

Maternal-infant Child Health and Environment Research Symposium:  
“How Local Research can Influence Policy and Practice”

Thursday, February 26<sup>th</sup>, 2009, 08:00-17:00 hrs  
Maple Leaf Room, Lister Conference Centre, University of Alberta

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Presenter: *Anita Kozyrskyj, PhD*

Presentation Summary: *“The Complexity of the Association between Socioeconomic Status and the Development of Childhood Asthma”*

Asthma disproportionately burdens children living in economically disadvantaged urban communities. Some of this disparity can be attributed to the observation that once asthma is established, lower utilization of prophylactic medications and higher rates of hospitalization are more common in low income children. Evidence for the link between socioeconomic status (SES) and the development of asthma is less strong, and is in fact, contradictory. Many studies report asthma to be more prevalent among low SES children, even in countries with universal health care insurance. However, some studies have found no association with SES, while others have documented lower rates of asthma in low SES children. The latter finding is congruent with the hygiene hypothesis which proposes that exposure to infections and endotoxin is protective.

Despite this level of uncertainty, it is common for household SES to be treated as a confounding factor and used to statistically adjust models testing the association between early life exposures and the development of childhood asthma. As low income families are more likely to smoke and not breastfeed their child, SES acts as a proxy measure for these exposures in the absence of available data. However, there is a lack of recognition that contradictory findings on the association with childhood asthma may be a function of the validity of the SES measure. Low income variables are fraught with measurement error and there may be considerable fluctuation in household income from the birth of a child to adolescence. Measures of cumulative income such as the frequency of low income episodes over time, have shown stronger associations with poor health than single point measures. Other SES trajectories such as downward or upward social mobility have been reported to increase and decrease risk of cardiovascular disease, respectively. Fluctuations in family income also impact on family function and maternal mental health.

The effects of chronic poverty on child function and health have long been recognized. Yet, few studies have evaluated childhood asthma in relation to cumulative household income or income trajectories from the time of birth. No longitudinal studies have investigated the relationship between chronic poverty, chronic stress and asthma development. To fill this gap in the literature, we evaluated the relationship between family SES trajectories from birth of the child and asthma development in early schoolage and adolescence. Maximum-likelihood longitudinal latent class modeling techniques were used to identify trajectories of SES over time.