

Evaluate the Self-Confidence Levels of Dental Practitioners about Endodontic Periodontal Lesions

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Abstract

Objectives: To evaluate the self-confidence level of dental students and interns regarding accurate diagnosis and treatment planning of endodontic periodontal lesions.

Method: A cross-sectional study was conducted at Taibah University Dental College and Hospital, Medina, Saudi Arabia. Target study population included male and female interns and dental students in clinical years and total sample size was 300 participants.

Results: The mean level of confidence in endodontic treatments was similar for dental students and interns, highest for the maxillary anterior (35.3% for students and 34.2% for interns) and lowest for maxillary molars (2.7% for students and 11.8% for interns). Periodontal treatment followed a similar pattern.

The number of performed endodontic periodontal treatments was one for dental students $n = 128$ (57.2%) and one for dental interns $n = 28$ (36.6%). The number of lectures given was one for dental students $n = 134$ (59.8) and two for dental interns $n = 31$ (40.8%) and the number of seminars performed was one for dental students $n = 140$ (62.5%) and for dental interns was either one or none $n = 31$ (40.8%).

Dental students had a higher mean level of confidence (4%) than interns (1.4%) in diagnosing an endodontic scenario. In radiographic interpretation of endodontic periodontal lesions, interns had a higher mean level of confidence (6.5%) than students (4.5%) as well as in various endodontic managements.

Conclusion: Dental students and interns have deficiency in the diagnosis and treatment of endodontic periodontal lesions. The dental college should increase the number of lectures seminars and clinical cases.

Keywords: Endodontic; Periodontal; Confidence; Level

Introduction

The inter-relationship between pulpal and periodontal diseases is referred to as endodontic-periodontal lesions. In other words, both a pulpal and a periodontal disease may occur in the same tooth. Spread of infection from the dental pulp to the periodontal tissues may occur through anatomical routes such as the apical foramen, accessory canals, dentinal tubules, and palate-gingival grooves. Infection may also disseminate through non-anatomical routes such as an iatrogenic root canal perforation, or a vertical root fracture [1].

The presence of simultaneous lesions of endodontic and periodontal origin is very challenging to the clinician as far as diagnosis, prognosis and decision-making are concerned. In many situations clinicians may find it difficult to differentiate properly between endodontic

and periodontal lesions, and may not have the ability to decide on which lesion of the two is the primary one, in a way that could affect the diagnosis, and the success of the treatment protocol and eventual prognosis [2]. Other practitioners may try to resolve these issues by managing each lesion separately, and without having sufficient insight about the disease process and cause, a situation which could as well affect the success rate of the treatment outcome. Within this context, it is unlikely that an endodontic treatment alone for instance would be sufficient for healing a combined lesion without undergoing an appropriate periodontal management to control the secondary periodontal disease that resulted. According to these variations in the course of the disease, the commonly used classifications that were described before [3] were recently updated to integrate with the current understanding of the actual course of the disease process, and its related effects. The updated endodontic-periodontal classification is based on the primary disease and its secondary effect as follows [4]:

- Retrograde periodontal disease
- Primary endodontic lesion with drainage through the periodontal ligament
- Primary endodontic lesions with secondary periodontal involvement
- Primary periodontal lesion
- Primary periodontal lesion with secondary endodontic involvement
- Combined endodontic-periodontal lesion
- Iatrogenic periodontal lesion.

Boosted by the updated and pragmatic endodontic periodontal classification, there will be an expected increase the in depth of the clinical understanding of the course of the disease, its etiology, and related involvements, a strategy that should be strictly followed by dental practitioners when dealing with such cases, to reach to a proper diagnosis and a successful treatment outcome that meets the best of interest of patient's satisfaction.

Due to the lack of studies conducted in Saudi Arabia to assess the level of clinical understanding of dental practitioners towards the proper management of endodontic-periodontal lesions, the aim of the present study was to evaluate the self-confidence levels of dental students as well as dental interns at Taibah University College of Dentistry regarding endodontic-periodontal lesions, and assess the ways by which they undergo diagnosis, treatment management, and decision-making for attaining the best potential successful outcome.

Significance

It is regarded essential that on graduation, a dental student should have developed adequate knowledge as well as profound skills and experience that qualifies him/her to set-up a rational diagnosis and implement an appropriate treatment plan that provides the best management for endodontic periodontal lesions, while applying all step by step procedures in a highly qualified and safe manner. In the same context, dental practitioners should have a good clinical understanding and adequate experience of the course process of the disease, its origin, and related involvement to achieve the most favorable results in terms of treatment and prognosis.

Outcome

The great desire of many patients to save their teeth, and the ongoing increase of endodontic periodontal lesions impose demands on dental practitioners to develop adequate skills and to empower their experience to perform sound diagnosis and proper management of these cases to achieve the best treatment outcome.

Study Objectives

The purpose of this study was to evaluate the self-confidence levels of dental students and dental practitioners regarding endodontic periodontal lesions in patient's clinics at Taibah University Dental College and Hospital.

Methodology

Study design

A cross-sectional descriptive observational study will be conducted in Taibah University Dental College and Hospital, Madinah Al-Munawara, Saudi Arabia using an anonymous self-administered questionnaire.

Sample size

The total study participants will be estimated to be about 300 dental students and intern trainees.

The actual number will be determined through the Deanship of Educational Affairs and Deanship of Administrative Affairs, College of Dentistry, Taibah University. A pilot study will be conducted to verify the level of convenience of the questionnaire used, and to improve upon study design.

Sampling method

Following the ethical approval from the Research Ethics Committee at College of Dentistry, Taibah University, the anonymous questionnaire forms will be distributed to dental students participating in the study. Completion of the questionnaire will be absolutely voluntary, without any coercion, or any influence on their academic grades and performance in general.

Sample type

It will be a Simple Random Sampling Method. This method will use a smaller sample size from the larger population of male and female dental students and dental interns at the College of Dentistry, Taibah University.

Inclusion criteria

Undergraduate dental students who are enrolled in the final clinical year of study (sixth-year) at Taibah University Dental College and Hospital.

Dental intern trainees at Taibah University Dental College and Hospital.

Exclusion criteria

All undergraduate (male/female) dental students enrolled in a year of study other than the final clinical year will be excluded from the study.

All undergraduate pre-clinical (male/female) dental students will be excluded from the study.

Dental interns (male/female) at Taibah University Dental College and Hospital.

Study variables

Independent variables

The independent Variables present in this study will be mainly nominal. This will include all the participating dental students who are engaged in various endodontic/periodontal clinical settings and dental interns with different age and sex.

Dependent variable

Is the self-confidence levels of dental students and dental interns regarding the diagnosis and management of endodontic-periodontal lesions.

Study tools

The research tool is a questionnaire based on lickert's scoring system (a five-point scale) and a closed-ended dichotomous questions previously validated, relied-on and used in other published studies [1,2] with some adjustments to cover up all the requirements of this particular study. The questionnaire will be composed of Nine sections as follows:

- Section I: Is an introductory page.
- Section II: Contains demographic information such as age, sex, year of study, and workplace.
- Section III: Focus on the rate of difficulty of endodontics and periodontology as perceived by the dental student among other dental disciplines.
- Section IV: Asks students to point at the types of teeth which will constitute the most difficulty to them in terms of various endodontic and periodontal treatments.
- Section V: Asks students to score some endodontic and periodontal course of actions such as patient's evaluation, history taking, clinical examination, radiographic interpretation, and diagnosis according to their self-confidence levels.
- Section VI: Asks students to score management of some endodontic and periodontal conditions according to their self-confidence levels.
- Section VII: Includes three cases that are adequately presented and diagnosed, while asking the student to select between two treatment modalities, which is either a primary endodontic mode of treatment or a primary periodontal mode of treatment.

Ethics consideration

This is a questionnaires based study the dental student will be informed that the information provided by them will be confidential. The ethical permission will be taken from the Taibah University Dental Collage Research Ethics Committee.

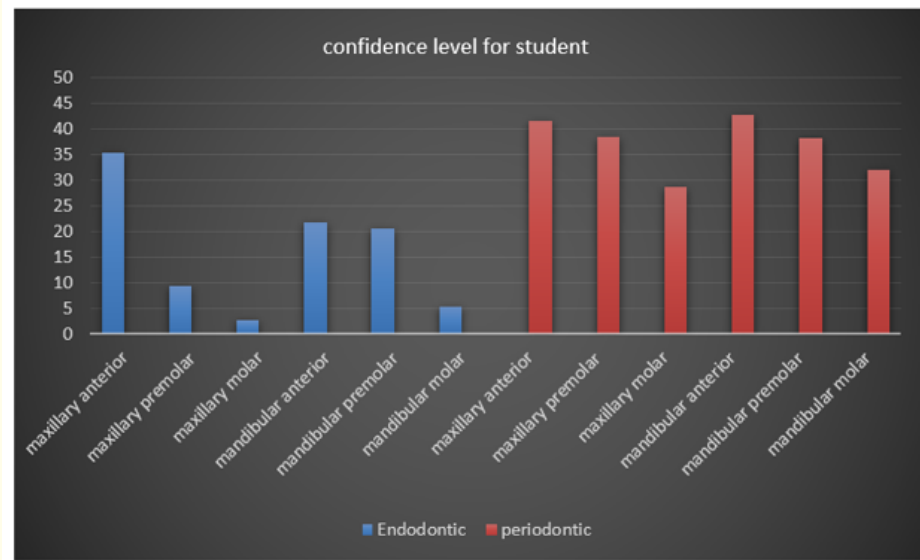
Statistical analysis section

Data will be collected using an electronic questionnaire or and electronic Case Report Form or paper questionnaires or CRF:

- Data will be entered using (Microsoft excel, Microsoft access interface or SPSS software or any other program after being coded).
- Data cleaning will be performed to revise outliers or odd figures.

- Descriptive analysis in term of measures of central tendency and dispersion or percentage presentations followed by the suitable inferential statistics using the suitable test of significance will be made through IBM SPSS Statistics software (version 21, Armonk, New York, USA) at $p \leq 0.05$.
- Significance level will be set at $p \leq 0.05$.

Result



Bar Chart 1: For student about confidence level in endodontic and periodontic cases.

Characteristics	Frequency	Percentage
Age (in years)		
20-25	285	95%
26-30	15	5%
≥ 30	0	0%
Sex		
Male	150	50%
Female	150	50%
Specialty		
Undergraduate dental students	224	74.7%
Dental Intern	76	25.3%
Dental board resident	0	0
Undergraduate dental student (year of enrollment)		
5 th	108	36%
6 th	116	38.7%

Table 1: Demographic characteristics of participants.

Type of Treatment	Dental Students (Fifth and Sixth Academic Year)					Dental Interns				
	Number of treated teeth	Frequency	Percentage	Rate of difficulty among other disciplines		Number of treated teeth	Frequency	Percentage	Rate of difficulty among other disciplines	
				Rate	%				Rate	%
Endodontic	5 - 10	46	20.5	1 st	3.6	5 - 10	22	28.9	1 st	0
	11 - 15	63	28.1	2 nd	5.4	11 - 15	12	15.8	2 nd	10.5
	16 - 20	83	37.1	3 rd	16.1	16 - 20	32	42.1	3 rd	26.4
	21 - 35	30	13.4	4 th	41.5	21 - 35	6	7.9	4 th	27.6
	≥35	2	0.9	5 th	30.4	≥35	4	5.3	5 th	27.6
				6 th	3				6 th	7.9
Periodontal	5 - 10	132	58.9	1 st	15.2	5 - 10	52	68.4	1 st	30.4
	11 - 15	62	27.7	2 nd	20.5	11 - 15	16	21.1	2 nd	28.9
	16 - 20	24	10.7	3 rd	36.6	16 - 20	5	6.6	3 rd	18.4
	21 - 35	4	1.8	4 th	23.2	21 - 35	3	3.9	4 th	18.4
	≥35	2	0.9	5 th	3.6	≥35	0	0	5 th	3.9
				6 th	0.9				6 th	0

Table 2: Number of treatments performed (endodontic and periodontal), number of endodontic periodontal lesions managed by dental students of fifth and sixth academic years and dental interns and rate of difficulty among other disciplines.

Type of Treatment	Dental Students (Fifth and Sixth Academic Year)			Dental Interns		
	Number of treated teeth	Frequency	Percentage	Number of treated teeth	Frequency	Percentage
Endodontic Periodontal Lesions	0	60	26.8	0	22	28.9
	One	128	57.2	One	28	36.8
	Two	33	14.7	Two	15	19.7
	Three	3	1.3	Three	7	9.2
	Four	0	0	Four	2	2.7
	> 4	0	0	> 4	2	2.7
lectures	0	0	0	0	0	0
	One	134	59.8	One	25	32.9
	Two	69	30.8	Two	31	40.8
	Three	15	6.7	Three	14	18.4
	Four	6	2.7	Four	6	7.9
	> 4	0	0	> 4	0	0
seminars	0	51	22.8	0	31	40.8
	One	140	62.5	One	31	40.8
	Two	27	12.1	Two	12	15.8
	Three	6	2.6	Three	1	1.3
	Four	0	0	Four	1	1.3
	> 4	0	0	> 4	0	0

Table 3: Number of treatments performed (Endodontic Periodontal Lesions) and number of lectures and seminars

Type of Treatment	Endodontic										Periodontal									
	Very little Confidence		Little Confidence		Neutral		Confident		Very Confident		Very little Confidence		Little Confidence		Neutral		Confident		Very Confident	
Tooth Type	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I
Maxillary Anteriors	12 5.4%	6 7.9%	10 4.5%	7 9.2%	46 20.5%	20 26.3%	77 34.4%	17 22.4%	79 35.3%	26 34.2%	5 2.2%	2 2.6%	10 4.5%	2 2.6%	41 18.3%	9 11.8%	75 33.5%	22 28.9%	93 41.5%	41 53.9%
	P-Value (S) = .000																			
	P-Value (I) = .000																			
Maxillary Premolars	3 1.3%	4 5.3%	24 10.7%	8 10.5%	82 36.6%	14 18.4%	94 42.0%	32 42.1%	21 9.4%	18 23.7%	5 2.2%	2 2.6%	12 5.4%	4 5.3%	36 16.1%	3 3.9%	85 37.9%	29 38.2%	86 38.4%	38 50%
	P-Value (S) = .000																			
	P-Value (I) = .000																			
Maxillary molars	20 8.9%	11 14.5%	109 48.7%	19 25%	64 28.6%	33 43.4%	25 11.2%	4 5.3%	6 2.7%	9 11.8%	0 0	0 0	24 10.7%	4 5.3%	39 17.4%	6 7.9%	97 43.3%	43 56.6%	64 28.6%	23 30.3%
	P-Value (S) = .002																			
	P-Value (I) = .186																			
Mandibular Anteriors	14 6.2%	8 10.5%	31 3.8%	11 14.5%	36 16.1%	20 26.3%	94 42.0%	15 19.7%	49 21.9%	22 28.9%	9 4.0%	6 7.9%	8 3.6%	0 0	39 17.4%	10 13.2%	72 32.1%	21 27.6%	96 42.9%	39 51.3%
	P-Value = .000																			
	P-Value (I) = .000																			
Mandibular Premolars	11 4.9%	8 10.5%	20 8.9%	8 10.5%	96 42.9%	15 19.7%	51 22.8%	23 30.3%	46 20.5%	22 28.9%	7 3.1%	2 2.6%	10 4.5%	2 2.6%	38 17.0%	9 11.8%	83 37.1%	26 34.2%	86 38.4%	37 48.7%
	P-Value = .000																			
	P-Value (I) = .000																			
Mandibular Molars	21 9.4%	8 10.5%	79 35.3%	17 22.4%	62 27.7%	24 31.6%	50 22.3%	18 23.7%	12 5.4%	9 11.8%	2 0.9%	2 2.6%	17 7.6%	4 5.3%	35 15.6%	5 6.6%	98 43.8%	38 50%	72 32.1%	27 35.5%
	P-Value (S) = .003																			
	P-value (I) = .000																			

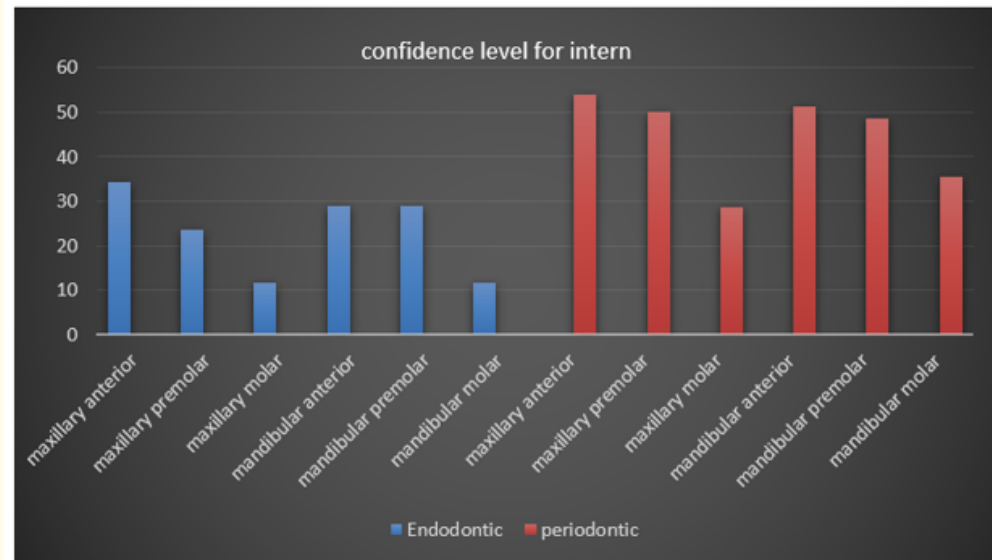
Table 4: Self-confidence level of dental students (S) and dental interns (I) about endodontic and periodontal treatments of different types of teeth (frequency and percentage)

Maxillary anterior (35.3%) followed by mandibular anterior (21.9%).

Then mandibular premolar (20.5%) then maxillary premolar (9.4%) then mandibular molar (5.3%) then maxillary molar (2.7%).

Most confidence level for periodontic was: Mandibular anterior (42.9%) followed by maxillary anterior (41.5%).

Then maxillary premolar (38.4%) then mandibular premolar (38.3%) then mandibular molar (32.1%) then maxillary molar (28.6%).



Bar Chart 2: For intern about confidence level in endodontic and periodontic cases.

Most confidence level for endodontic was: Maxillary anterior (34.2%) followed by mandibular anterior and mandibular premolar (28.9%) followed by maxillary premolar (23.7%) then maxillary molar and mandibular molar (11.8%).

Most confidence level for periodontic was: Maxillary anterior (53.9%) followed by mandibular anterior (51.3%) then maxillary premolar (50%) then mandibular premolar (48.7%). Then mandibular molar (35.5%) then maxillary molar (30.2%).

Type of Procedure	Endodontic										Periodontal									
	Very Little Confidence		Little Confidence		Neutral		Confident		Very Confident		Very little Confidence		Little Confide		Neutral		Confident		Very Confident	
	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I
Case Evaluation and Patient History	4	2	17	7	66	23	93	33	44	11	0	0	13	2	67	28	97	36	47	10
	1.8%	2.6%	7.6%	9.2%	29.5%	30.3%	41.5%	43.4%	19.6%	14.5%	0	0	5.8%	2.8%	29.9%	36.8%	43.3%	47.3%	21%	13.1%

	P-Value (S)= .000																			
	P-Value (I) = .000																			
Clinical Diagnosis of a Case Scenario	18 8%	1 1.3%	35 15.6%	9 11.8%	94 42%	22 28.9%	59 26.4%	39 51.4%	18 8%	5 6.6%	28 12.5%	4 5.3%	28 12.5%	8 10.5%	82 36.6%	25 32.9%	61 27.2%	26 34.2%	25 11.2%	13 17.1%
	P-Value (S)= .000																			
	P-Value (I)= .000																			
	Endodontic-Periodontal Scenario																			
	Very Little Confidence		Little Confidence		Neutral		Confident		Very Confident											
	S	I	S	I	S	I	S	I	S	I	S	I	P-Value							
Clinical Diagnosis	73 32.6%	8 10.5%	47 21%	17 22.4%	70 31.2%	28 36.8%	25 11.2%	22 28.9%	9 4%	1 1.4%			0							
Radiographic Interpretation	77 34.4%	10 13.2%	31 13.8%	14 18.4%	47 21%	24 31.6%	59 26.3%	23 30.3%	10 4.5%	5 6.5%			0							
	Various Endodontic Management																			
	Very Little Confidence		Little Confidence		Neutral		Confident		Very Confident											
	S	I	S	I	S	I	S	I	S	I	S	I	P-Value							

Management of Irreversible Pulpitis	10 4.5%	2 2.6%	16 7.1%	5 6.6%	71 31.7%	23 30.3%	83 37.1%	23 30.3%	44 19.6%	23 30.2%	0
Management of Acute Apical Periodontitis and Abscess	9 4%	2 2.6%	36 16.1%	6 7.9%	113 50.4	30 39.5	42 18.8	29 38.2%	24 10.7%	9 11.8%	0
Management of Chronic apical Lesions (Chronic Apical Periodontitis, Abscess, and Cysts)	31 13.8%	8 10.5%	65 29%	18 23.7%	78 34.8%	23 30.3%	36 16.1%	19 25%	14 6.3%	8 10.5%	0
Management of Endo-Perio Combined Lesions	83 37.1%	10 13.2%	45 20.1%	20 26.3%	54 24.1%	24 31.6%	32 14.3%	15 19.7%	10 4.4%	7 9.2%	0
Management of Traumatic Cases	51 22.8%	10 13.2%	91 40.6%	23 30.3%	54 24.1%	29 38.2%	19 8.5%	11 14.5%	9 4%	3 3.8%	0
Management of Root Resorptions	50 22.3%	14 18.4%	79 35.3%	26 34.2%	62 27.7%	19 25%	15 6.7%	12 15.8%	18 8%	5 6.6%	0
Management of Teeth with Immature Apices	40 17.9%	10 13.2%	62 27.7%	22 28.9%	75 33.5	30 39.5%	40 17.8%	12 15.8%	7 3.1%	2 2.6%	0
Management of Emergency Cases in General	14 6.2%	8 10.5%	50 22.3%	15 19.8%	59 26.3%	25 32.9%	74 33%	25 32.9%	27 12.2%	3 3.9	0

Table 5: Self-confidence level of dental students (S) and dental interns (I) about endodontic and periodontal procedures, endodontic-periodontal scenario, and various endodontic management.

Management of Different Endodontic Periodontal Disease Conditions	Treatment Modality					
	Case 1		Case 2		Case 3	
	Primary Endodontic	Primary Periodontal	Primary Endodontic	Primary Periodontal	Primary Endodontic	Primary Periodontal
Dental Students	145	79	195	29	142	82
	64.7%	35.3%	87.1%	12.9%	63.4%	36.6%
	P-Value = .681					
Dental Interns	42	34	62	14	47	29
	55.3%	44.7%	81.6%	18.4%	61.8%	38.2%
	P-Value = .377					

Table 6: Management of different endodontic-periodontal disease conditions by dental students and dental interns (frequency and percentage)

Discussion

Management of endodontic-periodontal lesions is a challenging process to many dental practitioners. The current study was assigned to investigate the confidence level of dental students and interns practicing at Taibah University Dental College and Hospital in mastering the clinical diagnosis and management of various endodontic-periodontal case scenarios, and the factors which would contribute to the proper evaluation of this clinical setting.

According to the present study, a total number of 16 - 20 endodontic treatments and 5 - 10 cases of periodontal treatments were considered eligible for students' graduation. Accordingly, students had a good confidence level in treating most of these cases and did not encounter much difficulty. However, the number of endodontic treatments revealed in this study did not perfectly match the data obtained in a recent study in which the number of completed root canal treatments on patients per student was [5] in the standard program at ACTA (Academic Centre for Dentistry Amsterdam), 10 in AU (Aarhus University), and 14 in the extended program at ACTA [6]. Variation from the present findings is considered a limitation of the present study and further research is needed to investigate on the incompatibility of results.

IN study of J Dent Educ 2015 Jan, Students of three dental schools were asked to select the diagnosis and treatment plans on a questionnaire pertaining to 11 cases of periodontal disease. They marked that the student need extra periodontal courses for a better understanding of periodontal diagnosis and treatment planning [7].

On the other hand, only one case of endodontic-periodontal lesion was performed by dental students and interns during their clinical lifetime, which represented a kind of clinical difficulty that was worth an investigation in this study. The dramatic decrease in the number of performed endodontic periodontal lesions could have been the result of not including these types of treatments early on in the list of students' requirements and not giving it the priority intended. In addition to this clinical drawback, the number of didactic lectures and seminars given on these topics were also few which in turn negatively affected the way dental students and interns diagnosed and managed these treatments effectively. These findings were in agreement with a previous study which confirmed that clinicians should have appropriate knowledge and skills about the proper diagnosis and management of various endodontic periodontal lesions to overcome the continuous challenges presented by these pathological conditions to the involved teeth [8].

The rate of difficulty of endodontic treatments by dental students and interns in this study was a third degree moderate rate of difficulty (on a scale of 1 - 6) among other disciplines. This was an anticipated rating because of the satisfactory number of root canal treatments performed by students before their graduation. However, they had much confidence in treating maxillary incisors than second molars and mandibular than maxillary teeth in general. These results could be related to certain parameters such as the position of the tooth in the arch, root canal configuration and tooth accessibility, which are in most cases simple and easy to manage in maxillary anterior teeth but are more variant, complex and difficult in maxillary molars. Students are expected to regain more confidence in teeth locations and complexities by more experience. These findings coincided with a previous study which pointed that the self-efficacy of dental students was increased with the increase in number of treated root canals, and decreased with treating difficult cases as in molars and retreatments [6].

The present findings also complied with another study which reported that site specific factors such as tooth type and endodontic treatment may have an impact on the outcome, especially the complications for successful treatments of molars [9].

The rate of difficulty of periodontal treatments by dental students and interns in this study was a first degree lowest rate of difficulty (on a scale of 1 - 6) among other disciplines. This was because the two study groups found periodontal treatments easier to perform than root canal treatments. The ease of this treatment was probably due to the fact that most of the periodontal requirements were simple cases as scaling and root planning procedures which were easily managed by students. In the meantime, many periodontal treatments were easily performed by dental interns during their training program period with the lowest degree of difficulty. This finding coincided with a previous study that associated the level of confidence of a periodontal therapy with the amount of the dentists' knowledge in this area of practice [10].

On a more detailed description in this part of the study, both study groups were much confident with periodontal treatments on anterior teeth than on posterior teeth (in particular the maxillary second molar) and were more confident in treatments related to mandibular teeth in general. These results could be attributed to certain parameters such as the position of the tooth in the arch, tooth accessibility and to certain anatomical features which may be more complex in posterior teeth and impose some difficulty during root planning and other periodontal treatment procedures. These findings were in agreement with a previous study which indicated that site specific factors of tooth type and treatment modality have an impact on the foreseen outcome.

It was rather interesting to note that dental students surpassed interns in certain diagnostic procedures mentioned in this study as in case evaluation and in patients' history taking for both endodontic and periodontal treatments. This advancement could be assigned to the fact that students in their final clinical graduation years may be more concerned to present their clinical comprehensive cases in an appropriate manner that provide an accurate clinical picture and evaluation of the entire case scenario including detailed information of patients' medical and dental history. This finding coincided with a previous study which pointed out that final year students at Cardiff School of Dentistry in UK were most confident in dental procedures and had the most clinical experience and practice [11].

At some point in this study, both study groups found difficulty in diagnosing certain endodontic case scenarios with low mean confidence levels, most probably because they did not have enough years of clinical experience in this area of practice and it was quite difficult for them to give a proper clinical diagnosis in this part. This finding coincided with a previous study which indicated that case difficulty was the main determinant of endodontic problems in the undergraduate clinic. (Study of Sivakami Rethnam Haug BDS, DrOdont July 2018 Impact of Case Difficulty on Endodontic Mishaps in an Undergraduate Student Clinic study). Accordingly, the American Association of Endodontists case difficulty assessment form is an essential and effective tool in undergraduate dental education to consider potential endodontic issues and case difficulties [12].

On the other hand, periodontal case scenarios were easier to diagnose and manage by dental practitioners with interns ahead of dental students in this part of the study. Assumingly because they had more time to practice during the internship program which probably gave

them more confidence and better experience in this area of practice. This finding coincided with a previous study done on the level of confidence of periodontal therapy by dentists.

According to the present study, dental students were a little bit more confident than interns in the diagnosis and management of endodontic periodontal lesions with few lectures and practices given on this part of study. No particular explanation could be given to support this finding rather than students could be more motivated to self-learning methods and oriented to continuously access dental updates which improve their knowledge and cognitive skills to high function levels to meet their learning and clinical expectations as they come closer to their graduation date. In terms of radiographic interpretations, dental interns on the other hand, in this study were more competent in this part as most probably they had more time to practice many types of imaging procedures and radiographic taking methods during the internship program and master these skills efficiently.

These findings this coincided with Abdulrahman Abdullah, Evaluation of Undergraduate Dental Student Radiographic Interpretation in (QU).

The study show It was noticeable that both 4th year and 5th year students performed better in knowledge of how to interpret the radiographs [13].

Dental interns showed more confidence than students in this study in managing various endodontic scenarios especially cases of irreversible pulpitis, while other conditions of acute apical periodontitis, chronic apical periodontitis, and endodontic periodontal combined lesions were managed with less confidence. This finding was probably due to the fact that dental interns usually observe, monitor and manage difficult cases in the dental clinics under the supervision of specialists and consultants. These findings were in disagreement with a previous study which indicated that students' lower confidence in more challenging areas of dentistry could be somewhat related with the attitude of dental schools to refer these cases to post graduate students and give information about these cases on a theoretical basis only. This is not the policy used by the dental school in the present study. Challenging cases however, may be referred by a dental practitioner to a specialist in the future [14].

Other endodontic conditions such as traumatic cases, root resorptions, and teeth with immature apices, were difficult to manage by dental students and interns with low mean confidence levels, as these cases required more professional management by more experienced specialists, however, emergency cases in general were managed better by dental students. This finding was in agreement with a Management of dental trauma by general practitioners Nicholas Beech, December 2015 study.

The study that indicated that dental practitioners should be equipped with the knowledge and the professional means for managing traumatic and emergency cases appropriately as they are often the first to see and manage these cases [15].

According to the different endodontic-periodontal cases presented in this study, root canal treatment was selected by the majority of dental students and interns as a primary treatment modality regardless of the condition of the tooth, correct diagnosis and correct management. The clinical limitations met by most dental students and interns in this study regarding the proper diagnosis and management of endodontic periodontal lesions was studied in a previous case report which determined the complex pathogenesis of these types of lesions and pointed to the amount of skills needed to identify and treat it effectively [16].

Dr. Suchetha, Endo-perio lesion: A case report study [16].

Therefore, it is essential that dental practitioners understand the basic principles of correct diagnosis and management for a better and satisfactory outcome of endodontic periodontal case scenarios.

Conclusion

The present study indicated that dental students and interns had clinical limitations in diagnosing and managing endodontic periodontal lesions effectively. Dental students were slightly more confident than interns in the diagnostic procedure. Both study groups found periodontal treatments easier to perform than endodontic treatments. They had difficulty in clinically diagnosing certain endodontic case scenarios, otherwise they were confident especially with cases of irreversible pulpitis managed efficiently by dental interns. Both study groups managed all endodontic periodontal lesions by endodontic treatment as a primary treatment modality regardless of the condition of the tooth, correct diagnosis and correct management.

The dental college should improve the knowledge of dental students about endodontic-periodontal lesions and how to clinically diagnose and manage these cases appropriately and increase students' knowledge about how to diagnosis and deal with difficult endodontic cases before their graduation. This could be done by several ways, one of which is by increasing the number of lectures, seminars and clinical cases.

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