Diabetology &
Metabolic Syndrome

LETTER TO THE EDITOR

Open Access

CrossMark

Letter to editor: The waist circumference-adjusted associations between hyperuricemia and other lifestyle-related diseases: methodological issues in cross-sectional study

Shiva Mansouri Hanis[1], Fatemeh Khosravi Shadmani[2] and Kamyar Mansori[3,4*]

Dear Editor-in-Chief

We studied the article written by Miyagami et al. [1] that published in Diabetology & Metabolic Syndrome journal in February 2017. The aim of this study was the relationship between hyperuricemia and lifestyle-related diseases after adjusting with waist circumference (WC). Finally, the authors of this study concluded that Hyperuricemia is an independent predictor of several lifestyle-related diseases, even after adjusting for age, WC, and lifestyle in both sexes which is closely related with insulin resistance. Hyperuricemia might require greater attention during the prevention of lifestyle-related diseases and future cardiovascular disease [1]. However, although this was an appropriate research and its results were very interesting, some methodological issues should be considered.

1. Miyagami et al. [1] evaluated the predictive performance hyperuricemia on several lifestyle-related diseases in a cross-sectional study, whereas longitudinal researches are necessary for making assumptions in clinical prediction models [2]. In other words, assurance of the temporality assumption presence (the dependent variable has to occur after the independent variable) is essential in the prediction model. Thus,

prediction models resulting from cross-sectional designs can be misleading [2, 3].

2. Considering the predictive performance of hyperuricemia on several lifestyle-related diseases is an optimistic interpretation. The internal and external validation of the prediction model must be done through bootstrapping and split-validation, respectively [4].

Therefore, according to the above explanation, it is necessary considering to this point in interpretation of results of this study for readers.

Authors' contributions
All authors had active participation in preparation of manuscript. All authors read and approved the final manuscript.

Author details
[1] Social Determinants of Health Research Center, Kurdistan University of Medical Sciences, Sanandaj, Iran. [2] Modeling in Health Research Center, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran. [3] Social Development & Health Promotion Research Center, Gonabad University of Medical Sciences, Gonabad, Iran. [4] Department of Epidemiology, School of Public Health, Iran University of Medical Sciences, Tehran, Iran.

Competing interests
The authors declare that they have no competing interests.

Publisher's Note
Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

*Correspondence: kamyarmansori@yahoo.com
[3] Social Development & Health Promotion Research Center, Gonabad University of Medical Sciences, Gonabad, Iran
Full list of author information is available at the end of the article

BioMed Central

Hanis *et al. Diabetol Metab Syndr* (2017) 9:23

Page 2 of 2

References

1. Miyagami T, Yokokawa H, Fujibayashi K, Gunji T, Sasabe N, Okumura M, et al. The waist circumference-adjusted associations between hyperuricemia and other lifestyle-related diseases. Diabetol Metab Syndr. 2017;9:11.
2. Steyerberg E. Clinical prediction models: a practical approach to development, validation, and updating. Berlin: Springer Science & Business Media; 2008.
3. Pakzad R, Safiri S. Letter to the editor: phosphorus as predictive factor for erectile dysfunction in middle aged men: a cross sectional study in Korea; methodological issues to avoid prediction fallacy. Investig Clin Urol. 2017;58:146–7.
4. Noto D, Cefalù A, Barbagallo C, Ganci A, Cavera G, Fayer F, et al. Baseline metabolic disturbances and the twenty-five years risk of incident cancer in a Mediterranean population. Nutr Metab Cardiovasc Dis. 2016;26:1020–5.