

LETTERS TO THE EDITOR

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# Effect of incentive spirometer exercise on pulmonary functions in children with spastic cerebral palsy



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To the Editor,

In their interesting case-control study, Elseify et al. [1] studied nicely the influence of incentive spirometer exercise (ISE) on the spirometry pulmonary function in Egyptian children with spastic cerebral palsy (CP). They found significant improvements in forced expiratory volume at first second (FEV1%), forced vital capacity (FVC %), and maximal mid-expiratory flow in the study group, but not in the control group. Accordingly, they supported the beneficial use of ISE in enhancing lung functions in children with spastic CP [1]. It is explicit that spirometric equations (SE) are usually needed to precisely interpret the reading of various elements of pulmonary function tests in the clinical settings and research centers [2]. To achieve that task, many pediatric population-specific SE have been generated [3–5]. Regrettably, Elseify et al. [1] did not obviously state which pediatric SE they employed in the study methodology. Therefore, such methodological limitation might bring into question the study results.

Author's response

Dear Sir,

Thanks for your interest in our study Elseify et al.

This is regarding your concern about not mentioning the population-specific spirometric equations (SE) used in our study.

Although in the last years we were interestingly following the development of SE for different ethnicities, no studies have been done in Egypt for Egyptian-specific pediatric SE, and no studies worldwide were done to prove that there is a statistically significant difference between them in different ethnicities. So, all the studies in Egypt (not only our study) depend on commercially

available predictive values to detect the percentage of the predicted spirometric values that are done by the software of the spirometer device and not on SE.

Thanks!

#### Abbreviations

ISE: Incentive spirometer exercise; CP: Cerebral palsy; FEV1%: Forced expiratory volume at first second; FVC %: Forced vital capacity; SE: Spirometric equations

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#### Author's contributions

Concept, design, literature review, preparation, and editing of manuscript. The author(s) read and approved the final manuscript.

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#### Ethics approval and consent to participate

Not applicable

#### Consent for publication

Not applicable

#### Competing interests

The authors declare that they have no competing interests.

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