

**Synopsis and Appraisal of a Study Exploring Music and Hypnotic Suggestion to Manage  
Chronic Pain**

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## Synopsis and Appraisal of a Study Exploring Music and Hypnotic Suggestion to Manage Chronic Pain

The purpose of this paper is to summarize and appraise a research study that investigated the effects of music and hypnotic suggestion on patients enduring chronic pain. The Center for Disease Control and Prevention (CDC, 2016) highlighted that over 60% of drug overdose deaths involve opioids initially prescribed for pain relief. Therefore, the CDC recommends a shift toward non-opioid treatment that include many multimodal and multidisciplinary therapy options. Besides reducing the cost of drug treatment and possible addiction or death, mental stability and overall quality of life for patients in chronic pain chronic pain would be improved for patients in chronic pain if it was managed with safer options. Although further research is being conducted to fully understand the long-term effect of music and hypnosis on chronic pain, currently they are both considered a method in multidisciplinary therapy.

### Summary of the Study

There is a movement in medicine to look at more non-pharmacological treatments for chronic pain due to possible dependency and the serious side effects risk. With so much interest in the practice of mind-body interventions, there has already been evidence that shows hypnosis and music are effective separately for patients in pain, but there is no research on combining the two interventions for a better outcome. This study addresses that gap by testing the interventions together.

Johnson et al. (2017) conducted a quasi-experimental study to explore the possible combined effect of hypnotic suggestion and music to improve components of chronic pain, pain bothersomeness, anxiety, depression, and distress. Interventions and data collection took place in the homes of the participants.

**Commented [CP1]:** This answers "Why is this important to study?" It's not just testing out a new intervention...it goes beyond that to fatalities through the pharmacological methods that have led to an opioid crisis and finding solutions for chronic pain management.

The CDC and other healthcare related organizations are great sources of information on the importance of topics.

**Commented [CP2]:** What is known (we need new non-pharm methods, music and hypnosis work separately), not known (do music and hypnosis work better in combo?), and gap in knowledge (to test the combo).

This information is found in the introduction to every research article. DO NOT use the discussion/conclusions section of an article for this information! It will be WRONG

**Commented [CP3]:** Study being summarized/appraised is correctly cited.

Specific research design stated.

Setting of study stated.

The researchers acquired their samples through a nonrandom snowball sample, where participants were first referred by physicians from an integrative cancer center in Texas. Later, patients self-enrolled—a volunteer/convenience sampling method—due to difficulties with enlisting participants through referral. Twelve participants originally enrolled under the inclusion criteria of anyone over the age of 18 who was English or Spanish speaking, diagnosed with cancer or other serious illness, and rated their pain  $\geq 4$  on an 11-point numerical rating scale. Two participants were lost to follow up, with a final sample size of 10. The average age of the participants was 58.3 years, with most of the participants being white (75%), women (67%), married (58%) and an associate’s degree or higher (55%).

At the beginning of the study for baseline data, each participant completed a demographic form, the Hospital Anxiety and Depression Scale (HADS), and numeric rating scales (NRS) to assess pain, pain bothersomeness, and distress. The HADS has a score range of 0 to 42, with higher scores indicating more depression and anxiety. The NRS for the three variables required participants to rate on a scale of 0 to 10, with 0 representing “none” and 10 representing “worst possible.” Participants were then asked to rate and document their pain daily upon waking up, as well as before and after the intervention, for two weeks.

The three-part recorded audio intervention was provided to patients for self-administration. First, participants listened to a 5-minute hypnotic suggestion. Then, they listened to 15 minutes of string orchestra music (*Fantasia on a Theme of Thomas Tallis* by Ralph Vaughn Williams). Finally, they listened to a post-hypnotic suggestion to continue the pain relief attempt. Researchers called participants once per week for two weeks to discuss progress and remind participants to record their pain and do the intervention consistently. Data on the same three numeric ratings scales and HADS were submitted after the second week of the intervention. The

**Commented [CP4]:** Sampling method stated and explained.

Inclusion criteria listed.

Exclusion criteria listed.

Loss to follow up explained.

Selected demographics reported with stats.

**Commented [CP5]:** Measurement instruments defined with context to values.

When measurements were taken (in this case by the participants with timing noted).

participants were also asked to complete an NRS for Treatment Satisfaction with a range of 0 to 11, with 0 representing “not satisfied at all” and 11 representing “totally satisfied.” The researcher concluded the study with Study Completion/Dropout interviews, which was qualitative data to verify treatment fidelity.

**Commented [CP6]:** The intervention is described, with additional post-intervention measurement tools stated and described.

### Appraisal

The combined snowball and volunteer/convenience sampling method may have attracted participants that were predisposed to the effects of complementary and alternative medicine (CAM) methods, creating a potential placebo effect on the intervention. There was no exclusion criteria; however, a scale to measure the participants’ attitudes toward CAM and including it in the statistical analysis would have reduced bias considerably. The participants in the sample had multiple conditions, including musculoskeletal conditions (5), cancer (4), fibromyalgia (2), mood disorders (3) and inflammatory conditions (3). With the wide range of illnesses, it would be difficult to draw conclusions about the effect of the intervention on a particular illness or disorder. For these reasons, the sampling method was not appropriate for an experimental study, and the lack of exclusion criteria was problematic.

**Commented [CP7]:** Analysis of sampling method and inclusion/exclusion criteria. Rationales are fully developed.

An NRS has been validated for pain in two previous studies, but the authors did not mention if it has been tested for pain bothersomeness or distress. It is unknown if the scale is reliable and valid for at least two major variables in this study, bringing into question measurement error for them. The Treatment Satisfaction NRS has been tested for reliability and validity in one previous study, and the HADS demonstrated internal consistency reliability with Cronbach’s alpha scores of 0.83 and 0.84 in previous studies.

**Commented [CP8]:** Validity/reliability of measurement tools stated and analyzed.

Researchers called participants once per week to remind them to adhere to the protocol, but timing of the calls was not reported. The authors failed to report complete compliance data

for collection and the intervention, but they did report that 9 of the 11 participants listened to the audio recording multiple times a day. Due to this, treatment fidelity was compromised by introducing a “dosing” variable that was not controlled for in the analysis.

**Commented [CP9]:** Treatment fidelity explained and analyzed.

The researchers concluded that their findings supported their hypothesis that the combination of hypnotic suggestion and music help in the reduction of chronic pain in participants. Each participant reported a reduction in their pain from 6.6 to 5.4, pain bothersomeness from 7.5 to 5.4, distress from 5.9 to 4.9, anxiety from 7.2 to 6.5, and depression from 6.1 to 4.1. The conclusion in a reduction in pain is technically correct, but no statistical significance was calculated or reported in this study, so eliminating chance differences is impossible. The limitations acknowledged by the authors (small sample size and not controlling for usual care with pain medication), plus the fact that a majority of participants used the intervention multiple times a day, means that the conclusions are not fully supported.

**Commented [CP10]:** Conclusions analyzed with regard to results and lack of p values, with consideration of limitations noted by the authors.

### Conclusion

The conclusions of this study were not fully supported, but other studies cited in the article indicate that an effect is evident. Acceptability of the combined intervention was high in this study, and the limited medical-related cost and lack of complications imply that the intervention is possible to recreate and practice in many hospitals, clinics, and home settings. The practice of including hypnotic suggestion and music (possibly of the patient’s choosing and not the prescribed classical music that some participants in this study complained about) could be beneficial to a wide range of pain sufferers with no side effects. The study, if nothing else, implied that patients who are invested in the idea of non-pharmacological pain reduction would experience the benefit from the intervention. Nurses can use this study and others like it to further explore the option of hypnosis/music recordings that they can offer to chronic pain

sufferers, in hopes of lessening the chronic effects on their acute problems. Patients can self-administer, reducing the burden of nursing-driven interventions on busy bedside caregivers.

**Commented [CP11]:** Careful balancing between lack of conclusive evidence and relative safety and low-cost of intervention. Specific ideas for nursing implications end the paper.

### References

Center for Disease Control and Prevention. (n.d.). *Module 2: Treating chronic pain without opioids*. Retrieved from

<https://www.cdc.gov/drugoverdose/training/nonopioid/508c/index.html>

Johnson, A. J., Kekecs, Z., Roberts, R. L., Gavin, R., Brown, K., & Elkins, G. R. (2017).

Feasibility of music and hypnotic suggestion to manage chronic pain. *International Journal of Clinical & Experimental Hypnosis*, 65(4), 452–465.

<https://doi.org/10.1080/00207144.2017.1348858>