



Letter to the Editor

Response to the editor: Limitations of the Hoffmann method for establishing reference intervals using clinical laboratory data


ARTICLE INFO

Keywords:

Hoffmann method
Reference intervals
Acceptable deviation

To the Editor,

We appreciate the valuable comments from the reviewer, editor, and Professor Holmes.

We agree with Professor Holmes that Hoffmann prepared a cumulative distribution function plot in normal probability space as evidenced by the linear spacing of the cumulative percentages on the x-axis in 1963 [1]. Our study explained the limitations of the method described by Katayev et al. [2] in 2010 for determining reference intervals based on data from a hospital laboratory database. In 2015, they described the use of the linear scale as the “Computerized modified Hoffman method” [3]. The figure in our original paper showed the use of a linear scale for the cumulative frequency not the normal probability scale used by Hoffman giving the expected sigmoid curve rather than linear [4].

Declarations of interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

References

- [1] R.G. Hoffmann, *Statistics in the practice of medicine*, JAMA 185 (1963) 864–873.

- [2] A. Katayev, C. Balciza, D.W. Seccombe, Establishing reference intervals for clinical laboratory test results: is there a better way? *Am. J. Clin. Pathol.* 133 (2010) 180–186.
- [3] A. Katayev, J.K. Fleming, D. Luo, A.H. Fisher, T.M. Sharp, Reference intervals data mining: no longer a probability paper method, *Am. J. Clin. Pathol.* 143 (2015) 134–142.
- [4] Y. Zhang, W. Ma, G. Wang, Y. Lv, Y. Peng, X. Peng, Limitations of the hoffmann method for establishing reference intervals using clinical laboratory data, *Clin. Biochem.* 69 (2019) 79–84.

Ying Zhang^{a,b,1}, Weibo Ma^{c,1}, Guocheng Wang^d, Yaqi Lv^{a,b},
Yaguang Peng^{a,*}, Xiaoxia Peng^a

^a Center for Clinical Epidemiology and Evidence-based Medicine, Beijing Children's Hospital, Capital Medical University, National Center for Children Health, Beijing 100045, China

^b Department of Epidemiology and Biostatistics, School of Public Health, Capital Medical University, Beijing 100069, China

^c Department of Obstetrics, Shunyi Women's and Children's Hospital of Beijing Children's Hospital, Beijing 101300, China

^d Department of Medical Laboratory, Shunyi Women's and Children's Hospital of Beijing Children's Hospital, Beijing 101300, China
E-mail address: plwumi@hotmail.com (Y. Peng).

DOI of original article: <https://doi.org/10.1016/j.clinbiochem.2019.02.007>

* Corresponding author at: Center for Clinical Epidemiology and Evidence-based Medicine, Beijing Children's Hospital, Capital Medical University, National Center for Children Health, No.56 Nanlishi Road, Beijing 100045, China.

¹ Ying Zhang and Weibo Ma have equally contributions. They should be considered joint first author.

<https://doi.org/10.1016/j.clinbiochem.2019.06.007>

Received 28 January 2019; Received in revised form 31 May 2019

Available online 17 June 2019

0009-9120/© 2019 The Canadian Society of Clinical Chemists. Published by Elsevier Inc. All rights reserved.