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

Abstract

Background: Pain is a common problem in patients undergoing surgery. The constant postoperative acute pain can affect the physiological and psychological aspects of the patient.

Objective: Non-pharmacological therapy is widely used for the treatment of chronic pain. Non-pharmacological therapy needs to be developed in acute postoperative pain due to concerns about the side effects of pharmacological treatment. There is non-pharmacological management that effectively reduces pain intensity, namely hypnotherapy.

Methods: The systematic search for this review used 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 was assessed using the Critical Appraisal Skills Program (CASP) instrument. The synthesis method used was narrative synthesis (narrative synthesis).

Results: 10 articles were fully reviewed from 2010-2020. The visualization technique with rapid conversational induction has the best effect than other techniques. The most effective way of conveying suggestions is indirect with a permissive approach. The study results showed that hypnotherapy tended to reduce postoperative pain in minor surgical procedures than in major surgeries.

Conclusion: Hypnotherapy affects reducing the pain intensity of postoperative patients. The results of this study recommend that hypnotherapy suggestions and pain measures must be tailored to the patient's condition.

Keywords: Hypnotherapy; Pain; Postoperative

INTRODUCTION

Pain is a common problem in patients undergoing surgery. Acute pain occurs after tissue injury associated with surgery and must be resolved during healing. Surgery causes tissue injury. Surgical injury triggers various 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 World Health Organization (WHO), surgery rates significantly increased 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 4,469 operations per 100,000 people per year. The largest increase 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).

The constant pain after surgery 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 et al., 2018). Nurses can take two treatments or approaches to deal with pain, namely pharmacological and non-pharmacological approaches. A non-pharmacological approach is an independent approach that nurses can take. However, many of these non-pharmacological therapies are used to treat chronic pain. Due to concerns with the side effects of pharmacological treatment, non-pharmacological therapies need to be increasingly developed in various aspects, including acute postoperative pain (Small & Laycock 2020).

According to a study of the basic theories of complementary, alternative, and integrative medicine by Micozzi (2018), hypnotherapy effectively reduces pain intensity. It is stated that hypnotherapy can reduce the fear and anxiety that goes along with the pain. Hypnotherapy can reduce pain intensity as there is a strengthening of impulses or modulation in the process. Weak stimuli or impulses can be strengthened to reach the brain, and then it is perceived to respond to a stimulus immediately. Affirmative sentences in the form of commands are always used to give advice. It is carried out to allow the patient to enter the subconscious mind and then suggest acting according to the advice given after the operation. Hypnotherapy stimulates the brain to release neurotransmitters, enkephalin, and endorphins that function to improve mood to change the individual's acceptance of pain or other physical symptoms (Prasetyo & Ervin 2010).

Research conducted by Sumarwanto (2015) on "The Effect of Hypnotherapy on Reducing Pain Intensity in Post-Operational Patients with Moderate-Severe Pain Scale at Bhayangkara Polda West Kalimantan Hospital in 2015" which was carried out on the second postoperative day in 16 patients with purposive sampling technique showed the value of which can significantly reduce the pain that is equal to $p > 0.05$. In line with it, the results of research conducted by Aini & Pratidina (2017) on "The Influence of Hypnotherapy on Pain Intensity in Post Sectio Caesarea Patients at PKU Muhammadiyah Hospital, Temanggung Regency" on post section cesarean patients on the day I with quasi-experimental techniques showed a significant effect of hypnotherapy on pain intensity in post-cesarean section patients with $p < 0.05$. The analysis results of these two non-random sampling studies showed that hypnotherapy had a significant effect on postoperative pain in patients.

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 used a systematic review method. Inclusion criteria for the article in this study included an article from 1 January 2010 to 1 December 2020, the randomized controlled trial (RCT), research articles, full text, and English. The systematic search for this review used 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 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 identify whether the journal's quality is good, sufficient or insufficient to be used as relevant materials. The synthesis method used was narrative synthesis (narrative synthesis). The narrative synthesis method is a methodology that uses a text or word-based approach for systematic review and synthesis of findings.

RESULT

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. There was a filter for duplicate articles as many as 10 articles. A total of 47 articles was rejected as the research variables hypnotherapy was not in patients with pain post-operative. Furthermore, there was screening for articles not relevant to the purpose and inclusion and exclusion criteria of 6 articles. The final results obtained 10 articles that fit the inclusion criteria, and the articles were then analyzed and performed a Critical Appraisal. The search results for the article are described in figure 1. Moreover, the list of articles from the search was described in table 1. There were five good quality articles; 11 questions were 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 were of sufficient quality, where from 11 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, 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).

Hypnotherapy techniques were used in the studies reviewed in the form of visualization techniques (eight studies) and verbal (two studies). As induction

technique was relaxation or fatigue of the nervous system, eye fixation, and rapid conversation, two kinds of approaches were made when the induction was authoritarian and permissive. How to convey the suggestion was done directly and indirectly. The visualization technique with rapid conversational induction was more effective than other techniques. The most effective way of conveying suggestions was indirect with a permissive approach.

There are several hypnotherapy combinations with other interventions, namely virtual reality (one study) and soothing background music (one study). This combination technique aims to determine the additional effects of hypnotherapy rather than single hypnotherapy. In this case, the study found that the additional intervention of soothing background music had a better effect than virtual reality.

Based on several studies, hypnotherapy intervention was given before surgery (five studies), during the surgery (two studies), and post-surgery (one study). Only two studies applied more than one hypnotherapy session, namely 2 sessions (before and after surgery) and 3 sessions (1 day and 3 days before surgery and on the day of surgery). Hypnotherapy sessions have varying durations, including 5 minutes, 15 minutes, 20 minutes, 30 minutes, 40 minutes, and during the procedure. The hypnotherapy group with one session during which the procedure was carried out had the highest effectiveness compared to the other groups.

Hypnotherapy is used for the management of pain in patients with post-knees arthroscopic surgery, cardiac surgery, breast cancer surgery (three studies), operating large both fusion of the bones back to scoliosis or osteotomy that may be combined with tenotomy, open septorhinoplasty, arteries coronary, coronary artery bypass grafting (CABG), cholecystectomy, laparoscopic, underwent oral and maxillofacial surgery. This hypnotherapy showed a decrease in pain postoperatively on oral and maxillofacial surgery, CABG, cholecystectomy, laparoscopic, breast cancer surgery, arthroscopic knee, and open septorhinoplasty. Based on reviewed studies, two sizes were used to assess pain intensity subjectively. They were measured by visual analog scale (VAS) in most cases (eight studies) and numerical rating scales (two studies). Most studies compared the effectiveness of hypnotherapy with

standard care (eight studies), one study compared the effectiveness of hypnotherapy with an intervention of relaxing music played through headphones, and another study compared it with attention control. Hypnotherapy compared to standard care had significantly lower pain levels in six of the eight measures (75%). Hypnotherapy was significantly lower when compared to the addition of relaxing music played through headphones and 100% attention control.

Some studies also examined issues related to the use of analgesics (four studies), the level of sedation, anxiety (five studies), fatigue (two studies), relaxation, duration of ICU, fibrillation atrium, the need to support inotropic, relief vents, nausea, and vomiting. The future inpatient hospitalization was also investigated in several studies. The study results stated that in addition to reducing pain, hypnotherapy also reduced the use of analgesics, anxiety, fatigue, assisted ventilation, and hospitalization time.

DISCUSSION

This systematic review provides evidence that hypnotherapy effectively reduces the intensity in postoperative patients. There are two hypnotherapy techniques found in this systematic review: visualization and verbal techniques. Mechanical visualization 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). In contrast, the verbal technique is a message or programmed plan proposal made to influence responses in speech, feelings, thoughts, and actions (Aman 2010). Visualization techniques are more effective at reducing pain intensity as visual suggestions combine relaxation and distraction techniques. This technique results in muscle relaxation and perceptual changes to reduce 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) revealed that therapeutic suggestions could provide relaxation, relieve and prevent pain, accept procedures and situations that involve whole-body

discomfort. Hence, it insisted on using rapid conversational rather than lengthy induction protocols in clinical settings; thus, it can save time and money. The approaches taken at induction were authoritarian (paternal) and permissive (maternal). Erickson explained that the hypnotherapist approach permissive within indirect technique immediately provides a sense of comfort and calm and produces pain control better (Akgul et al. 2016).

Based on this review, the addition of relaxing music interventions to hypnotherapy is more effective than the virtual reality hypnosis combination (VRH). The results of Setiawan's (2015) research revealed that music has a complex function for hypnotherapy activities. Apart from being a hypnotherapist partner, music supports 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 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 and maxillofacial surgery, CABG, laparoscopic cholecystectomy, breast cancer surgery, arthroscopic knee, and septorhinoplasty open. The study results showed that hypnotherapy tended to reduce postoperative pain in minor surgical procedures than in major surgeries. 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 showed that hypnotherapy reduces postoperative pain for minor procedures.

Pain is most frequently measured with the VAS and NRS instruments. Both of these instruments have

been valid and used in nursing and medicine for many years to measure pain (Mackey 2018). Pain is most often measured by a VAS score. According to Kendrick et al. (2017), VAS is easy to do and requires low time, acceptability, and psychometrics.

Results obtained from the analyzed article mentioned that hypnosis effectively reduces pain in postoperative patients. Thus, hypnotherapy becomes a therapy to reduce postoperative pain based on strong evidence and has additional advantages in postoperative patients, such as reducing analgesics, anxiety, fatigue, assisted ventilation, and hospitalization time. In addition, hypnotherapy showed effectiveness in depression, nausea, adherence to stressful medical procedures, dysmenorrhea, chronic pain, and burns.

CONCLUSION

Based on the review results of ten articles, hypnotherapy reduced postoperative patients' pain intensity. Thus, hypnotherapy becomes a therapy to reduce postoperative pain with powerful evidence-based. The visualization technique with rapid conversational induction had better effectiveness than other techniques. The most effective way of conveying suggestions is an indirect technique with a permissive approach. Furthermore, the study results showed that hypnotherapy tended to be more effective in reducing postoperative pain in minor surgical procedures than in major surgeries. The 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. Thus, 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, multiplying the articles analyzed, and identifying costs and resources used in the articles analyzed.

REFERENCES

- Aini, F. & Pratidina, E.S.G. (2017). Pengaruh Hipnoterapi terhadap Intensitas Nyeri Pada Pasien Post Section Cesarea di Rumah Sakit PKU Muhammadiyah Kabupaten Temanggung. *Prosiding Seminar Nasional dan Internasional*, 1(1), 163–171.
- Akgul, A., Guner, B., Çırak, M., Çelik, D., Hergünel, O. & Bedirhan, S. (2016). The Beneficial Effect of Hypnosis in Elective Cardiac Surgery: A Preliminary Study. *Thoracic and Cardiovascular Surgeon*, 64(7), 581–588. <https://doi.org/10.1055/s-0036-1580623>
- Aman, S. (2010). *Empat Jam Pinter Hipnosis*, Misi Media, Jakarta.
- Amraoui, J., Pouliquen, C., Fraise, J., Dubourdiou, J., Rey Dit Guzer, S., Leclerc, G., de Forges, H., Jarlier, M., Gutowski, M., Bleuse, J.P., Janiszewski, C., Diaz, J. & Cuvillon, P. (2018). 'Effects of a Hypnosis Session Before General Anesthesia on Postoperative Outcomes in Patients Who Underwent Minor Breast Cancer Surgery: The HYPNOSEIN Randomized Clinical Trial. *JAMA network open*, 1(4), 181164. <https://doi.org/10.1001/jamanetworkopen.2018.1164>
- Bach, A.B., Forman, A. & Seibaek, L. (2018). 'Postoperative Pain Management: Bedside Perspective. *Pain Management Nursing*, 19(6), 1–11. <https://doi.org/10.1016/j.pmn.2018.05.005>
- Duparc Alegria, N., Tiberghien, K., Abdoul, H., Dahman, S., Alberti, C. & Thiollier, A.F. (2018). 'Assessment of a short hypnosis in a paediatric operating room in reducing post-operative pain and anxiety : A randomized study Authors. *Journal of Clinical Nursing* 27, 21(1–2), 86–91. <https://doi.org/10.1007/s00586-019-05886-6>
- Efsun Ozgunay, S., Ozmen, S., Karasu, D., Yilmaz, C. & Taymur, I. (2019). The Effect of Hypnosis on Intraoperative Hemorrhage and Postoperative Pain in Rhinoplasty. *International Journal of Clinical and Experimental Hypnosis*, 67(3), 262–277. <https://doi.org/10.1080/00207144.2019.1612670>
- Joudi, M., Fathi, M., Izanloo, A., Montazeri, O. & Jangjoo, A. (2016). Une évaluation de l'effet de l'hypnose sur l'analgésie postopératoire

- après une cholécystectomie laparoscopique. *International Journal of Clinical and Experimental Hypnosis*, 64(3), 365–372. <https://doi.org/10.1080/00207144.2016.1171113>
- Kendrick, C., Sliwinski, J., Yu, Y., Johnson, A., Fisher, W. & Kekecs, Z. (2017). Hypnosis for Acute Procedural Pain : A Critical Review. *HSS Public Access*, 64(1), 75–115. <https://doi.org/10.1080/00207144.2015.1099405>
- Lew, M.W., Kravits, K., Garberoglio, C. & Williams, A.C. (2011). Use of preoperative hypnosis to reduce postoperative pain and anesthesia-related side effects. *International Journal of Clinical and Experimental Hypnosis*, 59(4), 406–423. <https://doi.org/10.1080/00207144.2011.594737>
- Leyva-villanueva, G., Huerta-estrada, M. & Villegas-domínguez, J. (2018). Hypnotherapy, Coadjuvant Treatment in the Management of Pain. *International Journal of Recent Advances in Multidisciplinary Research*, 5(10), 4180–2.
- Mackey, E.F. (2018). An Extension Study Using Hypnotic Suggestion as an Adjunct to Intravenous Sedation. *American Journal of Clinical Hypnosis*, 60(4), 378–385. <https://doi.org/10.1080/00029157.2017.1416279>
- Micozzi, M. (2018). *Fundamentals of Complementary, Alternative and Integrative Medicine*, 6th edn, Elsevier.
- Montgomery, G.H., Hallquist, M.N., Schnur, J.B., David, D., Silverstein, J.H. & Bovbjerg, D.H. (2010). Mediators of a Brief Hypnosis Intervention to Control Side Effects in Breast Surgery Patients: Response Expectancies and Emotional Distress. *Journal of Consulting and Clinical Psychology*, 78(1), 80–88. <https://doi.org/10.1037/a0017392>
- Prasetyo, B.P. & Ervin, R. (2010). *Cara Cepat Menguasai Hypno Healing Hipnosis untuk Penyembuhan*, Leutika, Yogyakarta.
- Rousseaux, F.M. & Dardenne, N. (2020). Virtual Reality Hypnosis for Anxiety and Pain Management in Intensive Care Units . A Prospective Randomized Trial Among Cardiac Surgery Patients. *BMC Research Notes*, 21(330), 1–19. <https://doi.org/10.1097/EJA.0000000000001633>
- Setiawan, A. (2015). Fungsi Musik dalam Proses Hipnoterapi Arnold Meka di Jaten Karanganyar. Institut Seni Indonesia (ISI) Surakarta.
- Small, C. & Laycock, H. (2020). Acute Postoperative Pain Management. *BJS (British Journal of Surgery)*, 107(2), 70–80. <https://doi.org/10.1002/bjs.11477>
- Subiyono, Hariono, A., Wiryawan, A. & Surati, N. (2015) *Afirmasi Visualisasi dan Kekuatan Pikiran*, K-Media, Yogyakarta.
- Sumarwanto, S.F. (2015). Pengaruh Hipnoterapi terhadap Penurunan Intensitas Nyeri pada Pasien Post Operasi dengan Skala Nyeri Sedang-Berat di Rumah Sakit Bhayangkara Polda Kalbar Tahun 2015. Univeritas Tanjungpura.
- Weiser, T.G., Haynes, A.B., Molina, G., Lipsitz, S.R., Esquivel, M.M., Uribe-Leitz, T., Fu, R., Azad, T., Chao, T.E., Berry, W.R. & Gawande, A.A. (2016) No Size and Distribution of The Global Volume of Surgery in 2012. *Bulletin of the World Health Organization*, 3(94), 201-209F. <https://doi.org/10.2471/BLT.15.159293>

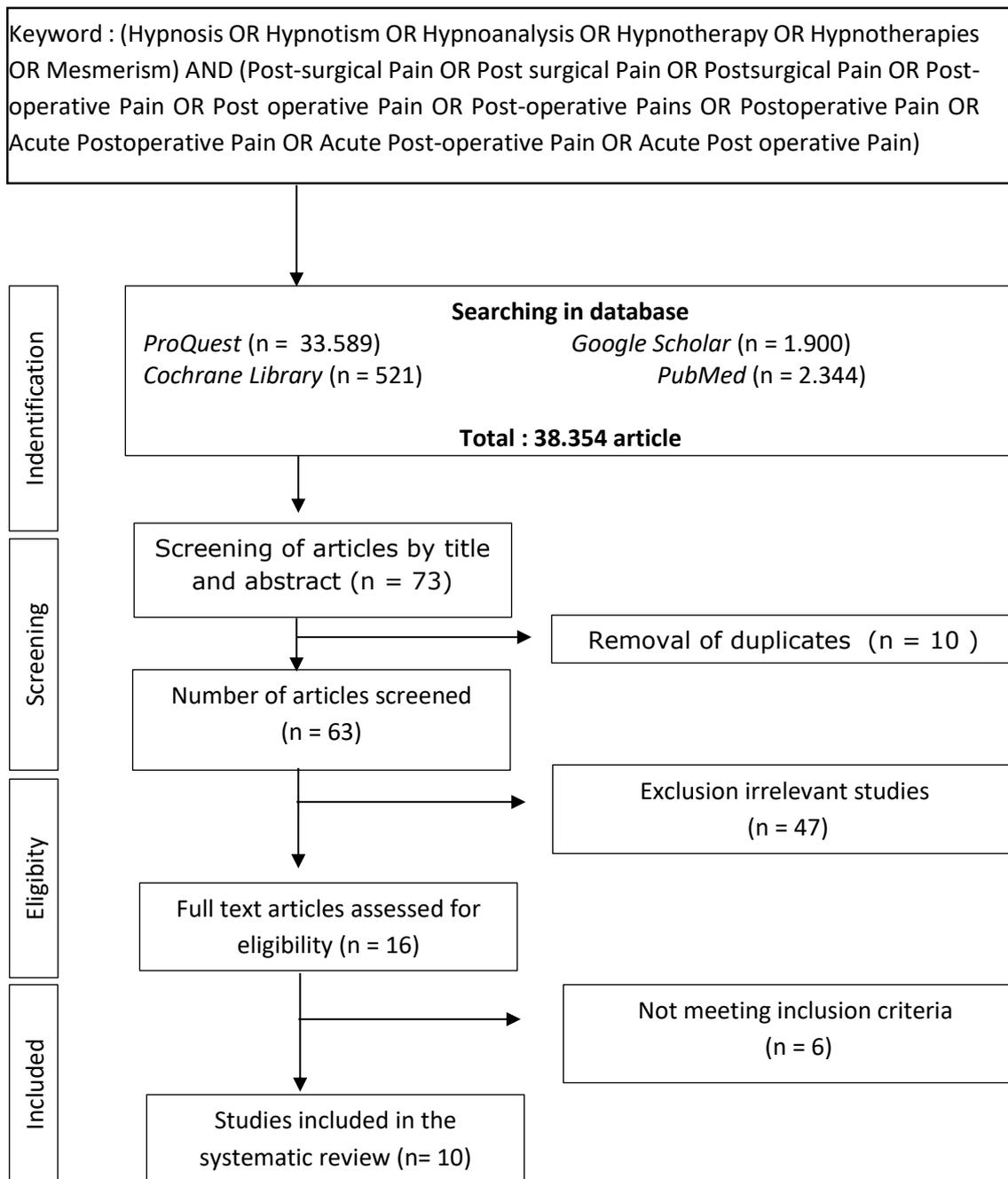


Figure 1. Articles Selection Process

Table 1. Articles in study

Author	Title	Methodology	Population	Intervention	Outcome
Montgomery et al. (2010)	" <i>Mediators of a Brief Hypnosis Intervention to Control Side Effects in Breast Surgery Patients: Response Expectancies and Emotional Distress</i> "	<i>Randomized study</i>	A sample of 200 women was scheduled for breast-conserving surgery.	Hypnotherapy intervention was performed 15 minutes before breast cancer surgery on the morning of the operation.	The effects of hypnotherapy on postoperative pain are partly influenced by the expected pain (<i>pain expectancy</i>) but not by <i>distress</i> . Influence intervention hypnotherapy on postoperative pain is not fully considered by the mediator, $p = 0,04$. This model accounted for 33% of the intensity of postoperative pain.
Lew et al. (2011)	" <i>Use of Preoperative Hypnosis to Reduce Postoperative Pain and Anesthesia-Related Side Effects</i> "	<i>Randomized Clinical Trial</i>	Breast cancer surgery patients were recruited for this study (n = 36). Study participants were at least 18 years of age, spoke and read English and agreed to participate.	The hypnotherapy intervention consisted 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. In our study, only two symptoms were not relieved (postoperative pain and nausea).
Akgul et al. (2016)	" <i>The Beneficial Effect of Hypnosis in Elective Cardiac Surgery: A</i>	<i>Double-blind, Randomized Clinical Trial</i>	Patients were eligible for inclusion if they underwent coronary artery bypass	The patients received hypnotherapeutic techniques, <i>indirect permissive approach,</i>	Conclusion sessions of pre-operative hypnotherapy can be an effective complement method in reducing preoperative anxiety, better pain

Author	Title	Methodology	Population	Intervention	Outcome
	<i>Preliminary Study</i> "		grafting (n = 44).	<i>technique</i> , pre procedural for 30 minutes by an anesthesiologist.	control, reduction of ventilator assistance.
Joudi et al. (2016)	" <i>An Evaluation of The Effect of Hypnosis on Postoperative Analgesia Following Laparoscopic Cholecystectomy</i> "	<i>Randomly divided into experimental and control groups</i>	One hundred and twenty patients were scheduled for laparoscopic cholecystectomy.	Hypnotic suggestions are provided by audio recordings containing verbal suggestions of hypnosis followed by conditioning suggestions for postoperative analgesia.	Chi-square test results showed a significant difference between hypnosis and the control group.
Amraoui et al. (2018)	" <i>Effects of a Hypnosis Session Before General Anesthesia on Postoperative Outcomes in Patients Who Underwent Minor Breast Cancer Surgery</i> "	<i>Randomized Clinical Trial</i>	In this multicenter study in France, 150 women were scheduled to undergo breast cancer surgery or surgery.	A hypnosis session within 15 minutes before general anesthesia in the operating room was done.	At PACU discharge and with longer follow-up, no statistically significant differences in breast pain were reported
Duparc Alegria et al. (2018)	" <i>Assessment of short hypnosis in a pediatric operating</i>	<i>Randomized Clinical Study</i>	This study was aimed at all children with large op	The " hypnosis group " received brief hypnosis	Postoperative pain scores were low and did not differ between groups (median [Q1-Q3]: 2 [0; 3] in the

Author	Title	Methodology	Population	Intervention	Outcome
	<i>room in reducing postoperative pain and anxiety: A randomized study. "</i>		erations (n = 118).	(5 minutes) before surgery as an additional experimental analgesic procedure.	Control group versus 3 [1; 3] in the Hypnotherapy group , P = 0.57).
Leyva-villanueva, Huerta-estrada & Villegas-dominguez (2018)	<i>" Hypnotherapy, Coadjuvant Treatment In The Management of Pain "</i>	An experimental, longitudinal, exploratory and descriptive study	Postoperative knee arthroscopy patient from Naval Hospital 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)	<i>" An Extension Study Using Hypnotic Suggestion as an Adjunct to Intravenous Sedation "</i>	<i>Few randomized, controlled, and blind studies</i>	The sample consisted of 143 patients aged between 18 and 25 who underwent oral and maxillofacial surgery to extract third molars.	The treatment group received standard IV sedation with soothing background music playing through the <i>headphones</i> and 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)	<i>" The Effect of Hypnosis on Intraoperative</i>	<i>Prospective Observational</i>	Twenty-two patients who underwent septorhinopl	Patients in the hypnotherapy group (HG) received	The use of hypnotherapy before surgery decreased during surgery the need

Author	Title	Methodology	Population	Intervention	Outcome
	<i>e Hemorrhage and Postoperative Pain in Rhinoplasty "</i>		asty (SRP) under general anesthesia were included and divided equally into two groups (n = 22).	three induction hypnotherapy sessions with the eye fixation technique.	for remifentanil and postoperative pain relief
Rousseaux & Dardenne (2020)	<i>" Virtual Reality Hypnosis for Anxiety and Pain Management in Intensive Care Units. A Prospective Randomized Trial Among Cardiac Surgery Patients "</i>	<i>Prospective randomized and controlled clinical trial</i>	In French, participants were adults who underwent heart surgery at the University Hospital of Liege (Belgium), 100 patients (66.38 ± 11.48 years; 76 men, 24 women).	Participants were randomly entered in the following conditions: 1) Control group: standard daily maintenance. 2) Hypnotherapy technique soothing white clouds 3) Virtual reality (VR) 4) Virtual reality hypnosis combination (VRH)	The results showed that anxiety decreased from baseline to postoperative days in all groups. There were no significant results for pain and f