The Effect of Hypnotherapy on Pain Intensity in Postoperative Patients Systematic Review

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THE EFFECT OF HYPNOTHERAPY ON PAIN INTENSITY IN POSTOPERATIVE PATIENTS: A SYSTEMATIC REVIEW

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ABSTRACT

Background: Pain is a common problem in patients undergoing surgery. Postoperative acute pain that does not go away can affect the physiological and psychological aspects of the patient. Non-pharmacological therapy is widely used for the treatment of chronic pain. Non-pharmacological therapy needs to be developed in postoperative acute pain, because of concerns about side effects of pharmacological treatment. There is non-pharmacological management that is effective in reducing pain intensity, namely hypnotherapy. **Methodology:** The systematic search for this review uses the Google Scholar database, Directory of Open Access Journal (DOAJ), ProQuest, and PubMed using keywords (Hypnosis OR Hypnotism OR Hypnoanalysis OR Hypnotherapy OR Hypnotherapies OR Mesmerism) AND (Post-surgical Pain OR Post surgical Pain OR Postsurgical Pain OR Post-operative Pain OR Post operative Pain OR Post-operative Pains OR Postoperative Pain OR Acute Postoperative Pain OR Acute Post-operative Pain OR Acute Post operative Pain). The quality of journals is assessed using the Critical Appraisal Skills Program (CASP) instrument. The synthesis method used is a narrative synthesis (narrative synthesis). **Research Results:** 10 articles were fully reviewed from 2010-2020. The visualization technique with rapid conversational induction has the best effectiveness compared to other techniques. The most effective way of conveying suggestions is indirect with a permissive approach. The study results show that hypnotherapy tends to be more effective in reducing postoperative pain in minor surgical procedures than in major surgeries. **Conclusion:** Hypnotherapy affects reducing the pain intensity of postoperative patients.

Keywords: *Hypnotherapy, Pain, Postoperative*

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INTRODUCTION

Pain is a common problem in patients undergoing surgery. Acute pain occurs after tissue injury associated with surgery and must be resolved during the healing process. Surgery causes tissue injury. Surgical injury triggers a variety of responses in the pain matrix, from sensitization of peripheral and central pain pathways to feelings of fear, anxiety, and frustration (Small & Laycock 2020).

According to WHO (World Health Organization), the rate of surgery has increased significantly globally. Total surgeries in 2012 were estimated at 312.9 million, an increase of 38.2% from the estimated 226.4 million operations in 2004. The estimated global surgical rate averaged 4469 operations per 100,000 people per year. The largest increases in operating rates occurred in very low-spending and low-spending countries (69.0%; from 394 to 666 operations per 100,000 populations per year and 114.6%, from 1851 to 3973 operations per 100,000 populations per year. The number of surgical procedures in Indonesia in 2012 reached 1,839 operations per 100,000 populations per year (Weiser et al. 2016).

Pain after surgery that does not go away can affect the patient's physiological and psychological aspects. Effective postoperative pain management is the task of the health care provider. Nurses are key figures in this process (Bach, Forman & Seibaek 2018). There are two treatments or approaches that nurses can take to deal with pain, namely pharmacological and non-pharmacological approaches. A non-pharmacological approach is an independent approach that can be taken by nurses. However, many of these non-pharmacological therapies are used for the treatment of chronic pain. Due to concerns with the side effects of pharmacological treatment, non-pharmacological therapies need to be increasingly developed in various aspects including postoperative acute pain (Small & Laycock 2020).

According to a study of the basic theories of complementary, alternative, and integrative medicine by Micozzi (2018), hypnotherapy is effective in reducing pain intensity. It is said that hypnotherapy can reduce the fear and anxiety that accompany the pain. The anxiety experienced by the patient increases the pain and hypnotherapy helps the patient control fear and anxiety, the psychological dimension of pain. Those undergoing hypnotherapy recover faster, feel less comfortable and have fewer complications. Hypnotherapy is a type of alternative medicine in which hypnotherapy is used to create a state of focused attention and increase suggestibility where positive suggestions and guided imagery are used to help people deal with various issues, including pain (Micozzi 2018).

Based on these descriptions, the authors are interested in analyzing the effect of hypnotherapy on acute pain intensity in postoperative patients using a systematic review method of various relevant research results. Thus, a systematic review can summarize research results and present comprehensive and balanced facts. Besides, the results of this study give a summary of evidence regarding hypnotherapy treatment against acute pain intensity in postoperative patients to clinicians and policymakers.

METHODS

This study uses a systematic review method. Criteria for the article in this study are. This systematic review will revisit the article from 1 January 2010 to 1 December 2020, the randomized controlled trial (RCT), research articles, full text, and language English. The systematic search for this review uses the Google Scholar database, Directory of Open Access Journal (DOAJ), ProQuest, and PubMed using keywords (Hypnosis OR Hypnotism OR Hypnoanalysis OR Hypnotherapy OR Hypnotherapies OR Mesmerism) AND (Post-surgical Pain OR Post surgical Pain OR Postsurgical Pain OR Post-operative Pain OR Post operative Pain OR Post-operative Pains OR Postoperative Pain OR Acute Postoperative Pain OR Acute Post-operative Pain OR Acute Post operative Pain). The quality assessment was carried out by researchers using the Critical Appraisal Skills Program (CASP) instrument.

The synthesis method used is narrative synthesis (narrative synthesis). The study design with randomized controlled trials was assessed for quality using the Critical Appraisal Skills Program (CAPS) instrument. The purpose of using this instrument is to see that the quality of the journal is good, sufficient or insufficient to be used as relevant material. The synthesis method used is narrative syntesis (narrative synthesis). The narrative syntesis method is a methodology that uses a text or word-based approach for systematic review and synthesis of findings.

RESULTS

The results of the search using keywords, phrases, document subjects, using Boolean Operators (OR, AND, NOT), and the search facilities available in each database found 38,354 articles (ProQuest found 33,589 articles, Cochrane found 521 articles, Google Scholar found 1,900 articles, and Pubmed found 2,344 articles). Furthermore, article screening was carried out by reading the title and abstract as well as selecting the full-text category so that 73 articles were obtained. A total of 10 articles was rejected because the research variables hypnotherapy is not in patients with pain post-operative. The final results obtained 12 articles that fit the inclusion criteria, then the articles were analyzed and performed a Critical Appraisal. The search results for the article are described in Figure 4.1. And the list of articles from the search is described in table 4.1. There are five good quality articles, where from 11 questions submitted, 10 questions were answered with the answer "yes" with a score of 90.9%, namely articles by Efsun Ozgunay et al. (2019) and 9 questions were answered with the answer "yes" with a score of 81.8%, namely the article by Montgomery et al. (2010), Akgul et al. (2016), Amraoui et al. (2018), and Duparc Alegria et al. (2018). Five articles of sufficient quality, where from 1 1 questions submitted, 8 statements were answered with a "yes" answer with a score of 72.7%, namely articles by Lew et al. (2011), Leyva-villanueva, Huerta-estrada & Villegas-dominguez (2018), and Mackey (2018) and 7 statements were answered with the answer "yes " with a score of 63.6 %, namely articles by Joudi et al. (2016) and Rousseaux & Dardenne (2020).

DISCUSSION

This systematic review provides evidence that hypnotherapy is effective in reducing the intensity in postoperative patients. There are two hypnotherapy techniques found in this systematic review, namely visualization techniques and verbal techniques. Mechanical visualizes is the ability to create ideas, images, or shadows and bring them to mind. Visualization activity is to imagine a desire/something by optimizing the involvement of the roles of all senses (if possible) and accompanied by strong emotional intentions (Subiyono et al. 2015). While the verbal technique is a message or programmed plan proposal, made to cause or influence responses in speech, feelings, thoughts, and actions (Aman 2010). Visualization techniques are more effective at reducing pain intensity because visual suggestions combine relaxation and distraction techniques. This technique results in muscle relaxation and perceptual changes aimed at reducing pain (Joudi et al. 2016).

Induction techniques that can be given are relaxation-based, eye fixation, and rapid conversational. Finkelstein's study in Mackey (2018), reveals that therapeutic suggestions are able to provide relaxation, relieve and prevent pain, accept procedures, and situations that involve whole-body discomfort. Hence the need to use rapid conversational rather than lengthy induction protocols for use in clinical settings, thus saving time and money. The approaches taken at induction were authoritarian (paternal) and permissive (maternal). Erickson explained hypnotherapist approach permissive within indirect immediately able to provide a sense of comfort and calm and produce pain control better (Akgul et al. 2016).

Based on the studies in this review, the addition of relaxing music interventions to hypnotherapy is more effective than the virtual reality hypnosis combination (VRH). The results of Setiawan (2015) is research states that music has a complex function for hypnotherapy activities. Apart from being a hypnotherapist partner, music is used as a means of supporting communication between the hypnotherapist and the client, as an expression of the client's emotions, and as a client's physical response. In the study of Rousseaux & Dardenne (2020) due to the lack of differences between groups, the results did not provide value in adding VR to hypnotherapy in terms of clinical effectiveness.

Hypnotherapy interventions during surgical procedures reported a more significant effect than those administered preoperatively and postoperatively. Interventions with more than one hypnotherapy session reported a more significant effect than did a study involving only two sessions. Furthermore, hypnotherapy interventions shorter than 30 minutes provide the best results. However, the adjustment of individual suggestions allows for variable results in hypnosis and suggestion adherence.

This hypnotherapy showed a decrease in postoperative pain in oral surgery and maxillofacial, CABG, laparoscopic cholecystectomy, breast cancer surgery, arthroscopic knee, and septorhinoplasty open. The study results show that hypnotherapy tends to be more effective in reducing postoperative pain in minor surgical procedures than in major surgeries. The authors analyzed that the effects of hypnotherapy may not be effective enough to control the pain intensity in major surgery. A critical review by Kendrick et al. (2017), recently also showed hypnotherapy tends to reduce postoperative pain for minor procedures.

Pain is most often measured with the VAS and NRS instruments. Both of these instruments have been valid and used in nursing and medicine for many years for the measurement of pain (Mackey 2018). Pain is most often measured by a VAS score. According to Kendrick et al. (2017) stated that this VAS is easy to do, requires low time, acceptability, and psychometrics.

Results obtained from the article analyzed mention hypnosis effectively reduce pain post-operative. Thus, hypnotherapy becomes a therapy to reduce postoperative pain based on strong evidence. In which hypnotherapy also has additional advantages in postoperative patients such as reducing the use of analgesics, anxiety, fatigue, assisted ventilation, and hospitalization time. In addition, hypnotherapy has also shown its effectiveness in depression, nausea, adherence to stressful medical procedures, dysmenorrhea, chronic pain, and burns (Jay et al, 2000 in Leyva-villanueva, Huerta-estrada & Villegas-dominguez 2018).

CONCLUSION

Based on the results of the review of ten articles, hypnotherapy affects reducing the pain intensity of postoperative patients. Thus, hypnotherapy becomes a therapy to reduce postoperative pain with powerful evidence-based. The visualization technique with rapid conversational induction has the best effectiveness compared to other techniques. The most effective way of conveying suggestions is indirectly with a permissive approach. The study results show that hypnotherapy tends to be more effective in reducing postoperative pain in minor surgical procedures than in major surgeries. Furthermore, hypnotherapy intervention during the procedure is the most effective session. However, further rigorous methodological studies were applied under conditions of minimally effective control and systematic control of intervention dose and time. Hypnotherapy interventions can affect the subjective intensity of pain and discomfort in different ways. So, hypnotherapy suggestions and pain measures must be tailored to the patient's condition.

The results of this study are expected to be in addition to the reference and knowledge related to the effect of hypnotherapy on the intensity of the patient's pain after surgery. Further, researchers can carry out similar research by adding other databases and multiplying the

articles analyzed, and adding identification of costs and resources used in the articles analyzed.

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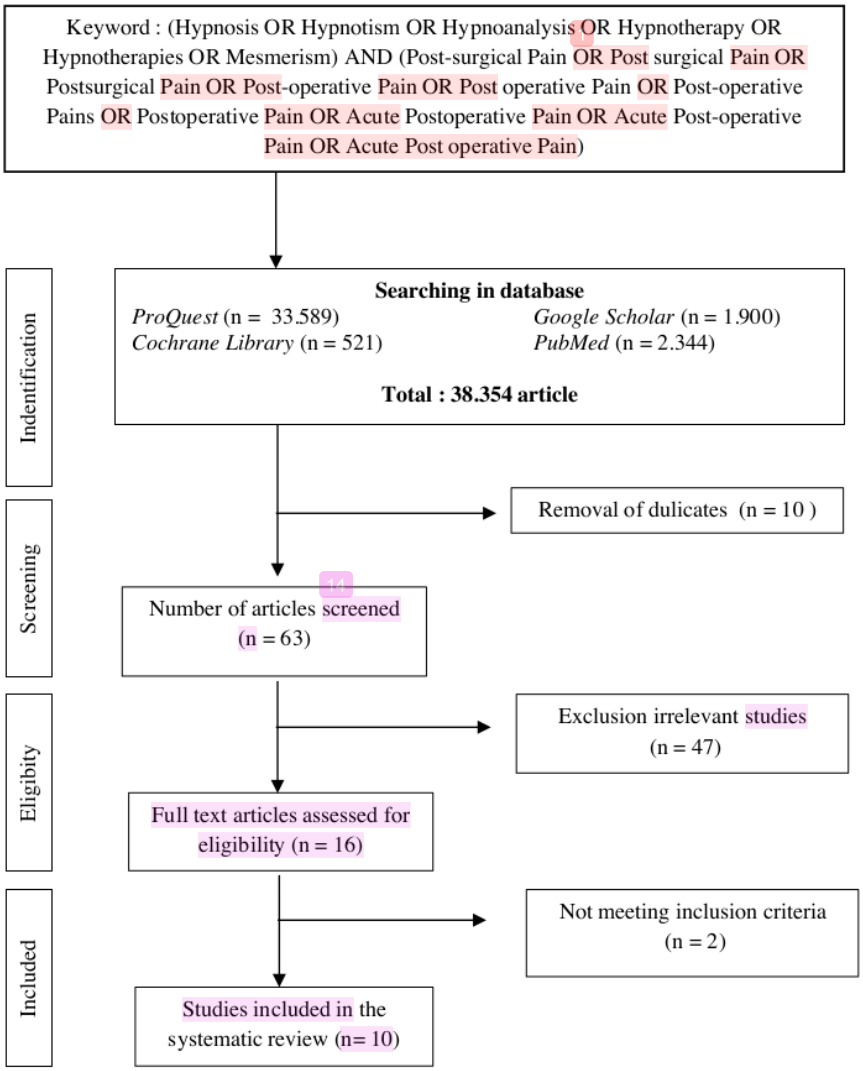

Figure 1. Selection articles processe

Table 1. Articles in study

Author	Title	Methodology	Population	Intervention	Outcome
Montgomery et al. (2010)	" *Mediators of a Brief Hypnosis Intervention to Control Side Effects in Breast Surgery Patients: Response Expectancies and Emotional Distress* "	*Randomized study*	A sample of 200 women was scheduled for breast conserving surgery.	Hypnotherapy intervention was performed 15 minutes led by a psychologist before breast cancer surgery on the morning of the operation.	The effects of hypnotherapy on postoperative pain partly influenced by the expected pain (*pain expectancy*) but not by *distress s* Influence intervention hypnotherapy on postoperative pain is not fully taken into account by the mediator, p = 0, 04. This model accounted for 33% of the intensity of postoperative pain.
Lew et al. (2011)	" *Use of Preoperative Hypnosis to Reduce Postoperative Pain and Anesthesia-Related Side Effects* "	*Randomized Clinical Trial*	Breast cancer surgery patients were recruited for this study (n = 36) . Study participants were at least 18 years of age, able to speak and read English and agreed to participate .	The hypnotherapy intervention c onsisted of a 15-minute hypnosis script administered within one preoperative hour from the operating room.	Significant reductions in anxiety, worry, and nervousness were found in addition to decreases in sadness, irritability, and feelings of distress in the intervention group. Only two symptoms were not relieved in our study (postoperative pain and nausea).
Akgul et al.	" *The Beneficial Effect*	*Double*	Patients were eligible for	The	patients	Conclusion s esi hypnotherapy h

Author	Title	Methodology	Population	Intervention	Outcome
	Anesthesia on Postoperative Outcomes in Patients Who Underwent Minor Breast Cancer Surgery "		scheduled to undergo breast cancer surgery or surgery.	anesthesia in the operating room was done by hypnotherapy .	significant differences in breast pain were reported
Duparc Alegria et al. (2018)	" *Assessment of a short hypnosis in a pediatric operating room in reducing postoperative pain and anxiety: A randomized study* "	*Randomized Clinical Study*	This study was aimed at all children with large operations (n = 118).	The " hypnotherapy " group received brief hypnotherapy (5 minutes) before surgery as an additional experimental analgesic procedure.	Postoperative pain scores were low and did not differ between groups (median [Q1-Q3]: 2 [0; 3] in the Control group versus 3 [1; 3] in the Hypnotherapy group , P = 0.57).
Leyva-villanueva, Huerta-estrada & Villegas-dominguez (2018)	" *Hypnotherapy, Coadjuvant Treatment In The Management of Pain* "	Experimental, longitudinal, exploratory and descriptive study	Postoperative knee arthroscopy patient from Naval Hos pital of Veracruz Specialties (n = 22)	Intervention in postoperative knee arthroscopy patients was then evaluated in both groups for pain intensity 24 hours after the first evaluation.	The final measure of pain level in the hypnotherapy group (group "A") obtained a mean of 3.1, SD ± 1.0 against a mean of 4.2 SD ± 0.6. from group "B" with a statistically significant value (p <0.01)
Mackey (2018)	" *An Extension Study Using Hypnotic Suggestion as an Adjunct to Intravenous Sedation* "	*Few randomized, controlled, and bli nd studies*	The sample consisted of 143 patients aged between 18 and 25 who underwent oral and maxillofacial surgery for the extraction of third molars.	The treatment group received standard IV sedation with soothing background music playing through the *headphones* along with pre-recorded rapid induction and therapeutic suggestions during the entire surgical procedure.	These statistics show a reduction in postoperative pain, a decrease in intraoperative propofol use, and a decrease in the number of postoperative narcotic use.
Efsun Ozgunay et al. (2019)	" *The Effect of Hypnosis on Intraoperative H emorrha ge and Postoperative Pain in Rhinoplasty* "	*Prospective Observational*	Twenty-two patients who underwent septorhinoplasty (SRP) under general anesthesia were included and divided equally into two groups (n = 22) .	Patients in group hypnotherapy (HG) with the technique *of eye fixation technique* , received a total of three induction sessions of hypnotherapy .	The use of hypnotherapy before surgery decreased during surgery the need for remifentanyl and postoperative pain relief
Rousseaux & Dardenne (2020)	*" Virtual Reality Hypnosis for Anxiety and Pain Management in Intensive Care Units. A*	*Prospective rando mized and controlled clinical trial*	Participants were adults who underwent heart surgery, in French at the University Hospital of Liege (Belgium),	Participants were randomly entered in the following conditions: 1) Control group: daily	The results showed that anxiety decreased from baseline to postoperative day in all groups. There were no

Author	Title	Methodology	Population	Intervention	Outcome
	Prospective Randomized Trial Among Cardiac Surgery Patients "		100 patients (66.38 ± 11.48 years; 76 men, 24 women).	standard maintenance. 2) Hypnotherapy technique *s o othing white clouds* 3) Virtual reality (VR) 4) Virtual reality hypnosis combination (VRH)	significant results for pain and f

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