

Babies born in Canada to immigrant mothers have lower risk of cerebral palsy

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Babies born to mothers who immigrated to Ontario from other countries have significantly lower rates of cerebral palsy than those of Canadian-born mothers, especially those from the Caribbean and East Asia, new research has found.

"Predicting who is at highest risk of having a child with CP remains an international priority," said lead author Dr. Joel Ray, who notes that CP rates have not declined much over the last decade.

CP is the most common motor disability in childhood and appears by the age of four. The underlying injury to the brain with CP is thought to occur before birth, rather than during delivery. Most damage is to the motor neurons of the brain affecting coordination and muscle strength.

Dr. Ray, a physician and researcher at St. Michael's Hospital, looked at data from the Institute for Clinical Evaluative Sciences on all single births in Ontario from 2002 to 2008. Each child was assessed up to age four.

In a paper published today in the online journal *PLoS One*, he reported there were 1,346 cases of CP among 744,058 live single births. For [immigrants](#), there were 1.45 cases of CP for every 1,000 births, a 23 per cent lower risk than for non-immigrants who had 1.92 CP diagnoses per 1,000 births.

However, immigrants living in high-income areas were not at lower risk of CP than their non-immigrant counterparts. Dr. Ray, also a scientist at ICES, said this may be because wealthier immigrants, who have lived in Canada longer, lose the "healthy immigrant effect," where immigrants are generally healthier than people born in Canada.

Dr. Ray noted that we still have a poor understanding of how CP arises, so the more scientists can understand the underlying [risk](#)

[factors](#) that predispose someone to CP the closer they may come to developing interventions to prevent CP. Knowing why immigrants are at lower risk of having a child with CP offers clues to discovering ways to prevent CP among all Canadians.

About 80 per cent of CP cases are due to prenatal injury of the brain and only 10 per cent to adverse events after birth. The most common risk factors are low and high birth weights as well as premature birth—although half of all children who develop CP are born at term and most cases occur in children with an apparently uncomplicated pregnancy.

Dr. Ray said it's also thought that CP and stillbirths share many common risk factors, including placental vascular disease in the mother—such things as preeclampsia, gestational hypertension, placental abruption and placental infarction. Yet, even upon adjusting for these conditions, the risk of CP was still lower among immigrant mothers.

Provided by St. Michael's Hospital

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