

The Siberian Birth Outcomes Study

Project number: EOI 1122

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Abstract:

There are still no computerized databases (DBs) and official medical registries of births in Siberia, a huge territory with the severe continental climate. This makes it difficult to perform epidemiological studies. Meanwhile, because Russia is currently in social and economic transition, Siberia is experiencing important demographic changes including falling birth rate, rise in infant and perinatal mortality, and higher frequencies of congenital malformations and spontaneous abortions. Climactic changes related to global warming will likely have important effects on northern environments and may also influence birth demography through changes temperature, ultraviolet exposure and/or other factors. Objectives: (1) to create a DB of births which will allow epidemiological study of a variety of pregnancy outcomes in relation to month and season of birth, latitude and climate/climate change, known areas and risks for environmental toxicants and other potential reproductive hazards, duration of exposure to potential demographic risks, ethnicity (including aboriginal peoples), and exposure to known reproductive toxicants such as alcohol and tobacco; (2) to determine Siberia-specific risk factors for adverse pregnancy outcomes; (3) to test hypotheses of early influences at the time of conception and birth on subsequent health indices (imprinting and SPrOO-hypotheses); and (4) to compare the Siberian data with those of Norway and North Canada. Setting: highly industrialised Siberian cities of oil mining and metallurgical industry, Norilsk (69.5 °N, high degree of anthropogenic pollution), Surgut (61.5 °N,) and Novosibirsk (54.5 °N). Design: a case-control retrospective and follow up study. Methods. Retrospective approach. We will begin by collecting data from medical documents having been completed by obstetric units and delivery hospitals for each pregnant woman, and placing them in the DB to be designed for this research. The data on current cases of pregnancies and births will be obtained from medical records being completed and questionnaires in the cities of interest. A 1 year follow up for infants, born after 1 January, 2007, will be carried out by using returning questionnaire and/or telephone interview. Output measures: estimated date of conception, obstetric and birth complications, duration of pregnancy, birth weight, alcohol and tobacco use, parental health and occupational data including potential environmental risks from work and consumption of possibly contaminated foods or water, and infant health characteristics during the first year of life. Additionally, we will link the data from the DB to data on known environmental hazards within the index communities, meteorological data around the estimated day of conception and on the day of birth (temperatures, winds, humidity, etc.).

Project Status: Active

Project Progress:

The project is being considered by the Expert Committee of SB RAMS under academician Trufakin. The decision will be made in the near future.