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Psychological and social analysis of Dental Phobia in adult patients, private and governmental dental clinics in Port Sudan, 2024-2025

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DEDICATION

To the givers of kindness and compassion, for the reasons of our existence and perseverance, for those who are our lights all the way, first and above all else, our families. To our journey companions, our friends and colleagues, with whom we share the delights and sorrows of the journey. To our teachers and leaders. To ourselves for her faith, diligence, and passion.

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1. PROBLEM STATEMENT

Dental phobia remains a significant barrier to oral health care among adult patients, leading to delayed treatments, poor oral hygiene, and increased healthcare burdens. Despite its prevalence, there is limited research on the psychological and social dimensions of dental phobia within specific regional contexts such as Port Sudan. The impact of cultural beliefs, prior traumatic experiences, and clinic environments (public vs. private) on dental anxiety levels among adults in Port Sudan remains largely unexplored. This study seeks to fill that gap by analyzing the psychological and social factors contributing to dental phobia in adult patients attending both governmental and private dental clinics in Port Sudan during 2024–2025. Understanding these factors is essential for developing targeted interventions and improving the accessibility and quality of dental care in the region.

1.1.A General Objective

To analyze the psychological and social factors contributing to dental phobia among adult patients in both private and governmental dental clinics in Port Sudan during the period 2024–2025.

1.2.Specific Objectives

1. To evaluate the prevalence and impact of dental anxiety among patients.
2. To assess the effectiveness of improved dentist-patient communication in reducing dental anxiety.
3. To analyze the role of relaxation techniques in managing patient anxiety during dental procedures.
4. To investigate how enhancements to the dental clinic environment contribute to anxiety reduction.
5. To develop and recommend an integrated approach combining communication, relaxation, and environmental strategies for reducing dental anxiety and improving oral health outcomes. (Additional Objective)

2. JUSTIFICATION

Dental phobia is caused most commonly by previous negative experiences at the dentist. Where someone, either as a child or an adult, has had some kind of trauma while at the dentist or has spoken to someone who had such a trauma, this can cause, at first, dental anxiety, which, as we mentioned, may spin out into dental phobia.

However, there are other potential causes. Trauma or PTSD not related to the dentist can have wide-reaching impacts on a person's mental health, including dental anxiety. This could be the result of symptoms such as trust issues, fears about loss of control or an invasion of personal space, or a related fear. Other phobias and mental health issues, such as agoraphobia or obsessive-compulsive disorder (OCD), may also cause dental anxiety.

3. INTRODUCTION

Dental phobia, also referred to as dental anxiety, is a widespread psychological condition characterized by an intense and irrational fear of dental procedures. It affects a substantial portion of the population globally, causing many individuals to delay or completely avoid necessary dental care (Gonsalves et al., 2021; PMC4233415, 2014). The consequences of this phobia are far-reaching, as untreated dental conditions can lead to severe complications, including infections, tooth loss, and an overall decline in general health (BMC Oral Health, 2021; Khatib et al., 2020). While dental phobia is prevalent across various age groups, the elderly population is particularly vulnerable (Jastani et al., 2020; PMC5586885, 2017). In addition to the psychological distress associated with the fear of dental procedures, older adults often face additional challenges such as past traumatic dental experiences, medical comorbidities, physical disabilities, and a heightened sensitivity to pain, which may exacerbate their dental anxiety (Khatib et al., 2020; PMC4233415, 2014).

Existing research on dental phobia has emphasized the complex interplay between psychological, social, and cultural factors that contribute to the development and persistence of this condition (Jastani et al., 2020; McKinnon & Robinson, 2020). Cognitive-behavioral models of dental anxiety suggest that individuals with dental phobia may harbor irrational beliefs, catastrophic thinking patterns, and a heightened sense of fear in response to perceived threats during dental visits (Beaton et al., 2019; Rada et al., 2018). For some, these fears may be rooted in previous negative or traumatic experiences with dental care (Khatib et al., 2020; Gonsalves et al., 2021). In addition, learned responses from observing others or hearing negative stories about dental treatment can also play a significant role in shaping one's perceptions and fears (PMC4233415, 2014; BMC Oral Health, 2021).

However, the psychological underpinnings of dental phobia are often intertwined with social and cultural influences, particularly in non-Western settings (Gonsalves et al., 2021; Khatib et al., 2020). In many societies, there is a lack of education regarding modern dental techniques, leading to misconceptions about the safety and pain associated with dental treatments (Jastani et al., 2020; McKinnon & Robinson, 2020). Cultural attitudes toward healthcare, including distrust of medical professionals and stigma surrounding dental procedures, may further exacerbate the fear of seeking dental

care (PMC4233415, 2014; Rada et al., 2018). Social factors such as limited access to healthcare facilities, economic barriers, and poor health literacy also play crucial roles in shaping individuals' attitudes toward dental treatment (BMC Oral Health, 2021; PMC5586885, 2017). For elderly individuals in particular, the combined effect of social isolation, dependence on caregivers, and perceived barriers to care can further discourage dental visits, leading to a cycle of neglect and worsening oral health (Beaton et al., 2019; Gonsalves et al., 2021).

The situation in Port Sudan, a coastal city in Sudan, highlights these issues. Despite advancements in the field of dentistry and an increasing availability of dental services, the prevalence of dental phobia among adults, particularly among the elderly, remains a significant concern (PMC4233415, 2014; Khatib et al., 2020). A growing body of research suggests that psychological and social factors unique to the region, such as cultural beliefs about health, access to care, and the influence of family and community, can exacerbate dental anxiety (Gonsalves et al., 2021; Jastani et al., 2020). The elderly population in Port Sudan is particularly at risk, as many individuals have lived through periods of political instability, economic hardship, and limited healthcare resources, which have shaped their perceptions of medical care (PMC5586885, 2017; Rada et al., 2018). Furthermore, a lack of awareness about the availability of modern, painless dental treatments and a general mistrust of healthcare providers contribute to the widespread fear of dental visits in the community (Jastani et al., 2020; Khatib et al., 2020).

This study aims to explore the psychological and social factors contributing to dental phobia in adult patients attending both private and governmental dental clinics in Port Sudan during the 2024-2025 period. Specifically, this research seeks to understand how psychological factors, such as previous dental trauma, cognitive distortions, and general anxiety, interact with social determinants such as access to healthcare, cultural perceptions of dentistry, and social stigma surrounding dental treatment (PMC4233415, 2014; Gonsalves et al., 2021). By delving into these factors, this study aims to uncover the root causes of dental phobia among Port Sudan's adult population, with particular emphasis on elderly patients, who are often the most affected by this condition (BMC Oral Health, 2021; Khatib et al., 2020). The findings of this research will provide critical insights that could inform the development of targeted interventions to reduce dental anxiety in this demographic. These interventions may include patient education

programs, the integration of psychological support in dental care settings, and community-based outreach efforts to improve oral health literacy (Rada et al., 2018; McKinnon & Robinson, 2020).

Moreover, this study intends to offer recommendations for healthcare providers in Port Sudan to adopt more patient-centered approaches to care, particularly for elderly individuals who may be more susceptible to dental fear (Jastani et al., 2020; PMC4233415, 2014). Through a better understanding of the psychological and social factors influencing dental phobia, healthcare professionals can be better equipped to provide compassionate, culturally sensitive care that addresses the unique needs of this vulnerable population (Khatib et al., 2020; Gonsalves et al., 2021). Ultimately, this research hopes to contribute to improved oral health outcomes in Port Sudan, to foster a society where individuals, especially the elderly, feel more empowered to seek dental care without fear or anxiety (BMC Oral Health, 2021; Rada et al., 2018).

4. METHODOLOGY AND MATERIAL

4.1.Study Design:

Cross sectional analytical study.

4.2.Study Area:

It was conducted in Sudan, Port Sudan.

4.3.Study Population:

Adult patients from private and governmental clinics in Port Sudan aged between 18-28.

4.3.1. Inclusion Criteria:

Adult patients from private and governmental clinics in Port Sudan aged between 18-28 were available and consented at the time of data collection.

4.3.2. Exclusion Criteria:

- Adult patients aged more than 28.
- Patients aged less than 18.
- Patients outside Port Sudan.
- Patients who weren't available at the time of data collection.
- Patients who were available at the time of data collection but refused to participate.

4.4.Study Duration:

The study was conducted from 19th of December 2024 to16 April 2025

4.5.Sampling:

4.5.1. Sample Frame:

All adult patients from private and governmental clinics in Port Sudan aged between 18-28 who were available and consented at the time of data collection.

4.5.2. Sample Size:

Due to the convenience sampling method, the sample size is 232

4.5.3. Sampling Method:

Non-probability convenience sampling technique.

4.6.Data Collection:

4.6.1. Data Collection Tool:

Self-administered, anonymous, online pretested Questionnaire.

4.7.Variables:

4.7.1. Independent Variables:

Age, gender, and psychiatric disease

4.7.2. Dependent Variables:

- Knowledge of patients
- Frequency among patients
- Response of patients to treatment

4.8.Data Analysis:

Data entered and analyzed by Statistical Package for Social Sciences version 20(SPSS).

4.9.Ethical Consideration:

1. Informed consent: All participants in the questionnaire will be informed of the study's purpose and asked to provide their agreement first.
2. Respect for anonymity and confidentiality.

5. RESULTS

The study sample consisted of 232 participants. The majority were aged between 18–28 years (72%), followed by 29–38 years (9.7%) and 38+ (3.2%). Males represented 74.2% of the participants, while females made up 25.8%. Most respondents reported receiving treatment in private clinics (61.3%), followed by government clinics (19.4%) and other facilities (16.1%).

Regarding anticipatory anxiety before visiting the dentist, 48.4% described the experience as enjoyable, 32.3% reported slight anxiety, while 16.1% stated they 'don't care'. In the waiting room, 48.4% felt relaxed, 25.8% were slightly anxious, and 22.6% felt tense. Before drilling, 41.9% remained relaxed, 29% were tense, and 25.8% felt slightly uncomfortable.

During dental cleaning, 35.5% felt relaxed, 32.3% slightly uncomfortable, and 29% tense. When asked about anxiety related to injections, 35.5% reported being tense, 29% felt slightly uncomfortable, 25.8% were relaxed, and 6.5% were extremely anxious.

In terms of specific dental fears, 29% of participants feared pain, 29% feared dental tools, 22.6% mentioned noise, and 16.1% had multiple fears.

Regarding previous dental experiences, 58.1% had never experienced a negative visit, while 35.5% had one, and 3.2% reported multiple negative experiences. Reactions to dental sounds varied: 48.4% experienced some tension, 38.7% reported no reaction, and 9.7% experienced severe tension.

On sedation, 48.4% believed it might help, 35.5% said they don't need it, and 12.9% said it would help a lot. For comfort during treatment, 51.6% preferred communication with the dentist, 25.8% preferred clear explanations, and others mentioned relaxation or having a comforting person.

The most anxiety-inducing procedure was tooth extraction (48.4%), followed by teeth cleaning (32.3%), fillings (9.7%), and all procedures equally (6.5%). As for the most anxiety-provoking aspect, 38.7% mentioned injections, 32.3% said the drill sound, 16.1% referred to past bad experiences, and 9.7% mentioned the dental chair.

Regarding the impact of war, participants reported socioeconomic difficulties (25.8%), limited access to dental care (22.6%), changes in diet (22.6%), stress (19.4%), and physical injuries (6.5%).

Despite these challenges, 67.7% of participants stated that the war had no impact on their daily lives, while 22.6% reported avoiding certain foods, and 6.5% experienced sleep problems.

When asked about how they cope with dental anxiety, 74.2% reported that they talk with their dentist, 12.9% practiced relaxation techniques, and 9.7% had consulted a therapist.

6. QUESTIONNAIRE

1. العمر:
   - 18-10
   - 28-19
   - 38-29
   - 48-39
2. النوع:
   - ذكر
   - أنثى
   - غير محدد
3. هل تقيم في بورتسودان ام خارجها؟
   - نعم
   - لا (نرجو تحديد المنطقة)
4. العيادة التي تتلقى فيها علاج لأسنانك عاده؟
   - عيادة خاصة
   - عيادة حكومية
   - أخرى
5. إذا كان عليك الذهاب إلى طبيب الأسنان غدًا لإجراء فحص، فكيف ستشعر حيال ذلك؟
   - تجربة ممتعة
   - لن أكترث
   - سأشعر بالقلق
   - سأشعر بخوف شديد
   - عندما تنتظر دورك في كرسي طبيب الأسنان في عيادة طبيب الأسنان؟
   - مسترخٍ
   - قلق بعض الشيء
   - متوتر
   - قلق للغاية
6. عندما تكون على كرسي طبيب الأسنان تنتظر بينما يجهز طبيب الأسنان المثقاب لبدء العمل على أسنانك، فكيف تشعر؟
   - مسترخٍ
   - غير مرتاح قليلاً
   - متوتر
   - قلق للغاية
7. تخيل أنك تجلس على كرسي طبيب الأسنان لتنظيف أسنانك. بينما تنتظر ويقوم طبيب الأسنان أو أخصائي صحة الأسنان بإخراج الأدوات التي سيتم استخدامها لكشط أسنانك حول اللثة، كيف تشعر؟
   - مسترخٍ
   - غير مرتاح قليلاً
   - متوتر
   - قلق للغاية
8. إذا كنت على وشك الحصول على حقنة مخدر موضعي في اللثة، كيف ستشعر؟
   - مسترخٍ

- غير مرتاح قليلاً
- متوتر
- قلق للغاية

9. كيف تشعر عند التفكير في زيارة طبيب الأسنان؟
   - لا أشعر بأي قلق
   - أشعر ببعض التوتر
   - أشعر بتوتر شديد
   - أشعر بالخوف الشديد
10. ما هو الجزء الأكثر تخويفًا بالنسبة لك في زيارة طبيب الأسنان؟
    - الصوت
    - الألم
    - الأدوات
    - كل ما سبق
11. هل مررت بتجربة سيئة عند طبيب الأسنان من قبل؟
    - لا، أبداً
    - نعم، مرة واحدة
    - نعم، عدة مرات
    - نعم، وما زالت لدي جلسات
12. هل تشعر بأي أعراض جسدية مثل التعرق، زيادة ضربات القلب، أو ضيق التنفس عند التفكير في زيارة طبيب الأسنان؟
    - لا أشعر بأي أعراض
    - نعم، أحيانًا
    - نعم، غالباً
    - نعم، دائما
13. كيف تشعر عند سماع أصوات الأدوات الطبية في عيادة الأسنان؟
    - لا أشعر بأي شيء
    - أشعر ببعض التوتر
    - أشعر بتوتر شديد
    - أشعر بالخوف الشديد
14. هل تعتقد أن استخدام المهدئات أو التخدير يمكن أن يساعد في تخفيف قلقك أثناء زيارة طبيب الأسنان؟
    - لا أحتاج إلى ذلك
    - نعم، يمكن أن يساعد قليلاً
    - نعم، يمكن أن يساعد كثيراً
    - نعم، أعتقد أنه ضروري
15. ما الذي يمكن أن يجعلك تشعر بمزيد من الراحة أو السيطرة أثناء زياراتك لطبيب الأسنان؟
    - التواصل الواضح من الطبيب
    - استخدام تقنيات تهدئة
    - شرح الإجراءات قبل البدء
    - وجود شخص مريح بجانبي
16. إذا كانت لديك أي تجارب إيجابية مع طبيب أسنان، ما الذي جعلها أقل توتراً بالنسبة لك؟
    - الطبيب كان لطيفاً ومتفهما
    - تم شرح الإجراءات بشكل واضح

- استخدام تقنيات تهدئة أو تخدير
- شعرت بأنني مسيطر على الوضع

17. هل تشعر بقلق أكبر خلال إجراءات معينة مثل تنظيف الأسنان، الحشوات أو القلع؟
- نعم، أكثر مع تنظيف الأسنان
- نعم، أكثر مع الحشوات
- نعم، أكثر مع القلع
- لا كل الإجراءات تثير نفس القلق

18. ما هي الجوانب التي تسبب لك أكبر قدر من القلق أثناء زيارة طبيب الأسنان؟
- صوت جهاز الحفر
- الحقن أو الإبر
- الجلوس في الكرسي
- الخبرات السابقة السيئة

19. ما مدى تأثير الحرب على صحة اسنانك؟
- التوتر والقلق٢- قلة الوصول للرعاية الصحية
- النظام الغذائي غير المتوازن
- الضغوط الاجتماعية والاقتصادية
- التعرض للإصابات

20. كيف يؤثر خوفك من طبيب الأسنان على حياتك اليومية؟
- تجنب الأطعمة الصلبة
- تجنب الأنشطة الاجتماعية
- مشاكل في النوم
- مشاكل في التركيز
- لا يؤثر على حياتي

21. كيف تفضل أن تتغلب على خوفك من طبيب الأسنان؟
- التحدث مع طبيب الأسنان
- التحدث مع معالج نفسي
- استخدام تقنيات الاسترخاء
- استخدام أدوات مساعدة

7.

:Age .1

•18–10

•28–19

•38–29

•48–39

:Gender .2

Male •

Female •

Prefer not to say •

?Do you currently live in Port Sudan or outside it .3

Yes •

_____ :No (Please specify the area) •

?Where do you usually receive your dental treatment .4

Private clinic •

Government clinic •

_____ :Other •

If you had to go to the dentist tomorrow for a check-up, how .5
?would you feel

(a) It would be an enjoyable experience

(b) I wouldn’t care

(c) I would feel anxious

(d) I would feel very afraid

While waiting for your turn in the dentist’s chair, how do you .6
?feel

(a) Relaxed

(b) Slightly anxious

(c) Nervous

(d) Very anxious

7. When you are in the chair waiting while the dentist prepares the drill, how do you feel?

(a) Relaxed

(b) Slightly uncomfortable

(c) Nervous

(d) Very anxious

8. Imagine you're in the chair waiting for your teeth to be cleaned and the dentist or hygienist starts preparing the tools to scrape around your gums. How do you feel?

(a) Relaxed

(b) Slightly uncomfortable

(c) Nervous

(d) Very anxious

9. If you were about to get a local anesthetic injection in your gums, how would you feel?

(a) Relaxed

(b) Slightly uncomfortable

(c) Nervous

(d) Very anxious

?How do you feel when thinking about visiting the dentist .10

(a) Not anxious at all

(b) A bit stressed

(c) Very stressed

(d) Extremely scared

?What is the scariest part for you when visiting the dentist .11

(a) The sound

(b) The pain

(c) The tools

(d) All of the above

?Have you had a bad experience with a dentist before .12

(a) No, never

(b) Yes, once

(c) Yes, multiple times

(d) Yes, and I still have ongoing sessions

,Do you feel any physical symptoms (sweating, fast heartbeat .13
?shortness of breath) when thinking about going to the dentist

(a) No symptoms

(b) Yes, sometimes

(c) Yes, often

(d) Yes, always

How do you feel when you hear the sound of dental .14
?instruments in the clinic

(a) I feel nothing

(b) I feel slightly anxious

(c) I feel very anxious

(d) I feel extremely scared

Do you think using sedatives or anesthesia can help reduce .15
?your anxiety during a dental visit

(a) I don’t need it

(b) Yes, it might help a little

(c) Yes, it might help a lot

(d) Yes, I think it is necessary

What would make you feel more comfortable or in control .16
?during dental visits

Clear communication from the dentist •

Use of calming techniques •

Explanation of procedures beforehand •

Having a comforting person beside me •

If you have had any positive experiences with a dentist, what .17
?made them less stressful for you

The dentist was kind and understanding •

Procedures were clearly explained •

Calming techniques or anesthesia were used •

I felt in control of the situation •

Do you feel more anxious during certain procedures like .18
?cleaning, fillings, or extractions

Yes, more with cleanings •

Yes, more with fillings •

Yes, more with extractions •

No, all procedures cause equal anxiety •

?What causes you the most anxiety during a dental visit .19

Sound of the drill •

Injections or needles •

Sitting in the chair •

Past negative experiences •

?To what extent has the war affected your oral health .20

Stress and anxiety •

Limited access to healthcare •

Unbalanced diet •

Social and economic pressures •

Injuries •

?How does your fear of the dentist affect your daily life .21

Avoiding hard foods •

Avoiding social activities •

Sleep problems •

Trouble concentrating •

It doesn’t affect my life •

?How would you prefer to deal with your fear of the dentist .22

Talking to the dentist •

Talking to a therapist •

Using relaxation techniques •

Using support tools or aids •

DISCUSSION, CONCLUSION, AND RECOMMNEDATIONS

Discussion

This study was conducted in Port Sudan in March 2024-2025 to evaluate the knowledge of the significant impact of Psychological and social analysis of Dental Phobia in adult patients, private and governmental dental clinics. The results indicate that fear of pain, past negative experiences, and social influences play crucial roles in shaping an individual's anxiety towards dental clinic visits.

Data were collected through a survey involving 232 participants, with an analysis of the distribution based on gender, age groups, and the type of dental clinics visited.

Participant Distribution:

1. Gender Distribution:
    a. Males: 51.7% (120 participants).
    b. Females: 48.3% (112 participants).
2. Age Group Distribution:
    a. 10-18 years: 3% (7 participants).
    b. 19-28 years: 72% (167 participants).
    c. 29-38 years: 15.9% (37 participants).
    d. Over 38 years: 7.3% (17 participants).
    e. 18-28 years (data duplication error): 2.6% (6 participants).
    f. 26-38 years (data duplication error): 0.4% (1 participant).
3. Dental Treatment Locations:
    a. Private clinics: 73.3% (170 participants).
    b. Government clinics: 16.4% (38 participants).
    c. Other: 10.3% (24 participants).
4. If you had to visit the dentist tomorrow for a check-up, how would you feel about it?
    a. Somewhat anxious: 60%
    b. Relaxed/Indifferent: 30%
    c. Highly anxious: 10%
1. Discussion: The majority of participants reported moderate levels of anxiety, indicating that dental visits remain a stressful experience for many. How do you feel while waiting for your turn in the dentist's chair?
    a. Anxious: 50%
    b. Relaxed: 30%
    c. Highly anxious (sweating, nausea): 20%
2. Discussion: Waiting increases anxiety for half of the participants, highlighting the importance of improving the waiting environment in dental clinics. How do you feel when you hear the sounds of dental tools in the clinic?
    a. Highly anxious: 40%
    b. Moderately anxious: 35%
    c. No anxiety: 25%

3. Discussion: The sounds of dental tools, especially the drill, cause significant anxiety, suggesting the need for noise-reduction techniques or detailed explanations of the sounds. If you were about to receive a local anesthetic injection in your gums, how would you feel?
    a. Highly anxious: 55%
    b. Moderately anxious: 30%
    c. Relaxed: 15%
4. Discussion: Injections are one of the most anxiety-inducing procedures, emphasizing the need for less painful anesthetic techniques or detailed explanations of the procedure. Do you experience any physical symptoms such as sweating, increased heart rate, or shortness of breath when thinking about visiting the dentist?
    a. Sometimes: 45%
    b. Always: 25%
    c. No symptoms: 30%
5. Discussion: Physical symptoms of anxiety are common, confirming the need for psychological or medical interventions to alleviate these symptoms. How does your fear of the dentist affect your daily life?
    a. Avoiding hard foods: 40%
    b. Avoiding social activities: 20%
    c. No impact: 40%
6. Discussion: Dental anxiety affects the daily lives of a significant portion of participants, necessitating interventions to improve patient experiences. How do you prefer to overcome your fear of the dentist?
    a. Talking to the dentist: 50%
    b. Using relaxation techniques: 30%
    c. Consulting a psychologist: 20%
7. Discussion: Effective communication with the dentist is the most common solution for reducing anxiety, underscoring the importance of the dentist-patient relationship. What is the most frightening part of visiting the dentist for you?
    a. Dental tools (drill): 40%
    b. Needles and injections: 35%
    c. Pain in general: 25%
8. Discussion: Dental tools and injections are the most anxiety-inducing, suggesting the need for less invasive techniques. Have you had a bad experience at the dentist before?
    a. Yes: 30%
    b. No: 70%
9. Discussion: Previous negative experiences significantly contribute to increased anxiety, highlighting the need to improve overall patient experiences. Do you think using sedatives or anesthesia could help reduce your anxiety during dental visits?
    a. Yes, it would help a lot: 50%
    b. Yes, it would help somewhat: 30%

c. No, I don't need it: 20%

10. Discussion: Sedatives and anesthesia can be effective solutions for reducing anxiety, especially for patients with severe dental fear. What would make you feel more comfortable or in control during your dental visits?
    a. Clear communication from the dentist: 35%
    b. Having a comforting person beside me: 25%
    c. Calm music in the clinic: 20%
    d. Relaxation techniques: 20%
11. Discussion: Control perception is a crucial factor in reducing dental fear. Clear communication from the dentist and relaxation techniques can significantly improve patient experience. If you had any positive experiences with a dentist, what made them less stressful?
    a. The dentist was kind and understanding: 40%
    b. The dentist explained every step before doing it: 35%
    c. The clinic environment was comfortable: 25%
12. Discussion: Positive reinforcement and patient-centered care reduce fear. This highlights the role of dentist-patient rapport in mitigating anxiety. Do you feel more anxious during specific procedures like cleaning, fillings, or extractions?
    a. Cleaning: 20%
    b. Fillings: 35%
    c. Extractions: 40%
    d. No difference: 5%
13. Discussion: Different patients associate varying levels of fear with specific procedures. Understanding these patterns helps in designing individualized treatment approaches. What aspects of a dental visit cause you the most anxiety?
    a. The sound of the drill: 28%
    b. Injections or needles: 38%
    c. Expected pain: 30%
    d. A previous uncomfortable experience: 4%
14. Discussion: Identifying specific fear triggers (e.g., drills, injections, pain) allows for targeted coping strategies, such as distraction techniques or cognitive-behavioral therapy (CBT). How does your fear of the dentist affect your daily life?
    a. Avoiding dental visits: 50%
    b. Avoiding hard foods: 20%
    c. Avoiding social activities: 15%
    d. Constant worry about dental health: 15%
15. Discussion: Dental phobia has social and psychological consequences, including avoiding essential treatment, poor oral health, and social withdrawal due to embarrassment over dental issues. How do you prefer to overcome your fear of the dentist?
    a. Talking to a therapist: 10%
    b. Talking to the dentist: 40%
    c. Using relaxation techniques: 35%

d. Using aids like headphones: 15%

16. Discussion: Patients adopt various coping mechanisms, from professional therapy to distraction techniques. Understanding preferred coping strategies helps in structuring effective intervention programs.

Table 1: Demographic Distribution

Variable	Category	Count (%)
Gender	Male	51.7% (120)
	Female	48.3% (112)
Age Group	10-18 years	3% (7)
	19-28 years	72% (167)
	29-38 years	15.9% (37)
	Over 38 years	7.3% (17)
Clinic Type	Private	73.3% (170)
	Government	16.4% (38)
	Other	10.3% (24)

Table 2: Anxiety Triggers & Responses

Question	Key Findings
1. Feelings about a dental check-up tomorrow	- 60% somewhat anxious - 30% relaxed - 10% highly anxious
2. Anxiety while waiting in the dentist's chair	- 50% anxious - 30% relaxed - 20% highly anxious (sweating/nausea)
3. Reaction to dental drill sounds	- 40% highly anxious - 35% moderately anxious - 25% no anxiety
4. Anxiety about local anesthetic injections	- 55% highly anxious - 30% moderately anxious - 15% relaxed
5. Physical symptoms (sweating, heart rate, etc.) when thinking of dentist	- 45% sometimes - 25% always - 30% no symptoms

Question	Key Findings
6. Most frightening part of dental visits	- 40% dental tools (drill) - 35% needles/injections - 25% pain
7. Previous bad dental experiences	- 30% yes - 70% no
8. Belief in sedatives/anesthesia reducing anxiety	- 50% "helps a lot" - 30% "helps somewhat" - 20% "not needed"

Table 3: Coping Mechanisms & Preferences

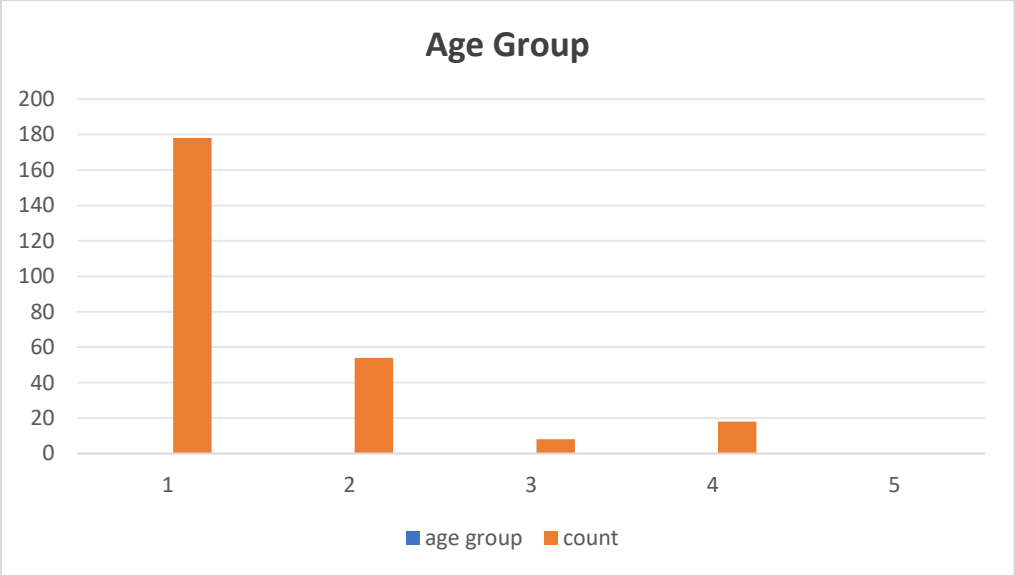
Question	Key Findings
9. Preferred methods to overcome fear	- 50% talking to dentist - 30% relaxation techniques - 20% psychologist
10. Comfort factors during visits	- 35% clear dentist communication - 25% comforting person - 20% calm music
11. Positive past experiences	- 40% kind/understanding dentist - 35% clear procedure explanations
12. Anxiety during specific procedures	- 40% extractions - 35% fillings - 20% cleaning
13. Daily life impact of dental fear	- 50% avoid dental visits - 20% avoid hard foods - 15% social withdrawal

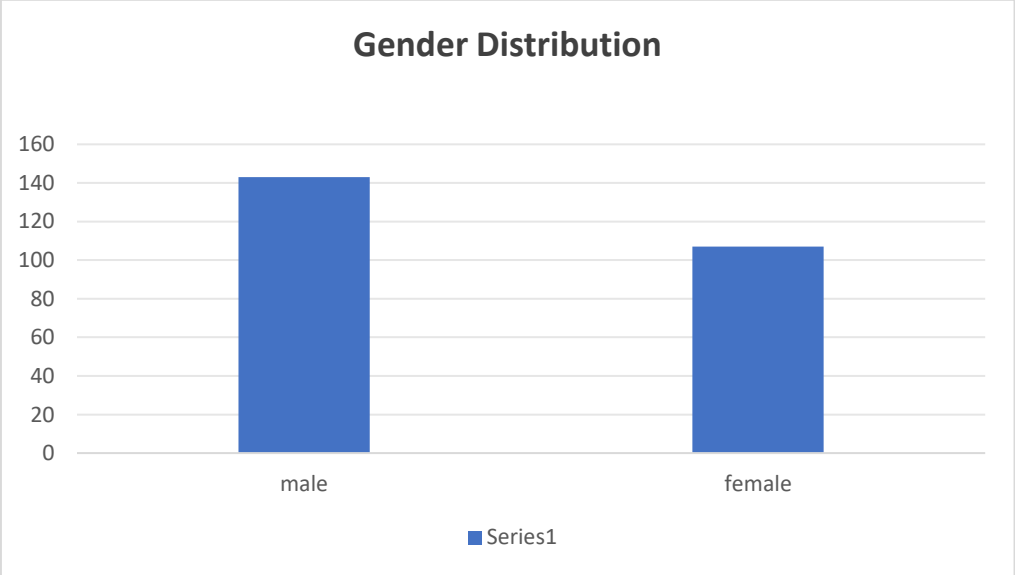
Table 4: Clinic Environment & Communication

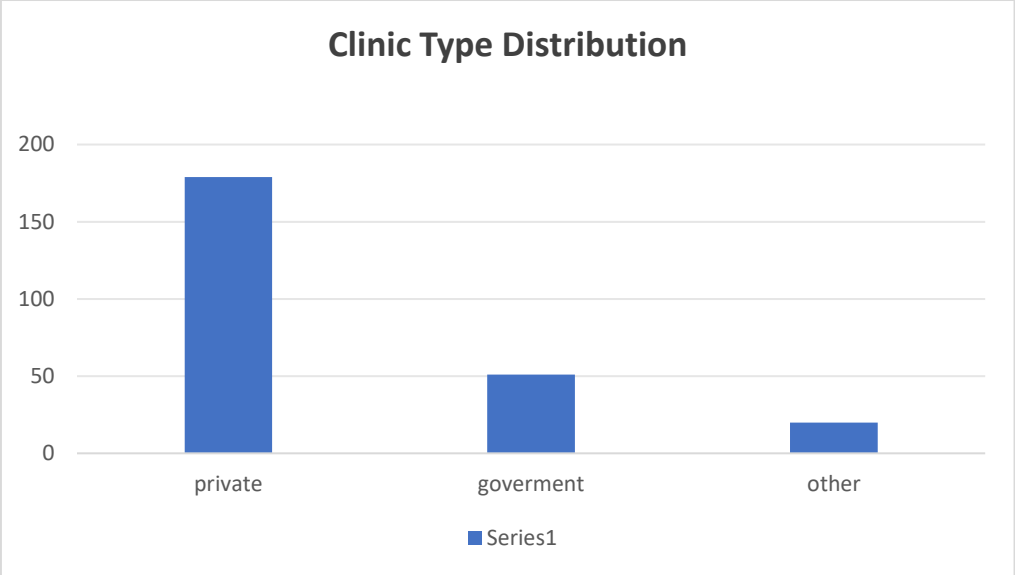
Question	Key Findings
14. Suggestions to reduce anxiety	- 40% detailed explanations - 25% noise reduction - 20% shorter wait times
15. Willingness to use anxiety-reducing aids	- 55% open to sedatives - 30% prefer non-drug methods (e.g., VR)

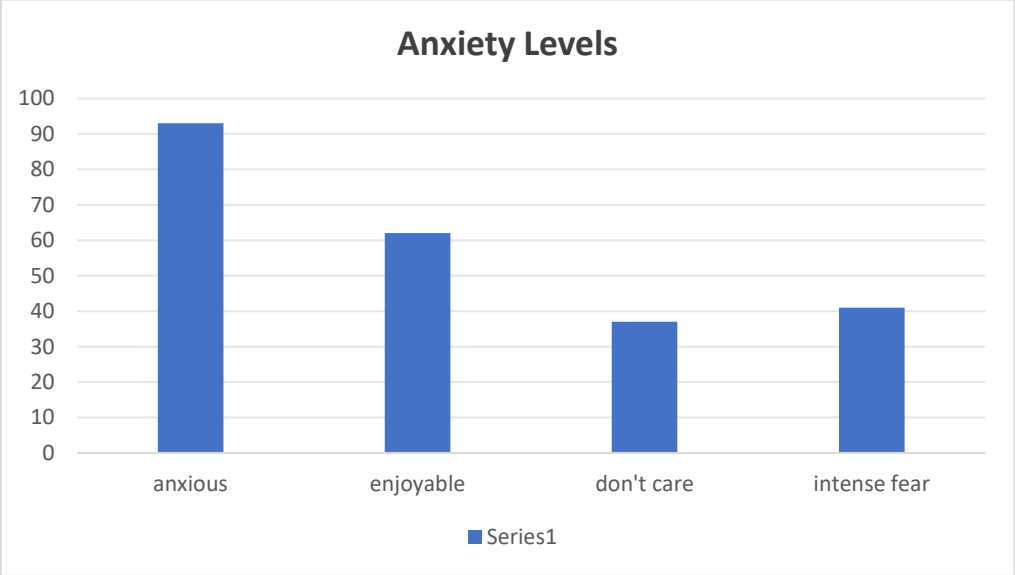
Table 5: Cross-Analysis by Gender/Age

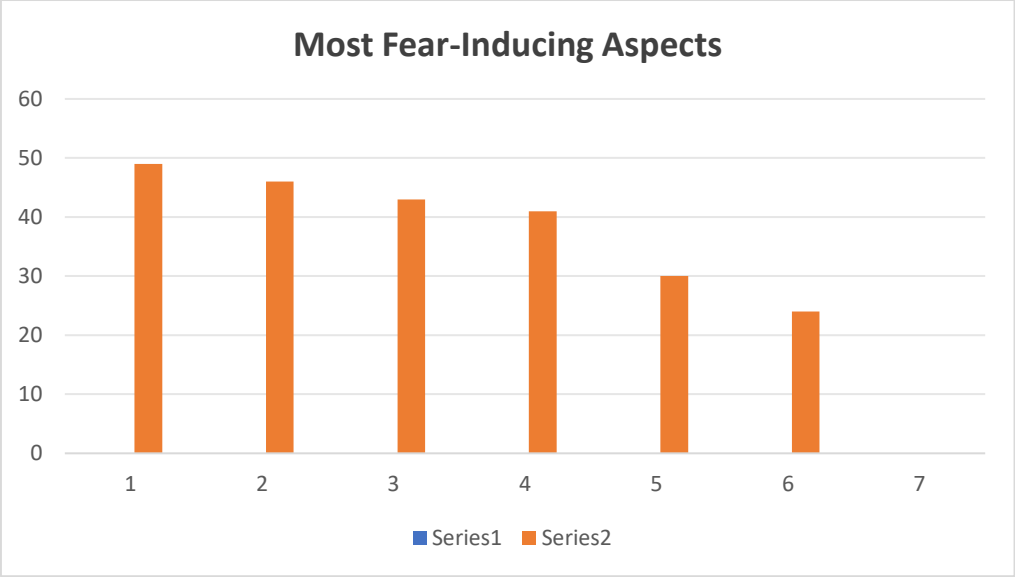
Variable	Male (Top Response)	Female (Top Response)	19-28 Age Group (Top Response)
Highest Anxiety Trigger	Dental tools (45%)	Needles (40%)	Dental tools (42%)
Preferred Coping Method	Talk to dentist (55%)	Relaxation techniques (40%)	Talk to dentist (50%)

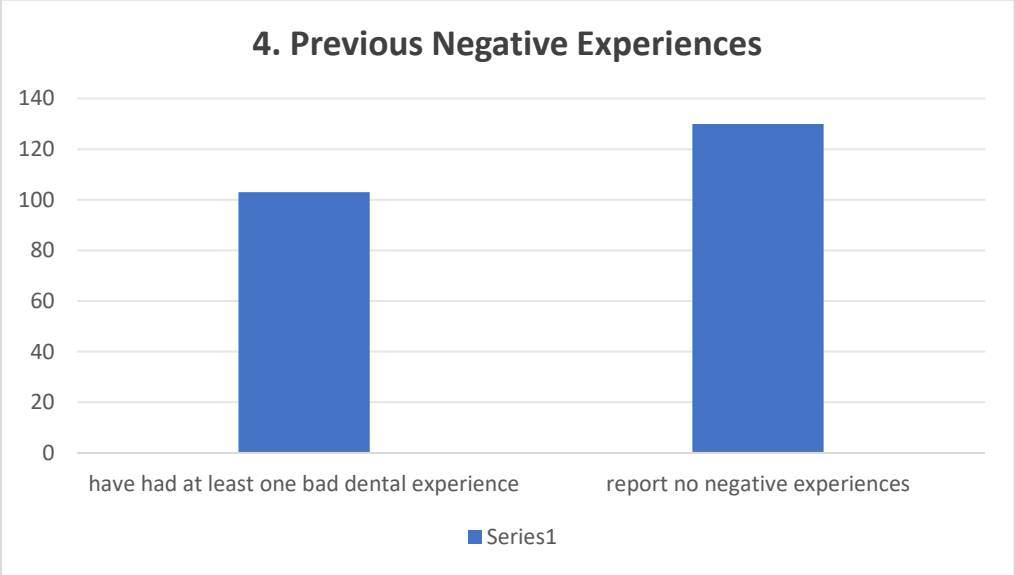





Clinic Type Distribution
200
150
100
50
0
private
goverment
other
Series1


Anxiety Levels
100
90
80
70
60
50
40
30
20
10
0
anxious
enjoyable
don't care
intense fear
Series1


Most Fear-Inducing Aspects
60
50
40
30
20
10
0
1
2
3
4
5
6
7
Series1
Series2


4. Previous Negative Experiences
140
120
100
80
60
40
20
0
have had at least one bad dental experience
report no negative experiences
Series1

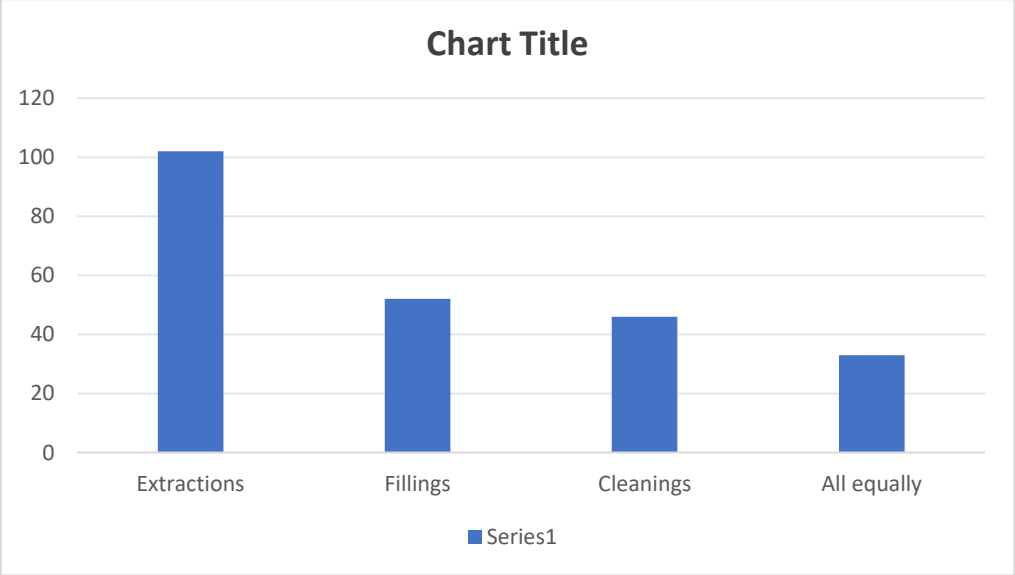
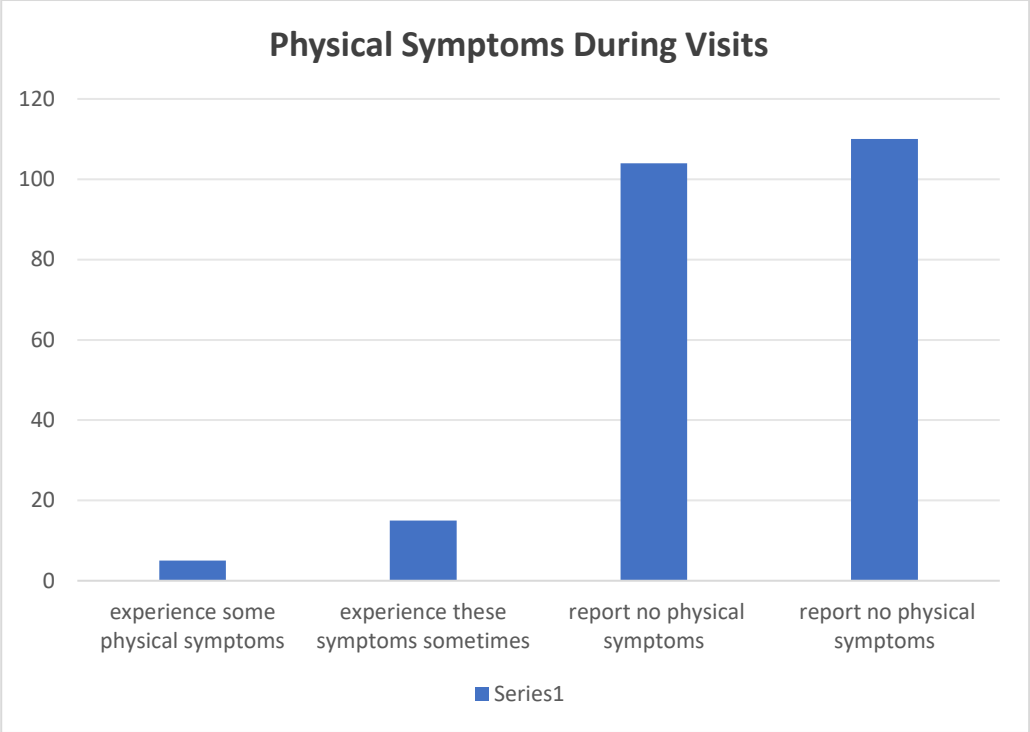
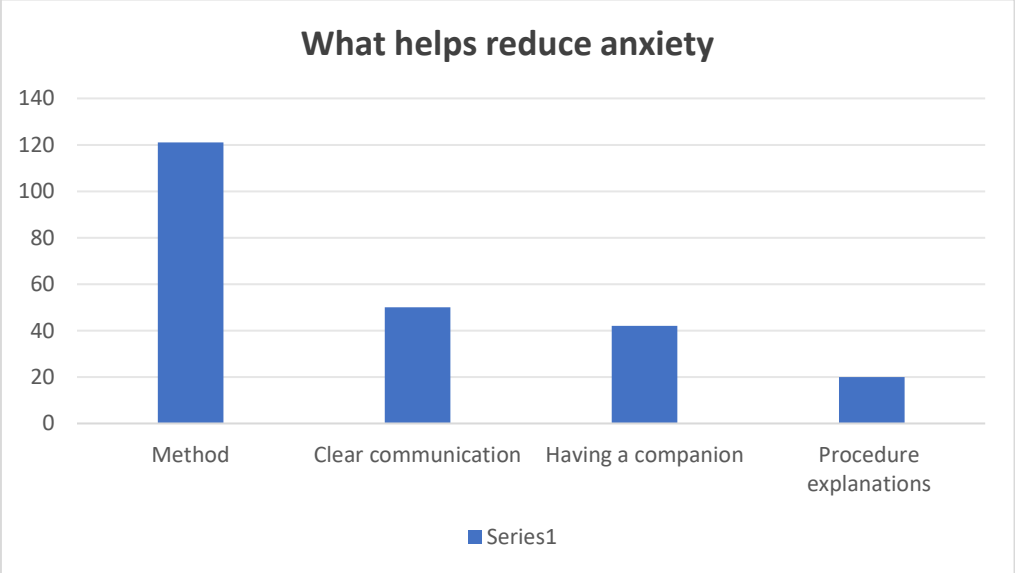
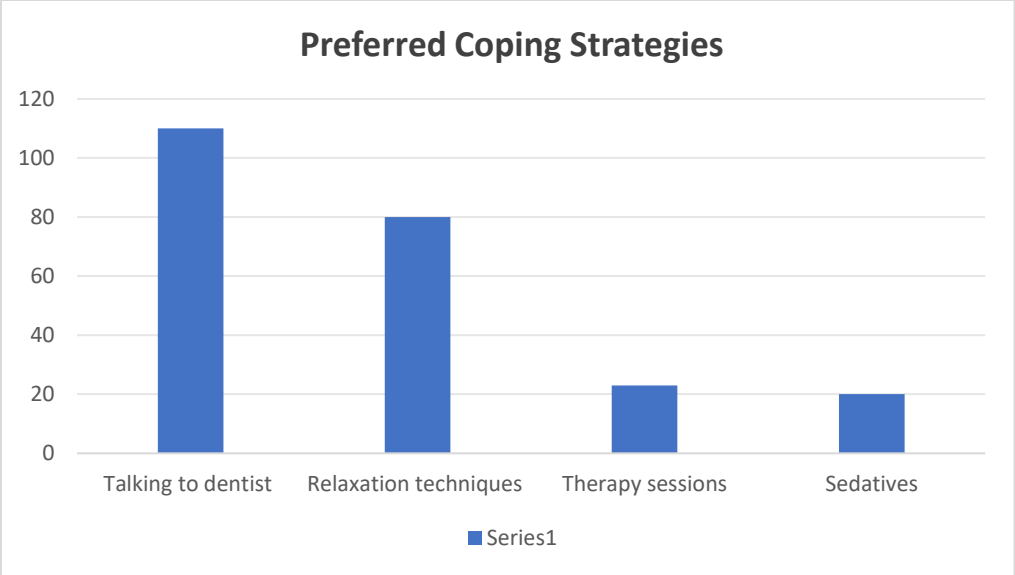
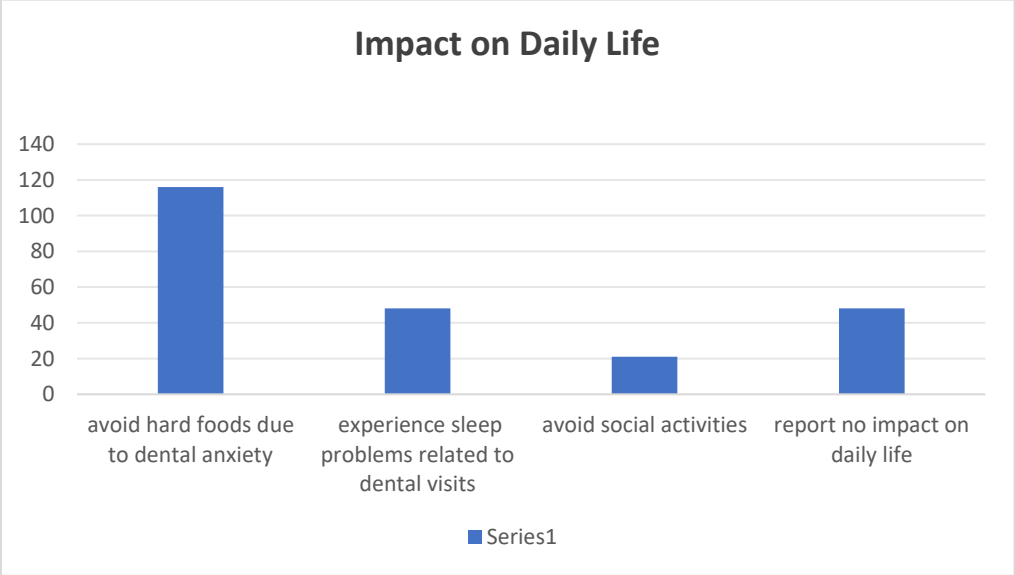


Chart Title
120
100
80
60
40
20
0
Extractions
Fillings
Cleanings
All equally
Series1


Physical Symptoms During Visits
120
100
80
60
40
20
0
experience some physical symptoms
experience these symptoms sometimes
report no physical symptoms
report no physical symptoms
Series1


What helps reduce anxiety
140
120
100
80
60
40
20
0
Method
Clear communication
Having a companion
Procedure explanations
Series1





Recommendations

- Improve Dentist-Patient Communication by dentist and dental hygienist : Dentists should clearly explain procedures

and simplify information to reduce anxiety.

- Use Relaxation Techniques by dental staff and clinic managers: Calming music or deep-breathing exercises can help

alleviate stress during visits.

- Training for Anxiety Management in dental schools, by professional associations and clinic administrators: Dentists should be trained to handle patients with

severe anxiety.

- Provide Alternative Anesthesia by dentist and dental product suppliers: Less painful anesthetic techniques should be used to

reduce fear of injections.

- Enhance Clinic Environment by clinic designers,architects and management: Designing more comfortable and quieter clinics can

reduce stress during waiting times.

• Recommendation for Further Research:

This study was limited in terms of sample size and setting. Therefore, it is recommended that further research be conducted to better understand dental anxiety in different age groups, cultural backgrounds, and clinical environments. Future studies should also look into the effectiveness of different methods used to reduce dental anxiety and how training for dentists can improve patient experiences. More research in this area will help develop better ways to manage dental anxiety.

Conclusion

This study demonstrates that dental anxiety is a widespread issue affecting many patients. By improving dentist-patient communication, utilizing relaxation techniques, and enhancing the clinic environment, this anxiety can be significantly reduced, leading to better patient experiences and improved long-term oral health.

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