



## The Status of Evidence-Based Dentistry in Iran

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Editorial

### INTRODUCTION

Evidence-Based Dentistry (EBD) is very limitedly known in Iran, and has been defined as an approach to oral healthcare that requires the judicious integration of systemic assessments of clinically relevant scientific evidences, related to patient's history and oral and medical conditions, with dentist's clinical expertise and patient's treatment needs and preferences.<sup>(1-5)</sup> The EBD is a popular medical field worldwide, involving the utilization of the results of clinical dental research that improves decision-making procedures to render the best treatment available to patients, determining the highest-quality treatment methods.<sup>(6, 7)</sup>

The EBD is considered invaluable and useful in many ways, which will be discussed below.

Firstly, it has been revealed that dental practitioners who make decisions based on this method rather than on their own personal judgments, are successful in improving their clinical skills, expertise and dexterities. They are able to improve

treatment qualities and outcomes with the aid of the EBD. In addition, they can make judgments about the merits and demerits of potential treatment methods subsequent to assessing the validity of the gathered evidence. Moreover, they are ensured that the treatment rendered conforms to the best evidence available which might boost the patient's confidence while receiving dental services. As a result, the EBD is believed to be an absolute requirement in the dental practice routines and has become very popular.<sup>(8-11)</sup>

Secondly, teaching the EBD to dental students is an important step to promote rendering evidence-based treatments. This type of education paves the way for dentists to understand the basic and applied sciences and increases their awareness of treatment methods in difficult cases. It will also enable dental students to increase and revise their knowledge after graduating from the university. This newly acquired knowledge will have a great impact on the clinical treatment methods they choose. Nowadays, the EBD

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is moving to new directions in dental researches and is gradually filling the gap between dental researchers and clinicians.<sup>(12-14)</sup>

Finally, the EBD has enlightened a massive range of new dental research fields and yet further evaluations are necessary in this regard. Researchers should work hard to achieve the goals of the EBD.<sup>(15)</sup>

Navabi et al. evaluated this knowledge and used it among Iranian dentists. The results revealed that Iranian dentists were not familiar with the concepts of the EBD, and the majority of them preferred consultation with colleagues or seeking electronic databases for this matter. 56.1% of the dentists had limited knowledge about the EBD and 20.7% were not aware of the concept at all. The main barrier to the use of the EBD is the lack of time according to 44.1% of the respondents, while 42.8% of the dentists use the internet less than one hour per week.<sup>(16)</sup>

Considering the importance of Randomized Clinical Trials (RCTs) in the evidence-based approach, RCTs are by some means considered the “gold standard” between clinical researches. They provide the highest level of evidence for the clinician in relation to treatment options.<sup>(17)</sup>

The quality of the design and the way an RCT is carried out, have a significant effect on the validity of its results; therefore, clinical epidemiologists have devised a process known as “critical appraisal” to assess RCTs.<sup>(18)</sup> Until now, checklists and criteria have been prepared worldwide to assist the readers in evaluating the quality of RCT reports, along with the facts which together provide the most valid tools.<sup>(19)</sup>

Large numbers of RCTs are carried out each year in academic centers in Iran. In many cases, selective reporting of the studies with positive outcomes has resulted in biased conclusions.<sup>(20-22)</sup>

One study showed that the quality of the RCTs amongst Iranian dental journals generally does not conform to the recommended standards and needs improvement. In the results section of the mentioned study, acceptable methods for randomization and blinding were found in 8% and 11.5% of the papers, respectively, out of 113 reviewed published articles. Reasons for withdrawal were also given in just 20.4% of papers. The quality of the clinical trials were insufficient to allow the readers to assess the validity of the trials. Greater

attention to quality aspects of the design and coverage of RCTs among Iranian dental Journals are compulsory and the dental research community should review these outcomes with concern.<sup>(23)</sup>

RCT is considered as a basic element of the EBD and as mentioned before, the statement of RCTs in dentistry and the EBD in Iran are both unsuitable. Despite rapid developments during the recent years, many practitioners are still reluctant to adopt evidence-based principles in their routine practice, and educating dental practitioners is a major component in adopting evidence-based approach to oral health care. Training in the EBD field may be facilitated if dental schools and faculties have access to main databases to tackle some of the probable barriers. All the dental practitioners should be instructed regarding the design of RCTs during their education. RCTs provide support for dentist’s clinical decisions, minimizing misdiagnosis by ensuring the best decision-making in relation to procedures and treatments. The practicing dentists should be familiar with the results of updated RCTs, not only to assist them in the diagnosis and treatment, but also to help them evaluate product studies published by dental manufacturers or provide evidence for insurance companies for coverage. It is a significant contribution to train a new generation of dental practitioners equipped with these skills as well as the faculty members who can appreciate the key role of the EBD in the future of dental fields.

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#### **Conflict of interests:**

Authors report no conflict of interest related to this study.

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