

Evidence-based practices in the field of surgery in Pakistan: Where do we stand?

Jamshed Akhtar¹

¹ Visting Professor, Department of Pediatric Surgery, National Institute of Child Health, Karachi, Pakistan

Correspondence

Jamshed Akhtar
jamjim88@yahoo.com

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The term “Evidence-Based Medicine” has been coined decades ago and its definition refined multiple times, but still, there are differences in its interpretation and implementation. The definition is still in evolution and more recently patients’ preferences and surgical expertise are also added in addition to the best available evidence at contemporary times.¹ The inclusion of multiple components in the definition appears to have made more confusion rather than facilitating the decision-making. It discriminates between treating all patients equally even in the same region, as available resources and expertise may vary. The term, therefore, seems to be more fashionable and theoretical with limited application and guarded outcome.

Further deliberations on the subject of “evidence-based” revealed two more distinct areas, evidence-based research, and evidence-based practices.² This is interesting as currently there is a boom in research-based data, and literature is flooded with so-called evidence, many in conflict with findings reported in other studies. Statistical jargon, confidence intervals, significant values many others are used to bring objectivity and strength to reported data. However, statistically significant does not go always with clinically significant as well.³ Many practitioners thus continue to follow their treatment protocols as they believe their results are quite satisfactory with the added advantage of patient satisfaction.

The surgical practice is quite different from the medical specialties. The traditional way of researching the efficacy of drugs developed in the laboratory followed by its effect on animals and later on human volunteers and then patients for dose calculation and larger population-based studies to document post-marketing outcomes most of the

time does not apply to surgical procedures. Even for testing new equipment, it is not practical to follow such protocols. The recommended pyramid of evidence-based reporting from case report to meta-analysis is also not practical for the surgical field in all areas.⁴ The randomized controlled trials which are considered to be the best study design to establish cause and effect may not be practical. In many such trials, it was found that there were no gaps in the knowledge. Many studies were found redundant and a waste of resources and time.

The recent trend of publishing retrospective studies is interesting. Such studies were not given credit in the past and were discouraged because of several limitations. Interestingly they are increasingly reported. Over the years they are further classified just like prospective studies into descriptive and analytical types to give strength to the collected data. This created further conflict in the context of the strength of the evidence generated. They can be done in a short period as data can be retrieved from hospital records.^{5, 6} The analysis of data is done with all the statistical tests that used to be applied to prospective studies. Ethical aspects are also not important in such studies as only confidentiality has to be masked. There are significant shortcomings in such studies and data cannot be considered truly reliable. However, it is available in the literature and can be used to inform surgical practices.

In surgical practice, in the context of Pakistan, the area of research is limited. It was observed in a recent surgical conference that was held in Pakistan. The theme was “The Best Surgical Practice – The Paradigm Shift from Orthodox to Evidence-Based”. It is important to note the word “orthodox” is used. It needs an operational definition as no

study could be found in recent surgical literature on this subject from Pakistan. It is also important to define “evidence” in the context of Pakistan, considering its healthcare-related surgical services. There is a paucity of data on surgical conditions from Pakistan. At the national level, only one general surgical and allied journal and few specialties-related journals are recognized by Higher Education Commission in the local “Y” category.⁷ This speaks volumes in the context of the quality of evidence-based research and reporting. However, the mushroom growth of surgical and allied conferences is witnessed, organized each year by different surgical associations and institutions. In most of the conferences, almost similar studies are presented and many experts from Pakistan in their keynote addresses just review the literature from the advanced countries. These presentations lack local context.

Another area of innovation is the minimally invasive approach. In this context, the use of surgical robots is an ultramodern approach, which is available in a few centers in Pakistan. It is interesting to mention here that one such robot was purchased decades back for a secondary-level hospital in the province of Sindh. It was considered a revolutionary approach in Pakistan at that time. However, instead of gathering and reporting evidence-based data on such equipment in terms of patient benefit, training of surgeons, and cost incurred, a robot has been installed in a small city in the province of Sindh. The tertiary care hospital attached to the medical college in the same city lacks even basic surgical services. The industry-driven pressure and vested interest of few is another area that affects the rational use of resources for surgical practices. Thus needs of the people and surgeons are not fulfilled.

Evidence-based surgical practice sound and rational approach, however in the context of Pakistan many aspects are ignored. Finding evidence from literature based upon studies carried out in advanced countries and its application to our population is not appropriate. It is time to gather local data in a central registry. It may be a baby step but an important approach, even for a common surgical condition like an inguinal hernia. Patients get confused when they receive conflicting information from operating surgeons from mammal invasive to open surgery and nowadays, the robotic approach has also added to this condition. What is the expertise of the operating surgeon,

results of the procedure, and perceptions of the patients along with the cost incurred, are all part of evidence-based data collection? A balanced approach is therefore warranted if evidence-based policies are to be developed and evidence-based curricula are prepared for the teaching and training of undergraduate medical students and postgraduate surgical residents. This also helps in faculty development and keeps them abreast with needs at the national level and what is happening in the world arena.

References

1. Chloros GD, Prodromidis AD, Giannoudis PV. Has anything changed in Evidence-Based Medicine? *Injury*. 2022; 20:S0020-1383(22)00289-3.
DOI: <https://doi.org/10.1016/j.injury.2022.04.012>.
2. Zhao Y, Zhao X, Liu Y. Perceptions, behaviors, barriers and needs of evidence-based medicine in primary care in Beijing: a qualitative study. *BMC Fam Pract*. 2019; 20:171.
DOI: <https://doi.org/10.1186/s12875-019-1062-0>
3. Murad MH, Asi N, Alsawas M, Alahdab F. New evidence pyramid. *Evid Based Med*. 2016; 21:125-7.
DOI: <https://doi.org/10.1136/embed-2016-110401>.
4. Sharma H. Statistical significance or clinical significance? A researcher's dilemma for appropriate interpretation of research results. *Saudi J Anaesth*. 2021; 15:431-4.
DOI: https://doi.org/10.4103/sja.sja_158_21.
5. Talari K, Goyal M. Retrospective studies – utility and caveats. *J R Coll Physicians Edinb*. 2020; 50:398-402.
DOI: <https://doi.org/10.4997/JRCPE.2020>.
6. Tofthagen C. Threats to validity in retrospective studies. *J Adv Pract Oncol*. 2012; 3(3):181. PMID: PMC4093311.
7. Jawaid SA. Improving the quality of Peer Review and accelerating the peer review process. *Pak J Med Sci*. 2023; 39(1).
DOI: <https://doi.org/10.12669/pjms.39.1.7236>