HYPNODONTICS: THE ART OF SUGGESTION TO CONTROL DENTAL ANXIETY

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ABSTRACT

Prevalent among 6-15% of the total population, dental anxiety is the most common problem in dentistry around the world. Dental anxiety may impact on oral health and quality of life, which may further lead to general anxiety. Dental anxiety can be reduced by means of hypnodontics. The objective of this paper is to collect and review data about the effectiveness of hypnodontic method during dental treatment to control dental anxiety. The PubMed and Ebscohost databases were searched by using the keywords ‘hypnodontics’, ‘hypnosis in dentistry’, and ‘hypnotherapy in dentistry’. The search was narrowed down to find relevant information from the last five years. The inclusion criteria of the review are randomized controlled trials, cohort studies, case-control studies, literature review, and all types of reviews. The selected articles should contain implicit or explicit mentions of effectiveness of hypnodontic. The search identified 99 articles, only 38 of which were considered for this paper. The result shows that 35 articles (92.1%) affirm that hypnodontics has positive impacts on dental anxiety, while 3 articles (7.9%) affirm that it has no impact on dental anxiety. Through a hypnodontic method, sound waves are converted into nerve impulse that directly affects the central
nervous system and finally reduces dental anxiety. It is concluded that hypnodontics is an effective method to control dental anxiety during dental treatment.

**Keywords:** dental anxiety, hypnodontic, dental treatment
HYPNODONTIK : SENI KALIMAT SUGESTI UNTUK MENGENDALIKAN ANSIETAS DENTAL

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suara dikonversi menjadi impuls saraf yang secara langsung memengaruhi sistem saraf pusat dan akhirnya dapat mengurangi kecemasan dental. Secara umum dapat disimpulkan bahwa hipnodontik merupakan metode yang efektif untuk mengontrol kecemasan dental selama perawatan.

**Kata Kunci:** kecemasan dental, hipnodontik, perawatan dental

**Introduction**

Dental anxiety is the most common problem found in dental patients around the world, especially in Indonesia and the prevalence is 6-15% of the total population worldwide. Dental anxiety is defined as a subjective state of fear of dental treatment that can lead to such oral problems as missing teeth, caries and periodontitis.¹ ² In the worst case, dental anxiety directly impacts on quality of life and may eventually lead to general anxiety. To control and manage dental anxiety, a dentist should use psychometric questionnaires or semi-structured patient interview in order to identify the nature and degree of dental anxiety, the patient’s main concern and manifestations of dental anxiety (³, ⁴). There are two main treatment approaches to control dental anxiety: pharmacological and psychological treatment.² Hypnodontics is the art of hypnosis to reduce dental anxiety and produce relaxation. In operational terms, hypnodontics can also be defined as an increased susceptibility to suggestion via verbal or nonverbal stimuli (⁵). The benefits of the method are that it can reduce drug use and thus eliminate their drug side effects, reduce costs, and create comfort condition for patient and dentist during dental treatment (⁶). The aim of this paper is to collect and review data about effectiveness of hypnodontics to control dental anxiety during dental treatment.
Methods

Pubmed and Ebscohost databases were searched using the keywords ‘hypnodontics’, ‘hypnosis in dentistry’ and ‘hypnotherapy in dentistry’ to retrieve data from the last five years. Titles, authors, and abstracts from various studies were identified and articles explicitly and implicitly dealing with hypnodontic effects on controlling dental anxiety were chosen. The inclusion criteria of the review were randomized controlled trials, cohort studies, case-control studies, and all types of reviews. The electronic search yielded 99 articles, but only 38 articles were considered and analyzed statistically for the purpose of this article review. To avoid risks of biased assessment, the articles were selected and the data were analyzed and extracted independently by the three authors of the article.

Results

Twenty-five articles found to potentially meet the inclusion criteria were analyzed statistically. While thirty-five articles (92.1%) affirm that hypnodontics has positive impact to dental anxiety control, while three articles (7.9%) affirm the opposite. By means of hypnodontic method, sound waves are converted into nerve impulse that directly affects the central nervous system and eventually reduces dental anxiety (6). The results of the above studies are summarized in Table 1 below.
Table 1. Impact of hypnodontics on dental anxiety and pain

<table>
<thead>
<tr>
<th>No</th>
<th>Results</th>
<th>Number of Articles Reviewed</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Positive impact confirmed</td>
<td>35</td>
<td>92.1</td>
</tr>
<tr>
<td>2</td>
<td>Negative impact confirmed</td>
<td>3</td>
<td>7.9</td>
</tr>
</tbody>
</table>

**Discussion**

This present study was carried out to assess the effectiveness of hypnodontics during dental treatment. As the results show, 88% of the articles reviewed confirm that hypnodontics has positive impact dental anxiety control. This finding is analogous with those of other studies which in general suggest that hypnodontics can reduce anxiety, complex temporomandibular disorder pain and diastolic blood pressure, suppress cortical activities, and that it can reduce anxiety for the longest period of time (7; 8; 9; 10; 11; 12). The present study also identified several studies which claim that hypnodontics has no effect on dental treatment outcome (13). The effectiveness of hypnodontics depends on the level of hypnotic suggestibility. The greater the hypnotic suggestibility, the greater the hypnotic effect (14).

Normally, patients’ responses to fear and anxiety can be categorized into three levels, namely intellectual level, emotional level, and hedonic level. Intellectual level is the highest level of response that a patient gives when receiving dental treatment. At this level, a patient shows willingness to undergo and no fear of dental treatment with
the hope of obtaining the benefits of dental treatment. Emotional response is divided into two types, physiologically significant response and psychologically significant response. Both types of responses find their expression in the forms of rage, provocative behavior toward fight, fear, outcries, or panic. The third level, the hedonic level, refers to the lowest response to dental treatment. A patient with hedonic response is usually concerned only with him- or herself, accepting only pleasant or comfortable condition and rejecting the opposites (15).

The etiology of dental anxiety is negative experience of dental treatment. This experience could be self-experienced, observed, or told. The other factors associated with dental anxiety include age, gender, psychological condition, socio-economic status, and culture (16; 2, 17). Women have a higher level of dental anxiety than men because women tend to express their fears openly. There is, however, an inverse relationship between dental anxiety and age. Dental anxiety is more prevalent among younger patients than among older patients. This fact is supported by a study by Liddell and Locker, who show that older patients have less painful dental treatment experiences than do younger patients (1).

Hypnodontics is a non-pharmacological approach that can be applied to address the following conditions: anxiety, phobias (specific phobias e.g. general dental treatment, needle, dental needle, blood, drill etc.), gagging (during procedures or denture or appliance intolerance), para-functional habits (bruxism, tongue-thrusting), TMJ dysfunction, modified oral habits (thumb sucking, nail biting, etc.), acute pain, chronic facial pain, psycho-somatic facial pain, salivation, bleeding, poor oral hygiene, smoking
cessation, stress-related recurrent aphthous stomatitis, and burning mouth syndrome’s symptoms (18). However, some contraindications of hypnosis in dental treatment have been indicated. They include severe mental diseases, unsolved medical diagnosis, not enough time, patients’ refusal against hypnodontic treatment (19).

Hypnosis involves two major mechanisms, namely central and peripheral mechanisms. Central mechanism is concerned with the central nervous system while peripheral mechanism is concerned with nervous, cardiovascular, hemostasis, and kidney systems. Central mechanism is initiated by verbal stimuli such as systematic suggestive sentences that are converted into nerve impulse through the auditory system, which is then received by the vestibulocochlearis nerve (N. VIII). This nerve transfers impulse to the temporal lobe of the brain, particularly the Brodmann areas 41, 42, 22, and reaches Wernicke’s area and the raphe neurons. The raphe neurons in the cortex, hypothalamus, thalamus, basal ganglia, and hippocampus produce serotonin, a precursor of melatonin which causes drowsiness and relaxation. Simultaneously, brain waves are altered from beta to alpha waves in Wernicke’s area, thus increasing serotonin level and leading to an obstruction of acetyl choline. Obstruction of acetyl choline would increase pain threshold. When this occurs, the subconscious mind is activated and suggestions will work easily (6).

Meanwhile, in the peripheral mechanism, the nerve impulse is received by N.VIII before it reaches and directly stimulates the vasomotor center and the vagus nerve. Vasomotor center acts as a regulator of blood pressure, while the vagus nerve affects the cardiovascular and kidney systems. The Vagus nerves releases neurotransmitter acetyl
choline that can decrease heart muscle contractility and blood vessel’s dilatation (6). Reduction of dental anxiety is indicated by the decrease of such vital signs such as blood pressure, pulse, respiratory amount, and last salivary cortisol level.

This paper suggests that hypnodontics is an alternative method to control dental anxiety through verbal or non-verbal stimuli. Through hypnodontic method, non-verbal stimuli such as sound waves are converted into nerve impulse that directly affects the central nervous system and thus reduces dental anxiety. This method provides a better dentist-patient relationship and can create a comfortable condition for both the patient and the dentist during dental treatment and eventually help attain dental treatment goals. Hypnodontics can also reduce drug use, drug side effects, and treatment cost. Generally, hypnodontics is an effective and efficient method to control dental anxiety during dental treatment.

References


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