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CMAJ headlines:

- Heart disease in young adults and teenagers may be linked to exposure to diabetes in the womb
- Inequalities in premature deaths have increased between the rich and poor in Canada

Heart disease in young adults and teenagers may be linked to exposure to diabetes in the womb

Heart disease in young adults and teenagers may be related to exposure to diabetes in the womb, according to new research published in *CMAJ* (*Canadian Medical Association Journal*). [VIEW ARTICLE](#).

A study of young adults and teenagers in Manitoba, Canada, whose mothers had diabetes during their pregnancies found the offspring had a 50% to 200% higher risk of developing heart disease before age 35 than those who were not exposed in the womb.

“These observations support our hypothesis that cardiovascular disease morbidity in adolescence and early adulthood is related to exposure to maternal diabetes in utero,” writes Dr. Jonathan McGavock, Children’s Hospital Research Institute of Manitoba and Associate Professor at the University of Manitoba, Winnipeg, Manitoba, with coauthors.

Researchers looked at data on more than 290 000 children born to almost 190 000 mothers in Manitoba between 1979 and 2005. Of the total children, 2.8% were exposed to gestational diabetes and 1.1% to pre-existing type 2 diabetes. Exposure to both types of diabetes became more common during the study period, a trend seen elsewhere in the world.

The three most frequent diagnoses among offspring exposed to diabetes were high blood pressure (8713 people), type 2 diabetes (3568 people) and ischemic heart disease (715).

“Using data for nearly all children born in Manitoba over a period of 30 years, we found that children born to mothers with diabetes in pregnancy were 30%–80% more likely to develop a heart condition and 2.0 to 3.4 times more likely to develop a heart disease risk factor (e.g., high blood pressure, diabetes) than children born to mothers without diabetes in pregnancy,” says Dr. McGavock.

Furthermore, heart conditions and risk factors were diagnosed 2 years earlier in the children exposed to diabetes in the womb.

Previous studies have documented the increased risk of type 2 diabetes, but not cardiovascular disease, from in utero exposure to diabetes.

The authors suggest these findings may be useful for preventive health practices.

“Screening children with in utero exposure to diabetes for cardiovascular disease risk factors might help to evaluate the future burden related to cardiovascular disease in the population,” the authors conclude.

“Intrauterine exposure to diabetes and risk of cardiovascular disease in adolescence and early adulthood: a population-based birth cohort study” is published September 28, 2020

MEDIA NOTE: Please use the following public links after the embargo lift:

Research: <http://www.cmaj.ca/lookup/doi/10.1503/cmaj.190797>

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Inequalities in premature deaths have increased between the rich and poor in Canada

Socioeconomic inequalities in premature deaths in Canada have increased over the last 25 years, according to new research published in *CMAJ (Canadian Medical Association Journal)*. [VIEW ARTICLE](#)

“Although premature mortality rates have declined over time in Canada, those with lower levels of income and education have not benefitted equally from these overall improvements,” says Dr. Faraz Vahid Shahidi, Institute for Work and Health, Toronto, Ontario, with coauthors. “As a result of these uneven gains, socioeconomic inequalities in premature mortality have increased in Canada.”

To understand how socioeconomic inequalities in premature mortality have changed, researchers analyzed data on adults aged 25–74 years using the Canadian Census Health and Environment Cohorts, which links information from Canada’s long-form Census to the Canadian Mortality Database. The study covered the period between 1991 and 2016. Key metrics were socioeconomic status, measured using household income and education, and cause of death.

The relative risk of premature death associated with having a lower income or lower level of education increased steadily over the study period. For example, whereas men in the lowest income group were 110% more likely to die prematurely than their richer counterparts in 1991, they were 180% more likely to die prematurely in 2016. That inequality also increased for lower-income women, who were 70% more likely to die prematurely than their richer counterparts in 1991, but 150% more likely to die prematurely in 2016.

The findings are consistent with those of other international studies that showed increasing mortality gaps between the rich and poor in the United States and Europe.

“We believe that health inequalities are getting worse because underlying social and economic inequalities are getting worse,” says Dr. Shahidi. “To resolve health inequalities, governments should pursue policies that will reduce the extent of social and economic inequality in our society, such as

raising the minimum wage, improving job security, increasing social assistance rates, and improving access to benefits such as Employment Insurance.”

“*Trends in socioeconomic inequalities in premature and avoidable mortality in Canada, 1991–2016*” is published September 28, 2020.

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