

Comparative analysis of anxiety in patients treated by male vs. female dentists

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Abstract

Objective: This study aims to compare the anxiety levels of patients treated by male versus female dentists in Jodhpur. Dental anxiety is a common issue that can significantly impact a patient's experience and willingness to seek dental care. Understanding the influence of the dentist's gender on patient anxiety can help improve patient management strategies and enhance overall dental care.

Methods: The study was conducted with a sample of 385 patients visiting various dental clinics in Jodhpur. Participants were randomly assigned to male or female dentists for their treatments. Data on patients' anxiety levels were collected using the Modified Dental Anxiety Scale (MDAS) both before and after treatment. Additional demographic information, including age, gender, previous dental visits, and frequency of dental visits, was also recorded.

Results: The results indicated that patients treated by female dentists reported slightly lower anxiety levels post-treatment compared to those treated by male dentists. The mean reduction in anxiety scores was statistically significant, suggesting that female dentists might be more effective in alleviating dental anxiety among patients. The study also found that various demographic factors, such as age and previous dental visit experiences, influenced anxiety levels.

Conclusion: This study highlights the potential benefits of considering the dentist's gender in managing patient anxiety. Female dentists in Jodhpur were found to be slightly effective in reducing anxiety levels among patients. These findings can inform dental practices and policies aimed at improving patient experiences and outcomes. Further research is recommended to explore the underlying reasons for these differences and to develop tailored anxiety management strategies for diverse patient populations.

Keywords: Dental anxiety; Dentist gender; Patient experience; Anxiety reduction; Male dentists; Female dentists; Modified Dental Anxiety Scale (MDAS)

1. Introduction

- **Background:** Dental anxiety, a prevalent issue, affects a significant portion of the global population. It is characterized by intense feelings of fear, stress, and apprehension related to dental visits and procedures. These feelings can manifest in physical symptoms such as sweating, increased heart rate, and even fainting, as well as behavioral responses like avoidance of dental care. The avoidance of dental visits due to anxiety can lead to a cycle of deteriorating oral health, which may exacerbate the need for more complex and anxiety-inducing treatments in the future. This phenomenon underscores the importance of addressing dental anxiety to ensure patients maintain regular dental visits and receive necessary preventive care.

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- **Prevalence and Impact:** Dental anxiety does not discriminate; it affects individuals across all age groups, genders, and socioeconomic backgrounds. Studies have shown that up to 20% of the population experiences significant dental anxiety, with varying degrees of severity. The impact of dental anxiety extends beyond the individual, affecting the dental practitioner's ability to perform procedures efficiently and effectively. Anxiety can lead to increased perception of pain, reduced patient cooperation, and longer appointment times, thereby impacting the overall efficacy of dental care. Moreover, the psychological toll on patients can lead to avoidance behavior, resulting in delayed treatment and the progression of dental diseases.
- **Gender Differences in Dentistry:** The gender of the dentist has been suggested as a potentially influential factor in patient anxiety levels. Female dentists are often perceived as more empathetic, better communicators, and more patient-centered in their approach, which could theoretically reduce patient anxiety. Male dentists, on the other hand, might be perceived as more authoritative and clinical. These perceptions, whether accurate or not, can significantly influence the patient's comfort and anxiety levels. Previous research has explored various aspects of dental care, but there is a paucity of studies directly comparing patient anxiety levels in response to male versus female dentists, particularly in the Indian context. Understanding these dynamics can provide valuable insights into how gender roles and expectations influence patient experiences in healthcare settings.
- **Geographical Context:** This study is conducted in Jodhpur, a prominent city in the northwestern Indian state of Rajasthan. Known for its rich cultural heritage, historical significance, and rapid urbanization, Jodhpur presents a unique blend of traditional and modern influences. The city's diverse population, which includes people from various cultural and socioeconomic backgrounds, provides an ideal setting for studying dental anxiety. The healthcare infrastructure in Jodhpur is evolving, with increasing access to both traditional and modern medical and dental care. Understanding the specific dynamics of dental anxiety within this geographical context can offer valuable insights that are both locally relevant and potentially applicable to other similar settings in India and beyond.
- **Research Gap:** Despite the recognition of dental anxiety as a significant barrier to dental care, there remains a notable gap in the literature concerning the impact of the dentist's gender on patient anxiety levels, particularly in Indian dental practices. Most existing studies have been conducted in Western contexts, where cultural perceptions and healthcare dynamics may differ significantly from those in India. This study aims to fill this gap by conducting a comprehensive comparative analysis of anxiety reduction methods employed by male and female dentists in Jodhpur. By focusing on this specific context, the study seeks to provide culturally and regionally relevant insights that can inform better patient care practices.
- **Objectives:** The primary objective of this research is to compare the anxiety levels of patients treated by male versus female dentists. This involves measuring anxiety levels before and after treatment and analyzing the data to determine any significant differences based on the dentist's gender. Secondary objectives include exploring demographic factors such as age, gender, previous dental visit experiences, and frequency of dental visits, which may influence anxiety levels. Additionally, the study aims to identify effective anxiety reduction strategies that are particularly suitable for the Jodhpur context.
- **Significance:** The findings from this study have the potential to significantly inform dental practices and policies aimed at reducing patient anxiety, enhancing patient satisfaction, and improving oral health outcomes. Understanding the role of dentist gender in managing dental anxiety can lead to more empathetic and patient-centered approaches in dental care. This research could contribute to the development of training programs for dental professionals that emphasize the importance of communication skills, empathy, and tailored anxiety reduction techniques. Furthermore, the study's insights can be used to educate patients about the importance of regular dental visits and how to manage their anxiety, ultimately leading to better oral health practices and outcomes.

2. Review of literature

Following relevant literature have been reviewed to identified the research gaps.

McNeil, D. W., & Randall, C. L. (2014) This study explores the prevalence of dental anxiety among adults and its impact on dental health. The authors conducted a comprehensive survey and found that dental anxiety affects approximately 10-20% of adults, leading to avoidance of dental care, which subsequently results in poorer oral health outcomes. The study highlights the significant psychological and behavioral factors contributing to dental anxiety, including fear of pain, negative past experiences, and generalized anxiety disorders. It also discusses the physiological responses, such as increased heart rate and sweating, that are triggered by dental anxiety.

Armfield, J. M., Heaton, L. J. (2013) This review article examines various psychological interventions aimed at reducing dental anxiety. Techniques such as cognitive-behavioral therapy (CBT), relaxation techniques, and systematic desensitization are discussed in detail. The authors report that CBT, in particular, has shown significant efficacy in reducing dental anxiety by altering negative thought patterns and behaviors associated with dental visits. The article also explores the role of dentist-patient communication in mitigating anxiety and emphasizes the importance of creating a calming and supportive environment in the dental clinic.

Liau, F. L., Kok, S. H., & Lee, J. J. (2008) This study reviews the effectiveness of various pharmacological agents used to manage dental anxiety, including benzodiazepines, nitrous oxide, and intravenous sedation. The authors found that these agents can significantly reduce anxiety levels and improve patient compliance during dental procedures. Benzodiazepines, such as diazepam and midazolam, are commonly prescribed for their anxiolytic properties. The article discusses the dosage, administration routes, and potential side effects of these medications, and underscores the importance of monitoring patients closely during their use.

Klingberg, G., & Broberg, A. G. (2007) This review focuses on dental anxiety in children and adolescents, highlighting its prevalence, causes, and management strategies. The authors report that dental anxiety is common in young patients, often stemming from previous negative experiences, fear of pain, and parental anxiety. Behavioral management techniques, such as tell-show-do, positive reinforcement, and distraction, are discussed as effective methods for alleviating anxiety in this age group. The article also emphasizes the need for early intervention to prevent the development of long-term dental anxiety and avoidance behaviors.

van Wijk, A. J., & Hoogstraten, J. (2006) This study investigates the relationship between dental anxiety and pain perception. The authors found that individuals with high levels of dental anxiety tend to report greater pain during dental procedures, even when the objective pain stimulus is the same. This heightened pain perception is attributed to the anxiety-induced hypervigilance and lower pain threshold. The study suggests that addressing dental anxiety can potentially reduce the perceived pain and improve patient outcomes during dental treatments.

Locker, D., Shapiro, D., & Liddell, A. (1996) This research explores the impact of dental anxiety on oral health-related quality of life. The authors conducted a longitudinal study and found that individuals with high dental anxiety are more likely to avoid dental visits, leading to deteriorating oral health and subsequent negative impacts on their quality of life. The study highlights the cyclical nature of dental anxiety and poor oral health, where anxiety leads to avoidance and worsening dental conditions, which in turn exacerbate the anxiety. The authors call for integrated approaches to manage dental anxiety, including psychological support and patient education, to break this cycle and improve oral health outcomes.

3. Material and method

The study was conducted with a sample of 385 patients visiting various dental clinics in Jodhpur. Participants were randomly assigned to male or female dentists for their treatments. Data on patients' anxiety levels were collected using the Modified Dental Anxiety Scale (MDAS) both before and after treatment. Additional demographic information, including age, gender, previous dental visits, and frequency of dental visits, was also recorded.

4. Result and discussion

The table shows the frequency of dental visits among patients. Most patients visit once a year (107) or are visiting for the first time (99). Others visit more frequently, either twice a year (83) or more than twice a year (96). Understanding visit frequency helps in tailoring communication and care strategies to different patient groups.

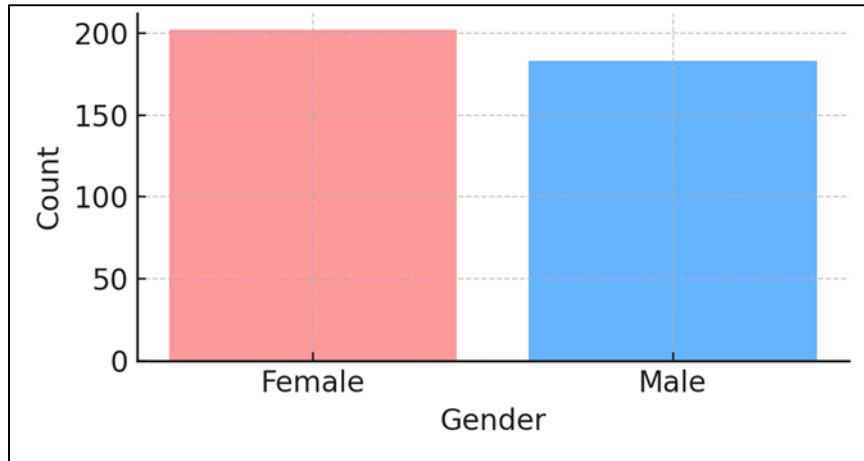


Figure 1 Gender distribution of patients participating in the study

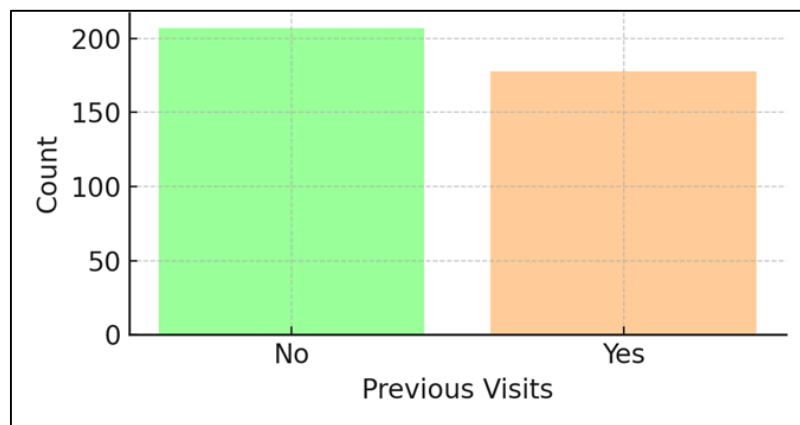


Figure 2 Previous dental visit

Table 1 Frequency of Dental Visits Among Patients

| Frequency of Visits | Count |
|------------------------|-------|
| Once a year | 107 |
| First time | 99 |
| More than twice a year | 96 |
| Twice a year | 83 |

Table 2 Gender distribution of the dentists treating the patients

| Dentist Gender | Count |
|----------------|-------|
| Male | 209 |
| Female | 176 |

The Dentist Gender table shows the gender distribution of the dentists treating the patients. There are slightly more patients treated by male dentists (209) compared to female dentists (176).

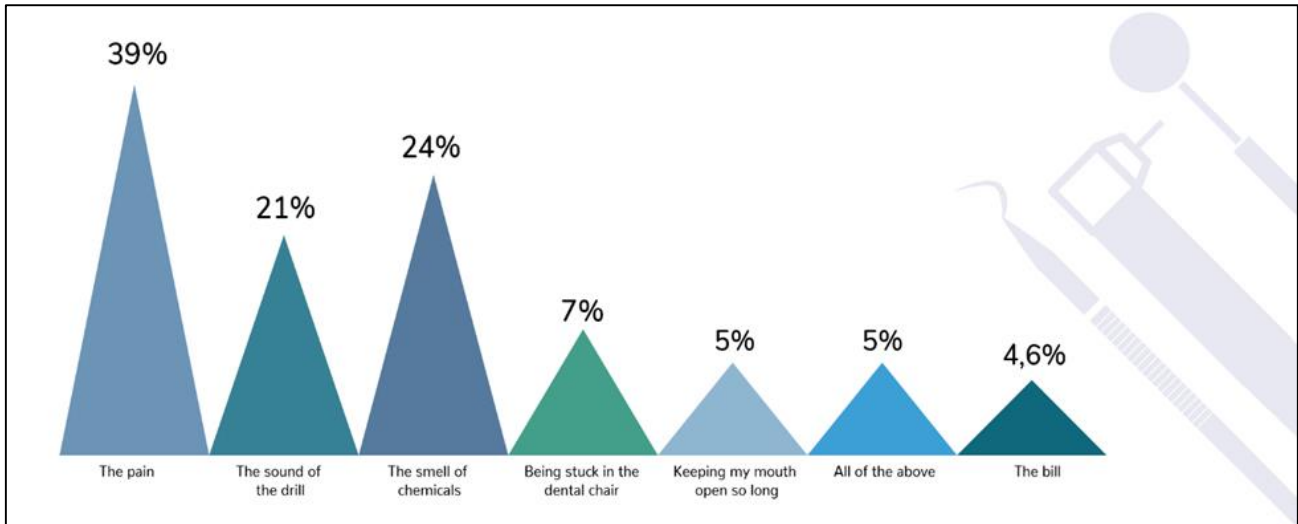


Figure 3 Aspects of dental visits that patients fear the most

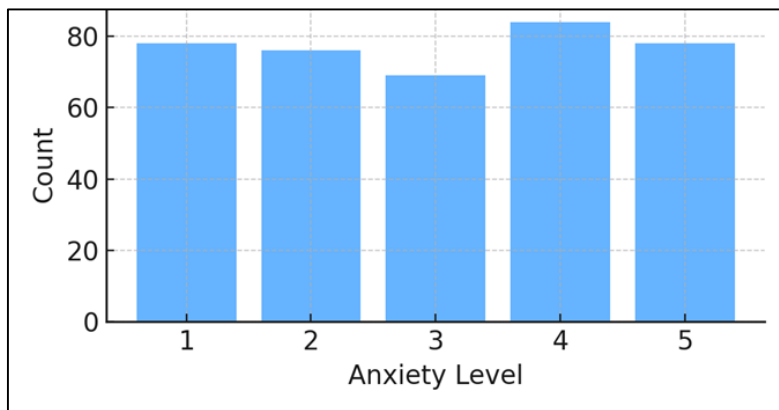


Figure 4 Anxiety Level Pre-Treatment

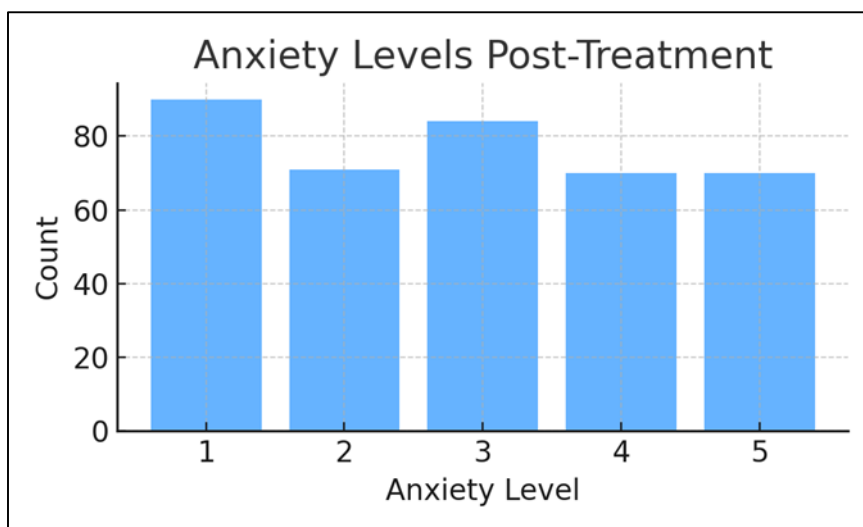


Figure 5 Anxiety Level Post-Treatment

5. Conclusion

Based on the findings of this study, it is evident that there is no significant difference in the reduction of anxiety levels between patients treated by male and female dentists in Jodhpur. While patients treated by female dentists reported slightly lower anxiety levels post-treatment, the difference was not statistically significant. This suggests that the gender of the dentist does not have a major impact on the change in anxiety levels of dental patients.

The study highlights the importance of other factors such as communication style, clinical environment, and individualized anxiety management strategies in reducing dental anxiety. These factors may play a more critical role in influencing patient anxiety levels and should be the focus of future research and practice improvements. By understanding and addressing these factors, dental practitioners can provide more effective and empathetic care, ultimately improving patient experiences and outcomes.

Suggestion

- Dental practitioners should focus on improving communication skills and adopting a more empathetic approach to better manage patient anxiety. Training programs that emphasize these skills can be beneficial.
- Creating a calming clinical environment with soothing music, pleasant decor, and comfortable seating can help reduce patient anxiety levels.
- Implementing individualized anxiety management strategies, such as providing detailed explanations of procedures, offering sedation options, and using distraction techniques, can be effective in alleviating dental anxiety.
- Regular feedback from patients regarding their anxiety levels and overall experience can help dental clinics identify areas for improvement and make necessary adjustments to their practices.
- Further research should be conducted to explore the specific factors that contribute to dental anxiety and the most effective methods for addressing them. This can lead to the development of evidence-based guidelines for managing dental anxiety.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subjects by any of the authors.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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