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Relationship of self-perception between the prevalence of malocclusions and the need for orthodontic treatment in 12-year-old school children

Abstract

Objective: To determine the relation of self-perception of the need for orthodontic treatment of malocclusion with the prevalence in schoolchildren aged 12 years in the Baños parish of the city of Cuenca 2016.

Materials and methods: EPI INFO version 7.2, free access, THUS Obtaining a sample of 103 pieces Consisting of five parts, the first overall patient data, the second data Oral Hygiene index, the index DMFT third tooth decay, periodontal disease index the fourth and the fifth of Russel malocclusion index Through the retrospective method.

Results: The prevalence of malocclusions was 96% in relation to the normoclusion, which was 4%. In the prevalence of self-perceived need for orthodontic treatment the majority of the population indicated that they needed orthodontic treatment in 74%, 26% compared to WHO[1] did not indicated that need orthodontic they treatment. In the relationship of self-perceived need for orthodontic treatment with the prevalence of malocclusion 75% of the population said they did not need orthodontic treatment, but had some type of malocclusion compared to 25% who said they need orthodontic treatment and had some kind of malocclusion.

Keywords: malocclusion, orthodontics, prevalence, aesthetics

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Introduction

Although malocclusion is one of the less knowledge of oral diseases for the population worldwide, in the stomatological field it is one of the most prevalent oral alterations after periodontal[2,3] decay and disease. Problems malocclusion can be given by the sum of several etiologic factors, these factors will cause a disharmony in the oral cavity, the same can include aesthetics of the patient or even problems at the language level, mastication, and swallowing dysfunction ATM[4] level. These alterations can be observed more frequently in civilizations that over time have been affected by the global development due to the change in the type of food, population change agricultural to rural areas, the forces used to chew food and other factors that in one way or another influenced occlusion actual[5] population. More than that people with problems of malocclusion present alterations in aesthetics and function hand, we also see affected the psychosocial status of individuo.[5,6] That is why it is advisable to start treatment at an early age, to avoid such disturbance affecting the individual during childhood both the emotional level as Care.[6] As a solution to correct such alterations, orthopedic treatments more than help correct the position of the teeth and / or jaws used parts, it helps us improve facial proportions of individuo.[6] The patient's perception will be paramount for the implementation of appropriate treatment and helps professionals to make decisions about the type of treatment to be performed in order to find comfort and acceptance by the patient.[7] Globally we say that the behavior of malocclusions is in ranges from 35% to 75% .[8] To give an accurate diagnosis of malocclusions we need to assess dental, skeletal muscle and the stomatognathic system as well as the psychological state and social environment patient[9] factors.

For that reason we have been obliged to conduct an epidemiological study to establish self-perceived need for orthodontic treatment and the prevalence of malocclusions present the population of 12 years and thus to establish in future programs help us prevent and combat malocclusions school population level. Therefore, we as dentists must have the necessary skills to assess, diagnose and establish a correct treatment plan. This study is framed in the research of self-perception and prevalence and corresponds to the specialty of orthodontics. He performed it with medical records of 12 children who attend schools in the parish baths and rest in the database of the research department faculty of health and welfare of the Catholic University of Cuenca with prior authorization and knowledge of their representatives.

Materials and methods

The design of this study was documentary, observational and retrospective. Clinical examination was performed school children who have twelve years of age or older or who are about to turn thirteen, both male and female and are enrolled in schools belonging to the parish baths in the city of Cuenca, stated in the database research Department of the Faculty of Health and Welfare of the Catholic University of Cuenca. A study population comprised 103 schoolchildren corresponding to male and female, the study sample consisted of 100% of the population considered; consent forms to parents indicating the review methodology, based on ethical principles extremely important autonomy and justice in developing and making morally valid clinical decisions and settlements were also awarded to school was sent, the same as presented test day with the signing of aprobación.[7,8]To determine the prevalence of malocclusions extra and

intraoral examination was performed, in which the anteroposterior profile was evaluated by analyzing three anatomical points are: glabella, pogonion subnasal and soft tissue; the vertical profile was assessed with the camper plane and mandibular plane. In the intraoral examination canine relationship and right and left, overjet and overbite molar ratio it was studied; for analysis of crowding and diastemas was assessed individually to each tooth way and thus determine their presence and severity. To register the presence of crossbite, posterior or anterior open bite dental arches in occlusion was analyzed, allowing determine these changes in normal occlusion; It could also be recorded if there was a deviation from the midline, in which the upper dental midline does not match the lower dental midline. The findings described above possible to reach a presumptive diagnosis of malocclusion according to Angle classification, the same as was recorded in the epidemiological profile. The IONT index, specifically its aesthetic component (AC), itself consisting of a scale of 10 intraoral photographs still picture 1 has the lowest degree of malocclusion and the picture 10 was used to establish self-perceived orthodontic treatment need greater condition dental malocclusions and less attractive, he indicated the school you select the photograph that identifies your dental attractive, without influencing the opinion of a third party, allowing self to find the prevalence of malocclusion received 6.7; finally the recording of information was performed on the database program EPI INFO, version 7.2. CDC Atlanta. The prevalence of the disease was calculated using the following formula:

$$\text{Prevalence} = \frac{\text{number of patients}}{\text{number examined}}$$

Then he grouped by sex and same calculation was performed.

Discussion

This study was conducted at the school for 12 years in the parish bathrooms, with a total of 103 samples from school female and male. And the prevalence of malocclusions self-perceived need for treatment of each, and their relationship was studied. After analyzing all data prevalence of malocclusions in 99 (96%) of chips and a normoclusion only 4 (4%) of the total sample it was obtained. These values are similar to those obtained by Del Castillo[10] which a sample of 201 schools obtained a prevalence of 85.6% malocclusions. Unlike Pino Roman & Cols[11] where it received a prevalence of 58.2% malocclusions. According to sex this research obtained in females there is a prevalence of malocclusions of 56 (95%) and a normoclusion 3 (5%), and the male prevalence of malocclusions of 43 (98%) and normoclusion 1 (2%) of the sample according to sex (Table 3). Similar to those obtained by Calzada Baldomo[8] in a sample of 113 schoolchildren with a higher prevalence of malocclusions for males 54.8% compared with 45.1% female. Unlike the study by Murrieta Pruneda et al.[12] where it received a higher prevalence of malocclusions in females with 54.2% compared to 32.6% male with the total sample. Regarding necesida orthodontic treatment in this study 76 (74%) of the total sample requires orthodontic treatment, while 27 (26%) do not. Cartes Velasquez et al.[2] indicate that the total school examined 67.4% of school need orotdòntico treatment, while 32.6% do not. Unlike Arroyo Araya et al.[4] in which a sample of 195 children aged 8 to 12 years was found that 23.8% of children in need of orthodontic treatment and 67.4% did not need it. With regard to the perceived need for orthodontic treatment according to sex, we can mention that females have a greater need for orthodontic treatment conducted with 78% of the sample, compared to males where the total chips male school 68% indicates a need orthodontic treatment. Similar to the study of Cartes Velasquez et al.[2] where the self-image questionnaire mention the female feel like you have some type of malocclusion in a higher percentage 81.2% compared with 69.2% male with sample. Unlike road Baldomo points where a greater need in the female orthodontic treatment performed with a 60.9% to 56% for males. According to the index of orthodontic treatment need (IONT) in this study 55% of the examined chips had a higher percentage of need for orthodontic treatment at a moderate level, followed by a level of slight 26% need and a great need to 18% of the total sample. Similar to the studies by Martin Cristina et al.[13] where a sample of 203 children obtained a higher rate in the moderate level of need for treatment with 44.28% of the sample, followed by a slight need treatment and finally a great need for treatment. Unlike Pardo Villar et al.[14] where obtained from a sample of 210 schoolchildren a great need for orthodontic treatment 73.3% of the total sample. Levels in need IONT females had a higher percentage in moderate 59%, as male with 50% of the sample. Similar to that obtained by Mafla Ana Cristina et al.[15] with higher percentages in moderate 35.6%. Unlike Amador Lazo et al.[16] where he obtained higher percentages need for treatment in mild level for both sexes.

Finally needs to relate perceived orthodontic treatment and the presence of malocclusions we could see that 74 (75%) of chips that have malocclusions manifested not need treatment, while 25 (25%) if I need it. Unlike the study by Cristina Martìn et al[12] where the school manifest a high percentage of dissatisfied with the position of the teeth of their children and express a desire to receive orthodontic treatment. According to sex we have 46 (78%) of chips school orthodontic treatment of which 45 (76%) had malocclusions manifested necessary, while in 13 (22%) of the chips school expressed not need treatment orthodontic of which 11 (19%) had some type of malocclusion. For males in 30 (68%) of chips, the school said need orthodontic treatment of the 29 which (66%) had some type of malocclusion, while those who said they did not need orthodontic treatment 14 (32%) had malocclusions . Unlike the values obtained by Riera Garcia et al.[17] where a sample of 241 schools that obtained for 15% female school said need orthodontic treatment of which 14% had some type of malocclusion.

Results

This study was conducted with epidemiological data schoolchildren aged 12 parish Bathrooms, found in the record of the research department of the Faculty of Dentistry at the Catholic University of Cuenca, registering the following results:

a. The total sample examined 57% of chips belonged to school female and 43% male school children (Table 1) (Table 2).

b. The prevalence of malocclusion was 96% and 4% of the same showed normoclusion (Table 3).

c. According to sex it was obtained that 95% of females had chips malocclusions while 5% had normoclusion while in males showed 98% and 2% malocclusions normoclusion presented.

d. With regard to self-perceived orthodontic treatment 74% of examined records needed orthodontic treatment and 26%) did not need orthodontic treatment (Table 4).

e. According to sex 78% of female tokens needed orthodontic treatment and 22% did not need orthodontic treatment; in males 68% of chips needed orthodontic treatment and 32% did not need (Table 5) (Table 6).

f. According to the indices of orthodontic treatment need 18% of chips had a great need for orthodontic treatment, followed by a slight need for orthodontic treatment with 26% and 55% with a moderate need for orthodontic treatment (Table 7) (Table 8).

g. According to the relationship between self-perception and prevalence of malocclusions 75% of chips presence of malocclusions not need orthodontic treatment, while 25% if required (Table 9).

Table 1 Sample distribution according to sex

Sex	n	%
Female	59	57%
Male	44	43%
Grand Total	103	100%

Interpretation of the table: The sample was divided in 59 (57%) of school female sex and 44 (43%) for school male.

Table 2 Prevalence of malocclusion in the population

Prevalence malocclusion	n	%
Malocclusion	99	96%
normoclusion	4	4%
Grand Total	103	100%

Interpretation of the table: population with malocclusion with 99% compared to normoclusion 4%.

Table 3 Prevalence of malocclusion in the population according to sex

Sign distribution agreement to sex	Female		Male		Grand Total	
	n	%	n	%	n	%
Malocclusion	56	95%	43	98%	99	96%
Normoclusion	3	5%	1	2%	4	4%
Grand Total	59		44		103	100%

Interpretation of the table: The female has a higher percentage of malocclusion 57%, as a normoclusion 75%.

Table 4 Prevalence of perception of the need for treatment

Prevalence of self-perception	n	%
Needs to	76	74%
Does not need	27	26%
Grand Total	103	100%

Interpretation of the table: we can see that 74% of the population needs orthodontic treatment

Table 5 Prevalence of self-perception of orthodontic treatment according to sex

Prevalence of self-perception to the sex	Female		Male		Grand Total	
	n	%	n	%	n	%
Needs to	46	78%	30	68%	76	74%
Does not need	13	22%	14	32%	27	26%
Grand Total	59		44		103	100%

Interpretation of the table: 78% of female schoolchildren manifest need orthodontic treatment compared to 68% male

Table 6 Severity levels of orthodontic treatment

Level orthodontic treatment need (IONT)	n	%
Great need	19	18%
Mild necesida	27	26%
Moderate need	57	55%
Grand Total	103	100%

Interpretation of the table: 55% of the population exhibits a moderate need for orthodontic treatment, followed by a slight need 26% and a great need 18%.

Table 7 Severity levels of orthodontic treatment according to sex

Levels orthodontic treatment need (IONT)	Female		Male		Grand Total	
	n	%	n	%	n	%
Great need	11	19%	8	18%	19	18%
Mild necesida	13	22%	14	32%	27	26%
Moderate need	35	59%	22	50%	57	55%
Grand Total	59		44		103	100%

Interpretation of the table:The moderate level of need is the largest population in need of orthodontic treatment states, with 59% for females and 50% for males.

Table 8 Relationship between self-perception and prevalence of malocclusions

List of self-perception and presence of malocclusions	Malocclusion		Normoclusion		Grand Total	
	n	%	n	%	n	%
Needs to	74	75%	2	50%	76	74%
Does not need	25	25%	2	50%	27	26%
Grand Total	99		4		103	

Table interpretation: In people with malocclusion most 75% is required orthodontic treatment, while the population with normoclusion 50% needs and 50% do not need treatment.

Table 9 Relationship between self-perception and the presence of malocclusions by sex

Relationship and presence malocclusions autpercepcón according to sex	Female		Male		Grand total	
	n	%	n	%	n	%
Needs to	46	78%	30	68%	76	74%
Malocclusion	4.5	76%	29	66%	74	72%
Normoclusion	1	2%	1	2%	2	2%
Does not need	13	22%	14	32%	27	26%
Malocclusion	11	19%	14	32%	25	24%
Normoclusion	2	3%	0	0%	2	2%
Grand Total	59		44		103	

Interpretation of the table: In indicator requires orthodontic treatment observe a higher percentage among females with 78% to the male with 68% and malocclusion variable is the highest percentage obtained with 76% for females and 66% for females.The display does not need treatment malocclusions with a higher percentage of 19% followed by 24% female male

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Conflict of interest

Authors declare that there is no conflicto of interest.

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