

Evidence-based dentistry practice among dental practitioners in Chennai, Tamil Nadu - A cross-sectional study

G. Cathrine¹, Joseph John¹, Vivek Narayan^{2*}

ABSTRACT

Aim: This study aims to determine the evidence-based dentistry (EBD) practice among dental practitioners residing in Chennai, Tamil Nadu. **Materials and Methods:** A cross-sectional study was conducted using a self-administered questionnaire among 154 dental practitioners at different academic, governmental, and private dental colleges in Chennai, Tamil Nadu. The questionnaire assessed practitioner's attitude toward evidence-based practice (EBP) in terms of application and usage, awareness and usage of bibliographic database, history of training in EBP, perception of their understanding of technical terms used in scientific research, and opinion with respect to barriers for the use EBD in Chennai, Tamil Nadu. **Results:** Dentists had an overall favorable attitude toward EBD, with 120 (75%) welcoming the promotion of EBD. **Conclusion:** Shifting from a reliance on the experiential model of decision-making to an evidence-based model would benefit all health-care professions, as well as the general public. Vary of environmental, structural, and organizational issues wants radical policy shifts to facilitate practitioners' ability to alter their clinical practice.

KEY WORDS: Dental practitioners, Evidence-based care, Health, Promotion, Public

INTRODUCTION

Due to the large amount of new products in dental merchandise and various treatment modalities, it is difficult for dental practitioners to keep track and be aware of all the updates in dentistry. Accordingly, different ways had been proposed, one of which is evidence-based practice (EBP) or decision-making.

EBP has been outlined due to the conscientious, specific, and even-handed use of the current best proof in creating selections regarding the care of individual.^[1-3] EBP was introduced into dentistry, specifically in the early nineties and named evidence-based dentistry (EBD).^[4] The aim of EBP is to encourage health-care professionals to look for and make sense of the evidence available to apply it to everyday clinical practice. The ultimate goal of EBP is to improve the health of patients through clinician

decisions that are based on updated health-related knowledge.^[5,6]

The process of EBP starts with the formulation of an answerable question regarding clinical/dental practice needs, tracking down the best evidence available, and applying critically appraisal skills regarding validity and usefulness. This would be followed by integrating such appraisal with clinical expertise, patient values and circumstances, and finally reaching a practice decision.^[7] Similar to the process of EBP, EBD requires the integration of the best evidence with clinical expertise and patient preferences, and therefore, it informs, but never replaces, clinical judgment.^[8]

Several studies have been conducted to evaluate the knowledge and attitude toward EBP in dental practice. In dentistry, Iqbal and Glenney,^[1] in 2001, studied general dental practitioners' knowledge and attitudes toward EBP in Northwest of England. They reported that not all general dental practitioners surveyed were familiar with EBP concepts, although they found that

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ISSN: 0975-7619

¹Department of Public Health Dentistry, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, Tamil Nadu, India, ²Department of Oral Medicine and Radiology, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, Tamil Nadu, India

*Corresponding author: Dr. Vivek Narayan, Department of Oral Medicine and Radiology, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Chennai, Tamil Nadu, India. Phone: +91-9962866419. E-mail: vivek_narayan85@icloud.com

Received on: 19-08-2018; Revised on: 25-09-2018; Accepted on: 12-10-2018

most practitioners were enthusiastic to find out more information on EBD.

In 2008, Yusof *et al.*^[9] studied the awareness of evidence based among a group of Malaysian dental practitioners in Malaysia. They reported that 69.9% of respondents had some information about EBP, while 97.8% agreed that EBP improved their knowledge, skills, and treatment quality.

In a study conducted by Almas *et al.*, 2004,^[10] on the perceptions and attitudes toward the use of EBD among the final year students and interns at the King Saud University, College of Dentistry in Riyadh. They reported that there was no difference in practicing EBD between participants who attended and those who did not attend a workshop.

Moreno^[11] conducted a study about research training for dental graduates and he states that there is a disparate presence of analysis subjects within the dentistry syllabus in Chile, with a larger presence privately establishments. This can be a primary approximation and future analysis is required to acknowledge the factors that may stimulate analyzers' formation at undergraduate stage and confirm whether or not the syllabus should be tailored to those new paradigms in research.

Werb and Matear^[12] state that scenarios introduced within the classroom seem to be the most effective way to introduce the principles of evidence-based care to students. A complementary clinical element and connected faculty development area unit counseled to support evidence-based care. The model is suggested as a result of it takes into consideration restricted resources of the undergraduate clinical atmosphere, whereas encouraging students to demonstrate their talents in execution associate degree evidence-based approach to worry.

Amid and Bader.^[13] state that the dental profession ought to define clinically relevant queries, commission systematic reviews to answer those queries, and, once proof is not on the market, advocate for good quality clinical analysis to be conducted to provide the answers. Findings from systematic reviews ought to be presented to dentists in formats that they will easily use in their daily practice.

McGlone *et al.*^[14] discussed about the barriers in implementing changes in clinical practice and he states the intensive and numerous vary of potential barriers cannot be addressed through basic academic interventions alone. The range of environmental, structural, and organizational problems needs radical policy shifts to facilitate practitioners' ability to change their clinical practice.

Since the dental professionals rely on well-designed analysis studies to demonstrate the efficaciousness and effectiveness of diagnostic tests, treatment ways, new materials, and merchandise, knowing a way to realize the scientific proof is an essential component for clinical practice even though dental professionals are expected to sustain a high level of technical skills, critical evaluation of research material is never taught in the dental institutions of Chennai, Tamil Nadu. There has been increasing concern about the use of EBD to increase the effectiveness of dental care. Hence, the present study is conducted to determine the EBD among dental practitioners residing in Chennai, Tamil Nadu.

MATERIALS AND METHODS

A cross-sectional study was conducted among dental professionals residing in Chennai, the capital city of the state of Tamil Nadu in India has a diverse population of around 4.3 million. Chennai has an umpteen number of dental clinics, dental specialty centers, and an over dozen dental colleges producing an estimated 1000 dental graduates every year. In developing countries like India, efforts are highly concentrated in providing knowledge and management skills on most common dental disease such as dental caries and periodontal diseases. However, the focus on evidence-based diagnosis of dental diseases and treatment facilities remains a challenge to the capabilities of dental professionals in Chennai. Since very few studies have been conducted to incorporate EBD in to dental practices among dental professionals in Chennai, the present study was conducted to determine the EBD among dental practitioners residing in Chennai, Tamil Nadu. The present study was conducted to determine the EBD among dental practitioners residing in Chennai, Tamil Nadu.

A list of dentists practicing in Chennai registered with Dental Council of India was obtained. Following simple random sampling, 160 dental professionals were selected. A self-administered questionnaire was distributed to the selected number of dental professional practicing in Chennai. Dentists who are not willing to participate in the study and those who were unavailable even after three consecutive visits to their clinics/hospitals were excluded from the study.

Before the start of the study ethical clearance was obtained from the Institutional Ethics Committee, Saveetha University. A written informed consent was obtained from the study participants. The anonymity of the participants was maintained.

Data collection was scheduled in the month of October 2016. Sample size was calculated based on the study done by Ashri *et al.*, 2013.^[15] Sample size was

calculated manually with the use of sample size calculation formula: $n = Z\alpha^2 PQ/L2$ and sample size of 154 was derived.

A pre-tested, structured, and self-administered questionnaire was adapted from questionnaires used previously by McColl *et al.*, 1998.^[16]

After a brief introduction on the purpose and intent of the study with the help of patient information, sheet questionnaires were distributed to the dentists and filled questionnaires were collected. Only completely filled forms were considered for analysis. A reminder was later sent to the non-respondent 1 week and 3 weeks after the supposed date of reception of the questionnaire.

Data were entered into Microsoft Excel spreadsheet and descriptive data in terms of frequency and percentage were analyzed using SPSS software (Version 20.0).

RESULTS

Table 1 shows the descriptive characteristics of the participants. The study sample consisted of 160 study subjects among whom 81 (50.6%) were from 20 to 30 years of age, 61 (38.1%) were from 31 to 40 years of age, and 18 (11.2%) were above 41 years of age. Equal distribution of gender was seen among the study subjects. Based on the years of experience, 68 (42.5%) had <5 years of experience, 69 (43.1%) had 5–10 years of experience, and 23 (14.3%) had more than 10 years of experience. More than half of the study participants 94 (58.7%) were academicians.

Table 2 shows the attitude toward EBD among the study subjects. 120 (75%) of the participants stated that they welcome the promotion of EBD and 72 (45%) of the study subjects strongly agreed that EBD is of limited value in general practice because much of primary care lacks a scientific base.

Figure 1 shows the history of training on EBD among study subjects. More than half (67.5%) of the study subjects had attended courses on EBD. 71.8% and 70% had training in search strategy and critical appraisal, respectively.

Figure 2 shows the accessibility to MEDLINE and World Wide Web among the study subjects. 40% of the study subjects had accessed MEDLINE during the surgery and 60% of the study subjects had accessed World Wide Web in a local library.

Figure 3 shows the methods to move to EBD. More than half of the study subjects 95 (59.3%) have preferred to learn the skills of EBD as the best method to move to EBD.

Table 1: Descriptive characteristics of the study subjects

Characteristics	Groups	n (%)
Age groups (years)	24–30	81 (50.6)
	31–40	61 (38.1)
	>41	18 (11.2)
Gender	Male	80 (50)
	Female	80 (50)
Qualification	BDS	43 (26.9)
	MDS	117 (73.1)
Years of experience (years)	<5	68 (42.5)
	5–10	69 (43.1)
	>10	23 (14.3)
Nature of practice	Academic	94 (58.7)
	Private practice	17 (10.6)
	Both	49 (30.6)

Table 2: Attitude toward EBD among the study subjects

Attitude toward EBD	n (%)
How would you describe your attitude toward the current promotion of EBD? (welcoming)	120 (75)
How would you describe the attitude of most of your GP colleagues toward EBD? (welcoming)	114 (71.2)
How useful are research findings in your day-to-day management of patients? (totally useful)	129 (80.6)
What percentage of your clinical practice do you feel is currently evidence based? (>60%)	3 (1.8)
Practicing EBD improves patient care (strongly agree)	111 (69.3)
EBD is of limited value in general practice because much of primary care lacks a scientific base (strongly agree)	72 (45)
The adoption of EBD, however, worthwhile as an ideal, places another demand on already overloaded GPs (strongly agree)	79 (49.3)

EBD: Evidence-based dentistry

DISCUSSION

The observe of evidence-based medication could be a method of long, self-reliant, problem-based learning ends up in the requirement for clinically necessary info regarding identification, prognosis, medical care, and alternative clinical and health-care issues. Nowadays, the practice of dentistry is becoming more complex and challenging due to the continually changing dental materials and equipment, an increase in the emphasis of continuing professional development.

The need for reliable data and electronic revolution has close to permit the “paradigm shift” toward evidence-based health care.^[6] Recent years have seen an increase in the importance of EBD, aiming to reduce to the maximum the gap between clinical research and real-world dental practice. Therefore, this study represents an attempt to explore the practice of EBD among dental practitioners. Although there

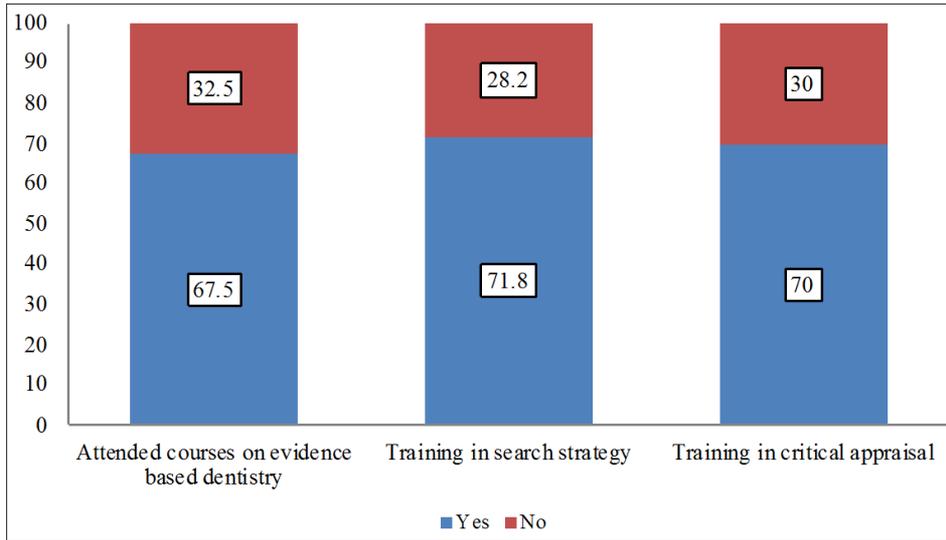


Figure 1: History of training on evidence-based dentistry among the study subjects

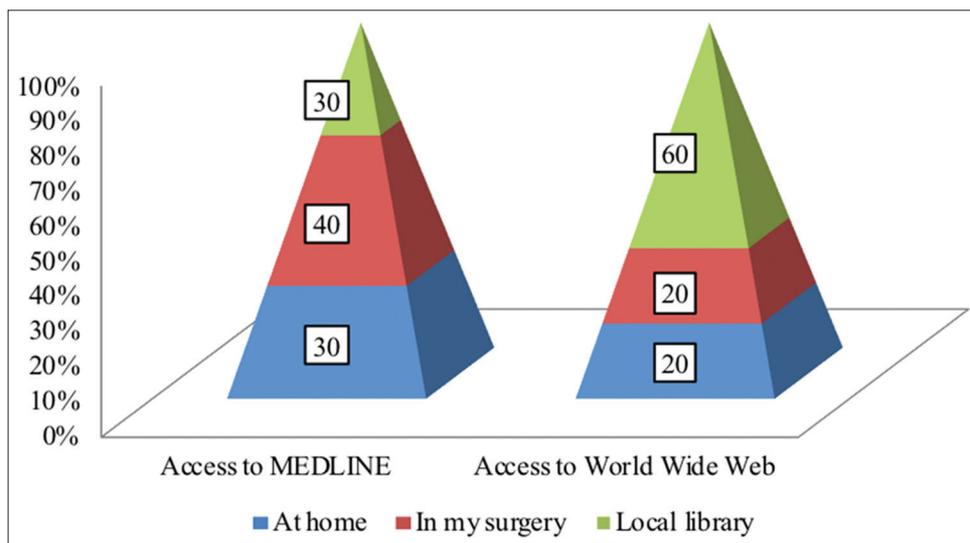


Figure 2: Accessibility to MEDLINE and World Wide Web among the study subjects

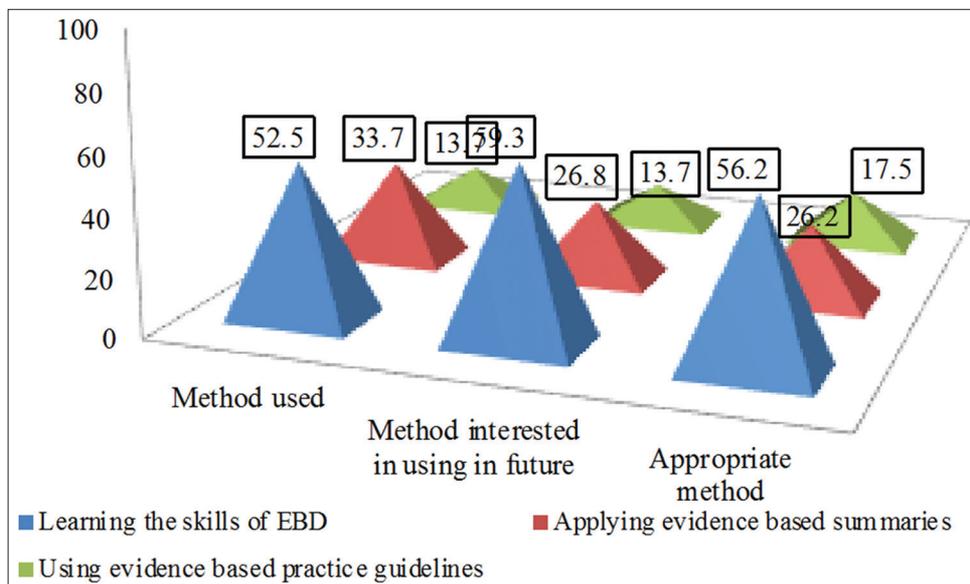


Figure 3: Methods to move to evidence-based dentistry among the study subjects

is a considerable volume of literature concerning the knowledge regarding EBD among dental practitioners, very few studies have analyzed the practice of EBD among dental practitioners.^[6] The baseline information from this study can be used to improve the quality in clinical decision-making.

In this study, self-administered questionnaire was distributed to 160 dental practitioners and it was found that most of the study subjects were from 24 to 30 years of age (50.6%) followed by 61 (38.1%) of 31–40 years of age. Remaining 11.2% belonged to more than 40 years of age. The distribution of study subjects based on age groups was similar to the study conducted by Ashri *et al.* (2014).^[15]

In the present study, there was an equal representation of both the genders. In a similar study conducted by Ashri *et al.* (2014),^[15] there was almost equal representation of both the genders.

Most respondents (75%) in this study were extremely interested in welcoming the promotion of EBD. In a similar study conducted by Ashri *et al.* (2014),^[15] 84.8% of the respondents were extremely interested in welcoming the promotion of EBD. This finding was similar to our study. This is also in agreement with other studies concerning both dental and medical practitioners.

In our study, 69.3% of the study subjects agreed on the fact that applying EBD will improve patients care. This is in agreement with the similar study conducted by Yousef *et al.* (2008).^[9] and Bonner *et al.* (2010).^[16] In a study done by Ahad and Gheena, 53.3% of dentists strongly agreed that evidence-based dental practice will improve patient care^[17] which is quite similar to the present study.

In this study, more than half (67.5%) of the study subjects had attended courses on EBD. 71.8% and 70% had training in search strategy and critical appraisal, respectively. In a similar study conducted by Ashri *et al.* (2014),^[15] less than half of the respondents had some form of EBD training. This reason for this difference is because in the comparative study most of the participants (75%) were consultants, and in the present study, 58.7% of the study participants were academicians.

In the present study, 40% of the study subjects had accessed MEDLINE and 60% of the study subjects had accessed World Wide Web in a local library. This is in agreement the study conducted by Yousef *et al.* (2008)^[9] who reported that 66.7% of their respondents used electronic database. Recent years have seen a dramatic increase in the use of technology which may be the reason for easy accessibility of the journals. In a study done by Prabhu *et al.*, 70% of the respondents were familiar with the sources of EBD.^[18] In a study

done by Kumar *et al.*, 51–91% of the academicians were attentive to evidence-based databases similar to Cochrane, systematic reviews, and Scientific literatures in clinical follow; however, they felt, it might not be of any facilitate in clinical decision-making. 91.3–95% of academicians with clinical practice having a good track of the databases however disagreed to utilize it in their daily clinical practice. The explanation behind it would be their requisites in each lecturer and its utilization in innovative clinical follow.^[19] Similarly, Gupta *et al.* found that practicing dentists had low information score concerning evidence-based practice. However it also showed a positive perspective towards adoption in the future.^[20] This finding is vital and it reflects a necessary quality of a contemporary day clinicians during which the dynamical sociodemographic patterns of the population and knowledgeable customers have resulted in high demands for best observe and clinical deciding.

In the present study, 95 (59.3%) had preferred learning the skills of EBD as the best method to move to EBD. This finding was similar to the study conducted by Ashri *et al.* (2013).^[15]

Our study has highlighted that the presence of scientific evidence, when collected and analyzed systematically, can provide useful and current information to dental practitioners. Therefore, expanding the scientific basis for clinical care will improve the delivery of oral health care. A primary advantage of the EBP model is that it provides the least-biased, best-validated information on which to base decisions.

Nevertheless, the present study has some limitations including that the study was conducted under cross-sectional study design using self-administered questionnaire. The study was carried out only in Chennai. Therefore, it might not be representatives for all dental practitioners.

The available scientific evidence for many aspects of clinical dentistry is either weak or non-existent. This presents the dental profession with a major hurdle as it begins to implement an evidence-based model of clinical practice.

CONCLUSION

Shifting from a reliance on the experiential model of higher cognitive process to associate evidence-based model would profit all health-care professions, likewise due to the general public.

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Source of support: Nil; Conflict of interest: None Declared