Knowledge, Attitude and Practices towards Evidence Based Dentistry among Dental Practitioners

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ABSTRACT

BACKGROUND:
A great deal of effort and resources are currently being directed at developing an evidence-based approach to healthcare delivery. The success of the evidence-based movement will depend upon the provision of necessary support to help GDPs achieve change. The use of evidence based dentistry in clinical practice can provide a higher success rate.
MATERIALS AND METHODS:
A total of 80 questionnaires were distributed among dental practitioners and they were made to answer 12 questions regarding knowledge, awareness, attitude and barriers towards the Evidence based dental practice.
RESULTS:
Majority (79%) of the dentist had heard about EBDP before. When discussed about the terms used in EBD like Systematic review and meta-analysis .Randomised controlled trials, Case series/case reports, expert opinion, hierarchy of evidence positive response was seen of about 86.30%, 88.70%,93.8% , 79%, 71. 20% respectively. When asked if they would like to Would you like to participate in the CDE programs conducted on EBDP and its implications, 78.8% showed interest in gaining more knowledge.
CONCLUSION:
The present study showed that majority of dental practitioner had heard about evidence based dentistry and their knowledge about terms used in EBDP is significant. Yet more of training programs, research meeting and seminars on EBDP should be conducted for further awareness to implement a good quality health care for the patients.

***Keywords*: Evidence Based Dentistry, Dental practitioners, knowledge, attitude, Patients**

INTRODUCTION

Evidence-based practice (EBP) is a widely accepted term in the medical eld around the world. EBP means integrating individual clinical expertise with the best available external clinical evidence from systematic research, thus integrating and ensuring that the right treatment is given to the patient. The quality of health care delivery depends on the experience of physician or dentist [1]. Whereas some studies have shown some evidence that quality of care is inversely proportional to the number of years of practice, which is mainly due to the fact that, a dentist develops a toolkit during training and it remains stagnant and is not updated regularly. The practice of dentistry is becoming more complex and challenging mainly due to evolving financial examples, learned medicinal services customers, fast specialised advances and the data 'explosion' all place more prominent requests on clinical decision making [2]. The American Dental Association defined Evidence Based Dentistry as an approach to oral healthcare that requires the judicious integration of systematic assessment of clinically relevant scientific evidence relating to the patients oral and medical conditions and history, with the dentists clinical expertise and the patients treatment needs and preferences [3].
Evidence based dental practice is said to be the recent best method to provide interventions, the benefit of evidence based practice are that they were scientifically proven to be secure, productive and cost-efficient (e.g. recommendations from systematic reviews) [4,5], The reasons for this are assumed to be through advancements in physicians' and dentists' skills and knowledge, as well as in the interactions between patients and their physicians about the rationale behind clinical recommendations made [4, 6, 7 and 8].

One of the main purposes of evidence-based dentistry is an orientation of selection and use of valid information among a large number of published papers, books, and references [6].
Evidence based dentistry favours to decrease the differences in opinion between dentists in the diagnosis, prognosis, treatment results and cost of care for patient with similar diseases, it relies on four different factors, 1. Virtue of science underlying clinical evidence, 2. Quality in making clinical decisions, 3. Diversity in the level of clinical skill and 4. Large and developing volume of literature [7].

It is likely that patients who have heard about evidence-based clinical practice will increasingly demand relevant and reliable information before deciding on treatment options. This makes it imperative for any clinician to be aware of and have evidence- based information readily available. As dentistry continues to advance, it is imperative that dentists continue to develop their knowledge and skills [8]. Dentists should participate in continuing education activities that provide information, strengthen clinical competencies, and enhance professional judgment. While it is impossible for any dentist to be abreast of all advancements, dentists should make every effort to at least have a basic knowledge of clinical developments that may potentially affect their practices, including the general scientific basis of such developments and related issues and problems. Dental practitioners should keep up basic levels of competency and limit patient care to areas in which they are competent. Therefore, they must know the boundaries of their competence, both abilities and limitations. Maintaining competence requires a commitment to lifelong learning and requires both an acceptable standard of care as well as appropriateness of that care. Competence also requires continual self assessment about outcomes of patient care. Judgment is always involved when we apply our knowledge, skills, and experience to treatment. Even the best clinical abilities are exploited if applied with unsound judgment [9]. Sound judgment is critical to the provision of quality oral health care.

EBD does not challenge the ability of practitioners to perform rather it targets on the improvement of the patients. Principles and methods of evidence–based dentistry give dentists a favourable circumstances to use appropriate research findings to the care of their patients. Evidence based dentistry may eventually secure dental practitioners from litigation as practitioners who take an evidence-based approach to care will be able to provide evidence trails for their clinical decision making [10]. Evidence-based dentistry relies on evidence rather than on authority, textbooks or anecdotes for clinical decision making. It also relies on clinical expertise which is very important in dentistry where randomised clinical trials are very few. The literature is used only as a guide, thus enabling the clinicians to make their own decisions. They can also monitor their own clinical performance. It is important to note that new skills of identifying clinical problems, literature reviews and other steps in evidence-based dentistry will be mastered. An additional disadvantage is that the quality of the evidence in scientific articles is often compromised. This could be as a result of these articles not being subjected to peer review and even when they are, bias could occur. Dissemination of evidence-based information is also a problem - it can take many years for particular interventions to become accepted when information is not properly dispersed. This could be due to the lack of good functional computer network infrastructure as is common in many (developing) countries.

In the "best interest" of patients means that professional decisions of proposed treatments and any reasonable alternatives proposed by the dentist must consider patients' values and their personal preferences. Thus, the patient must become involved. This requires an approach of careful communication with their patients. It is sometimes possible that the desires of the patients may conflict with professional recommendations. When this occurs, the patients must be informed of possible complications, alternative treatments, advantages and disadvantages of each, costs of each, and expected outcomes. Both patient and doctor working in unity for the good of the patient will result in the risks, benefits and burdens being balanced. It is only after such considerations that the "best interests" of patients can be assured. It is crucial to note that it is the right of the patient to expect his/her clinician to provide a high standard of health care that is relevant and up-to-date. It is therefore becoming essential for the clinician to have information backed by evidence available at his or her fingertips as well and this is where evidence-based practice has a role - the clinician being able to consult scientific literature regularly to ensure he/she is up to date with the latest information [11] . The reasons which call for evidence based practice include the increasing litigiousness of the societies we live in, the increasing numbers of well-informed patients as opposed to the past when the 'mystery' encompassing the works and methods of the healthcare practitioner was accepted and sometimes, even expected, the economic situations of most countries which have resulted in reductions in the costs of the health systems, the increasing uses of alternative medicine, pseudoscience and quackery in societies. [12]

Although this concept of EBP was born two decades ago its arrival is new in India and is in its developmental stages especially in dentistry, the positive attitudes of dentistry students toward evidence-based dentistry, their knowledge and awareness in this regard are poor [13] this can be because India is mainly targeted towards preventive and curative dental procedures, there is a lack of emphasis on the application of evidence based dentistry in clinical practice. As mentioned earlier, knowing the level of knowledge, awareness, and attitude of dentistry students is necessary for properly planning their training. Therefore, regarding the lack of evidence-based dentistry studies of dentistry students, the present study was designed and implemented with the aim of investigating the knowledge, awareness, and attitude of dental practitioners.

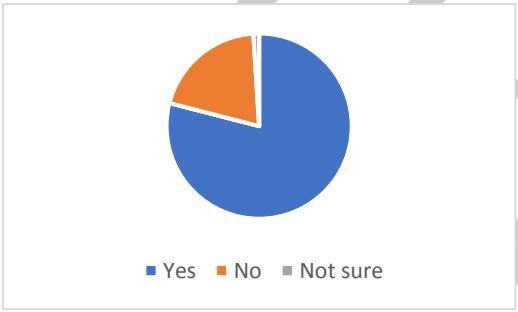
MATERIALS AND METHODS:
This study was a cross sectional survey and was adapted from another study by M Gupta et al[17] on practising Dentist of Bhopal city. It was considered that previously used questionnaire would add strength to our study and hence only minor changes were made to it. A total of 80 questionnaires were distributed among dental practitioners and they were made to answer 12 questions

regarding knowledge, awareness, attitude and barriers towards the Evidence based dental practice. A copy of the questionnaire is attached below. The data obtained were statistically analyzed and results obtained.

RESULTS:

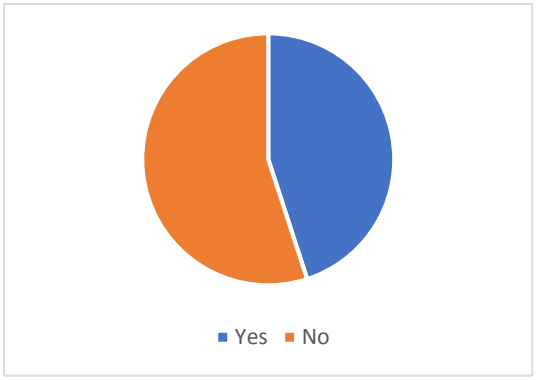
The response rate for the present study was 80/100 (80%). When dentists were asked whether they had heard of Evidence based dental practice before, 68% of participants reported to have heard of EBDP before this study, whereas, 12% where not sure about it. There seems to be correlation between the familiarity with EBDP and their clinical experience (Graph;1).On investigating further among the dentist it was found that 65% Believed on previous clinical experience, and 35% believed in scientific literature evidence (Graph; 2) .When asked about difficulties in clinical practice, only 45%% of the participants said they had difficulties in clinical practice, whereas rest of them reported to have had no difficulties. (Graph:3). When discussed about the terms used in EBD like Systematic review and meta-analysis .Randomized controlled trials, Case series/case reports, expert opinion, hierarchy of evidence positive response was seen of about 86.30%, 88.70%,93.8% , 79%, 71. 20% respectively. (Graph : 4). 9% of the participants frequently approach colleagues when need of help in clinical decisions. whereas 49% participant sometimes refer text book. when asked about printed journals consultation with other professionals only 22%% of the participants were interested in seeking further help from it that too only occasionally. 18% of the participants used electronic journals, 2% opted for self experience.(Graph: 5). 41% of the participants strongly agreed that EBDP will help in clinical decision making , 59% of the participants agreed that EBDP will help in decision making. (Graph :6). 43% of the dentists strongly agreed that EBDP will improve the quality of patient care. 49% agreed that it would improve patient care. 8% were uncertain about EBDP in improving quality of patient care (Graph:7). 27% of the participants strongly agreed that EBDP will reduce health care costs. 39% agreed that it would reduce health care costs. 14% were uncertain that it would reduce health care costs. 20% of the participants disagreed that EBDP would reduce health care expenses.(Graph:8). 50% of the dentists strongly agreed that EBDP should be an integral part of the undergraduate dental curriculum. 33.4% of the dentists agreed that it should be a part of the UG dental curriculum. 16.6% of the dentists were uncertain about EBDP as a necessary part of the undergraduate dental curriculum. (Graph:9) When asked about major barriers in EBDP, 40% of the participants said that it is lack of time to access. 27% said that it is the lack of skill to appraise scientific journals. 6% feel that it is the lack of Internet sources. 12% of the participants feel that it is the lack of interest. 15% of the participants said that financial constraint is the major barrier in EBDP. (Graph:10). 58.80% of the dentists said that they always feel their search for information relevant to clinical practice is efficient and effective. (Graph: 11). When asked if they would like to Would you like to participate in the CDE programs conducted on EBDP and its implications, 78.8% showed interest in gaining more knowledge. (Graph: 12)

Graph1: Familiarity of EBD

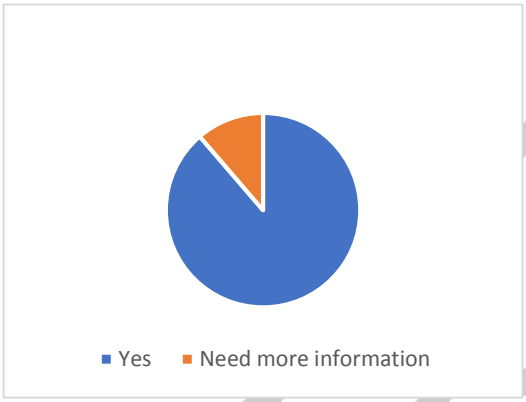


Graph 2: The basis for clinical decision making

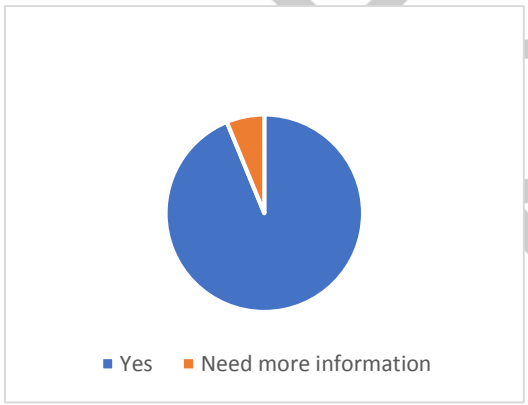
Graph 3: difficulty in clinical decision making.



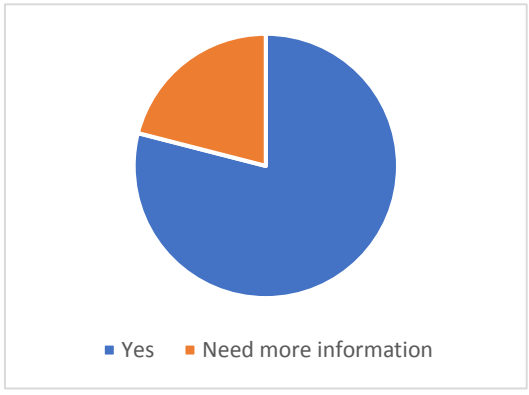
Graph 4: Randomised controlled trials



Graph 5: Case series/ Case reports

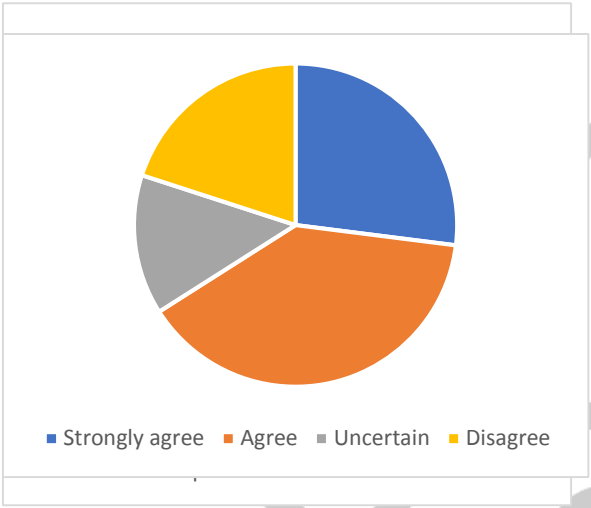


Graph 6: Expert opinion



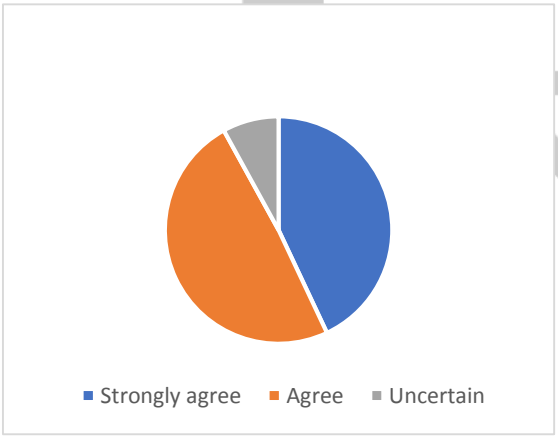
Graph 7: hierarchy of evidence

Graph 8: source for clinical decision making.

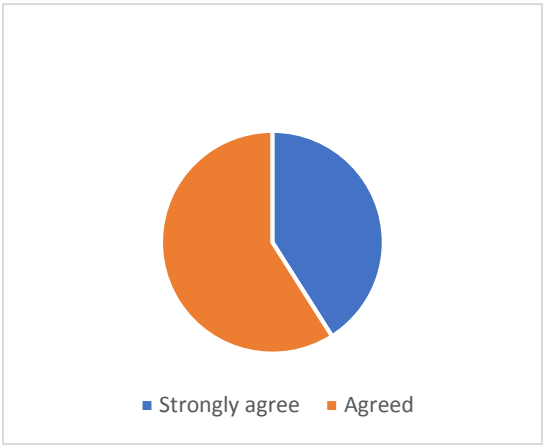


Graph 9: Does EBDP reduce health care cost

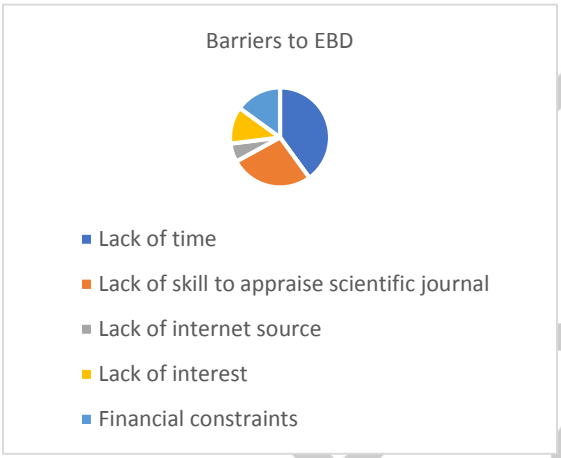
Graph 10: Does EBDP improve the quality of Patient care.



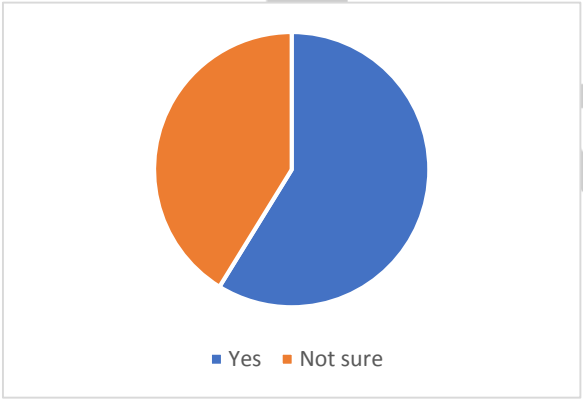
Graph 11: Does EBD help in clinical decision making



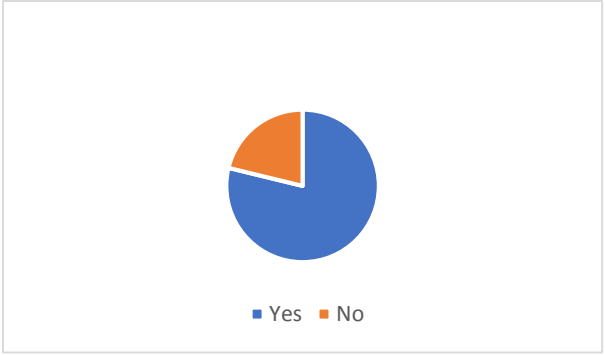
Graph 12: Barriers to EBD



Graph 13 Search for information relevant to clinical practice is efficient and effective



Graph 14: Would you like to participate in CDE program conducted in EBDP



DISCUSSION:

Today, acting on the basis of credible evidence has been introduced as the gold standard in fields dependent on medical sciences (9). This also applies in the case of dentistry and has led to the introduction of evidence-based dentistry discussion. Khademi et al.'s study. Their study of dentistry students also had average knowledge and awareness towards evidence-based dentistry (8). Khademi et al. recommended that providing evidence-based training courses at Schools of Dentistry is necessary (8). But in a study in India, Prabhu et al., in investigating knowledge and attitude of dentistry students towards evidence-based dentistry, reported that dentistry students in India have a positive attitude and relatively high knowledge towards evidence-based dentistry, which was different from the findings obtained in this study (11). One of the reasons for this difference may be related to the difference in education systems and education in different countries. Also our questionnaire tool was similar to that used by Khademi et al., but Prabhu et al. used another tool to collect information. Also, the results of our study are slightly different from previous study, which examined Iranian dentists participating in the Congress of Iran Dentistry Association about evidence-based dentistry and its use in the clinical environment.

Evidence-based dentistry is an essential tool that is used for promoting the quality of services provided to patients and filling the gap between what we know, what is possible, and what we do (10). In order to have evidence-based practice in clinical dentistry, most of the needed training and skills should be taught in schools of dentistry in academic years. For this purpose, knowing knowledge and awareness level of dentistry students studying in this field, and their attitudes towards this issue for a proper planning is necessary. Therefore, this study was designed and implemented with this purpose .This study was done among both general as well as specialist dental practitioner. The response rate of the present study was 80% similar to Prabhu S et al., (86.7%)(7) and but more than Iqbal et al.,(69.6%)[20]. Majority (79%) of the dentist had heard about EBDP before which is lesser when compared to similar study taken by Ahad et al.,(9) . Among the participants 23% of the dentist were not aware about all the terms used in evidence based dentistry they require much more knowledge about systemic review, meta-analysis and randomised control trails. Almost 49 % of dentist refer textbooks in source of advice this results are higher when compared to Iqbal et al.,(8) and lower than that of Yusofet al.,(10). Most of the dentist had positive attitude towards EBDP, they agreed that it will help in clinical decision making and improve the quality of patient health care similar to studies conducted by Prabhu S et al., The most high tend barrier seen in this study for EBD was lack of time followed by lack of skill, financial constraints and lack of interest similar to studies conducted by Gupta et al., and Prabhu S et al., Ahad et al., [14,18]

CONCLUSION:

The present study showed that majority of dental practitioner had heard about evidence based dentistry and their knowledge about terms used in EBDP is significant. Yet more of training programs, research meeting and seminars on EBDP should be conducted for further awareness to implement a good quality health care for the patients. Most of them thought it should be included in undergraduate dental curriculum to enhance the dentist skills in their future practise. Barriers such as lack of time was the main reason dentist turn away from EBDP, CDE programs on EBD could be of some help to work towards creating more awareness and increasing the knowledge among practitioners, but however greater measures should be taken, hence a good plan a dentist execute the best practitioner he will be in rest of his life.

REFERENCES:

[1] Yusuf ZYM, Han LJ, San PP, Ramli AS. Evidence based practice among a group of Malaysian dental practitioners. J Dent Edu. 2008; 72(11): 1333- 42. PMID: 18981212.

[2] Kishore M, Panat SR, Aggarwal A, Agarwal N, Upadhyay N, Alok A. Evidence based dental care: integrating clinical expertise with systematic research. J Clin Diagn Res. 2014; 8(2): 259-62. doi: 10.7860/JCDR/2014/6595.4076, PMID: 24701551.

[3] Choudry NK, Fletcher RH and Soumerai SB. Systematic review: The relationship between clinical experience and quality of healthcare. Annals of Internal Medicine 2005:142(260):73-94.

[4] Zamros Y.M, Ha LJ, San PP and Ramli AS. Evidence-based practice among a group of Malaysian dental practitioners. Journal of Dental Education 2008; 72(11): 1333-1342.

[5] Mulrow CD. The medical review article: state of the science. Annals of Internal Medicine 1987; 106:485-488.

[6] Bader J, Ismail A. Survey of systematic reviews in Dentistry. Journal of American Dental Association 2004:135:464-473.

[7] Winning T, Needleman I, Rohlin M. Evidence based care and the curriculum. European Journal of Dental Education 2008:12(sup1):48-63.

[8] Lockwood S. 'Evidence of me' in evidence based medicine? British Medical Journal 2004:329:1033-1035.

[9] Moeintaghavi A, Mokhtari MR, Lal Alizadeh F, Farazi F, Sohrabi M. Evaluation of Evidence Based Dentistry Knowledge and Usage among Postgraduate Dental Students of Mashhad Dental School in 2012-2013. Journal of Mashhad Dental School. 2014; 38(1): 61-70.

[10] Shelja Vashisth, Mohit Bansal, Nidhi Gupta and Nanak Chand Rao. Evidence Based Dentistry an evolving concept. Journal of the Indian Association of Public Health Dentistry. 2011:18:226-228.

[11] Shogren JF, Shin SY, Hayes DJ, Kliebenstein JB. Resolving differences in willingness to pay and willingness to accept. The American Economic Review. 1994 Mar 1:255-70.

[12] Risahmawati RR, Emura SS, Nishi TT, Koizumi SS. Japanese resident physicians' attitudes, knowledge, and perceived barriers on the practice of evidence based medicine: A Survey. BMC Res Notes 2011;4:374.

[13] Gillette J, Matthews JD, Frantsve-Hawley J, Weyant RJ. The bene ts of evidence-based dentistry for the private dental of ce. Dent Clin North Am 2009;53:33-45,

[14] Prabhu S, John J, Saravanan S. Knowledge, attitude and perceived barriers towards practice of evidence based dentistry among Indian postgraduate dental students. IOSR J Dent Med Sci 2012;2:46-51.

[15] Iqbal A, Glenny AM. General dental practitioners' knowledge of and attitudes towards evidence based practice. Br Dent J 2002;193:587-91.
[16] Ashri N, Al-AmroH, Hamadah L, Al-Tuwaijri S, Metwally EA. Dental and medical practitioners' awareness and attitude toward evidence based practice in Riyadh,Saudi Arabia. A comparative study. The Saudi Journal of Dental Research.2014;5:109–16.[doi.org/10.1016/j.ksujds.2013.11.003].
[17] ManojGupta,Ajay Bhambal, Sudhanshu Saxena, VijaytaSharva,Vaibhav Bansal, Bhanupriya Thakur. Awareness, attitude and barriers towards evidence based dental practise amongst practising dentist of Bhopal city.Journal of clinical and diagnostic research.2015;9(8):49-54
[18] Ahad M. Awareness, attitude and knowledge about evidence based dentistry among the dental practitioner in Chennai city. Research Journal of Pharmacy and Technology. 2016 Nov 28;9(11):1863-6.
[19] Prabhu S, Joseph J, Saravanan S. Knowledge, Attitude and Perceived Barriers towards practice of Evidence Based Dentistry among Indian postgraduate dental students.IOSR Journal of Dental and Medical Sciences (JDMS). 2012;4(1):46-51.
[20] Iqbal A, Glenny AM. General dental practitioners' knowledge of and attitudes towards evidence-based practice. Br Dent J.2002;193:587-91.