Dear Sir:

Howie et al raise 2 issues that have important implications for evaluating interventions for the prevention and control of severe pneumonia. The first is the lack of consensus on the definition of severe pneumonia, which typically implies pneumonia of bacterial etiology. Determining the etiology of pneumonia based on clinical findings is difficult and often controversial, owing to the dearth of highly sensitive and specific tests. The composition of a case definition of severe pneumonia may vary considerably; for example, some case definitions include wheezing, fever, C-reactive protein concentrations, and chest X-ray findings, whereas others do not. Howie et al state that bronchiolitis cases are often misdiagnosed as pneumonia, which implies that wheezing is a finding that is not consistent with the diagnosis of pneumonia. We agree that bronchiolitis can be misdiagnosed as pneumonia, especially when a clinical diagnosis is made without the advantage of roentgenographic studies of the chest. The occurrence of wheezing as part of pneumonia has been well documented. In fact, many infants present with a mixed viral and bacterial coinfection. Coinfection with virus and bacteria has been shown in several studies of pneumonia etiology in children. Data from US (1) and Finnish (2) studies indicate that 20% to 30% of community-acquired pneumonias are of mixed (viral and bacterial) etiology. Until more accurate methods for diagnosing severe pneumonia are available, it is imperative that researchers describe their case definitions in detail sufficient enough to allow these studies to be compared and the generalizability of the findings to be assessed.

The second issue that Howie et al raise is the reliable clinical detection of findings that aid in the diagnosis of pneumonia. They specifically state that reliable detection of wheezing is difficult in developing countries, which may result in the misclassification of pneumonia cases. In our opinion, the reliable detection of wheezing, crepitations, and other symptoms is problematic in every clinical setting, not only in developing countries. The use of standardized protocols for the accurate assessment of each criterion in case definitions, coupled with rigorous training, is important for reducing interrater variability and bias in pneumonia studies.

On the basis of results of prior studies, we speculated that etiology may account for the treatment effect of zinc by season. Howie et al correctly point out that the time to recovery did not differ between wheezers and nonwheezers in the hot season, which, according to their definition, would be expected if the etiology of pneumonia explained the observed difference. We agree with this point. However, if bacterial and mixed pneumonias are more prevalent during the hot season, then it is possible that there would be no difference in recovery time between wheezers and nonwheezers. Our findings are consistent with the results from a recent therapeutic trial conducted in indigenous Australian children hospitalized with severe pneumonia (3). In that study, children with wheezing were excluded, and 90% of the participants had radiographic evidence of lobar pneumonia. This study by Chang et al showed greater morbidity in those supplemented with zinc.

We agree that the therapeutic effect of zinc in severe pneumonia may depend on the extent of zinc deficiency. Howie et al also speculated that South Indian children are less zinc deficient than are children in Bangladesh or Bengal, but they do not provide any supportive evidence. We believe that such a difference is unlikely, given the fact that, in contrast with the other study populations, South Indians are almost exclusively vegetarian. Vegetarian diets are a poor source of zinc, and they contain phytates that limit zinc absorption. Nevertheless, we agree that this issue should be taken into account in interpreting data in clinical studies of the effects of zinc supplementation.

These issues underscore the need for more data to resolve the questions regarding the efficacy of zinc supplementation in the treatment of severe pneumonia. We look forward to the results of current and future studies.

None of the authors had any personal or financial conflict of interest.

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