RESEARCH ARTICLE

HYPNOTHERAPY, COADJUVANT TREATMENT IN THE MANAGEMENT OF PAIN

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ABSTRACT

Background: Pain is an unpleasant sensory and emotional experience, which leads us to look for intervention strategies to control it and thus achieve greater well-being with the minimum of adverse effects. O**bjective:** to determine the effectiveness of hypnotherapy as a coadjuvant treatment in the management of pain in post-operated patients of knee arthroscopy at the Naval Hospital of Specialties of Veracruz. **Material and Method:** Experimental, longitudinal, exploratory and descriptive study performed in post-operated patients of knee arthroscopy during the period from October 1, 2017 to February 28, 2018. The intensity of post-surgical pain was analyzed and compared using the evaluation scale of the pain (analog visual scale, EVA) in group A (hypnotherapy and analgesics) and control group B (only analgesics). **Results:** the overall score obtained during the intragroup analgesic comparison obtained an initial mean measurement of 6.6 pain points (EVA) in group "A", with a maximum score of 8.0 and a minimum score of 5.0, while in group "B" an average initial value of 6.4 was obtained, with a maximum score of 8.0 and a minimum score of 5.0. We obtained an average of 3.1, SD ± 1.0 against a mean of 4.2 SD ± 0.6 of group "B" with a statistically significant value (p <0.01). **Conclusion:** it is necessary to carry out research with a larger sample, for the establishment of the efficacy of hypnosis since it has no side effects, nor risks of adverse reactions, reducing the expense in medication associated with conventional medical treatments.

INTRODUCTION

Meniscal injury is one of the most frequent types of knee injury; an incidence of 60-70 cases per 100,000 inhabitants has been calculated. It occurs four times more in men than in women, takes place between 20 and 31 years of age, and is the indication of higher level of frequency of knee arthroscopy at present (Figueroa *et al.,* 2011). In those cases where there is a meniscal lesion with joint block that is not reduced by maneuvers, performing an arthroscopy for diagnostic-therapeutic purposes is done urgently (Diagnosis and treatment of meniscus injuries in the adult's knee, 2010). Knee arthroscopy is one of the surgical techniques most commonly used in orthopedic surgery. The biggest advantage of this procedure is the beneficial reduction in time to return to work and usual activities. The International Association for the Study of Pain (IASP) has proposed the following operational definition: pain is "An unpleasant sensory and emotional experience that results from actual or imminent tissue damage, or can be described correctly. in terms of such damage" (Ayde, 2017). Postoperative pain is a special type of acute pain that usually appears in response to identifiable aggression with stimulation of the nociceptive system and has a limited evolution over time (Bader *et al.,* 2009). The American Psychological Association (APA) defines hypnosis as "a set of procedures that through suggestions achieve changes in

subjective experience (alterations in perception, sensation, emotion, thought or behavior)" (Moix and Married, 2011). Historically, hypnosis has been used as an anesthetic procedure in surgical operations since the first decades of the 19th century. Currently, there is an increase in interest in hypnosis as an effective therapeutic procedure that can lead to considerable medical cost savings (Lang *et al.,* 2000) and the use of hypnosis as a research tool favors a greater knowledge of the neurophysiological basis of pain (Rainville *et al.,* 1997; Rainville *et al.,* 1999). There are many pathologies or disorders in which hypnosis has shown its efficacy: anxiety, depression, nausea, submission to stressful medical procedures, dysmenorrhea, chronic pain, burns, among others (Jay *et al.,* 2000; Peebles, 2000). One of the areas of application of hypnosis that shows greater empirical evidence of its efficacy is pain management, either chronic or acute (Lynn *et al.,* 2002; Montgomery *et al.,* 2000). It is important to note that hypnosis in the treatment of these disorders is not usually used as an isolated technique but within a broader therapy. Therefore, this research aims to determine the effectiveness of hypnotherapy as a coadjuvant treatment in the management of pain in hospitalized patients at the Naval Hospital of Specialties of Veracruz.

MATERIALS AND METHODS

Experimental, longitudinal, exploratory and descriptive study carried out to determine the effectiveness of hypnotherapy as a coadjutant treatment in the management of pain of post-operated patients of knee arthroscopy of the Naval Hospital of

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Veracruz Specialties during the period of October 1, 2017 at February 28, 2018. Patients of both sexes aged 18 to 65 years who agreed to participate (informed consent) were included. Those who studied with metabolic, neurological and / or psychiatric pathologies were excluded. Those who did not respond to the evaluation formats and those who did not wish to continue participating were eliminated. The sample size was made by temporality with a convenience sampling, during the established period. The distribution of groups A (with intervention) and B (without intervention) was carried out according to a randomization for treatment allocation made previously through the Epidat 3.1 software. The work was accepted by the ethics committee of the Naval Hospital of Specialties of Veracruz. The data collection began applying an identification card, the pain intensity assessment was performed by a collaborator trained by the researcher, who was under the blinding of the group to which they belonged, the hypnosis intervention was performed on group A, and a second session the next day, in both groups the pain intensity was evaluated 24 hours after the first evaluation. Data recorded in the formats pre-established by the author, which was subsequently downloaded into a database in Excel 2016. Measures of central tendency and dispersion, percentages and frequency for all the variables were determined. Student's t test was used to compare means.

RESULTS

During this investigation, two groups were obtained, each of 11 patients, who underwent knee arthroscopy during the established period. The following data were obtained: group "A" consisted of 5 (45.5%) male and 6 (54.5%) female. Group "B" was formed by 3 men (27.3%) and 8 women (72.7%); Table 1 shows the comparison between the characteristics of the study population, which show no significant statistical difference.

The overall score obtained during the intragroup analgesic comparison obtained an initial mean measurement of 6.6 pain points (EVA) in group "A", with a maximum score of 8.0 and a minimum score of 5.0, while in group "B" an average initial value of 6.4 was obtained, with a maximum score of 8.0 and a minimum score of 5.0. Both groups were treated with 3 analgesics during their inpatient stay, however the final measurement of pain level in the group with hypnosis (group "A") obtained a mean of 3.1, SD ± 1.0 against a mean of 4.2 SD ± 0.6. of group "B" with a statistically significant value (p <0.01) as shown in Table 2. Based on the intensity of pain referred, patients were classified into those who reduced less than 3 points of postoperative pain on the EVA scale with respect to their baseline score and those who reduced 3 or more points to evaluate the effectiveness of hypnotherapy. As a coadjuvant treatment in pain management of post-operated knee arthroscopy patients, obtaining a difference with a tendency to be statistically significant in favor of the application of hypnotherapy as a coadjutant treatment, with a relative risk of 0.17 and a number necessary to treat of 2. Table 3 describes in detail the results of this analysis.

DISCUSSION

The present study was conducted with the aim of documenting the effectiveness of hypnotherapy as a coadjutant treatment in the management of pain in post-operated patients of knee arthroscopy at the Naval Hospital of Specialties of Veracruz. In our investigation, we started by comparing two groups with similar characteristics, group A being the one that received hypnotherapy, and group B the control group that did not receive intervention, both groups studied after the surgical intervention (knee arthroplasty); where a different tendency was observed in the decrease of pain (group A, initial mean 6.6 and final average 3.1) with respect to the control group (group B, mean initial 6.3 and final mean 4.2).

Table 1.Comparison of the characteristics of the study population

		Hipnosis				Value of p
		Yes		Dotnou		
Sex	Male	5	45.5%	3	27.3%	0.3
	Female	6	54.5%	8	72.7%	
Scholarship	Can read and write	0	0.0%	2	18.2%	0.2
	primary	2	18.2%	0	0.0%	
	high school	1	9.1%	2	18.2%	
	baccalaureate	4	36.4%	4	36.4%	
	technical career	2	18.2%	3	27.3%	
	bachelor's degree	2	18.2%	0	0.0%	
Occupation	active military	6	54.5%	6	54.5%	1.0
	retired military	1	9.1%	1	9.1%	
	Housewife	2	18.2%	2	18.2%	
	another occupation	2	18.2%	2	18.2%	

Source: Realized by the author. Comparison by means of Tests Chi2

Table 2. Intergroup comparison of analgesia according to the use of hypnosis

	Hipnosis	Average	Maximum	Mínimum	Standard deviation	Value of p
EVA before	Yes	6.6	8	5	1.0	0.52
	Dotnou	6.3	8	5	0.9	
EVA after	Yes	3.1	5	2	1.0	0.01
	Dotnou	4.2	5	3	0.6	

Source: Realized by the author. Student's T test.

Table 3. Calculation of the effectiveness of coadjuvant treatment in the management of patients' pain post-operated knee arthroscopy

	Decreases less than 3 pain points	Decrease 3 pain points or more	RR	IC	RRR (%)	ARR	NNT	Value of p
With hypnosis	1 (14.2%)	10 (66.5%)	0.17	0.02 – 1.17	83	45.5	2	0.06
Without hypnosis	6 (85.71%)	5 (33.3%)						

Statistical test: Fisher's exact test.

These results agree with those described by montgomery and cols (2000) (Montgomery *et al.,* 2000) and Jensen and patterson (2006) determining that hypnosis can reduce the pain level that was initially moderate to high up to 75%. We found in the literature studies that demonstrate the effectiveness of hypnotherapy, but none of them performed in our specific population of beneficiaries. The results recorded in the literature and those obtained to date are significant enough, and leads us to conclude that it is necessary to carry out more research with a larger sample, for establishing the effectiveness of hypnosis in those areas where indications are promising, with the added advantage that, in addition, it has no side effects, nor risks of adverse reactions, decreasing the expense in medication associated with conventional medical treatments. The author had no conflict and interests with this investigation and did not receive funding from any institution.

REFERENCES

Ayde M. 2017. Defending the IASP Definition of Pain. The Monist, 100 (4): 439-64.

Bader P, Echtle D, Fonteyne V, Livadas K, De Meerleer G, PaezBorda A, et al. Clinical guide on the treatment of pain. European Association of Urology, 2009

Diagnosis and treatment of meniscus injuries in the adult's knee. Mexico: Institute Secretary of Health, 2010.

Figueroa PD, Vaisman BA, Calvo RR, Mococain MP, Delgado BI. 2011. Clinical - imagenological -artroscopic correlation in the diagnosis of meniscal lesions. *Acta Ortopédica Mexicana,* 25 (2): 99-102.

Jay S, Kirsch I, Barabasz A, et al. 2000. Hypnosis as an empirically supported clinical intervention: a state of the evidence and a look to the future. *The International J Clin Exp Hypn.,* 48: 239-59.

Jensen M, Patterson DR. 2006. Tratamiento hipnótico del dolor crónico. *Journal of Behavioral Medicine,* 29; 95-124.

Lang EV, Benotsch EG, Fick LJ, Lutgendorf S, Berbaum ML. 2000. Adjunctive non-pharmacological analgesia for invasive medical procedures: a randomized trial. Lancet, 355: 1486-1490.

Lynn SJ, Shindler K. 2002. El papel del tratamiento de evaluación de la hipnotizabilidad. *Soy J Clin Hypn.,* 44: 185-197.

Moix, J., Married MI. 2011. Psychological Therapies for the Treatment of Chronic Pain. Clinic and Health Vol. 22, n. ° 1, Págs. 41-50

Montgomery GH, DuHamel KN, Redd WH. 2000. Un metaanálisis de la analgesia inducida hipnóticamente: cuán eficaz es la hipnosis. *Int J Clin Exp Hypn.,* 48: 138-153.

Peebles MJ. 2000. The use of hypnosis in emergency medicine. *Emerg Med Clin North Amer.,* 18: 327-38.

Rainville P, Carrier B, Hofbauer RK, Bushnell C, Duncan GH. 1999. Dissociation of sensory and affective dimensions of pain using hypnotic modulation. Pain, 82: 159-71.

Rainville P, Duncan GH, Price DD, Carrierc B, Bushnell C. 1997. Pain affect encoded in previous human cingulated but not somatosensory cortex. *Science,* 277: 968

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