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ABSTRACT

Evidence based dentistry (EBD) is the “conscientious, explicit and judicious use of the best evidence in making decisions about care of individual patients”, as defined by the American Dental Association. Bridging clinical expertise and patient values, it involves the systematic assessment of scientific evidence, linking it to a patient’s medical condition and with a scientifically backed framework, the dentist begins to treat the patient. Its basis lies in choosing the right type of evidence which could be highly patient subjective. The present study aims to assess the knowledge, attitude and perception prevalent among currently practicing dentists regarding EBD and their willingness to incorporate it into their practice. The study was a survey conducted using an online questionnaire on Google forms, with specifically framed, about 16 questions, that would elicit the current status of EBD among Dental UG students, interns and practising dentists. The responses obtained were statistically analysed using SPSS v26 (IBM.inc.,USA). From the responses, it can be observed that there is only a vague awareness on EBD and a satisfactory level of willingness to incorporate it into one’s practice, given that constraints in doing so are addressed. The study was handy in inferring the current status of EBD among today’s practitioners and would be useful in devising ways of overcoming any limitations in incorporating the same into routine clinical practice.

Keywords: Evidence Based Dentistry, General practicing dentists, Journals, advantages, scientific evidence.

INTRODUCTION

With ubiquitous access to all kinds of information on the web, it is but natural that before a check up, the patient looks up on the net about anything they might expect to hear from the dentist in the clinic (1). Even dentists/doctors might prefer a quick search just before attending to cases, for being better prepared (2). EBD is about validating this kind of information gathering so that it's more scientifically based, and is systematic (3).

Moreover, with newer developments turning over everyday, in the rapidly evolving field, it becomes inevitable that the dentist does not trail behind and rather is updated on advancements in dental therapies, techniques, materials, clinical advisory etc. (4,5) One aspect that the dentist must be wary of is the vastness of the information they can be exposed to (6), which makes it crucial that they choose the right kind of data, well-suited and specific (7). It will require practice and work, to learn how to validate the quality, reliability and evidential status of the information (8) they might want to use.

Psychologically, a sense of confidence, assurance and assertiveness is expected to be established when one’s treatment protocol is backed scientifically. This applies not only to the dentist but the patient as well. Creating customized treatment plans (9), conserving practice financial resources and instituting wiser decisions in equipment and technique selection (10) definitely make the entire course of the treatment, for both the patient and the dentist, more than just smooth.

Thus, introduced in the late 19th century, EBD allows a ‘patient-centred’ approach that is enabled by forming evidence based guidelines to treat patients (11). Research publications, journals and video tutorials are sources of evidence backed data that are commonly preferred.

Three factors going hand in hand, in EBD, are, relevant scientific evidence, patient needs and preferences and dental expertise. As pronounced by the ADA (12), the main aim of emphasizing EBD is the promotion of oral

health by communicating the best scientific evidence (13) and empowering practitioners to implement this in practice.

MATERIALS AND METHODS

Data collection involved dispatching a survey of 16 questions framed to elicit the current status of EBD among practicing dentists. The survey was circulated using Google forms to 110 participants. The responses obtained were integrated in Google sheets and were statistically analyzed using the SPSS software v26 (IBM.inc., USA) for quantitative determination of awareness levels. Subject responses were taken as definite variables. The number of years of experience was considered an indefinite variable. Thus a quantitative statistical analysis was done to determine existing knowledge and opinion on notions regarding EBD in practising dentists. Chi square tests were performed to determine association between responses of different variables.

RESULTS

The age of the respondents was recorded and is observed to be within a range of 20-45 years. 70% of the respondents affirmed of being familiar with EBD (Graph 1). 39.1% of the responses indicated that EBD meant practising based on textual records, 36.4% stated it was practising based on one's prior experience. Only 17.3% of the responses stated EBD was based on recent clinical research and reports (Graph 2).

Around 67.3% have recorded that they have implemented the practice of EBD earlier (Graph 8). 45.5% Of all the respondents, 45.5% have recorded that EBD required looking up on current literature (Graph 3). A higher number of responses are obtained in support of better treatment outcomes (58.2%), while 30.9% indicated it allows patient empowerment, 6.4% responded for higher profits and 4.5% stated that it is not required (Graph 4). Responses also suggest a common understanding that EBD is for better treatment planning (49.1%) followed by better convincing (34.5%) (Graph 5). 43.6% stated that practising EBD is beneficial but could be tiresome (Graph 6), a comparable 40.9% stated that it would be easy to incorporate into practice. 65.5% say that this system facilitates harmonious working of the dental tea (Graph 7). Subjective answers were recorded in identifying how EBD is believed to improve practice (Graph 10). A major 68.2% have responded that they have no idea regarding the same. Other specific responses included that EBD facilitates better planning (4.5%), improvement of operator skill (2.7%), budget planning (0.9%) and competitive improvement (0.9%). Video tutorials (37.3%), magazines (26.4%), expert opinion (20.9%) and journals (15.5%), were opted as modes of incorporating EBD into practice (Graph 11). Around 61% indicated (Graph 12) that if paid journals had to be sought, they might not consider the option and would willingly incorporate the same if they had access to free journals (Graph 13). 66.4% respondents indicated that training was required to practice EBD efficiently (Graph 14).

DISCUSSION

Currently, 'evidence based care' has evolved to become a global movement incorporated in all health science disciplines. There is an evident shift to practice from blind observance of rules and textual knowledge to weightage given for scientific records against opinion (14). It is activated in the complex environment that is the clinical setting which is always subjected to variable patient circumstances. More importantly, researchers. Academicians and dentists keep up with newer developments and enable themselves to implement them in a patient-centred manner (15).

This study has thus analysed the knowledge, attitude and perception on EBD among dental students and practitioners, determining the familiarity with EBD and comparing the willingness to incorporate it.

One aspect to be noted is that even though the public have access to information, They don't have the resources to evaluate its adequacy (16). Hence, it lies on the informed dentist to help discriminate data as required and factual (17).

Having been introduced in the 19th century itself, EBD has been prevalent for a long time now even if it hasn't been implemented more often. In previous studies (18), there are records of a significant familiarity with EBD, as does this study, indicating that many (70%) have come across the term earlier (Graph 1). In a study by Yamalik N et al (19), there is a general positive attitude (89.1%) regarding EBD as beneficial. The same study also suggested that practicing EBD required training. Likewise, similar results have been obtained in terms of opinions regarding how useful EBD in practice would be. However, even though many have come across this notion earlier, they have stated that they have not much practical idea regarding its implementation. Concerning this aspect, existing awareness is on the lower side.

A study by Iqbal M et al (20) indicated that an overall enthusiasm to incorporate EBD into practice existed provided that better access to information is assured. Concurrent results are observed in the present study as well with 70% respondents willing to implement it if provided with better resources to do so (Graph 13).

A major 68.2% have recorded that they aren't particularly aware of the means by which EBD would allow practice betterment. However, few respondents have given specific observations that EBD is necessary for competitive improvement, better planning of treatment and economic resources of the clinical holding, and even

incorporating newer technology. Fewer respondents have recorded that EBD improves the patient's trust and confidence towards the dentist and makes the Dental team efficient as a whole (21). Respondents thus know that there is a benefit of sorts associated with practising EBD but are not quite sure about specific means by which practice is improved on implementing the same. To avail the holistic set of benefits involved with using EBD, greater awareness and incorporation by existing practitioners would definitely be required.

Strategies to enable the dentist to keep track of current information including making professional journals accessible, introducing web-based education programmes, books, audio-visuals, and seminars (22) by those practitioners who've already incorporated the same into their practice, with a broader audience, might make EBD propitious.

Lack of training, time, facilities and access to information archives are some barriers to implementing EBD. As it is not just an inflexible evaluation of scientific evidence but also a thorough unbiased outlook towards incorporating evolving ideas, there is an imminent need for the dentist to welcome change (23). The adoption and implementation of EBD has been hastened with chair side EBD CDs, online EBD portals and workshops on the same (24). The present study itself was however limited by the demographic boundaries the survey was confined to.

A rapidly developing speciality in the context of EBD is tele-dentistry (25). This is a mode of low cost, low bandwidth exchange of information across the health workers, specialists, academicians and even stakeholders in the field, in developing and developed countries. It aims to provide direct, scam-free access to patients (26), allowing them to approach dentists in any part of the world. Basically, tele-dentistry integrated with EBD is postulated to become a worldwide phenomenon, taking the interaction between a patient and the dentist, a level up traversing national, social, ethical and economic constraints. This would indeed mark a revamped and vowel intervention in this field, like never before.

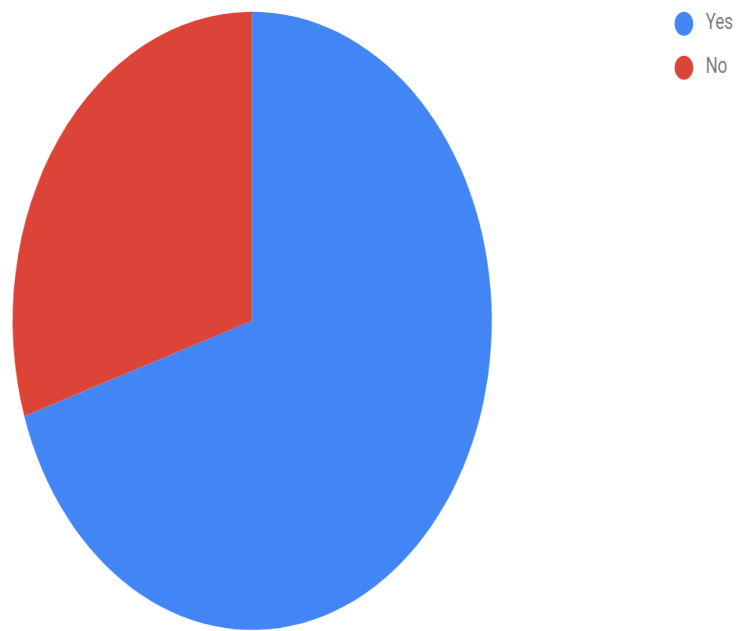
CONCLUSION

Thus, the study has established that there is only a moderate prevalence of knowledge on EBD which definitely requires strengthening, towards the acceptance and wider incorporation of EBD in routine clinical practice. With a satisfying general sense of enthusiasm in conforming to EBD, there still is much room for the large scale involvement in implementing this particular mode of practice henceforth.

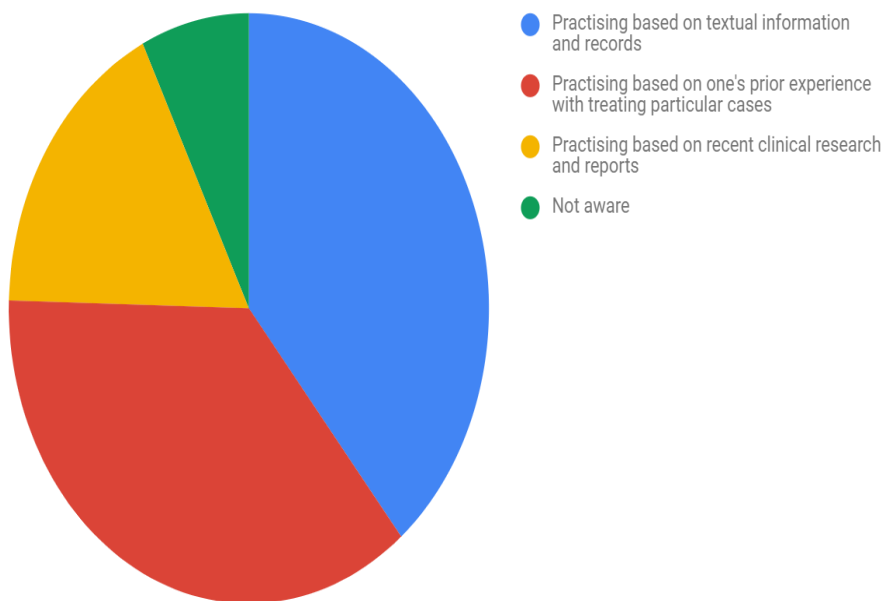
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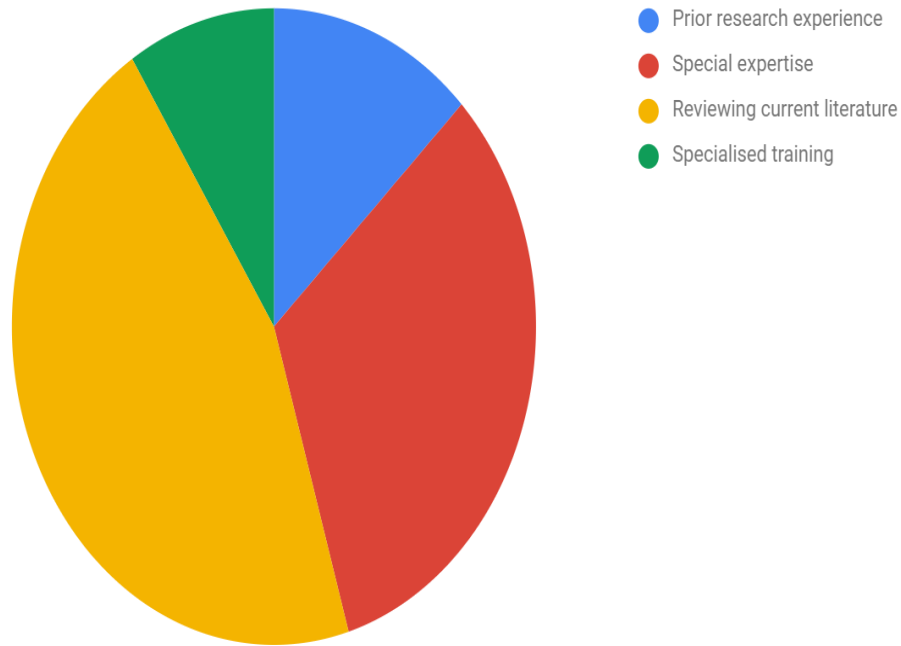
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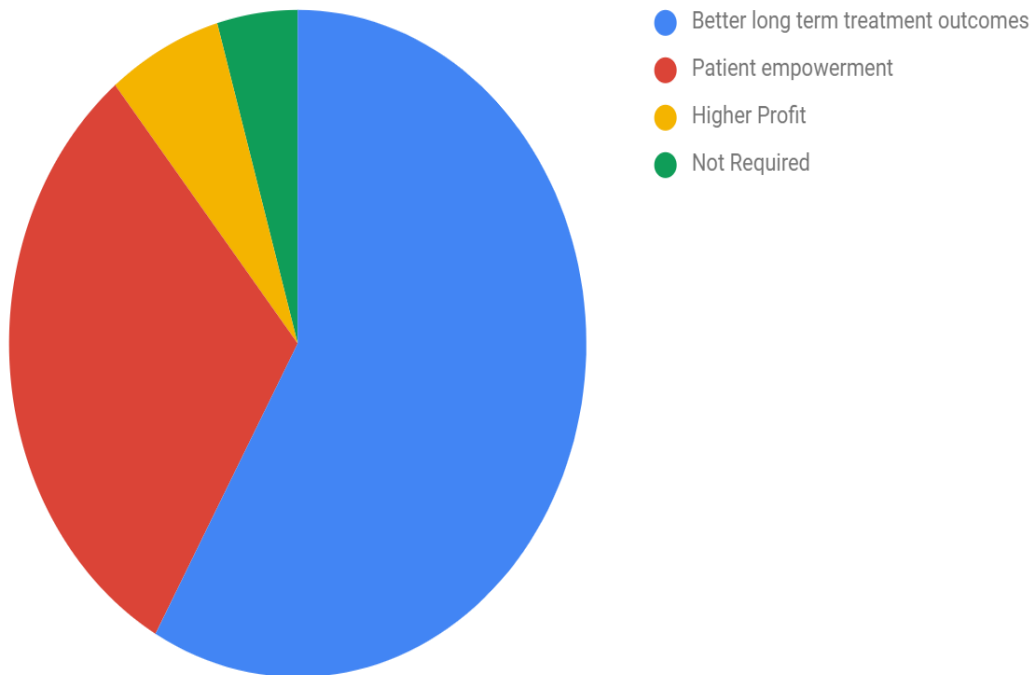
Graph 1: Pie chart indicating the frequency distribution of responses procured as to whether respondents have come across the term EBD prior to taking the survey. The majority has affirmed to have had a prior idea about the same (70%).



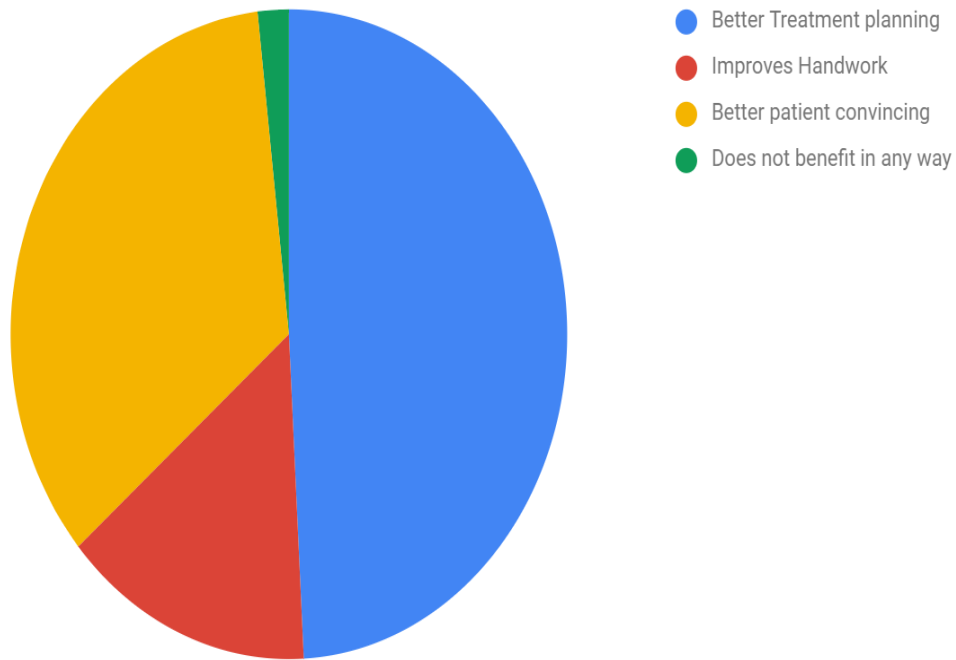
Graph 2: Pie chart indicating frequency distribution of what respondents perceive to encompass EBD. A higher number of responses have been recorded for EBD as being practised based on textual knowledge and records (39.1%). 36.4% of respondents have recorded that EBD involves practicing based on one's prior experience with treating particular cases. Only 17.3% stated EBD to be based on recent clinical research while the remaining 7.3% respondents are not aware of the same.



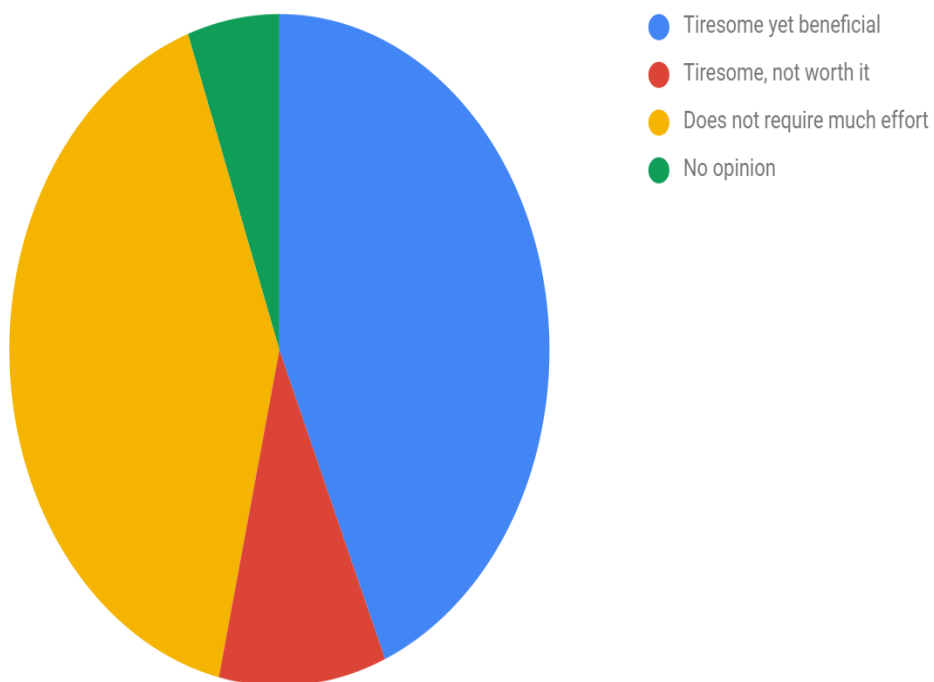
Graph 3: Pie chart indicating frequency distribution of the respondents' perception of what EBD requires. The majority perceive that it requires reviewing current literature (45.5%), followed by special expertise (32.7%), prior research experience (12.7%) and lastly, specialised training (9.1%).



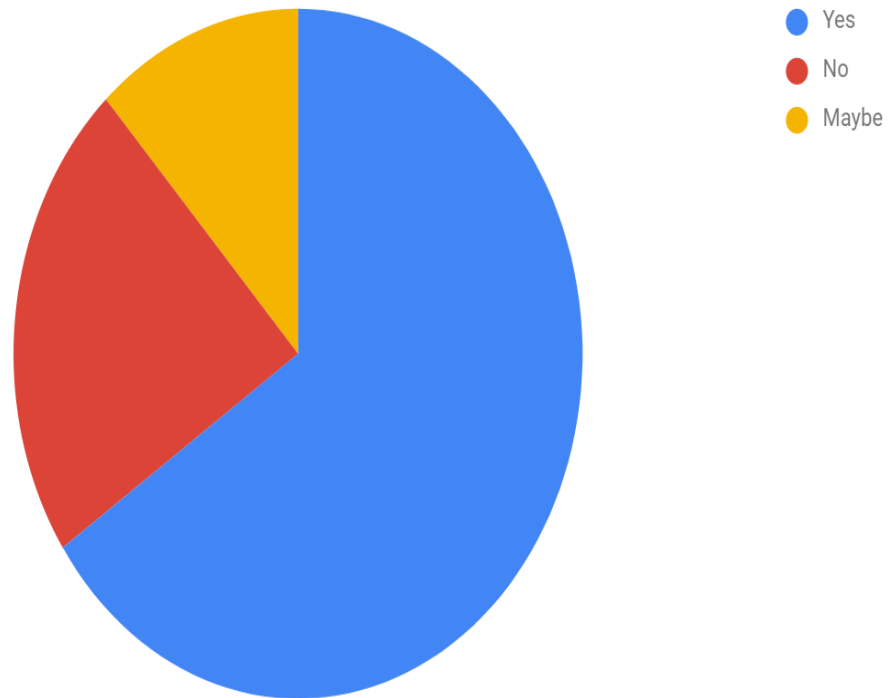
Graph 4: Pie chart indicating frequency distribution of responses of subject to what they perceive EBD to be necessary. A higher number of responses are obtained in support of better treatment outcomes (58.2%), while 30.9% indicated it allows patient empowerment, 6.4% responded for higher profits and 4.5% stated that it is not required.



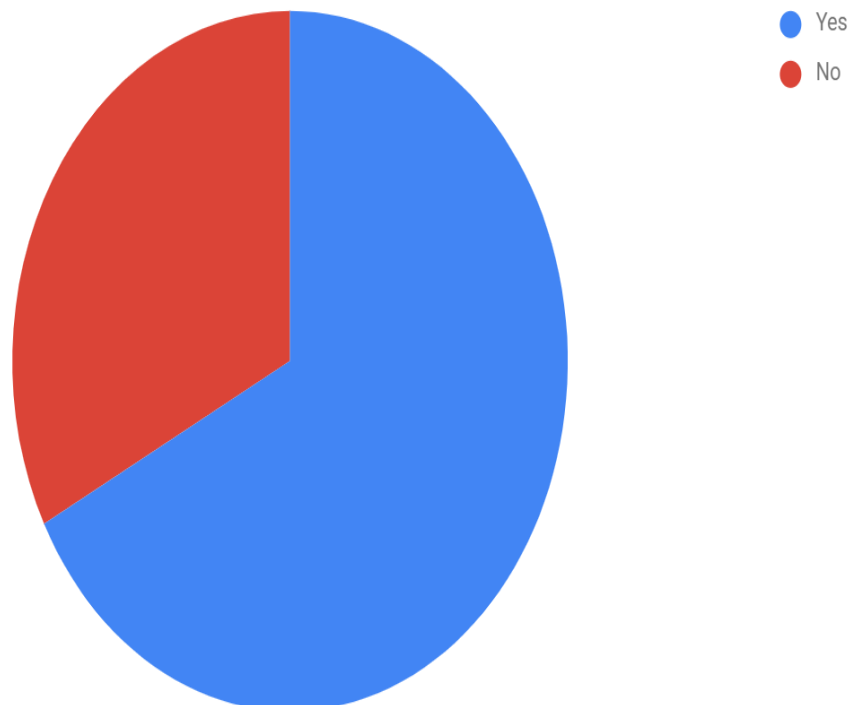
Graph 5: Pie chart indicating frequency distribution of responses to the practitioners' perception of how EBD would be beneficial to them. A majority of the responses recorded (49.1%) have indicated EBD to facilitate better treatment planning, followed by better patient convincing (34.5%), improved handwork (14.5%) while 1.8% respondents stated that it does not benefit the practitioner in any way.



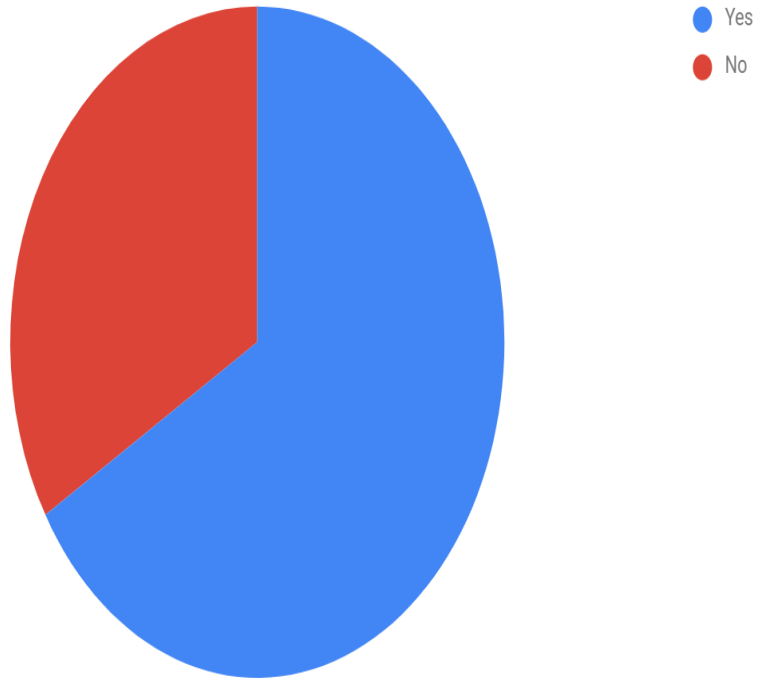
Graph 6: Pie chart indicating frequency distribution of responses obtained on the perception of respondents towards the ease of incorporation of EBD into one's practice. Of the recorded responses, 43.6% state that incorporating EBD would be tiresome yet beneficial, 40.9% state that it would be easy to incorporate, 10% indicate that it is not worth the effort and is hence not required, while 5.5% have recorded that they have no opinion regarding the same.



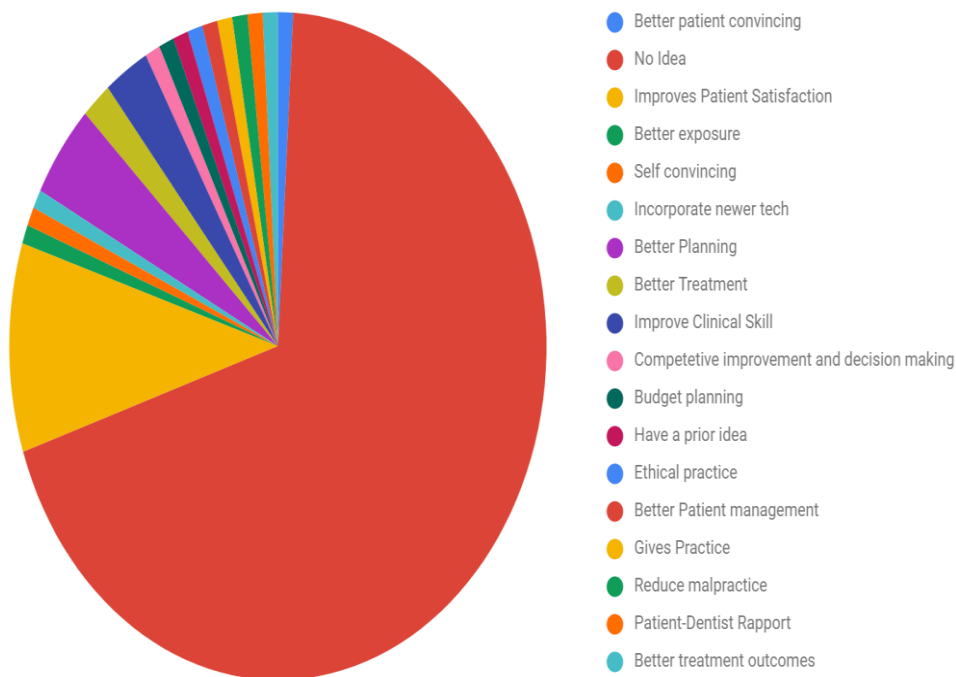
Graph 7: Pie chart indicating frequency distribution of perception of EBD as beneficial to all the members of the dental team. The majority (65.5%) have responded that it will be beneficial, 22.7% respondents have stated that it will not be particularly beneficial, while 11.8% are unsure of its benefits to the dental team.



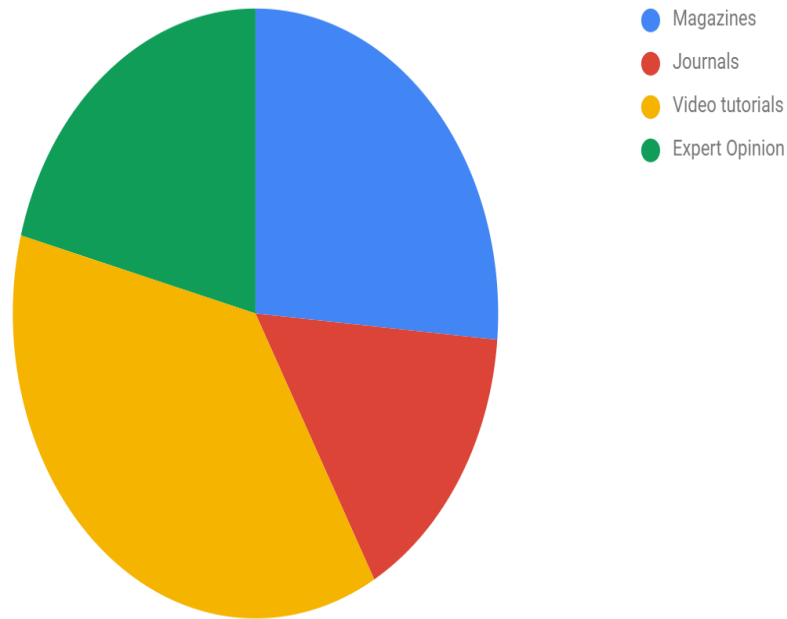
Graph 8: Pie chart indicating frequency distribution of responses as to whether the practitioner has used EBD in their treatment scheme earlier. Only 67.3% of the respondents have answered in the affirmative, while the remaining 32.7% have reported that they have not used EBD earlier.



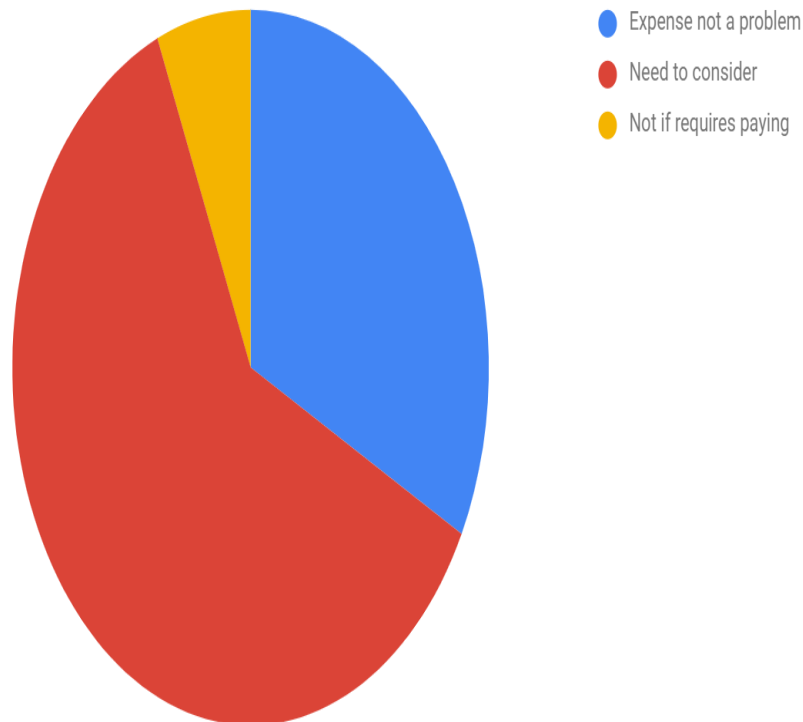
Graph 9: Pie chart indicating frequency distribution of the perception of respondents as to whether EBD would be beneficial to their practice. Only 66.4% of respondents have stated that it will be beneficial while the remaining 33.6% have indicated that it will not be beneficial to their practice.



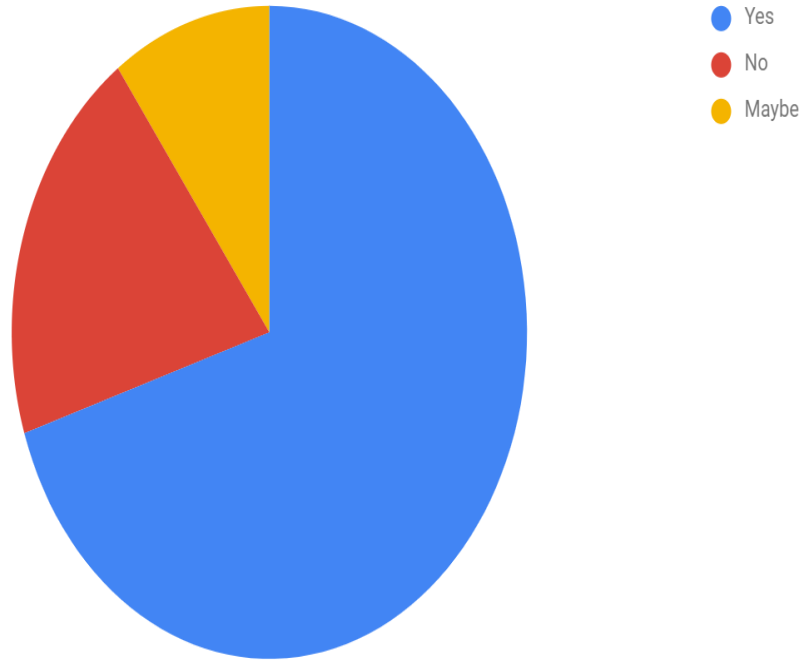
Graph 10: Pie chart indicating subjective responses recorded as to how the respondent perceives EBD to be beneficial to their practice. Among the subjective responses acquired, 68.2% of the respondents have stated that they are unaware of the same.



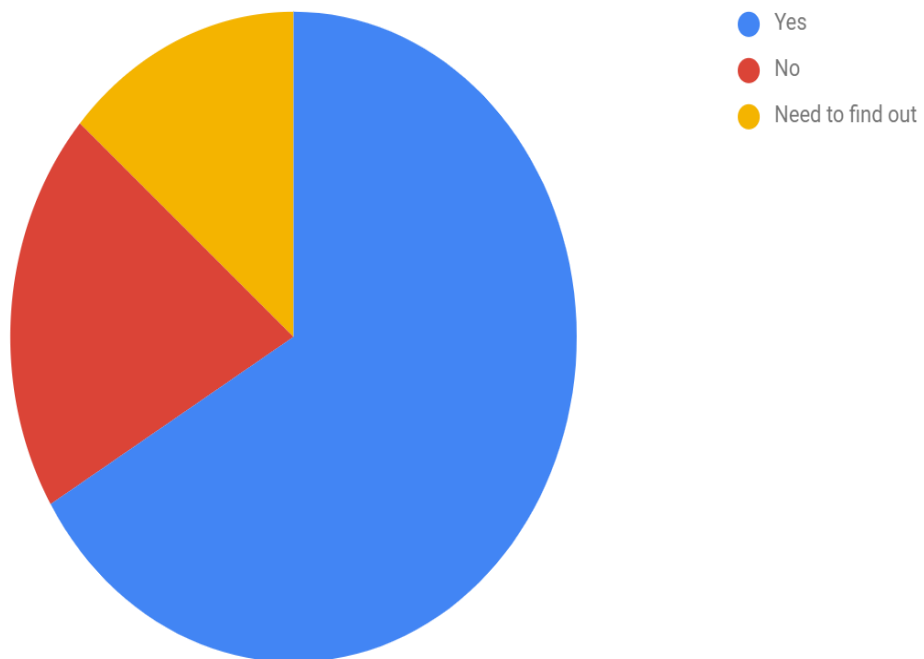
Graph 11: Pie chart indicating frequency distribution of the practitioner's preferred mode of incorporating EBD into their practice. Among the responses, 37.3% indicate that video tutorials are preferred, 26.6% preferred magazines, 20.9% wished to consider expert opinion while 15.5% have reported to prefer journals.



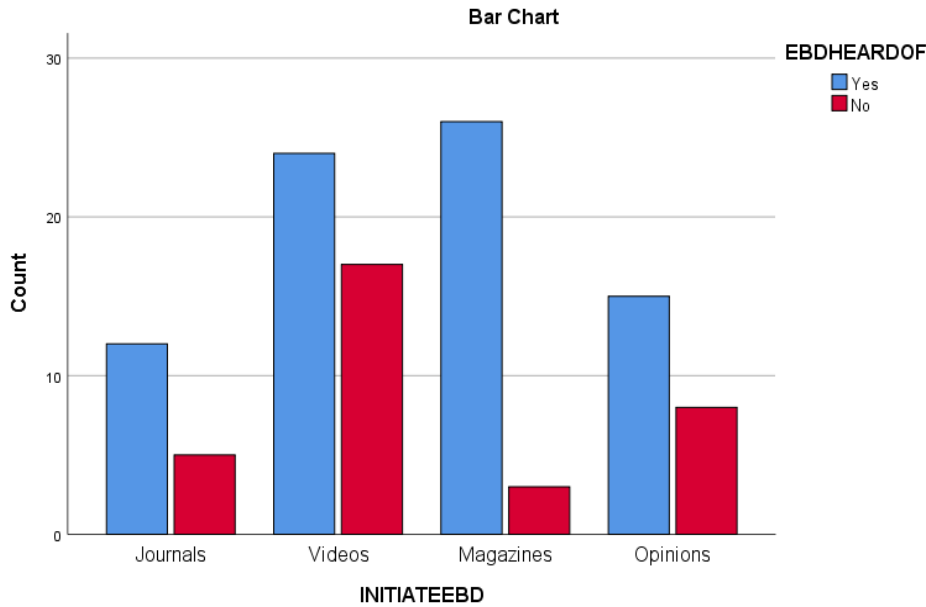
Graph 12: Pie chart indicating frequency distribution of willingness of practitioners to pay for journal subscriptions to implement the practice of EBD. A higher number of respondents (60.9%) have reported that they would need to consider incorporating the same if it required paying, 32.7% have recorded that expense will not be a problem while 6.4% of the respondents have preferred not to incorporate EBD at all, if it requires paying.



Graph 13: Pie chart indicating frequency distribution of respondents based on willingness to incorporate EBD into practice provided that journals were free to access. A major 70% of the respondents have reported that they are willing to practice EBD if journals had free access, 10% have recorded that they might practice the same, while 20% have reported that they will not practice EBD in either case.

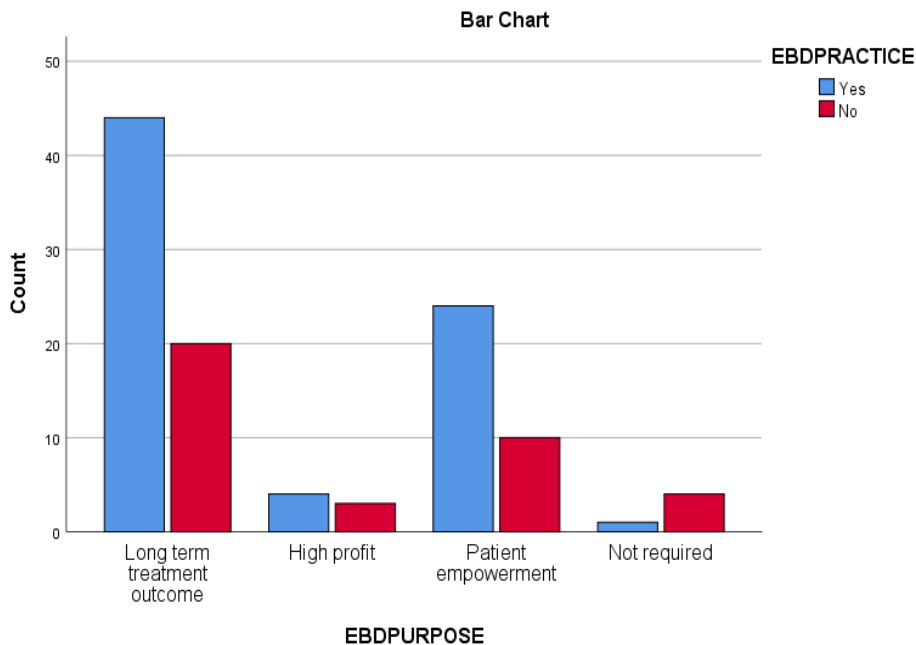


Graph 14: Pie chart indicating frequency distribution of the perception of respondents as to whether EBD would require training to practice. Of the responses recorded, 66.4% indicate that training will be required, 20% have reported that training is not required while 13.6% have stated that they require more information to conclude on the same.



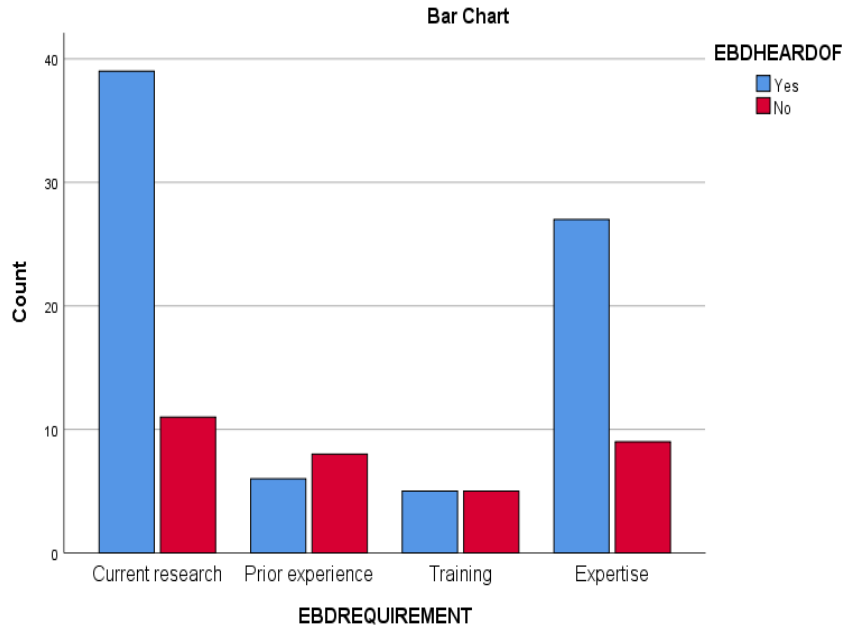
Graph 15: This bar chart depicts the association between familiarity with EBD and the mode of procurement of evidence based guidelines. The X axis indicates the medium of learning and the Y axis indicates the familiarity with EBD. Pearson's Chi-square value - 8.154, p = 0.043.

There is a positive association between the idea of EBD and its procurement through the use of magazines and video tutorials. It can be inferred that practitioners are more likely to follow content or guidelines published in magazines or from video tutorials online than through the use of journals.



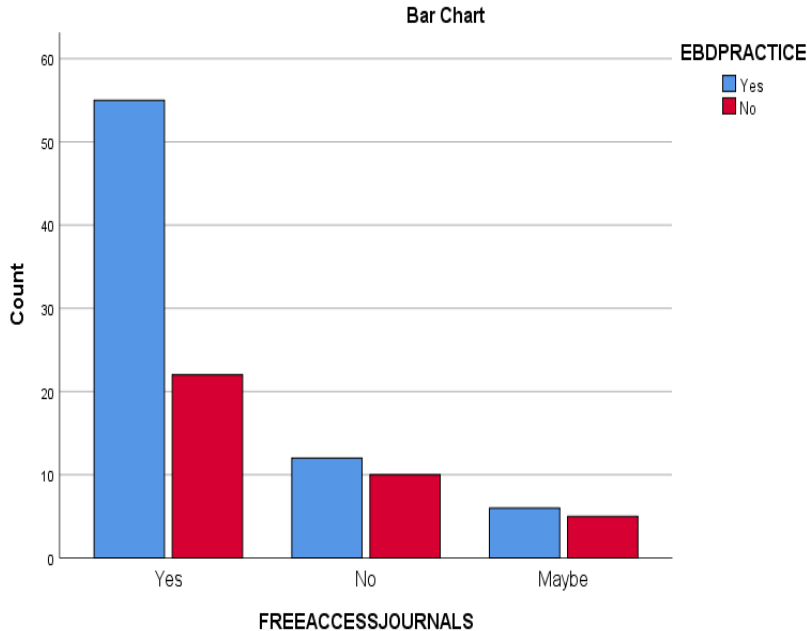
Graph 16: This bar chart depicts the association between willingness to incorporate EBD and its purported benefit in routine clinical practice. The X axis indicates the various benefits afforded by EBD and the Y axis indicates the willingness to incorporate EBD. Pearson's Chi-square value - 5.517, p = 0.138.

The highest number of responses were recorded for long term treatment outcomes through the use of EBD, however, the non-significant p values indicate there is no association between these two factors.



Graph 17: This bar chart depicts the association between familiarity with EBD and the requirements to practice it. The X axis indicates the requirements for practising EBD and the Y axis indicates the familiarity with the idea of EBD. Pearson's Chi-square value - 8.769, p = 0.33.

The highest number of responses were recorded for reviewing current research and literature for the purpose of practising EBD as evidenced by the significant p values.



Graph 18: This bar chart depicts the association between willingness to incorporate EBD and the use of open access journals in order to achieve the same. The X axis indicates the responses to the use of open access journals for EBD and the Y axis indicates the willingness to incorporate EBD. Pearson's Chi-square value - 2.950, p = 0.229.

The highest number of responses were recorded for the use of open access journal articles, however, the non-significant p values indicate there is no association between these two factors.