

First of its kind study identifies risk factors for LRTIs in Inuit children

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May 21, 2009 — Inuit children have the highest rate of hospital admission for Lower respiratory tract infections (LRTIs) globally, but new research shows that lowering risk factors through public health interventions and an enhanced immunization program could improve health for Inuit children and lower health care costs significantly. The first-of-its-kind case control research was conducted by Dr. Anna Banerji, a pediatric infectious disease specialist and researcher at St. Michael's Hospital.

"Infants of Inuit race were nearly four times more likely to be admitted for LRTI than mixed or non-Inuit infants," explains Dr. Banerji. "LRTI increases the risk of recurrent infections, chronic lung disease and asthma so there are many potential health complications." According to recent Statistics Canada data, the Aboriginal infant mortality rate in Nunavut is two-to-three times the Canadian average so exploring the effectiveness of immunization could have a major impact on children's health and mortality rates.

Respiratory infections are the leading cause for admission, medical evacuation and expenditure for Inuit children in the health care system and can result in serious health complications for those affected. Dr. Banerji's key findings on the risk factors that contribute to LRTIs among Inuit children include:

- Infants of mothers who smoked during pregnancy were four

times more likely to be admitted for LRTI

- Inuit infants were four times more likely to be admitted for LRTI than mixed or non-Inuit infants. It was not determined if this was a result of genetic factors or socio-economic factors
- Overcrowded living conditions increased the risk of admission by 2.5 times
- Living in a rural community without a hospital increased risk of admission by 2.7 times
- Prematurity was not associated with an increased risk of admission
- Infants who were not breast-fed were 3.6 times more likely to be admitted for LRTI
- Infants who were custom adopted had 4.4 times the risk

Dr. Banerji also conducted a cost analysis by age and location that compared the costs of administering Palivisumab prophylaxis vaccine, an antibody approved for the prevention of respiratory syncytial virus (RSV) - the most common cause of lower respiratory tract infections. The vaccine is used only for prevention and is usually a monthly injection during RSV season.

The results demonstrated that by immunizing rural Inuit infants with the vaccine, the health care system could save money - up to \$8,000 per admission avoided. The analysis concludes that preventative measures in infancy can both improve the health of children and result in a significant cost savings for the [health-care](#) system.

Dr. Banerji's research papers are posted online as of today (Thursday, May 21) in the Published Ahead-Of-Print section of The *Pediatric Infectious Disease Journal* website (www.journals.lww.com/pidj).

The research by Dr. Banerji is the second major study on Indigenous children's health recently released by the Keenan Research Centre at Li Ka Shing Knowledge Institute of St. Michael's Hospital. Earlier this year, the centre released the Indigenous Children's Health Report: Health Assessment in Action a project led by Dr. Janet Smylie.

Source: St. Michael's Hospital

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