

Definitive Orthodontic Treatment Need in Young from Central Region Venezuelan Scholars

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Abstract

The aim of this investigation was to diagnose orthodontic treatment using the Dental health component form Index of Orthodontic treatment need. Sample of 268 children was collected from two schools and clinical charts of the orthodontic clinic of the University at different stages. Presence of any definitive characteristic (Missing tooth or less of 4 mm of interproximal space, Overjet greater of 6 mm, crossbite, displacement greater of 4 mm, overbite with no lower incisor exposure with or without gingival trauma) were identified. Results stated that 59% of populations had a definitive need. Overjet, displacement and early missing tooth was the most frequent indications. Treatment approach should focus on manage these alterations based on their ethological factors.

Keywords: *Treatment need; Orthodontic; IOTN index; Venezuela/epidemiology; Child; Needs Assessment/statistic & numerical data*

Abbreviations

IOTN: Index of orthodontic treatment need; UJAP: University Jose Antonio Paez; MCT: Maribel Caballero Tirado Institute; CRS: Corina Romer Salas Institute

Introduction

Malocclusion is a group of dental and facial characteristic on person with no optimal position of their teeth from a static or dynamic standpoint. However, malocclusion is not an specific condition to start orthodontic treatment because of the large amount of variation of this characteristic and perception of their patients facial smile.

Dental health groups have been advocated to elucidate what occlusal characteristic are susceptible to orthodontic treatment and developing epidemiological tools to ensure proper diagnosis. The Index of orthodontic treatment need was original developed and modified by Burden [1-3]. It features 5 key elements organized by severity that suggest the start of orthodontic treatment (Missing or impacted teeth, Overjet, Crossbite, Displacement, Overbite).

Previous study using it demonstrated a wide spectrum of frequency of those characteristics and possible treatment considerations. Given the fact that public health and therefore university services should manage where their efforts and money are invested while provides primary care and interceptive orthodontic treatment for low income patients; it's necessary to establish what are their current and possible future patients treatment need and severity.

Finally, the aim of this investigation was to diagnose definitive orthodontic treatment need from two Educational institute and Orthodontic clinic service of University Jose Antonio Paez.

Materials and Methods

Study sample consisted of 268 children classified according if their location (Jose Antonio Paez University, n = 21 female = 9 male = 12; Corina Romer de Salas Institute, n = 151 female = 84 male = 67 and Maribel Caballero Tirado, n = 97 female = 48 male = 49) were the data of from the last Institute have been previously reported [5-7].

Each investigator was calibrated accordingly previously and perform data collection under the same environment. The inclusion criteria for dental evaluation was:

- a.- Mixed or early permanent dentition
- b.- General good health
- c.- Report written inform consent signed by their parents

Data analysis was performed using Minitab express software for Mac; Definitive dental characteristic for orthodontic treatment need are described in table 1. It was established that dental examine was concluded were one of the above-mentioned characteristic were found.

Dental Characteristic	Indication
Missing	Premature dental loss or less than 4mm between 2 permanents teeth
Overjet	Equal or more than 6 mm measured from vestibular face of lower incisor to incised edge of the most prominent upper incisor
Crossbite	Presence of cross bite when the patients bite in condylar centric relationship
Displacement	Equal or more than 4mm of interproximal contact between the two most crowded teeth
Overbite	Deep bite with no exposure of lower incisor with or without palatal gingival trauma

Table 1: Indicators of definitive orthodontic treatment need.

Adapted from Burden and Pine [4]

Results and Discussion

Definitive orthodontic treatment needs are expressed in tables 2 and 3, a 159 patients (59,32%) had a recognizable sign of malocclusion. Overjet greater than 6 mm (44%) and dental displacement beyond 4 mm (20%) was the two most frequent indicators for treatment. CRS Institute had the population whit the greatest need for orthodontic treatment. Conversely, the University reported the lowest.

Institute	Female	Male	Total
University Jose Antonio Paez (UJAP)	4	6	10
Corina Romer Salas (CRS)	55	57	112
Maribel Caballero Tirado (MCT)	18	19	37
Total	77	82	159

Table 2: Prevalence of Definitive orthodontic treatment need.

Institute	Missing	Overjet	Crossbite	Displacement	Overbite
UJAP	2	2	1	3	2
CRS	17	52	12	25	6
MCT	9	16	3	5	4
Total	28	70	16	33	12

Table 3: Distribution of definitive orthodontic treatment need.

The fact that patients who attend to the university to treatment had the lowest orthodontic treatment need (beyond the evident difference in samples size) express that its resources or patient selection criteria had no been used correctly; there's a great number of patient who could benefit if advertising and educational partnership are integrated. When it's considered that public health care services are as effective as the benefits provided for their surrounding populations benefits, the university and their students could benefit from the internal references or "patients calls patients" that keeps people flow through the years.

When it's considered the benefits of overjet reduction in this population, specifically on incisor trauma and self-perception [8-10] there's a great opportunity for promote dental education on parents and teachers while demonstrating improvement of oral health by a high quality one-phase treatment. On the other hand, dental displacement or crowding it should be addressed on parents o patients esthetic concern regarding how it is affecting them [11].

With respect of premature dental loss, previous reports stated a high report on tooth decay on children whose age-correlated, particularly affecting first permanent molar [12,13]. Therefore, an intradepartmental communications with pedodontics should be reinforced to enhance primary attention and minimize future complications [14,15].

Conclusion

There's a definitive orthodontic treatment need in central region scholars. Treatment approach should focus in overjet reduction, dental displacement and premature dental loss based in etiological factors.

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Conflict of Interest

There is no financial interest or any conflict of interest exists.

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