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ORIGINAL

Impact of Biodecoding on disability associated with migraine

Impacto de la Biodescodificación en la discapacidad asociada a la migraña

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ABSTRACT

Introduction: migraine is a common neurological disease. 53 % of patients have severe disability. Biodecoding is a holistic method that allows us to know through symptoms what the emotional origin of an illness may be.
Method: experimental research was designed, pretest-postest and with a control group. 40 patients were included in the study, 20 who received treatment only with gabapentin (control group) and 20 who were additionally treated with biodecoding (study group). The response was evaluated one month and three months after the intervention. Descriptive statistics and inferences were used to analyze the data.
Results: before the intervention, 75 % of the patients in both groups had a very severe headache impact. One month after treatment, 70 % of the patients in the study group had 15 % in the control group had little or no impact. By the third month, 95 % of the patients in the study group and 65 % of the patients in the control group had little or no impact of the headache. Before treatment, 100 % of the patients presented severe disability, after three months this disability had a statistically significant improvement.
Conclusions: biodecoding reduces the severe impact of headache and reduces migraine disability.

Keywords: Impact of Headache; Migraine Disability; Biodecoding.

RESUMEN

Introducción: La migraña es una enfermedad neurológica frecuente. El 53 % de los pacientes presenta discapacidad severa. La Biodescodificación es un método holístico que permite conocer a través de los síntomas cuál puede ser el origen emocional de una enfermedad.
Método: se realizó una investigación experimental preprueba-posprueba y con grupo control. Se incluyeron 40 pacientes en el estudio, 20 que recibieron tratamiento con gabapentina (grupo control) y 20 que adicionalmente fueron tratados con Biodescodificación (grupo estudio). Se evaluó la respuesta al mes y a los tres meses de la intervención. Se empleó la estadística descriptiva e inferencial para el análisis de los datos.
Resultados: antes de la intervención, el 75 % de las pacientes en ambos grupos presentaron un impacto muy severo de la cefalea. Al mes del tratamiento el 70 % de las pacientes en el grupo estudio tenían cierto impacto y el 15 % en el grupo control poco o ningún impacto. Al tercer mes, el 95 % de las pacientes del grupo estudio y el 65 % de las pacientes en el grupo control presentaron poco o ningún impacto de la cefalea. Antes del tratamiento el 100 % de las pacientes presentaron discapacidad severa, a los tres meses esta discapacidad tuvo una mejoría estadísticamente significativa.
Conclusiones: la Biodescodificación reduce el impacto severo de la cefalea y disminuye la discapacidad por migraña.

Palabras clave: Impacto de la Cefalea; Discapacidad por Migraña; Biodescodificación.

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INTRODUCTION

Migraine is one of the most common neurological diseases. The WHO states that it is the eighth most disabling disease in humanity in days of capacity per year lived. Globally, migraine is responsible for 1,3 % of total years of life lost due to disability. Only 8 % of sufferers have full functional capacity, 39 % have partial or mild limitations that do not interfere with their activities, and the remaining 53 % have severe disabilities. The economic impact of migraine is the second highest of all neurological diseases.[1,2]

Migraine negatively affects quality of life and labor productivity. The Migraine Disability Assessment Scale (MIDAS) measures the impact of headaches in the workplace and the home and social environment. The genesis of the disability is complex and is deeply related to physiopathology. If the patient does not have effective therapies, a positive feedback mechanism is created that determines that the greater the disability, the more the frequency of the crises and the intensity of the pain increase.[2,3]

On the other hand, Biodecoding is an integrative and holistic method that allows us to know, through the symptoms, what the emotional origin of an illness may be, which contributes to a deep understanding of them and the relationship of these emotional conflicts with the physical changes in the organism.[4]

The changes resulting from the application of decoding are due to the activation of one of the properties of the brain: neuroplasticity, which causes neuronal groups to be activated and favors the recovery of previously distorted or blocked functions.[5]

The use of a non-pharmacological method as a preventive treatment for migraine helps to avoid the adverse reactions caused by drugs.[2]

METHOD

An experimental study was carried out, with a pre-test, post-test, and control group, at the "Dr. Miguel Enríquez" Clinical Surgical Hospital from November 1, 2023, to April 30, 2024Study universe: Includes all patients with migraine treated in the Neurology clinics of the Hospital Clínico Quirúrgico "Dr. Miguel Enríquez" during the study period.

Inclusion criteria:

Patients with a diagnosis of migraine defined according to the International Headache Society's criteria, female patients who had not received preventive treatment during the previous 12 months.

Sample:

The sample comprised 40 female patients who met the inclusion criteria. Non-probabilistic sampling was conducted for convenience, considering this pathology under study is more frequent in females.

The sample was divided into two groups: a control group that used preventive treatment with 600 mg of Gabapentin and a study group that used preventive treatment with 600 mg of Gabapentin plus Biodecoding. The response was evaluated after one month and after three months.

Clinical variables were measured:

Personal medical history, family history of migraine, and clinical classification. Dependent variables were headache impact and disability due to migraine. Independent variables were preventive treatment through Biodescodification.

Headache Impact Test (HIT-6):

This scale was used to determine the impact of the headache. The internal consistency is adequate (Cronbach's $\alpha = 0,89$), and the test-retest reliability (ICC) is between 0,78 and 0,90.[6]

Migraine Disability Assessment Scale (MIDAS) is used to determine disability due to migraines. Its internal consistency ranges from 0,73 to 0,76.[7]

The qualitative variables were summarized in absolute frequencies and percentages. The chi-square test (X2) was applied to test the possible association between qualitative variables. The Wilcoxon test was used to compare the related variables before and after treatment in each group. A significance level of $\alpha = 0,05$ was present in all hypothesis tests with a 95 % confidence interval.

Ethical Aspects

This research was approved by the Ethics Committee and the Scientific Council of the Hospital Clínico Quirúrgico "Dr. Miguel Enríquez." The Helsinki Principles of the World Medical Association (B) carried out the study. The confidentiality of the individuals was guaranteed at all times, and the data was handled using assigned numbers. The patients included in the study signed an informed consent form beforehand, a document that adequately and clearly explains the research's reasons, benefits, and risks.

RESULTS

Regarding personal medical history, high blood pressure had a relative frequency in the study group of 15 % and the control group of 25 %. No statistically significant differences were found between the two groups ($X2(1) = 0,625$, $p = 0,429$). Regarding the family history of migraine, it was observed that in both groups, it was more common not to show a history of this disease (study group: 65 %, control group: 60 %) ($X2(1) = 0,960$, $p = 0,327$). About the clinical classification of migraine, a predominance of episodic migraine without aura was evident in both groups, with 85 % in the study group and 65 % in the control group ($X2(1) = 2,13$, $p = 0,144$) (table 1)

Table 1. Distribution of patients according to clinical variables.

Clinical variables	Study Group (n = 20)	Control Group (n = 20)	*p* value
Personal medical history	No (%)	No (%)	
Arterial hypertension	3 (15,0 %)	5 (25,0 %)	1,000
Epilepsy	2 (10,0 %)	2 (10,0 %)	0,633
Family history of migraine	No (%)	No (%)	0,327
Yes	7(35,0 %)	8 (40,0 %)	
No	13 (65,0 %)	12 (60,0 %)	
Clinical classification	No (%)	No (%)	*p* value
Episodic with aura	2 (10,0 %)	4 (20,0 %)	0,376
Episodic without aura	17 (85,0 %)	13 (65,0 %)	0,144
Chronic without aura	1 (5,0 %)	3 (15,0 %)	0,292

About the headache impact variable, before the intervention, 75 % of the patients in both groups presented a very severe impact of the headache, with an average on the HIT-6 scale of 62,5 points (SD = 4,70) and 62,5 points (SD = 4,20) in the control group. However, one month after the intervention, a more significant reduction in this impact was observed in the study group. Seventy percent of the patients in this treatment group had some effect, and 15 % had little or no impact, with an average on the HIT-6 scale of 52 points (SD = 3,60). This difference was statistically significant concerning the baseline level (W = 190, p < 0,001). In the control group, 45 % of the patients in the control group continued to suffer from very severe headaches. Only 15 % (3 patients) suffered to some degree, with an average on the HIT-6 scale of 59 points (SD = 2,41), where a statistically significant difference was also reported concerning the baseline level (W = 208, p < 0,001) (table 2).

By the third month of treatment, 95 % of the patients in the study group had little or no impact from the headache. With an average on the HIT-6 scale of 36,9 points (SD = 3,13), where a statistically significant difference was again reported concerning the baseline level (W = 210, p < 0,001). In the control group, 65 % of the patients maintained some impact of the headache, and 25 % presented little or no effect, with an average of the HIT-6 scale of 51,3 points (SD = 4,80), where a statistically significant difference was reached when compared to the baseline state (W = 210, p < 0,001) (table 2).

Table 2. Distribution of patients according to the impact of the headache.

Impact of headache	Study Group (n = 20)			Study Group (n = 20)		
	Basal No (%)	1 month No (%)	3 months No (%)	Basal No (%)	1 month No (%)	3 months No (%)
Little imact	0 (0,00)	3 (15,0)	19 (95,0)	0 (0,00)	0 (0,00)	5 (25,0)
Some impact	0 (0,00)	14 (70,0)	1 (5,00)	0 (0,00)	3 (15,0)	13 (65,0)
Significative imapact	5 (25,0)	2(10,0)	0 (0,00)	5 (25,0)	8 (40,0)	1 (5,00)
Very severe impact	15 (75,0)	1 (5,00)	0 (0,00)	15 (75,0)	9 (45,0)	1 (5,00)
Mean	62,5	52,4	36,9	62,5	58,6	51,3
DE	DE = 4,70	DE = 3,60	DE = 3,13	DE = 4,20	DE = 2,41	DE = 4,80

Regarding disability, it was found before the intervention that the majority of the patients presented severe disability (study group: 95 %; control group: 100 %) with an average on the MIDAS scale of 23,15 points (SD = 2,11) for the study group and 23,2 points (SD = 1,74) for the control group. Three months after the intervention, in the study group, it was found that 95 % of the patients had no or minimal disability, with an average on the MIDAS scale of 2,45 points (SD = 2,19) (figure 1), where a statistically significant difference was reported concerning the baseline level (W = 210, p < 0,001). On the other hand, in the control group, 55 % of the patients presented moderate disability. Only 15 % presented minimal or no disability, with an average MIDAS of 13,3 points (SD = 6,26) (figure 2), which was also statistically significant concerning the baseline level (W = 210, p < 0,001). When comparing the two groups, a statistically significant decrease in disability was observed in both, with a more substantial reduction in disability in the study group (table 3)

Table 3. Distribution of patients according to disability.

Disability due to migraine	Study Group (n = 20)		Study Group (n = 20)	
	Basal No (%)	3 months No (%)	Basal No (%)	3 months No (%)
No or minimal disability	0 (0,00)	19 (95,0)	0 (0,00)	3 (15,0)
Mild disability	0 (0,00)	1 (5,00)	0 (0,00)	3 (15,0)
Moderate disability	1 (5,00)	0 (0,00)	0 (0,00)	11 (55,0)
Severe disability	19 (95,0)	0 (0,00)	20 (100)	3 (15,0)
Mean	23,15	2,45	23,2	13,3
SD	DE = 2,11	DE = 2,19	DE = 1,74	DE = 6,26

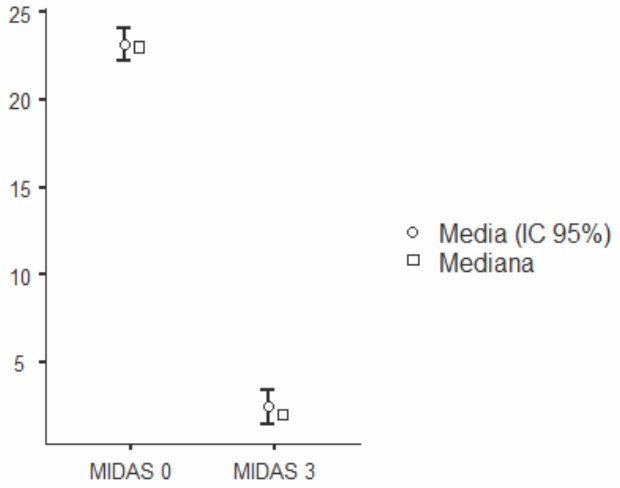

Figure 1. Migraine disability before and 3 months after treatment in the study group.

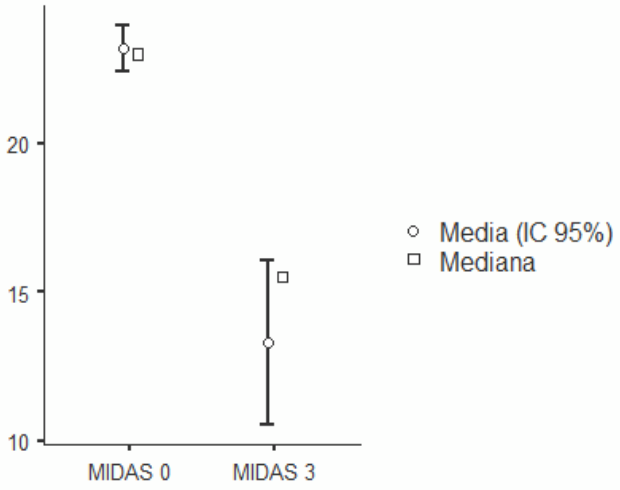

Figure 2. Migraine disability behavior, before and 3 months after treatment in the control group.

DISCUSSION

Barriento et al.[8] reported that in their study, 11,42 % of patients had a history of high blood pressure, a similar result to that found in this research. As for a family history of migraine, a predominance of patients with a history of this disease was reported (68,42 %), which does not coincide with what was reported in the present research. One hundred percent of the patients were diagnosed with migraine without aura, as in this study, where patients with this clinical classification predominated.

McAllister et al.[9] conducted a study evaluating the effect of eptinezumab infusion during a migraine attack as a preventive treatment. After four weeks, the HIT-6 score decreased by 8,7 points from a baseline of 65,1 points in the study group, superior to the placebo group, which decreased by 4,5 points from a baseline score of 64,8. A similar result was reported in the present investigation.

Ashina et al.[10] To evaluate the efficacy and safety of tanezumab in the preventive treatment of migraine, observed that three months after the intervention, there was a statistically significant decrease in the HIT-6 scale score of 8,5 points compared to 3,1 points in the placebo group ($p < 0,0001$). In the present investigation, similar results were obtained in both treatment groups.

On the other hand, Augello et al.[11] Conducted a study to test the efficacy of acupuncture in the treatment of migraine. These researchers concluded that there was an improvement in the impact of headaches in 96 patients in the study group versus 33 in the control group (80 % and 27,5 %, respectively) with a statistically significant association. A similar result was seen in the present research, as 95 % of the study group, compared to 25 % of the control group, showed an improvement in the impact of the headache.

Vázquez found that before starting the intervention, the memantine group had an average MIDAS of 60,87 points (SD = 25,22) and the valproate group 51,92 points (SD = 22,67). After treatment, the first group had an average MIDAS score of 15,57 points (14,32) and the second group 10,53 points (SD = 19,97), statistically significant results in both groups. Similar findings were observed in the present investigation. [12]

Barbanti et al. To evaluate the efficacy of erenumab in patients with migraine, divided the sample into two groups: episodic migraine with a high number of attacks per month and chronic migraine. They reported that at 24 weeks, the patients in the first group had a reduction on the MIDAS scale from 62,4 points (SD = 42,0) to 55,0 points (SD = 42,5), and those in the second group from 90,0 points (SD = 65,8) to 72,6 points (SD = 59,5), with a statistically significant difference ($p < 0,01$).[13]

CONCLUSIONS

Biodecoding reduces the negative impact of headaches and decreases disability due to migraines.

FINANCING

The authors did not receive financing for the development of this research.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS

Conceptualization: Lisbel Garzón Cutiño, Damian Valdés Santiago.
Investigation: Lisbel Garzón Cutiño, Libertad Engracia Valdés Izquierdo.
Methodology: Lisbel Garzón Cutiño, Damian Valdés Santiago.
Writing - original draft: isbel Garzón Cutiño, Libertad Engracia Valdés Izquierdo.
Writing - review and editing: Lisbel Garzón Cutiño.

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