level of preparation. It is necessary an individualized educational attention for patients with amblyopia.

Keywords: amblyopia, social integration, family involvement, school results

Introduction

Amblyopia is a significant cause of unilateral visual deficit in childhood and is still considered one of the most common causes of persistent unilateral visual impairment in

adulthood, including populations in which advanced medical care is offered [1]. Also called ”lazy eye”, it can influence learning, performance in school, social activities and, it can also restrict the child’s choice of a career and hobbies. The prevalence of amblyopia detected in children is

estimated between 0,2 and 5,4% [2-12] and in adults between 0,35 and 3,6% [13-15].

The quality of vision and life is now in attention for patients with amblyopia and questionnaires about amblyopia treatment, impact on family life, social interactions, difficulties in undertaking daily activities, as well as feelings and behavior, are used [16,17]. The impact of amblyopia on quality of life has not been adequately explored [18]. Many ophthalmologists in Romania have in present a high interest for the prevention of amblyopia and the quality of life of amblyopic patients. This study tried to identify the difficulties of social integration of patients with amblyopia, as well as the correlation between school results and the level of amblyopia.

Material and method

The study is an observational prospective study performed in an interval of 2 years (2012 – 2014) for 43 patients (24 females and 19 males) with amblyopia, with ages between 7 and 24 years. Patients were treated in “Sf. Spiridon” Hospital and Stereopsis Ophthalmological Clinic, Iasi. Regarding the living environment, 62,7% came from urban areas, while 44,1% came from rural areas. We could presume that health education was more accentuated in urban areas, and many cases of amblyopia were revealed, than in rural areas where the addressability to a doctor was slightly decreased.

The clinical parameters registered for each patient were the following: corrected visual acuity, type of optical correction, type of amblyopia, type of school attended, position in the desk, school results, compartmental attitude, family involvement.

The patient or the assistant (parent, social assistant or grandparent) filled in a questionnaire with 15 topics about school results and integration.

Results

The mean age of patients was 11.48±4.41 years (limits between 7-24 years old). All the patients were enrolled in different types of school (from kinder garden to faculty – 2 patients). The mean visual acuity (VA),

performed separately for each eye was for the right eye 0.57±0.36 (on Snellen optotype), with limits 0.00001 to 1, while the mean VA for the left eye was 0.48 ± 0.35 with limits between 0 and 1. Therefore, we could say that the incidence of amblyopia in the right eye was lower than in the left eye (Fig. 1).

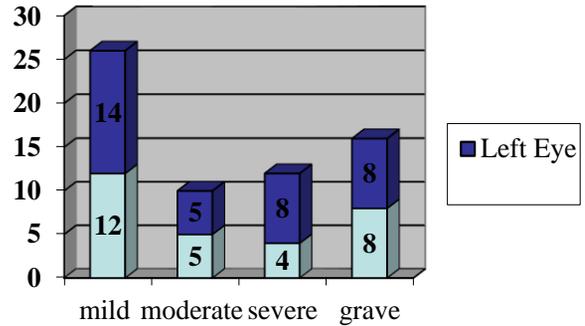


Fig. 1 Case distribution according to the level of amblyopia

Out of 43 patients with amblyopia, the majority (81,3 %) went to a regular school, 11,6 % followed a special school, 4,6 % were students and 2,3% were self-employed (Fig. 2).

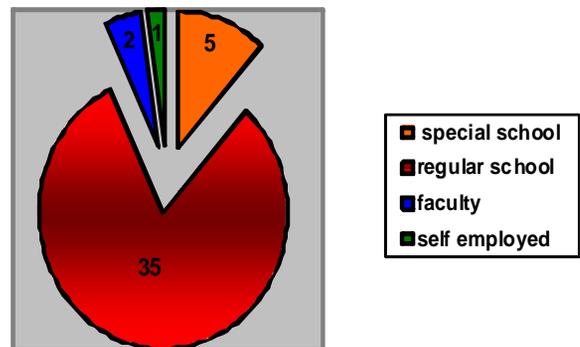


Fig. 2 Case distribution according to school

One child with moderate amblyopia and four children with visual acuity between LP (light perception) and 0.1 followed special schools. The majority went to a regular school. Analyzing the children’ distribution in desks, in the majority of cases, they were mainly placed in the first two rows of desks (81,7%). Only three cases (6,9%) were sitting in the last row of desks in the classroom.

Regarding school results, we noticed that 21 cases (48,8%) had good results and 12 cases (27,9%) very good results. On the other hand, in 5 cases (11,6%), school performance was satisfactory and in 4 cases unsatisfactory (Fig. 3).

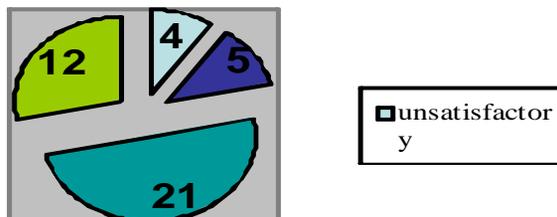


Fig. 3 School results

Out of 43 cases, almost 28% had excellent school results, among which 7,1% had a visual acuity between 0.5-0.6 for both eyes. The rest of 92,8% had an eye with a good visual acuity of 0.9-1 and the other eye with severe or moderate amblyopia. Good school performance was attributed to 48,8%, among which 10,2% had grave and severe amblyopia in both eyes, 4% had moderate bilateral amblyopia and 28,6% had non-amblyopic eyes or mild amblyopia. In 5 cases (11,6%), children had satisfactory results, from whom four were with bilateral severe or grave amblyopia and one child had bilateral moderate amblyopia. Only 4 children (9,3%) had unsatisfactory school results, all of them had bilateral severe or grave amblyopia.

Family involvement was predominantly average in 23,26% and good in 48,83%. Cases with unsatisfactory school results were children with very severe amblyopia and, in one case, an inherited form of juvenile [macular degeneration](#) (Stargardt disease). All these children lived in rural areas and also, the parental involvement in their education was low.

The main cause of amblyopia in this study was anisometropia in 23 cases (53,5%) and in only 6 children (13,95%), optical correction was done with contact lenses (Fig. 4). In 16,27% we found a compound called hyperopic astigmatism (AHC), in 37,03% hyperopia (H), in 32,6% myopia (M). 6% were cases with degenerative myopia. Other 13,9% had ocular congenital anomalies and 6,97% had congenital cataract or sequelae after ocular trauma.

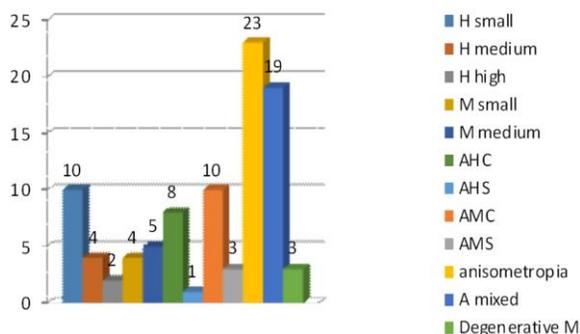


Fig. 4 Causes of amblyopia

The cases were classified in three types of amblyopia: strabismic amblyopia (11,63%), refractive amblyopia (67,44%) and deprivation amblyopia (20,93%). Depending on the value of visual acuity, one eye was with prosthetic, 11,62% had moderate amblyopia and 32,56% were cases with severe amblyopia.

Both patients who studied in faculty had social problems regarding the integration with colleagues, and they did not find special devices for low-vision in faculties. They had very good results but they observed that colleagues were not prepared to integrate them.

Discussions

In many instances, school is an excellent time for patching, taking advantage of a nonparental authority figure. Patching during school hours gives the class the opportunity to learn valuable lessons about accepting differences among children. While in most instances, children may not need to modify their school activities while patching, sometimes adjustments such as sitting in the front row of the classroom will be necessary [19]. A pilot study performed in the USA suggests that children with a history of amblyopia have impaired visual-auditory speech perception. Early childhood appears to serve as an approximate time point for the development of a successful visual-auditory fusion, by that time amblyopia must have been either solved or begun. Interventions to cure amblyopia may not only influence visual acuity, but also the perception of sound [20].

The quality of life of amblyopic patient is modified by 4 interventions: family impact, social interactions, daily modification in the activity of the patient, behavior of amblyopic patients [21]. The treatment of amblyopia can induce stress or anxiety also for the patient or family. Amblyopia has a negative impact in education and in the care of the patient [22,23].

Conclusions

A child with severe amblyopia has good or very good scholar results if the involvement of the family and society is increased. There is no correlation between the position in the desk and the level of preparation. An individualized educational attention is necessary for patients with amblyopia.

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