Intraoral and facial massages: a physiological perspective for speech therapy treatment

Los masajes intrabucales y faciales. Una mirada fisiologica para el tratamiento logopedico

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Abstract

This article reflects on the importance of intraoral and facial massages as physiological and rehabilitative resources within speech therapy treatment for children, adolescents, young people, and older adults with language and communication disorders. From an anatomophysiological perspective, it argues that stimulation of the orofacial structures promotes neuromuscular activation, mobility of the phonoarticulatory organs, and the correction or compensation of alterations associated with paralysis, paresis, dysarthria, anarthria, aphasia, chewing disorders, and swallowing difficulties. The paper is grounded in neuroplasticity, reflex activity, sensory stimulation, the role of the central nervous system, and the relationship among education, health, and rehabilitation. It also proposes good speech therapy practices aimed at the use of facial and intraoral massage, functional exercises, bilateral and unilateral movements, facial coordination, relaxation, muscular stimulation, and family support. It concludes that speech therapy treatment requires an integral biological, pedagogical, and social understanding in order to select intervention techniques appropriately and avoid potential adverse effects during rehabilitation.

Keywords: intraoral massage; facial massage; speech therapy treatment; neuroplasticity; rehabilitation; language disorders; phonoarticulatory organs.

Resumen

Este artículo reflexiona sobre la importancia de los masajes intraorales y faciales como recursos fisiológicos y rehabilitadores dentro del tratamiento fonoaudiológico dirigido a niños, adolescentes,

jóvenes y adultos mayores con trastornos del lenguaje y la comunicación. Desde una perspectiva anatomofisiológica, se argumenta que la estimulación de las estructuras orofaciales promueve la activación neuromuscular, la movilidad de los órganos fonoarticuladores y la corrección o compensación de las alteraciones asociadas a parálisis, paresias, disartria, anartria, afasia, trastornos de la masticación y dificultades en la deglución. El trabajo se fundamenta en la neuroplasticidad, la actividad refleja, la estimulación sensorial, el papel del sistema nervioso central y la relación entre educación, salud y rehabilitación. Asimismo, propone buenas prácticas fonoaudiológicas orientadas al uso del masaje facial e intraoral, ejercicios funcionales, movimientos bilaterales y unilaterales, coordinación facial, relajación, estimulación muscular y apoyo familiar. Se concluye que el tratamiento fonoaudiológico requiere una comprensión integral —biológica, pedagógica y social— para seleccionar adecuadamente las técnicas de intervención y evitar posibles efectos adversos durante la rehabilitación.

Palabras clave: masaje intraoral; masaje facial; tratamiento fonoaudiológico; neuroplasticidad; rehabilitación; trastornos del lenguaje; órganos fonoarticuladores.

1. Introduction

The human being is a social being who thinks, speaks, reasons, and communicates according to the level of development reached by the central nervous system and the higher cortical structures. In this process, the frontal lobe plays an essential role in regulating voluntary movements and organized actions, especially those related to human activity, language, and communication.

From a neurophysiological point of view, human beings are born with innate responses aimed at protection and preservation of life. Through interaction with the environment, these responses are transformed and become more complex through learning, reflex activity, stimulation, and the formation of new neuronal connections. This is the basis for neurological rehabilitation and for the correction or compensation of disorders that affect language, communication, and the mobility of the phonoarticulatory organs.

The face may be understood as a window into the subject's external psychic life, because emotions, feelings, internal reflexes, and communicative possibilities are expressed through it. When paralysis, paresis, athetoid movements, or alterations of the facial and oral musculature are present, essential functions such as swallowing, chewing, smiling, opening

and closing the mouth, lingual movements, articulation, pronunciation, and other basic actions for human communication may be compromised.

In this sense, intraoral and facial massages constitute valuable resources for speech therapy treatment, provided that they are applied from a physiological, pedagogical, and rehabilitative understanding. Their use requires knowledge of neuroplasticity, anatomy, muscular functions, the central nervous system, special educational needs, and language and communication disorders.

Statement of the Problem

Cerebrovascular diseases, disabilities, cranioencephalic trauma, paralysis, genetic alterations, congenital malformations, and movement disorders are problems that may leave sensory, motor, cognitive, and communicative sequelae. These sequelae affect the quality of life of individuals and require systematic processes of care, stimulation, and rehabilitation.

In the field of speech therapy, these alterations may be manifested in deterioration of the phonetic, lexical, morphosyntactic, grammatical, and vocal components of language. They may also compromise the oral, facial, lingual, mandibular, and palatal motor components, generating paresis, paralysis, spasticity, hypotonia, ataxia, dyspraxia, apraxia, chewing difficulties, and swallowing problems.

The central problem is that speech therapy intervention does not always incorporate a sufficient physiological perspective on the structures that participate in speech, chewing, swallowing, and facial expression. Therefore, it is necessary to guide good educational and rehabilitative practices that allow intraoral and facial massages to be applied safely, differentially, and in accordance with the needs of each subject.

3. Theoretical Framework

3.1. Neuroplasticity and Language Rehabilitation

Neuroplasticity is an essential foundation for understanding the rehabilitation of language and communication disorders. From this perspective, the central nervous system has the capacity for functional adaptation in response to structural or physiological alterations, which makes it possible to compensate, either partially or progressively, for the effects of a lesion. Luria (1982) explains that cerebral plasticity favors the adaptation of the nervous system, especially when there is sensory stimulation, physical rehabilitation, and systematic psychological work.

Brain activity, training, stimulation, and repeated actions favor the reorganization of neuronal circuits. Nervous tissue can respond to

injury through new synapses, functional modifications, and changes in the organization of connections. For this reason, speech therapy rehabilitation must be conceived as a continuous, gradual, and structured process that combines physiological, pedagogical, communicative, and family-based actions.

3.2. Biopsychosocial Approach and Educational Mediation

The subject with language and communication disorders must be understood as a biopsychosocial unity. Intervention cannot be limited to the organic impairment; it must also consider the educational, family, community, and emotional contexts. From the Vygotskian perspective, it is necessary to distinguish primary disabilities from secondary and tertiary ones, since the latter may worsen if the environment does not offer support, mediation, and opportunities for development.

Early stimulation and appropriate pedagogical intervention make it possible to prevent associated behaviors or disabilities. In this process, the family, the school, the community, and specialists play a decisive role in the correction and compensation of difficulties, as well as in the construction of conditions for social inclusion and quality of life.

3.3. Anatomophysiological Bases of Intraoral and Facial Massage

The tongue is a fundamental muscular organ for chewing, swallowing, taste, and speech articulation. Its movements depend on longitudinal, transverse, and vertical muscles, as well as on innervation by the hypoglossal, trigeminal, vagus, and glossopharyngeal nerves. Gentle lingual stimulation, especially on the edges, apex, and lateral areas, may help improve mobility in cases of lingual paralysis, spasticity, or athetoid movements.

The muscles of mastication—the masseter, temporal, lateral pterygoid, and medial pterygoid—participate in elevation, displacement, and return of the mandible. Knowledge of these muscles is essential for applying massage in the direction of the muscle and its function, thus avoiding tearing or adverse responses.

The mimetic and perioral muscles participate in facial expression, articulation, chewing, and pronunciation. These include the levator labii superioris, depressor anguli oris, levator anguli oris, depressor labii inferioris, mentalis, buccinator, and orbicularis oris. Stimulation of these structures must be performed with caution, anatomical knowledge, and a functional purpose.

4. Methodology

This article is organized as a theoretical-practical reflection of a documentary, pedagogical, and physiological nature. It seeks to support the relevance of intraoral and facial massages in speech therapy treatment. Its development is based on the review of neurophysiological, anatomical, speech therapy, and educational foundations related to the rehabilitation of language and communication.

The methodological route is structured in three moments: first, the identification of theoretical bases on neuroplasticity, the central nervous system, language, and communication; second, the anatomophysiological description of orofacial structures involved in speech, chewing, and swallowing; and third, the organization of recommendations and good educational practices for speech therapy care in subjects with special educational needs, whether or not they are associated with disability.

The techniques used correspond to documentary analysis, theoretical systematization, and the organization of practical guidelines for intervention. As a result, a speech therapy care strategy is proposed that integrates facial coordination, joint mobilization, facial muscle massage, intraoral massage, functional chewing exercises, family follow-up, and prevention of complications.

5. Results

The results derived from this reflection make it possible to organize a speech therapy care strategy based on good educational and rehabilitative practices. This strategy aims to favor the correction and compensation of language and communication disorders in children, schoolchildren, adolescents, young people, and adults through physiological, pedagogical, and functional actions.

First, it is necessary to work on facial coordination through exercises in front of a mirror, bilateral and unilateral movements, opening and closing the mouth, raising the eyebrows, smiling, inflating the cheeks, whistling, and progressively relaxing the facial musculature. These actions stimulate body awareness, voluntary mobility, and the organization of movements involved in speech.

Second, it is recommended to continue with mobilizations of the oral and facial joints, to apply techniques for inhibiting spasticity, muscle vibrations, cryotherapy or gentle heat, inhibition positions combined with antagonist reinforcement exercises, and reflex facilitation. These practices must be carried out gradually, under supervision, and adjusted to each subject’s diagnosis.

Third, facial and intraoral massages should be directed to damaged areas, compromised muscles and ligaments, and structures involved in chewing, swallowing, articulation, and facial expression. In cases of facial paralysis, symmetrical and analytical exercises of the face, facial muscle massage, intraoral massage, and functional chewing exercises are suggested.

Finally, the maintenance period should be aimed at preserving muscular, articular, and functional acquisitions; psychologically stimulating the subject; correcting and compensating facial, labial, lingual, maxillary, orbital, and palatal mobility; and maintaining joint amplitude in the mouth, jaw, and face. These actions should be performed systematically, preferably at least three times per week, according to the needs of the case and under specialized guidance.

6. Conclusions

The use of anatomophysiological structures for the rehabilitation and treatment of language and communication disorders makes it possible to understand more objectively the factors involved in the emergence, development, and compensation of such alterations. Intraoral and facial massages are intervention resources that may favor mobility, sensitivity, articulation, swallowing, chewing, and facial expression when applied with knowledge, systematicity, and professional responsibility.

Speech therapy treatment requires an integral perspective that articulates the biological, pedagogical, psychological, social, and family components. Therefore, the speech therapy teacher must be prepared not only in academic aspects of language but also in physiological and rehabilitative foundations that enable the proper selection of intervention techniques, the prevention of complications, and the guidance of families and communities.

In summary, the application of good educational practices through innovative, creative, and physiologically grounded actions contributes to the correction and compensation of language and communication disorders, offering greater opportunities for development, equity, and inclusion to subjects with special educational needs, whether or not they are associated with disability.

Recommendations

Carry out an accurate diagnosis of the affected area, the compromised muscles, the type of disorder, and the functional possibilities of the subject before applying intraoral or facial massage.

Apply massages according to the direction of the muscle and the function to be stimulated, avoiding abrupt movements, excessive

pressure, or techniques that are not indicated for the case.

Integrate mirror exercises, bilateral and unilateral movements, facial coordination, relaxation, lingual stimulation, mandibular mobilization, and functional chewing and swallowing exercises.

Guide the family regarding care, support, and exercises that may favor continuity of treatment at home, always under specialist supervision.

Prevent complications such as pain, neuritis, stiffness, rhinitis, traumatic injuries, or adverse responses by ensuring a gradual, safe intervention adjusted to the subject's condition.

Strengthen the preparation of the speech therapy teacher from an anatomophysiological, pedagogical, and rehabilitative perspective, so that practice contributes to the correction, compensation, and inclusion of people with language and communication disorders.

References

Adams, R. D., & Victor, M. (1981). Principles of neurology. McGraw Hill Book Co.

Álvarez, E., et al. (2013). Anatomía y fisiología humanas [Human anatomy and physiology]. Editorial Pueblo y Educación.

American Heart Association. (1991). The National Health and Nutrition Examination Survey II, 1976-80: Heart and Stroke Facts. Dallas.

Arredondo Kassabb, M. M. (2014). Una concepción de rehabilitación para la corrección y compensación fisiológica de los trastornos que afectan el lenguaje y la comunicación de los niños(as) con necesidades educativas especiales [A rehabilitation conception for the physiological correction and compensation of disorders affecting language and communication in children with special educational needs]. Revista IPLAC, 12.

Bamford, J., Sandercock, P., Dennis, M., et al. (1990). A prospective study of acute cerebrovascular disease in the community: The Oxfordshire Community Stroke Project 1981-86. Journal of Neurology, Neurosurgery & Psychiatry, 53, 16-22.

Congreso Internacional de Pedagogía. (n.d.). Prevención educativa: un concepto a debate en el ámbito escolar, familiar y comunitario [Educational prevention: A concept under debate in the school, family, and community context]. Course 44.

Fernández Pérez de Alejo, G. (2008). La atención logopédica en la edad infantil [Speech therapy care in childhood]. Editorial Pueblo y Educación.

Guirado Rivero, V. C. (2009). Recursos didácticos para la enseñanza-aprendizaje de los escolares con necesidades educativas especiales [Didactic resources for the

teaching-learning of students with special educational needs]. Editorial Pueblo y Educación.

Guyton, A. C. (1971). Tratado de fisiología médica [Textbook of medical physiology] (4th ed.). Editorial Pueblo y Educación.

Hier, D. B., Foulkes, M. A., Swiontoniowski, M., et al. (1991). Stroke recurrence within two years after ischemic infarction. Stroke, 22, 155-161.

Luria, A. R. (1982). Funciones corticales superiores del cerebro [Higher cortical functions in man]. Editorial Progreso.

Martínez, H. R., Rangel Guerra, R. A., & Marfil Rivera, A. (1995). Cost of stroke in Mexico. Journal of Stroke and Cerebrovascular Diseases, 5(4), 244-247.

Massaro, A. R., Sacco, R. L., Mohr, J. P., et al. (1991). Clinical discriminators between lobar and subcortical hemorrhage. Neurology, 41, 1881-1885.

MINED. (2009). IX Seminario Nacional para Educadores. Segunda parte [Ninth National Seminar for Educators. Part two]. City of Havana.

Plan Nacional de Desarrollo 1995-2000 [National Development Plan 1995-2000]. (n.d.). Cuba.

Prives, M., et al. (1981). Anatomía humana [Human anatomy]. Editorial MIR.

Rodríguez Rivero, A. C. (2009). Prevención y educación preescolar: Selección de lecturas [Prevention and preschool education: Selected readings]. Editorial Pueblo y Educación.

Vigotski, L. S. (1989). Fundamentos de defectología [Fundamentals of defectology]. Obras completas, Tomo 5. Editorial Pueblo y Educación.

Vigotski, L. S. (1995). Obras escogidas [Selected works] (Vols. I & III). Visor.

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