

Critically Appraised Topic (CAT)

Project Team:
5A-4
Project Team Participants:
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Clinical Question:
Is there a correlation between dental anxiety and the clinical pain experienced by a patient?
PICO Format:
P:
Patients with dental anxiety
I:
Dental anxiety
C:
No dental related anxiety
O:
Changes in clinical pain
PICO Formatted Question:
Among patients with anxiety who suffer from dental pain, will management of their anxiety decrease the clinical dental pain they experience?
Clinical Bottom Line:
The relationship between dental anxiety and clinical pain is significant with a positive association. Therefore, management of the patient's dental anxiety should decrease the expected pain from a dental procedure.
Date(s) of Search:
11/02/2020
Database(s) Used:
PubMed
Search Strategy/Keywords:
Looked up articles addressing dental anxiety and its relationship to pain. Filtered results based on level of evidence and relevance to the PICO question. Many articles were found but 3 stood out as most relatable and useful in answering the PICO question.
MESH terms used:
Dental; Anxiety; Pain; Prevalence; Associated factors; Fear; Oral Health
Article(s) Cited:
Svensson L, Hakeberg M, Wide U. Dental pain and oral health-related quality of life in individuals with severe dental anxiety. Acta Odontol Scand. 2018 Aug;76(6):401-406. doi: 10.1080/00016357.2018.1473892. Epub 2018 May 21. PMID: 29782197.

Lin C-S, Wu S-Y, Yi C-A. Association between Anxiety and Pain in Dental Treatment: A Systematic Review and Meta-analysis. *Journal of Dental Research*. 2017;96(2):153-162. doi:10.1177/0022034516678168

Dou, Lei et al. "The prevalence of dental anxiety and its association with pain and other variables among adult patients with irreversible pulpitis." *BMC oral health* vol. 18,1 101. 7 Jun. 2018, doi:10.1186/s12903-018-0563-x

Study Design(s):

Lin – Systematic Review and Meta-analysis

Svensson – Cross-sectional study

Dou – Cross-sectional study

Reason for Article Selection:

Each study directly addresses the PICO question

Article(s) Synopsis:

1. Lin (systemic review and meta-analysis) – This article is a systematic review of 35 articles, each assessing the impact of dental anxiety on pain. The meta-analysis was performed using a statistical software and the participants were from a clinical group consisting of dental patients about to receive dental treatment (surgical and nonsurgical). The anxiety and pain levels assessed were normalized on a scale of 0-1. The findings from this analysis included: pretreatment anxiety had a large impact on the expected pain from a procedure; dental anxiety has a consistent impact on pain at all different treatment stages and can predict pain throughout the procedure; a patient with a high dental anxiety will experience stringer pain regardless of the treatment stage. This article was limited in that many of the studies it analyzed did not consider the possibility of mental disorders. Since the role of mental disorders were not taken into account, the results cannot exclude potentially confounding effects from these psychological factors.
2. **Dou (Cross-sectional study)** - This cross sectional study was designed to assess 130 patients experiencing irreversible pulpitis. The patients were assessed using questionnaires gathering data on their dental anxiety, pain and intensity before and during their last visit and pain intensity before and during endodontic treatment. The Dentists participating also rated the patient's anxiety on a scale. It was determined about 83% of the patients suffered from moderate or high dental anxiety. It was also found that patients with bad previous visits were more likely to be anxious at future appointments. It was also determined that a patient's dental anxiety was most closely related to the pain experienced at previous visits/experiences. The most relevant conclusion from this study is that effective pain management in endodontics should include the management of the patient's anxiety. The limitations of this article

is that it was unable to make a valid causality claim regarding dental pain and anxiety. 3. Svensson (Cross-sectional study) - This cross-sectional study was designed to assess the dental anxiety and oral health related quality of life in 170 adult patients. The presence of dental pain was high with a prevalence of 77% in the study. This reported pain was also at a higher intensity. It was found that dental pain was reported more commonly with a lower OHRQoL. The study concluded that in patients with an increased dental anxiety, there is a higher prevalence of dental pain and at an increased intensity. The limitations in this study included the lack of a control group which limits the interpretation of the results and the design (cross-sectional) limits the study from making any causal claims, instead findings are reported as associations.
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) ☐ 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 ☐ 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 ☐ 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): The dental anxiety a patient experiences can be directly related to the clinical pain they will experience. Furthermore, there is an association between the oral health related quality of life and the dental pain and anxiety experienced by a patient. The assessment of a patient’s dental anxiety should be routine and the standard of care in developing a treatment plan and assessing outcomes/patient acceptance.

