SUMMARY

It is generally accepted that the more experience a physician or a dentist possess - better the quality of health care delivery. However, recent studies had shown that there is, in fact, an inverse relationship between the number of years of practice and the quality of care provided. Evidence-Based Dentistry (EBD) is a process that restructures the way in which we think about clinical problems. It is an approach to clinical problem solving that has evolved from a self-directed and problem-based approach to learning rather than the more traditional didactic form. The American Dental Association’s definition is by far the most comprehensive, as it captures the core elements of EBD and it is namely patient-centred definition - the EBD is an approach to oral health care that requires 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.

This paper outlines this role, together with the advantages and problems of introducing an evidence-based approach to dentistry.

Keywords: Dentistry; Dental Education; Evidence-Based Dentistry

Introduction

Information, innovations and changes are base points and world-wide interest in making dental health services more effective and containing dental health care costs without compromising quality of dental care in the face of technological advances, demographic changes and increasing public expectation. As an integrative scientific field of medicine, dentistry and dental health services are very closely connected with contemporary research and the update of dental practice. However, scientific dental literature and lectures directed at the modern dental practitioner have created some dilemmas and problems. In resolving a clinical decision, evidence rather than empiricism should dictate treatment.

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Evidence-based dentistry (EBD) presents guidelines to determine the validity of study results and whether they can be applied to clinical practice. According to Sackett, EBD is defined as “integrating individual clinical expertise with the best available external clinical evidence from systematic research”. The aim of the EBD is to encourage ordinary dental practitioners in primary dental care to look for and make sense of the evidence available in order to apply it to everyday clinical problems. However, making clinical decisions based on evidence does pose several problems for the dental practitioner.

The aim of this review was to get a solution how to determine what a cutting edge technique is and what is useless when contradictory information exists, as well as to point out the advantages and problems of introducing an evidence-based approach to dentistry.
Evidence-Based Medicine - the Fields and Practice

Evidence-based medicine (EBM) requires integration of the best research evidence with our clinical expertise and our patient’s unique values and circumstances.

Its’ philosophical origins extend back to mid-19th century Paris and earlier, is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of the EBM means integrating individual clinical expertise with the best available external clinical evidence from systematic research. In the same time, the practice of EBM is a process of life-long, self-directed learning, in which care for our own patients creates the need for clinically important information about diagnosis, prognosis, therapy, and other clinical and health care issues.

EBM systematically searches a wide range of international medical journals applying strict criteria for the validity of research. Experts critically appraise the validity of the most clinically relevant articles and summarize them, including comments on their clinical applicability. EBM also publishes articles relevant to the study and practice of EBM.

The definition and description of EBM offered by Sackett et al is an appropriate context for better understanding evidence-based dental practice.

EBM is sometimes called evidence-based health care, to broaden its application to allied health care professionals. Because EBM is used in allied fields, including dentistry, nursing and psychology, evidence-based practice (EBP) is a more encompassing term, for example Evidence-Based Practice in xxx (EBPs) as well as Evidence-Based Health Care, Evidence-Based Nursing, Evidence Based Library and Information Practice, Research Based Evidence. Evidence-Based Public Health is the process of systematically finding, appraising and using contemporaneous clinical and community research findings as the basis for decisions in public health.

Evidence-Based Dentistry - Necessity in the Update Dentistry

Graduates from dental schools are up to date with the best practice in current dentistry at the time they graduate. Some of this knowledge gradually becomes out of date as new information and technology appear. It is important for dentists to be able to keep up to date with developments in diagnosis, prevention and treatment of oral disease, as well as newly discovered causes of diseases, especially in regards to patient safety. The problems of introducing evidence based dentistry are amount of evidence, quality of evidence, and practice based on authority rather than evidence.

Amount of evidence: Currently over 2 million biomedical articles are published annually in some 20,000 journals. There are about 500 journals related to dentistry. Clearly not all of these articles are relevant to all areas of dental practice, nor can one hope to read any more than a minority of them.
Quality of evidence: Much of the ever increasing volume of evidence is produced to enhance career prospects rather than to increase knowledge. This can compromise quality. Dental treatment decisions have been largely based on observations of historical response of a disease or condition to an intuitive treatment. Methods of treatment were based upon a good understanding of underlying disease and physiology (G.V. Black’s “extension for prevention”; Caries control via plaque removal). Observations of outcomes, however, have rarely been validated or tested scientifically to see if they were valid.

There is an overwhelming amount of evidence that comes from research and policy-making organisations, but there is no one organisation that synthesises and assesses all this evidence. Advances in dentistry are usually first reported in dental journals, and in order to keep up with new research, healthcare professionals need to feel confident that they can read and evaluate dental papers. Keeping abreast of new developments through reading current literature can seem onerous and hard to combine with a heavy clinical workload. Fortunately, having an understanding of how to interpret research results, and some practice in reading the literature in a structured way, can turn the dental literature into a useful and comprehensible practice tool.

There is world-wide interest in making health services more effective and containing health care costs without compromising quality of care in the face of technological advances, demographic change and increasing public expectation.

Quality assurance and performance evaluation have become central issues in dental medicine. Sometimes dental care is suboptimal in many different dental conditions and clinical settings. Few existing studies have had the specific goal of evaluating the effects of experience on the quality of dental care. However, length of time in clinical practice has been included as part of a set of physician characteristics that might explain variations in quality or that may be confounders of the association between quality and other factors. However, comparatively few decisions in the health services are made as a result of good evidence.

The Impact of Evidence in Dental Practice

While the EBD can provide dental clinicians with clear answers to questions about specific treatments, this information is intended to be used in conjunction with clinicians’ expertise and specific patient factors. EBD is not intended to be “cookbook” dentistry, but it is envisioned as a disciplined process where the best objective information of the risks and benefits is weighted with clinical experience and patient preferences.

EBD does not mean that clinicians need not study basic and dental material sciences. In fact, the opposite is true. To evaluate the research presented, clinicians need a solid background on which to base their evaluations and decisions. However, most dentists in teaching institutions or clinical practice have not been prepared to deal with the conscious and conscientious integration of best evidence into clinical practice, and hence may be less than effective in adopting evidence-based practice.

The Impact of Evidence on Dental Community Research

EDB is relatively a new paradigm in dentistry and thus may not be a well-known concept to every dental graduate. It opens a new era in dental research. This movement can bring together traditional basic science researchers with clinical researchers, clinicians, and educators. Modern day dentistry presents great challenges to the practicing dentist to deliver care of the highest standard to patients. At times, there are situations where the clinician is confronted with doubts regarding diagnosis and treatment planning in spite of the knowledge and experience gained over time.

The current barriers that exist between the dental research community and the practicing community can diminish as evidence-based teams start to work on finding, appraising, summarizing, and analyzing evidence to answer clinically relevant questions. The gaps they identify in the evidence will constitute arguments for designing and implementing both prospective and retrospective studies to answer critical clinical questions. Moreover, EBD represents a potential strengthening of the complex process of science transfer, of translating research into practice. Dental research has a vested interest in this movement, because research results are the raw input to the process.

Conclusion

The challenges for dental research are to establish an international dialogue and collaboration to strengthen the evidence and to improve the processes through which clinicians integrate it into their treatment decisions. There are clear paths to meet these challenges, which require cooperation of dental research, dental education, and international funding agencies.

References


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