

ORIGINAL ARTICLE

Evaluation of the Effect of Hypnotherapy on the Headache

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ABSTRACT

Introduction: Given the high prevalence of headache that may result in lowering the quality of life and some side effects of drug treatments that may reduce the tendency of patients to medication and complete the course of treatment, and sometimes resistance of some headaches to medications, we decided to evaluate the effectiveness of hypnotherapy as a nonpharmacologic method in patients with two of the most common types of headaches (tension and migraine headaches).

Methods: In this study, totally 36 patients were studied. From each type of headaches, 18 patients were randomly selected for the study and patients of both treatment groups of tension and migraine headache were divided into three categories (6 people). The first group was only subjected to the same standard drug treatment, the second group was subjected to the same drug treatment associated with hypnotherapy and the third group underwent only hypnotherapy. Considered checklists were first completed providing a full description by the patient monitored by the researcher. Hypnotherapy was conducted in five sessions spaced two weeks. Also, in categories one and two of each group, the same standard drug treatment was continued. Then checklists were completed again by patients and obtained results were analyzed.

Findings: Before starting the treatment for the group treated with standard drugs associated with hypnotherapy, 69.2% of patients had severe headache and 30.8% had moderate headaches; however, after the end of treatment, only 7.7% had severe headache and 61.5% had a mild headache. In the drug treatment group, the proportion of patients was reduced from 58.3% of patients with severe headache and 41.7% of patients with moderate headache, to 50% moderate headache and 50% mild headache, respectively. In the hypnotherapy group, 63.6% severe headache and 36.4% moderate headache were declined to 45.5% moderate and 54.5% mild headache, respectively.

Comparing both types of headaches indicated that hypnosis had a significant effect on reducing the number of attacks and the work disability amount, that in the meantime, it had a significant decline in the group subjected to the standard drug therapy with hypnosis.

Conclusion: This study showed that hypnotherapy can be appropriately effective as drug therapy.

Keywords: tension headache, migraine headache, hypnosis

INTRODUCTION

Pain is the most common cause of consultation with a doctor and headache is the most common type of pain in

patients with chronic pain that has no specific age range and can affect children to adults. A classification system that has been explained by the International Headache Society, classifies headaches into two Primary and Secondary groups: Primary headaches have symptoms of head pain and is a disorder alone. While secondary headaches are caused by a disorder such as trauma, infection, etc. that treatment removes the underlying cause (Harrison, 2008).

The most common types of primary headaches include migraine and tension-type headaches. A migraine

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headache is presented as unilateral and pulsating headache and usually is associated with nausea, vomiting, photophobia (sensitivity to light), phonophobia (sensitivity to sound) or fatigue. Tension headache usually is chronic disorder that is characterized by infrequent attacks (on average less than one day a month), bilateral and non-pulsating headache located in the back of the head, often not associated with nausea, vomiting and initial impaired vision, and its duration varies from a few hours to a few days. Sometimes, pain is described as a band wrapped around the head firmly. But many patients suffer headaches with characteristics of both types. That is why it is better to consider migraine and tension headaches in opposite ends of a spectrum (Harrison, 2008). There are various treatments for headaches, including standard drug treatments for migraine and tension-type headache including normal anti-inflammatory drugs such as aspirin and nonsteroidal anti-inflammatory drug (NSAID), 5-tryptamine receptor agonists (5-HT), ergot derivatives such as dihydroxy-ergotamine (DHE), beta-receptor blocking drugs, anticonvulsants and calcium ion channel inhibitors (Hansen & Olesen, 2017; Lake III, Buse, Penzien, & Andrasik, 2017).

Acupuncture, relaxation, neurofeedback, yoga and hypnosis are non-drug treatment methods used to treat headaches which can provide good effect as simple and uncomplicated adjuvant therapies. Hypnosis once thought to be nothing more than "false induced ideas", is really a powerful tool to guide visualization, imagination and concentration, while minimizing the awareness of the environment. Hundreds of years ago, it was found that hypnosis is effective in helping patients in pain and distress, and it has still been used as an effective tool in managing stress during medical procedures and after accidents, chronic pain, habitual issues, signs of segregation, and psychosomatic conditions. Hypnosis is a scientific phenomenon and any scientific phenomenon is constantly changing and science progression also depends on these changes and more and faster developments and changes is an indicator of faster progress in that science (Deeley, 2017).

According to Sandor and his colleague there are limited numbers of studies investigating the

nonpharmacologic therapy of migraine, including hypnotherapy. They also pointed out that the administration of hypnotherapy is based on the preference of the patients and the respective physicians. (Sandor & Afra, 2005)

During recent years, this method has been increasingly used in different societies at different rates as an appropriate adjuvant treatment for pain, especially headache. However, few studies have been conducted on the effect of hypnosis on headaches in Iran that can suggest the effectiveness of this approach to some extent and hypnosis is not used as a common practice with high efficacy and low side effects in Iran, yet. "Given the high prevalence of headache that subsequently creates problems such as reduced quality of life, sense of dissatisfaction, loss and impaired mental health aspects of well-being"(Sajadinejad, Mohammadi, & AshjaZadeh, 2007; Ter Kuile et al., 1994), and also due to some side effects of drug treatments for headache which sometimes reduces the tendency of patients to drug consumption and completing the treatment period, and sometimes headache resistance to the drugs and the lack of a comprehensive study on non-pharmacological methods (particularly hypnosis) for the treatment of headaches in this region, we decided to conduct this study in the Rafsanjan city in Iran, to evaluate the effectiveness of this technique in patients with tension-type and migraine-type headaches in this particular population sample and introduce this method as an adjuvant therapy to patients and physicians if we achieve positive results.

MATERIAL AND METHODS

This study was a randomized clinical trial. Patients referred to neurology clinic of Ali-Ebn-Abi Talib Hospital of Rafsanjan in Iran because of a headache, were divided into tension and migraine headache groups according to their history and physical examination conducted by a neurologist. According to the results of conducted studies and considering the type I and type II errors 5% and 10%, respectively, and formulas to estimate the sample size to detect the difference in the two groups and also considering the variance of the trait of interest (overall

score of headache) in two groups to society and headache mean scores in interested groups, overall score of aspects of headache without intervention was the average of 35 and variance equal to 12 and overall score of aspects of headache with intervention was the average of 14 and variance equal to 12. Hence, six people per group were required in each main group (migraine and tension) and the total number of 18 people was required and the study was carried out on 36 people. Eighteen patients (11 females and 7 males, the age range of 20 to 45 years) were randomly selected for the study from both types of headaches and selected patients of both groups were divided into three similar groups of tension and migraine headache. The first group underwent only the same standard drug treatment; the second group was subjected to the same drug therapy associated with hypnotherapy; the third group (patients who do not intend to receive drug treatment) received only hypnotherapy.

At baseline, the pre-test stage, the researcher-provided checklist (for evaluating the demographic features and also the period and the number of attacks), McGill questionnaire 1 (to determine the overall headache score between 0-76 according to the aspects of emotional and sensory perception, and diversified dimension assessment), VAS scale (to check the intensity of mild (0 and 1), moderate (2 and 3), and severe (4, 5) with respect to the patient's choice), examination questionnaire of disability caused by headache (to show mental and functional aspects of disability from 0-88 score based on responses every patient provided to 22 questions, so that if the option "Yes" was selected it got score 4, if the option "sometimes" was chosen a score of 2 was achieved and if the option "No" was chosen, the score was 0 and then scores were added together.), evaluating

the personality features (using short MMPI questions) and a questionnaire of determining hypnotizability scale (brief Stanford hypnotizability scale), were completed by patients with a full description and with close monitoring by the researcher. 5 hypnotherapy sessions and each session averaging 30 minutes was performed with biweekly intervals. Also, self-hypnosis was taught to the patients in these sessions to practice at home between sessions. Of course, in categories one and two of each group, the same standard drug treatment was also continued.

In the post-test stage, at the end of three months after starting the treatment, checklists and questionnaires were completed by patients and then the results obtained in pre-test and post-test stages were evaluated by the investigator. Groups were compared by SPSS 19 software, using descriptive statistics (mean and standard deviation) and analytical statistics (t-test and ANOVA). Since there were three subgroups in each group, and overall headache score should have been compared with each other, ANOVA and T-test were used to compare two groups.

RESULTS

In this study, 36 patients, 18 with tension headache and 18 with migraine headache, were examined.

The frequency distribution of the intensity of headaches in patients before and after treatment is visible in the above table. Before treatment, in hypnotherapy and the standard drug therapy groups, 69.2% of patients had severe headaches and 30.8% had moderate headaches; however, after treatment, only 7.7% have had severe headaches and 61.5% have mild headaches.

Table 1. Relative and absolute frequency distribution of severity of headache (tension and migraine) before and after treatment in the groups studied

Hypnosis (%)	Drug (%)	Hypnosis+ drug (%)	Groups	Time& severity
45.5	50	61.5	Mild	After treatment
54.5	50	30.8	Moderate	
-	-	7.7	Severe	
-	-	-	Mild	Before treatment
36.4	41.7	30.8	Moderate	
63.3	58.3	69.2	Severe	

In the standard drug therapy group, 58.3% of patients had severe headaches and others had moderate headaches before treatment, which had fallen to 50% of mild headaches after treatment.

In the group treated with hypnosis, 36.6% of severe headaches and 36.4% of moderate headaches were decreased to 45.5% moderate headache and 54.5% mild headache, respectively.

The number of attacks in the treatment groups regardless of headache type (tension and migraine) before the treatment did not have significant differences.

Comparison of the results before and after treatment showed that there is a statistically significant difference in the treatment group received standard medication and hypnosis. Although the average attack numbers had been

reduced markedly in the group treated either with drugs or hypnosis alone, this difference was not statistically significant.

This table shows a statistically significant reduction in headache attack durations before and after the treatment period in the three groups ($P = 0.001$). Also, the difference between the average duration of attacks, after studying three groups is not statistically significant ($P = 0.3$).

McGill scores before and after treatment did not have statistically significant reduction in any of the three treatment groups ($P = 0.001$).

The difference of McGill scores after the treatment in the three groups were not significant ($P = 0.2$).

There was decreased disability assessment score in all three groups and the difference before and after treatment in all groups was statistically significant ($P = 0.001$).

Table 2. Mean and standard deviation of the number of headache attacks in a month before and after treatment in the groups studied

After treatment Mean±SD	Before treatment Mean±SD	Number	Treatment type (Group)
53.3±18.2	69.11±7.6	12	Hypnosis+ drug
75.4±3.2	08.12±8.2	12	Drug
4±6.1	9.8±8.1	12	Hypnosis

Table 3. Mean and standard deviation of headache attack durations in a month before and after treatment in the groups studied

After treatment Mean±SD	Before treatment Mean±SD	Number	Treatment type (Group)
66.11±84.26	81.8±46.138	12	Hypnosis+ drug
15.26±08.37	4.49±33.133	12	Drug
45.14±9.30	46.12±00.100	12	Hypnosis

Table 4. Mean and standard deviation of McGill scores before and after treatment in the treatment groups

After treatment Mean±SD	Before treatment Mean±SD	Number	Treatment type (Group)
15.22±58.15	38.53±5.13	12	Hypnosis+ drug
5.29±9.5	75.57±09.8	12	Drug
54.25±1.5	72.60±56.5	12	Hypnosis

Table 5. Mean and SD of disability score measured before and after treatment in the group of patients studied

After treatment Mean±SD	Before treatment Mean±SD	Number	Treatment type (Group)
38.15±71.7	53.51±99.14	12	Hypnosis+ drug
33.26±15.10	16.60±2.9	12	Drug
8.21±2.12	09.53±24.15	12	Hypnosis

In addition, the difference of reduction in disability score (before and after treatment) in the drug associated with hypnosis treatment group compared to the drug-only treated or hypnosis-only treated groups was more and this difference between groups was statistically significant ($P = 0.03$).

DISCUSSION

In the present study, the reduction of the headache pain (i.e., from severe to mild) was reported in the majority of the patients with tension headaches who received hypnotherapy. In this regard, our findings are in line with those of the previous studies (Ezra, Gotkine, Goldman, Adahan, & Ben-Hur, 2012; Mannix, Chandurkar, Rybicki, Tusek, & Solomon, 1999; Melis, Roomans, Spierings, & Hoogduin, 1991; Spanos et al., 1993; Ter Kuile et al., 1994), indicating the positive mutual impacts of hypnotherapy and medication.

In addition, the groups treated with the standard pharmaceutical treatment showed reduced severe headaches and increased mild-medium headaches. This finding is consistent with the results reported by Ezra et al. (2012). Similarly, decreased severity of headaches was observed in the group managed with hypnotherapy, which is consistent with the results obtained by Kohen et al. (2011). In general, the highest amount of headache reduction in the patients with tension headaches was observed in the group treated with hypnotherapy. On the other hand, the least amount of change in the headache severity was observed in the group, who received the pharmacologic treatment.

In the patients with migraine headaches, the pharmaceutical treatment with hypnotherapy, pharmaceutical treatment without hypnotherapy, and hypnotherapy without pharmaceutical treatment groups were observed to have 80%, 60%, and 52% reduction in the mean number of migraine attacks, respectively. These findings are in line with the literature (Anderson, Basker, & Dalton, 1975; Ardore, Pinessi, & Savi, 2015; Spanos et al., 1993). Similar to a study conducted by Hammond it was demonstrated that hypnotherapy not only has significant impacts on migraine headaches, but

also is recognized as a simple, short, and cost-effective treatment technique (Hammond, 2007). Moreover, this method is not associated with any harmful side effects or complications.

The comparison of the obtained results of the present study with those of the literature demonstrated that both forms of headache (i.e., tension and migraine) were significantly reduced in all three treatment groups in terms of the severity of attacks, number of attacks in month, inability to work score, and McGill score. This indicates that hypnotherapy can be as effective as the pharmaceutical treatment techniques in the improvement of the headaches and patients' quality of life. In addition, the simultaneous use of hypnotherapy and pharmaceutical treatments can be replaced with the increase of medication dose. Moreover, hypnotherapy has long-term positive impacts against the side effects, compared to the independent use of pharmaceutical treatments.

However, the lack of consistency between the results of various studies might be due to the differences in sample population in terms of socio-cultural aspects and lifestyle (especially sleep pattern), sample size, as well as follow-up duration.

CONCLUSION

Investigating the results of this study and comparing with results of other studies it was concluded that, in both tension and migraine headaches, in all three treatment groups, significant reduction in the severity of attacks, the number of attacks per month, scores of inability to work and McGill had achieved. This shows that hypnosis can be effective in relieving headaches and improving the quality of life of the patient as much as the drug treatment, and it can be used associated with drug treatment as an effective adjunctive therapy rather than increasing the dose of the medications, and even can have greater positive impacts in the long term, especially against the adverse effects compared with drug alone. Of course, what may lead to differences in the results of various studies could be due to sample differences in terms of socio-cultural level, the pattern of life (especially sleep patterns), number of subjects, duration of follow-up and etc.

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