

ORIGINAL ARTICLE

RAMIFICATION IN DENTAL PRACTICE WITH THE KNOWLEDGE AND AWARENESS IN THE SUBJECT OF TOOTH MORPHOLOGY.

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ABSTRACT

Background: The concept of assessing that, the knowledge and awareness of the subject of tooth morphology among the final year BDS students and house officers is helpful in their clinical practice.

Methodology: The study was conducted among the final year BDS students and house officers. Data was collected by a predesigned proforma. The sample size calculated was 310 by keeping proportion 52% and confidence interval 95% and margin of error 5% in open epi. 3.01.

Results: Results of the survey and feedback revealed that the technical difficulties had been faced during clinical practice in different fields of dentistry due to the lack of basic knowledge of the subject.

Conclusion: Knowledge and awareness of the subject lays the foundation headed for a skillful dentist and an assertive clinician.

Keywords: Tooth morphology, Ramification

INTRODUCTION:

Tooth morphology is that science which deals with the gross morphology and endodontic anatomy of human dentition, also the knowledge about the eruption pattern and alignment in different quadrant of the maxillary and mandibular arches.^[1] Therefore this study targets to assess the widespread skills and applications of tooth morphology amongst dental students, who are exposed to clinics for treatment procedures. A strong base of this knowledge is important and helpful in dental practice. To understand the association between the basic knowledge and clinical skills, a study was designed to disclose the outcome of the objective. This type of study has already been conducted in different parts of world,^[1-3, 5, 7, 8] But not in Pakistan, so it was envisioned to review/study in this region.

Ramification in dental practice correlated to the knowledge, attitude, and awareness in the subject

of Tooth Morphology among the final year BDS students and house officers.

MATERIAL AND METHODS:

A descriptive cross sectional study was conducted among the outpatient departments (OPD) of four teaching hospitals i.e. Baqai Dental Hospital, Liaquat College of Dentistry (Darul Sehat), Karachi Medical & Dental College, Dow Dental College (Ojha campus). A close ended self-administered specially designed questionnaire was developed consisting of 10 questions concerning the experiences and expectations through simple random sample technique which could enable to reach the required sample size of n=310 for evaluating the perception and approach towards the clinical skills among final year BDS students and house officers.

Adequate time was given to all the participants to fill up the questionnaire form, also visited them

personally and discussed the clinical related problems stumbled upon. Collecting the completely filled questionnaire forms, the data was included in the study. The duration of the study spanned over a period of six months.

Sample size: The sample size was calculated by using the formula, $N = Z^2 P(1-P) / d^2$

derived out to be (n=310) designated by keeping the proportion 52% and the confidence interval 95% and the margin of error 5% in open epi. 3.01.

Inclusion criteria:

Final year BDS students and house officers of four teaching hospitals were included in the study, as they were exposed to clinical practice.

Exclusion criteria:

First, second & third year BDS students were not included in the study because at this undergraduate level they are not exposed to clinical practice.

RESULT:

The outcome of the study obtained from the survey of four colleges revealed that how much basic knowledge of the subject is necessary for a clinician in lieu of the successful practice. This approach was generated by the return of 310 questionnaires, representing 100% response rate. The reliability of the qualitative data analysis was enriched by the self-governing study of the replies by a team approach.

The Survey of the study revealed that more than 80 % responded that the basic knowledge and understanding of the subject regarding the endodontic anatomy was felt mandatory during their clinical practice. When the answer to different question pertaining to knowledge of tooth morphology was perceived, 89 % of the participants strongly agreed that understanding the subject helped them in endodontic treatment, 84.3% of the individuals also added that knowledge and timeframe of root completion is also important regarding the successful root canal treatment. Only 33.7% of the

candidates face postoperative problems. Regarding the sensitivity of teeth in clinical practice of restorative dentistry the feedback was 50-50. (Table:1).

The response to individual question concerning the knowledge of tooth morphology among four hospitals, they strongly agreed and the feedback was in favor of having a strong base of basic knowledge of the subject to become a successful clinician (Figure 1).

We found a worth mentioning difference in the knowledge and practice of tooth morphology between these Universities. It was revealed that majority of the participants from all the colleges have given the response that the basic knowledge of the subject have a key role while doing clinical practice shown in Figure 1.

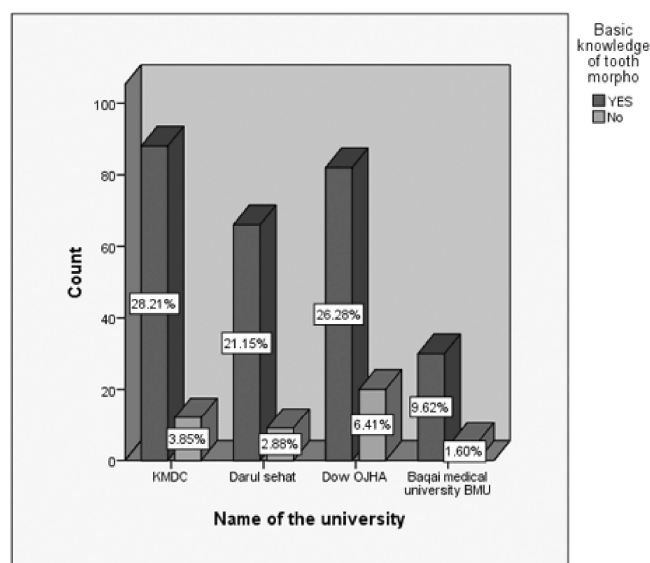


Fig: 1- FREQUENCIES OF KNOWLEDGE OF TOOTH MORPHOLOGY

It was also experienced while doing surgical procedures that the knowledge of anatomy & tooth morphology helped them in giving local anesthesia and undertaking surgical procedures. Same result was obtained in the field of Prosthodontics, most of the participants responded positively, shown in table: 1.

Table: 1-KNOWLEDGE BASED CLINICAL PRACTICE

S.#	QUESTIONS	Yes(%)	NO (%)
1.	Understanding of the subject is obligatory to be a successful clinician.	266(85.3%)	46(14.7%)
2.	Knowledge of endodontic anatomy is important for skilled treatment.	273(89%)	34(10.9%)
3.	Did you face difficulty in performing RCT in Max.1st pre molar?	177(56.7%)	135(43.3%)
4.	Do you think that root completion is important before RCT?	263(84.3%)	49(15.7%)
5.	Effectiveness of anesthesia is based upon the knowledge of anatomy.	192(61.5%)	120(38.5%)
6.	Postoperative follow-on, operating in the mental foramen area?	179(59.4%)	133(42.6%)
7.	Difficulties faced in extracting maxillary molars broken down roots?	105(33.7%)	207(66.3%)
8.	Is it important to know the landmarks taking secondary impression?	276(88.5%)	36(11.5%)
9.	Association b/w malalignment of lower anteriors&gingival thickness.	199(63.8%)	113(36.2%)
10.	Is the sensitivity of teeth age related in clinical practice.	98(31.4%)	98(31.4%)

DISCUSSION:

The above mentioned results have shown the importance of the basic knowledge in respect of a successful clinical practitioner. It is imperative to have a sufficient knowledge of tooth morphology which aids in the prevention of dental diseases, endodontic and orthodontic treatment, fabrication of fixed and removable prostheses and for simple measures such as placement of rubber dams and matrix bands.

A prior study emphasized a dental student's viewpoint on exactly why it is so imperative to study the basic subject of Dental Anatomy and Morphology meticulously to be a good clinician in dental practice.^[3] Dental form is extremely varied and difficult to reproduce, so according to a published

study the professionals require the knowledge of dental element morphology on a daily basis as a direct consequence of the need to constantly restructure the dental form and reinstate its function.^[4]

Results of the present study exhibited that the dental house officers having a virtuous knowledge of basic dentistry played a vital role in enriching them into a mature dentists and be a highly skilled and confident practitioners. The results are in accordance with the published studies.

According to a published research Tooth morphology lays the foundation towards a proficient dentist who is a confident practitioner.^[1] It was also shown in a study that majority of the PGs, interns and UGs were confident enough in applying their skills in clinical

practice which further uplifts the significance of the subject.^[2] Not only in dental practice it is also incumbent upon medical practitioners to keep their knowledge updated with time and get actively involved in oral health, as mouth is a mirror of systemic conditions.^[7] The study of dental anatomy provides the basic component of the skills needed to practice dentistry, but it must be understood that description in anatomy can never follow a set in stone rule, recommended by Vitalariuet *al.*, (2017).^[8]

The results obtained from the present study showed that most of the students faced postoperative problems during extraction/surgical procedures in the mandible foramen area. It was also observed that most of the students confronted difficulty in giving Inferior alveolar nerve block as they were unable to identify pterygomandibular raphe.

It is therefore tyrannical that the effective associating of the two domains i.e. is the basic knowledge and the clinical practice required for gaining an understanding of the structure of the body tissues and applying the anatomical knowledge in treatment plans. Prior studies have found that professionals require the knowledge of dental element morphology on a daily basis as a direct consequence of the need to constantly restructure the dental organ and reinstate its function.^[4]

Celeghorn B.M *et al.*, reported that a successful root canal therapy requires a thorough knowledge of tooth root and root canal morphology.^[5] In this study 89 % of the participants strongly agreed that understanding the subject helped them in endodontic treatment shown in Table:1.

Since the response to attitude toward understanding and applying tooth morphology knowledge was positive by the majority of the dental students of different colleges in this study (Fig: 1). Importance of dental anatomy is highlighted again by various authors.^[2]

Present study have shown that in identifying and diagnosing normal and pathological morphologies of teeth is due to their sound knowledge of dental

anatomy, thus proving the importance of learning the subject before their entry to clinical departments. This point is supported by different studies.^[1, 2, 3, 8]

The results of this study clearly demonstrate that nearly 25% of the students who answer the questionnaire seemed to be rather unclear about their concepts, since the response to attitude toward understanding and applying the tooth morphology knowledge was positive by the majority of the dental students of various colleges in this study (Figure 1). Importance of dental anatomy is highlighted again by various authors.^[7, 6, 3]

In consequence, the practitioner has to have the knowledge of the dental anatomy, physiology, occlusion, morphology and functions of these teeth to undertake an appropriate restorative dental treatment. Knowledge and acquaintance is one of the fundamental constituents of the skills prerequisite to practice dentistry.

CONCLUSION:

The conclusion derived by this study among the final year BDS students and up to the level of internship and house job, that without having a strong basic knowledge of dental anatomy & tooth morphology, a clinician faced difficulties in their practice i.e. in endodontic treatment and surgeries, even in giving the local anesthesia. It lays the foundation towards a proficient dentist and a self-assured clinician.

Limitations:

The present study could be accomplished using larger sample size involving all the dental colleges of Karachi to get better results.

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