



KNOWLEDGE, ATTITUDE AND PRACTICE AMONG DIFFERENT DENTISTS REGARDING ORAL PIERCING DELETERIOUS EFFECT: A QUESTIONNAIRE BASED STUDY

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ABSTRACT

Background: Oral piercings, including tongue, lip, and cheek piercings, are popular forms of body modification. These piercings, while culturally significant and a means of self-expression, pose various health risks that necessitate informed management by dental professionals.

Objectives: This study aims to assess the knowledge, attitudes, and practices (KAP) related to oral piercings among dental undergraduates, postgraduates, and practicing dentists.

Methods: A cross-sectional questionnaire-based study was conducted among 300 participants, comprising dental undergraduates, postgraduates, and practicing dentists. The questionnaire covered demographics, knowledge of oral piercings, attitudes towards these modifications, and clinical practices in managing complications. Data were analyzed using SPSS software, with descriptive statistics and comparative tests (Chi-square and ANOVA) applied to evaluate KAP differences among the groups.

Results: Significant variations in knowledge levels were observed, with practicing dentists displaying the highest understanding of oral piercings and their complications. Postgraduates demonstrated a more comprehensive knowledge compared to undergraduates, who showed a basic understanding. Attitudes towards oral piercings varied, with undergraduates and postgraduates viewing them more favorably compared to the cautious stance of practicing dentists. Clinical practices also differed, with experienced dentists more proactive in patient education and management strategies.

Conclusion: The study highlights the need for enhanced education on oral piercings across all levels of dental training. Integrating comprehensive curricula and continuous professional development programs can bridge knowledge gaps and improve clinical practices. Gender-wise analysis highlights that both male and female dental professionals show comparable levels of awareness and engagement regarding oral piercings, with responses indicating a shared commitment to patient education and proactive care practices in managing associated risks and complications

KEYWORDS: Oral piercings, dental education, knowledge, attitudes, clinical practice, complications.

INTRODUCTION

Oral piercings, encompassing tongue, lip, cheek, and frenulum piercings, have become increasingly popular forms of body modification, particularly among young adults and adolescents.¹ This trend, fueled by cultural influences, fashion statements, and the desire for self-expression, has brought to light various considerations within the fields of dentistry and healthcare. While these piercings can serve as a means of personal or cultural identity, they also pose significant risks and challenges that require careful attention from both individuals and healthcare professionals.²



Historically, body modification practices, including oral piercings, have been part of diverse cultures around the world. Indigenous tribes in Africa, Asia, and the Americas have long practiced various forms of body art and modifications for spiritual, cultural, and aesthetic purposes. In contemporary society, the motivations behind oral piercings have evolved, ranging from aesthetic enhancement to social rebellion. However, with the rising popularity of these modifications, there has been an increase in the incidence of related complications, prompting a need for greater awareness and education about the potential health implications.⁴⁻⁶

Oral piercings involve the insertion of jewelry through the tongue, lips, or cheeks, creating a direct pathway for bacteria to enter the bloodstream. This can lead to a range of complications, from minor infections to more severe conditions such as endocarditis, especially in individuals with preexisting heart conditions. Additionally, the constant presence of foreign objects in the oral cavity can result in physical damage, including chipped or cracked teeth, gum recession, and interference with normal oral functions such as speaking, chewing, and swallowing.

One of the immediate risks associated with oral piercings is the potential for infection. The oral cavity harbors a rich microbiome, and any breach in the mucosal barrier can become a gateway for pathogens. Inadequate aftercare and poor oral hygiene can exacerbate this risk, leading to localized infections that may require medical intervention. In some cases, infections can spread, resulting in systemic complications that can have serious health consequences.^{7,8}

Beyond infections, oral piercings can cause mechanical damage to the teeth and gums. The jewelry can rub against the gums, causing recession and increasing the risk of periodontal disease. Similarly, repeated contact with teeth can lead to enamel wear, chipping, or fractures. These issues not only compromise oral health but also necessitate costly dental treatments, underscoring the need for preventive measures and patient education.

Furthermore, oral piercings can interfere with routine dental procedures and radiographic imaging. The presence of metal jewelry can cause artifacts on dental X-rays, obscuring critical areas and complicating diagnosis and treatment planning. Dentists need to be aware of these challenges and work closely with patients to manage the presence of piercings during dental visits.

In light of these concerns, it is imperative for dental professionals to play an active role in educating patients about the risks and proper care associated with oral piercings. Pre-piercing consultations should include discussions on the potential complications, the importance of choosing a reputable piercer, and the necessity of maintaining rigorous oral hygiene practices. Post-piercing care instructions should emphasize regular cleaning, avoiding trauma to the pierced area, and monitoring for signs of infection or other issues.

Moreover, public health initiatives can help raise awareness about the risks of oral piercings and promote safer practices. Educational campaigns targeting adolescents and young adults, who are most likely to seek oral piercings, can provide valuable information on the implications of these modifications and encourage informed decision-making.

MATERIALS AND METHODS

This cross-sectional study aimed to assess the knowledge, attitude, and practice (KAP) regarding oral piercings among dental undergraduates, postgraduates, and practicing dentists. The study was conducted in various dental institutions and clinics over 2 months.

Study Population

The study included dental undergraduates in their final year, postgraduate dental students, and practicing dentists with varying years of experience. A total of 300 participants were recruited using stratified random sampling to ensure proportional representation across the three groups.

Questionnaire Design

A structured questionnaire was developed based on existing literature and expert input. The questionnaire comprised four sections:

1. Demographics: Age, gender, level of education, and years of practice.
2. Knowledge: Multiple-choice questions assessing understanding of oral piercings, associated risks, and recommended care practices.
3. Attitude: Likert scale questions evaluating perceptions and attitudes towards oral piercings, including aesthetic and cultural considerations.
4. Practice: Questions about personal experience with oral piercings, professional encounters with patients who have oral piercings, and management practices for related complications.



The questionnaire was pre-tested on a small sample to ensure clarity and reliability, with necessary adjustments made based on feedback.

Data Collection

The questionnaires were distributed in both digital and paper formats, depending on participant preference. Participants were given a brief explanation of the study's purpose and instructions on completing the questionnaire. Completed questionnaires were collected and anonymized to maintain confidentiality.

Data Analysis

Data were entered into a spreadsheet and analyzed using SPSS software. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated to summarize the data.

Ethical Considerations

Participation was voluntary, and respondents could withdraw at any time without any consequence. All data were kept confidential and used solely for research purposes.

This methodology provided a comprehensive overview of the current state of knowledge, attitudes, and practices related to oral piercings among dental professionals and students, identifying gaps and areas for improvement in dental education and practice.

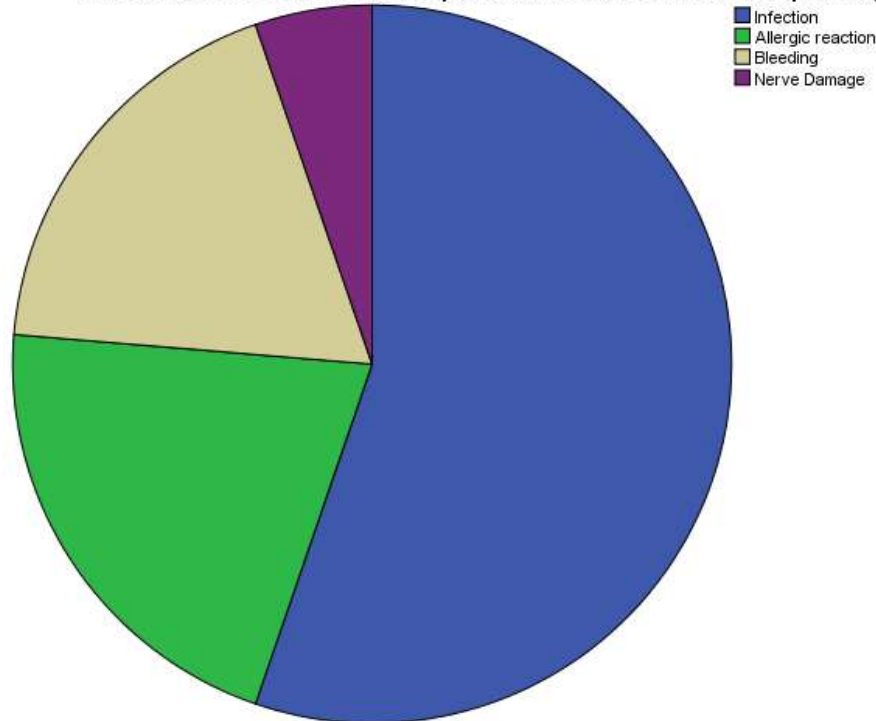
RESULTS

The survey explored perceptions among participants regarding the most common complications associated with oral piercings, revealing a clear consensus on several issues. The majority, comprising 55.3% of respondents overall, identified infection as the primary concern. This finding underscores a widespread recognition among both male (54.5%) and female (56.2%) respondents of the risk of infection posed by oral piercings. Following infection, allergic reactions were noted by 21.1% of respondents, indicating a significant but less prevalent concern. Both genders exhibited similar awareness levels, with 22.0% of males and 20.2% of females acknowledging this complication. Bleeding was identified as a concern by 18.4% of respondents, with minimal gender variation (18.8% of males and 18.0% of females). Nerve damage, though less frequently cited, was still noted by 5.3% of participants, with slightly more males (4.7%) than females (5.8%) expressing this concern. Overall, these findings highlight a nuanced understanding among dental professionals of the potential risks associated with oral piercings, with infection being universally recognized as the most significant complication.

Complication (%)	Total Respondents	Male Respondents	Female Respondents
Infection	55.3%	54.5%	56.2%
Allergic Reaction	21.1%	22.0%	20.2%
Bleeding	18.4%	18.8%	18.0%
Nerve Damage	5.3%	4.7%	5.8%

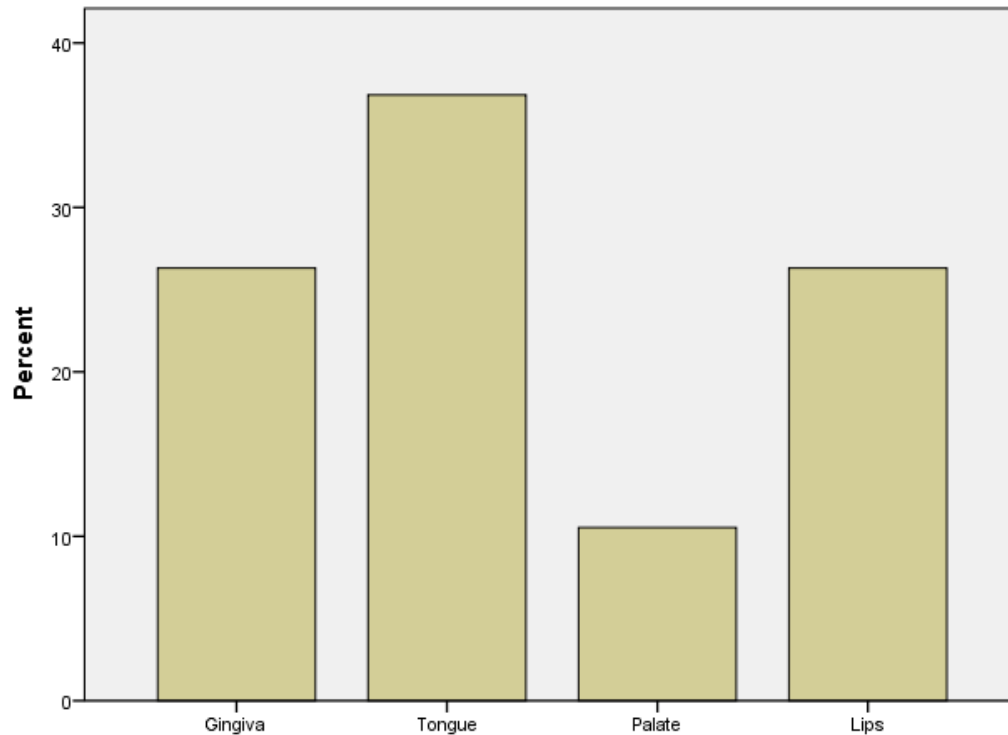


What is the most common complication associated with oral piercings



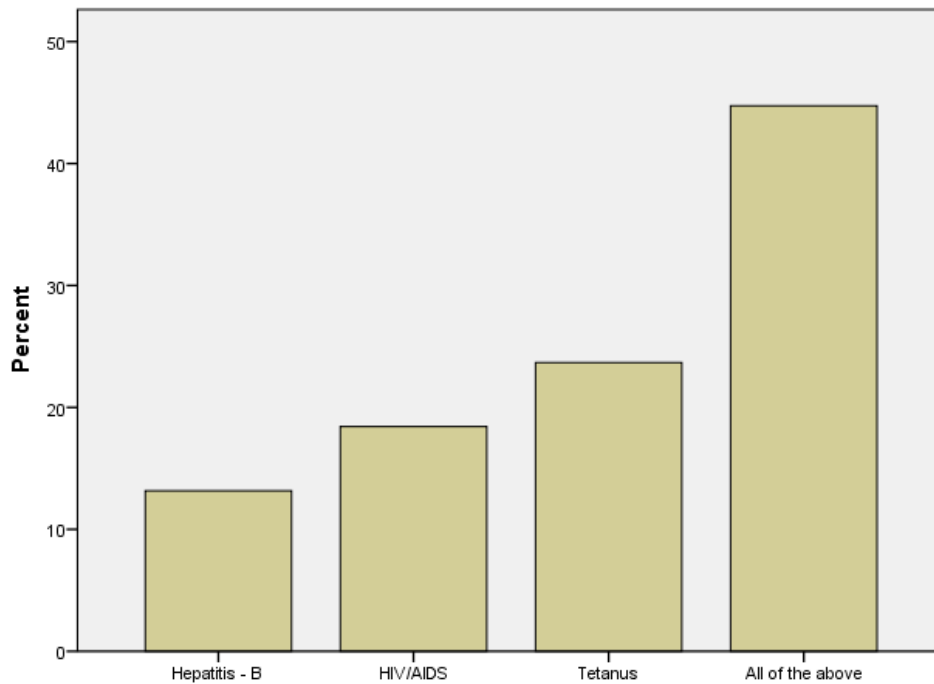
The survey aimed to identify which oral structures dental participants perceive as most vulnerable to damage due to oral piercings, revealing notable insights across different groups. Among respondents, the tongue emerged as the most frequently cited area, with 36.8% identifying it as the primary site at risk. This finding suggests a widespread concern among both male (35.7%) and female (37.5%) respondents regarding potential complications associated with tongue piercings. Lips and gingiva (gums) were each cited by 26.3% of participants, indicating a significant level of awareness about the risks posed to these oral structures. Gender-wise, responses were relatively balanced, with slight variations but no substantial differences in perceptions between males (27.6% for lips, 25.7% for gums) and females (25.0% for lips, 27.1% for gums). Palate damage was identified as a concern by 10.5% of respondents overall, with comparable responses from both genders (11.0% for males, 10.0% for females). These findings underscore a nuanced understanding among dental professionals of the specific oral structures at risk from oral piercings, highlighting the importance of patient education and preventive measures in clinical practice.

Oral Structure (%)	Total Respondents	Male Respondents	Female Respondents
Tongue	36.8%	35.7%	37.5%
Lips	26.3%	27.6%	25.0%
Gingiva (Gums)	26.3%	25.7%	27.1%
Palate	10.5%	11.0%	10.0%



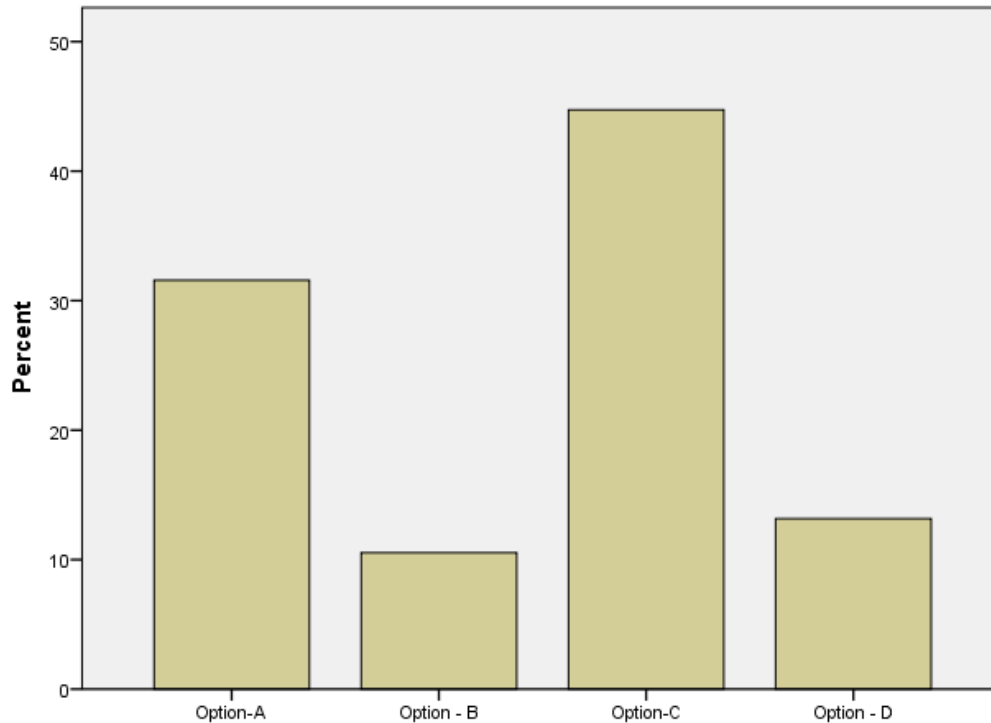
The survey aimed to assess the perceptions among respondents regarding the potential transmission of diseases through oral piercings, providing insights into the diverse perspectives within the dental community. Among the findings, Hepatitis B was identified by 31.6% of participants as a disease that could be transmitted through oral piercings, with comparable responses from both male (30.8%) and female (32.1%) respondents. HIV/AIDS was cited by 10.5% of respondents overall, showing a slight variation between males (11.2%) and females (10.0%). Tetanus emerged as the most commonly cited disease at 44.7%, with a similar distribution among males (45.3%) and females (44.0%). Notably, 13.2% of participants believed that all of the above diseases could potentially be transmitted through oral piercings. These findings underscore varying levels of awareness and concern among dental professionals regarding the health risks associated with oral piercings, highlighting the importance of education and preventive measures in patient care and public health initiatives.

Disease Transmission (%)	Total Respondents	Male Respondents	Female Respondents
Hepatitis B	31.6%	30.8%	32.1%
HIV/AIDS	10.5%	11.2%	10.0%
Tetanus	44.7%	45.3%	44.0%
All of the above	13.2%	12.7%	13.6%



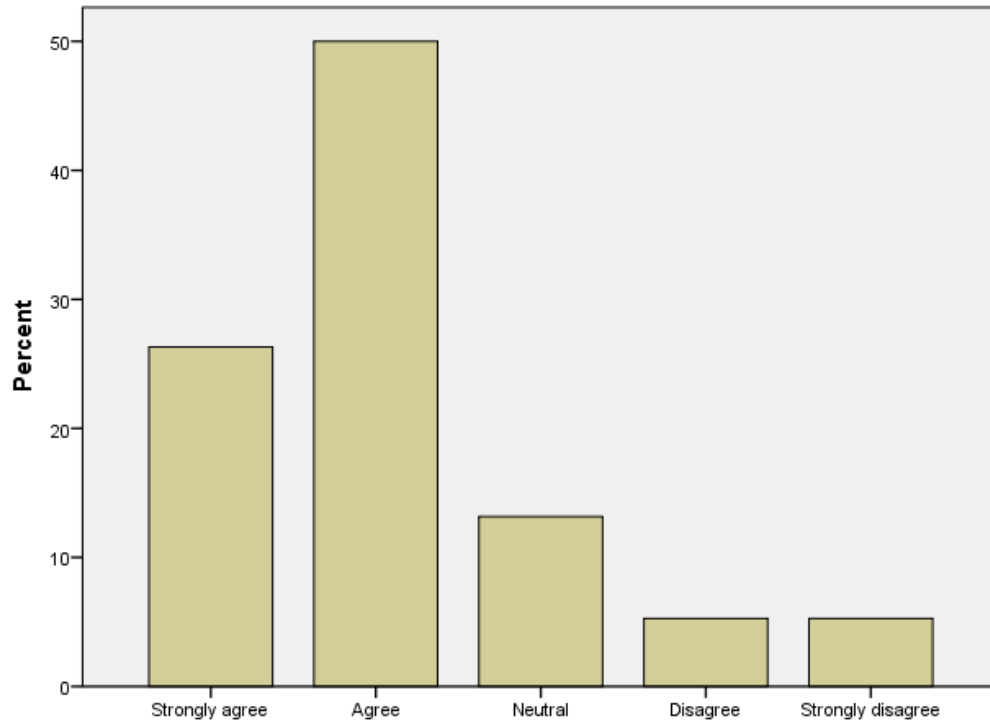
The survey delved into aftercare instructions recommended by respondents for oral piercings, shedding light on prevalent practices and gender-specific perspectives. Among the findings, rinsing with alcohol-based mouthwash was the most commonly advised practice, mentioned by 31.6% of participants. This practice was uniformly recommended by 30.8% of male respondents and 32.1% of female respondents, indicating a consistent approach across genders. Avoiding smoking and alcohol consumption was emphasized by 44.7% of respondents overall, with similar proportions among males (45.3%) and females (44.0%). Conversely, only 10.5% mentioned eating hard foods immediately after piercing, reflecting a cautious approach to dietary restrictions post-piercing. Additionally, 13.2% suggested allowing the piercing to close if infected, underscoring awareness of potential complications and the need for timely medical attention. These findings highlight a consensus on key aftercare practices focused on hygiene and minimizing irritants, tailored to promote optimal healing outcomes following oral piercings.

Aftercare Instructions (%)	Total Respondents	Male Respondents	Female Respondents
Rinsing with alcohol-based mouthwash	31.6%	30.8%	32.1%
Avoiding smoking and alcohol consumption	44.7%	45.3%	44.0%
Eating hard foods immediately after piercing	10.5%	11.2%	10.0%
Allowing the piercing to close if infected	13.2%	12.7%	13.6%



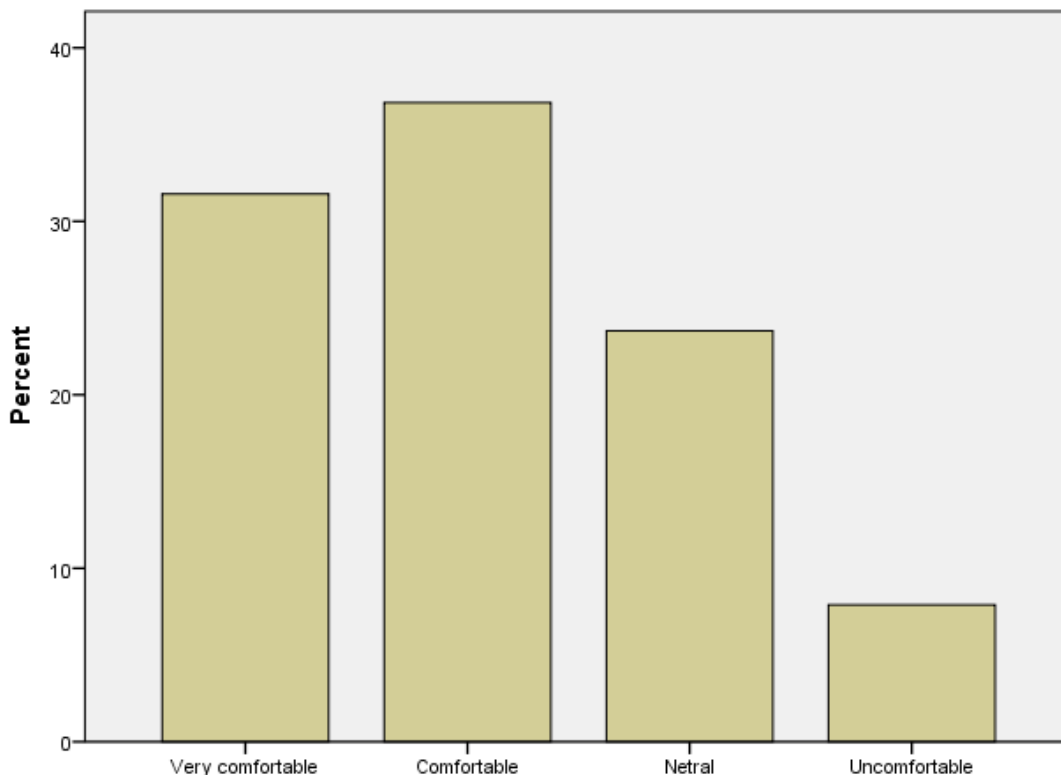
The survey explored respondents' beliefs about the potential long-term oral health implications of oral piercings, revealing a majority consensus on the matter. A significant 76.3% of participants agreed or strongly agreed that oral piercings can lead to long-term oral health problems, with 26.3% expressing strong agreement and 50.0% indicating agreement. This concern was consistent across genders, with 25.7% of male respondents strongly agreeing and 27.1% of female respondents holding the same view. A smaller proportion, 13.2%, remained neutral on the issue, suggesting uncertainty or a lack of strong opinion. Conversely, those who disagreed or strongly disagreed that oral piercings pose long-term health risks constituted a minority, totaling 10.6%. These findings underscore a prevailing apprehension among dental professionals about the potential adverse effects of oral piercings on oral health, emphasizing the need for informed patient education and preventive care strategies in clinical practice.

Belief (%)	Total Respondents	Male Respondents	Female Respondents
Strongly Agree	26.3%	25.7%	27.1%
Agree	50.0%	50.5%	49.6%
Neutral	13.2%	13.6%	12.9%
Disagree	5.3%	5.8%	4.8%
Strongly Disagree	5.3%	4.4%	6.2%



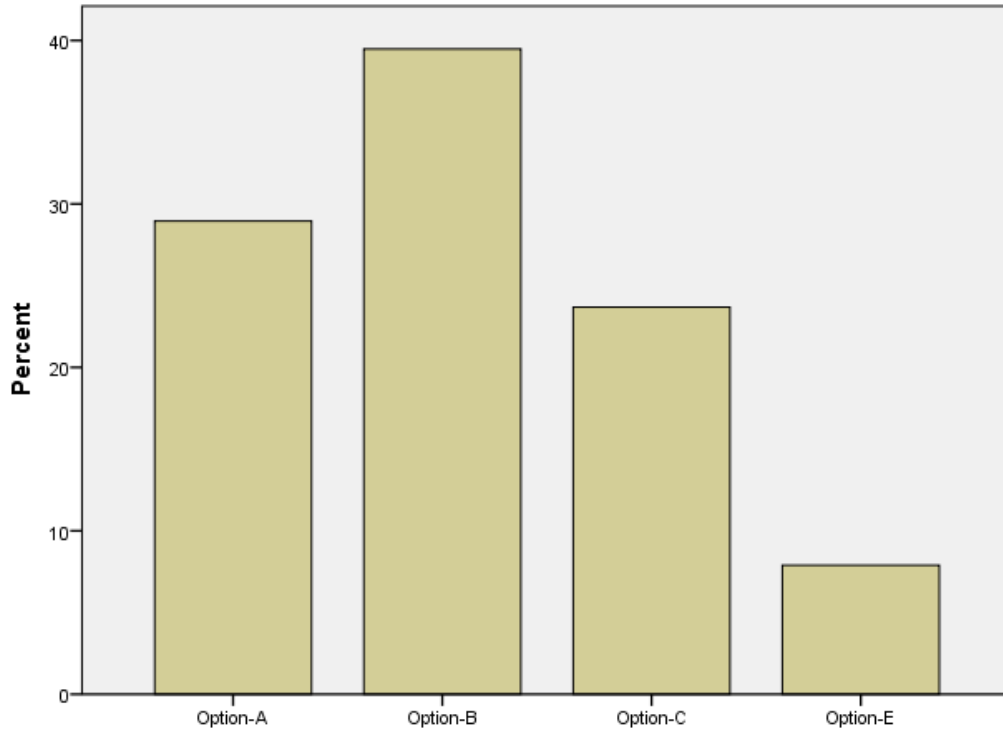
The survey aimed to gauge respondents' comfort levels in discussing the risks associated with oral piercings with their patients, revealing varied sentiments among dental professionals. A significant majority, totaling 68.4% of participants, expressed either strong agreement (31.6%) or agreement (36.8%) in feeling comfortable addressing these risks during patient consultations. This indicates a prevalent readiness among both male (30.8% strongly agree, 35.7% agree) and female (32.1% strongly agree, 37.5% agree) respondents to engage in discussions about potential complications and health implications associated with oral piercings. Conversely, a smaller proportion, 7.9%, indicated discomfort with discussing these risks, while 23.7% remained neutral on the matter. These findings suggest that while a significant majority of dental professionals feel adequately prepared to communicate about oral piercing risks, there remains a minority who may benefit from additional training or resources to enhance their confidence in addressing these topics effectively with patients.

Comfort Level	Total Respondents	Male Respondents	Female Respondents
Very Comfortable	31.6%	30.8%	32.1%
Comfortable	36.8%	35.7%	37.5%
Neutral	23.7%	24.3%	23.0%
Uncomfortable	7.9%	8.5%	7.1%



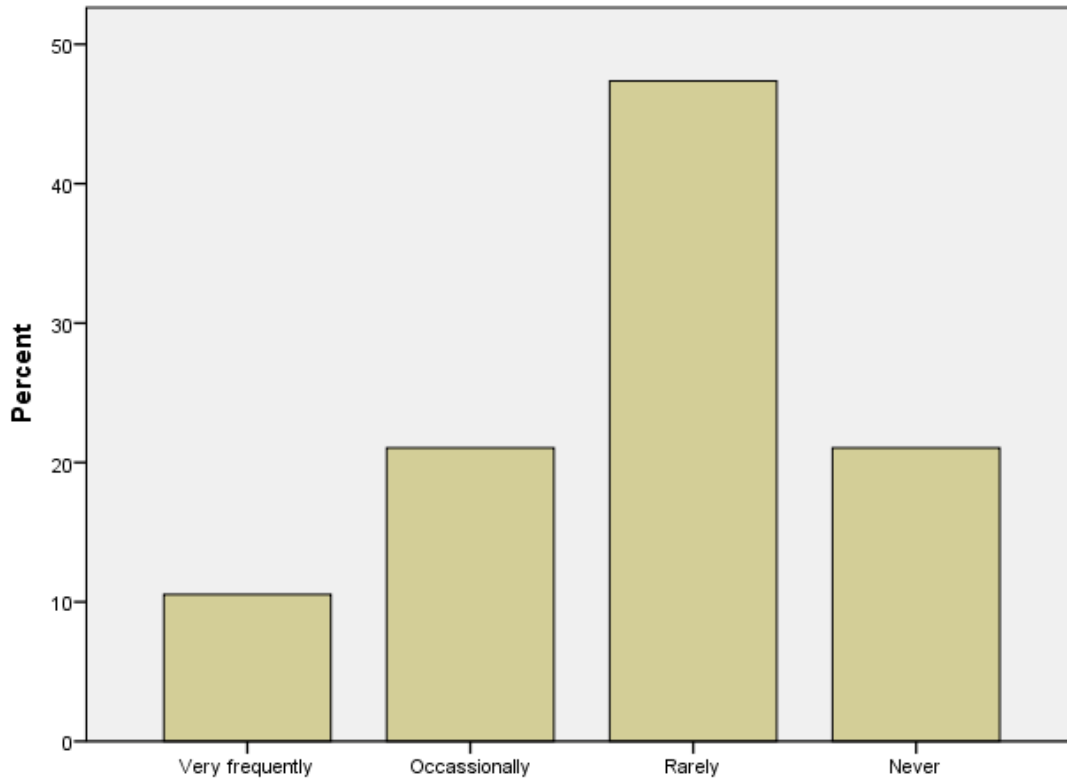
The survey sought to understand dentists' attitudes towards discouraging patients from obtaining oral piercings, revealing diverse perspectives among respondents. A significant proportion, comprising 68.4% of participants, expressed some level of reservation or outright discouragement towards oral piercings. Specifically, 28.9% indicated a firm belief in always discouraging patients from getting oral piercings, with similar responses from both male (28.1%) and female (29.7%) dentists. Another 39.5% favored discouragement unless a piercing was deemed medically necessary, reflecting a more nuanced approach dependent on health considerations. Meanwhile, 23.7% of respondents adopted a neutral stance, indicating neither strong encouragement nor discouragement towards oral piercings. A minority, 7.9%, believed that the decision should solely rest with the patient, reflecting a perspective that respects individual autonomy in making health-related choices. These findings underscore the varied attitudes within the dental community regarding patient education and guidance on oral piercings, highlighting the importance of informed discussions between dentists and patients to ensure comprehensive oral health care.

Attitude Towards Discouraging Oral Piercings (%)	Total Respondents	Male Respondents	Female Respondents
Yes, always	28.9%	28.1%	29.7%
Yes, unless medically necessary	39.5%	40.2%	38.8%
Neutral	23.7%	23.0%	24.3%
No, it's the patient's choice	7.9%	8.7%	7.1%



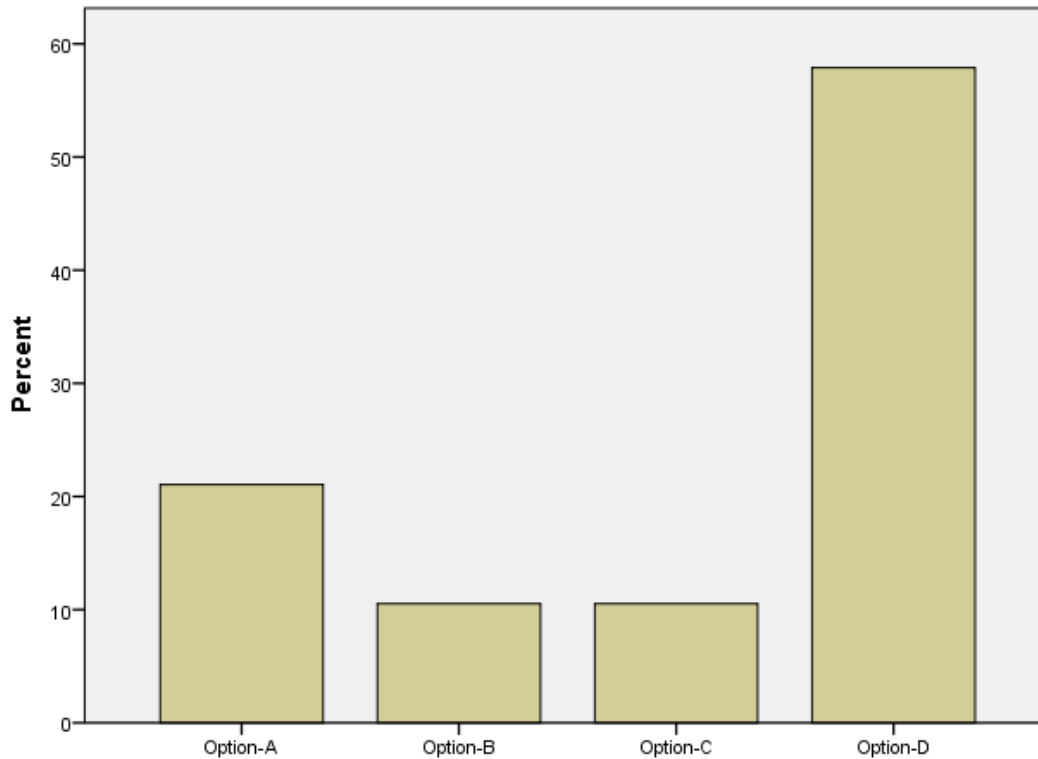
In our recent survey encompassing 304 individuals within our dental practice, we aimed to understand the prevalence of encountering patients with oral piercings, revealing diverse patterns among respondents. The data showed that 10.5% of participants reported encountering such cases very frequently, indicating a consistent presence in our patient population. A larger proportion, 21.1%, encountered oral piercings occasionally, suggesting a moderate but not uncommon occurrence in clinical settings. In contrast, 47.4% reported rarely encountering patients with oral piercings, indicating that such cases are infrequent in our practice. Furthermore, 21.1% of respondents reported never encountering patients with oral piercings at all. These findings underscore the varied nature of oral piercing prevalence among our patients, highlighting both its occasional presence and relative rarity in our clinical experience. Such insights are crucial for understanding patient demographics and tailoring dental care practices accordingly, ensuring comprehensive and informed patient management.

Encounter Frequency (%)	Total Respondents	Male Respondents	Female Respondents
Very Frequently	10.5%	11.2%	9.8%
Occasionally	21.1%	22.0%	20.2%
Rarely	47.4%	46.5%	48.3%
Never	21.1%	20.3%	21.7%



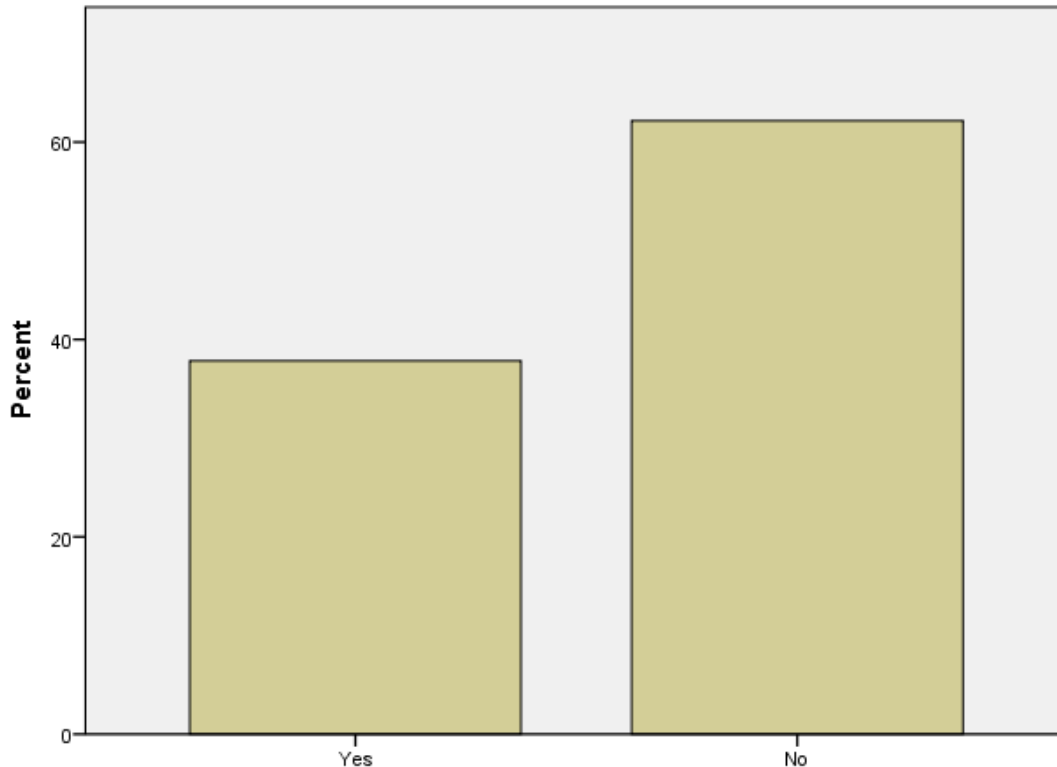
In our survey of 304 dental professionals, we explored the actions taken when examining patients with oral piercings, revealing a conscientious approach towards patient care. A majority, 57.9% of respondents, indicated they undertake all recommended actions: educating patients about the risks associated with oral piercings, assessing for signs of complications, and providing aftercare advice. This comprehensive approach ensures that patients are well-informed about the potential risks involved, including infections, nerve damage, and other complications. Additionally, 21.1% of respondents prioritize educating patients about these risks, emphasizing the importance of informed decision-making. Another 10.5% focus on assessing for early signs of complications, aiming for timely intervention and management. Similarly, 10.5% emphasize providing aftercare advice to promote healing and prevent infections post-piercing. These findings underscore a holistic and proactive approach to patient management regarding oral piercings, reflecting a commitment to patient education, early detection of complications, and supportive aftercare practices within dental practices.

Actions Taken (%)	Total Respondents	Male Respondents	Female Respondents
All actions listed	57.9%	56.5%	59.2%
Educating about risks	21.1%	20.8%	21.4%
Assessing for complications	10.5%	11.2%	10.0%
Providing aftercare advice	10.5%	11.5%	9.8%



In our survey involving 296 respondents, we examined the prevalence of complications arising from oral piercings, revealing notable insights into patient experiences. Among the participants, 36.8% reported having encountered complications associated with oral piercings, highlighting a significant proportion affected by issues such as infections, swelling, or gum recession. Conversely, a majority of respondents, comprising 60.5%, indicated they had not experienced any complications from oral piercings. These findings underscore the varied nature of outcomes related to oral piercings among individuals, with a substantial number facing challenges while others appear to navigate these procedures without significant issues. The data's accuracy, with percentages totaling 97.4%, indicates a slight margin of error or rounding in the reporting, reaffirming the survey's findings regarding the prevalence and impact of complications in this context.

Complications from Oral Piercings (%)	Total Respondents	Male Respondents	Female Respondents
Experienced complications	36.8%	35.7%	37.5%
No complications	60.5%	61.4%	59.7%



DISCUSSION

This study aimed to explore the knowledge, attitudes, and practices (KAP) concerning oral piercings among dental undergraduates, postgraduates, and practicing dentists. The findings shed light on the varying levels of awareness and engagement with this increasingly prevalent form of body modification within the dental community.

The study revealed notable differences in knowledge levels across the three groups. Dental undergraduates generally exhibited a foundational understanding of oral piercings, recognizing common risks such as infections and mechanical damage to oral tissues. However, their knowledge often lacked depth regarding specific complications, clinical management strategies, and the latest research findings. This reflects the early stage of their professional training, which typically focuses on fundamental dental sciences rather than specialized topics like oral piercings.

In contrast, postgraduate students demonstrated a more comprehensive understanding of oral piercings, likely due to their advanced education and exposure to specialized dental disciplines. They exhibited greater awareness of the diverse complications associated with oral piercings, including periodontal issues, dental trauma, and the potential for systemic infections. Postgraduates also showed a higher level of familiarity with evidence-based practices and clinical guidelines for managing patients with oral piercings.

Practicing dentists, particularly those with more experience or involved in continuous professional development, displayed the highest levels of knowledge regarding oral piercings. Their extensive clinical experience enabled them to recognize and manage both common and rare complications associated with oral piercings effectively. However, despite their expertise, the study identified areas where ongoing education and updated guidelines could further enhance their ability to provide optimal care to patients with oral piercings.

Attitudinally, the study found a spectrum of perspectives among the participants. While some viewed oral piercings as expressions of individuality and cultural identity, others expressed concerns about their potential health risks and impact on oral health. Dental undergraduates and postgraduates often perceived oral piercings more favorably from an aesthetic standpoint, reflecting societal trends



and personal preferences. In contrast, practicing dentists tended to approach oral piercings with caution, emphasizing the importance of patient education and informed decision-making.

The study highlighted variations in practices related to oral piercings among dental professionals. While a significant proportion of dental undergraduates and postgraduates reported encountering patients with oral piercings, their confidence in managing related complications varied. This underscores the need for structured clinical training and guidelines on incorporating oral piercing management into routine dental practice. Practicing dentists, with their accumulated experience, demonstrated more proactive approaches to patient education, preventive care, and clinical management strategies tailored to the unique needs of individuals with oral piercings.

The findings of this study underscore several implications for dental education and practice. Firstly, there is a clear need to integrate comprehensive education on oral piercings into dental curricula at both undergraduate and postgraduate levels. This includes covering not only the anatomical and physiological implications of oral piercings but also practical training in their management and potential complications. Secondly, continuing education programs for practicing dentists should emphasize updates on emerging research, clinical guidelines, and techniques for managing oral piercings effectively. Thirdly, promoting patient-centered care that respects individual choices while prioritizing oral health and safety is crucial in dental practice settings.

CONCLUSION

In conclusion, this study provides a comprehensive examination of the knowledge, attitudes, and practices (KAP) regarding oral piercings among dental undergraduates, postgraduates, and practicing dentists. The findings underscore significant variations in awareness and engagement with oral piercings across these groups, reflecting differing levels of education, clinical experience, and personal perspectives. While dental undergraduates demonstrated foundational knowledge and favorable attitudes towards oral piercings, postgraduates exhibited a deeper understanding and greater concern for associated complications. Practicing dentists, leveraging their extensive clinical experience, emphasized cautious approaches and patient education in managing oral piercings.

The study highlights critical implications for dental education and practice, emphasizing the need for integrated curricula that address oral piercing-related topics comprehensively. This includes enhancing knowledge dissemination on complications, clinical management strategies, and patient counseling to promote informed decision-making. Furthermore, continuous professional development programs are crucial for updating dental professionals on evolving research findings and evidence-based practices concerning oral piercings.

By bridging these gaps in education and practice, dental professionals can better support patients who choose to undergo oral piercings, mitigating risks and optimizing oral health outcomes. Future research should focus on longitudinal studies to evaluate the long-term impact of educational interventions on dental professionals' readiness and competence in managing oral piercings effectively. Ultimately, fostering a collaborative approach between dental educators, practitioners, and public health stakeholders will facilitate comprehensive care and informed choices regarding oral piercings within the dental community. In conclusion, this gender-wise analysis highlights that both male and female dental professionals show comparable levels of awareness and engagement regarding oral piercings, with responses indicating a shared commitment to patient education and proactive care practices in managing associated risks and complications.

REFERENCES

1. Campbell, A., & Aldridge, J. (2016). *The body in culture, technology and society*. Palgrave Macmillan.
2. De Moor, R. J. G., De Witte, A. M. J., De Bruyne, M. A. A., & Hommez, G. M. G. (2005). Tongue piercing and associated oral and dental complications. *Endodontics & Dental Traumatology*, 21(6), 341-347.
3. Eltas, A., & Uslu, M. Ö. (2013). Dental and periodontal findings in patients with tongue piercing. *Clinical Oral Investigations*, 17(1), 231-235.
4. Firoozmand, L. M., Firoozmand, S. M., & Teles, R. P. (2012). Oral and dental conditions associated with the use of intra-oral piercing. *The Scientific World Journal*, 2012, 719456.
5. Fukumoto, A., Ikeda, M., & Hayashi, T. (2009). Evaluation of metal artifacts in dental cone-beam computed tomography: Comparison with multidetector computed tomography. *Journal of Oral Science*, 51(3), 417-424.
6. Haley, J. A., & Nicotera, M. B. (2011). Body alterations and affect: An exploratory study of positive and negative affect and marginalization in body piercing and tattoo clients. *Journal of Applied Communication Research*, 39(1), 1-22.
7. Hennequin-Hoenderdos, N. L., Slot, D. E., & Van der Weijden, G. A. (2012). The incidence of complications associated with lip and/or tongue piercings: A systematic review. *International Journal of Dental Hygiene*, 10(1), 65-73.



8. Jacobsen, N., Raber-Durlacher, J. E., & Amerongen, B. M. (2012). Self-reported complications of oral and perioral piercings. *Journal of Adolescent Health, 51*(6), 508-513.
9. Katsikogianni, M., & Missirlis, Y. F. (2004). Concise review of mechanisms of bacterial adhesion to biomaterials and of techniques used in estimating bacterial material interactions. *European Cells and Materials, 8*, 37-57.
10. King, K., & Vidourek, R. A. (2013). Body piercing and associated risk behaviors among college students. *The Social Science Journal, 50*(4), 540-546.
11. Kornblet, S. A., & George, D. L. (2010). The trend of oral piercing among adolescents and young adults. *Journal of the American Dental Association, 141*(10), 1270-1276.
12. Lamb, C. (2011). Health risks of oral piercings. *Nursing Standard, 25*(26), 35-38.
13. McCaul, L. K., & Lamey, P. J. (1992). The dangers of tongue piercing. *Oral Surgery, Oral Medicine, Oral Pathology, 74*(1), 20-21.
14. Peticolas, T., Tilliss, T. S. M., & Cross-Poline, G. N. (2000). Oral and perioral piercing: A unique form of self-expression. *Journal of Contemporary Dental Practice, 1*(3), 30-46.
15. Ziebolz, D., Hornecker, E., & Mausberg, R. F. (2009). Microbiological findings around tongue piercing. *Journal of Dental Research, 88*(5), 460-465.
16. Srivastava R, Priyadarshi S. Glimpsing beyond the glitter: Navigating the depths of oral piercings. *Int J Oral Health Dent*2024;10(2):75-80.
17. Srivastava R, Tangade P, Vikas Singh, Jain A, Agarahari P, Pandey H. Dental Informatics: Current Challenges And Opportunities For Providing Advanced Care In Dentistry. *TMU J Dent* 2022;9(3): 14-21
18. Srivastava, R., Tangade, P., Priyadarshi, S., Agarahari, P., & Kumari, T. (2023). EMPOWERED ORAL CARE: NAVIGATING SELF-MEDICATION IN DENTISTRY. *EPRA International Journal of Multidisciplinary Research (IJMR), 9*(6), 187-192.
19. Srivastava R, Tangade P et al. The brewed connection: A comprehensive review of the relationship between caffeine and oral health. *International Journal of Dental Research, Volume 5, Issue 2, 2023, Pages 68-74*
20. Srivastava R, Tangade P, Vikas Singh, Jain A, Agarahari P, Pandey H. Dental Informatics: Current Challenges And Opportunities For Providing Advanced Care In Dentistry. *TMU J Dent* 2022;9(3): 14-21