LETTERS

## BREASTFEEDING AND ASTHMA IN ADOLESCENTS

Da Costa Lima et al.<sup>1</sup> examined factors related to childhood infection in relation to adolescent asthma in Brazil and highlighted a weak increased risk for breastfeeding as being of particular interest. We note that there are several factors that might contribute to a spurious positive association.

One issue is confounding. Of the large number of early-life factors examined, the authors found the strongest association with number of people sharing a bedroom, but the authors did not adjust the breastfeeding associations presented in Table 3 for this variable. Although they report a lack of confounding of the breastfeeding associations by "crowding" in the text, they do not specify which crowding variable, nor their criteria for determining confounding. It would be useful for the reader to see the breastfeeding associations adjusted for both crowding variables along with the other potential confounders.

Selection bias may have occurred. Five percent of the original cohort had died before the follow-up in 2000. If, as has been reported in Brazil,<sup>2</sup> breastfeeding reduced mortality from respiratory infection (a risk factor for future asthma), the selective loss of asthma-prone children with less breastfeeding could introduce a spurious positive association. The lower follow-up rate among the poorest children could produce the same effect, because low income was protective for asthma in these data and longer duration of breastfeeding was recently reported to be more common among low-income women in this cohort.<sup>3</sup> Showing the relevant data on subjects without follow-up would be useful.

Differential exposure misclassification may also have occurred, because higher-income women in this cohort have been reported to overestimate breastfeeding duration and their children have a higher prevalence of asthma.<sup>4</sup> Looking at income as an effect modifier would help.

Some mothers may delay weaning because of early respiratory infection, a risk factor for later asthma. The authors could present data to address this possible bias away from the null, because the original questionnaire included information on early asthma/wheeze. The message that breastfeeding may cause asthma later in life could discourage the practice in some women, despite disclaimers that the breast is still best. Given the potential public health impact of these results, we would like to see more information that would allow evaluation of the likelihood and possible magnitude of bias.

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## References

1. da Costa Lima R, Victora CG, Menezes AM, Barros FC. Do risk factors for childhood infections and malnutrition protect against asthma? A study of Brazilian male adolescents. *Am J Public Health*. 2003;93: 1858–1864.

2. Effect of breastfeeding on infant and child mortality due to infectious diseases in less developed countries: a pooled analysis. WHO Collaborative Study Team on the Role of Breastfeeding on the Prevention of Infant Mortality [published correction appears in *Lancet.* 2000;355:1104]. *Lancet.* 2000;355:451–455.

3. Victora CG, Barros F, Lima RC, Horta BL, Wells J. Anthropometry and body composition of 18 year old men according to duration of breast feeding: birth co-hort study from Brazil. *BMJ.* 2003;327:901.

4. Huttly SR, Barros FC, Victora CG, Beria JU, Vaughan JP. Do mothers overestimate breast feeding duration? An example of recall bias from a study in southern Brazil. *Am J Epidemiol.* 1990;132:572–575.