

Relationship between DMFT and limitation to brush teeth in schoolchildren from Sagrario, Cuenca Ecuador

Relación entre CPOD y limitación para lavarse los dientes en escolares del Sagrario Cuenca Ecuador

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Abstract

Objectives: The objective of this study was to relate the DMFT index and limitation of brushing teeth in 12-year-old schoolchildren of the El Sagrario parish in 2016. **Materials and Methods:** The present study has a quantitative, descriptive, retrospective relational approach. The sample consisted of 155 observation files consisting of: registration number, age, sex, parish, DMFT index and limitation to brush teeth. **Results:** It was represented by tables and bar graphs; used the statistical analysis of Tau_b Kendall. Both sexes presented a very low level with respect to the DMFT index, in terms of impact and severity in brushing their teeth, the male sex presented a limitation with a lower percentage than the female sex. **Conclusion:** There was a very low correlation between the study variables.

Keyword: dental caries, schoolchildren, OMS, health.

Resumen

Objetivos: El objetivo de este estudio fue relacionar el índice CPOD y limitación de lavarse los dientes en los escolares de 12 años de la parroquia El Sagrario en el año 2016. **Materiales y Métodos:** El presente estudio tiene un enfoque cuantitativo, descriptivo, retrospectivo relacional. La muestra fue de 155 fichas de observación que consta de: número de registro, edad, sexo, parroquia, índice CPOD y limitación para lavarse los dientes. **Resultados:** Se representó mediante tablas y gráficos de barras; empleado el análisis estadístico de Tau_b Kendall. Ambos sexos presentaron un nivel muy bajo respecto al índice CPOD, en cuanto al impacto y la severidad en lavarse los dientes el sexo masculino presentó limitación con un porcentaje inferior al sexo femenino. **Conclusión:** Existió una correlación muy baja entre las variables del estudio.

Palabras clave: caries dental, escolares, OMS, salud.

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Introduction

The World Health Organization (WHO) defines the term health as "the complete state of physical, mental and social well-being of an individual and not only the absence of conditions or diseases" by which it allows us to distinguish between a person with excellent health as a person who has a health condition. (1,2)

Oral conditions are a significant burden within the public health sector globally; the same ones that affect people throughout their lives causing discomfort, pain and deformation. Among the main oral diseases, it can be said that the main pathology and with a greater prevalence worldwide, is dental caries, which is defined as a multifactorial disease that causes the destruction of the hard tissues of the tooth caused by the acids of microbial deposits. Affecting about 90% of the school population between 5 and 17 years of age in Latin America. (3, 4, 5,6)

In Ecuador, according to the report of the regulation manual of the National Health System of the

Odontology Area of Ecuador 2010, it indicates that there is 88.2% of schoolchildren that present dental caries and the DMFT index (Evidence of the sequelae of dental caries in permanent dentition) reporting an average of 2.95 in 12-year-old schoolchildren. (7)

Taking into account the importance of the oral health of children, it is important to have a reliable epidemiological measurement method in which we can establish if they suffer from any condition.

The DMFT was introduced in 1937 by Henry Klein and Carroll E. Palmer as an epidemiological method for the measurement of dental caries. The objective of this method is to measure the progress of dental caries in permanent dentition by adding teeth. Each one has its respective value: carious (1), lost due to dental caries (2), filled (3), healthy (4) and not applicable (0), this index is calculated in an observational way. The WHO recommended that 12-year-old children be assessed with this health guide. (8, 9, 10)

Another factor that influences having good oral health is correct oral hygiene in which the remains of

food that are found in the mouth will be eliminated, helping to prevent dental caries, avoiding having halitosis and having a good feeling in the mouth. oral cavity. It is essential that parents are trained in tooth brushing techniques so that they can teach and accompany their children in the daily brushing of teeth. (11)

Materials and methods

The present research has a quantitative, descriptive, retrospective, relational study approach. The sample consisted of 155 records of 12-year-old schoolchildren, stratified into 74 women and 81 men from six public schools of El Sagrario Parish: Ciudad de Cuenca, Dolores J Torres, Eugenio Espejo, Ezequiel Crespo, Febres Cordero, Otto Arosemena. The data were taken from the project "Epidemiological Map of the Cuenca city" of the year 2016 that were found in the research department of the Dentistry career of the Catholic University of Cuenca.

The database was analyzed taking into account the study variables that were Independent variable: DMFT, Dependent variable: Limitation to brush teeth, covariate sex. As an inclusion criterion, it was taken that all the files have all the data and there are

no inconsistencies. The data were placed on a record card in the Microsoft Excel program by means of coding and validated by means of quality control by the researchers.

Data analysis was performed using descriptive statistics (tables and graphs), for the dependent and independent variable, while the correlation of variables was through the KENDALL statistical test.

The present research did not imply any bioethical conflict, because it was executed on data taken, the same that rest in the research office of the dentistry career and we have the prior authorization for the review of the same, in addition the respective will be saved confidentiality of the data provided.

The same that was previously approved by the bioethics committee of the Catholic University of Cuenca with certificate number Com. Bioethics. Od. UCACUE-155/2020.

Results

In DMFT levels according to sex, the Very Low level in women was 33.8%, while in men it was 33.3%, being slightly the same in both sexes. See table 1.

Table 1: DMFT levels according to sex

Sex	Very low		Low		Medium		High		Very High		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Female	25	33,8	16	21,6	21	28,4	9	12,2	3	4,1	74	100,0
Male	27	33,3	15	18,5	24	29,6	9	11,1	6	7,4	81	100,0

The male sex did not present an impact on the performance of brushing their teeth with 71.6%, followed by the female 33.8% if they presented an

impact on the performance of brushing their teeth. See table 2.

Table 2: Impact on teeth brushing performance according to sex

Sex	No impact		Impact		Total	
	n	%	n	%	n	%
Female	49	66,2	25	33,8	74	100,0
Male	58	71,6	23	28,4	81	100,0

According to severity, the male sex had 71.6% without imitation of brushing their teeth, presenting

a higher percentage compared to the female sex. See table 3.

Table 3: Severity in the limitation of brushing teeth according to sex

Sex	Without limitation		Little limitation		Regular limitation		Much limitation		Total	
	n	%	n	%	n	%	n	%	n	%
Female	49	66,2	11	14,9	8	10,8	6	8,1	74	100,0
Male	58	71,6	12	14,8	5	6,2	6	7,4	81	100,0

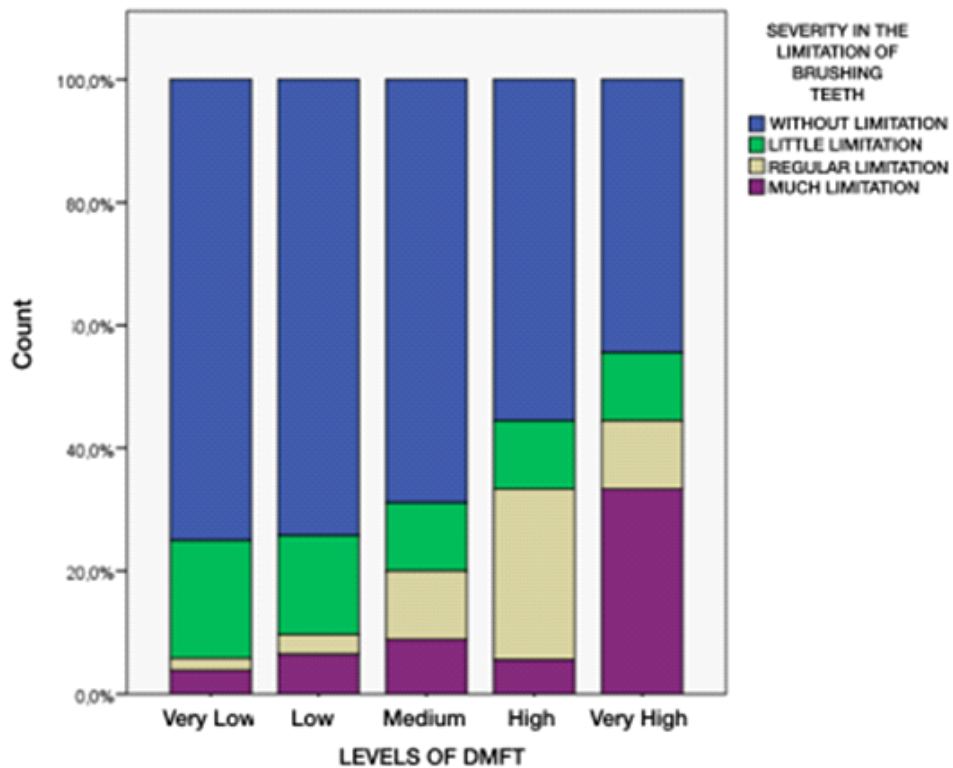
Between the DMFT levels and the severity in the limitation of brushing the teeth, it presented a very

low correlation of 0.016 according to the Tau KENDALL coefficient. See figure 1.

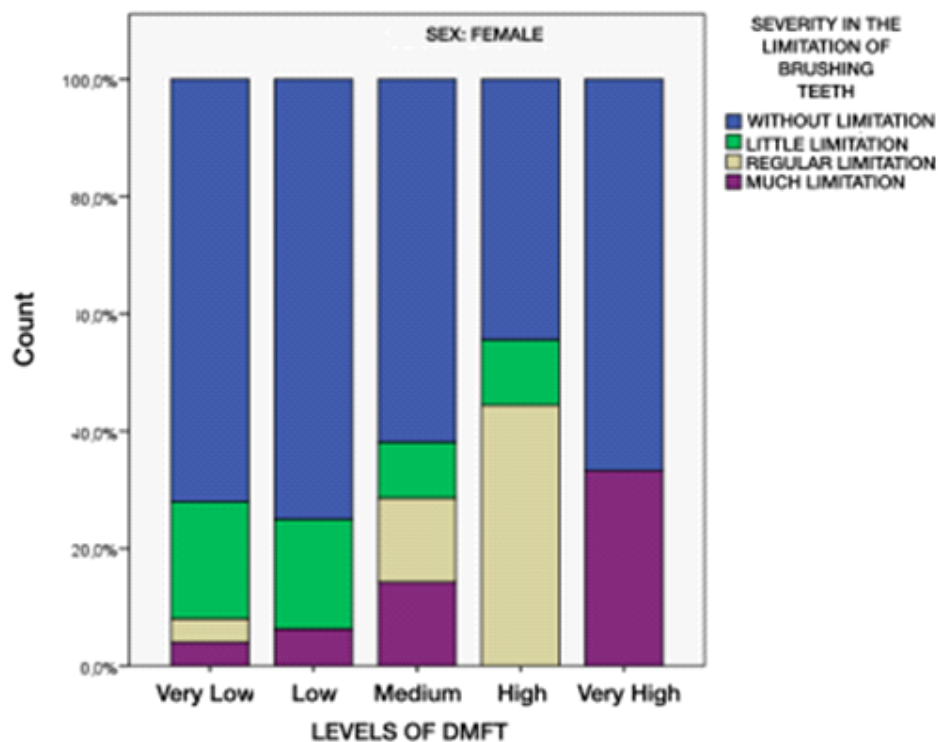
The levels of DMFT and the severity in the limitation of brushing the teeth the correlation was very low according to the female sex 0.091 and male 0.078

according to the Tau KENDALL coefficient. See figure 2.

Figure 1: Correlations of DMFT levels and severity of limitation to brush teeth

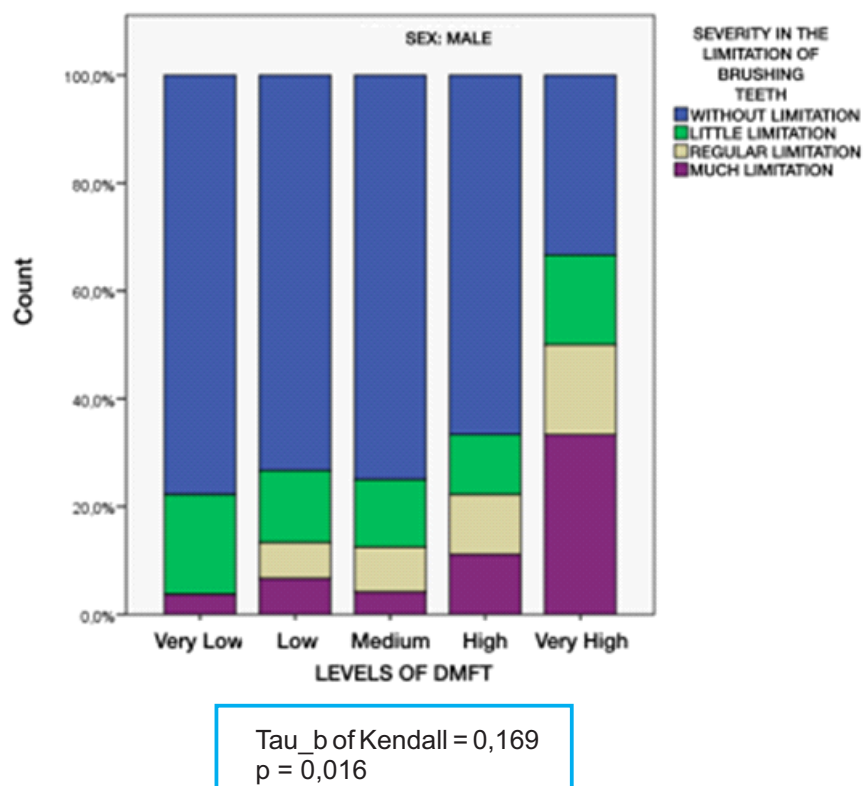


Tau_b of Kendall = 0,169
p = 0,016



Tau_b of Kendall = 0,171

Figure 2: Correlations of DMFT levels and severity in the limitation to brush teeth according to sex



Discussion

The present investigation was carried out in a 12-year-old population of the El Sagrario parish located in the city of Cuenca-Ecuador.

The sample used was 155 12-year-old students, being larger than the sample taken by Del Castillo (14) in Peru with 150 schoolchildren. The present study evidenced a very low level of DMFT in both female and male sex, a similar percentage to the Flores study (12) with a percentage of 31.7% at a general level regarding the very low level of DMFT in Ecuador. Vélez and Villavicencio (9) reported a very high level of DMFT in the female sex of 19.4% which differs from this study with a percentage of 4.1% for the female sex as a factor to consider is the location of these two parishes.

While the limitation to brush teeth did present an impact on the male population, which was less than the previous studies carried out in Peru, Ingunza (13) showed that the male sex presented an impact of 72.4%, coinciding with Del Castillo (14) in whose study the male sex presented an impact of 64.0%, Paredes (15) in his study presented a general impact of 41.4%; It should be noted that the studies in Peru were carried out in rural and marginal urban areas, on the other hand Morocho and Encalada (5) in Ecuador found an impact frequency of 35 for the male gender, while in this study for the male gender it was 23.

According to the severity levels for the limitation to

brush teeth, the regular level was higher in the female sex, finding similarity in the study carried out in Ecuador by Encalada (16) who found 8.33% at the regular level, Córdova (4) In his study in Ecuador, according to moderate severity, he found 6.00% in the female population, while Zhunio (17) in his study in El Sagrario parish (Ecuador) presented low severity at a general level with 36.7% There was a relationship in the Villaruel study (1) in Quito Ecuador with 23.3%, while in the Reinoso study (6) (Sayausí-Ecuador) there was a difference of 1.1%, which could be due to the location of the parishes, one being urban and the other rural. Regarding the correlation between the DMFT and the limitation to brush teeth, it was very low, this could be because the schoolchildren did not present a very high level of DMFT that directly limited tooth brushing and that the study was carried out in schools of the urban sector; However, the present study presented a limitation in the search for information since no related articles were found on it and the evaluation of dental caries was through data already obtained.

Conclusion

The correlation between the DMFT index and the limitation of brushing the teeth in 12-year-old schoolchildren was very low at the general level and at the level of both sexes.

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Contribution of the authors

All authors participated in the entire research process.

Interest conflict

We declare no conflict of interest

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