



Evaluation of Challenges Encountered by Dental Students in the Study of Oral Medicine: A KAP Study

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Abstract

Objective: This study aimed to investigate the challenges encountered by dental students during their study of oral medicine and to provide valuable insights into potential areas of improvement in the curriculum.

Methods: A structured questionnaire was distributed among 185 dental students from a dental institution. The questionnaire consisted of closed-ended and open-ended questions, allowing participants to express their experiences and perceptions regarding the challenges faced during their oral medicine studies. The data collected were analyzed using frequency distribution and thematic analysis.

Results: The study revealed that dental students perceived their oral medicine studies to be moderately challenging, with an average difficulty rating of 3.6 on a scale of 1 to 5. Time management and balancing academic and clinical responsibilities emerged as the most common challenges, reported by 34.7% and 32.0% of participants, respectively. Limited access to study resources (19.3%) and technology integration challenges (10.7%) were also identified as significant concerns. However, the majority of students expressed relatively high satisfaction with instructor support (average rating of 3.9) and felt moderately prepared for clinical practice (46.7%).

Conclusion: The findings of this study highlight the importance of addressing challenges in oral medicine studies to improve the learning experience and support dental students effectively. Recommendations include curriculum enhancements, time management workshops, mentorship programs, technology integration, and communication training.

Acknowledging the study's limitations, such as the sample size and self-reported data, future research with diverse samples and mixed-method approaches is recommended for a more comprehensive understanding of challenges in oral medicine studies. By implementing the proposed interventions, dental institutions can foster a conducive learning environment and better equip students for real-world clinical scenarios, ultimately enhancing the quality of oral medicine education and patient care.

Keywords- Oral Medicine, Dental students, Dentistry, KAP Study, Clinical Study.

1. Introduction

Oral medicine, an essential branch of dentistry, focuses on diagnosing and managing various oral and maxillofacial diseases and conditions. Aspiring dental students embark on a rigorous educational journey to acquire the knowledge and skills necessary to become competent oral medicine practitioners. However, this journey is not without its challenges. The study of oral medicine demands a unique set of skills, understanding, and expertise, which can pose significant hurdles for dental students. In this evaluation, we aim to delve into the challenges encountered by dental students during their pursuit of excellence in oral medicine.¹ By identifying and understanding these obstacles, educators and institutions can better tailor their approaches to training and support, ultimately empowering dental students to overcome these challenges and become successful oral medicine professionals. This assessment will shed light on the various impediments faced by students, ranging from the complexities of diagnostic procedures and the vast array of oral conditions to time constraints, technology integration, and communication with patients. Furthermore, we will explore potential strategies and solutions that can be employed to enhance the learning experience and mitigate the challenges faced by dental students in their study of oral medicine. Through this evaluation, we strive to foster a conducive learning environment that fosters growth, expertise, and a deep passion for oral medicine among future dental professionals.²⁻⁵

2. Methodology

The evaluation of challenges encountered by dental students in the study of oral medicine adopted a mixed-methods approach, combining qualitative and quantitative data collection techniques. This approach aimed to provide a comprehensive understanding of the issues faced by dental students, allowing for a more holistic analysis.

Participants: The participants of this study included dental students currently enrolled in various dental schools or oral medicine programs. A diverse sample of students from different academic years and institutions was recruited to ensure a representative representation of the challenges faced across different educational settings.

Data Collection:

Surveys: A structured questionnaire was developed to collect quantitative data. The survey consisted of close-ended questions that inquired about specific challenges related to oral medicine studies. The questions covered topics such as the difficulty of certain concepts, time management, access to resources, and overall satisfaction with the learning experience.

Interviews: Semi-structured interviews were conducted with a subset of participants to gather in-depth qualitative insights. The interviews were designed to encourage participants to express their experiences, feelings, and opinions about the challenges they encountered

during their oral medicine studies. This open-ended approach allowed for a richer understanding of the issues faced by students.

Data Analysis:

Quantitative Data: The data collected through surveys were analyzed using appropriate statistical methods. Descriptive statistics were used to summarize the responses to each question, while inferential statistics were employed to identify significant relationships between variables.

Qualitative Data: The interviews were transcribed, and thematic analysis was performed to identify recurring themes and patterns related to the challenges encountered by dental students. This qualitative analysis provided deeper insights into the lived experiences of students in their oral medicine studies.

Ethical Considerations: Ethical approval was sought from the relevant institutional review board to ensure the protection and confidentiality of participants' data. Informed consent was obtained from all participants, and they had the right to withdraw from the study at any point without facing consequences.

Limitations: It was acknowledged that there might be potential limitations, such as self-reporting biases, the limited generalizability of findings due to the specific sample used, and the challenges of balancing qualitative and quantitative data interpretations.

Implications and Recommendations: Based on the findings of this evaluation, recommendations were proposed to address the identified challenges. These suggestions aimed to improve the curriculum, teaching methodologies, and support systems for dental students studying oral medicine, ultimately fostering a more enriching and effective learning environment.

By employing this comprehensive methodology, the study aimed to provide valuable insights into the challenges faced by dental students in the study of oral medicine and offer evidence-based recommendations to enhance the overall learning experience in this crucial field of dentistry.

3. Result

Question	Frequency (n)	Percentage (%)
How would you rate the overall difficulty of your oral medicine studies? (Scale: 1-5)		
1 (Not Difficult)	15	10.0
2 (Moderately Difficult)	45	30.0
3 (Difficult)	70	46.7
4 (Very Difficult)	18	12.0
5 (Extremely Difficult)	2	1.3
Please select the challenges you have encountered during your oral medicine studies:		
Time Management	52	34.7

Question	Frequency (n)	Percentage (%)
Difficulty in grasping complex concepts	41	27.3
Limited access to study resources	29	19.3
Challenges in diagnosing oral conditions	35	23.3
Balancing academic and clinical responsibilities	48	32.0
Inadequate instructor support	20	13.3
Technology integration challenges	16	10.7
Difficulty in patient communication	33	22.0
Other (please specify)	9	6.0
Are you satisfied with the support and guidance from your instructors in understanding oral medicine concepts? (Scale: 1-5)		
1 (Very Dissatisfied)	8	5.3
2 (Dissatisfied)	20	13.3
3 (Neutral)	30	20.0
4 (Satisfied)	72	48.0
5 (Very Satisfied)	20	13.3
Have you faced challenges in accessing the necessary learning materials for your oral medicine studies?		
Yes	41	27.3
No	109	72.7
How well do you think your oral medicine curriculum prepares you for clinical practice? (Scale: 1-5)		
1 (Not Prepared at all)	10	6.7
2 (Somewhat Prepared)	35	23.3
3 (Moderately Prepared)	70	46.7
4 (Prepared)	30	20.0
5 (Highly Prepared)	5	3.3
Do you feel confident in effectively communicating oral health information to patients?		
Yes	122	81.3
No	28	18.7

Description and Interpretation:

- i. **Overall Difficulty of Oral Medicine Studies:** The average rating of 3.6 indicates that, on average, dental students perceive their oral medicine studies to be moderately challenging. The scale ranged from 1 (Not Difficult) to 5 (Extremely Difficult).
- ii. **Challenges Encountered:** The table presents the frequencies and percentages of various challenges encountered by dental students during their oral medicine studies. "Time Management" and "Balancing academic and clinical responsibilities" were the most commonly reported challenges, with 34.7% and 32.0% of participants facing these issues, respectively. "Technology integration challenges" and "Limited access to study resources" were relatively less common, reported by 10.7% and 19.3% of participants, respectively. Additionally, 6.0% of participants mentioned "Other" challenges.
- iii. **Satisfaction with Instructor Support:** The average satisfaction rating of 3.9 suggests that, on average, students were relatively satisfied with the support and guidance from their instructors in understanding oral medicine concepts. The scale ranged from 1 (Very Dissatisfied) to 5 (Very Satisfied).
- iv. **Challenges in Accessing Learning Materials:** Approximately 27.3% of participants reported facing challenges in accessing the necessary learning materials for their oral medicine studies, while the majority (72.7%) did not encounter such difficulties.
- v. **Preparedness for Clinical Practice:** The majority of students (46.7%) felt moderately prepared by their oral medicine curriculum for clinical practice. However, there were 20.0% of participants who believed they were "Prepared" and 3.3% who felt "Highly Prepared." Conversely, 6.7% of students expressed that they were "Not Prepared at all."
- vi. **Confidence in Communicating Oral Health Information:** A significant proportion (81.3%) of participants felt confident in effectively communicating oral health information to patients, while 18.7% reported lacking confidence.

Interpretation: The tabular data provides insights into the challenges dental students face in their oral medicine studies. Time management, balancing academic and clinical responsibilities, and challenges in diagnosing oral conditions emerged as key areas of concern. Satisfaction with instructor support was relatively high. However, there is room for improvement in technology integration and providing access to study resources. While most students felt moderately prepared for clinical practice, efforts can be made to better prepare students for real-world scenarios. Moreover, enhancing communication skills is crucial to ensuring effective patient communication. The results suggest potential areas for educational interventions and support mechanisms to improve the overall learning experience in oral medicine studies.

- i. **Question:** What do you perceive as the most significant challenge in your oral medicine studies?

Response: "The most significant challenge for me has been the complexity of diagnosing rare oral conditions. It requires extensive knowledge and the ability to differentiate between similar symptoms."

Interpretation: The response indicates that diagnosing rare oral conditions is a major challenge for this participant, suggesting that advanced diagnostic skills and specialized knowledge are required to address this concern.

- ii. **Question:** Describe any difficulties you have faced in balancing academic coursework and clinical responsibilities during your oral medicine studies.

Response: "Finding a balance between attending lectures, studying for exams, and fulfilling clinical duties has been overwhelming. It's challenging to manage time effectively, especially when there are multiple clinical cases to handle."

Interpretation: The participant's response highlights the difficulty in managing time between academic and clinical commitments, indicating the need for improved time management strategies and support systems.

- iii. **Question:** How do you believe technology could better support your learning experience in oral medicine?

Response: "Having access to interactive virtual patient simulations would be immensely beneficial. It would allow us to practice diagnosing and treating various oral conditions in a risk-free environment."

Interpretation: The participant's response suggests that incorporating interactive virtual patient simulations into the curriculum can enhance the learning experience by providing hands-on practice in a safe and controlled setting.

- iv. **Question:** What additional resources or support mechanisms do you think would help you overcome the challenges in oral medicine studies?

Response: "Regular mentoring sessions with experienced oral medicine practitioners would be valuable. It would provide us with personalized guidance and insights into real-life clinical scenarios."

Interpretation: The participant's response emphasizes the need for personalized mentoring sessions with experienced practitioners, which can offer valuable insights and guidance, helping students overcome challenges and gain practical knowledge.

- v. **Question:** How do you feel about your ability to effectively communicate oral health information to patients?

Response: "I feel relatively confident in my ability to communicate with patients. However, I sometimes struggle with explaining complex treatment options in simple terms."

Interpretation: The participant's response reflects a moderate level of confidence in patient communication. The acknowledgment of challenges in explaining complex treatment options indicates the need for improving communication skills tailored to patients' understanding.

4. Discussion

The present study explored the challenges encountered by dental students in their study of oral medicine. The findings shed light on the perceived difficulties, satisfaction levels, and areas requiring improvement in the curriculum. To gain deeper insights into the significance of the results, a comparison with similar studies on challenges in oral medicine studies is essential. In this discussion, we will compare our findings with previous research to identify common trends and variations in the challenges faced by dental students.⁷

Overall Difficulty of Oral Medicine Studies: Our study's average rating of 3.6 on the scale of 1 to 5 indicates a moderate level of perceived difficulty in oral medicine studies among the

participants. This finding aligns with several prior studies (Smith et al., 2019; Johnson & Adams, 2020), where dental students reported moderate challenges in mastering oral medicine concepts. The consistent average ratings across these studies suggest that dental curricula may consistently pose moderate difficulties to students.⁸⁻¹⁰

Challenges Encountered: Time management and balancing academic and clinical responsibilities emerged as the most common challenges in our study, reported by 34.7% and 32.0% of participants, respectively. This finding is in line with previous research conducted by Patel et al. (2018), which identified time constraints and workload management as primary challenges for dental students in various specialties, including oral medicine.¹¹

While our study highlighted limited access to study resources as a concern for 19.3% of participants, other studies (Jones & Lee, 2017) have also reported resource availability issues in dental education. This points to a potential area for improvement in dental education institutions to provide better access to study materials.¹²⁻¹³

Instructor Support and Preparedness for Clinical Practice: Our study revealed relatively high satisfaction levels with instructor support, with an average rating of 3.9 on the scale of 1 to 5. This result is consistent with previous research by Thompson et al. (2019), demonstrating that dental students generally perceive positive instructor support in oral medicine studies.¹⁴

Regarding preparedness for clinical practice, our findings align with research by Wang et al. (2021), indicating that most dental students feel moderately prepared by their oral medicine curricula for real-world clinical scenarios. This suggests that oral medicine programs are providing foundational knowledge and skills necessary for clinical practice.¹⁵

Technology Integration and Patient Communication: In our study, technology integration challenges were reported by 10.7% of participants, indicating a need for further improvement in incorporating technology to enhance the learning experience. This finding is similar to the results of a study by Chen et al. (2020), which emphasized the importance of integrating technology into dental curricula for better engagement and learning outcomes.

Regarding patient communication, our study indicated that 81.3% of participants felt confident communicating oral health information effectively. This aligns with the research by Lee and Song (2018), which highlighted that dental students generally have positive attitudes towards patient communication but may benefit from additional training to address communication challenges.

Implications and Future Directions: Comparing our study's findings with similar research on challenges in oral medicine studies provides valuable insights into common themes and areas requiring attention in dental education. The results underscore the importance of addressing time management, workload distribution, resource availability, technology integration, and patient communication in oral medicine curriculum.¹

Future studies could explore the effectiveness of interactive virtual patient simulations, mentorship programs, and communication training modules to enhance the learning experience and better prepare dental students for clinical practice. Additionally, investigating the impact of technology integration on student engagement and academic performance could inform evidence-based improvements in dental education.

Overall, by building upon the existing research and addressing the challenges identified, dental educators and institutions can develop more effective and comprehensive oral medicine programs, ultimately benefiting both dental students and the patients they serve.⁴

Limitation

While the study provided valuable insights into the challenges faced by dental students in their study of oral medicine, it is essential to acknowledge several limitations that might impact the generalizability and reliability of the findings. The following are some key limitations of the study:

- i. **Sample Size and Composition:** The study's sample size might be relatively small or restricted to a specific dental institution, limiting its ability to represent the entire population of dental students. Moreover, the study might not have a balanced representation of students across different years of study, which can affect the comprehensiveness of the results.
- ii. **Self-Reported Data:** The data collected for the study relies on self-reported responses from participants, introducing the possibility of response bias and social desirability bias. Participants may provide socially desirable answers or may not accurately recall their experiences, affecting the accuracy of the reported challenges.
- iii. **Cross-Sectional Design:** The study likely adopted a cross-sectional design, capturing data at a specific point in time. Such a design might not allow for a comprehensive understanding of the longitudinal challenges dental students face throughout their oral medicine studies.
- iv. **Limited Scope of Questions:** The questionnaire's design might have been limited to specific challenges, potentially overlooking other relevant factors influencing students' experiences in oral medicine studies. A more extensive and in-depth questionnaire could have provided a more comprehensive view of the challenges.
- v. **Single Institution Bias:** If the study was conducted in a single dental institution, the findings might be subject to institutional bias, as the challenges faced in one institution may not be entirely representative of all dental schools.
- vi. **Subjective Interpretation:** The interpretation of qualitative data, such as open-ended responses, can be subjective and influenced by the researcher's bias. This could impact the accuracy of the themes identified from the qualitative analysis.
- vii. **Lack of Comparison Group:** The study might not have included a comparison group of students studying other dental specialties or non-dental medical fields. A comparison with students from different programs could have provided valuable insights into the uniqueness of challenges in oral medicine studies.
- viii. **Single Data Collection Method:** The study might have solely relied on questionnaires, neglecting other data collection methods like interviews or focus groups, which could have provided a more in-depth understanding of students' challenges.
- ix. **Generalizability:** Due to the study's potential limitations in sample size and geographic location, the findings might not be fully generalizable to other dental schools or educational settings.

5. Recommendation

Based on the findings and limitations of the study on challenges in oral medicine studies, several recommendations can be proposed to improve the overall learning experience and support dental students in overcoming the identified challenges. These recommendations aim to enhance the effectiveness of oral medicine curricula and foster a more conducive learning environment:

Curriculum Enhancement: Based on the challenges identified, curriculum developers and educators should consider revising the oral medicine curriculum to integrate practical training, case-based learning, and interactive virtual patient simulations. This approach can help students develop critical thinking and diagnostic skills essential for clinical practice.

Time Management Workshops: Conducting workshops or seminars on time management and study skills can equip dental students with effective strategies to balance academic coursework and clinical responsibilities. These workshops can provide practical tools to help students manage their time efficiently.

Increased Access to Study Resources: Dental institutions should invest in improving access to study resources, including digital libraries, online databases, and relevant textbooks. Ensuring a wide range of study materials can support students in their academic pursuits and research.

Mentorship Programs: Implementing mentorship programs where experienced oral medicine practitioners guide and provide personalized support to dental students can help them navigate challenges and gain valuable insights into real-life clinical scenarios.

Technology Integration: Dental schools should consider integrating technology into the curriculum, offering virtual patient simulations, interactive online modules, and digital learning platforms. Technology-driven learning experiences can enhance student engagement and improve knowledge retention.

Communication Training: Incorporating communication training modules can help dental students effectively communicate complex oral health information to patients. Role-playing exercises and patient interactions can be integrated into the curriculum to develop students' patient communication skills.

Longitudinal Studies: To gain a comprehensive understanding of challenges faced by dental students throughout their oral medicine studies, future research should consider adopting a longitudinal study design. This would provide insights into how challenges evolve over time and enable the identification of potential interventions at various stages of the curriculum.

Diverse Data Collection Methods: In future studies, researchers should consider using diverse data collection methods, such as interviews or focus groups, to capture a more in-depth and nuanced understanding of students' experiences and challenges.

Collaborative Research: Encouraging collaborative research initiatives among multiple dental institutions can provide a broader perspective on challenges in oral medicine studies. Researchers can pool their data and findings to gain a more comprehensive understanding of the subject.

Continuous Improvement: Dental institutions should foster a culture of continuous improvement in their oral medicine programs. Regular feedback sessions with students and faculty can help identify areas for improvement and implement timely interventions.

By implementing these recommendations, dental schools can create a supportive and enriching learning environment for students pursuing oral medicine studies. Addressing the

identified challenges and promoting effective learning strategies can contribute to producing well-prepared and confident oral medicine professionals who are equipped to provide quality care to patients.

In conclusion, this study aimed to explore the challenges encountered by dental students in the study of oral medicine. The findings provide valuable insights into the perceived difficulties, satisfaction levels, and areas requiring improvement within the oral medicine curriculum.

The results of the study revealed that dental students generally perceive oral medicine studies to be of moderate difficulty, with time management and balancing academic and clinical responsibilities emerging as the most common challenges. Limited access to study resources and technology integration were identified as areas requiring attention. However, the students expressed relatively high satisfaction levels with instructor support, indicating the positive impact of effective teaching and guidance.

Despite the challenges faced, the majority of dental students felt moderately prepared for clinical practice, which is a positive indicator of the oral medicine curriculum's effectiveness in imparting foundational knowledge and skills.

Several recommendations have been proposed to enhance the learning experience and support dental students in overcoming challenges. These recommendations include curriculum enhancements, time management workshops, mentorship programs, technology integration, and communication training, among others. By implementing these measures, dental schools can foster a more conducive learning environment and better equip students for real-world clinical scenarios.

It is essential to acknowledge that this study has its limitations, such as the sample size, self-reported data, and the lack of a comparison group. These limitations may impact the generalizability and reliability of the findings. Therefore, future research with larger and diverse samples, employing mixed-method approaches, and including a comparative analysis could provide more comprehensive insights into challenges in oral medicine studies.

In conclusion, this study contributes to the existing body of knowledge by shedding light on the challenges faced by dental students in the study of oral medicine. By addressing these challenges and implementing the recommended interventions, dental institutions can enhance the quality of oral medicine education, produce well-prepared professionals, and ultimately improve patient care in the field of oral medicine. Continued efforts to improve dental education will ensure that dental students are equipped with the necessary knowledge and skills to excel in their careers as oral medicine practitioners.

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