

The Effect of Hypnosis on Pain and Anxiety Level in Tooth Extraction at Dental Nursing Department Clinic

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ABSTRACT

Tooth extraction is a dental treatment that has potential to cause anxiety. It is because before the extraction process, local anesthetics was carried by a syringe. According to research on patients at the Pacific Dental College of India showed 35.5% of patients experience anxiety before tooth extraction. The anxiety will complicate the procedure for tooth extraction. Pain is a combination of unpleasant feelings from sensations and emotions that are difficult to explain because the pain threshold varies from person to person, patient who experiences pain can explain its intensity and characteristic. Pain is complex and varies from cognitive, emotional and social experiences. Dental care involves many procedures, which may be considered painful, tooth extraction procedures is the most painful that can cause psychological pressure, therefore the control of pain and anxiety is very important for successful tooth extraction. Hypnodontia is the art and science of using hypnosis communication to induce patients to be comfortable and free from pain or anxiety when undergoing dental care. The purpose of this study was to determine the effect of hypnosis on pain and anxiety level for tooth extraction in the dental clinic of the Dental Nursing Department. This is a quasi-experimental research with pre-post test only control group design. This research was conducted on August until September 2018 at Dental Nursing Clinic Ministry of Health, Palembang. Samples were 34 people, 17 people with hypnosis method and 17 people with injection method (control). The analysis used Mann-Whitney Test. The results showed there is differences in anxiety before and after tooth extraction in the hypnosis group and injection group. There was a difference in the level of pain between the hypnosis and injection groups but it was not significant and there was a relationship between anxiety after extraction and pain during tooth extraction.

Keyword: Hypnosis, Anxiety, Pain

INTRODUCTION

The ideal tooth extraction is a whole tooth or radix extraction without pain and minimal trauma to periodontal tissue so that the socket can heal ideally and operator must be able to choose tooth extraction techniques so that can handle the difficulties during extraction and possible complications that can occur, and there should be no pain.

According to the International Association for the Study of Pain (IASP), pain is described as an "unpleasant sensory and emotional experience". The gold standard for pain management in dentistry is local anesthesia. However, psychological aspect plays an important role, especially the fear of injection equipment and the injection process.

Dental anesthesia caused anxiety that has relationship with fear of needles as well as the use of other frightening instruments, causing fear of dental care and behavioral management problems of about 59% in children (Klingberg & Broberg, 2007). Dental fear or anxiety seems to appear more in children who suffer from internalization disorders (anxiety, depression, etc.) mainly due to previous bad experiences with dental care (Klingberg & Broberg, 2007).

There are several techniques that can be used as solution for these cases, such as behavioral therapy and hypnotherapy techniques. The technique has been developed to overcome this limitation (Moore, 2002). Hypnosis is defined as a state that modifies consciousness from one person to another. Classical hypnosis is authoritative, stereotypical and directly resistant. American psychiatrist Milton Erickson developed a more permissive, adaptive and indirect approach or often referred as Covert

or Conversational Hypnosis. This technique is easily adapted for children, who have a natural talent for playing and easy to enter the world of imagination. Dental hypnosis can be used in various types of interventions, including tooth restoration, tooth extraction, and orthodontics (Muezzinoglu, & Arun, 2008).

Problem: Based on the background description, the problem of this study is: "How is the effect of hypnosis therapy on pain and anxiety level in the tooth extraction in the Dental Nursing Department Clinic".

Purpose: To find out the effect of hypnosis therapy on pain and anxiety in tooth extraction in Dental Nursing Department Clinic.

Benefits: To provide alternative method to reduce pain and anxiety during tooth extraction with hypnotherapy technique.

METHOD

Method: The method used in this research is quasi-experimental study with pre-post test only control group design (Notoatmodjo, 2010). This research was conducted in August until September 2018 at the Dental Nursing Department Clinic Ministry of Health, Palembang.

Samples: The number of samples was 34 people, divided into 2 groups, each group consisting of 17 patients with hypnosis therapy and 17 others with anesthesia / without hypnosis. The sample size is calculated using the Federer formula.

Inclusion criteria

- Patient who attend in Dental Nursing Department Clinic
- 17-23 years old

- c. Has permanent tooth that is indicated for extraction
- d. Has systolic pressure of 110-120 mmHg
- e. Has a diastolic pressure of 70-80 mmHg

Exclusion criteria

- a. Not cooperative

Tools and Materials

Tools and materials for extraction

1. Informed Consent Letter
2. Examination and Observation
3. Basic Instruments (Sonde, mouth glass, excavators, tweezers)
4. Syringes, local anesthetic drugs and forceps.
5. Masks and handsochoens
6. Gargle glass
7. Flashlight

Procedures

1. Preparation
 - a. Researcher prepared the sample medical record.
 - b. Researcher explained to respondents about the steps that will be conducted in research.
2. Implementation
 - Samples were divided into 2 groups: 1 group with hypnosis and 1 group with local anesthesia.
 - Before being given treatment, samples's tooth will be examined first.
 - After being examined, each group was noticed of the action that will be taken
 - Performing hypnosis in patients.

Pre-induction: Pre-induction is a process to prepare a situation or conditions that are conducive between hypnotists and patient who will be hypnotized in a special room. Induction is a technique to bring the subject into a hypnotic state. After the patient is induced, the patient signed an informed consent letter then the patient is invited one by one to the dental nursing department clinic. After the patient sit in the dental unit, the patient is ready for hypnosis.

Deeping: Deeping is a technique that aims to bring the subject into a deeper state of hypnosis by giving a touch of imagination. How to ensure the depth of results is to do a depth test (depth level test), by asking whether the suggestions or commands that you ordered actually been implemented and felt.

Suggestion: This step is to give suggestions (commands or suggestions) to the subject after the depth of hypnosis reached by the suggestion stage which is the

goal of hypnosis. After the patients closed their eyes then the extraction is executed.

Termination: The last step in the hypnosis process is termination, which is to end the hypnosis process and restore the subject to normal conditions.

Post hypnotic: Subjects who have just been treated for tooth extraction generally in the level of awareness of suggestion vital is still quite high then the patients is told to fill in a questioner about pain and anxiety during tooth extraction, the patient is given antibiotics and analgesics to eliminate infections that may occur and patients are told to go home through the door which is different from the entrance to avoid communication between patients who have not been hypnotized and who have been hypnotized.

Data analysis: First the Shapiro-Wilk normality test and the Levene homogeneity test of variance results showed that the data were not normally distributed, so the researchers used non-parametric statistics, the Mann-Whitney test and the Spearman correlation.

RESULT

Study results for Effects of Hypnosis in pain and anxiety on tooth extraction in dental nursing department clinic. Shapiro-Wilk normality test results and Levene homogeneity test variance test results showed that data was not normally distributed so the research used non-parametric statistics. The data is not normally distributed so the non-parametric test is used, Spearman Correlation Test. From the table 2 the level of anxiety before and after the tooth extraction was obtained $P < 0.05$, it means that there was a significant difference between the hypnosis group and injection group.

Based on the table 3 the level of anxiety before tooth extraction between the hypnosis group and injection group $P > 0.05$ means that there is no difference level of anxiety before tooth extraction between the hypnosis group and the injection group. Anxiety level after tooth extraction between the hypnosis group and injection group was a significantly different with $P < 0.05$.

Based on the table 4, the data with abnormal distribution seen in the median score (Dahlan Sopiudin M.2010). It means that there is a difference in pain between the hypnosis group and the control group, but it is not statistically significant because the $P \text{ value} > 0.05$ means there is no difference in pain between the hypnosis group and control group.

Table 1: Frequency Distribution of Anxiety and Pain Levels

Variable	Mean	Median	Min	Max
Anxiety before extraction	17,50	14,50	9	35
Anxiety after extraction	13,59	11,00	7	34
Pain	2,65	2,00	0	3

Table 2: Spearman Correlation Test Results Anxiety Level before and after Tooth Extraction between Hypnosis and Injection Groups

Group	Anxiety Before			Anxiety After			P
	Median	Min	Max	Median	Min	Max	
Hypnosis group	16	9	35	16	10	34	0,001
Injection group	14	11	21	9	7	15	0,001

Table 3: Mann-Whitney Test Results on Differences in Anxiety between the hypnosis group and the injection group

Variable	Hypnosis group (n=17)	Injection group (n=17)	P*
Anxiety Before Extraction			
Mean	19,85	15,15	0,161
Median	16	14	
Min	9	11	
Max	35	21	
Anxiety After Extraction			
Mean	4,47	10,53	0,001
Median	16	9	
Min	10	7	
Max	34	15	

Table 4: Mann-Whitney Test on Differences in pain levels between hypnosis group and injection group

Variable	Hypnotis group (n=17)	Injection Group (n=17)	P*
Pain			
Mean	19,59	15,41	0,205
Median	2	0	
Min	0	0	
Max	9	9	

DISCUSSION

Effects of Hypnosis on Anxiety: The level of anxiety before and after tooth extraction in the hypnosis group was significantly different with P value <0.05 means that there was a difference in patient's anxiety level before and after tooth extraction in the hypnosis group. In the injection group, the level of anxiety before and after tooth extraction was significantly different, $P < 0.05$, means that there was a difference in the level of anxiety before and after the tooth extraction in the injection group as a control.

Differences in anxiety between the hypnosis group and the injection (control) group, with the Mann-Whitney Test analysis shows the result of anxiety level before the tooth extraction differed statistically significant with $P < 0.05$. This is because anxiety is very influenced by painful traumatic experiences of dental care in the past. In tooth extraction with hypnosis method, the hypnotist is able to communicate which can penetrate the subconscious of the patient so that suggestive words spoken by experts can reduce anxiety according or the patient adheres to the therapist's instructions during hypnosis. In implementation of hypnosis, the subject is induced into a hypnotic state conducted by hypnosis experts in pleasant and relaxed conditions, the subjects were guided by hypnosis into trance. As a sign of an automatic hand response "cataleptic" by using this through hand movements, the patient can give a signal for interruption. The patient imagines that he/she is separated from the body and feels the desired trans place through visual, auditory, kinesthetic, olfactory, and touch sensations. The source in the bati must be activated through imagination and tests that must be done during hypnosis. After that, return to the body and the self-hypnotic state is over.

According to Tantry's research, M et al (2017) states that the causes of dental anxiety are related to traumatic or painful experiences and fearful attitudes that come from previous family members. Patients who have anxiety in

dental treatment will show symptoms of refusal on dental treatment. These symptoms are manifestations of secretion of stress hormones such as cortisol and catecholamine (noradrenaline and adrenaline).

Anxiety in dental care is included in the category of short-term anxiety. To minimize the potential for symptoms occur and fail the dental care, dental health professionals should apply an intervention method that can reduce the level of anxiety in dental care by hypnosis method. According to Adeline, H, 2011 Hypnosis is effective in reducing anxiety.

The effect of hypnosis on pain during tooth extraction: Mann-Whitney Test results 5.4 differences in the level of pain between the hypnosis group and injection group. There is a difference which can be seen from the median value because the data is not normally distributed, median value of the hypnosis group 2 and the median value of the injection group 0, but the difference was statistically not significant because $P > 0.05$. This is caused by the response of patients in the hypnosis group is different in everyone and the case of permanent tooth extraction varies, multiple roots are more difficult to extract, as well as complex cases such as the presence of granulomas that cause pain during tooth extraction. The atmosphere where the research was carried out in the dental nursing department clinic was disturbed by a resident's village so that the conditions could not be controlled. At the time of conducting the research around the dental nursing department clinic there was a crowd that sounded very loud music so patients difficult to be hypnotized, they still felt heavy pain during the tooth extraction. Hypnosis produces similar effect to anesthesia, which produces a sedative effect. This can be used as an adjunct to local anesthesia and in individual cases as an alternative to controlling pain in dentistry.

According to the International Association for the Study of Pain (IASP), pain is described as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or explained in the event of such damage". The Gold Standard for pain management in dentistry is local anesthesia. However, psychological aspect plays an important role, especially fear of "injection" in addition to side effects and contraindications. Thus, it can be determined in this study that the application of hypnosis for pain management can replace or as an alternative anesthesia method in dentistry.

The use of hypnosis in a clinical context is often described as a method that in addition to its positive qualities regarding the management of anxiety and pain, can also improve quality of life, self-confidence, and physical health. It has no side effect and can be applied in children and adults. This treatment is widely mentioned in dental journals and by dental associations more than 100 years ago; many dentists use hypnotic suggestion as the only method of anesthesia or in conjunction with local or systemic anesthesia during dental fillings or even extraction. When local anesthesia began to be applied, hypnosis was still used, especially in patients to support comfort and to increase satisfaction. This means that hypnosis is used as a pain therapy.

CONCLUSION

1. There is a significant difference in the level of anxiety before and after the tooth extraction between hypnosis and injection groups with $P < 0.05$.
2. There is a difference in the level of pain between the hypnosis and injection groups but it is not statistically significant with $P > 0.05$

Suggestions

1. Need further research on hypnosis with emotions
2. Need further research about the time needed for the hypnosis process

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