

4-2018

A Literature Review Examining the Effects of Hypnotherapy for Chronic Pain

Rebecca Anbar

The College at Brockport, ranbar365@yahoo.com

Follow this and additional works at: <https://digitalcommons.brockport.edu/honors>



Part of the [Pain Management Commons](#)

Repository Citation

Anbar, Rebecca, "A Literature Review Examining the Effects of Hypnotherapy for Chronic Pain" (2018). *Senior Honors Theses*. 198.
<https://digitalcommons.brockport.edu/honors/198>

This Honors Thesis is brought to you for free and open access by the Master's Theses and Honors Projects at Digital Commons @Brockport. It has been accepted for inclusion in Senior Honors Theses by an authorized administrator of Digital Commons @Brockport. For more information, please contact kmyers@brockport.edu.

A Literature Review Examining the Effects of Hypnotherapy for Chronic Pain

A Senior Honors Thesis

Submitted in Partial Fulfillment of the Requirements
for Graduation in the Honors College

By
Rebecca Anbar
Nursing Major, Biology Minor

The College at Brockport
April 2018

Thesis Director: Dr. Susan Lowey, PhD, RN, CHPN, Associate Professor, Nursing

Educational use of this paper is permitted for the purpose of providing future students a model example of an Honors senior thesis project.

Introduction

This thesis will focus on the effectiveness of hypnotherapy, or hypnosis, in response to the treatment of chronic pain. This type of pain can be caused by a variety of different circumstances. Chronic pain is defined as pain that lasts upwards of 12 weeks. It can be a result of an injury, an ongoing health concern, or can even arise with an undetermined cause (NIH Medline Plus, 2011). People that suffer from chronic pain can find day-to-day life and activities to be a challenge. To put into perspective, 25.3 million Americans suffer from some form of chronic pain everyday (National Institute of Health, 2015).

Chronic pain is generally treated through two different methods of approach: pharmacological or nonpharmacological. In other words, using medication as a treatment, or using other tactics that do not involve the use of a drug. Hypnotherapy falls into the nonpharmacological category of pain management. This thesis seeks to determine if hypnotherapy can be a viable treatment option for these individuals in pain. Findings of this thesis may be able to provide evidence to support the idea that hypnotherapy may be a nontraditional and less invasive way for millions of people to treat and ease their chronic pain.

The Division 30 Executive Committee defines hypnosis as “A state of consciousness involving focused attention and reduced peripheral awareness characterized by an enhanced capacity for response to suggestion.” In turn, the definition of hypnotherapy is to use hypnosis as a treatment option (Society of Clinical Hypnosis, 2014). Three main questions will be posed in order to evaluate hypnotherapy’s effectiveness as a treatment option. The first and most foremost question is “Is

hypnotherapy an effective treatment for patients experiencing chronic pain?” This will be the most important question posed in the research, due to the fact that the following questions will be based upon this answer.

Secondly, “If at all effective, which types of chronic pain find the most pain relief through the use of hypnotherapy?” This seeks to determine if there is a certain type of chronic pain for which hypnosis can be more beneficial. Will hypnotherapy be more effective for patients with chronic back pain, abdominal pain, pain related to pregnancy? The research will try to find which conditions yield the best response to using hypnotherapy to treat their pain.

The third and final question that this research poses is “Which population, in regard to age, is able to find hypnotherapy most effective in diminishing their pain?” Will children gain the most pain relief through the use of hypnotherapy due to being open minded? Or will older adults feel the most relief due to feeling as if hypnotherapy is their final option?

Hypnotherapy has already been found as an effective form of treatment for a variety of different ailments. For the most part, hypnotherapy focuses on alleviating symptoms, many of which are caused by anxiety. Phobias, unwanted habits that arise due to psychological stressors, for example, habit cough, and sexual dysfunction have all been found to experience improvement through the use of hypnotherapy. Additionally, hypnosis has been seen to aid with smoking, sleep disorders and learning disabilities (Society for Clinical & Experimental Hypnosis, 2018).

If this research can obtain answers to the questions posed, then it is possible to create a whole new outlook on medicine. The more that is known about hypnotherapy as

a treatment option, the easier it will become to provide less invasive treatment for patients faced with pain. Hypnotherapy as a treatment has the potential to open up an entire new field of medicine. By using hypnotherapy, people will have the possibility of experiencing fewer side effects from medication, an increase in self-dependence, and an overall healthier and happier lifestyle. The purpose of this thesis is to examine the existing evidence concerning the state of the science of hypnotherapy being used as a treatment option for patients experiencing chronic pain.

Background

While the concept of pain itself seems very straightforward, pain is actually a fairly complex entity. For the most part, pain has been divided into two different classifications. First, and probably the most well-known type of pain is nociceptive pain. This encompasses any form of pain that is caused by damage to body tissues that results in activation of nociceptors. Nociceptive pain can then go on to be further classified into somatic or visceral. Basically, meaning that nociceptive pain can be specified into external, or internal (Robertson, 2016).

The second form of pain is known as neuropathic pain. Neuropathic pain refers to the pain that has resulted from injuries to the nerves. This type of pain usually presents as more intense than nociceptive pain. Both of these classifications of pain can then be divided into either acute or chronic. Acute pain is short term and a normal bodily response to stimuli, while chronic pain, as stated previously, lasts for at least 12 weeks and does not appear to serve a bodily purpose (Robertson, 2016). This review will focus on the treatment of chronic pain, mostly being nociceptive, with two studies including research on neuropathic pain.

Treatment for chronic pain has typically been divided into two main categories: pharmacological and non-pharmacological. Pharmacological options are more often than not, the go-to for pain management. Pharmacological treatment involves the use of drugs in order to reduce pain. The World Health Organization (WHO) has developed guidelines to correctly manage persisting pain in a pharmacological manner.

In children, for example, WHO has recommended a two-step strategy to control pain through the use of medications. This strategy outlines the choices of analgesia, or pain medications, for children, based on the severity of the pain that they are experiencing. The first step involves treating mild pain with medications such as ibuprofen, a non-steroidal anti-inflammatory drug (NSAID). The second step examines treating moderate or severe pain through the use of stronger medications such as opioids. The WHO guidelines also describe how to choose the proper route for medication administration, such as oral, intramuscular, or subcutaneous (“WHO,” 2012).

Nonpharmacological pain management involves any form of pain relief that does not involve the use of medications. There are more typical approaches to nonpharmacological therapies such as heat and ice, but there are also dozens of other nonpharmacological treatment options as well. Things as simple as exercise, breathing techniques, and acupuncture are all considered types of nonpharmacological treatment. The use of technology is another option for those enduring chronic pain. Through biofeedback, the patient is able to use technology in order to reach a state of relaxation and have better control of his or her pain by responding to physiologic functions such as breathing and body temperature (Agoston & Sieberg, 2016).

A growing nonpharmacological treatment for those with chronic pain is Cognitive-Behavioral Therapy (CBT). Cognitive-Behavioral Therapy involves the use of multiple cognitive and behavioral functions in order to reach the goal of minimizing pain or discomfort. This therapy utilizes distraction, talking and thinking positively about oneself, relaxation, and desensitization all to reach a common goal. By using CBT, the objective for the patient is to be able to not only control their thoughts about their pain, but to point their thoughts away from it when necessary as well (Agoston & Sieberg, 2016).

Hypnotherapy falls into the category of nonpharmacological treatment. Using hypnosis to treat pain does not involve the use of medication to treat chronic pain, but instead, uses the power of one's own mind to direct attention away from the pain and to help the patient minimize their pain with his or her own thinking.

The goal of hypnotherapy is always to teach the patient an attitude of hope in the context of mastery. The patient learns to be an active participant on his or her own behalf, to focus on creating a solution rather than on enduring a problem, and to discover and use resources for inner control as much as possible. The goal of mastery does not mean that the patient necessarily turns away from external aid, although this may sometimes be possible. (Kohen & Olness, 2011, p. 90)

With this explanation in mind, it is clear to see why people may want to participate in using hypnotherapy in order to treat their pain. Undesirable symptoms are capable of being minimized with the use of focused attention and absorption in one's own imagination (Kohen & Kaiser, 2014). The treatment solely revolves around the patient's

mind, meaning that other than the pain potentially not improving, adverse effects to this treatment option are dismal.

Hypnosis itself, is not at all an invasive procedure. Hypnotherapy as a treatment is done through induction and suggestions. When a person is induced into a hypnotic state, they are then given suggestions in order to alter their behavior or emotions. However, it has been found that some individuals are more open to suggestibility than others, allowing these individuals to have higher success through the use of hypnosis. Providers have been known to induce people into hypnotic states, and some have been taught to bring themselves into such a state at home (Cohut, 2017). While with other forms of counseling, weekly sessions may be needed, hypnosis has the benefit of possibly needing only three or four sessions to see drastic results. Once a patient is taught how to properly utilize and induce hypnosis, they have the option to take that knowledge home and not be required to see a provider in order to continue on a path of improvement (Ledger, 2017). Many choose to use this form of treatment in order to battle the symptoms caused by medical conditions such as Irritable Bowel Syndrome, sleep disorders, and migraines (Cohut, 2017).

Past research has found that hypnotherapy has been capable of minimizing the negative effects of a variety of different ailments. Success has been seen by using hypnosis to treat habitual behaviors, such as habit coughs, mental health issues, such as phobias and anxiety, sleep disorders, physiological disorders, such as asthma, as well as both acute and chronic pain (Kohen & Kaiser, 2014). Previous studies have also found that hypnosis is wildly more effective in treating chronic pain than implementing no treatment at all. Some past reviews have even found that hypnotherapy has the ability to

be more effective in decreasing patients' chronic pain than physical therapy. Furthermore, the fact that hypnosis is able to decrease anxiety that frequently accompanies chronic pain, shows that hypnotherapy will be a much needed, beneficial treatment for these patients (Elkins, Jensen, & Patterson, 2007).

Preceding research studies suggest that hypnotherapy is an effective treatment option. However, there is a main question that still remains: Is hypnotherapy a *more* effective treatment option than those involving more traditional approaches? This thesis will examine current evidence regarding hypnotherapy as a treatment option for chronic pain in order to determine its effectiveness.

Methods

A review of the current literature was conducted in order to evaluate the use of hypnotherapy as a treatment option for chronic pain to determine if it is successful in relieving undesired symptoms. The databases of CINAHL, MEDLINE, and Google Scholar were each used to retrieve peer-reviewed studies regarding the topic. Keywords and terms used to search for these studies included *pain*, *chronic pain*, *hypnotherapy*, and *hypnosis*. In order to be included in this review, the studies had to meet a variety of different criterion. The criteria of being peer-reviewed, originally written in the English language, and being published between the years of 1998 and 2018 all needed to be met. Additionally, in order to be included in the review, the articles chosen had to be able to assist in the answering of at least one of the three research questions that are posed in this study.

An initial 16 articles were retrieved, all published between the years of 2000 and 2016. It was preferable for all of the articles included to be of experimental design with randomized control trials, however quasi-experimental designs were also accepted. Four of the articles found were excluded from the review because their aims were not relevant to the current study. An additional three articles were dismissed due to being

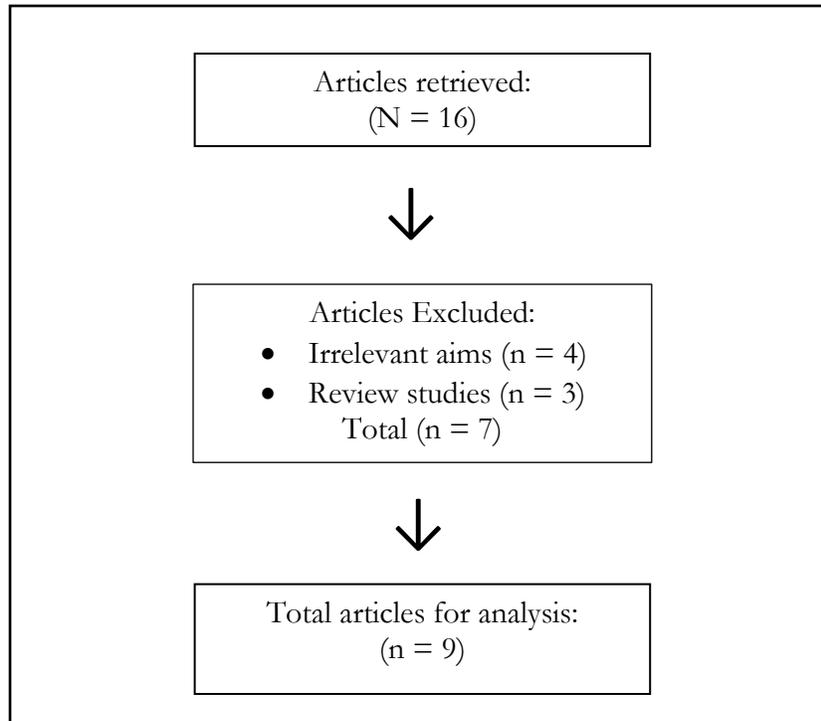


Figure 1

reviews, and not original studies. This left nine peer-reviewed studies to be included within the review. **Figure 1**, above, displays the process in which articles were chosen.

Results

Description of the Sample

The nine articles reviewed in this study were all collected within the past 18 years. Of the articles reviewed, over 50% of the research was conducted in the past ten years, being published in 2008 or more recently. Additionally, just under 70% of the material reviewed was comprised of randomized control trials. Three of the articles examined were solely aimed at pediatric patients experiencing chronic pain, while the rest of the articles were comprised of adult and geriatric populations. **Figure 2** displays the makeup of this review based on the number of studies within each age category. Sample sizes ranging from five to 129 participants were examined. The average age of a participant involved in this review is 36 years old with participants' ages ranging between 6 and 88 years old.

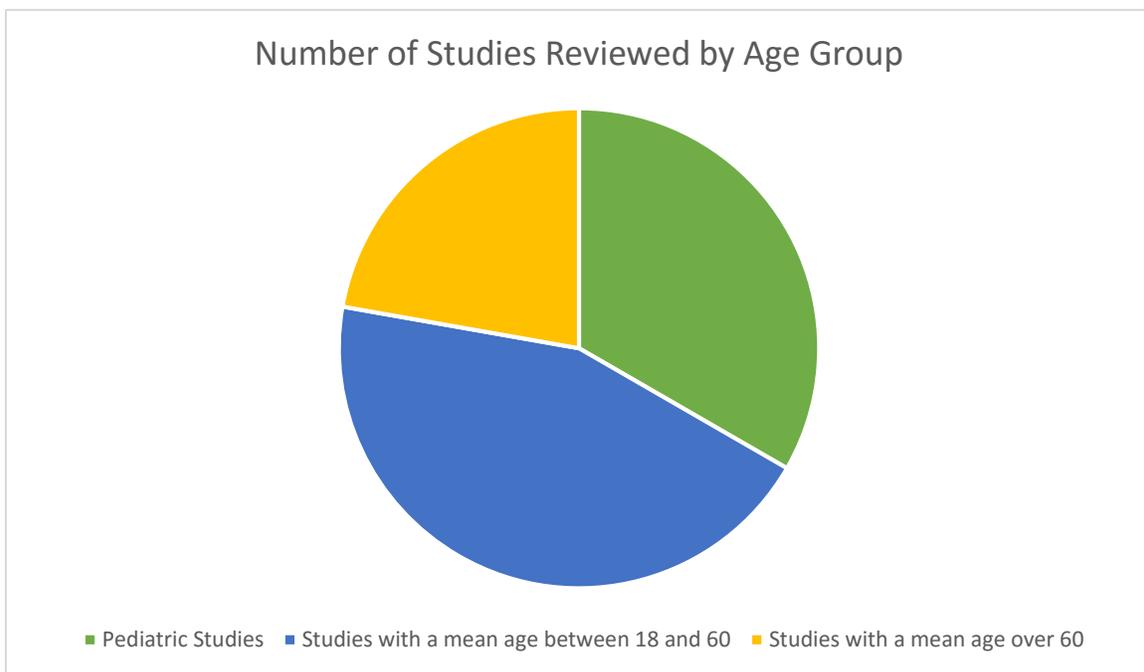


Figure 2

Effectiveness of Hypnotherapy as a Treatment for Chronic Pain

Seven of the eight articles that sought to answer the first research question of “Is hypnotherapy an effective treatment for patients experiencing chronic pain?” found that hypnotherapy was effective in decreasing patients’ pain levels. A multitude of different

types of chronic pain were capable of being improved by the use of hypnotherapy.

Additionally, a variety of different age groups found relief through the use of hypnotherapy. **Figure 3** provides additional information on the studies included in the review.

<i>Author</i>	<i>Title</i>	<i>Year</i>	<i>Design</i>	<i>Sample</i>	<i>Pain type</i>
<i>Anbar</i>	“Self-hypnosis for the treatment of functional abdominal pain in childhood”	2001	Quasi-experimental	5	Nociceptive
<i>Ardigo et al.</i>	“Hypnosis can reduce pain in hospitalized older patients: A randomized control study”	2016	Experimental	53	Neuropathic & nociceptive
<i>Gay, Philippot, & Luminet</i>	“Differential effectiveness of psychological interventions for reducing osteoarthritis pain: A comparison of Erikson hypnosis and Jacobson relaxation”	2002	Experimental	36	Nociceptive
<i>Guittier et al.</i>	“Hypnosis for the control of pain associated with external cephalic version: A comparative study”	2013	Experimental	63	Nociceptive

<i>Gulewitsch, Müller, Hautzinger, & Schlarb</i>	“Brief hypnotherapeutic-behavioral intervention for functional abdominal pain and irritable bowel syndrome in childhood: A randomized controlled trial”	2013	Experimental	38	Nociceptive
<i>Jensen et al.</i>	“A comparison of self-hypnosis versus progressive muscle relaxation in patients with multiple sclerosis and chronic pain”	2010	Experimental	22	Nociceptive
<i>Jensen et al.</i>	“Effects of self-hypnosis training and EMG biofeedback relaxation training on chronic pain in persons with spinal-cord injury”	2009	Experimental	37	Neuropathic
<i>Simon & Lewis</i>	“Medical hypnosis for temporomandibular disorders: Treatment efficacy and medical utilization outcome”	2000	Quasi-experimental	28	Nociceptive
<i>Tsao, Meldrum,</i>	“Treatment preferences for CAM	2006	Quasi-experimental	129	Nociceptive

Kim, Jacob, & Zeltzer | in children with chronic pain”

Figure 3

One study in particular looked at if hypnotherapy could be successful at providing some form of relief from chronic pain due to temporomandibular disorders. 28 patients experiencing chronic pain from temporomandibular disorders underwent hypnosis in order to seek decreases in pain. Patients who participated in this study not only reported decreases in pain intensity, but decreases in pain frequency and duration as well. The study found that pain relief goals were maintained through a six-month follow-up (Simon & Lewis, 2000). However, it must be noted that the sample size to this study was rather small, so to have a significant clinical impact, the study would need to be done with a larger sample.

Hypnotherapy was not only found to be effective at treating pain, but it was also found to be *more* effective than some other treatment options. To start with, hypnotherapy can be examined in the geriatric population. One study looked specifically at the effects of hypnotherapy on pain in the hospitalized elderly population. In order to measure the effectiveness of the hypnotherapy, 53 hospitalized geriatric patients experiencing some level of pain were split into two groups. One group received hypnosis to relieve pain, and the other received massages. Both groups had statistically significant decreases in pain intensity, $P=0.041$ for the hypnosis group and $P=0.034$ for the massage group. While both groups reported to have decreased pain after the respective treatments, average pain intensity overall decreased more with the group that received hypnosis (Ardigo et al., 2016). While the findings of this study are important, the study itself does

not state many limitations on the research done. This brings up some questions in regard to the reliability of the study.

Continuing to look at the effects that hypnotherapy can have on the older population, a separate study examined if nonpharmacological approaches had the ability to diminish pain caused by osteoarthritis. Participants in this study were divided into three groups, receiving either hypnosis or relaxation therapy, or being part of a control group. The results of the study found that both therapy groups had decreased levels of pain. Patients in the hypnosis group showed a substantial decrease in pain intensity after four weeks of receiving treatment, which was sustained through six months of follow-up. The study also found that the patients placed in either of the therapy groups were able to decrease the amount of analgesic medication being taken due to the significant decrease in pain as a result of these therapies (Gay, Philippot, & Luminet, 2002).

Patients experiencing chronic pain due to multiple sclerosis were also found to have decreased levels of pain through the use of hypnosis. When comparing self-hypnosis against progressive muscle relaxation in order to treat pain inflicted by multiple sclerosis, those who received the hypnosis treatment had significantly better results long-term at a three-month follow-up than the muscle relaxation group. Participants in this study were asked to rank their pain intensity on a scale of 0-10 before treatment, after treatment, and three months following treatment. Both groups had similar pain intensity levels before and after the respective treatments. However, at the three-month follow-up, the participants who received the muscle relaxation therapy reported a pain level, on average, of a 4.35, compared to an average pain intensity of 3.78 for the self-hypnosis group. The group that received the self-hypnosis treatment a statistically significant

decrease in pain each during the time of assessment. Many of the participants reported that they continue to use self-hypnosis techniques learned during the study because they were successful in relieving the pain that was being experienced (Jensen et al., 2010). Once again, however, the sample to this study was small, making it difficult for the findings of this study to hold heavy clinical significance.

The same author also examined self-hypnosis versus EMG biofeedback relaxation, but in this study, on the treatment of chronic pain from spinal-cord injuries. 37 adult patients were split into two groups to either receive ten sessions of self-hypnosis training, or ten sessions of EMG biofeedback relaxation training in order to manage pain intensity. The participants that received the self-hypnosis training reported a statistically significant decrease in day-to-day pain after treatment, while the group that was trained in biofeedback relaxation did not. Participants who received the hypnosis training felt that they were in more control of their pain, while the other group did not report feeling any such control. Furthermore, the participants who were placed in the hypnosis group reported decreases in pain intensity that were sustained at a three-month follow-up (Jensen et al., 2009).

Two articles that were reviewed focused on the effects that hypnotherapy had specifically on pediatric patients experiencing abdominal pain. One study divided participants into either a waitlist condition group, or a group set to receive hypnotherapeutic-behavioral treatment. After three months of the treatment, over half of the participants receiving the hypnotherapy showed at least 80% improvement in their abdominal pain, while only 5.6% of the waitlist participants showed any significant improvement (Gulewitsch, Müller, Hautzinger, & Schlarb, 2013). The other study

examined pediatric patients with abdominal pain that was not able to be diagnosed with a specific medical cause. Additionally, these patients were unable to find relief with any traditional pain treatments. Within three weeks of hypnosis treatment, four of the five participants reported that their pain had resolved (Anbar, 2001). While this finding seems quite impressive, it is to be noted that the sample size of this study was quite small, so in order to have a greater impact, this study would need to be replicated on a larger scale. Additionally, the study states no limitations, again bringing into question reliability of the study.

Hypnosis treatment was found to be effective in the studies involving pediatric participants, however there were no major differences between the findings of pediatric patients and adult patients. The research showed that when pediatric patients being treated with chronic pain through hypnosis had pain relief, the relief was quite substantial. Many studies involving adults, however, cannot claim to completely diminish pain, or even decrease it by 80%, as did the two pediatric studies mentioned above.

The only study that was found during this review to report that hypnotherapy had no beneficial effects on the treatment of pain was one aimed at pregnant women with fetuses in the breeched position. All of the women included in the study needed to undergo an external cephalic version in order to correct fetal position. One group involved in this study received hypnosis in an attempt to reduce pain felt during the procedure, while the other group had the same procedure done without the implementation of hypnosis. No significant differences in regard to pain were found between the two groups (Guittier et al., 2013).

Before considering the final results to this research question as a whole, a major limitation to this review must be recognized. The sample of articles used to compose this thesis is quite small. While the findings of the study are no doubt important, it is difficult for this research to hold heavy significance without further research including a larger sample of studies. With this limitation in mind however, the findings of the research show that hypnotherapy can be quite effective as a treatment option.

Despite one study reporting that hypnotherapy was not effective at reducing its participants' level of pain, the vast majority of studies in this review state quite the opposite. In fact, a majority of the studies reviewed had statistically significant evidence proving that hypnotherapy decreases levels of pain. This finding entails that there may be an entire field of treatment for chronic pain that many physicians have been dismissing for generations. Patients of all ages experiencing chronic pain from all different types of health concerns were able to find relief through the use of hypnotherapy. Not only was it found that hypnotherapy was effective in treating chronic pain in general, but it was determined that hypnotherapy has the ability to be even more effective than other treatment options that have been more traditionally used.

Types of Chronic Pain Yielding the Most Relief

This review was not able to determine if there was a specific type of chronic pain that found more pain relief than others through the use of hypnotherapy. Based on the information provided in the studies that were reviewed, hypnotherapy has the ability to be an effective and valuable treatment option for a variety of different health issues that can inflict chronic pain. Discomfort due to abdominal pain, osteoarthritis, temporomandibular diseases, spinal-cord injuries, and multiple sclerosis were all found to experience relief

through the use of hypnosis (Anbar, 2001; Gay, Philippot, & Luminet, 2002; Gulewitsch, Müller, Hautzinger, & Schlarb, 2013; Jensen et al., 2010; Jensen et al., 2009; Simon & Lewis, 2000).

Population with the Highest Benefit from Hypnotherapy

According to the findings of this review, pediatric patients yield the most benefit from the use of hypnotherapy to relieve chronic pain symptoms. This is not to say that hypnotherapy was not effective in other age groups, however, pediatric patients appear to have the highest success rates in terms of pain reduction. In Anbar's study, 80% of the participants reported complete resolution of pain symptoms after undergoing hypnotherapy, despite not having been able to previously seek relief through any other form of treatment (Anbar, 2001).

In another pediatric study, the participants that experienced pain relief reported that symptoms showed a greater than 80% improvement (Gulewitsch, Müller, Hautzinger, & Schlarb, 2013). While many populations find relief through the use of hypnosis, having completely resolved pain, or even just an 80% symptom relief, is unmatched. It is not to say that pediatric patients are necessarily more likely to find pain relief through the use of hypnosis, but the pediatric patients that do find pain relief, have the most significant decreases in their pain. Furthermore, pediatric populations are quite eager to undergo hypnosis in order to find pain relief. In a study of 129 participants, 60% wanted to try a complementary and alternative medicine (CAM) approach, and hypnosis was one of the most popular options chosen (Tsao, Meldrum, Kim, Jacob, & Zeltzer, 2006). Whether the success in pain relief for pediatric patients through the use of hypnotherapy is due to an open mind, wild imagination, or any other variable, one thing

is certain. Patients under the age of 18 have the ability to find a large amount of pain relief through the use of hypnosis.

Discussion

The results of this study have potentially huge implications for the medical field. Hypnotherapy is less expensive and less invasive than traditional treatment options for chronic pain. By using hypnotherapy, people will have the possibility of experiencing fewer side effects from medication, an increase in self dependence, and an overall healthier and happier lifestyle (Ledger, 2017). Since the results of this literature review seem to suggest that hypnotherapy is a viable and effective option for patients with chronic pain, the next question is, why is it not being more widely used?

In order for hypnotherapy to become an accessible treatment option, current medicine needs to evolve. Many clinicians do not even completely understand how hypnotherapy works. In a survey of 21 health care professionals, one third of the participants did not answer survey questions about the very basics of hypnotherapy correctly. This study also notes that myths held by providers prevents the use of hypnosis being integrated into practice (Desai, Chaturvedi, & Ramachandra, 2011). This is a huge roadblock for the advancement of medical practice.

Unfortunately, it is not just one study that is showcasing the lack of knowledge health care professionals have about the potential benefits hypnosis. In an additional study, 300 health care workers were given pre- and post-tests concerning their beliefs on the topic of hypnotherapy before and after an educational workshop on the matter. After the educational session, there was a marked difference in the health care team's response to hypnosis. Before the intervention, just 77% of the participants thought that hypnosis

should have a place in mainstream medicine. After the intervention had taken place, an astounding 96% of participants believed that the treatment should be incorporated into traditional practice (Thomson, 2011). This study recognized the issue of health care professionals not being educated on the clinical practice of hypnosis, but it also provided an outlook of hope that there is a possibility for change. While it is not helpful that health care workers do not have the proper information on hypnotherapy, this study showed that professionals are willing to learn and there is a chance at modifying the views on what is considered effective current medicine.

It is imperative that hypnotherapy education for health care providers is put in place so that there are no misconceptions about the topic. With more facts available about the therapy, it will be much simpler for the use of hypnosis to be combined with current practice. Medical schools, nursing schools, and physician assistant programs must modify their education in order to incorporate the concept of hypnosis as a treatment option. If the benefit of hypnotherapy is not brought into education, it will be difficult for hypnotherapy to become a well-respected and utilized treatment. Policies must be put in place in order for this to become a feasible treatment for everyday patients. Not only must providers be educated on the topic, but insurance companies as well. This is a treatment option that can be beneficial for all populations, and it is necessary that this option is accessible to anyone who may want to seek its comfort.

While this review does point to the idea that hypnosis could change the field of medicine, there were a few limitations to the study. First off, this review was comprised of a small number of studies. With a larger number of articles to make up the sample of this review, the results would have the potential to carry more weight. The small sample

included in this study is due to the lack of current research regarding the use of hypnotherapy to treat chronic pain. As mentioned above, many providers are unaware of the potential of hypnotherapy, which makes research available on the topic scarce. Furthermore, due to the minimal research done, the saturation point of the studies done was reached quite early because the majority of the research continues to have the same main finding: hypnotherapy is effective at treating chronic pain.

Additionally, while most of the articles included in the study were randomized control trials, there were a few that were not. Finally, some of the studies included had very small sample sizes, in one study, with the sample size being as small as five. This is also likely due to public misconceptions of hypnotherapy. It is possible that many potential participants to these studies are turned off by the idea of trying an alternative form of medicine. While even with a small sample size findings can be significant, a larger sample would, again, have the opportunity to hold more weight.

Despite this literature review's limitations, the results of the study are substantial. With the current results in mind, there is now further research that can be done. First off, more research with larger sample sizes would be helpful in raising the importance of the current findings. Through the results of this review, it has been determined that not only is hypnotherapy effective at treating chronic pain, but it is more so effective than some other nonpharmacological approaches, such as massages, EMG biofeedback relaxation, and progressive muscle relaxation (Ardigo et al., 2016; Jensen et al., 2010; Jensen et al., 2009). One study even suggested that hypnosis was more effective at providing pain relief than pharmacologic approaches had been (Anbar, 2001).

The question that now needs to be answered is if hypnotherapy is capable of being used in place of pharmacologic treatments, and would it provide adequate, if not improved, pain relief? If it is possible for hypnotherapy to be supplemented for the use of medication in certain situations, the medical field may be entirely altered. As an American society, the general population tends to take a lot of medications. In fact, almost seven in every ten Americans is taking a prescription medication (Flynn, 2014). The vast use of medications in America is resulting in wasted time, money, and an influx of unpleasant side effects (Muller, 1972). The use of hypnotherapy may have the ability to save millions of dollars for both patients and hospitals, and eliminate negative side caused by medications.

This review, comprised of scientific, peer-reviewed literature published after the year 2000, attempted to answer three main questions. The review sought to determine if hypnotherapy has the potential to treat chronic pain, which types of pain find the most relief, and which age population is able to benefit the most from the use of hypnotherapy. The results found that hypnotherapy is, in fact, successful at minimizing the effects of chronic pain. While the results of this study were unable to determine which types of pain were capable of finding the most relief, it was clear to see that the pediatric population reaps the most benefit when it comes to diminishing chronic pain through the use of hypnotherapy. With these results in mind, it is important to move forward in the practice of medicine and implement these findings. Hypnotherapy has the potential to change the face of medicine, it is time that more physicians in practice give it the chance to do so.

References

- Agoston, A.M. & Sieberg, C.B. (2016). Nonpharmacologic treatment of pain. *Seminars in Pediatric Neurology*, 23(3), 220-223.
- Anbar, R.D. (2001). Self-hypnosis for the treatment of functional abdominal pain in childhood. *Clinical Pediatrics*, 40(8), 447-451. Retrieved from:
<http://journals.sagepub.com.brockport.idm.oclc.org/doi/pdf/10.1177/000992280104000804>
- Ardigo, S., Herrmann, F.R., Moret, V., Déramé, L., Giannelli, S., Gold, G., & Pautex, S. (2016). Hypnosis can reduce pain in hospitalized older patients: a randomized control study. *BMC Geriatrics*, 16 (14), 1-8. DOI: 10.1186
- Cohut, M. (2017). Hypnosis: what is it, and how does it work? Retrieved from:
<https://www.medicalnewstoday.com/articles/319251.php>
- Desai, G., Chaturvedi, S. K., & Ramachandra, S. (2011). Hypnotherapy: fact or fiction: A review in palliative care and opinions of health professionals. *Indian Journal of Palliative Care*, 17(2), 146-150. doi:10.4103/0973-1075.84537
- Elkins, G., Jensen, M. P., & Patterson, D.R. (2007). Hypnotherapy for the management of chronic pain. *The International Journal of Clinical and Experimental Hypnosis*, 55(3), 275-287. DOI: 10.1080/00207140701338621
- Flynn, D.J. (2014). Overmedicated America. Retrieved from:
https://spectator.org/58337_overmedicated-america/
- Gay, M., Philippot, P., & Luminet, O. (2002). Differential effectiveness of psychological interventions for reducing osteoarthritis pain: A comparison of Erikson hypnosis and Jacobson relaxation. *European Journal of Pain*, 6 (1), 1–16. DOI: 10.1053

- Guittier, M. J., Guillemin, F., Farinelli, E. B., Irion, O., Boulvain, M., & Martinez de Tejada, B. (2013). Hypnosis for the control of pain associated with external cephalic version: A comparative study. *The Journal of Alternative and Complementary Medicine*, *19*(10), 820-825. DOI: 10.1089
- Gulewitsch, M.D., Müller, J., Hautzinger, M., & Schlarb, A.A. (2013). Brief hypnotherapeutic-behavioral intervention for functional abdominal pain and irritable bowel syndrome in childhood: a randomized controlled trial. *European Journal of Pediatrics*, *172*, 1043- 1051. DOI: 10.1007
- Jensen M. P., Barber, J., Romano, J. M., Molton, I. R., Riachle, K. A., Osborne, T. L., Engel, J. M., Stoelb, B. L., Kraft, G. H., & Patterson, D. R. (2010). A comparison of self-hypnosis versus progressive muscle relaxation in patients with multiple sclerosis and chronic pain. *International Journal of Clinical and Experimental Hypnosis*, *57*(2). 198-221. DOI: 10.1080
- Jensen, M.P., Barber, J., Romano, J.M., Hanley, M.A., Raichle, K.A., Molton, I.R.,... Patterson, D.R. (2009). Effects of self-hypnosis training and EMG biofeedback relaxation training on chronic pain in persons with spinal-cord injury. *International Journal of Clinical and Experimental Hypnosis*, *57*(3), 239-268. DOI: 10.1080/00207140902881007
- Kohen, D.P. & Kaiser, P. (2014). Clinical hypnosis with children and adolescents- What? Why? How?: Origins, application, and efficacy. *Children*, 74-98. DOI: 10.3390
- Kohen, D. & Olness, K. (2011). *Hypnosis and Hypnotherapy with Children* (4th Ed.). New York, NY: Routledge.

Ledger, E. (2017). 'How self-hypnosis changed my life'. Retrieved from:

<https://www.independent.co.uk/happylist/how-self-hypnosis-changed-my-life-a7980306.html>

Muller, C. (1972). The overmedicated society: forces in the marketplace for medical care.

Science, 176(4034), 488-492. Retrieved from:

<http://www.jstor.org/stable/1734652>

National Institute of Health. (2015). NIH analysis shows Americans are in pain.

Retrieved from: <https://nccih.nih.gov/news/press/08112015>

NIH MedlinePlus the Magazine. (2011). Chronic pain: symptoms, diagnosis, &

treatment. Vol. 6 (1). Retrieved from:

<https://medlineplus.gov/magazine/issues/spring11/articles/spring11pg5-6.html>

Robertson, S. (2016, January 24). Types of pain. Retrieved from: [https://www.news-](https://www.news-medical.net/health/Types-of-Pain.aspx)

[medical.net/health/Types-of-Pain.aspx](https://www.news-medical.net/health/Types-of-Pain.aspx)

Simon, E. P., & Lewis, D. M. (2000). Medical hypnosis for temporomandibular

disorders: Treatment efficacy and medical utilization outcome. *Oral Surgery,*

Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology, 90(1), 54-

63. DOI: 10.1067/moe.2000.106692

Society for Clinical & Experimental Hypnosis. (2018). Treatment. Retrieved from:

<http://www.sceh.us/treatment>

Society of Psychological Hypnosis. (2014). About the Society of Psychological

Hypnosis. Retrieved from: [http://www.apadivisions.org/division-](http://www.apadivisions.org/division-30/about/index.aspx)

[30/about/index.aspx](http://www.apadivisions.org/division-30/about/index.aspx)

Thomson, L. (2011). A project to change the attitudes, beliefs and practices of health professionals concerning hypnosis. *American Journal of Clinical Hypnosis*, *46*(1), 31-44. DOI: 10.1080/00029157.2003.10403563

Tsao, J.C.I., Meldrum, M., Kim, S.C., Jacob, M.C., & Zeltzer, L.K. (2006). Treatment preferences for CAM in children with chronic pain. *Evidence-Based Complementary and Alternative Medicine* *4*(3), 367-374. DOI: 10.1093/ecam/nel084

WHO Guidelines on the Pharmacological Treatment of Persisting Pain in Children with Medical Illnesses. (2012). *World Health Organization*. Retrieved from: <https://www.ncbi.nlm.nih.gov/books/NBK138349/>