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### RESEARCH ARTICLE

## KNOWLEDGE, ATTITUDE, AND PRACTICE REGARDING EVIDENCE-BASED DENTISTRY AMONG DENTISTS OF HAZARIBAG, JHARKHAND, INDIA.

Sudhanshu Saxena<sup>1</sup>, Ankur Bhargava<sup>2</sup>, Sonia Tiwari<sup>3</sup> and Sonal Saigal<sup>4</sup>.

1. Professor and Head, Department of Public Health Dentistry, Hazaribag College of Dental Sciences and Hospital, Hazaribag, Jharkhand, India.
2. Reader, Department of Oral Pathology, Microbiology and Forensic Odontology, Hazaribag College of Dental Sciences and Hospital, Hazaribag, Jharkhand, India.
3. Senior Lecturer, Department of Pedodontics and Preventive Dentistry, Hazaribag College of Dental Sciences and Hospital, Hazaribag, Jharkhand, India.
4. Lecturer, Department of Oral Pathology, Microbiology and Forensic Odontology, Dental Institute, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand, India.

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#### Abstract

Evidence-based practice helps the health professionals to use the best evidence available to make clinical decisions. The aim of this study was to determine the level of knowledge, attitude, and practice regarding Evidence-based dentistry among dentists of Hazaribag city, Jharkhand, India. A self-administered, close-ended, structured questionnaire was used for data collection. The final questionnaire had two parts; Part I had demographic details and Part II had questionnaire proper with 12 close ended questions. Frequencies and percentages of responses were calculated. Pearson's Chi-square test was applied for data analysis. Results showed that nearly forty seven percent dentists were aware of Evidence-based practice. Majority of dentists responded that they did not apply Evidence-based practice in decision making. In conclusion, knowledge and practice of evidence-based dentistry is very low among the dentists of Hazaribag city. Majority of dentists have positive attitude towards learning the concepts of evidence-based practice.

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#### Introduction:-

Contemporary dentistry is undergoing histrionic shift in healthcare technology, making dental practice complex and challenging field (Iqbal and Glenny, 2002). In order to provide the patients with finest treatment, dental professionals are required to constantly apprise their knowledge and skills with respect to new treatment modalities (Ashri *et al.*, 2013). Revolution in information technology along with enormous increase in biomedical research has given rise to a persistently changing biomedical literature varying in quality and clinical relevance. This has led to the advent of evidence-based medicine (EBM) as the new model for medical practice (Guyatt *et al.*, 2000). Evidence-based practice (EBP) bridge the gap between best practice and actual care (Oude Rengerink *et al.*, 2013). In EBP health professionals use the best evidence available to make clinical decisions for individual patients. EBP is

**Corresponding Author:- Ankur Bhargava.**

Address:-Reader, Department of Oral Pathology, Microbiology and Forensic Odontology, Hazaribag College of Dental Sciences and Hospital, Hazaribag, Jharkhand, India.

spreading in popularity in many health care disciplines (McKibbon, 1998). It is said to be the existing best approach to provide interventions and scientifically established to be safe, efficient, and cost-effective (Ashri *et al.*, 2013). In dentistry, however, evidence-based practice (EBP) or evidence-based dentistry (EBD) is still an emerging concept (Iqbal and Glenny, 2002).

Considering EBP surveys carried out among dental professionals, many of them have been done in India. However, in India they have been conducted in specific cities. The India being such a diverse country, the results of those studies cannot be generalized to the other part. Thus, the aim of this study was to determine the level of knowledge, attitude, and practice regarding EBD among dentists of Hazaribag city, Jharkhand.

### **Materials and Methods:-**

The present cross-sectional study was conducted in November 2018, involving all the dentists of Hazaribag city, Jharkhand, India. The study protocol was reviewed by the Institutional Ethics Committee of Hazaribag College of Dental Sciences and Hospital, Hazaribag, Jharkhand, India and the ethical clearance was granted. The list of the practicing dentists was obtained from Indian Dental Association, Hazaribag Branch.

A self-administered, close-ended, structured questionnaire was used for data collection. A pilot study was conducted to test for the face-and-content validity and reliability of the developed questionnaire. The questions were framed after thorough review of the literature, and with the help of four experts, the questions were reviewed for content validity. Cronbach's coefficient was found to be 0.76, which showed good internal reliability of the questionnaire. The external reliability was established by test-retest method, among 15 dentists who were not part of the final study.

The final questionnaire had two parts; Part I had demographic details and Part II had questionnaire proper with 12 close ended questions. The questionnaire was personally distributed to all the dentists (n = 107) with the aim of study being explained. Informed consent was obtained; filled questionnaire was then collected back with a single round of follow-up. Only completely filled questionnaire was considered for the data analysis.

Data was entered in Microsoft excel 2016 for Windows. Frequencies and percentages of responses were calculated. Pearson's Chi-square test was applied for further data analysis. P values <0.05 were considered statistically significant. Data analyses were performed using version 21.0 of the Statistical Package for Social Sciences (IBM Corporation, Armonk, New York, USA).

### **Results:-**

Out of the 107 questionnaires delivered, 96 were returned back, hence the response rate was 89.72%. Questionnaire were then screened for missing data and two were excluded. Finally, 94 questionnaires were considered for further data analysis.

Among 94 dentists, 52 (55.32%) were females, 59 (62.77%) were aged between 25–34 years, 35 (37.23%) were having Master of Dental Surgery (MDS) qualification and 46 (48.94%) dentists had 0–5 years of dental practice (table 1).

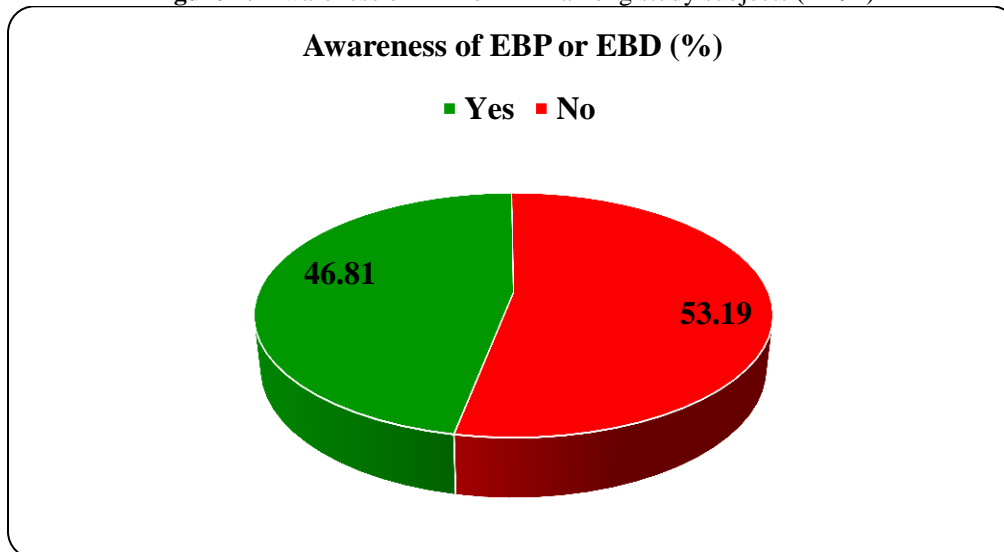
Nearly forty seven percent (n = 44) dentists were aware of EBP or EBD (figure 1). The awareness was significantly higher among postgraduate dental professionals (p <0.001). As only 44 dentists were aware regarding EBP or EBD, further questions related exclusively with EBP or EBD in the questionnaire were applicable only for these study subjects.

Ninety-one percent dentists (n = 40) responded that they did not practice EBP in decision making and only 47.73 % (n = 21) felt that without EBP their practice was incompetent (table 2). Chi-square test showed no significant difference between undergraduate and postgraduate dentists for these responses (p >0.05).

Among a total of 94 study subjects, in the situation of clinical uncertainty 38 (40.42%) preferred electronic source and 21 (22.34%) preferred asking a friend or colleague (figure 2). Among printed sources, most of the subjects preferred using books (46.81%) followed by journals (40.43%) (figure 3).

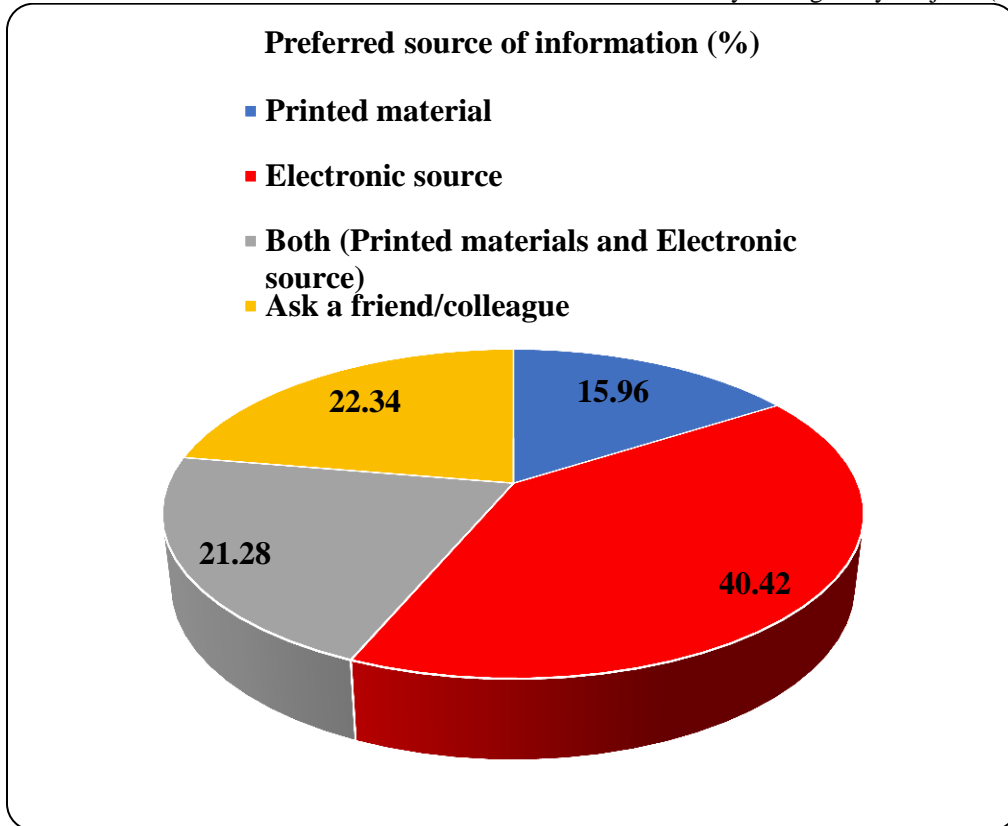
**Table 1:-**Demographic characteristics of the study subjects (n = 94).

Demographic characteristics	n (%)
<b>Gender</b>	
Male	42 (44.68)
Female	52 (55.32)
<b>Age groups (years)</b>	
25-34	59 (62.77)
35-44	27 (28.72)
45-54	06 (6.38)
≥ 55	02 (2.13)
<b>Qualification</b>	
BDS	59 (62.77)
MDS	35 (37.23)
<b>Years of dental practice</b>	
0-5 years	46 (48.94)
6-10 years	34 (36.17)
>10 years	14 (14.89)

**Figure 1:-**Awareness of EBP or EBD among study subjects (n =94)**Table 2:-**Responses of participants regarding EBP in dental practice (n = 44)

Questions	Yes n (%)	No n (%)	Total n (%)
Do you practice EBP in your decision making regarding your patients?	04 (9.09)	40 (90.91)	44 (100.00)
Do you agree that without EBP your practice is incompetent?	21 (47.73)	23 (52.27)	44 (100.00)

**Figure 2:-Preferred source of information in the situation of clinical uncertainty among study subjects (n =94)**



Among the electronic source, most of the dentists preferred any website (39.36%) followed by PubMed (30.85%) (figure 4). Reason cited for preference of the source was ease of availability by 82% (n = 77) of study subjects. None of the dentists (n = 94) acknowledged that they critically evaluated the evidence obtained.

Among the dentists who were having knowledge of EBP (n = 44), only 25% (n = 11) were aware of evidence-based pyramid (figure 5). All of these 11 dentists were having post graduate qualification. But none of them responded correctly for studies which form base and apex of evidence-based pyramid.

**Figure 3:-Preference for printed source among study subjects (n =94)**

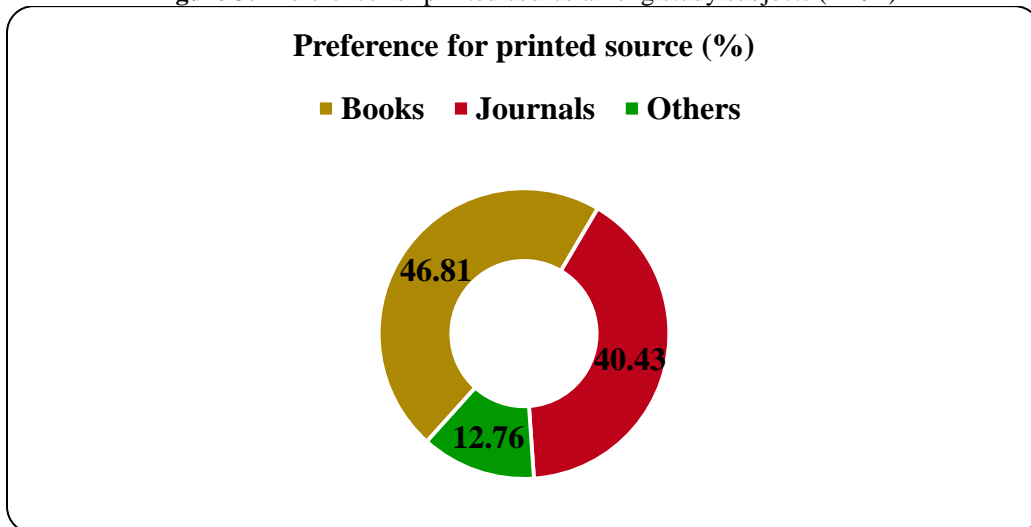


Figure 4: Preference for electronic source among study subjects (n =94)

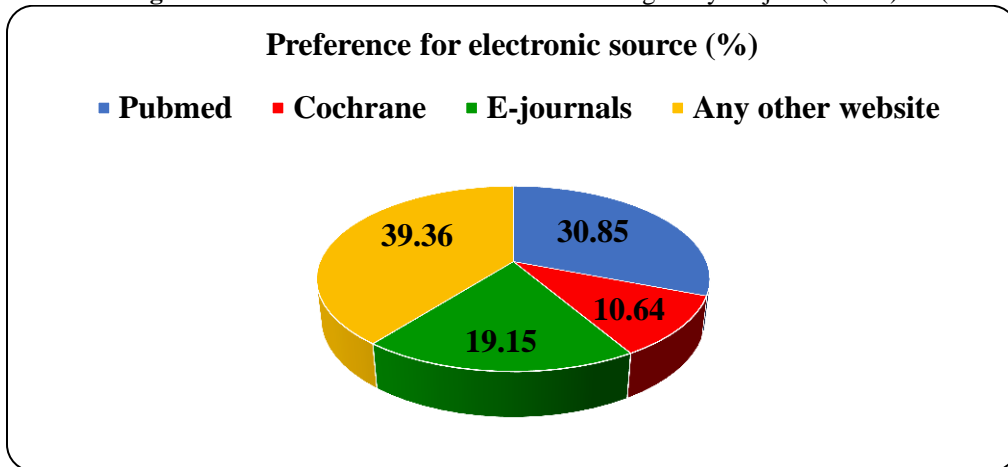


Figure 5:-Awareness of evidence-based pyramid (n = 44)

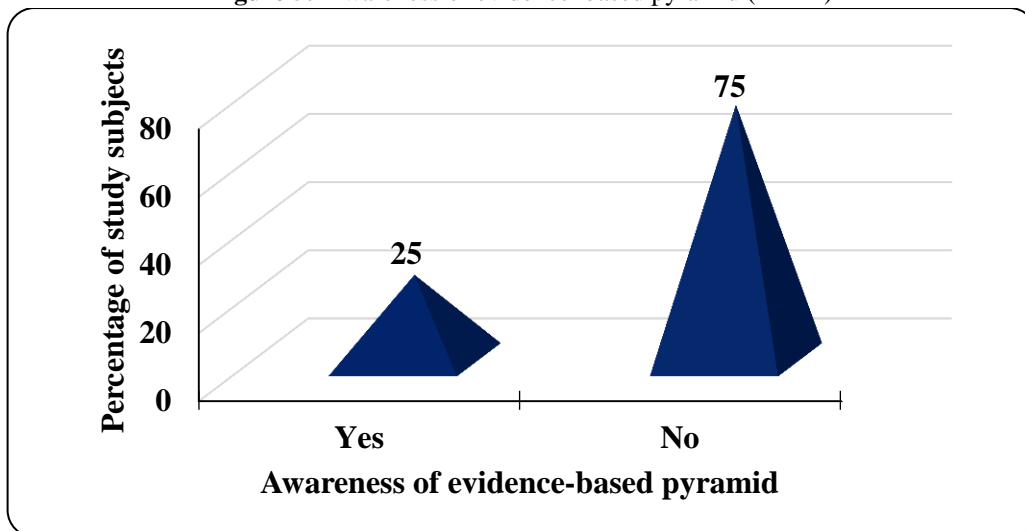
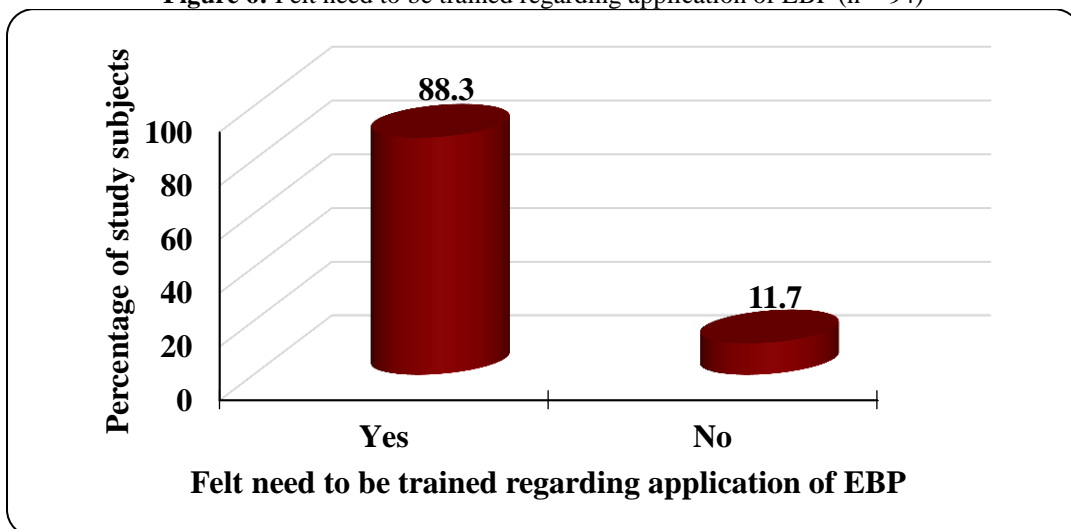


Figure 6: Felt need to be trained regarding application of EBP (n = 94)



Eighty-eight percent (n=83) of the dentist felt the need to be trained in EBP (figure 6). There was no significant difference between undergraduate and postgraduate dentists for the responses ( $p > 0.05$ ).

### **Discussion:-**

In the present study, the response rate was 89.72% which was much higher compared to studies conducted by Yusof *et al.* (2008, 50.3%), Madhavji *et al.* (2011, 32%), Nazir and Almas (2015, 76%), Gupta *et al.* (2015, 80%) and Bhate *et al.* (2017, 73.1%). The better response rate could be ascribed to in-person distribution and collection of the questionnaires.

In the present study, only forty-seven percent dentists were aware regarding EBP or EBD, which is lower than studies conducted by Yusof *et al.* (2008, 69.9%), Gupta *et al.* (2015, 70.5%), and Bhate *et al.* (2017, 94.8%).

Majority of the dentists in this study did not practice EBP in their decision-making about the patients. Also, most of them did not feel that without EBP their practice was incompetent. This shows that most of dentists in present study felt that EBP would not make significant difference in their practice. In a study by Bhate *et al.* (2017), not all dentists of Davangere city, Karnataka, India felt that EBP would make substantial difference in their practice.

Most of the respondents in present study preferred electronic source in the situation of clinical uncertainty. Today, we are in the era of telecommunication where information is easily accessible on our computers and smartphones, and also in recent years, there is an increase in the number of journals that have been added to electronic database (Ashri *et al.*, 2013). Similar result was observed by Bhate *et al.* (2017) in a study among dentists of Davangere city. Iqbal and Glenn (2002) and Apparaju *et al.* (2016) have dissimilarity, in their studies most of the dentists preferred discussion with colleagues or seniors for handling complicated cases.

Among the electronic source, a smaller number of dental professionals in present study preferred Cochrane data base. This was a contrast when compared with studies by Ashri *et al.* (2013), Yusof *et al.* (2008), Madhavji *et al.* (2011) and Prabhu *et al.* (2012). This indicates poor knowledge among the study subjects regarding availability of free online evidence-based literature such as Cochrane library.

None of the dentists in this study critically evaluated the evidence obtained. In the studies by Nazir and Almas (2015) and Bhate *et al.* (2017) more than 70% of the study participants acknowledged that they critically evaluated the evidence obtained.

The participants of present study were having very poor knowledge of evidence-based pyramid. The observation of present study was in contrast with earlier conducted studies (Yusof *et al.*, 2008; Nazir and Almas, 2015; Bhate *et al.*, 2017). The evidence-based pyramid provides an orderly framework for ranking of evidences. It is a guiding tool which indicates which studies should be given more preference among different type of studies evaluating the same question or health problem (Akobeng, 2005).

Most of the dentists in present study felt need to be trained regarding application of EBP. This is in accordance with the study by Bhate *et al.* (2017). The positive attitude shown by the dental professionals plays an important role in organizing training program on EBP.

There are certain limitations of our study. As with all self-administered questionnaires, there was a possibility of bias from the respondents themselves concerning the degree of truthfulness of their responses. The present study was carried out in a single city; results cannot be generalized to entire country. Further studies are needed to explore the knowledge, attitude, and barriers to EBD by taking in-depth interviews, focus group discussions (FGD) and comparisons between different specialties, age groups, years of practice, etc.

### **Conclusion:-**

The knowledge and practice of evidence-based practice (EBP) or evidence-based dentistry (EBD) is very low among the dentists of Hazaribag city. Although many dentists claim to use electronic sources for the evidence, very few are aware of Cochrane data base which is one of the best freely available source. Majority of dentists have positive attitude towards learning the concepts of EBP. The study reveals the need to conduct Continuing Dental Education (CDE) programs on EBP to give the dentists of Hazaribag city a better understanding regarding EBP so that they can deliver a better-quality care for patients.

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