Evidence Based Dentistry

Evidence-based dentistry is the practice of dentistry that integrates the best available evidence with clinical experience and patient preference in making clinical decisions.

Sutherland S., J Can Dent Assoc 2001; 67:204-6

American Dental Association (ADA) definition:

Evidence-based dentistry is an approach to oral health care 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. (*Trans.* 2001:462)

Evidence based practice:

Evidence-based practice has been defined as the practice of dentistry that integrates the best available evidences with clinical experience and what a patient prefer in making clinical decisions. The EBD process is not a rigid methodological evaluation of scientific evidence that dictates what practitioners should or should not do. Rather, the EBD process is based on 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 decisions about appropriate health care for specific clinical circumstances.

Goal of Evidence Based Dentistry

The goal of the EBM process is to help practitioners provide the best care for their patients. This process uses clinical and methodological experts to synthesize all of the evidence relative to a defined "question of interest.“ Information from systematic reviews is then made available to practitioners for integration with their clinical experience and other factors relevant to specific patient needs and preferences.

Glossary of Terms Relating to EBD

- **Best evidence** is a term that refers to information obtained from randomized controlled clinical trials, non-randomized controlled clinical trials, cohort studies, case-control studies, crossover studies, cross-sectional studies, case studies or, in the absence of scientific evidence, the consensus opinion of experts in the

appropriate fields of research or clinical practice. The strength of the evidence follows the order of the studies or opinions listed above.

- **Case-control study** involves identifying subjects with a clinical condition (cases) and subjects free from the condition (controls), and investigating if the two groups have similar or different exposures to risk indicator(s) of factor(s) associated with the disease.
- **Case-series (or clinical series)** is a report on a series of patients with an outcome of interest. No control group is involved. There are two types of case series : 1) *consecutive* (all cases presenting to the reporting authors over a period are included) and 2) *non-consecutive* (only a selection of cases presenting to the reporting authors over a period are included).
- **Clinical practice guideline** (parameter of care) is a systematically developed statement designed to assist both practitioner and patient with decisions about appropriate health care for specific clinical circumstances.
- **Clinical protocol** is a step-by-step decision-making tool that describes how a health condition is diagnosed and managed. May be, define main parts of it?
- **Cohort study** involves identifying two groups (cohorts) of subjects, one that did receive the exposure of interest and another that did not, and following these cohorts forward for the outcome of interest.
- **Cohort** is a group of people who share a common characteristic or experience within a defined period (e.g., are born, or undergo a certain medical (dentistry) procedure). There are two types of comparison groups: 1) the general population from which the cohort is drawn, and 2) another cohort of persons thought to have had little or no exposure to the substance under investigation, but otherwise similar. Alternatively, subgroups within the cohort may be compared with each other.
- **Controlled clinical trial** is a study that uses the same design features of a randomized controlled clinical trial (see definition below), but, for reasons beyond the control of the investigators, the subjects are assigned using a non-random process into control or experimental groups.
- **Crossover study design** is the administration of two or more experimental therapies, one after the other in a specified or random order, to the same group of patients. Nearly all crossover designs have "balance" (all subjects should receive the same number of treatments and participate for the same number of periods). If possible this design should have four periods.
- **Cross-sectional study** is the observation of a defined population at a single point in time or in a specified time interval. Exposure and outcome are determined simultaneously. The aim is to provide data on the entire population under study.
- **Evidence-based dentistry** is an approach to oral health care 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.
- **Evidence-based health care** extends the application of the principles of evidence-based medicine to all professions associated with health care, including purchasing and management.
- **Evidence-based medicine** is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.
- **Meta-analysis** is a review that uses quantitative methods to combine the statistical measures from two or more studies and generates a weighted average of the effect of an intervention, degree of association between a risk factor and a disease, or accuracy of a diagnostic test.

- **Probability of success** is a ratio of the number of patients who benefit from an intervention to all those who receive an intervention. A probability figure, such as 0.5 or 50%, means that out of 100 patients, 50 would benefit from an intervention and 50 would not benefit. Neither the dentist nor the patient can determine beforehand to which of the two groups a patient will belong.
- **Randomized controlled clinical trial** is a study in which participants are randomly (i.e., by chance) assigned to either an experimental group or control group. The experimental group receives the new intervention and the control group receives a placebo or standard intervention. These groups are followed up for the outcomes of interest.
- **Systematic review** is a process of systematically locating, appraising and synthesizing evidence from scientific studies in order to obtain a reliable overview. The aim is to ensure a review process that is comprehensive and unbiased. Findings from systematic reviews may be used for decision-making about research and the provision of health care.
- **Longitudinal studies** are studies that make a series of observations more than once on members of the study population over a period of time.

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