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Parental Predictors of Poor Visual Outcome with Occlusion Treatment for Unilateral Amblyopia

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Abstract: Aim: Visual acuity outcome of amblyopia treatment depends on the compliance. This study aimed to determine parental predictors of poor visual outcome with occlusion treatment in unilateral amblyopia and identify the relationship between occlusion recommendations and the patient's actual dose of occlusion reported by the parents.

Methods: This study comprised three phases: refractive adaptation for a period of 18 weeks after spectacle correction; occlusion of 3 to 6 hours per day during a period of 6 months; questionnaire administration and completion by parents. Visual acuity as assessed using the Sheridan-Gardiner singles or Snellen acuity chart was used as a measure of visual outcome. Correlation analysis was used to describe the strength and direction of two variables: prescribed occlusion reported by the doctor and actual dose reported by parents. A logistic binary model was adjusted using the following variables: severity, vulnerability, self-efficacy, behaviour intentions, perceived efficacy and treatment barriers, parents' and childrens' age, and parents' level of education. Results: The study included 100 parents (mean age 38.9 years, SD approx 9.2) of 100 children (mean age 6.3 years, SD approx 2.4) with amblyopia. Twenty-eight percent of children had no improvement in visual acuity. The results showed a positive mild correlation ($\kappa = 0.54$) between the prescribed occlusion and actual dose reported by parents. Three predictors for poor visual outcome with occlusion were identified: parents' level of education (OR = 9.28; 95%CI 1.32-65.41); treatment barriers (OR = 2.75; 95%CI 1.22-6.20); interaction between severity and vulnerability (OR = 3.64; 95%CI 1.21-10.93). Severity (OR = 0.07; 95%CI 0.00-0.72) and vulnerability (OR = 0.06; 95%CI 0.05-0.74) when considered in isolation were identified as protective factors.

Conclusions: Parents frequently do not use the correct dosage of occlusion as recommended. Parents' educational level and awareness of treatment barriers were predictors of poor visual outcome. Lower levels of education represented a 9-times higher risk of having a poor visual outcome with occlusion treatment.

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