

**Music as a part of relaxation therapy in dental office**

by

Anna Vorfolomieiva

New York City College of Technology

Department of Dental Hygiene

DEN 1200, Section 2E

Summer 2021

Instructor: Prof. Anna Matthews

Advisor: Prof. Catherine P. Monchik

07.27.2021

**Summary of the article.**

Jerusha S. Packyanathan, Reema Lakshmanan, and P Jayashri supervised a quantitative analysis and research of the effects of music therapy on the anxiety levels of patients undergoing dental extractions. The study was performed at the Saveetha Dental College and was published in the Journal of Family Medicine and Primary Care in October 2019 (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6924244/>).

The study had a sample group of 50 patients randomly selected and screened of which half were the control group while the other half were the test group. The control group will undergo the dental extractions as is and then be monitored for their Haemodynamic changes as well as dental anxiety levels before and after the procedure. Meanwhile, the test group will be under music therapy before the procedure. They will be given noise-canceling headphones that will continuously play classical music and the researchers will then monitor their Haemodynamic changes and dental anxiety before and after the procedure. When the results came in, the control group showed increased levels of anxiety and systolic diastolic levels. Their heart rate also increased. While the test group showed lowered or decreased signs of anxiety. The authors then concluded that music therapy indeed helps in alleviating feelings of stress, anxiety, and nervousness among patients who will undergo dental procedures.

This study has no financial support and sponsorship as well as no conflicts of interest.

**Article information**

1. Title of the article is: “Effect of music therapy on anxiety levels on patient undergoing dental extractions”.
2. Authors: Jerusha S. Packyanathan, Reema Lakshmanan, and P. Jayashri.
3. Article was published in the Journal of Family Medicine and Primary Care (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6924244/>).
4. Date of the publishing - October 2019.
5. <https://pubmed.ncbi.nlm.nih.gov/31879625/> DOI: [10.4103/jfmpe.jfmpe\\_789\\_19](https://doi.org/10.4103/jfmpe.jfmpe_789_19)

6. Authors stated that there is no conflict of interest. Sponsors did not mentioned.

### **Study analysis.**

- The study is a Randomized Controlled Study conducted at the Saveetha Dental College in 2019.
- **Study purpose:** The authors conducted said study to find out whether music has a direct effect in relieving the symptoms of dental anxiety among patients undergoing dental extractions. Prior to this study, there have been numerous studies and journals proving the effectiveness of music and aromatherapy in helping heal people, relieve stress levels, and lower nervousness before medical procedures. Through this study, the authors aim to better understand and assess the effect of music therapy on the dental anxiety levels of patients with regard to their systolic diastolic levels and heart rate.
- **Experimental design:** The authors conducted the experiment on 50 randomly selected and screened individuals aged 17 to 64, half of which were placed under the controlled group and the other half are under the test group. The test group is tasked to listen to a noise-canceling headphone playing classical music before the dental extraction. The sample groups are from healthy and fit individuals to which the authors excluded pregnant women, deaf patients, and those with systemic diseases. On all the procedures, only one dentist performed the surgeries to give all the patients the same level of dental care. Similarly, the dentist does not have an idea as to which patient is on the controlled or the test group to avoid change in procedure quality. The patients' results were analyzed through questionnaires and SPSS software. The data gathered from this experiment were tabulated on four tables: Table 1 Haemodynamic changes and Table 2 modified dental anxiety scale for the controlled group, while Table 3 Haemodynamic changes and Table 4 modified dental anxiety scale for the test group.

**Results.**

The study analyzed the numerical or quantitative results through a series of tables for the test and controlled group. The study revealed that the test group had a fall in their Haemodynamic status in connection with their systolic diastolic blood pressure and heart rate. In the same manner, their anxiety levels also decreased after listening to the classical music provided by the authors. Meanwhile, the control group, which did not undergo the experiment, showed a significant increase and elevated systolic diastolic blood pressure and heart rate accompanied by anxiety.

- For Table 1, the increase in Haemodynamic changes shows the rise in anxiety. A patient's systolic pressure increased by 4.04mm/hg, while the diastolic by 1.16mm/hg, and the heart rate was raised by 3 beats per minute. These are statistically significant when analyzed through the paired t-test.
- For Table 2, the modified dental anxiety scale shows the mixed increase and stagnant anxiety levels with regard to certain questions. The fall in anxiety in the control population is not statistically significant.
- For Table 3, the test population's systolic pressure was down by 7.84mm/hg, the diastolic decreased by 6.5mm/hg, and the heart rate recorded was down by 5 beats per minute. All of which gathered data were statistically significant when analyzing through the paired t-test.
- For Table 4, the modified dental anxiety scale for the test group revealed a fall in the anxiety score on all 8 questions and showed statistical significance when analyzed through the paired t-test.

**Conclusion.**

The authors concluded that music has a significant psychological and spiritual effect on patients that made them feel at ease. The authors then suggested that music therapy can be further used as an anxiolytic agent for stressful dental procedures. The study's limitations include performing the research and experiment on a small sample group and limitations in the other physiological parameters to assess anxiety. The authors suggested and recommended that clinics

have earphones on standby for patients who might want to listen to music to feel less stressed, nervous, and lower their anxiety rates.

### **My impression.**

I think that this study is also beneficial to the dental hygiene field as patients experience nervousness and anxiety before dental cleaning as well. This question was studied by many other researchers and all of them became to the point that music does helpful to decrease level of anxiety before dental procedures. And I agree with them. For example in a study conducted by Bradt and Teague (2016), the research focused on the specific and patient-centered music therapy to be facilitated by trained music therapists. The study suggested that while music therapy is effective in lowering feelings of anxiety, it should be patterned or customized according to the needs of patients, especially those with special cases. The researchers also presented the different interventions that can be done to ease the patient's anxiety including "(I) active refocusing of attention, (II) music-guided deep breathing, (III) music-assisted relaxation, and (IV) music-guided imagery" (Bradt, and Teague). I think as someone who wants to help others, I also need to understand how each patient feels. As for the dentist-patient relationship, the dentist needs to understand how their patients feel so that they can better serve their needs. Yamalik (2005) delved into the relationship between dentists and patients with regard to quality care. The researcher stated that "Besides technical expertise, the success of dental care depends on the behavioral patterns of the dentist and the patient and the way they interact with each other" (Yamalík). Through communication, the dentist is able to establish a safe and trusting environment for patients. The patient's satisfaction and quality care are closely related and affected by the positive attitude of a dentist. When the dentist positively communicates the patient's situation and dental procedures, patients are more likely to trust and have a great dental experience.

With regard to the study, I do have a few questions since the sample group was quite small. The first question I have is if it only works on classical music, how about other types of music? Will it also work on a lo-fi type of music? Is it only applicable to slow-paced music? I also want to see how this method would work on all ages and other people with different

conditions. I think it shouldn't be limited to the group the researchers studied since people from all walks of life and ages visit the dentist once in a while. I think this is especially helpful in cases where kids are afraid of going to the dentist, it can help lessen their tantrums and anxiety levels.

### Works Cited

Bradt, J, and A Teague. "Music Interventions For Dental Anxiety". *Oral Diseases*, vol 24, no. 3, 2017, pp. 300-306. *Wiley*, doi:10.1111/odi.12615. Accessed 18 July 2021.

Yamalik, Nermin. "Dentist-Patient Relationship And Quality Care 3. Communication". *International Dental Journal*, vol 55, no. 4, 2005, pp. 254-256. *Elsevier BV*, doi:10.1111/j.1875-595x.2005.tb00324.x. Accessed 18 July 2021.