

Evidence-based Dentistry (EBD) [1]

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Context

Dentists have a responsibility to use evidence to inform practice and ensure that the basis for informed consent and treatment of patients reflects the best available evidence, applied in accordance with the clinical expertise of the dentist and the wishes of the patient. Dentists are also responsible for avoiding techniques and technologies that have been shown to be ineffective, unsafe and unethical. Dental practice should be based on a commitment to sound science and an ethical obligation to protect patient health. With rapidly evolving science and technology, information becomes more readily available, creating challenges for dentists to obtain, understand, evaluate and integrate this new information into daily clinical practice. To address these challenges, dentistry and dentists should be encouraged to adopt an evidence-based approach in their clinical practice and oral healthcare. This is commonly known as Evidence-Based Dentistry (EBD), and is endorsed by FDI because it helps clinicians interpret and apply the best available evidence in everyday practice. It is recognized that there is insufficient evidence at present to guide all aspects of oral healthcare, and that gaps in knowledge exist.

Scope

The goal of practicing EBD is to help dentists provide the best possible care for their patients. This systematic process requires the identification of a clinical question; retrieval of the most appropriate and available evidence from the scientific literature, following established eligibility criteria; assessment of the quality of that evidence; and subsequent use of the evidence to inform clinical practice decisions. The evidence is therefore integrated with clinical experience and other factors related to specific patient needs and preferences.¹

Definitions

EBD is an approach to oral healthcare that requires the judicious integration of:

- systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with
- the dentist's clinical expertise, and
- the patient's treatment needs and preferences.¹

Available evidence will vary depending on the particular healthcare issue being addressed and the urgency demanded, with some clinical areas having little or no existing evidence base. Rapid reviews and classic systematic reviews are the foundations of healthcare decision-making, irrespective of whether they are pre-existent or developed specifically to inform a new policy or clinical practice guideline. A classic systematic review uses systematic and explicit methods to identify, select, critically appraise, and extract and analyze data from relevant research.² A rapid review is a form of knowledge synthesis in which components of the systematic review process are simplified or omitted to produce information in a timely manner.³ Current systems and standards to assess the quality of evidence (i.e. the extent to which the estimates from clinical studies support a decision, recommendation or policy) and grade the strength of recommendations emphasize the need to consider the broadest range of study designs, depending on the type of decision to be made.⁴ This way, valuable information from government agencies, economic analysis, country or regional registries can serve in the process of formulating recommendations.^{4,5}

Principles

The EBD process includes “the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based dentistry means integrating individual clinical expertise with the best available external clinical evidence from systematic researches.”⁴ EBD does not provide a “universal panacea” that dentists must follow, nor does it establish a standard of care.

Policy

FDI supports:

- The EBD approach to help dentists interpret and apply the best available evidence in everyday practice.
- The concept of EBD developed through the best available scientific evidence.
- The incorporation of the principles of EBD in the dental curriculum and in continuing professional education.

FDI recognizes that:

- Treatment recommendations should be determined by the dentist for each patient individually, and scientific evidence should be integrated with the dentist’s clinical experience. These should take into consideration beliefs, values, patient preferences and the cultural context of the local environment.
- Adopting the principles of EBD to guide development of clinical practice guidelines and policy will require dentists to possess the ability and means to access the best current scientific evidence in making clinical decisions, realizing that the quality of the available evidence can vary significantly depending on the clinical question of interest.⁵
- Barriers exist to the implementation of EBD in daily clinical practice. These barriers include a lack of an evidence base to certain clinical questions; a lack of access to evidence-based information; and for many clinical questions, a lack of evaluation of evidence and development of evidence-based information in a concise format that is useful to dentists. Individual dentists are not expected to review all scientific evidence to inform practice. It is incumbent on the leadership of the profession to identify and address barriers to effective EBD implementation and to ensure there are systems and processes in place to ensure the rapid and effective dissemination of information as this becomes available. Although we have imperfect information, the guiding principles articulated in this PS are to encourage dentists to use available scientific evidence, with dentist’s clinical expertise and the patient’s treatment needs, values and preferences to inform clinical practice.

Disclaimer

The information in this Policy Statement was based on the best scientific evidence available at the time. It may be interpreted to reflect prevailing cultural sensitivities and socio-economic constraints.

References

1. Definition of Evidence-Based Dentistry (Trans.2001:462), in ADA Policy Statement on EvidenceBased Dentistry.
2. Green S, Higgins J, Alderson P, Clarke M, Mulrow C, Oxman A. Chapter 1-Introduction. In Cochrane handbook for systematic reviews of interventions. Edited by Higgins J, Green S. West Sussex, England: The Cochrane Collaboration and John Wiley 2008. Cochrane Collaboration
3. Khangura S, Konnyu K, Cushman R, Grimshaw J, Moher D. Systematic Reviews. 2012 Feb 10:1:10 PMID 22587960
4. Guyatt GH, Oxman AD, Kunz R, Vist GE, Falck-Ytter Y, Schünemann HJ. 2008. GRADE Working Group. What is “quality of evidence” and why is it important to clinicians? BMJ. 336 (7651):995-8.
5. Sackett DL, Rosenberg WMC, Gray JAM, Haynes RB, Richardson WS. 1996. Evidence based medicine: what it is and what it isn't. BMJ 312: 71–2.

[Science Committee](#) [2] **Classification:** [Clinical practice](#) [3]
[Education](#) [4]
[Patient safety](#) [5]

[Quality of care](#) [6]

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[2] <https://www.fdiworlddental.org/standing-committees/science-committee>

[3] <https://www.fdiworlddental.org/policy-statement-classification/clinical-practice>

[4] <https://www.fdiworlddental.org/policy-statement-classification/education>

[5] <https://www.fdiworlddental.org/policy-statement-classification/patient-safety>

[6] <https://www.fdiworlddental.org/policy-statement-classification/quality-of-care>