hypothesis should be tested, but until it is not, it should not be regarded as fact.

Wilson Rocha Filho
Coordinator of the Division of Pediatric Allergy and Pulmonology,
Hospital Felício Rocho and Centro Geral de Pediatria,
Belo Horizonte, MG, Brazil

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Comparing asthma prevalence estimates in Recife

Dear Sir,

We would like to comment on a number of methodological issues related to an article by Britto et al.[1] recently published in this journal.

One of the objectives of that study was to evaluate the diagnostic accuracy of the annual prevalence of wheezing as an indicator of asthma. To do this the authors compared answers to two different questions: question 2 (Q2) of the core asthma module of the ISAAC questionnaire - "Have you had wheezing in the past 12 months"? and question 6 (Q6) -"Have you ever had asthma?". It has been previously suggested that, in the absence of a gold standard, results obtained by administering a questionnaire of the signs and symptoms of asthma can be compared to documented diagnosis of asthma made by physicians in the same patients.[2] In our opinion, information obtained through Q6 cannot be taken as equivalent to a history of physician-diagnosed asthma (clinical examination and diagnosis made by a health professional), since participants' replies to this question will be determined by their own understanding of the term 'asthma' rather than by an objective measure of the presence of that disease. Therefore, the reported information seems to merely represent data on the agreement between answers to two separate questions rather than information on the validation of Q2. Validating this question would have required the comparison of replies to Q2 with results from either an objective test (e.g. lung function test), or a clinical examination by a physician, or documented information on a previous diagnosis of asthma from medical records.[2]

A second methodological issue is concerned with the use of the term cansaço (which in English means feeling breathless or short of breath) as part of the translation of the term "wheeze". Although the ISAAC study group had suggested that asthmatic children and their parents could be asked to describe breathing patterns during an asthma episode,[3] we think that the translation of the term "wheeze" as "cansaço" used in the present study might not be appropriate. First, the term "wheeze" included in the core module of the ISAAC questionnaire corresponds to the terms "sibilos", "piado" or "chiado", in Brazilian Portuguese. In contrast, the term "cansaço" (shortness of breath) has a broader meaning and, in the Brazilian context, it is frequently associated with several clinical conditions other than asthma. Second, the English version of the questionnaire that was used in phase I of the ISAAC only included the terms "wheeze", "cough" and "asthma" (and not "breathless" or "short of breath").[4] The term "breathless" or "short of breath" was only introduced later in the English version of the phase II ISAAC core questionnaire (module Wheeze and Breathlessness Supplementary Questionnaire).[3] It is worth noting that the term "cansaço" did also not appear in the Brazilian version of the questionnaire designed to be used in Phase I of the ISAAC in Brazil.[5] Finally, other three English versions of questionnaires designed to study respiratory diseases have used the terms "wheeze", "breathless" and "short of breath" in separate questions or as "shortness of breath with wheezing" (IUATLD, ATS and MRC).[2] And it has been shown that questions that use the terms "breathless" and "short of breath" have lower specificity in correctly identifying asthma than those using the term "wheeze".[2]

As a result, by accepting the term "cansaço" as a translation of "wheeze", Britto et al. may have obtained higher prevalence estimates than surveys based on questionnaires that did not include that term, making the results of the present study less comparable. Moreover, it is unclear whether the term "cansaço" was used in the survey conducted in 1994-1995[6] or only in the 2000 survey and, if it was not used, interpretation of the findings from this comparative study will be difficult. In conclusion, we would like to suggest that future surveys of this type use standard questionnaires (e.g. ISAAC) without modification in order to preserve comparability of results across countries and over time. If modifications are judged necessary, they should be incorporated as additional questions, allowing separate analyses, as recommended in textbooks.[7]

Sérgio Souza da Cunha
MD, PhD. *Projeto Fatores de risco para Asma e Alergia em Salvador*, Instituto de Saúde Coletiva, Universidade Federal da Bahia (UFBA), Salvador, BA, Brazil
E-mail: cunhass@ufba.br

Mar Pujades Rodríguez
MD, DTM, MSc. School of Community Health Sciences,
Nottingham University, United Kingdom
E-mail: mcxmdmp@nottingham.ac.uk

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Author's reply

Dear Editor,

Before making any comments about the considerations made by Dr. Cunha and Rodriguez, it should be underscored that the definition of asthma is vague and inaccurate;[1,2] therefore, any observations are subjected to error.

When evaluating the accuracy of wheezing in the past 12 months with the presence of asthma "ever" one should note that the meaning of the term "asthma" varies among different populations, or even between individuals in the same population. According to Dr. Cunha and Dr. Rodriguez, the presence of asthma ever is less accurate than an "objective measure" of the disease. To my knowledge, pulmonary function tests are the only objective measures that are universally accepted for the diagnosis of asthma. According to a systematic review of the literature,[3] lung function tests are less accurate than separate questionnaires to determine asthma prevalence. Therefore, unless this scientific evidence is contested with a better one, I believe that even though the presence of asthma ever is not the ideal reference for assessing the accuracy of wheezing in the past 12 months, it is acceptable.

In relation to the use of the terms *cansaço* or *chiado* as an equivalent to the English term "wheezing", which literally means only *chiado*, although we have not tested the validation and reproducibility of the association of these terms, the daily practice with asthmatic children and their families shows that this term is often used by them to mean wheezing. Similarly, in the state of Minas Gerais, it is common to use wheezing for *chieira* and not for *chiado*. Therefore, I think the term *cansaço,* although subjective, can be used in the questionnaires applied in our setting.

Murilo C. A. de Britto
Ph.D., Instituto Materno-Infantil de Pernambuco (IMIP), Recife, PE, Brazil
E-mail: murilo.britto@bol.com.br

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