**Critically Appraised Topic (CAT)**

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| **Project Team:**  |
| **1B-1** |
| **Project Team Participants:**  |
| **Fakhra Rashid, Jacob Postula, Marian Eskander, Holly DuCharme** |
| **Clinical Question:** |
| How dental anxiety can impact patients treatment options if not managed properly? |
| **PICO Format:** |
| **P:** |
|  **Anxious dental patient** |
| **I:** |
| **Anxiolytic therapies in a dental setting** |
| **C:** |
| **Non-anxious patient** |
| **O:** |
| **Oral health status** |
| **PICO Formatted Question:** |
| In patients with severe dental anxiety, do anxiolytic therapies contribute to better oral health status compared to a non-anxious patient? |
| **Clinical Bottom Line:** |
| **Anxiolytic therapies contribute to greater patient compliance and willingness to be treated across each discipline. There are scientific studies that show decrease in anxiety by the use of progressive muscle relaxation, acupressure, and nitrous oxide. These are all relatively cost effective yet have added procedure time. In patients with moderate to severe anxiety it is beneficial to put patients in more comfort, making the entire dental visit one that can theoretically occur more frequently and increase overall oral health status.** |
| **Date(s) of Search:**  |
| **9/18/2020, 9/21/2020** |
| **Database(s) Used:** |
| **PubMed.gov** |
| **Search Strategy/Keywords:** |
| **Always keeping anxiety in the search terms to find articles that compare anxious to non-anxious patients.**  |
| **MESH terms used:** |
| **Dental Anxiety, Oral Health, Nitrous Oxide, Pediatric** |
| **Article(s) Cited:** |
| 1. Park ES, Yim HW, Lee KS. Progressive muscle relaxation therapy to relieve dental anxiety: a randomized controlled trial. Eur J Oral Sci. 2019 Feb;127(1):45-51. doi: 10.1111/eos.12585. Epub 2018 Nov 14. PMID: 30430667.
2. Effectiveness of Acupressure on Dental Anxiety in Children. Avisa, Priyanka. Pediatric Dentistry Volume: 40 Issue 3 (2018) ISSN: 0164-1263. Online ISSN: 1942-5473
3. Preoperative dental anxiety and mood changes during nitrous oxide inhalation. ZACNY, JAMES. Journal of the American Dental Association : JADA Volume 133 Issue 1 (2002) ISSN: 0002-8177 Online ISSN: 1943-4723
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| **Study Design(s):** |
| 1. Individual Randomly Controlled Trial
2. Indvidual Randomly Controlled Trial
3. Double Blind Peer Reviewed Study
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| **Reason for Article Selection:** |
| **All very pertaining to the topic of interest, Dental anxiety, and looked at different therapies that all show significance in reducing anxiety and potentially promoting an increase in oral health status by increasing patient compliance to be treated.**  |
| **Article(s) Synopsis:** |
| 1. The use of progressive muscle relaxation therapy brought a decrease on the Beck depression inventory, Systolic and Diastolic BP, Pulse rate, and Salivary cortisol levels on patients that had undergone periodontal maintenance procedures. This study included the most objective statistics that show a decrease in many metabolic indicators that show reduction in anxiety.
2. The use of acupressure in children proved to be effective in reducing anxiety based on MCDAS scores and pulse rate during scaling and restorative procedures. A sham control and control group did not show as significant decrease in anxiety levels prior to said procedure.
3. Use of Nitrous Oxide inhalation was proven to be a successful therapuetic in reducing anxiety levels based on patient self-assessment prior to, 5 min after inhalation, and post-operative across a variety of common dental procedures. Mood changes were most successfully reduced in patients that self reported as being Highly or Moderately Anxious prior to starting the procedure.
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| **Levels of Evidence:** (For Therapy/Prevention, Etiology/Harm) See <http://www.cebm.net/index.aspx?o=1025>[ ]  **1a** – Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control Trials (RCTs)[x]  **1b** – Individual RCT[ ]  **2a** – Systematic Review of Cohort Studies[ ]  **2b** – Individual Cohort Study[ ]  **3** – Cross-sectional Studies, Ecologic Studies, “Outcomes” Research[ ]  **4a** – Systematic Review of Case Control Studies[ ]  **4b** – Individual Case Control Study[x]  **5** – Case Series, Case Reports[ ]  **6** – Expert Opinion without explicit critical appraisal, Narrative Review[ ]  **7** – Animal Research[ ]  **8** – In Vitro Research |
| **Strength of Recommendation Taxonomy (SORT) For Guidelines and Systematic Reviews**See article **J Evid Base Dent Pract 2007;147-150**[x]  **A** – Consistent, good quality patient oriented evidence[ ]  **B** – Inconsistent or limited quality patient oriented evidence[ ]  **C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening |
| **Conclusion(s):** |
| Dentists can avoid the use of antidepressant/anxiolytic drugs to treat dental anxiety which can improve OHRQoL (Oral Health Related Quality of Life) by reducing harmful side effects such as hyposalivation. The increase in the subjective comfort levels during a dental procedure can promote more frequent visits to the dentist which is first step toward increasing oral health status by establishing a dental home and developing a doctor-patient relationship that fosters betterment of oral health. |