

PARENTS' INFLUENCE ON THE TREATMENT OF AMBLYOPIA IN CHILDREN

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SUMMARY – Amblyopia in children is a great problem that has to be identified on time and treatment initiated as early as possible to achieve optimal therapeutic result. Therapeutic success depends greatly on the children's parents' collaboration. It was the reason for us to embark upon this study to evaluate the parents' role in amblyopia treatment and their influence on the final therapeutic result. The aim of the study was to assess compliance with therapy prescribed, the degree to which the parents understood their children's health condition, and whether they were satisfied with their child's ophthalmologist. The study included 105 parents divided into three groups of 35 persons according to their educational level. All study parents filled out a questionnaire. The children's visual acuity measured before and after prescribed therapy was compared with the parents' answers to the questions. Among 105 children, post-therapeutic improvement in visual acuity was recorded in 66 (62.8%) children, whereas the rest of 39 (37.1%) children showed no therapeutic success. Statistical analysis yielded no significant difference in the rate of therapeutic success according to parent's educational level ($P=0.61$). The best results were obtained in children with highest therapy compliance. It is of utmost importance for the ophthalmologist to gain parents' trust, which then leads them to better compliance with the therapeutic measures prescribed. This mode of approach requires more time, which, unfortunately, may not always be possible due to the great number of visits the ophthalmologist has to cover during working hours. Frequent ophthalmologic follow ups are mandatory to be sure that therapy is performed correctly and to prevent the possible unfavorable effects of noncompliance.

Key words: *Amblyopia – prevention and control; Amblyopia – diagnosis; Vision screening – methods; Health knowledge attitudes – practice; Parents psychology; Patient compliance*

Introduction

Amblyopia in children poses a great problem that has to be identified on time and treatment initiated as early as possible to achieve optimal therapeutic result. Therapeutic success depends greatly on the children's parents' collaboration. It was the reason for us to em-

bark upon this study to evaluate the parents' role in amblyopia treatment and their influence on the final therapeutic result.

The diagnosis of amblyopia is confirmed when the loss of visual acuity cannot be explained by visible abnormalities, or when there are some history or other data on a previous illness or state that might have caused amblyopia^{1,2}.

One therapeutic option for amblyopia is to promote the use of the amblyopic eye by restricting the function of the better eye (occlusions that can last from a few hours to throughout the day), demonstrated to be the

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best way to treat amblyopia. The duration of occlusion therapy depends on the degree of amblyopia. Parents' collaboration and motivation is crucial because the treatment is long lasting and a certain degree of worsening may occur if it is prematurely interrupted³⁻⁵.

The aim of the study was to determine the percentage to which the parents complied with performing prescribed exercises with their children, how often the children were wearing the glasses prescribed, the degree to which the parents understood their children's health state, and whether they were satisfied with their child's ophthalmologist.

Subjects and Methods

The parents whose children were treated at the pediatric ophthalmology outpatient clinic for amblyopia, being caused either by strabismus or anisometropia, were asked to fill out a questionnaire. We selected parents whose children had amblyopia of comparable grade and received approximately the same treatment. The parents were divided into three groups of 35 persons according to their educational level. Group 1 consisted of parents with university education, group 2 included parents with high school education, and group 3 included parents with less than high school education. Their questionnaire answers were compared with ophthalmologic findings of their children.

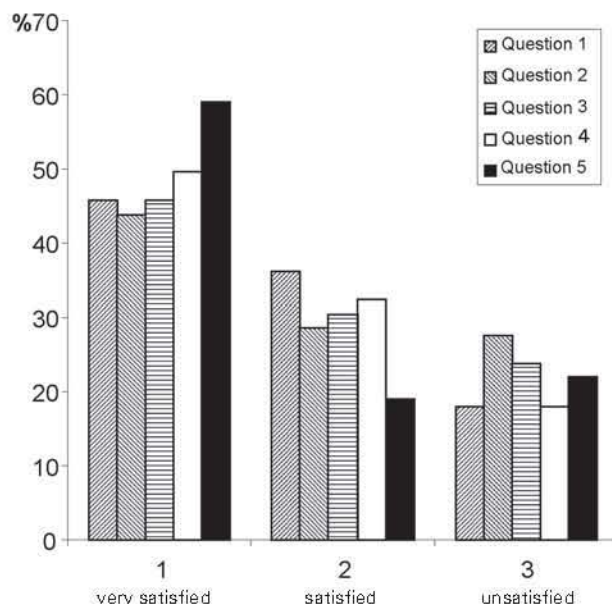


Fig. 1. Distribution of parents' questionnaire answers. Values are expressed as percentage.

The study included 105 parents accompanying their children to the pediatric ophthalmology outpatient clinic or outpatient orthoptical clinic, University Department of Ophthalmology, Split University Hospital Center.

The questionnaire asked the following questions:

1. To what extent are you familiar with your child's diagnosis?
2. Does your child wear prescribed glasses?
3. Does your child perform occlusive therapy regularly?
4. Are you satisfied with your child's ophthalmologist?

The children's visual acuity measured before and after prescribed therapy was compared with the parents' answers.

Statistical analysis was done by use of the Statistica 6.0 software (StatSoft Inc.). Between-group differences were analyzed by Student's *t*-test and χ^2 -test. Statistical significance was set at $P < 0.05$.

Results

The study included 105 parents, 35 with university education, high school education and less than high school education each. General distribution of parents' questionnaire answers according to these three groups is presented in Figure 1. Amblyopia was caused by strabismus in 65 (61.9%) and by anisometropia in 40 (38.1%) children. Study results

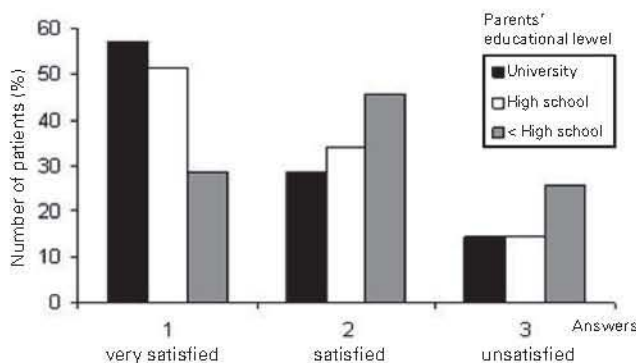


Fig. 2. Frequency of different answers to question 1 (How much do you know about your child's medical condition?) according to parents' educational level ($P < 0.005$).

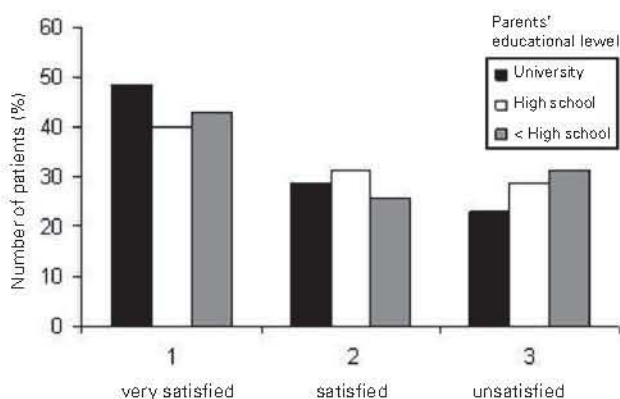


Fig. 3. Frequency of different answers to question 2 (Does your child wear prescribed glasses regularly?) according to parents' educational level ($P=0.72$).

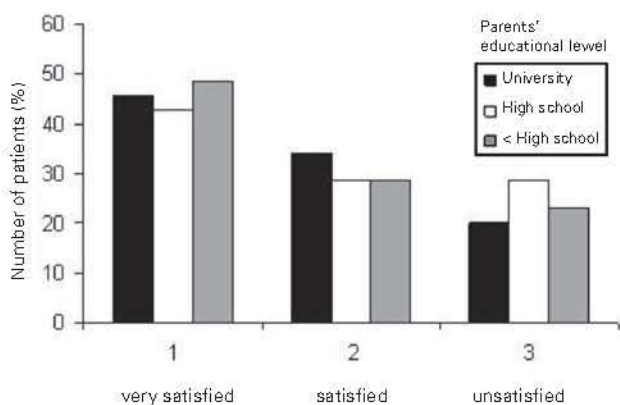


Fig. 4. Frequency of different answers to question 3 (Does your child comply with occlusive therapy?) according to parents' educational level ($P<0.005$).

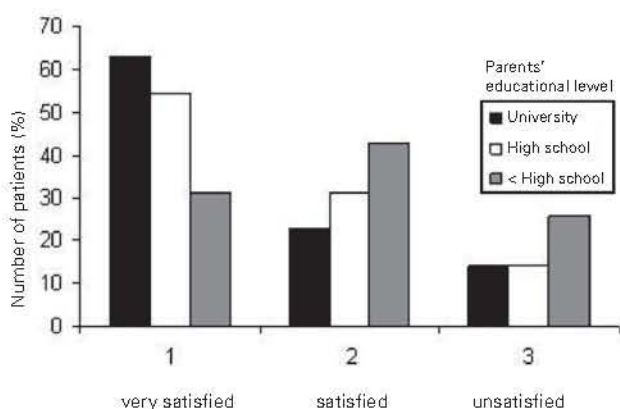


Fig. 5. Frequency of different answers to question 4 (Do you know what is occlusive therapy for?) according to parents' educational level ($P<0.001$).

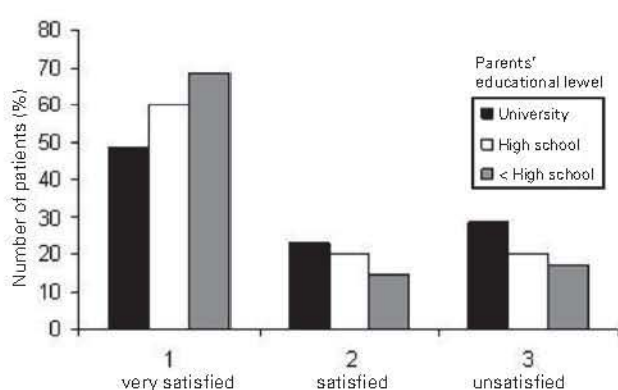


Fig. 6. Frequency of different answers to question 5 (Are you satisfied with your physician's work?) according to parents' educational level ($P=0.26$).

showed group 3 parents to be less familiar with their children's medical condition and they did not know what the aim of therapy prescribed was. Nevertheless, their children seemed to be most compliant with prescribed therapy, either occlusive therapy or wearing glasses, and they were most satisfied with the work of their children's ophthalmologist. Among 105 children, post-therapeutic improvement in visual acuity was recorded in 66 (62.8%) children, whereas the rest of 39 (37.1%) children showed no improvement. In group 1 parents, 22 (62.8%) children showed post-therapeutic improvement in visual acuity, whereas 13 (37.1%) children showed no improvement. In group 2 parents, post-therapeutic improvement in visual acuity was recorded in 24 (68.5%) and no improvement in 11 (31.4%) children. In group 3 parents, post-therapeutic improvement was found in 20 (57.1%) and no improvement in 15 (42.8%) children. Distribution of parents' answers to particular questions is presented

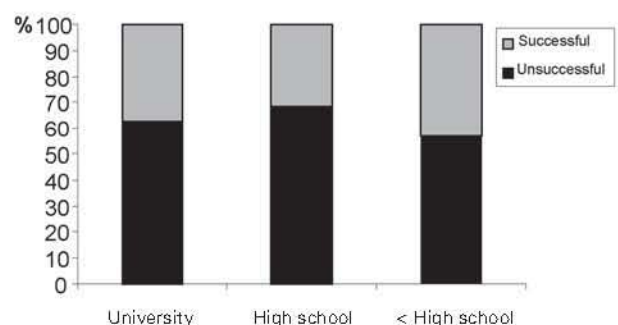


Fig. 7. Success of treatment for amblyopia according to three levels of parents' education. Values are expressed as percentage.

in Figures 2-6. The success of treatment for amblyopia according to three levels of parents' education is shown in Fig. 7.

Statistical analysis showed that there was no statistically significant difference in the rate of therapeutic success according to the parents' educational level (Pearson $\chi^2=0.98$; $df=2$; $P=0.61$).

Discussion

We decided to embark upon this study because we had often faced a situation where the child's parents did not understand what their child was treated for, or did not understand at all the terms like strabismus or astigmatism. We also noticed that parents usually passed the control of occlusive therapy to their child's will. It usually results in poor therapy compliance because the child finds it annoying, or does not like to cover the leading eye, crying or struggling to avoid the occlusion. This confirms poor understanding of the importance of occlusive therapy among parents.

Occlusive therapy done at the hospital, under medical staff surveillance, is reported to be significantly more successful than when done at home⁵. The reason for this might be poor or incomplete compliance with amblyopia treatment at home. It is also important to note that our study demonstrated that the parents' educational level had no influence on the rate of amblyopia treatment success.

Conclusion

We may say that great parents' efforts and collaboration with their children's ophthalmologists are needed to achieve optimal therapeutic results. Our

study showed that best results were obtained in children with high therapy compliance. Statistical analysis showed no correlation between the parents' educational level and rate of therapeutic success. It is of utmost importance that the ophthalmologist gains the parents' trust, which will then result in better compliance with the therapy prescribed. In order to gain their trust, the ophthalmologist should inform the parents about their child's medical condition, prognosis and treatment plan. This information has to be delivered in an appropriate way. It is crucial for the ophthalmologist to evaluate the extent to which the parents can understand their child's condition and to adjust the explaining process accordingly. This approach requires more time, which, unfortunately, may not always be possible due to the great number of visits the ophthalmologist has to cover during his working hours. Frequent ophthalmologic follow ups are mandatory to be sure that therapy is being performed correctly and to avoid the possible unfavorable effects of noncompliance.

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Sažetak

ULOGA RODITELJA U LIJEČENJU SLABOVIDNOSTI KOD DJECE

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Liječenje slabovidnosti u djece predstavlja velik problem koji treba što ranije dijagnosticirati i početi s liječenjem kako bi rezultati bili što bolji. U liječenju slabovidnosti suradnja s roditeljima je jedan od najvažnijih preduvjeta za njenu uspješnost. Zbog tog razloga smo proveli ispitivanje roditelja i njihove uloge u liječenju. Cilj ove studije je bio utvrditi u kojem postotku roditelji kod djece provode zadane vježbe u svrhu liječenja slabovidnosti, nose li djeca propisane naočale, kao i razumiju li djetetovu dijagnozu i koliko su zadovoljni radom liječnika. Anketirali smo 105 roditelja koji svoju djecu dovode u dječju opću ambulantu ili ambulantu za ortoptiku Klinike za očne bolesti KBC Split. Dobivene odgovore usporedili smo s nalazima u djece usporedivši vidnu oštrinu prije terapije okluzijom i nakon preporučene terapije. Među djecom koja su se liječila zbog slabovidnosti uzrok slabovidnosti je u 65 (61,9%) djece bio strabizam, a kod 40 (38,1%) djece anizometropija. U studiju je bilo uključene ukupno 105 roditelja od kojih je 35 bilo s visokom i višom stručnom spremom, 35 sa srednjom stručnom spremom i 35 s nižom stručnom spremom. Rezultati su pokazali kako su roditelji iz treće skupine bili najmanje upoznati s djetetovom dijagnozom, u najvećem postotku nisu znali zbog čega se provodi zatvaranje oka, ali njihova djeca u najvećem postotku provode vježbe zatvaranja oka, nose propisane naočale i najzadovoljniji su radom liječnika. Statistička analiza podataka o uspješnosti liječenja ambliopije u odnosu na stručnu spremu roditelja nije pokazala značajnu razliku ($\chi^2=0,98$, $df=2$, $P=0,61$). Kako bi liječenje slabovidnosti bilo što učinkovitije potrebna je suradnja roditelja i liječnika, što podrazumijeva velik angažman roditelja u provođenju vježbi. Najvažnije je da roditelji vjeruju liječniku koji liječi njihovo dijete, jer se tada pridržavaju uputa koje im se daju u vezi s liječenjem. Roditelji trebaju biti dobro obaviješteni o bolesti, prognozi i načinu liječenja. Takav pristup iziskuje vrijeme koje treba provesti s roditeljima, što nažalost katkad nije moguće zbog velikog broja pregleda. Česte kontrole su potrebne kako bismo bili sigurni u ispravno provođenje terapije te da bi se izbjegli negativni učinci nepridržavanja uputa za provođenje terapije.

Ključne riječi: Ambliopija – prevencija i kontrola; Ambliopija – dijagnostika; Ispitivanje vida – metode; Stavovi prema poznavanju zdravlja – praksa; Psihologija roditelja; Suradljivost bolesnika