Social Determinants of Health and Visual Outcomes in Pediatric Cataract

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Introduction: This study investigated the association of social determinants of health with visual outcomes after pediatric cataract surgery.

Methods: We retrospectively reviewed children who underwent pediatric cataract surgery between 2018 and 2022. Exclusion criteria were residence outside of Ontario, non-quantifiable vision, secondary cataracts (e.g., traumatic, uveitic), and unilateral cataract surgery performed under 7 months of age. Social determinants of health included sex, ethnicity, preferred language, and need for interpreter. Using 2016 census data and postal code, we deduced patients' neighborhood income quintile, geographic region of residence, and urbanicity. Best-corrected visual acuity was collected from the most recent clinic visit. T-tests and chi-square tests were used to analyze social determinants and vision outcome.

Results: Sex, postal code, geographic region, and urbanicity were available for all 61 patients included. Income quintile was available for 59 (97%) and preferred language for 52 (85%). None had ethnic group or need for interpreter recorded. There was no significant difference in visual acuity by sex, preferred language, urbanicity, or region (Females 0.38 logMAR, males 0.56 logMAR, p=0.08; English 0.41 logMAR, non-English 0.53 logMAR, p=0.48; urban 0.45 logMAR, rural 0.77 logMAR, p=0.11; region p=0.8). 29% of low-income patients, 33% of medium-income patients, and 54% of high-income patients achieved better than logMAR 0.3 vision (p=0.25).

Conclusions: Trends were present between social determinants of health and vision outcomes, but no significant associations were found. This study highlights current gaps in available data on our patients' social determinants of health with low documentation of ethnicity, preferred language, and interpreter need.