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Why are Dental Anxieties so Prevalent: Effects on Dental Hygiene

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Why are Dental Anxieties so prevalent: effects on oral hygiene

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Abstract

Dental anxiety (DA) is an unreasonable fear of going to the dentist. These fears can be due to dental procedures and objects used for treatment. Fear can also relate to strong emotional experience and physiological arousal. This experiment focuses on using noise cancellation headphones in order to reduce the anxiety levels of Root canal therapy patients. Patients are given questionnaire regarding to how they felt before and after procedure.



Specific Aim

The specific aim of this study is to determine how to resolve and decrease DA levels in order to maintain descent oral hygiene

Literature Review

There are many people that have dental anxiety who stay away from the dentist and do not receive the proper care that they need because they do not know that there are ways to resolve their anxiety.

- **Sedation** with medication such as, benzodiazepines and nitrous oxide, also known as laughing gas
- Participating in **physical activity** has been known to be a very effective in anxiety disorders. There is evidence that shows that aerobic training of more than 70% maximal oxygen uptake (VO₂max) can lead to an immediate increase of stress-related parameters in humans
- **Positive Reinforcement** where parents or the Dentists give compliments on small progress that has been made throughout the procedure

Background

- Fear of dental treatment is a relatively common fear in today's society (Houtem et al. 2017)
- Fear of invasive treatment or pain, the stimuli can be drilling a tooth/molar or getting a root canal done
- There is evidence that shows that aerobic training of more than 70% maximal oxygen uptake (VO₂max) can lead to an immediate increase of stress-related parameters in humans (Lindenberger BL et al. 2017)
- DA has a negative effect on patient and dentist

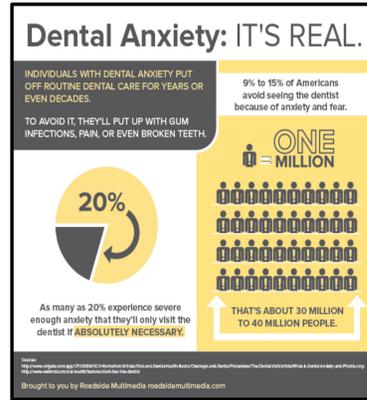
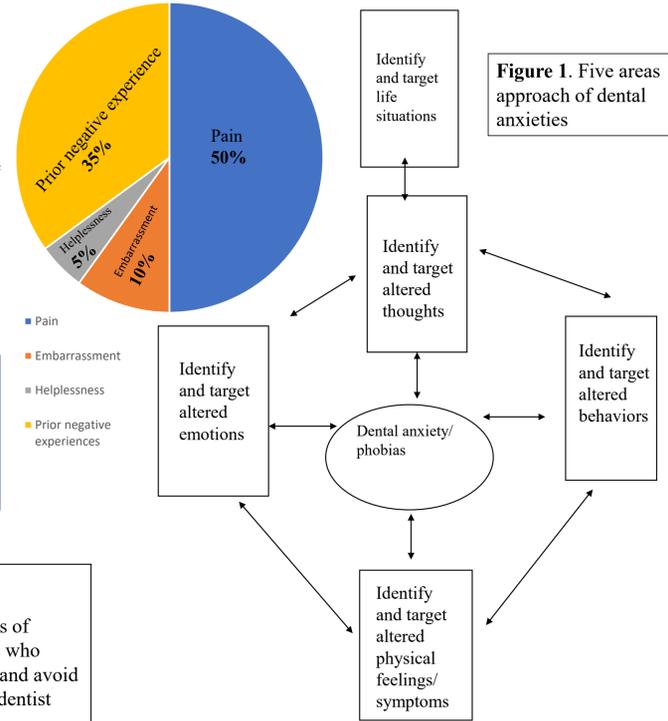


Figure 2. Percentages of causes for dental anxiety.

Figure 3. Percentages of individuals who obtain DA and avoid seeing the dentist



What do I propose to do?

Group A
(Control)

Made up of 2 children and 2 adults **without** noise cancellation headphones

Enter Root canal therapy

Given questionnaire which asks how patient feels on a scale of 1-10 prior to and after procedure



Group B
(Independent)

Made up of 2 children and 2 adults **with** noise cancellation headphones

Enter Root canal therapy

Given questionnaire which asks how patient feels on a scale of 1-10 prior to and after procedure



Conclusion

After performing this experiment, it was proven that noise cancellation headphones positively affected the patients who endured this experiment. Dental anxiety is a serious matter and it can be a major issue to people's oral hygiene who decide not to resolve it.

References

1. Almozino G., DMD, Msc, MHA. Et al. 2016. Overlap between dental anxiety, gagging and blood-injection-injury related fears – a spectrum of on multidimensional phenomenon. *Physiology & Behavior*. Vol. 165: 231-238
2. Hamzah HS. et al. 2013. Managing dental fear and anxiety in pediatric patients: a qualitative study from the public's perspective. *Pediatric Dentistry*. Vol. 36: 29-33.
3. Hoffart A, Vassend O, and Willumsen T. 2009. A comparison of cognitive therapy, applied relaxation, and nitrous oxide sedation in the treatment of dental fear. *Acta Odontologica Scandinavica*. Vol. 59: 290-296
4. Lindenberger BL et al. 2017. Clinical and neurobiological effects of aerobic exercise in dental phobia: a randomized controlled trial. *Depress Anxiety*. Vol.34: 1040-1048.