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ORIGINAL RESEARCH

Considerations when referring patients with disabilities to orthodontic treatment

Consideraciones al referir pacientes con discapacidad a tratamiento ortodóntico

Gabriela Chinchilla Soto*

ABSTRACT

The disabled population has increased worldwide, which has resulted in them being more included and equal in society. Orthodontic treatment is possible for patients with disabilities and with the correct selection of the case becomes a viable option for improving the quality of life, aesthetics and function. This research aims to review the literature on orthodontic treatment for patients with disabilities, focusing primarily on cognitive and psychosocial disabilities. It also analyzed, through a survey of 42% of pediatric dentists in Costa Rica, how often disabled patients are referred to for treatment, as well as the reasons these patients are referred and the most frequents interventions. The scientific context found in literature together with the results of the country help to identify the strengths and opportunities to continue working together for accessible health services.

RESUMEN

La población con discapacidad se ha incrementado en el ámbito mundial y, actualmente, se procura crear una sociedad más inclusiva e igualitaria. El tratamiento ortodóntico es posible para pacientes con necesidades especiales y, con la correcta selección del caso, se convierte en una opción viable para la mejora de la calidad de vida, la estética y la función. Esta investigación revisa la literatura existente sobre el tratamiento ortodóntico en pacientes con discapacidad, enfocada principalmente en las áreas cognitiva y psicosocial. A la vez, por medio de una encuesta, se analiza al 42% de los odontopediatras de Costa Rica, la frecuencia con que los pacientes con discapacidad son referidos a este tratamiento, las razones por las cuales se refiere o no a un paciente, así como la intervención y el tipo de intervenciones más frecuentes. El contexto científico encontrado en la literatura, unido a los resultados del país, permite identificar las fortalezas y las oportunidades para continuar trabajando en conjunto en pro de servicios de salud accesibles.

Key words: Patients with special needs, behavior, management in orthodontic treatment, patients with disabilities, relationship pediatric dentist-orthodontist.
Palabras clave: Necesidades especiales, comportamiento, tratamiento ortodóntico, discapacidad, odontopedíatría.

INTRODUCTION

The patient with disability or patient with special needs (PSN) is defined as the one child or adult whose physical or mental condition prevents him or her to join the normal activities of their age group.[1]

There are several classifications for the various disabilities. One of the most recognized is the subdivision into four groups: 1 Cognitive disabilities, 2 Physical or motor disabilities, 3 Sensory disabilities and 4, Psychosocial disabilities.

As background, it is estimated that 12 to 18% of the world's children have special needs, either cognitive or motor.[2] In Costa Rica, according to the National Census of Population and Housing of 2011,[3] persons with disabilities constitute a 10.5% of the total population, an estimated of 452,859; from them, a subgroup of 10% are children, or 47,358, who represent 4% of the child and adolescent population of the country, and of which 27% have intellectual or mental problems.

Modern medicine has significantly increased the survival of PSN, by which today they make up a greater percentage of the general population. With this demographic change comes a higher need for functional orthopaedic and/or orthodontic (TO) treatment, due to a general increase in the prevalence of malocclusions.[1,4] Within the current problems we have found that the literature reports that orthodontics seems to be developing more quickly in other areas

* Odontology Graduate, Universidad de Costa Rica. Specialist in Stomatology in Primary Care, Universidad Nacional Autónoma de México. Resident of the Orthodontics and Functional Orthopedics, Universidad Latinoamericana de Ciencia y Tecnología (ULACIT), San José, Costa Rica.

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than in the treatment to the PSN.[5] Therefore, it is necessary to review the main obstacles that prevent orthodontic treatment, as well as the different treatment modalities that can be performed for the management of the PSN, in addition to providing guides that enable orthodontists to help these patients.[1]

This research aims to analyze the characteristics and orthodontic and orthopedic treatment options in the PSN population, with emphasis on cognitive and psychosocial disabilities. To achieve this goal, a bibliographic review was made on the current trends in the management, diagnosis, and treatment of PSN. It also applied a survey to specialists in pediatric dentistry, considering that they were most likely to have the first contact with these patients. The purpose of this survey was to understand three dynamics in their entirety: the frequency with which they are referred, the reasons for which they are or are not referred, the performed intervention and its characteristics.

CONCEPTUAL FRAMEWORK

Orthodontic treatment (OT) need in PSN

Despite the motivation of parents to improve the quality of life of their children, PSN are less likely to receive orthodontic treatment, sometimes due to their behavior problems, to the lack of ability of their parents and caregivers to assess their oral condition or because the same patient does not express the desire to do so.[1,4]

Studies on the effects of dental appearance on people demonstrate that orthodontic treatment is of great importance, especially regarding facial esthetics. Apart from being a source of bullying among school classmates, it has an impact on individuals and their inclusion in society.[1] Authors such as Waldman et al.[6] highlight the relevance of orthodontic treatment since malocclusion affects the periodontal conditions in PSN together with poor oral hygiene and medications.

Decades ago, PSN used to live in an institutionalized manner, but now they are incorporated into their families, which are fighting for their acceptance, self-sufficiency, and even their employability; in this sense, the search for orthodontic treatment is more frequent and has the aim of achieving greater facial aesthetics.[6]

DIAGNOSIS

It has been shown that malocclusion in PSN is more frequent, more severe, and more commonly skeletal than in the general population. In certain conditions, such as Down's syndrome, mental retardation and cerebral palsy, there is a greater prevalence of some dental anomalies.[1,6]

The high prevalence of malocclusion in PSN relates to different variables: habits such as tongue thrusting, digital sucking and oral breathing; the presence of caries as a cause of early loss of primary teeth and dentoalveolar discrepancies; pre- and postnatal care trauma; hereditary factors; poor muscular development; suction pattern; bruxism and neuromuscular control, as well as the impact of drugs.[6] Vargervik et al.[7] mentioned the role of diet, which, if it is too soft, does not stimulate chewing; they also point out the constant use of baby bottle. Oliveira et al.[8] indicate, moreover, that the type of disability is associated with the type of malocclusion.

With regard to the genetic role of malocclusion in PSN and its diagnosis, the role of various genes has been described in syndromic and non-syndromic patients. In the field of orthodontics, genetic studies on the development of the teeth, cleft lip and/or cleft palate and craniofacial malformations have prevailed.[9] However, it is considered that genetics is as important as environmental factors regarding orofacial manifestations and this includes orthodontic and orthopedic interventions; therefore treatment should not be decided based only on the genetic component, since environmental interventions have an important role and can be successful.[9]

Management and patient selection

OT is contraindicated in conditions of little cooperation from the patient and/or parents, because it is difficult to obtain a positive result, in addition, iatrogenic complications in the case of caries and gingival inflammation is likely.[1] Therefore, oral hygiene is the crucial factor that determines whether or not to carry out treatment, because little manual dexterity accompanied by low muscle activity can be very harmful to the patient.[1]

According to Becker et al.,[1] other common obstacles are general behavior, excessive movement of the extremities, low level of cooperation and altered nausea reflex. All the abovementioned conditions affect treatment in a negative way, from x-rays and impressions for appliances until treatment itself.

The orthodontist must win the confidence of the patient and parents, with the purpose of having an acceptable level of cooperation.[1] During the first appointment, the level of trust within the dental environment must be raised to increase the level of compliance, from both from the patient and the parents, who will be responsible for hygiene, caries