Influence of prematurity on the "emmetropization" process

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Background: 'Emmetropization' is the process of change by the eyeball optical structures that takes place from birth in order to achieve an optimal refractive state, emmetropia. However, prematurity can alter this process, causing refractive defects that alter the development of vision.

Objective: The present study aims to show the influence of prematurity on the process of 'emmetropization' by comparing a sample of 80 children of 3 to 4 months of age born prematurely with a sample of 80 children born at full-term.

Methods: A descriptive cross-sectional study was conducted comparing two groups, preterm infants (Integral Kangaroo Mother Program) and term infants (Children's Clinic Colsubsidio) each with 80 children, using selected convenience sampling. The variables studied in both groups were: refractive status and gestation period, analyzed by the chi square test.

Results: The most common refractive error was hyperopic astigmatism (+3.00 to +3.75 sph., –1.00 to –1.75 with cyl.) for those born prematurely and (+2.00 to +2.75 sph. with 0.00 to –0.75 cyl.) for term infants. Chi-square analysis rejected the null hypothesis that the variables showing gestational age and refractive state were related (P=.0072).

Conclusion: The most common defect for the two groups was hyperopic astigmatism, being higher in the preterm group than in term infants group. The association between the variables, refractive status and gestational age, indicate that prematurity can be one of the factors that alter the process of 'emmetropization' of the eyeball.

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