

## Anesthesiology research and practice in developing nations: Economic and evidence-based patient-centered approach

The numbers of surgical procedures being performed have increased tremendously throughout the globe and the scenario in developing nations is similar. These overwhelming numbers pose considerable burden and strain on the specialty of anesthesiology, which is crumbling with a relative shortage of anesthesiologists.<sup>[1,2]</sup> The amount and quality of work undertaken in these demanding conditions is serendipitous and, coupled with the economic constraints during anesthesia practice in resource-challenged nations, can lead to severe compromises in quality of care.

Despite the tremendous progress made in anesthesiology, there is a need to audit and enhance research which can be of benefit to our resource-challenged spectrum of patient care. We have to keep up the momentum in research and academics. Research activities should aim to evolve cost-effective evidence-based database for superior quality anesthesiology services to our patients. This concern has been aptly addressed in the study being published in this issue, wherein Singh *et al.*<sup>[3]</sup> have attempted to calculate the cost-effectiveness of sevoflurane, thereby contributing to rational use of an expensive inhalational agent in a prudent manner. The methodology of their study model, despite the stated limitations, can possibly be re-tested and applied to various other short day-care surgical procedures, so as to provide quality and economical anesthesia services simultaneously.

Dexmedetomidine is successfully associated with provision of quality sedation and augmentation of analgesic and anesthetic drugs.<sup>[4,5]</sup> The significant dose sparing of costly inhalational agent, sevoflurane, by a continuous infusion of dexmedetomidine, as has been described in a clinical study of the current issue, can be an added feature of this newer adjuvant. The preciseness of decreased dose requirements of the inhalational agent, without affecting the desired depth of anesthesia, is meticulously calculated by entropy analysis which is considered superior to Bispectral index (BIS) in such clinical situations.<sup>[6]</sup> The current study definitely adds

to the quality of anesthesia based on available evidence.<sup>[7]</sup> However, we still need to evaluate its actual impact on the total cost of our services.

Another challenge gripping the anesthesia fraternity is how to effectively disseminate the newer anesthetic techniques and information to the private practitioners of anesthesia who are treating majority of patients in the rural and suburban health centers. Attempts have been made through various modes such as conferences, CMEs, debates, forums, discussions, and other means, but such activities are not entirely successful. The increased frequency and quality of scientific research cannot be matched in this regard to keep up the pace with newer trends. Research culminating into evidence-based guidelines can thus bring uniformity in anesthesia practices across the developing nations. The concept of patient-centered care (PCC) came into literary existence two decades ago and was refined by the Institute of Medicine which defines it as “care that is respectful of and responsive to individual patient preferences, needs and values.”<sup>[8]</sup> This concept is known to anesthesiologists but has not been exercised in totality with regards to evidence-based medicine. Considering the educational standards and economic constraints of countries like India, it is a difficult situation to transfer all decision making to the patient by fully adopting PCC approach.<sup>[9]</sup>

By taking an economically biased decision for end-user management, we somehow are likely to abdicate our responsibility by moving away from evidence-based medicine. Patients do have a basic right to choose target therapies and outcomes, so as to make final clinical decisions. Hence, as anesthesiologists, we need to educate our patients during pre-anesthetic check-up in an appropriate manner keeping in mind their varied cultural beliefs, educational level, and their environment, in consonance with the current evidence for providing quality care to our patients. We need to create a right balance between socioeconomic aspects and evidence-based medicine to aid collective decision making to achieve desirable outcomes. Also, in such a scenario, PCC has limited and restricted applicability in life-threatening emergencies and critical illnesses. These situations throw a dilemma to the anesthesiologist whether to adopt a pure economic patient-centered or evidence-based approach.<sup>[10,11]</sup> When patient and relatives are not in a state to make right decisions, anesthesiologist can handle such socio-clinical scenarios by honestly offering all the possible options along

Access this article online	
Quick Response Code:	Website: www.joacp.org
	DOI: 10.4103/0970-9185.117039

with their merits and demerits. Research that incorporates all aspects of quality anesthesia care in resource-limited culturally varied scenario of the developing nations is the need of the hour. This will ensure economical evidence-based anesthesia enabling working together in a complimentary and effective manner, so as to provide cost-effective, safe, and quality care to all patients.

### Sukhminder Jit Singh Bajwa

Department of Anaesthesiology and Intensive Care, Gian Sagar Medical College and Hospital, Ram Nagar, Banur, Punjab, India

Address for correspondence: Dr. Sukhminder Jit Singh Bajwa, House No-27-A, Ratan Nagar, Tripuri, Patiala, Punjab, India.  
E-mail: sukhminder\_bajwa2001@yahoo.com

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**How to cite this article:** Bajwa SJ. Anesthesiology research and practice in developing nations: Economic and evidence-based patient-centered approach. *J Anaesthesiol Clin Pharmacol* 2013;29:295-6.  
**Source of Support:** Nil, **Conflict of Interest:** None declared.

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