

Hypnosis for Pain Relief



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Abstract

Hypnosis is a useful non-pharmacological method for treating pain. After a short description of defining features of hypnosis and its uses as an analgesic, empirical studies about its efficacy in pain reducing will be reviewed.

Introduction

Pain is a complicated and non-uniform phenomenon. It can be complex, and it can respond to various interventions. The International Association for the Study of Pain (IASP) defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” [1]. Upon further inspection of this definition, one can notice the following points:

Pain is a subjective experience which cannot be objectively quantified. When one experiences pain, there are both sensory and emotional components. Pain can be adaptive and protective-like for example when it signals us about a damage organ, and enables us to decrease or examine the area to prevent further damage. There are also times when pain’s evolutionary and protective purpose is not present. That is the case of chronic pain, where as the pain experienced is disturbing, unnecessary, restrictive and unproductive. It is when the pain becomes suffering.

This distinction between suffering and pain can be likened to biological and psychological components within the human experience. Although these parts seem to be independent, it is widely known that one can affect the other. Pain can lead to suffering (e.g. increase depression) and suffering may increase pain.

Hypnosis for Pain Relief

Hypnosis is a therapeutic technique, which can be defined in more than one way. The Israeli Uses of Hypnosis Law defines it as an activity or process designed to change another person’s awareness and consciousness affecting changes in his or her body, feelings, emotions, thinking, memory or behavior by using suggestions [2]. Hypnosis often entails a process of deep concentration which enables a differential affect on brain modules which typically work in coordination. It can enable practitioners

to manipulate various areas of function, and it can be used to uncouple sensory experience from overall experience, as well as serve analgesic purposes. Not only that hypnosis is one of the oldest and effective methods for pain relief, but there is a plenty of scientific grounding, and discussion in regards to its successful clinical uses. A select review of the literature will ensue.

Most commonly, hypnosis for pain relief includes hypnotic induction and three groups of suggestions:

- Suggestions for relaxation and comfort;
- Suggestions for perceptual alteration and/or cognitive distraction, and;
- Suggestions for positive expectations and hope. Strategies for relief of chronic pain are also included via post-hypnotic suggestions for pain reduction to take place or continue well after the session has ended, and finally learning and practicing self-hypnosis, using hypnotic cue (an ‘anchor’) which can quickly induce a hypnotic state, or recording the hypnotic session, so it can be used later at home.

Brain Mechanisms of Hypnotic Pain Control

Hypnotic suggestions to feel pain, activates the thalamus, ACC, insula, prefrontal and parietal cortices (brain regions that are activated when experiencing ‘real’ pain). Brain activity in these regions and pain levels are higher, than when compared to being instructed to imagine pain, without hypnosis [3]. In another study, participants who were deemed to be suffering from chronic pain were hypnotized and given the suggestion to feel pain—the pain became more severe. When a suggestion was given to control the pain – pain experience (and brain activity related to it) had changed. The degree of change was found to be higher, than when compared to being instructed to imagine, without hypnotic induction [4].

After being given a PET scan, study participants who were hypnotized and given suggestions to recall happy memories were found to experience activation of occipital, parietal, precentral, prefrontal, and cingulate cortex [5]. When participants were instructed to recall happy memories in the awakened non-hypnotic state, the temporal lobes and basal forebrain were activated. Taken together, there seems to be evidence that the brain acts differently in hypnotic recalling, as compared to episodic memory in awakened state.

Furthermore, brains of highly suggestible participants screened with PET technology after they were hypnotized and given suggestions to have auditory hallucinations showed that the sight anterior cingulate cortex worked similar to that when hearing voices. This was not the case when subjects were asked to imagine a voice. Researchers concluded that during hypnosis the participant's brain behaves as if the voice perception is real [6]. When hypnotic pain control was studied, the function of somatosensory cortex (responsible to pain perception processing) did not differ when suggestion of pain intensity changed. The activity of anterior cingulate cortex, on the other hand, decreased when analgesic suggestions were given [7]. Interestingly, hypnotic induced analgesia also reduced brain responses to pain seen in others [8].

Review of Scientific Literature

Analgesia is the most common application of hypnosis. This maybe the case since there was a great need for it prior to the invention of chemical anesthesia. A meta-analysis of 18 empirical studies found an effect size 0.71 to hypnotic analgesia of clinical and experimental (laboratory) pain [9]. Hypnosis had found to be useful also in chronic pain such as reported in fibromyalgia, cancer, headaches, etc. [10]. A more recent meta-analysis, focused on chronic pain studies, indicated a clear advantage to hypnotic treatments compared to non-hypnotic (psychological and non-psychological) procedures [11]. Another recent meta-analysis demonstrates the efficacy of hypnosis in treating chronic pain in fibromyalgia [12], disability-related pain [13] and other chronic pain [14].

A Cochrane review of 7 randomized trials tested efficacy of hypnosis in treating pain during labor and childbirth and found that despite the small number of studies, the results are promising. There was some evidence of benefits of hypnosis for pain intensity, length of labor and maternal hospital stay [15]. In another review conducted in 2016, the authors found hypnosis to reduced overall use of analgesia during labor, but not epidural use [16].

A meta-analysis which focused on the efficacy of hypnosis in treating needle-related procedural pain in children showed significant support for using hypnotic techniques [17]. These results seem to support Corc Cochran crain review which had a similar focus [18]. Lastly, in a study which examined 241 patients undergoing invasive medical procedures who were randomly divided to one of 3 groups: standard care, structured attention,

or self-hypnosis. All patients had self-monitored chemical analgesia too. Hypnosis significantly decreased pain and anxiety level compared both control groups. Hypnosis group had also significant shorter procedure duration [19,20]. Testing cost-effective of using self-hypnosis training reviles a reduction of 338\$ per procedure in medical fees [21].

Discussion and Conclusion

There exists clear and convincing objective evidence of the effectiveness of hypnosis. Additionally, hypnosis, also has been found to increase he subjective feeling of agency and control over pain. Still, this type of intervention is not the most common treatment of choice. Some of the goals of this paper were to bring the readers' attention the great potential in this technique, and inspire contemplation, as well as curiosity. Another intention of this paper was to further practitioners' consideration of formal training with use of this tool, and possibly creates movement towards furthering the reader's understanding of the great potential of including hypnosis in the treatment of pain. The final goal of course being amelioration of the quality lives of patients.

Conflict of Interest

Author declares no conflicts of interest in this manuscript.

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