



Thorac Res Pract.

Letter to the Editor



Response to: Normative Values and Calculation Formulas of Respiratory Muscle Strength of Adults in Turkish Society: A Population-based Study

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DEAR EDITOR,

We would like to thank the authors for their interest in our study¹ and for their thoughtful comments regarding the influence of ethnicity on the normative data (ND) for maximal inspiratory pressure (MIP) and maximal expiratory pressure (MEP). We appreciate the opportunity to address their insights and clarify our study's scope and limitations.

As noted, our study aimed to establish normative values for MIP and MEP specific to the Turkish population, taking into consideration key factors like age, gender, and anthropometric characteristics. We acknowledge that ethnicity can indeed play a role in respiratory muscle strength.² However, due to limited data and the challenges in defining clear ethnic categories within Türkiye, we chose not to stratify our sample based on ethnicity.

Türkiye's population is indeed diverse, with multiple ethnic groups including Turks, Kurds, Arabs, and other minorities, as mentioned by the authors. Due to the nature of Turkish society, individuals may identify with multiple ethnic backgrounds simultaneously, such as Arab and Circassian. Comparable studies have been conducted in countries with complex demographic compositions, such as Türkiye.³⁻¹⁰ For instance, studies conducted in Brazil¹¹ and Germany,¹⁰ which illustrate this approach. In Brazil—a country with a diverse population including White, mixed-race, Black, Asian, and Indigenous groups—ethnic categorization was deliberately avoided, mirroring the methodology in our study. This approach reflects a nuanced understanding of ethnic identity that recognizes the limitations of rigid classifications within diverse populations. Nonetheless, establishing ethnic-specific normative values for respiratory parameters would require a larger, more segmented sample size and more detailed data on ethnic backgrounds, which were beyond the scope and resources of our current study.

We agree that future research could further refine normative values by incorporating ethnicity, if feasible. This could provide even more tailored references for clinical and research applications. However, we believe that our study offers valuable and applicable ND that can aid healthcare practitioners and researchers in assessing respiratory muscle strength among the Turkish population.

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Copyright[®] 2025 The Author. Published by Galenos Publishing House on behalf of Turkish Thoracic Society. Content of this journal is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License. Thank you for your valuable feedback. We hope that our response clarifies the considerations and limitations inherent in our methodology.

Footnotes

Authorship Contributions

Concept: E.P., H.Ç., Design: E.P., H.Ç., Data Collection or Processing: E.P., H.Ç., Literature Search: E.P., Writing: E.P., H.Ç.

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REFERENCES

- Pehlivan E, Çınarka H, Baydili KN, Uyaroğlu MB, Baştürk P, Ataç A. Normative Values and calculation formulas of respiratory muscle strength of adults in Turkish Society: A population-based study. *Thorac Res Pract.* 2024;25(5):178-183. [Crossref]
- Johan A, Chan CC, Chia HP, Chan OY, Wang YT. Maximal respiratory pressures in adult Chinese, Malays and Indians. *Eur Respir J.* 1997;10(12):2825-2828. [Crossref]
- Bairapareddy KC, Augustine A, Alaparthi GK, et al. Maximal respiratory pressures and maximum voluntary ventilation in young Arabs: Association with anthropometrics and physical activity. J Multidiscip Healthc. 2021;14:2923-2930. [Crossref]

- 4. Lista-Paz A, Langer D, Barral-Fernández M, et al. Maximal respiratory pressure reference equations in healthy adults and cut-off points for defining respiratory muscle weakness. *Arch Bronconeumol.* 2023;59(12):813-820. [Crossref]
- Pessoa IM, Houri Neto M, Montemezzo D, Silva LA, Andrade AD, Parreira VF. Predictive equations for respiratory muscle strength according to international and Brazilian guidelines. *Braz J Phys Ther.* 2014;18(5):410-418. [Crossref]
- Bruschi C, Cerveri I, Zoia MC, et al. Reference values of maximal respiratory mouth pressures: a population-based study. *Am Rev Respir Dis.* 1992;146(3):790-793. [Crossref]
- Enright PL, Kronmal RA, Manolio TA, Schenker MB, Hyatt RE. Respiratory muscle strength in the elderly. Correlates and reference values. Cardiovascular Health Study Research Group. *Am J Respir Crit Care Med.* 1994;149(2 Pt 1):430-438. [Crossref]
- Harik-Khan RI, Wise RA, Fozard JL. Determinants of maximal inspiratory pressure. The Baltimore Longitudinal Study of Aging. *Am J Respir Crit Care Med.* 1998;158(5 Pt 1):1459-1464. [Crossref]
- Neder JA, Andreoni S, Lerario MC, Nery LE. Reference values for lung function tests. II. Maximal respiratory pressures and voluntary ventilation. *Braz J Med Biol Res.* 1999;32(6):719-727. [Crossref]
- Hautmann H, Hefele S, Schotten K, Huber RM. Maximal inspiratory mouth pressures (PIMAX) in healthy subjects--what is the lower limit of normal? *Respir Med*. 2000;94(7):689-693. [Crossref]
- 11. Wikipedia, the Free Encyclopedia. Brazil. Last Accessed Date: 11.05.2024. [Crossref]