



# Authors' response to letter—COPD in exclusive narghile smokers: Some points to verify

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## Keywords

COPD, hookah smokers, pulmonary, obstructive lung disease, airflow

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We greatly appreciate the thoughts Dr Helmi Ben Saad has shared with us about the prevalence of chronic obstructive pulmonary disease in hookah smokers.

We believe that there are proportional differences in the level of pulmonary function among the various races and communities. Neither Iran nor other Asian countries have established reference ranges for the level of pulmonary function in healthy subjects. Given that we used spirometric norms for both case and control groups, it seems that it cannot cause diagnostic problems.

We agree that the use of a fixed threshold such as 80% of predicted is associated with age- and height-related bias, and the use of Z-scores removes the age-related bias. However, it is possible that the Z-score underestimates airflow limitation severity in patients over 60 years of age with severe functional impairment.<sup>1</sup> Both percentage predicted and Z-scores have limitations when classifying the severity of obstructive lung disease or defining prognosis.

The American Thoracic Society (ATS) has developed criteria which suggest a significant post-bronchodilator *forced expiratory volume in one second (FEV<sub>1</sub>)* and/or *forced vital capacity (FVC)* response of 200 mL or greater and 12% improvement from baseline.<sup>2</sup> In addition, the European Respiratory Society (ERS) recommend using the percent change from baseline and absolute changes in *FEV<sub>1</sub>* and/or *FVC* in an individual subject to identify a positive bronchodilator response.<sup>3</sup>

Spirometry cannot measure residual volume or total lung capacity (TLC), so the gold standard for detection of a restrictive lung pattern is body plethysmography,

which can measure TLC. According to the ATS/ERS guidelines, restrictive pattern in spirometry consists of a reduction in vital capacity and increases in the ratio of FEV<sub>1</sub> to FVC > 85–90%.<sup>4</sup> However, this recommendation has not been validated. We agree that new standards are more appropriate.

## References

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