

Missing paternal data and adverse birth outcomes in Canada.

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Abstract

BACKGROUND:

Research on predictors of birth outcomes tends to focus on maternal characteristics. Less is known about the role of paternal factors. Missing paternal data on administrative records may be a marker for risk of adverse birth outcomes.

DATA AND METHODS:

Analyses were performed on a cohort of births that occurred from May 16, 2004 through May 15, 2006, which was created by linking birth and death registration data with the 2006 Canadian census. Log-binomial and binomial regression were used to estimate relative risks and risk differences for preterm birth, small-for-gestational-age birth, stillbirth and infant mortality associated with the absence of paternal information. Analyses controlled for maternal age, education, household income, parity, marital status, ethnicity and birthplace.

RESULTS:

The analyses pertained to 135,285 singleton births. Paternal data were missing from the birth registration for 7,461 births (4.6%) and from the census data for 17,713 births (11.4%). The adjusted relative risks associated with missing paternal data on the birth registration were 1.12 (95% CI: 0.99, 1.26) for preterm birth; 1.15 (1.05, 1.26) for small-for-gestational-age birth; 1.86 (1.27, 2.73) for stillbirth; and 1.53 (1.00, 2.34) for infant mortality. Estimates were robust to varying definitions of missing paternal information, based on the birth registration, census data, or both.

INTERPRETATION:

This study suggests that missing paternal data is a marker for increased risk of adverse birth outcomes, over and above maternal characteristics.

KEYWORDS:

Birth certificates; fetal death; infant mortality; medical record linkage; premature infant; small-for-gestational-age infant; stillbirth