



The Importance of Age Standardisation in Comparing Regional Inequalities

Mestan Emek

Department of Public Health, Akdeniz University Faculty of Medicine, Antalya, Türkiye

I read the article by Şahin et al.¹ with great interest. In my opinion, health inequality is a pressing challenge and more studies are required from Türkiye. Health inequalities were defined by the World Health Organization in 1990 as “systematic differences in health status between different socioeconomic groups. These inequities are socially produced (and therefore modifiable) and unfair”.² Thus, studies on health inequalities focus on preventable health outcomes and compare the outcomes of different socioeconomic groups.

Although the article of interest does not cover the socioeconomic aspect of the selected outcome, the authors have shown the prevalence and incidence of the disease across several geographical regions. Differences in health outcomes according to the geographical region in Türkiye have been highlighted in previous studies, including demographic health surveys conducted by the Hacettepe Institute of Population Studies, which have reported outcomes such as infant mortality rates.³ In 2013, the infant mortality rate was 24 per 1000 live births in the East and 13 per 1000 live births in the whole country. Because infant mortality is calculated by dividing the number of infants who died by the number of live births over one year, age standardization is not required. However, for comparison of outcomes such as heart failure across geographical regions, age standardization is required.⁴ This is because the prevalence of heart failure increases with age, which is also stated in reference papers 4 and 7 of the article of interest.^{5,6}

As readers of the study, we lack the necessary data to make this adjustment. Furthermore, the published results may be biased and would change if age distribution of the population were accounted

for. The authors appear to share this concern, due to the attribution of the high heart failure rates in the Black Sea region to older individuals of the population. Although the authors acknowledged the higher numbers in that region, this issue was not addressed owing to limitations of the study. The readers doubts would have been clarified if the age-standardized prevalence and incidence had been presented in the manuscript.

REFERENCES

1. Şahin A, Çöllüoğlu T, Çelik A, et al. Exploring regional disparities in heart failure epidemiology and outcomes: a comprehensive study across geographical regions in Türkiye. *Balkan Med J*. 2024;41:47-53. [\[Crossref\]](#)
2. McCartney G, Popham F, McMaster R, Cumbers A. Defining health and health inequalities. *Public Health*. 2019;172:22-30. [\[Crossref\]](#)
3. Türkiye Nüfus ve Sağlık Araştırması 2013. Ankara: Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü; 2014;345. [\[Crossref\]](#)
4. Naing NN. Easy way to learn standardization : direct and indirect methods. *Malays J Med Sci*. 2000;7:10-5. [\[Crossref\]](#)
5. Andersen J, Gerds TA, Gislason G, et al. Socioeconomic position and one-year mortality risk among patients with heart failure: a nationwide register-based cohort study. *Eur J Prev Cardiol*. 2020;27:79-88. [\[Crossref\]](#)
6. Bevan GH, Josephson R, Al-Kindi SG. Socioeconomic deprivation and heart failure mortality in the United States. *J Card Fail*. 2020;26:1106-1107. [\[Crossref\]](#)



Corresponding author: Mestan Emek, Department of Public Health, Akdeniz University Faculty of Medicine, Antalya, Türkiye

e-mail: mestanemek@akdeniz.edu.tr

Received: November 05, 2024 **Accepted:** November 22, 2024 **Available Online Date:** March 03, 2025 • **DOI:** 10.4274/balkanmedj.galenos.2025.2024-10-40

Available at www.balkanmedicaljournal.org

ORCID iD of the author: M.E. 0000-0001-6843-4954.

Cite this article as: Emek M. The Importance of Age Standardisation in Comparing Regional Inequalities. *Balkan Med J*. 2025; 42(2):180.

Copyright@Author(s) - Available online at <http://balkanmedicaljournal.org/>