

## The Utility of Spirometry in Assessment of Presumptive Diagnosis of Bronchial Asthma in a Nigerian Tertiary Hospital

Sir,

I read with interest the study by Nwosu *et al.*<sup>[1]</sup> published in July–December 2019 issue of the *Indian Journal Respiratory Care*. The authors studied the role of spirometry in the diagnostic evaluation of bronchial asthma (BA) and defined the ventilatory patterns of patients with a presumptive diagnosis of BA using spirometry and the proportion of those who showed positive reversibility test (RT). They found that normal, obstructive, restrictive, and mixed ventilatory patterns were found in 43.8%, 34.8%, 11.2%, and 10.1% of participants, respectively. Moreover, RT test was positive in 53.6% of the studied cohort with a prebronchodilator obstructive pattern of 47.4% and mixed ventilatory pattern of 66.7%.<sup>[1]</sup> They concluded that spirometry is useful in confirming the diagnosis of asthma, but clinicians must be aware that normal spirometry does not exclude asthma and that follow-up spirometry might be in need to further assess asthmatic patients with normal spirometric findings.<sup>[1]</sup> Apart from a few study limitations addressed by the authors, I assume that the following methodological limitation might cast further suspicions on the study results. In the methodology, the authors mentioned that spirometry maneuver and interpretation were performed according to the Global Initiative on Chronic Lung Disease and American Thoracic Society and European Respiratory Society (ERS) guidelines. Ventilatory functions were accordingly classified as normal, obstructive, and restrictive patterns. The ERS reference values were employed, and a correction factor of 10% was considered to adjust for the African study population.<sup>[1]</sup> It is obvious that interpreting ventilatory patterns requires reference values obtained from healthy subjects of the same ethnic origin for that particular population. Actually, the guidelines employed by the authors were constructed for the Caucasian population. They are not suitable to be employed for the Nigerian population as applying prediction formula derived for the Caucasian population was noticed to overestimate the values for African ethnic population.<sup>[2]</sup> It is worthy to mention that spirometric standards for healthy general adult Nigerian populations have been already constructed to be employed in the researches and clinical settings.<sup>[3]</sup> I assume that employing these national standards in the study methodology could yield

a more precise idea on the role of spirometry in the diagnostic assessment of BA.

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### Conflicts of interest

There are no conflicts of interest.

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