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EVIDENCE BASED DENTISTRY: KNOWLEDGE, ATTITUDE AND PRACTICES AMONGST UNDERGRADUATES/ GRADUATES OF KARACHI

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ABSTRACT

Objective: The study aimed to evaluate the Knowledge, attitude, practices and perceived barriers of evidence-based dentistry amongst undergraduates/ graduates of Karachi. **Setting:** Dental College of Karachi. **Study design:** cross sectional study. **Period:** October 2019- March 2020. **Material and Method:** Amongst undergraduates and graduates of two dental colleges chosen at random from the list of dental colleges of Karachi. A pretested self-administered questionnaire was distributed to the participants. The questionnaire consisted of total 15 questions to assess Knowledge (6 questions), attitude, (5 questions) practices(3questions) and barriers (1 question) of evidence -based dentistry. Data was entered into SPSS version 22. Chi-square test was used to analyze the data. A mean score of Knowledge was obtained and different variables by using independent t-test and ANOVA as required. Pearson correlation was done to find correlation of knowledge score with variables. **Results:** A total of 342 participants responded to the questionnaire and there were 43.9% males and 56.1% females. Regarding age73.7% of the respondents aged between 20-25 years. **Conclusion:** The current study concluded that students and house surgeons were familiar with the term evidence-based dentistry when compared to the faculty members. The findings of the study also showed a positive attitude towards evidence-based dentistry.

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INTRODUCTION

Evidence Based Dentistry (EBD) demands that scientific evidence should be integrated into clinical practice considering the patients' conditions, predilections and expectations about the treatment modalities available. Dental practitioners are expected to constantly acqiunt their knowledge and skills with respect to new treatment modalities available. The change in information technology along with tremendous increase in biomedical research has led to a persistently evolving biomedical literature that differs in quality and clinical relevance. The introduction of evidence-based medicine (EBM) as the modern paradigm has contributed to the medical practice.- The EBM concepts have been extrapolated to the field of dentistry by the American Dental Association(ADA). Evidence-based dentistry (EBD) is a safe approach for preservation of the oral cavity that requires sufficient compilation of the scientific evidences, clinical diagnosis related to the past history and oral and medical status of the patients and dentist's clinical dexterity as well as the patient's

treatment needs and priorities.

Dental practice based on evidence provides dental practitioners to use the significant results findings for care of their patients. This is now considered as a standard approach to provide patients with methodically proven, secure, sound, and cost effective treatments or procedures. In a survey, most of the dental faculty and about three-quarters of employed dental practitioners used the EBD method in their daily routine activities. Similarly, about 41% of Kuwaiti dentists reported that EBD concepts have well perceived them. Iranian dentists reported that 76% have shallow knowledge or no knowledge about EBD. It has shown in another study that in 80% of dentistry students in Tehran, the rate of familiarity with the EBD concept was at a low or shallow level.

Rationale of the study

Using evidence- based dentistry can help to reduce the differences in patient care and the findings associated with the variables. Such variables are the quality of clinical care, quality in clinical decisions and the quality of clinical competence levels.

The study aimed to evaluate the Knowledge, attitude, practices and perceived barriers of evidence-based dentistry amongst undergraduates/ graduates of Karachi.

MATERIAL AND METHOD

This cross-sectional study was conducted from October 2019- March 2020 amongst undergraduates and graduates of two dental colleges chosen at random from the list of dental colleges of Karachi. A convenience sampling technique was used for data collection and sample size was calculated with open epi software. Calculated sample size was 342 with 95% CI with 5% error keeping 30% prevalence rate. The study was approved by ethical committee of the Dental College.

A pretested self-administered questionnaire prepared by Manoj et al' was distributed to the participants. The questionnaire consisted of total 15 questions to assess Knowledge (6 questions), attitude, (5 questions) practices(3questions) and barriers(1 question) of evidence -based dentistry. Demographic data included age, gender, qualification, and years of experience. A pilot study was done on 30 participants for reliability and validity of the questionnaire. Cronbach's alpha value calculated was 0.93.

Data was entered into SPSS version 22. Chi-square test was used to analyze the data. A mean score of Knowledge was obtained and different variables including age, gender, qualification and years of clinical experience were compared with Knowledge by using independent t-test and ANOVA as required. Pearson correlation was done to find correlation between knowledge score with age, gender, qualification, years of clinical experience.

RESULTS

A total of 342 participants responded to the questionnaire and there were 43.9% males and 56.1% females. Regarding age73.7% of the respondents aged between 20-25 years. In terms of clinical experience,91.2% of the respondents had 1-5 years of clinical experience. (Table 1)

Table 1. Distribution of Demographic characteristics

Characteristics of respondents		n (%) n=342
Age	20-25	252(73.7%)
	26-30	29(8.5%)
	31-35	31(9.1%)
	36-40	25(7.3%)
	>40	5(1.5%)
Gender	Male	150(43.9%)
	Female	192(56.1%)
Respondents	Students	87(25.4%)
	House surgeons	157(45.9%)
	Faculty	98(28.7%)
Clinical experience	1-5 years	312(91.2%)
	6-10 years	15(4.4%)
	11-15 years	10(2.9%)
	>15 years	5(1.5%)

Table 2. Comparison of Familiarity of EBD with demographic variables

Characteristics of respondents		Have you ever heard of Evidence Based Dental practice before		p- value
		Yes	No	
Age	20-25	252(100%)	0	0.000
	26-30	29(100%)	0	
	31-35	7(22.6%)	24(77.4%)	
	36-40	0	25(100%)	
	>40	0	5(100%)	
Gender	Male	150(100%)	0	0.000
	Female	138(71.9%)	54(28.1%)	
Respondents	Students	87(100%)	0	0.000
	House surgeons	157(100)	0	
	Faculty	44(44.9%)	54(55.1%)	
Clinical experience	1-5 years	288(92.3%)	24(7.7%)	0.000
	6-10 years	0	15(100%)	
	11-15 years	0	10(100%)	
	>15 years	0	5(100%)	

When respondents were asked about familiarity with the term evidence based dentistry, statistically significant results were reported in terms of age group of 20-25 years, males reported more familiarity with the term evidence based dentistry than females, in terms of clinical experience, respondents with 1-5 years of experience were more familiar with evidence based dentistry. (Table 2)

Table 3. Knowledge of respondents regarding EBD

Variables	Respondents options	n(%)
Do you encounter difficulty in clinical decision making	Yes No	270(78.9%) 72(21.1%)
What kind of source of information do you utilize to support your clinical decisions	Asking a friend Referring a text book Internet search other	180(52.6%) 82(24%) 50(14.6%) 30(8.8%)
Are you familiar with the terms used in EBD	Systematic reviews & meta-analysis Randomized controlled trials Case series & case reports Expert opinion Hierarchy of evidence	92(26.9%) 50(14.6%) 180(52.6%) 10(2.9%) 10(2.9%)
Which of the above terms you need additional information	Systematic reviews & meta-analysis Randomized controlled trials Case series & case reports Hierarchy of evidence All of the above Don't require	48(14%) 40(11.7%) 40(11.7%) 70(20.5%) 124(36.3%) 20(5.8%)
Do you have ease of access to information sources to support your clinical decisions	Yes No	302(88.3%) 40(11.7%)

When respondents were asked if they encounter difficulty in clinical decision making, 78.9% of them responded "Yes". (Table 3)

Table 4. Correlation between groups

Correlation	r	p-value
Correlation between Knowledge and age groups	0.820	0.000
Correlation between Knowledge and gender	0.809	0.000
Correlation between Knowledge and participants	0.896	0.000
Correlation between Knowledge and clinical experience	0.603	0.000

A positive correlation was found between Knowledge and age groups (r= 0.82, p=0.000), knowledge and gender(r=0.80, p= 0.000), knowledge and participants(r=0.89, p= 0.000). An intermediate correlation was found between knowledge and clinical experience (r=0.60, p= 0.000). (Table 4)

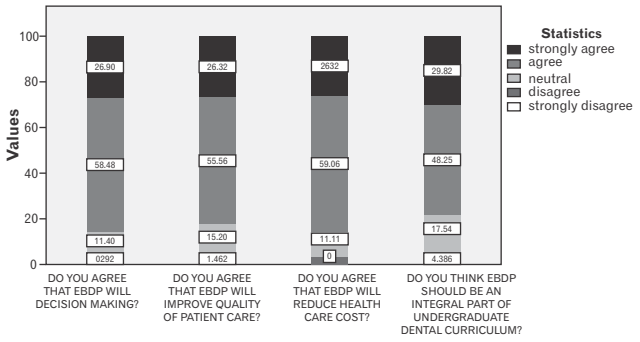

Figure 1. Attitude of respondents towards Evidence based dentistry

DISCUSSION

This study was done to evaluate knowledge, attitudes and practices and perceived barriers of students, house surgeons and faculty about familiarity of evidence-based dentistry. The present study results showed that students and house surgeons were found to be more familiar with the term evidence-based dentistry. Similar results were showed by ALmalki et al, Navabi et

al. Dissimilar results were reported by Pratap et al Gupta M et al' and Yousof et al. The reason that majority of the respondents were familiar with the term evidence based dentistry is that they were comparatively fresh graduates in terms of clinical practice and it is assumed that it should be inculcated in the younger age group as it would be fruitful in future.

Regarding various technical terms commonly used in evidence-based dentistry, it was reported that the respondents were more familiar with the term case series and case reports followed by systematic reviews and randomized controlled trials. Similar results were reported by Fedorowicz et al. Dissimilar results were reported by Gupta M et al' where majority of the respondents were familiar with the term systematic review and meta-analysis. Dissimilar results were also reported by Haroon et al, Yousof et al, Ashraf Nazir et al,- Bahamman & Linjawi et al."

Regarding additional source of information required for clinical decisions, the respondents from the present study consulted friend/ colleagues followed by using a textbook and internet search. Similar results were reported by Yousof et al and Iqbal et al. Gupta M et al, Bhate et al, ALmalik etal reported dissimilar results.

When asked about practices of evidence-based dentistry, majority of the respondents preferred dental practice expert followed by consultation with other professionals and text books for use of informational resources. Pratap et al, Iqbal et al and Gupta M et al' reported dissimilar results.

The reason of preference towards dental expert for help and advice is because experts have a wealth of scientific knowledge, clinical experience and credibility.

When asked about the resources used for information about new clinical procedures, the present study reported that majority of the respondents consulted with other health specialists. Straub- Morarend et al reported dissimilar results. Majority of the respondents from the present study reported positive attitude towards evidence-based dentistry. Similar results were reported by Gupta M et al, ' Prabhu S et al- and Ashri N et al and majority of them were also agreed that evidence-based dentistry should be an integral part of undergraduate curriculum. Gupta M et al ' reported similar results.

In terms of major barriers in evidence-based dentistry, lack of skill to appraise scientific journals was found to be the major perceived barriers towards evidence-based dentistry followed by lack of access of time. Dissimilar results were reported by Gupta M,' Prabhu et al,– Yousof et al, Iqbal et al, , Ashri N et al Bahammam et al."

Limitations:

The major limitations of the study include small sample size, convenient sampling and limited study settings.

CONCLUSION

The current study concluded that students and house surgeons were familiar with the term evidence-based dentistry when compared to the faculty members. The findings of the study also showed a positive attitude towards evidence-based dentistry.

Therefore, it is recommended to integrate the basic concept of evidence-based dentistry in undergraduate curriculum. A series of workshops, seminars and lectures should be arranged by the medical education department for the faculty members.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

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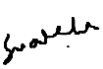
1	Aisha Wali	Statistical analysis, manuscript writing and drafting	
2	Talha M. Siddiqui	overall supervision	
3	Muhammad Ain ul Haq	Literature search, questionnaire making	
4	Sualeha Moosa	Data collection, Acquisition	
5	Sadaf Kazmi	Data collection Acquisition