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ORIGINAL

Rehabilitative treatment of facial paralysis from a multidisciplinary approach

Tratamiento rehabilitador de la parálisis facial desde un enfoque multidisciplinario

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ABSTRACT

Introduction: facial paralysis is an acute condition at the peripheral level that sets in abruptly. It produces a decrease or absence of mobility of the muscles that innervate the affected hemiface. It can be of central or peripheral origin. Depending on this, the rehabilitation treatment should be adjusted, taking into account the particularities of the affected persons and paying special attention to the emotional aspect.
Objective: to identify the degree of satisfaction with the rehabilitation treatment of people with Bell's Palsy at the Dr. Carlos Juan Finlay Teaching Hospital.
Method: a cross-sectional descriptive study was carried out with a sample of 50 clinical histories. The variables used were sex, age, personal pathologic antecedents, symptoms and signs observed and the patient's evolution.
Results: a clinical evolution with a very satisfactory result was observed in 64 % of the totality. The symptoms of facial asymmetry and deviation of the labial commissure after treatment were those that most frequently had a positive response.
Conclusions: it was possible to identify that the clinical evolution achieved in more than half of the studied sample was very satisfactory. As secondary findings it was found that the most frequent pathological antecedents were arterial hypertension, diabetes mellitus and ischemic heart disease.

Key words: Bell's Palsy; Rehabilitation Treatment; Multidisciplinary Rehabilitation.

RESUMEN

Introducción: la Parálisis facial es una afección aguda a nivel periférico que se instaura de forma abrupta. Produce una disminución o ausencia de movilidad de los músculos que inervan la hemicara afectada. Puede ser de origen central o periférico. En dependencia de esto el tratamiento rehabilitador debe ser ajustado, atender las particularidades de las personas afectadas y especial atención al aspecto emocional.
Objetivo: identificar el grado de satisfacción con el tratamiento rehabilitador a personas con Parálisis Facial de Bell en el Hospital Docente Dr. Carlos Juan Finlay.
Método: se realizó un estudio descriptivo transversal con una muestra de 50 historias clínicas. Las variables que se utilizaron fueron el sexo, la edad, los antecedentes patológicos personales, los síntomas y signos observados y la evolución del paciente.

Resultados: se observó una evolución clínica con resultado muy satisfactorio en el 64 % de la totalidad. Los síntomas de asimetría facial y desviación de la comisura labial después del tratamiento fueron los que con mayor frecuencia tuvieron una respuesta positiva.
Conclusiones: se pudo identificar que la evolución clínica alcanzada en más de la mitad de la muestra estudiada fue muy satisfactoria. Como hallazgos secundarios se encontró que los antecedentes patológicos más frecuentes encontrados fueron la hipertensión arterial, la diabetes mellitus y la cardiopatía isquémica.

Palabras clave: Parálisis Facial de Bell; Tratamiento Rehabilitador; Rehabilitación Multidisciplinaria.

INTRODUCTION

Facial paralysis is a neuromuscular condition. Hippocrates made the first medical observations in ancient Greece, where evidence of this entity dates back. By the XIX century, at the end of the 20s and beginning of the 30s, the Scottish surgeon Sir Charles Bell detailed with certain precision the facial nerve, as well as its innervation at motor level in the muscular aspect and facial gestures, which later had an impact on the diagnosis of idiopathic facial paralysis.[1]

Bell's palsy (BP), also known as idiopathic facial palsy, is the most common form of peripheral facial palsy. It has a remarkable incidence of 20-50 cases per 100 000 individuals annually. Family history occurs in 9 % of cases. It may be relapsing in 10-20 % of cases. Factors such as age, diabetes mellitus, and arterial hypertension are predisposing.[2]

In the case of incidence, and according to the medical literature, it is revealed that cases can range from 11 to 40 cases per 100,000 inhabitants. Other research reports an incidence of 70 cases per 6000 inhabitants.[3] Other sources describe that individuals of different ages and sexes can have an incidence per year of 15 to 35 cases per 100,000 inhabitants.[4]

Regarding the epidemiology of Bell's palsy in Cuba, about 3,000 new cases are registered every year.[5] However, it is worth mentioning that there is no official information collection system for obtaining data associated with the epidemiology, incidence, and prevalence of Bell's palsy from the Ministry of Public Health, through the Provincial Health Directorate of Havana and its respective municipal directorates. The officials of these entities confirm this particularity.

Facial paralysis is a frequent pathological entity of varied etiology and evolution, which causes physical, functional, esthetic, and psychosocial deficits. At present, there is no consensus on the treatment to be prescribed for facial paralysis, with pharmacological treatment being the first choice.[2] In physiotherapy, laser therapy, magnetotherapy, local infrared heat, electrostimulation, manual lymphatic drainage, stretching, proprioceptive neuromuscular facilitation, sensory stimulation, neuromuscular taping, assisted active exercises, active exercises, facial massage, facial mimicry exercises, and the corresponding technical aids are used.

This research aims to identify the degree of satisfaction with the multidisciplinary rehabilitation treatment for people with Bell's Palsy at the Dr. Carlos Juan Finlay Teaching Hospital.

METHOD

A descriptive, cross-sectional study was carried out in 50 clinical histories of people of both sexes diagnosed with Bell's Palsy, who attended the Physical Medicine and Rehabilitation Service of the Dr. Carlos Juan Finlay Teaching Hospital.

A review of the clinical histories was carried out from October 2021 to May 2022. The variables considered were sex, age, underlying ailments, and other patient conditions. The improvement of the symptoms reflected in the clinical history was noted so that the information could be extracted and the results reflected.

Inclusion criteria: histories of people treated for Bell's Facial Palsy and who completed the rehabilitation treatment.

Exclusion criteria: incomplete histories

Table 1. Operationalization of variables

Variable	Type		Scale	Description
Gender	Qualitative Dichotomous	Nominal	Male	According to sex
Age	Quantitative		Female	biological
Personal pathological history	continuous		Over 18 years old	According to years of age

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Symptoms and signs	Qualitative	Hypertension. Arterial	Known chronic diseases
Patient's evolution	nominal polytomous	Diabetes mellitus	Clinical manifestations reflected in the history

Techniques and procedures for obtaining the information

The data collection for this study was obtained from the medical records of the selected patients, after the approval of the corresponding administrative personnel, given the regulations established for the accessibility of this archival material.

The data obtained were recorded in a collection form, which was prepared in advance and, therefore, facilitated the study.

The decision rule to determine if the evolution is VERY SATISFACTORY is that more than 60 % of the symptoms disappear; if between 20 % and 59 % of the symptoms disappear, it is a SATISFACTORY evolution. If less than 20 % of the symptoms disappear, the evolution is considered NOT SATISFACTORY.

Techniques, processing, and analysis procedures

A bibliographic review was carried out to obtain the necessary information considering the stipulated research criteria, by reviewing texts, theses, scientific journals, and articles in digital format indexed in Lilacs, SciELO, Medline, and PubMed. An Excel database was created with the information collected. Sociodemographic variables such as age and sex were studied, as well as other clinical variables and variables related to the management of the treatment applied, in addition to verifying the effects of the treatment using the procedure described above. Summary measures, such as absolute and relative frequencies, were used for qualitative and quantitative variables. They were presented in tables to analyze better the results obtained.

Ethical considerations and aspects

All research was governed by the basic principles of research in humans (beneficence, non-maleficence, autonomy, and justice), by the code of ethics of the specialty, and the Declaration of Helsinki.[6]

The pertinent administrative authorities of the Dr. Carlos Juan Finlay Teaching Hospital were requested to approve the use of the selected source of information, according to the regulations stipulated and legislated by the Ministry of Public Health, establishing the commitment to its strict compliance.

In addition, the data obtained were used exclusively within the scientific research framework with respect to confidentiality. The data will be stored for five years after the conclusion of the research and then destroyed. The database created will not record data that would allow the identification of the persons studied.

RESULTS AND DISCUSSION

Table 2 classifies the population studied according to age and sex criteria, obtaining 48 % for the male sex and 52 % for the female sex.

Table 2. Distribution of patients according to age and sex

Age group	Male		Female		Total	
	No	%	No	%	No	%
25-65	24	48	26	52	50	100

Source: medical records

It shows a discrete prevalence in the female sex. It corresponds with other studies, which confirm that Bell's palsy is more common in women.[7] It is probably due to hormonal factors and a greater predisposition to autoimmune responses.

Table 3. Distribution of patients studied according to personal pathologic history, by sex.

Pathological history	Male		Female		Total	
Arterial Hypertension	No	%	No	%	No	%
Diabetes Mellitus	6	12	9	18	15	30
Cardiopathies	4	8	1	2	5	10
Other diseases	3	6	1	2	4	8
Healthy	4	8	8	16	12	24
Total	10	20	7	14	17	34
Pathological history	27	54	26	52	50	100

Source: medical records

Table 3 identifies the different underlying pathologies of the patients studied, of both sexes. Patients with no underlying pathologies represented 34 %, those with arterial hypertension 30 %, and those with other diseases 24 %, these being the most significant figures among those who did not report having any disease.

Table 4. Most frequent symptoms and signs in patients studied, by sex.

Signs and Symptoms	Male				Female				Total			
	Formerly		Then		Formerly		Then		Formerly		Then	
	No	%	No	%	No	%	No	%	No	%	No	%
Facial asymmetry	21	82	4	8	25	98	6	12	46	90	10	20
Pain	13	26	2	4	18	36	2	4	31	62	4	8
Swelling	13	26	1	2	20	40	3	6	33	66	4	8

Source: medical records

Table 4 shows the presence of the different symptoms and signs, for both sexes, before starting the physiotherapeutic treatment and after finishing it. The highest incidence of the affectation was in facial symmetry with 98 %. It is important to highlight that the clinical manifestations present after the treatment were: affectation of facial symmetry with 10 %, and pain and inflammation with 8 %.

Table 5. Evolution of the patients studied, according to sex.

Clinical evolution Very satisfactory	Male		Female		Total	
	No	%	No	%	No	%
Satisfactory	17	34	15	30	32	64
Not satisfactory	7	14	11	22	18	36
Total	0	-	0	-	0	-
Clinical evolution	24	48	26	52	50	100

Source: medical records

Table 5 shows the patients' evolution in terms of very satisfactory, satisfactory, and unsatisfactory after evaluating the symptoms and signs once the treatment was completed. Of the 50 patients, 32 had a very satisfactory evolution, which constitutes 64 %, and 18 had a satisfactory evolution, representing 36 %.

A good recovery was observed concerning the combination of treatment for symptoms and signs. Mild to moderate sequelae remained in those who maintained symptomatology. The combination of natural and traditional medicine with physiotherapeutic treatment, to treat the symptoms, contributes to a more favorable recovery, which coincides with this research regarding the joint application of physical agents, such as punctual laser, and the use of kinesiology: massage and facial mimicry exercises.[7]

There is no consensus on combining treatment for different age groups and the variables and scales selected, with the appearance of biases of various natures. The results of this article support the use of high-power lasers and kinesic techniques: active exercises as part of facial mimicry and manual therapy (massage), to reduce recovery time in more severe afflictions, and the Kabat exercise for the reduction of synkinesia. In the case of this research, the application of laser, although in this case, of low power, and facial mimicry exercises together with massage, in function of the potential healing and therapeutic effect, coincides in this research.[8]

Saeed's study,[9] with the name Kabat Technique and neuromuscular effect in patients with Bell's Palsy, where the effects of the Kabat method and Neuromuscular Reeducation on facial disability and synkinesia in patients with Bell's Palsy between 20 and 50 years old were compared, it resulted that the former was more effective and efficient than the latter on the indicated symptomatology. Regarding this author's research, he agrees on the effectiveness of physical therapy treatment in the subacute phase of the disease, and it is worth mentioning that, although the Kabat method is not used in this research, massotherapy and facial mimicry exercises are taken into account as part of the neuromuscular reeducation therapy.

Some studies[7,10] outlined that physiotherapy should consider sensitivity, muscle strength, and synkinesis. The most used techniques were thermal treatment, manual lymphatic drainage, acupuncture, electrotherapy, stretching, multisensory stimulation, neuromuscular bandaging, and muscular reeducation. He agrees with this author in that the patients who received laser, magnetic field, massage, and facial mimicry exercises as combined therapy had a faster recovery compared to the group that only received massotherapy and facial mimicry exercises, which confirms that the proposed treatment is effective in patients with this type of paralysis.

CONCLUSIONS

A discrete predominance of female sex was found. Regarding personal pathological history, arterial

hypertension was predominant. Among the most frequent symptoms and signs, facial asymmetry stood out. Regarding clinical evolution, all patients were in the very satisfactory and satisfactory groups, respectively.

REFERENCES

1. Ruelas-Añamuros LR. Valoración sintomatológica relacionado con la fisioterapia en pacientes con parálisis facial [Tesis de grado] Juliaca: Hospital Carlos Monge Medrano; 2023

2. Sánchez Domínguez N. Abordaje de la parálisis facial desde la fisioterapia: revisión sistemática. [Tesis de grado] La Coruña: Universidade da Coruña; 2022. http://hdl.handle.net/2183/31674

3. Colectivo de Autores. Medicina de Urgencias. Tomo 2, Cap. 34. Parálisis Facial, Universidad Católica de Cuenca, Puerto Madero Editorial Académica. Buenos Aires: Argentina; 2022. pp.173-174.

4. Redondo SPH, Lizano GSL. Parálisis de Bell: Diagnóstico y tratamiento. Rev Cienc Salud Integrando Conoc. 2021;5(1): 88-94

5. Zaldívar Suárez N, Estrada Jiménez PB. Discapacidad psicológica en adultos con parálisis facial periférica. Rev Cub Med Fís y Rehab. 2021;13(1): e693. http://www.sld.cu/sitios/revrehabilitacion/

6. Rodríguez-Puga R. Actualización de la declaración de Helsinki, avances en ética y protección de la investigación médica. Rev-Cub. Salud-Trab. 2025. https://revsaludtrabajo.sld.cu/inde.php/revyt/article/view/917

7. Lee S, Kim M, Park J. Gender differences in Bell's palsy: A population-based study. J Neurol. 2023; 270 (5): 1234-1240. doi:10.1007/s00415-023-11785-0

8. Granero Péreza M, Martí Amelab AB. Fisioterapia en parálisis facial idiopática. Revisión sistemática. Revista de Fisioterapia 2021;43(2), p. 85-95.

9. Saeed A. Técnica Kabat y efecto neuromuscular en pacientes con parálisis de Bell, Riphah International University, actualizado 18 de marzo de 2021(internet), 2021

10. Ubillus Carrasco GE, Sánchez Vélez A. Fisioterapia en la parálisis facial. Rev Cuerp Med HNAAA. 2019; 11(4). http://www.cmhnaaa.org.pe/ojs/index.php/rcmhnaaa/article/view/470

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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