

The perception and willingness of interns studying in Dental Colleges of Bangalore to opt for Oral Pathology and Histology as a career in Dentistry

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ABSTRACT

Background: Oral pathology is a vital discipline in dentistry focused on diagnosing and managing diseases of the oral and maxillofacial regions. While studies have examined dental interns' perceptions of oral pathology in various populations, there is no published data regarding interns from dental colleges in Bangalore.

Objectives: This study aims to assess dental interns' perceptions of oral pathology and histology as career options, evaluate their willingness to pursue careers in this field, and identify factors influencing their choices within dentistry.

Methods: A cross-sectional questionnaire-based survey was conducted among 135 dental interns in Bangalore. The 20 closed-ended questions addressed perceptions of dental anatomy, histology, oral pathology, and willingness to choose oral pathology as a career. Data were analyzed using descriptive statistics with SPSS version 21.0.

Results: Among the participants, 68.5% perceived oral pathology as a research-oriented subject, recognizing its importance as a foundation for clinical dentistry. However, 71.9% were unwilling to choose oral pathology as a career, citing concerns about limited job opportunities and lack of interest. Participants suggested that increasing clinical exposure, along with effective continuing dental education programs, workshops, and conferences, could enhance the appeal and scope of oral pathology.

Conclusion: Significant gaps exist in interns' perceptions and career intentions toward oral pathology. Targeted interventions such as hands-on practical training, incorporation of forensic odontology, and increased clinical exposure may boost interest and uptake in this specialty.

Key words: Beneficiaries, cross-sectional study, voluntary participation, Willingness, workshops, conferences.

INTRODUCTION

Oral pathology (oral and maxillofacial pathology/head and neck pathology) is a specialized field of pathology dealing with the diseases of oral cavity and its associated structures (i.e., teeth, tongue; bony tissue [maxilla and mandible]; joint [Temporomandibular joint]; lymph nodes; nerves; structures in neck and blood vessels of the ear, nose and throat [pharynx and larynx]). The qualified doctors of this domain are called oral and maxillofacial pathologists.¹

With the establishment of the American Academy of Oral Pathology in 1946, the profession of Oral and Maxillofacial Pathology officially marked its beginning. This gave recognition to those who had advanced training and education in this specialty area. There are various important and expanding roles of Oral and Maxillofacial Pathologists which have been documented including microscopic diagnosis of oral and head and neck disease, dental and medical education, hospital-associated practice as well as research and independent practice.²

This subject is taught in 1st, 2nd, and 3rd year to the students of Bachelor of Dental Surgery (BDS). It plays a very important role in laying down the foundation for dental

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students as the attainment of successful treatment lies in understanding the pathogenesis of the disease.³ Thus, from the beginning of dentistry itself, positive attitude should be inculcated toward the subject among the students.

An oral pathologist should have adequate knowledge and experience about different diagnostic procedures and the

latest investigations related to oral lesions. During graduation, students should be given a chance to get involved into histopathological diagnosis of simple lesions so that they develop keen interest in histopathology. Postgraduate training programs and curriculum also should be designed in such a way that it not only enhances academics, but clinical proficiency as well. This will empower the budding oral pathologists to enter independent private practice.⁴

Given these trends, it is crucial to understand specialty choices among dental interns, who stand at the threshold of postgraduate decision-making. Bangalore, being a major educational hub with several dental institutions, provides an important context for evaluating these perceptions. However, there is a lack of recent, region-specific evidence examining the current perception and willingness of dental interns in Bangalore to pursue oral pathology as a career. This gap limits the ability of educators and policymakers to develop targeted strategies to improve awareness, training exposure, and career readiness in this specialty.

Therefore, this study aims to assess the perception and willingness of dental interns studying in Bangalore to choose Oral Pathology and Histology as a postgraduate specialty, and to identify key factors influencing their career decisions.

MATERIALS AND METHODS

A voluntary response sampling method was employed by distributing an online Google Forms questionnaire to dental interns across multiple dental colleges in Bangalore, including Dayananda Sagar College of Dental Sciences, Vokkaligara Sangha Dental College, RV Dental College, and Government Dental College. All interns who completed the survey during

Table 1: Will you consider oral pathology and histology as a career option after internship? If YES, what were the reasons for pursuing it as a career?

RESPONSES	n[%]
Interest in the subject	12[31.6]
Interest in the subject, Job opportunities	1[2.6]
Interest in the subject, Job opportunities, Potential for growth and advancement	1[2.6]
Job opportunities	4[10.5]
Interest in the subject, Potential for growth and advancement	8[21.1]
Potential for growth and advancement	7[18.5]
Unable to get admission in others	4[10.5]
Need a PG degree for private practice	1[2.6]
Other (please specify):	0[0]
Total	38[100]

the data collection period (22 February 2023 to 8 August 2023) were included in the analysis. Since the survey link was disseminated openly across institutions without a predefined sampling frame, calculating an exact response rate was not feasible. The questionnaire consisted of 20 close-ended items developed through a literature review and expert input. Although the tool was not statistically validated using measures such as Cronbach’s alpha, content validity was ensured through expert review by oral pathology faculty. A pilot test with a small group of interns was conducted to confirm clarity, face validity, and comprehensibility before full-scale data collection. Data were analyzed using descriptive statistics (frequencies and percentages) with SPSS version 21.0, and no inferential statistical tests were applied.

RESULTS

Perception of Oral Pathology as a Subject

A majority of participants reported that tooth carving in Dental Anatomy/Dental Histology improves clinical skills. Most interns perceived oral pathology predominantly as a research-oriented subject; with smaller proportions viewing it as clinically oriented or as a subject primarily required to pass III BDS. More than half of the participants scored between 60–70% in III BDS oral pathology examinations. Most interns agreed that oral pathology forms the foundation for clinical subjects and is essential for disease diagnosis. The proportion recognizing research opportunities in the field was also high.

(Graph 1)

Table 2: Will you consider oral pathology and histology as a career option after internship? If NO, what were the reasons for not pursuing it as a career?

RESPONSES	n[%]
Lack of interest	28[28.9]
Lack of interest, Limited job opportunities	4[4.1]
Limited job opportunities	29[29.9]
Insufficient knowledge about the field	7[7.2]
Lack of interest, Limited job opportunities, Insufficient knowledge about the field	4[4.1]
Not sure about how it would contribute to my growth	12[12.4]
Limited job opportunities, not sure about how it would contribute to my growth	1[1]
Lack of interest, Limited job opportunities, Insufficient knowledge about the field	2[2.1]
Limited job opportunities, not sure about how it would contribute to my growth	8[8.2]
Insufficient knowledge about the field, not sure about how it would contribute to my growth	2[2.1]
Other (please specify):	0[0]
TOTAL	97[100]



Preferred Extra-Curricular Activities

When asked about activities that could enhance their interest in oral pathology, participants most frequently selected hands-on courses, followed by workshops and CDE programs. Lectures were the least preferred option.

(Graph 2)

Willingness to Choose Oral Pathology as a Career

More than half of the interns rated the role of oral pathologists as very important. Although the majority intended to pursue MDS, a smaller proportion indicated willingness to select oral pathology as their specialization. Awareness of the weight-

Table 3: What do you find most appealing about oral pathology as a career

RESPONSES	N[%]
The opportunity to diagnose and treat oral diseases	52[38.5]
The ability to work in both clinical and research settings	24[17.7]
Contributing to advancements in oral healthcare	13[9.6]
Collaborating with other dental and medical professionals	11[8.1]
The intellectual challenge of studying oral diseases	8[6]
The opportunity to diagnose and treat oral diseases, The ability to work in both clinical and research settings	4[3]
The opportunity to diagnose and treat oral diseases, The ability to work in both clinical and research settings and collaborating with other dental and medical professionals	5[3.8]
The opportunity to diagnose and treat oral diseases and contributing to advancements in oral healthcare	4[3]
The opportunity to diagnose and treat oral diseases. Contributing to advancements in oral healthcare and the intellectual challenge of studying oral diseases	1[0.7]
Collaborating with other dental and medical professionals, the intellectual challenge of studying oral diseases	2[1.5]
The opportunity to diagnose and treat oral diseases The ability to work in both clinical and research settings Contributing to advancements in oral healthcare Collaborating with other dental and medical professionals The intellectual challenge of studying oral diseases	11[8.1]
Other (please specify)	0[0]
Total	135[100]

age of oral pathology questions in NEET-MDS varied among participants.

(Graph 3)

Recommendations to Improve Interest in Oral Pathology

Participants recommended the incorporation of forensic odontology, increased clinical exposure, and recognition of PG programs by foreign universities as potential measures to improve interest in the specialty.

(Graph 4)

Skills Required for Success in Oral Pathology

Attention to detail, analytical thinking, problem-solving ability, communication skills, and teamwork were identified as key competencies required for success in oral pathology and histology.

(Graph 5)

Reasons for Choosing Oral Pathology as a Career

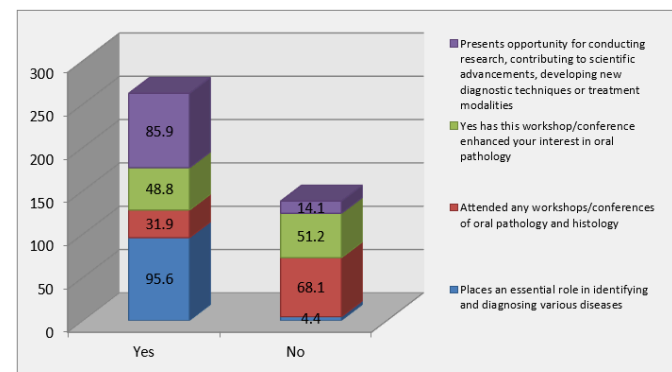
Among interns who were willing to pursue oral pathology, the most frequently reported reasons included interest in the subject, potential for growth, and perceived job opportunities. Additional motivations are summarized in Table 1.

Reasons for Not Choosing Oral Pathology as a Career

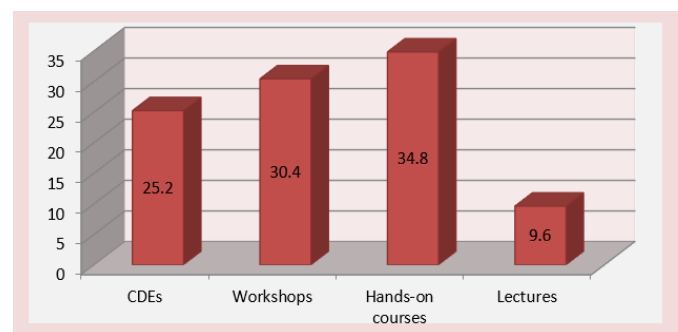
Interns who were not willing to pursue oral pathology cited lack of interest, limited job opportunities, insufficient knowledge about the field, and uncertainty about career growth. The distribution of responses is presented in Table 2.

Most Appealing Aspects of Oral Pathology

Participants identified opportunities to diagnose oral diseases, work in clinical and research settings, collaborate with



Graph 1: Perception of Oral pathology as a subject



Graph 2: Preferred extra activities to increase interest



healthcare teams, and contribute to advancements in oral health as appealing features of the specialty. Detailed responses are shown in Table 3.

DISCUSSION

In this study, only 28.1% of Bangalore dental interns expressed willingness to pursue Oral Pathology and Histology as a postgraduate specialty, while 71.9% were unwilling. This finding aligns with the consistently low specialty uptake documented in previous studies. Saluja et al. reported that 64% of Indian undergraduates were not interested in choosing oral pathology as a career, demonstrating a similar trend of limited preference across Indian institutions. More recent literature reinforces this pattern.⁵ Poudel et al. (2024) observed varied but generally modest levels of enthusiasm for oral pathology among undergraduates, highlighting that interest remains mixed even in updated curricular environments.⁶ A 2024 nationwide analysis of post-graduation preferences likewise noted that clinical specialties continue to dominate student choices, with diagnostic and non-clinical branches receiving markedly lower preference percentages.⁷

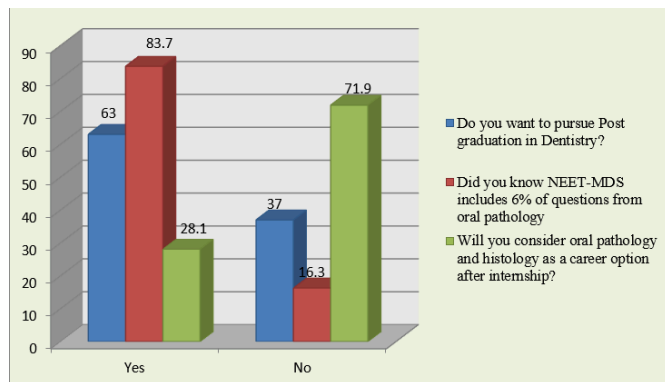
When compared proportionally, the 28.1% interest observed in our cohort is consistent with the 25.7% willingness reported in a 2022 multicentre survey (Satish N,2022)⁸, suggesting a stable but small segment of students who remain inclined toward the discipline. Broader analyses of specialty selection trends indicate that students commonly prioritize perceived

income, employability, hands-on clinical exposure, and mentorship when choosing postgraduate fields. A 2025 study on specialty decision-making similarly emphasised that financial expectations, career stability and early clinical exposure are major determinants of student preference. These factors appear to influence our cohort as well, as most participants cited limited job opportunities, inadequate clinical exposure, and lack of perceived relevance as key deterrents to choosing Oral Pathology.

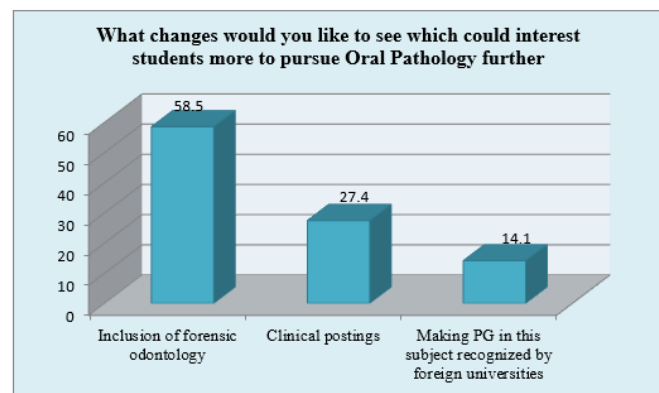
Limited clinical exposure emerged as a significant barrier in this study, consistent with findings from pedagogical research.⁹ Syed et al. (2024) demonstrated that incorporation of virtual clinical scenarios and interactive role-play significantly enhanced students' engagement and performance in oral pathology learning, underscoring the need for more applied teaching methodologies.¹⁰ Likewise, Khanam et al. (2025) identified curriculum content gaps and insufficient practical integration as major concerns among undergraduate learners. These findings collectively suggest that strengthening clinical applicability within the curriculum could positively influence students' perception of the specialty.¹¹

Workforce and employment-related concerns also warrant attention. Studies from other regions, such as Sadri et al. (2023), highlight similar issues of limited job opportunities and unclear career pathways even in international contexts. Contemporary reviews of training patterns further emphasise that the future of oral pathology depends on restructured postgraduate programs and expanded diagnostic-service roles.¹² Ferreira et al. (2025) reiterate the importance of modernised training, integration of molecular diagnostics, and development of clear professional pathways to sustain interest and workforce growth.¹³

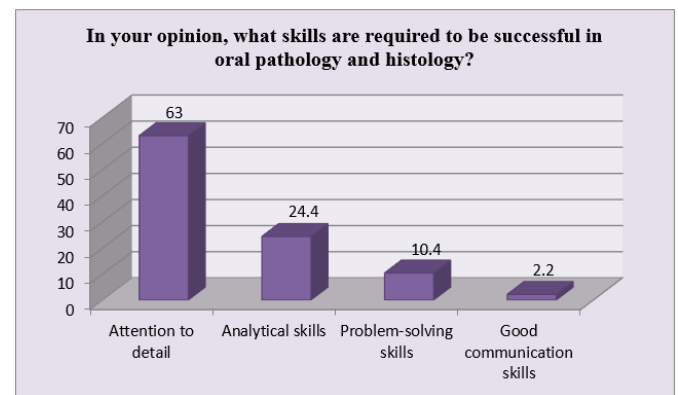
Overall, the findings of this study underscore the need for curricular, pedagogical, and policy-level interventions. Enhancing early diagnostic exposure, incorporating forensic and molecular modules, integrating technology-assisted learning, and establishing clearer employment pathways may help increase the perceived value and attractiveness of oral pathology. These strategies align with global recommendations and may contribute to reversing the declining preference for this essential diagnostic specialty.



Graph 3: Willingness choose oral pathology as a career



Graph 4-Recommendations to improve interest in Oral Pathology.



Graph 5: What skills are required to be successful in oral pathology and histology.

Limitations

This study has several limitations. The sample size was limited and focused on a single city, which may affect the generalizability of the findings. Additionally, the data collection relied on self-reported information, which could introduce reporting bias. Future studies with larger and more diverse populations, as well as objective data collection methods, are recommended to validate these results.

CONCLUSION

This study highlights a limited willingness among Bangalore dental interns to pursue Oral Pathology as a postgraduate specialty, despite acknowledging its academic and diagnostic importance. The findings point to key influencing factors such as limited clinical exposure, low perceived job opportunities, and insufficient awareness of career pathways. Strengthening hands-on diagnostic training, integrating forensic and molecular modules, and enhancing clinical relevance in the curriculum may help improve students' interest in this specialty. Continued efforts at the institutional and policy levels are essential to support the future growth and recognition of oral pathology as a career option.

Recommendation

Postgraduate dental education programs should be strategically planned, taking into consideration factors such as national healthcare needs, the current stage of professional development, and prevailing social and economic conditions.

Early and structured orientation toward Oral Pathology and Histology during undergraduate dental training is essential. Counselling should be provided to students to raise awareness about the career prospects and relevance of the specialty.

During the Bachelor of Dental Surgery (BDS) curriculum, students should be encouraged to participate in basic histopathological diagnostic activities. Exposure to routine diagnostic procedures can foster interest and familiarity with the field of histopathology from an early stage.

The scope of Oral Pathology must be expanded to integrate more clinically relevant and hands-on components. Introducing advanced training modules, such as laser biopsy and treatment courses, as super-specialty options can enhance the practical appeal of the field.

There is a pressing need to shift the perception of Oral Pathology from being viewed merely as a teaching-oriented discipline to one that plays a pivotal role in diagnostic services. Promoting the establishment of oral pathology laboratories can significantly contribute to public oral health services.

The findings of this study have important implications for dental education and workforce planning. Dental institutions can utilize these insights to improve curriculum design and career counselling services, aligning them with student interests and evolving healthcare demands.

These findings can also guide the creation of mentorship and support systems to encourage more students to pursue specialization in Oral Pathology and Histology. Furthermore, policymakers and healthcare administrators may leverage this data to inform strategies for building a competent and community-responsive dental workforce.

Incorporate allied modules (forensic odontology, lab management, molecular diagnostics). Adding forensic odontology and practical diagnostic modules (including exposure to molecular and imaging diagnostics) can widen career pathways (forensics, diagnostics, academic labs, public health) and make the specialty more attractive—an approach also recommended by other surveys.

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