Perceptions and attitudes towards the use of Evidence-based Dentistry (EBD) among Final year students and Interns at King Saud University, College of Dentistry in Riyadh Saudi Arabia.

Abstract
The wider acceptance of Evidence-based dentistry in the developing world remains uncharted. This study explores the awareness, attitudes and barriers to its implementation by future Saudi dentists. A systematically developed, anonymous, self-administered 13 item questionnaire was given to all 115 final year dental students and interns (<2 years since graduation). The response rate was 76%. Data was analyzed using SPSS [Windows version 11.00]. Respondents (n=88), female 52%, mean 24yrs (S.D.2.0.), 68 (78%) final yr and 20 (22%) interns. 9% had attended EBD workshops, 30% claimed to use EBD. There was no difference between those who had/had not attended a workshop and asserted they were practicing EBD (p=0.702). 15% selected ‘patient’s choice’, 36% stated that only 10-25% patients were ‘capable’, 73.8% agreed patients were ‘willing’ participants in decision-making. Major barriers were “no time” (26.1%), “no access” (46.6%). 28.4% agreed EBD is culturally ‘inapplicable’. EBD is not currently part of many undergraduate curricula but a minority of respondents were aware of the concept and a few had attended a course. A large number claimed to be using EBD but the results reveal an incomplete understanding as the majority did not consider patients’ values a component of EBD. A substantial percentage considered EBD inapplicable to their culture.

Key Words:
perception, attitude, evidence-based dentistry, dental interns, Saudi Arabia

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Introduction
Since its inception in the early 80’s, the evidence-based approach has been widely promoted in medicine although this has been to a lesser extent in dentistry. Insofar as Evidence-based Medicine (EBM) was originally developed as a guide to critically appraise journals, it currently has a wider remit than its original definition (Sackett, 1995), “the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients”. The ‘new improved’ definition, “the integration of best research evidence with clinical expertise and patients values” (Sackett, 2000), now includes the patient in the decision-making process and has added value to the significance of individual clinical judgment. Thus, as a ‘metastatic offshoot’ of EBM, evidence-based dentistry in its contemporary form is a triad which amalgamates current best research based evidence, individual clinical judgment and patient’s preferences.

It is generally accepted that the implementation of EBD will contribute substantially to the practice of dentistry. First of all, it will ensure that best practice incorporates ‘up to date’ research based evidence by adhering to current evidence-based clinical guidelines. Secondly, it will lend support to the increasingly advocated care model of shared decision-making between clinician and patient. Finally it strives to allay clinicians concerns by not being rigidly prescriptive about individual clinical judgment. Somewhat surprisingly the majority of dentists may be unwittingly practicing EBD to a varying degree, but are attaching differing levels of importance to each of the triad’s components. Traditional unease with the perception of EBD as ‘cookbook dentistry,’ clinical time constraints, its restricted applicability and apprehension about its benefits have resulted in its less than universal acceptance in the developed world. However, in the developing world with its limited access to evidence based resources and contrasting perspectives, other issues may take on a significant role. These may include among others; a persistence of traditional eminence-based teaching methods, cultural attitudes that emphasize the dominant role of the clinician and an erroneous or incomplete understanding of the evidence-based concept.

As yet there have been no published studies investigating the implementation of EBD in the Arabian Peninsula and thus our objectives were to assess the perceptions and attitudes towards its use among final year students and Interns at King Saud University, College of Dentistry in Riyadh Saudi Arabia.

Material and Methods
This study was a cross sectional survey and was adapted from an EBM questionnaire (Z. Fedorowicz, BDS., unpublished study March 2003) that had been developed, piloted and used to assess the views of Primary healthcare physicians working in the Ministry of Health in Bahrain. It was considered that employing a previously used questionnaire would add strength to our study and hence no major changes were made to it other than to substitute the terms EBM for EBD in all the relevant questions. Prior to distribution of the questionnaire (Figure 1), ethical approval was obtained from the Ethics committee at the King Saud University College of Dentistry. The questionnaire was distributed by hand at a group meeting and included a covering letter indicating the purpose of the survey, that it was confidential and would not be used as a means of comparing individual clinician’s level of care. As the objective of the study was to provide a baseline from which further research could evolve, the scope of the questionnaire was considerably less challenging than in similar studies of evidence based medicine (McColl et al.)1. Questions were restricted to enquiring about respondents’ attendance at EBD courses, whether they considered they were practicing EBD, their awareness of the three components of EBD and what types of studies and research they considered would provide the best evidence to support EBD. The remaining questions addressed cultural issues and the respondents’ perceptions of shared decision-making. Clinicians were also asked whether they considered patients were ‘willing’ and in fact to what extent they believed that patients were ‘capable’ of getting involved in decision-making. The questionnaire was delivered to all 115 final year students and interns at King Saud University, College of Dentistry in Riyadh Saudi Arabia in May 2003. Attempts were made to retrieve completed questionnaires from all non-respondents. The individual responses to each of the 13 questions were entered into an Excel chart that was imported into SPSS and subsequently analyzed.

Results
Of the 115 questionnaires delivered, 88 (76%) were returned completed. Of those received 68 (78%) were from final year students and 20 (22%) from interns who were less than 2 years post graduation from the college of Dentistry. Males accounted for 48% of the total and the mean age of respondents was 24yrs (S.D.2.0.) Only 9% of respondents (all interns) claimed to have attended EBD workshops or courses but 30% of the total number of respondents claimed to be using EBD.

Reading of local and international journals and accessing internet resources
Very few of the final year students read any local or international dental journals and only 39% of the respondents stated that they read any journal at all. All 10 of the male interns read one or more journals whereas none of the female interns read journals. The most popular journal was the Saudi Dental Journal followed by the Journal of the American Dental Association. The Saudi Journal was supplied free of charge to the College of Dentistry, which may account for its wider popularity. Less than 5% of the respondents claimed to use the internet as a resource for study or clinical practice.
Awareness of the three components of evidence based dentistry

Having been informed that individual clinical expertise was one component of the EBD triad, respondents were asked to identify the two others. Only 13 (15%) respondents were able to identify “patients’ choice” as another component. The majority chose senior consultant’s opinions (60%) and famous textbooks (68%) over evidence-based resource (11%) and patient’s choice (15%). WHO reports appeared to attract more attention (13%) than evidence-based resources.

Awareness of the hierarchy of evidence in evidence based dentistry

Less than 20% of respondents chose the systematic review as being capable of providing the ‘strongest’ evidence. A substantial number (40%) chose the longitudinal study whilst 30% were unable to make a choice.

Barriers to the use of evidence-based dentistry

Almost half of the respondents stated that they had no ready access to EBD resources with ‘lack of time’ (22%) being the second most important barrier. 13% felt that the concept was a threat to clinical freedom and 20% said they found the concept difficult to understand. Respondents did not subscribe to the possibility that EBD might be research with limited clinical application and appeared unconcerned that the evidence may not be universally applicable.

Cultural applicability of evidence-based dentistry and shared decision making

A significant minority of respondents (28.4%) strongly or partially agreed that the concept of evidence-based dentistry was not applicable to their culture. According to 36% of the respondents, only 10-25% of their patients were ‘capable’ of participating in joint decision making even though 73.8% of them agreed that patients were ‘willing’ participants in decision-making.

Discussion

There is an increasing acceptance globally that the acquisition and use of high-tech equipment and increased competency in manual dexterity is no longer considered sufficient to enable dentists to provide effective dental care. The almost complete absence of the EBD concept in the clinical practice of our study participants was not totally unexpected as the ‘revolution’ even in the developed world...
has been very slow. Nevertheless it was refreshing to see the positive attitude by the respondents to EBD, who in large part welcomed it even though they did not fully understand it.

It would be unreasonable to criticize the final year students for their lack of awareness as the majority were focusing on their final exams and would be reluctant to stray from the syllabus. Somewhat disappointingly, even though the curriculum may not include EBD there is a wealth of information available on the internet and many journals contain frequent articles on evidence-based dentistry. The fact that only 39% of the participants read a dental journal and restricted their reading to the Saudi Dental Journal may explain their limited awareness of the concept. All the male interns indicated they read the Saudi Dental Journal and a number were able to access the Journal of the American Dental Association which frequently has articles on EBD and should provide the average reader with some background knowledge. The results indicate otherwise, in that not one of the study participants was able to identify all three of the EBD components yet over 30% of them claimed to use the EBD approach in their clinical practice. Additionally there was no statistically significant difference between those who claimed that they had attended an EBM workshop and those who hadn’t and claimed they were practicing EBD. The explanation for this may well be that those who hadn’t attended a workshop believed erroneously that they were practicing EBD but in reality did not fully understand the concept. This lack of understanding of the EBD concept and the selection of responses which are its exact antithesis is not uncommon, as many journal articles on EBD focus on the significance of acquiring skills in critical appraisal whilst overlooking the fundamental contribution of both individual clinical judgment and patient’s choice. A recent quick survey in JADA reinforced this lack of awareness of the three components of EBD by many dentists in the developed world, so it is hardly surprising that our participants were similarly unaware.

In general our medical colleagues are more familiar with the technical terms commonly used in EBM and the majority of papers in their journals will include Odds Ratio diagrams and present data as Relative Risk Ratios, Number Needed to Treat and include Confidence Intervals. Bonner et al. found in their study of Scottish general dental practitioners that overall very few dentists had a great deal of confidence in their understanding of many of the terms in EBD, and therefore we felt it inappropriate to include these types of questions in this study.

The majority of similar studies in EBM have noted that the major barriers to the use of evidence based resources were time constraints due to patient load and no access to evidence based resources. We noted a similar range of responses in our study, “no time” (26.1%), “no access” (46.6%) but we are unable to make any direct comparisons as there have been very few studies conducted in EBD. A substantial number of our respondents said they had no access but we were unable to ascertain if this was limited to chairside access alone. With present levels of internet-connectivity it is highly probable that respondents who were interested would be able to get access either at home or in the library. Somewhat surprisingly Bonner et al noted that over 30% of their respondents in the UK claimed they had no access to any EBD resources. This may in fact reflect lower levels of interest in EBD rather than non-availability of a computer or ready access to the internet.

The issue of availability of time is a complex one and is often attributed to clinical overload but maybe rather a reluctance of administrators to allow clinicians down time to surf the internet.

Although our study did not dissect the cultural barriers in depth we were somewhat surprised with the number of respondents, (28.4%) who agreed that EBD is not applicable to their culture. There appeared to be a perception amongst the respondents that the prescriptive approach of EBD may conflict with the customary Doctor knows best (doctor-dominant) roles which are widely prevalent and firmly rooted in the socio-cultural traditions in this region. This was further reinforced by other data, notably the moderately low number of respondents (13) who selected ‘patient’s choice’ and that over 74% of them accepted that patients were willing to be involved in shared decision making even though they felt that the vast majority were incapable. Shared decision making depends on three components; information, education, power and involvement. It is acknowledged that there is a common shortfall in these commodities in most parts of the developing world. We did not attempt to probe these aspects in this study but recognized the uniqueness of the participants’ responses within the cultural context of the conservative societal norms of Saudi Arabia.

This is the first study of Evidence-based dentistry in Saudi Arabia. Our results illustrate not only the limited awareness of the Evidence based concept in dentistry but also the hunger exhibited by some of the participants with a genuine desire to learn more about this emerging field. There are increasing signs that the evidence based concept is making inroads into the medical profession in Saudi Arabia and it is to be hoped that there will soon be similar progress within the dental profession.

Although we noted that the main barriers to implementation of EBD were not dissimilar to those reported in comparable studies in the developed world there were some very interesting findings regarding its perceived cultural inapplicability which we hope will form part of a future vignette-based study.
Acknowledgements
The authors would like to thank all the interns and final year students of the King Saud University, College of Dentistry in Riyadh Saudi Arabia who participated in this survey. In addition we would also like to extend our thanks to Professor Kameshwar Prasad, Professor of Neurology at the Arabian Gulf University who very kindly helped with the statistical analysis of the data, Mr. Peter Gutierrez of UCLA and Miss A. Barnes for their tireless help in reviewing this manuscript.

References