

Material Deprivation and Eye Exams in Young Children in Ontario, Canada: A Population-based Cohort Study.

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Background: Only 14% of children under the age of 6 years received a comprehensive eye exam in 2013 in Ontario, Canada. This low uptake occurred despite recommendations for universal comprehensive eye exams and payment for annual exams through provincial health insurance. Poor access to or use of vision care services in children can lead to amblyopia, impact learning, and possibly exacerbate health inequities.

Objective: To test the association between neighborhood-level material deprivation, a proxy for socioeconomic status, and receipt of a comprehensive eye exam before age 7 years in Ontario.

Methods: We performed a population-based, longitudinal, repeated measures study using linked health administrative data. We included 128,091 children born in Ontario in 2010 eligible for provincial health insurance and followed them from birth until their 7th birthday. The main exposure was neighborhood-level material deprivation quintile within dissemination areas [geographic groups of 400 to 700 people (Q1– least deprived to Q5 – most deprived)]. The primary outcome was a comprehensive eye exam between a child’s birth and 7th birthday. We used logistic regression models to estimate odds (adjusted odds ratio; aOR) with 95% confidence intervals of having a comprehensive eye exam by material deprivation quintile, adjusting for age, sex, preterm birth, income quintile, rurality, income assistance, and type of primary care physician.

Results: Of 128,091 children included, 65% (n=82,833) had at least one comprehensive eye exam, with 56.9% (n= 31,911) in the most deprived and 70.5% (n =19,860) in the least deprived quintiles. Females represented 48.7% of the cohort, 7.8% were born preterm, 74.4% lived in major urban areas, 16.2% received income assistance, and 58.9% were enrolled with a family physician/general practitioner at age 2 years. After adjusting for clinical and demographic variables, children living in the least materially deprived quintile had a higher odds of receiving a comprehensive eye exam (aOR 1.43; 95%CI 1.36, 1.51) compared to children living in areas with the most material deprivation.

Conclusion: Uptake of comprehensive eye exams is poor, especially amongst children living in neighbourhoods with high material deprivation. Strategies to improve uptake and access for all children are needed, particularly, for those living in deprived neighbourhoods. School-based vision screening should be considered to improve uptake and reduce inequalities.