

## REVIEW ARTICLE

## EVIDENCE-BASED PRACTICE IN DENTISTRY: NEED OF THE HOUR

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## ABSTRACT

*In our review, we discussed about a type of dentistry which is mostly the amalgamation of experience with the research evidences, known as evidence-based dentistry (EBD). This is helpful for dental professionals to be up to date with the various advancements and helps in decision making for various dental treatments. It is important that novel scientific updates should be regularly be kept in mind so that effective treatment can be given to a patient. It usually carved out in three stages, which includes finding the research evidence followed by quality studies search and then analysing the evidences from these studies so as to form a particular opinion regarding the research subject. Hence, we are reviewed the topic of evidence -based dentistry which can affect the treatment goals of a patient.*

**Keywords:** Evidence-based dentistry, decision making, clinical practice, model.

## INTRODUCTION

Increasing advances in technology has caused a rush in demand for better health care equipment as well as services which can influence the quality of dental care of the public's increased expectations throughout the world. But due to this urgency many decisions are not backed by credible evidence. A study by Shaw et al. has suggested that good evidence takes many years to be put to good use in the clinical practice.<sup>1</sup> He saw that in his study, even though corticosteroids reduced infant mortality due premature birth, still it took years to be implemented on ground level.<sup>2</sup> Many such treatments would have been in the centre stage, had all the systematic reviews been analysed properly and cumulatively.<sup>3</sup> The objective of EBD, is to create an environment where the dental professionals while giving the best of the treatment to their patients, rely on scientific evidences to solve the issues faced during their clinical practice. Dental diseases affecting the oral cavity have a widespread influence not only in the children but also

elderly and working adults, who nowadays are aware of the importance of teeth and its maintenance. Due to the changes in their lifestyles and awareness, now they go for periodic dental health check- ups to retain their teeth in their best forms. They are open to new advancements in the dental technology and this influences the decision making of dental professionals as well.<sup>1</sup> Usually dentists have been following a set pattern to treat the patients based on diagnostic tests and conventional treatment strategies, but the effectiveness of these also comes under scanner many a times when many studies suggest a better alternative. Hence, it becomes all the more confusing for them about the efficacy of a treatment plan. EBD feeds on the current knowledge and research carried out related to dentistry which is then combined with individualistic experience, to create a fool-proof model of an excellent treatment strategy. It helps the decision-making experience of dentists which enhances their confidence in tackling difficult cases in their clinical practice.<sup>3</sup> It has also been defined as a tactical methodology where the systematic knowledge of various studies are amalgamated and used sensibly, which influences the patients treatment needs and goals and also takes into consideration the dental and medical history of the people who are taking the treatment, which helps in decision making regarding the choice of dental treatment opted by the dental professionals to avert the oral diseases in their patients.<sup>4</sup> This approach also gives considerations to the cost of the treatment along with diagnostic and therapeutic dilemmas along with patient's preferences and considerations.

## MODELS FOR EVIDENCE BASED DENTISTRY

Chapman and Sonnenberg had described a model design for EBD which influences the decision making of the dental healthcare professionals.<sup>6</sup> This model had two major types of making a successful choice of a treatment- normative and descriptive. In the earlier one, the decision making is based on the information garnered from various studies and systematic reviews which give an insight about the clinical outcomes dealing with the survival of a tooth or longer stay time for a restoration. The whole normative choice is based on quantitiveness of the choices and also caters to the utility costs which patients have to pay. They go with the majority of the

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cumulative opinion which these reviews exhibit. Whereas the descriptive version harps on the cognitive ability of a professional, his experience to assert the biases that are encountered in the studies and can modulate that for an individualistic treatment plan.<sup>7</sup> Health care usually goes through three levels of decision making- from the government, insurance companies and the basic level related to a dentist and a patient.

### **DENTAL PROFESSIONALS SHOULD BE UP-TO DATE**

These days due to increased number of graduates passing from dental schools, there is a competitive scenario which has been established. To ace this competition, a dental graduate needs to be abreast with recent updates in dental technologies, which again is changing very fast as new advancements are introduced every other day. It is imperative that a dentist knows the improved versions of treatment and prevention of dental diseases along with patient safety in recent times. Also, knowledge about the etiopathogenesis of a lesion, helps in generating a treatment plan for a patient. Scientific community churns out a lot of scientific articles, information on a regular basis which can affect the decision making in various health care organizations but a cumulative essence of these evidences which helps a clinician to make a decision regarding which treatment needs to be given is not present at a single place. Dental professionals mostly keep themselves up to date with the new trends and advancements with the help of dental journals or editorials. But it is difficult for them as well to implement complex scientific information as well as variety of advancements in their day-to-day dental practice. Hence, a dental literature should help a dentist in interpret the essence of a scientific research and then encourage them to implement these results in their clinical practice also.<sup>4-10</sup>

### **CLINICAL RESEARCH AND ASSOCIATION WITH EBD**

EBD also brings about changes related to clinical research, which has a much larger means of seeing a topic and can also help in enhancing the ways to know about the etiologies of a disease and hence many treatment strategies to tackle them. It is also said that EBD is an offshoot of clinical research itself. This approach is only for the dentists to regularly upgrade their knowledge about the scientific advancements in their field and by also modifying their critical thinking.<sup>11</sup> The scientific evidence has to be first collected from large stockpile of dental literature and then sorted out by their research relevance and quality standards which is followed by systematically combining the conclusions of these studies

to reach a consensus which later can be implemented for a better treatment of patients.<sup>12,13</sup>

### **DEVELOPMENT OF CLINICAL PRACTICE GUIDELINES**

Many dental societies can offer individual professionals with novel clinical guidelines for better practice. However, this information, should be quantitatively assessed with the help of a standard as a reference taking into consideration many randomized studies, pharmaceutical efficacy of medicines and surgical effectiveness of treatment plans. In this journey, of systematically summarizing the results, meta-analysis has been very helpful to come to a conclusion of many reviews and studies on a research topic.<sup>14-18</sup> This conclusive evidence can be used by dental professionals and will motivate them to be abreast with current trends of dentistry as well.<sup>19</sup> The guidelines are the steps which can help a dentist give best quality treatment for individualistic situations encountered during clinical practice.<sup>20</sup> Clinical practice guidelines come with the objective of providing quality care which has gained much attention due to widespread awareness as well as rapid pace of advancements in dental technologies. These also help to increase the efficiency of a practitioner, reduce cost of care, improve patient doctor experience.<sup>21</sup> However, constant changes in dental knowledge changes these guidelines as well which needs to be analysed regularly.<sup>22</sup> Clinical decision making is not completely reliant on high quality data from systematic reviews, but it is based more so on the agreement of various dental professionals on the guidelines which can be effectively used in their clinics and can give high success rate.<sup>23</sup>

### **PHYSICIAN INDUCED DEMAND**

Doubt and uncertainty also had a major role to play in the scepticism of dental professionals where they will not go ahead with the treatment strategy, if they don't believe in its success rate. But advancements garnering more fees has incentivised them, to pick up other plans for treating their patients.<sup>24</sup> A system has been developed which cumulated the evidences that can be actually applied to enhance the quality of treatment known as Grading of Recommendations Assessment, Development and Evaluation (GRADE). This system usually prefers to convert the scientific evidences into recommendations for the professionals.<sup>25</sup> It starts with a research question or topic for which all the possible outcomes are studied using the systematic reviews and then they are judged on the basis of quality, if they can be used as a suggestion for dentists in general.<sup>19</sup> The evidence is based on mainly the outcomes of treatment and benefits that

is tangible.<sup>18</sup> Rather than being a rating approach, this is a methodology which provides recommendations based on transparency and develops the strength of evidence that can be quantified as well.<sup>20</sup>

## CONCLUSION

With new advancements and increased expectations of patients, EBD has come to centre stage in providing dental care at large. In this government, insurance companies play a major role in establishing and ensuring adequate usage of dental care. It is therefore imperative also that those efforts do not go in vain and are backed by scientific evidence yielding long lasting results. EBD has significantly changed the scenario of critical decision making of dentists and health professionals. These decisions also show the amount of clinical assertiveness of a professional who want to give the quality dental care to patients. EBD also has become a bridge between scientific research and clinical practice, where applications can be made which are evidence backed. Hence, it is upto the dentists on how to use this approach for improving the dental care in the long run.

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