Evidence Based Dentistry

Dentistry has two important fields to be considered: the knowledge (i.e., the science) and the application of this knowledge (different specialties and clinical practice). Evidence-based dentistry was developed to relate the science to the clinical practice through the use of scientific methods in order to reach the best treatment for a specific clinical situation/patient.

Evidence-based practice consists in the practice of dentistry that integrates the best available evidence with clinical experience and patient preference in making clinical decisions (Evidence Based Dentistry¹, 2006). According to the American Dental Association the term “evidence-based dentistry” can be considered an approach to oral health care that requires the careful integration of systematic assessments of clinical 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.

The purpose of evidence-based dentistry (EBD) meetings is to establish standards of acceptable therapeutic approaches based on scientific evidence, while recognizing the need for exchange of viewpoints on what should be considered adequate for a specific clinical application. Currently there are collaborative research networks that conduct systematic reviews, such as the Cochrane Collaboration, in which the researcher can learn how to conduct and develop systematic reviews and can consider important aspects regarding this critical analysis of the existent literature reports.

The EBD process is not a rigid methodological evaluation of scientific evidence that dictates what practitioners should or should not do. Rather, it aims at integrating the scientific basis for clinical care, using thorough, unbiased reviews and the best available scientific evidence at any one time, with clinical and patient factors to make the best possible decision about appropriate health care for specific clinical circumstances¹.

As the Coordinator of the Special Laboratory of Lasers in Dentistry, we are proposing protocols for this area based on scientific data. The traditional principles of dental treatment are well known and have also developed to a great extent, which has not yet happened with the

¹. Evidence Based Dentistry. 1st International EBD Workshop on Applications of Lasers in Dentistry. Aachen (Germany); 2006.
use of lasers in the different dental specialties. There are some limitations to laser technology, and follow-up appointments still have to be further evaluated to provide scientific basis for its use. For all the proposed protocols, double-blind, placebo and follow-up studies should be conducted. Multicentric clinical studies should also be carried out to discuss different protocols of laser use, increasing the number of cases and decreasing the inherent patient-related variability.

Ideally, all clinical practice should be based on the best available evidence; however, in dental general practice, even a very routine procedure may be hampered by the lack of sound evidence from high quality clinical trials run in the general practice office. In the case of new technologies, such as the use of lasers in dentistry, this evidence is even more necessary because only after high quality clinical trials will it be possible to show the efficacy of laser therapy and its real benefits and advantages over conventional treatment.

New studies should follow established standards such as those of the CONSORT statement (Consolidated Standards of Reporting Trials) to improve the planning and quality of the reports of randomized, controlled clinical trials. Compliance to these standards could avoid systematic errors and biased estimations of treatment effects. Many leading journals and major international editorial groups have adopted the CONSORT statement.

Finally, the future of scientific research seems to be the development of clinical trials and studies that can lead to hard evidence in dentistry. Such studies can and should be performed in order to provide more reliable information for the dental community, thus providing more effective clinical treatment for patients.

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