

## **From precision of the evidence to the evidence for precision: An intriguing odyssey!**

Dear Editor,

Evidence-based medicine (EBM), described as “*the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients*” is the expected modus operandi of delivering

health care in the 21<sup>st</sup> century.<sup>[1]</sup> However, the original connotation has been probably lost in transition with the increasing incorporation of perioperative guidelines and protocols, promoting pertinent concerns on the impact on physician autonomy, individualized clinical judgement, and the implications of practice variability which are being increasingly debated by the fraternity.<sup>[2-4]</sup>

Interestingly, while a number of factors such as physician awareness of and compliance to the ever-increasing research volume are often cited as reasons precluding the EBM practice,

the precision of the evidence continues to be an important contemplation. The spectrum consists of controversies over highly cited randomized controlled trials, medical reversal phenomenon, and the inherent biases involved.<sup>[2]</sup> Nevertheless, the wise words of Prof Ioannidis: “*EBM has been hijacked and has been transformed into guidelines-based medicine*” highlight the underlying inexorable transition process in the EBM domain.<sup>[3]</sup> This is heralded by the fact that the guidelines are often only EBM in concept, prone to biases emanating from institutional support, conflicts of interest, etc. Moreover, they are peculiarly “rigid”, designed for an average subset, demonstrating an inherent lack of sensitivity for the clinical and individual context.<sup>[4]</sup> The discussion is further accentuated by the various practitioners emphasizing the need for befitting evidence as per the context-appropriateness considering the elucidation of the detrimental effect of various clinical pathways in particular scenarios.<sup>[5-7]</sup>

Alongside the continuing deliberation on the precision of the evidence that is worth practice changing, the concept of precision medicine has dawned almost inevitably. The precision medicine slogan: “*One-size-does-not-fit-all*” embraces the commonplace heterogeneity observed in the treatment effects, perioperative complications and associated outcomes.<sup>[8,9]</sup> The proponents of the notion opine that EBM by nature regards treatment at a population level with minimal individualistic considerations and highlight the importance of personalizing clinical medicine. Nevertheless, the overarching premise to make precision medicine evidence-based is substantially challenging given a patient is much more than a set of covariates and incurs multipronged difficulties in the terms of investigation, knowledge-acquisition, education, interpretation, and dissemination of multilevel data, from cellular level to environment and lifestyle, for the ever-diversifying patient population.

To conclude, much or most of the practice variability in clinical medicine stems from the subtle differences among the patients.<sup>[7-9]</sup> Therefore, personalized management is appreciated well even in the era of EBM aimed at improving patient outcomes as it does not annihilate intuition, clinical expertise, and reasoning physiology as the ground for decision-making while accounting for the systematic evaluation of the evidence. In fact, distant from the dogma of EBM and precision medicine being dichotomous, an intuitive “open-mind” can complement both to practice evidence-based precision medicine in a unified pluralistic health care model, particularly relevant in the perioperative management of high-risk surgical cohort.

**Financial support and sponsorship**  
Nil.

### Conflicts of interest

There are no conflicts of interest.

## Rohan Magoon, Neeti Makhija<sup>1</sup>, Surendra K. Jangid<sup>1</sup>, Devishree Das<sup>1</sup>

Department of Cardiac Anaesthesia, Atal Bihari Vajpayee Institute of Medical Sciences (ABVIMS) and Dr. Ram Manohar Lohia Hospital, <sup>1</sup>Department of Cardiac Anaesthesia, Cardiothoracic Centre, CNC, All India Institute of Medical Sciences, New Delhi, India

**Address for correspondence:** Dr. Neeti Makhija,  
Department of Cardiac Anaesthesia, Room No. 9, 7<sup>th</sup> Floor,  
Cardiothoracic Centre, All India Institute of Medical Sciences, Ansari  
Nagar, New Delhi - 110 029, India.  
E-mail: neetimakija@hotmail.com

## References

- Sackett D, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence-based medicine: What it is and what it isn't. *BMJ* 1996;312:71-2.
- Crosby E. Review article: The role of practice guidelines and evidence-based medicine in perioperative patient safety. *Can J Anesth* 2013;60:143-51.
- Ioannidis JP. Evidence-based medicine has been hijacked: A report to David Sackett. *J Clin Epidemiol* 2016;73:82-6.
- Tebala GD. The emperor's new clothes: A critical appraisal of evidence-based medicine. *Int J Med Sci* 2018;15:1397-405.
- Brandstrup B, Tonnesen H, Beier-Holgersen R, Hjortsø E, Ørding H, Lindorff-Larsen K, *et al*. Effects of intravenous fluid restriction on postoperative complications: Comparison of 2 perioperative fluid regimens: A randomized assessor-blinded multicentre trial. *Ann Surg* 2003;238:641-8.
- Pfizer J. Evidence-based medicine: Time to upend the pyramid for some clinical situations? *Br J Anaesth* 2018;120:1134-5.
- Magoon R. Implications of Practice Variability: Comment. *Anesthesiology* 2020;133:943-4.
- Magoon R. Precision cardiac anesthesia: Welcome aboard! *J Cardiothorac Vasc Anesth* (article in press).doi: 10.1053/j.jvca.2020.02.029.
- Wanderer JP, Nathan N. Perioperative precision medicine: Promise, progress, and pitfalls. *Anesth Analg* 2017;124:1028.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
Quick Response Code:	Website: www.joacp.org
	DOI: 10.4103/joacp.JOACP_136_20

**How to cite this article:** Magoon R, Makhija N, Jangid SK, Das D. From precision of the evidence to the evidence for precision: An intriguing odyssey! *J Anaesthesiol Clin Pharmacol* 2022;38:153-4.

**Submitted:** 26-Mar-2020 **Accepted:** 14-Jun-2020 **Published:** 25-Apr-2022  
© 2022 Journal of Anaesthesiology Clinical Pharmacology | Published by Wolters Kluwer - Medknow