



Post-Denture Complications: Analyzing Dental Students' Understanding and Patient Experiences

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ABSTRACT

Background: This study addresses the common problems faced by patients post-denture and assesses dental students' awareness of these issues.

Methods: A questionnaire study was utilized, involving 100 dental students from a private dental college. Data were collected through a questionnaire distributed via Google Forms from May to October 2024.

Results: The study revealed a high prevalence of subjective problems among patients, including pain (80%), ulceration (63%), difficulty in speaking (70%), and fungal infections (59%). Objective issues such as occlusal interference (81%) and aesthetic concerns (74%) were also prevalent.

Conclusions: The findings highlight significant post-denture challenges, emphasizing the need for improved dental education focused on communication, hygiene, and patient management strategies.

Keywords: Post – Insertion Problems; Dental Education; Student Awareness.

Introduction

According to GPT-9 Dental prosthesis is an artificial replacement (prosthesis) for one or more teeth, which can extend up to the entire dentition in either arch, along with the associated dental or alveolar structures. Dental prostheses are typically classified into two categories: fixed dental prostheses and removable dental prostheses. They aim to restore oral functions like chewing and speaking, improve facial aesthetics, and support facial structures to prevent a sunken appearance. RPDs also help maintain the alignment of remaining teeth by preventing tooth tilting and drifting. With a growing aging population and an increased prevalence of tooth loss, dentures have become a crucial component of dental practice. The quality of a denture depends on several factors, including retention, stability, fit, vertical dimension, occlusion, aesthetics, food accumulation, speech, and chewing ability. A common challenge in denture management is the discrepancy between patient and dentist perceptions of denture adequacy.² Many patients report experiencing discomfort, difficulty in mastication, and aesthetic concerns, which can lead to dissatisfaction and decreased adherence to wearing their prostheses.³ Understanding the problems faced by patients post-denture is essential for dental professionals, particularly dental students who are in the process of developing their clinical skills and patient management strategies.⁴ Despite the importance of addressing post-denture complications, there is limited research focusing specifically on the challenges encountered by patients from the perspective of dental students. This gap highlights the need to assess dental students' knowledge and perceptions of these issues, as they will play a critical role in patient education and care in their future practices.^{5,6} This study aims to identify the common problems faced by patients after receiving dentures and to evaluate the knowledge and understanding of these issues among dental students

Materials and Methods

This study utilized a questionnaire to evaluate the problems faced by patient post-denture from the perspective of dental students(fig1). Conducted over three months, from May to October 2024, the research included data collection, analysis, and report preparation. The focus was on dental students from a private dental college, with the study receiving approval from the Department of Prosthodontics, Crown and Bridge. A sample of 100 participants was selected through simple random sampling, and demographic information was gathered. A questionnaire comprising 10 questions—5 subjective and 5

objective—was distributed via Google Forms. Informed consent was obtained from participants about the questions to promote accurate responses. The data collected through Google Forms were analysed using MS Excel to generate the final report.

Fig 1

Demographic details :-	
1. Name :-	
2. Age:-	
<ul style="list-style-type: none"> ▪ <18 ▪ 18-20 ▪ >20 	
3. Year of study :-	
<ul style="list-style-type: none"> ▪ 3rd year ▪ Final year ▪ crri 	
1. Patient complaints of pain	6. excessive wear and tear of denture
<ul style="list-style-type: none"> ▪ Yes ▪ no 	<ul style="list-style-type: none"> ▪ yes ▪ no
2. Patient gets ulceration	7. fungal infection is commonly seen in patients wearing denture
<ul style="list-style-type: none"> ▪ Yes ▪ no 	<ul style="list-style-type: none"> ▪ yes ▪ no
3. Patient has gagging sensation	8. is occlusal interference a common problem faced
<ul style="list-style-type: none"> ▪ Yes ▪ no 	<ul style="list-style-type: none"> ▪ yes ▪ no
4. Patient feels loss of taste sensation	9. over extension of denture
<ul style="list-style-type: none"> ▪ Yes ▪ no 	<ul style="list-style-type: none"> ▪ yes ▪ no
5. Patient experiences difficulty in speaking	10. aesthetics (shade matching)
<ul style="list-style-type: none"> ▪ Yes ▪ no 	<ul style="list-style-type: none"> ▪ yes ▪ no

Results

Hundred dental students participated in the study, which revealed significant insights into the age distribution and year of study among the participants. In terms of their academic standing, 42% were third-year students, 31% were final-year students, and 26% were house surgeons. The study also highlighted various subjective problems experienced by patients post-denture. Notably, 80% of patients reported experiencing pain. Additionally, 63% reported ulceration. Gagging sensation was noted by 57% of patients. Loss of taste sensation was reported by 48% of patients. Furthermore, 70% of patients reported difficulty in speaking. The study also examined objective problems related to dentures. Fungal infections were considered common by 59% of respondents. Occlusal interference was reported as common by an overwhelming 81%. Over-extension of dentures was also prevalent, with 63% identifying it as a common problem. Lastly, concerns regarding aesthetics and matching were highlighted by 74% of participants, emphasizing the importance of addressing these issues in dental education and practice.

Discussion

Our study found a notably higher prevalence of post-denture issues. 80% of our participants reported pain, Gosavi SS's study showed only 21.3% with similar discomfort. Ulceration was also more frequent in our study, affecting 63% of patients compared to 9.6% in Gosavi SS's findings.⁷ Difficulty in speaking was reported by 70% of our participants. Additionally, 57% of our patients experienced gagging sensations, and 48% reported loss of taste. On the objective side, occlusal interference was present in 81% of cases, with 60% reporting excessive wear and 63% experiencing denture over-extension. These results highlight the need for better denture fitting and patient education, as complications like fungal infections (59%) and aesthetic concerns (74%) remain significant. When compared to studies by Smith and Hughes⁸, our findings were lower, possibly due to a younger study group, but higher than those of Ogunrinde and Dosumu.⁹ Our difficulty in speaking rate aligns with Aghdaee et al.'s study, suggesting a common issue with upper denture over-extension.² Loss of denture retention, frequently observed in our study, mirrors findings from Hobkirk JA et al.¹⁰ This loss of retention contributed to patient dissatisfaction with functional capabilities, particularly affecting chewing. These findings underscore the prevalence of issues like fungal infections (59.2%) and over-extension (71%). Educating patients on denture care and hygiene is essential to prevent complications like fungal infections, which can lead to more serious health problems if neglected. Furthermore, the importance of aesthetics (77.4%) points to the psychological impact of dentures, suggesting that dental students should be trained not only in technical skills but also in understanding patients' aesthetic expectations. Common post-insertion issues, such as pain and discomfort, are often caused by improper fit or adjustment (Kumar et al.).¹¹ Many patients also face functional challenges in mastication and speech, with slurring commonly reported (Haque & Rajkumar et al.).¹² Complaints regarding denture hygiene, including bad breath and food accumulation, are also significant (Haque & Rajkumar, 2017).¹² Effective communication between the dentist and patient is crucial to manage expectations and address concerns while pre-insertion education about potential limitations and care practices can help minimize post-insertion problems.¹³ Overall, these results emphasize the need to improve dental education, suggesting that incorporating case studies, patient interviews, and hands-on workshops on managing common challenges could enhance student competence and confidence. Fostering an environment where students share experiences and discuss patient care could further improve learning outcomes and strategies for patient management.¹⁴

Conclusion

In conclusion, this study not only highlights the challenges faced by patients post-denture but also showcases the essential role of dental education in addressing these issues. By equipping dental students with the necessary skills and knowledge to handle these problems effectively, the overall quality of care for patients requiring dentures can be significantly improved. Future research could further explore specific educational interventions that could enhance student preparedness and patient outcomes in this area.

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