Definitions are important and not all wheeze is asthma

We read with great interest the paper by Moncayo et al showing a predominance of non-atopic compared with atopic wheeze in children in rural Ecuador. Undoubtedly their study adds to the literature regarding the influence of environmental factors, particularly chronic helminth infections, on wheezing phenotypes. However, we feel that the interpretation and presentation of findings in this paper is open to question. This concern stems from the authors’ lack of distinction between wheeze and asthma. While the analysis focused predominantly on current wheeze, subsequent discussion (and, indeed, the title) presents this as asthma.

There is good evidence for the validity of a questionnaire-based definition of asthma. Our understanding of the definition of asthma used in this paper was of a positive response to ‘wheeze in the last 12 months’. Yet wheeze may not necessarily reflect asthma, particularly in childhood where both acute infection and chronic illness might be associated with wheeze. Using only one symptom therefore runs the risk of poor discriminatory value between asthma and other causes of wheeze, making this definition of asthma potentially problematic.

Relying on ‘current wheeze’ to represent asthma may also exclude a substantial proportion of ‘ever wheezed’ subjects, given the heterogeneous nature of childhood wheeze and the relapsing and remitting course it may run. There is therefore an additional risk of misclassification where subjects with asthma who were currently asymptomatic are regarded as non-asthmatic. Given that the stated principal aim of this study was to investigate risk factors for asthma/wheeze, exclusion of those without current symptoms potentially provides an incomplete picture of risk, especially when one considers that ‘ever wheezing’ has been shown to be a superior predictor of lifetime asthma diagnosis.

Ultimately, asthma is a clinical diagnosis and no questionnaire-based definition can be all-encompassing. Since none of the children in this study were on regular asthma medication, perhaps combining current wheeze with the number of wheezing episodes and including a variable of ‘ever wheeze’ in the diagnostic criteria might have better selected participants with a greater likelihood of asthma.

In summary, we feel that the distinction between asthma and wheeze is important to recognise and this paper fails to clearly acknowledge this. Finally, we thank the authors for describing some of our previous findings from the Isle of Wight Birth Cohort, but wish to clarify that those findings related to atopic/non-atopic wheeze and not asthma as they suggest in the introduction to their paper.

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