Evidence-based Dentistry and Its Role in Caring for Special Needs Patients

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KEYWORDS

• Evidence-based dentistry • Special care dentistry • Special needs dentistry
• Treatment accommodations

KEY POINTS

- Special needs dentistry is frequently misconstrued to refer only to patients with mental or developmental disabilities. Those with physical, medical, and/or psychological disabilities also have special needs that may require accommodations in dental care.
- Studies by the US Census Bureau indicate that about 1 in 8 people in the United States have some form of disability that would affect the way they care for their teeth and/or would pose a barrier to their receiving dental care.
- Evidence-based dentistry (EBD) is a concept ideally suited and applicable to special needs dentistry. As the special needs of patients varies according to the individual, so should the way we evaluate our patient, prescribe a course of treatment, and implement that treatment plan.
- Many medical conditions can also present barriers to care or complications to consider in preparing a treatment plan. Using EBD, these issues need to be addressed to develop a personalized treatment plan.

"No good! Do it over!" the instructor bellowed at the dental student in a preclinical laboratory 30 years ago. The student's offense was deviating, ever so slightly, from "core technique," the rigid, one-size-fits-all way of doing dentistry.

Like G.V. Black's "extension for prevention"[1] method of operative dentistry, this rigid concept of performing dental procedures was taught for more than a century to generations of dentists. Today, dentists are embracing "evidence-based dentistry" (EBD) as a means of coping with variations in the dental patient population, something that is especially prevalent among special needs patients.

Special needs dentistry is frequently misconstrued to refer only to patients with mental or developmental disabilities. Although these patients certainly do have special needs, the category includes far more than these patients alone.[2]

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Studies by the US Census Bureau[3] show that approximately 1 in 8 people in the United States have some form of disability that would affect the way they care for their teeth or would pose a barrier to their receiving dental care.[4] These disabilities can be physical, such as manual dexterity or mobility issues afflicting patients with stroke or Parkinson disease, victims of severe car accidents, or battlefield wounds in returning soldiers.

Other patients with special needs may have medical factors affecting their care. Patients undergoing radiation and/or chemotherapy for cancer, patients with diabetes (especially those whose disease is poorly controlled), patients with human immunodeficiency virus, and the frail elderly may have multiple medical issues that present barriers to care and contraindications to "business as usual" dentistry.

There are also mental and psychological considerations for some special needs patients that need to be addressed. Patients with mental retardation, autism, or various psychiatric disorders may be unable to care for themselves or even give their own consent for treatment, and require deviation from "core technique" as well.

EVIDENCE-BASED DENTISTRY

According to the American Dental Association, "EBD is a patient-centered approach to treatment decisions, which provides personalized dental care based on the most current scientific knowledge."[5] This is a radical departure from the traditional way of teaching dentistry that most dental schools used for more than a century.

Generations of dentists have taken licensing board examinations on live patients where they were frequently penalized for deviating even slightly from the ideal preparation espoused by G.V. Black more than a century ago. Black published his concepts in his *Manual of Operative Dentistry* in 1896, including his concept of "extension for prevention." This called for extending cavity preparations into healthy tooth structure to eliminate grooves, pits, and fissures that allegedly could decay later. His theory was to remove these otherwise healthy tooth structures now before they could decay in the future. This was how dentistry was taught well into the 1980s.

However, more recent studies have shown that needlessly extending cavity preparations actually weakens teeth, and this concept is no longer taught in dental schools today. This is an example of how EBD has changed clinical practice.

EBD has also changed the way practitioners evaluate their patients from the minute they walk in the operatory door. No longer are the patients just "teeth attached to a body," where the focus is solely on the mouth. Research has shown that there are a myriad of medical conditions that affect the teeth and oral health, sometimes increasing the risk of caries, predisposing a patient to development of periodontal disease, or changing the prognosis for success of dental procedures, such as implants. There are also dental conditions that can have systemic effects on the body, including periodontal disease and untreated dental infections. Inability to masticate properly can affect nutrition, with far-ranging sequelae.

MEDICAL EVALUATION OF THE DENTAL PATIENT

Not so very long ago, in the 1970s, the medical evaluation of dental patients was usually a cursory medical history that was intended primarily to screen for the need to premedicate a patient with prophylactic antibiotics and avoid medication interactions with local anesthesia.

However, over the intervening years, the link between systemic health and oral health has become a subject of much research. Linkages between periodontal disease and cardiovascular issues (including heart attack and stroke) have been the