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Attitude of Dental Students towards the Specialty of Oral Pathology: A Questionnaire-Based Survey

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ABSTRACT

Background: *As the dental specialty dealing with the causes, processes, and effects of illnesses impacting the oral and maxillofacial regions, oral and maxillofacial pathology plays a crucial role in bridging the gap between dentistry and medicine. Dental students do not make up a harmonious class; there will always be a mix of some with higher curriculum understanding than others.* ***Aim of this study:*** *Given the rising incidence of oral cancer, this study was carried out to identify dental students' attitudes toward oral pathology and how to improve the likelihood of them choosing it as their future specialty.* ***Methods:*** *This study was carried out at the College of Dentistry, University of Baghdad; it involved 240 dental students. Data were collected and analyzed using descriptive statistics and thematic analysis.* ***Results:*** *The results showed that 66.9% of students faced difficulties in understanding the topics in pathology classes, and only 22.3% of them are interested in being a pathologist.* ***In conclusion,*** *studying oral pathology presents various challenges for dentistry students.*

Keywords: Oral and Maxillofacial Pathology, Attitude, Specialty, Teaching Strategies, Curriculum.

Article Information

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INTRODUCTION

Attitude is characterized as a tendency to categorize things and occurrences and respond to them in a way that maintains some degree of evaluative consistency. Instead of being taught in textbooks, attitudes are developed via social interaction [1]. The American Academy of Oral Pathology (AAOP) was founded in 1946, marking the official beginning of the field of oral and maxillofacial pathology. The American Dental Association recognized the AAOP as the parent organization of a newly recognized dental specialty in 1950. In 1995, oral pathology became oral and maxillofacial pathology, the official designation [2]. As the dental specialty dealing with the causes, processes, and effects of illnesses impacting the oral and maxillofacial regions, oral and maxillofacial pathology plays a crucial role in bridging the gap between dentistry and medicine. Given the greater area available for research and the multitude of questions about the causes and consequences of disease processes that remain unanswered, oral pathology might be referred to as the pinnacle of dentistry research [3].

Dental students do not make up a harmonious class; there will always be a mix of some with higher curriculum understanding than others [4]. On the other hand, they are skilled at offering distinct insights into the efficacy of the dental curriculum [5]. A diverse array of moralistic and motor skill learning procedures makes up dental education [6]. The

learning environment affects students' academic performance in social, psychological, and pedagogical domains, as well as their attitudes [7].

In order to support and resource dental students and ensure the development of dental professionals who are both competent and knowledgeable, educators and institutions must have a thorough understanding of the challenges that these students experience when studying oral pathology (O. Pathology) [8].

Oral pathology students in dentistry face a variety of challenges and barriers during their education. These arise from the subject matter's complexity, the demanding curriculum, and the practical aspects of diagnosis and treatment planning [9]. This study intends to explore and analyze undergraduate dental students' perceptions regarding oral pathology to enhance university-provided teaching and training processes in the future and to add information to comparable studies across the globe [10],[11].

MATERIAL AND METHOD

This study was conducted during the period from January 2024 to April 2024 at the College of Dentistry, University of Baghdad, Department of Oral Diagnostic Sciences.

This study employed a descriptive cross-sectional design to collect data regarding the challenges faced by dental students in studying oral pathology. It included dental students ages 21-23, undergraduates, males, and females, and excluded the postgraduate students.

A convenience sampling method was utilized to select 240 dental students from the University of Baghdad. 90 of them were from the 4^{th} stage, and 150 of them were from the 5^{th} stage.

Data were collected through a structured questionnaire developed based on a comprehensive literature review and expert opinions with some modifications [12]. The questionnaire consisted of both closed-ended and open-ended questions, allowing for quantitative and qualitative data collection. The closed-ended questions focused on demographic information, while the open-ended questions aimed to explore specific challenges encountered by dental students in studying oral pathology. Each participant received the questionnaire, which they were asked to complete on their own.

Statistical analysis

Quantitative data obtained from closed-ended questions were analyzed using appropriate statistical methods, including descriptive statistics and inferential analysis if applicable. Qualitative data from open-ended questions were analyzed through thematic analysis to identify common themes and patterns.

The findings were reported, ensuring transparency and completeness in reporting the study's methodology, results, and conclusions. The questionnaire that was used in this study is listed below (Table 1).

Other questions:

1) Time you spend studying O. pathology in your college?
   - 2 hours, 2 days / week
   - 2 hours, 1 day / week
   - Others

2) What branch of dentistry you like the most?

Table 1: Attitude of dental students towards the specialty of oral pathology: a questionnaire based survey.

Academic year:	**Gender:**	**Age:**

Questions	**Yes**	**No**
1. Have you requested your doctors to restate the information or provide an explanation?		
2. Do you find your staff's teaching abilities satisfactory?		
3. Do you find the quantity of lectures you're taking satisfactory?		
4. Have you had trouble understanding the subjects?		
5. Have you been to any oral pathology-related seminars?		
6. Have you viewed every slide shown in the lessons?		
7. Do you try to recognize the characteristics on the slide?		
8. Before viewing the slide, have you read the topic?		
9. Have you encountered any trouble identifying the slide?		
10. For every slide, do you create a histology diagram?		
11. Are you interested of being a pathologist?		

RESULT

Every one of the 240 participants, which included a mixture of male and female, fourth and fifth stage dentistry students, ages, 21-23, answered the questionnaire. The distribution of the participants according to sex, age, and academic year is shown in Table.1.

The results show that over the course of a week, 114 (47.5%) participants dedicated two hours a day to studying oral pathology, and 48 (20%) of them spent 2 hours 2 days a week, 30 (12.5%) spent 4 hours 2 days, and others included 48 students (20%) (Figure.1).

Table (1): Distribution of participants according to gender, age and academic year.

Characteristics	**Frequency**	**Percentage**
Gender		
Male	100	33.4%
female	140	66.6%
Age		
21	79	32.9%
22	110	45.8%
23	51	21.25%
Academic year		
4th stage	90	37.5%
5th stage	150	62.5%

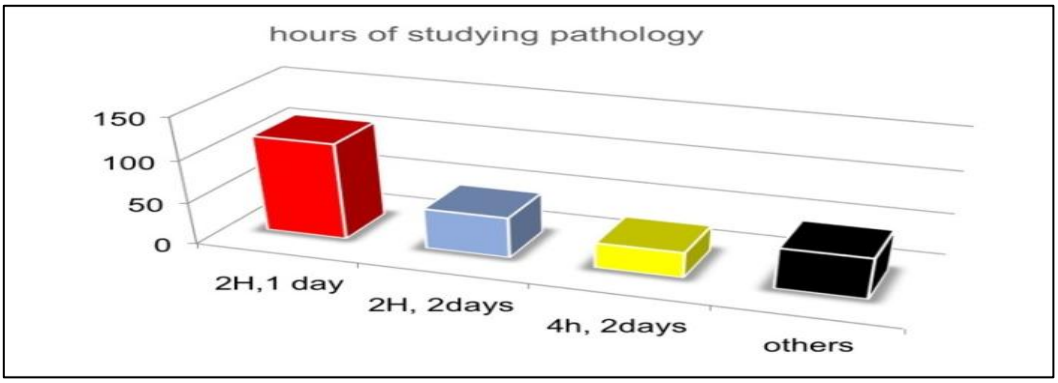

Figure 1: Distribution of participants in relation to hours of studying pathology in which red is 2 hours a day, blue is 2 hours 2 days, yellow is 4 hours 2 days and black is other.

The results of this study showed that 113 (46.7%) of students asked their doctor to repeat the topic again, while 127 (53.3%) didn't. Out of 240 students, 195 (80.6%) of them are highly satisfied with staff members' ability to teach. A total of 136 students (56.2%) said that the staff's lectures gave them a thorough understanding of the subject. 126 participants (66.9%) in the current study reported having trouble understanding the material covered in pathology lessons. Of the students in this study, 115 (48.3%) have attended oral pathology-related seminars. Out of 240 participants, 159 (65.7%) students have viewed every slide that was shown in the practical classes. Out of all the students, 159 (65.7%) try to identify the features on a slide. 138 (57%) had studied the subject before viewing the slides. In the present study, 167 (69%) have difficulties in identifying the slide. Of the participants, 65 (26.9%) created a histology diagram for every slide. Out of 240 participants, only 52 (22.3%) of all students are interested in being a pathologist. All the 240 participants answered the questionnaire that is seen in Table.3.

Table 3: Questions about problems faced in studying oral pathology.

Questions	Yes	Percent	No	Percent
1. Have you requested your doctors to restate the information or provide an explanation?	113	46.7%	127	53.3%
2. Are you satisfying of teaching skills?	195	80.6%	45	19.4%
3. Are you satisfying of lectures numbers?	136	56.2%	104	43.8%
4. Have you faced difficulties in understanding the topic?	162	66.9%	78	33.1%
5. Have you attended seminars related to pathology topic?	115	48.35%	125	51.7%
6. Have you seen all the slides in practical class?	159	65.7%	81	34.3%
7. Have you made effort to identify the slide?	159	65.7%	81	34.3%
8. Before viewing the slide, have you read the topic?	138	57%	102	43%
9. Do you have difficulties in identifying the slide?	167	69%	73	31%
10. Do you make histological diagram to the slide?	65	26.9%	175	73.1%
11. Are you interested of being a pathologist?	52	22.3%	188	77.7%

The last question was asked to 240 students at the University of Baghdad to find out which branch of dentistry they are interested in, and the result was as shown in Fig.2; 75 (31%) of them are interested in conservative specially, 70 (29%) in oral and maxillofacial surgery, only 25 (10.5%) are interested in being a pathologist, 50 (22%) of them are interested in being an orthodontist, and only 11 (4.5%) and 9 (3%) students are interested in periodontics and pedodontics specialties respectively.

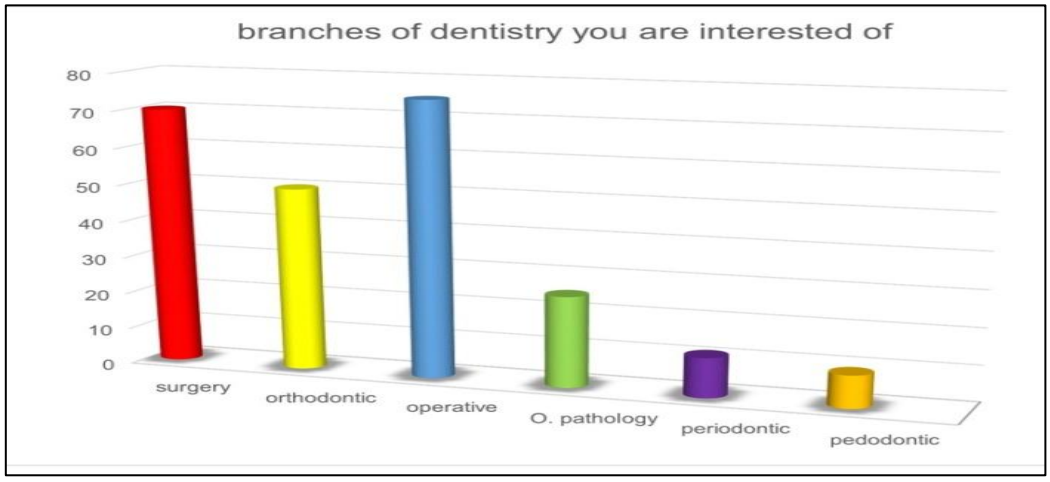

Figure 2: Distribution of participants in relation to their interested branch in which red indicate surgery, yellow indicate orthodontic, blue indicate operative, green indicate pathology, purple indicate periodontics, and orange indicate pedodontics.

Table 3 was made to describe the relationship of students' gender and academic year with the dentistry branches they chose. For the relationship between dentistry branches and their sex, oral pathology got 15 (6.3%) votes from males and 10 (4.2%) from females. For students' dentistry branches and academic year, oral pathology got 12 (5%) and 13 (5.4%) votes from 5th and 4th grades, respectively.

Table 3: The relationship of student's gender and academic year with dentistry branches.

Branch of dentistry	Male	Female	4th stage	5th stage
Surgery	44 (18.2%)	26(10.7%)	30(12.4%)	40(16.5%)
Orthodontic	21(9.24%)	29(12.76%)	13(6.2%)	37(16.28%)
Operative	40(16.5%)	35(14.4%)	27(11.1%)	48(19.8%)
O. Pathology	15(6.3%)	10(4.2%)	13(5.4%)	12(5%)
Periodontic	4(1.6%)	7(2.8%)	6(2.4%)	5(2%)
Pedodontics	3(1%)	6(2%)	3(1%)	6(2%)

DISCUSSION

The best of our knowledge, this is the first study to examine dental students' attitudes toward specialization among the Iraqi dental universities. This cross-sectional study assesses and investigates dental students' theoretical and practical focus on oral pathology while also emphasizing the importance of taking additional steps to improve the teaching process. Dental graduates received instruction geared to enable them to appreciate oral pathological problems at clinical and microscopic levels, making it imperative that they acquire an interest in oral pathology.

In this study, the majority of students who answered the questionnaire were females (66.6%). This result is close to (Saigal et al., 2023) study findings in which 60% of the participants were females [10]. This might be due to the fact that the percentage of women in dentistry has been gradually increasing, according to a study done by (Kasarla et al., 2023) in Nepal [13]. The two main reasons why women study dentistry, according to reports, are easier work-life balance and flexible work schedules [14].

In a 2019 study by [11]. he got a lower percentage of satisfaction with the teaching skills (51.1%), respondents who see all slides (59.6%), respondents who read the topic before viewing the slide (47.9%), and respondents who didn't ask their doctor to repeat the topic (10.6%) when comparing our study findings to the findings of this study On the other hand, Latoo *et al*., [11] found that the percentage of the respondents who were satisfied with the number of lectures (70.2%), made an effort to identify the slide (89.4%), and made a histological diagram for each slide (95.7%) was higher than the findings of this study.

According to the current study, 66.9% of the students had trouble understanding the topics that were taught in class, which is less than study (83%) [11]. Similar studies have shown that the perceived difficulty of oral pathology education is influenced by the abundance of information, the complexity of diagnostic criteria, and the requirement for thorough knowledge across a range of subspecialties. This uniformity implies that dentistry students around the world share a common obstacle in the subject matter's complexity [9]. This can be solved by implementing innovative teaching strategies for the chapters in the curriculum, such as interactive videos about those chapters and graphical representations of their difficult parts. Students will develop a certain degree of curiosity as a result, which may help them concentrate better in theoretical lectures [15].

An example of the beneficial effects that nontraditional teaching methods have on the learning process is a study done at Kerbala Medical College, where the majority of medical students (>90%) supported the use of the integrated problem-based learning method and believed it to be a successful approach when compared to the conventional method [16].

In addition, 69% of the participants in this study have difficulties in identifying the slides, which is less than the participants of a study done by [11], in which the percentage was 86.1% This can be changed by the use of more advanced teaching methods like incorporating virtual microscopy into the oral pathology education, which is a pertinent advancement that will boost student motivation and increase the caliber of education. Several favorable aspects were pointed out by students who used this type of microscope, including the use of extra materials like radiographic and clinical photos, the excellent definition of the histological images, the simplicity of the software, and the ease of interaction between them and teachers [17].

In the present study, only 22.3% of the respondents were interested in being oral pathologists, which is higher than the percentage found by , in which only 4.7% of the students preferred it [18]. Studies show that dental students choose careers based on financial security, independence, specialization, job satisfaction, status, and interest in serving the public [19]. Learning characteristics, inadequate comprehension of the work required of an oral pathology specialist, poor life quality or excessive workload, lower accomplishment, fewer job opportunities, and a relatively lower income were among the primary reasons for not selecting oral pathology specialists as a lifetime career [20]. The most frequently favored specialization was found to be oral and maxillofacial surgery (44.1%) among dental students in a study done by [18]. The popularity of oral and maxillofacial surgery may be due to the increasing use of dental implants to replace lost teeth in individuals who are edentulous and partially dentate [21]. In another study done by , the most preferred specialty was aesthetic dentistry (21.4%) [22].

In this study, 47.5% of the students spent 2 days a week studying oral pathology. These results agree with another study by [23].

When asked which branch of dentistry they are interested in, most of the students chose conservative as their answer. These participants' preference for conservative dentistry might be explained by their perception of the high demand for this specialty in private practice, as well as the possibility of financial gain [22], because dental caries is the most prevalent oral health issue and negatively impacts quality of life, although it is not a life-threatening condition [24].

Only 10.5% of the respondents were interested in O. Pathology. Students feel that oral pathology is not interesting because of the common misconception that pathologists do not treat or interact directly with patients; however, it is necessary to clarify to them that oral pathologists are equally qualified to treat patients as those in other branches. But according to the prevailing trend, patients are treated by other departments [25].

When describing the relation between students' sex and dentistry branches, for male students, oral and maxillofacial surgery was the most interesting specialty (18.2%). A restriction of social life and a concern for entering a male-dominated field might explain the lower percentage of female interest in surgery in comparison to males [26]. On the other hand, operative dentistry was the most interesting specialty among female students (14.4%), but the percentage was close to that of males, which can be explained by the same reasons that made the students choose it as the most interesting specialty.

The number of respondents in this study is relatively low, which presents a limitation.

As a result, the findings should be considered preliminary. To gain a more comprehensive understanding of dental students' attitudes toward selecting oral pathology as a future career, further research involving larger sample sizes and participants from various colleges across the country is necessary.

CONCLUSION

When studying oral pathology, dental students must overcome a number of obstacles, such as the subject's complexity, workload and time constraints, clinical correlation, diagnostic skills development, practical training, and teaching methodologies. The results emphasize that in order to effectively address these problems, curriculum changes and the integration of clinical experiences and practical training are all necessary. By confronting these challenges, dental schools and educators may provide a nurturing and stimulating learning environment that guarantees the production of qualified oral pathology dentists.

Ethical consideration

The present study which is conducted by authors (Layla Sabri Yas, Lubna Mohammed Ismail, Fatimah Jalil Ismael, Shahad Yousif Rashid, and Mina Ayad Taha) was approved by the local Department of Oral Diagnostic Sciences committee.

Conflicts of interest

The others declare that there aren't any financial interests, direct or indirect connections, or other circumstances that could raise concerns about bias in the reported work or the stated conclusions, implications, or opinions. This includes any relevant commercial or other funding sources for the individual author(s) or the associated department(s) or organization(s), as well as personal relationships or direct academic competition.

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