# International Journal of Health Science

"LEVEL OF KNOWLEDGE ABOUT ORAL HEALTH HYGIENE OF PARENTS OF CHILDREN UNDER 5 YEARS OF AGE IN THE MANÚ PARISH, SARAGURO CANTON, PROVINCE OF LOJA"

#### Gahona Carrión Diana

Professor of Dentistry at: Universidad Nacional de Loja, Ecuador

#### Piedra Burneo Claudia

Professor of Dentistry at: Universidad Nacional de Loja, Ecuador

## Gonzalez Eras Susana

Professor of Dentistry at: Universidad Nacional de Loja, Ecuador

# Merino Carrión Cisne

Former student of Dentistry at: Universidad Nacional de Loja, Ecuador



All content in this magazine is licensed under a Creative Commons Attribution License. Attribution-Non-Commercial-Non-Derivatives 4.0 International (CC BY-NC-ND 4.0). Abstract: In the parish of Manú there is a high prevalence rate of oral pathologies in children and pregnant women, so it is essential to act through a set of actions to reduce their prevalence. The objective of this study was to evaluate the level of knowledge about oral hygiene of parents of infants under 5 years of age and pregnant women in this parish, before and after the application of an oral health program, aimed at promotion and prevention. The study carried out is qualitative, descriptive transversal, and comparative. Two validated surveys were applied and the data were processed in the SPSS v.28.0 statistical program. Obtaining the following results: prior to the application of the education program there was 100% lack of knowledge, and after it an increase in the level of knowledge was evident, with a total average of 96.6% correct answers. According to the Kolmogorov Smirnov normality test, it indicates that the results are not parametric, there are significant differences between the results of the pre- and post-Education surveys. The non-parametric Wilconson test shows a significant change, resulting in P value = 0.000000 being less than 0.05. Furthermore, McNemar's non-parametric test indicates that the treatment applied to improve the level of knowledge worked, the P value = 0.000000 is less than 0.05. Concluding that the oral hygiene education program improved parents' knowledge, allowing the transmission of a culture of oral health promotion and prevention that contributed to improving the quality of life of this intervention group.

**Keywords:** Education; Dental hygiene; infants; prevention; promotion.

# INTRODUCTION

Oral diseases are currently a social problem that cause discomfort and pain to different age groups during a certain stage of their life or throughout it. For this reason, timely attention is necessary from the pregnant woman, where the first dentition is formed, and, in children under 5 years of age, a fundamental age at a dental level to begin an educational and preventive treatment plan that allows reducing oral pathologies ( Cisneros and Hernandez, 2011).

The lack of knowledge regarding good oral hygiene habits, as an effective means to prevent the appearance of infectious oral and dental diseases, constitutes a problem for a large part of the child population (Cruz & Mamani, 2016), with the oral hygiene of minors being the responsibility of the children. parents, guaranteeing adequate growth and development both at the craniofacial and physical level of the child. When there is no correct harmony between these dimensions, negative effects are generated on the selfesteem and quality of life of children. (González Penagos et al., 2015).

In Ecuador, according to the latest epidemiological study of oral health carried out by the Ministry of Public Health in 2014, the National Department of Stomatology reveals that 88.2% of schoolchildren have dental caries. At the country level, at the age of 6 years, it is barely 0.22%, growing rapidly as age advances and thus demonstrating the seriousness of the problem (Cabeza Bernhardt, 2016).

The Manú parish presents similarity with studies at a global, national and local level, where it was evident that among the most prevalent pathologies are the following: dental caries, gingival diseases, pulpitis, retained tooth root and periapical abscesses without fistula, presenting a high percentage in morbidity care and mainly affecting vulnerable groups such as children under 5 years of age. (GAD MANU, 2015). And associating it with the lack of knowledge of the parents and their supervision during the hygiene of the child's mouth.

To achieve a reduction in the most prevalent diseases that harm the oral cavity, we worked on prevention-oriented dentistry, which was primarily focused on children under 5 years of age in the Manú parish. It is important to mention that, to comply with the activities established in the linkage project, there was an inter-institutional agreement between the Intercultural Municipal Decentralized Autonomous Government of Saraguro, the Decentralized Autonomous Government of the Manú Parish, Zonal Coordination 7 Health and the National University of Loja; to jointly develop a culture of prevention that promotes oral health care and contributes to improving the quality of life in the population.

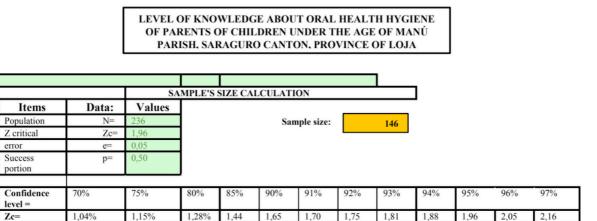
This study aims to evaluate the level of knowledge about oral hygiene of parents of children under 5 years of age, to know in which topics there is lack of knowledge; and based on this information, develop an oral health program aimed at promotion and motivation.

## MATERIALS AND METHODS

The present study is qualitative, crosssectional, descriptive and comparative.

#### UNIVERSE AND SAMPLE

The universe; It is made up of the parents of 236 children under 5 years of age from the Manú parish, Saraguro canton, Loja province. The Sample was obtained from the calculation of the total universe processed in Excel with a 95% confidence level.



# INCLUSION AND EXCLUSION CRITERIA

## **INCLUSION CRITERIA**

- Parents of children under 5 years old.
- Parents of children who live in the Manú parish.
- Parents who collaborate with the 2 surveys.
- Parents who voluntarily accept the participation of their children in this study.

#### **EXCLUSION CRITERIA**

- Parents of children over 5 years old.
- Parents of children who do not live within the Manú parish.
- Parents who do not complete the 2 surveys.
  - Parents who refuse to participate.

## TECHNIQUE FOR DATA COLLECTION

## **Bibliographic study**

A collection of information was carried out about the topic to be studied in this research work. Information from biomedical databases Pubmed, Elsevier, scielo, Google scholar; using terms such as "oral hygiene in children", "children's dentistry", "oral hygiene techniques" "baby oral care", "importance of oral hygiene" "oral hygiene instruments" "children's oral health" "oral hygiene"

**Procedures**: Preparation and validation of instrument and informed consent.

To carry out this study, a survey-type instrument was designed, in which, through the analysis and interpretation of the data obtained, the level of knowledge of parents of children under 5 years of age about oral hygiene was evaluated. The surveys consisted of 8 closed questions posed from the collection of articles studied as a basis and existing literature on oral hygiene in children under 5 years of age, where the correct answer criterion was evaluated.

In addition, an informed consent was prepared through which parents were informed about the project, the protocols to follow and their respective authorization for the survey data to be used in this degree work.

The validation of the Survey was carried out by academic experts on the topic of oral hygiene in children.

## **Field work**

**Step 1:** Prior to the promotion program, the survey was applied to evaluate the level of knowledge of parents on oral hygiene issues in children under 5 years of age in the Manú parish, Saraguro Canton.

**Step 2.** The promotion and prevention program was carried out for parents in the different neighborhoods of the

Manú parish, through talks, audiovisual resources.

**Step 3.** The survey was applied again to parents to determine the level of knowledge achieved after the implementation of the promotion and prevention program.

# INFORMATION PROCESSING

Once the data from the surveys were obtained, they were processed in the statistical program SPSS v.28.0 (Statistical Package for the Social Sciences). To tabulate the survey questions applied before and after the execution of the Education and Motivation Program, the correct answer criterion was used, and it was evaluated according to the Likert scale (<4 Poor, 5 Acceptable, 6 Good Level, 7 Very Good Level, 8 Excellent) the level of knowledge of parents of children under 5 years of age; Subsequently, the Kolmogorov-Smirnov Normality Test was applied to correlate the result of the sum of the surveys applied and evaluate whether they are parametric or not. Finally, the non-parametric tests of Wilconson and McNemar were applied to evaluate whether it is acceptable or not. not the treatment applied.

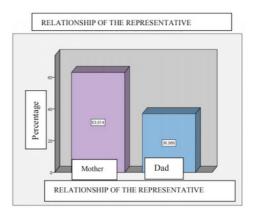


Figure 1. Relationship of the representatives with the child

**Analysis**: The relationship of 100% of the parents surveyed corresponds to 63% the mother and 36.99% the father of the child.

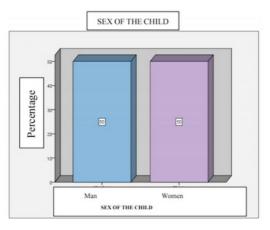


Figure 2. Child's sex

**Analysis:** Of 100% of the total number of children, 50% are men and 50% are women.

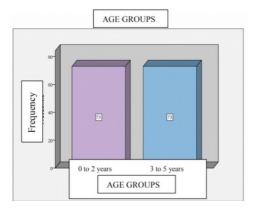


Figure 3. Age groups children under 5 years

**Analysis:** The age frequency of the 146 children under 5 corresponds to 73 children aged between 0 and 2 years and 73 children aged 3 to 5 years.

#### RESULTS

Level of knowledge about oral hygiene in parents of children under 5 years of age

**Analysis:** In the previous survey applied to the parents, it was analyzed with the criterion of correct response with a value of 1 point, regarding the use of dental floss, 100% (146 parents) responded incorrectly, regarding changing their child's toothbrush. 97.3% (142 parents) responded incorrectly and 2.7% (4 parents) responded correctly, regarding the beginning of their child's oral hygiene.

95.9% (140 parents) responded incorrectly. and 4.1% (6 parents) correctly, in relation to the application of an appropriate technique for brushing their child's teeth, 93.2% (136 parents) responded incorrectly and 6.8% (10 parents) correctly, corresponding to the topic of instruments to perform oral hygiene prior to their child's dental eruption, 87.7% (120 parents) responded incorrectly and 12.3% (26 parents) correctly, about how often they brush their child's teeth, 81.5% (119 parents) responded incorrectly and 18.5% (27 parents) responded correctly, in relation to the amount of toothpaste placed on the toothbrush. teeth of their child within a scale of 0-5 years, marking the correct answer as the size of a pea, and the size of a grain of rice. 81.5% (119 parents) answered incorrectly and 18.5% % (27 parents) correctly, were divided into two age groups of 0-2 years (correct answer the size of a grain of rice) and 3-5 years (correct answer the size of a pea) 70.5 % (103 parents) responded incorrectly and 29.5% (43 parents) responded correctly, helping their child brush their teeth. 73.2% (107 parents) responded incorrectly and 27.8% (39 parents) correctly.

SCORE	INTERPRETATION
< 4 correct questions	Deficient
5 correct questions	Acceptable
6 correct questions	Good level.
7 correct questions	Very good level
8 correct questions	Excellent

Table 2. Likert scale applied in the pre-Education survey.

Interpretation	Frequency	Percentage
Deficient	146	100,0 %

Table 3. Interpretation applying the Likert scale to the Pre-Education Survey.

Previous Questionnaire Questions	Answers		Percentage	Wrong answers (fr)	Incorrect answers (%)	Correct answers (fr)	Correct answers (%)
1 De seus las ses frances de starres	a) 1 year old*	62	42,5 %				
1 Do you know from what age you must practice your child's oral hygiene?	b) From the Eruption of the first Tooth*		53,4 %	140	95.9 %	6	4,1 %
	c) From birth	6	4,1 %				
	a) No cleaning must be done*	109	74.7 %		87.7		
2. Do you think that before teeth erupt, some of the following	b) Soft bristle brush with children's paste *	19	13.0 %	128	%	18	12.3
instruments can be used to clean the mouth?	c) Soft gauze or clean cloths wrapped around the index finger	18	12.3 %	120		10	%
	a) Does not brush*	24	16,4%				
3. Who helps your child brush	b) Alone*	83	33 56,8% 107 73		73.2%	3.2% 39	26.7%
their teeth?	c) With the help of dad, mom and another family member	39	26,7%	107	75.270	57	20.7 /0
	a) He doesn't brush his teeth *	24	16,4%				
4. How many times a day do you brush your child's teeth?	b) 1 time a day * 95 65.1% 119		81.5%	27	18.5%		
	c) 2 to 3 times a day	27	18.5%				
	a) Does not use toothpaste *	49	34,2				
5. How much toothpaste do you put on your child's toothbrush to	b) Entire brush head*	70	47,3	125	135 92.5%		7 504
brush his/her teeth?	c) Size of a pea (3-5 years)	25	17,1	155			7,5%
	d) Size of a grain of rice (-2 years)	2	1,4				
	a) I don't know what dental floss is *	5	3,4%				
	b) Never*	128	87.7 %				
6. Do you use dental floss to clean your child's mouth?	c) From time to time not every day *	13	8,9 %			0	0 %
	d) Once a day	0	0 %				
	e) Several times a day	0	0 %				
	a) It doesn't change it *	21	14,4 %				
7. How often do you change your	b) When it breaks*	ks* 25 17,1 % 142 9		97.3	4	2,7 %	
child's toothbrush?	c) Every 6 months to 1 year*	96	65,8 %	142 %		4	2,7 70
	d) Every 2 or 3 months	4	2,7 %				
8. Do you know an appropriate	a) No*	136	93,2 %	126	93,2	10	6.0.0/
technique for brushing your child's teeth?	b) Yeah	10	6,8 %	136	%	10	6,8 %

Table 1. Summary Pre-Education Survey

\* Incorrect answers

Tabulation data from previous SPSS surveys

Prepared by Diana Gahona, Claudia Piedra, Susana Gonzalez and Cisne Merino.

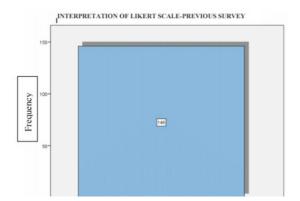


Figure 4. Interpretation applying the Likert scale to the Pre-Education Survey.

**Analysis:** The Likert scale was applied to the processed data of the 146 parents surveyed (100%), 100% obtained scores < 4 correct questions, in the interpretation on the Likert scale, 100% of the parents presented poor knowledge.

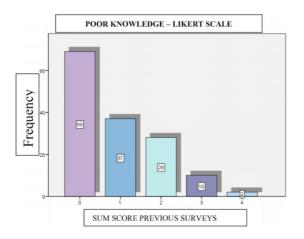


Figure 5. Categorization of Deficient Knowledge from the Pre-Education Survey.

**Analysis:** In the sum of the scores, according to the Likert scale prior to Education, 100% (146 parents) are at a deficient level of knowledge, of which 69 parents answered 0 correct questions, 37 parents 1 correct question, 10 parents 3 correct questions and 4 parents 2 correct questions.

**Analysis:** In the subsequent survey applied to the parents, it was analyzed with the criterion of correct response with a value of 1 point, regarding the use of dental floss,

88.6% (122 parents) answered incorrectly and 16.4% (24 parents) correctly, in relation to the amount of toothpaste you put on your child's toothbrush within a scale of 0-5 years, marking the size of a pea as the correct answer, and the size of a grain of rice. 0% (0 parents) answered correctly, it was divided into two age groups of 0-2 years (correct answer the size of a grain of rice) and 3-5 years (correct answer the size of a pea) 54.1 % (79 parents) answered incorrectly and 45.9% (67 parents) answered correctly, corresponding to the topic of instruments to perform oral hygiene prior to their child's dental eruption, 15.1% (22 parents) responded incorrectly and 84.9% (124 parents) responded correctly, to changing their child's toothbrush 5.5% (8 parents) responded incorrectly and 94.5% (138 parents) family) correctly, regarding the beginning of their child's oral hygiene, 4.8% (7 parents) answering incorrectly and 95.2% (139 parents) correctly, regarding brushing times 3.4% (5 parents) answered incorrectly and 96.6% (141 parents) answered correctly, helping their child brush their teeth 2.7% (4 parents) family) responded incorrectly and 97.8% (142 parents) responded correctly, in relation to the application of an appropriate technique for brushing their child's teeth, 100% (142 parents) responded correctly.

Interpretation	Frequency	Percentage
Deficient	1	,7 %
Aceptable	4	2,7 %
Good level	28	19,2 %
Very good level	96	65,8 %
Excellent	17	11,6 %
Total	146	100,0 %

Table 5. Interpretation applying the Likert scale to the Post-Education Survey.

Post Questionnaire Questions	Answers		Percentage	Incorrect answers (fr)	Incorrect answers (%)	Correct answers (fr)	Correct answers (%)
	a) 1 year of age*	0	0 %				
1 Do you know from what age you must practice your child's oral	e your child's oral Tooth*		4,8 %	7	4,8 %	139	95,2 %
hygiene?	c) From birth	139	95,2 %				
	a) No cleaning must be done*	1	0,7 %				
2. Do you think that before teeth erupt, some of the following instruments can be used to clean the	b) Soft bristle brush with children's paste *	21	14,4 %	22	15,1 %	124	84,9 %
mouth?	c) Soft gauze or clean cloths wrapped around the index finger	124	84,9 %				
	a) Does not brush*	0	0 %				
3. Who helps your child brush their	b) Alone*	4	2.7 %	4	2,7 %	142	97,3
teeth?	c) With the help of dad, mom and another family member	142	97,3 %				%
	a) He doesn't brush his teeth *	0	0 %		3,4 %	141	
4. How many times a day do you	b) Once a day *	5	3,4 %	5			96,6
brush your child's teeth?	c) 2 to 3 times a day	141	96,6 %				%
	a) Does not use toothpaste *	0 %	0 %				
5. How much toothpaste do you put on your child's toothbrush to brush	b) Entire brush head*		0 %	79	54.1	67	45.9
his/her teeth?	c) size of a pea	108	74 %	//	%	07	%
	d) Size of a grain of rice	38	26 %				
	a) I don't know what dental floss is *	0	0 %				
	b) Never*	0	0 %				
6. Do you use dental floss to clean	c) From time to time not every day *	1	0,7 %	$-1_{122}$ 88,6		2 94	16,4 %
your child's mouth?	d) Once a day	24	16,4 %				
	e) Several times a day	121	82,9 %				
	a) It doesn't change it *	0	0 %				
7. How often do you change your child's toothbrush?	b) When it breaks*	0	0 %				94,5
	c) Every 6 months to 1 year*	8	5,5 %	8	5,5 %	138	94,5 %
	d) Every 2 or 3 months	138	94,5 %				
8. Do you know an appropriate	year*	0	0 %				100
technique for brushing your child's teeth?	b. Yeah	146	100 %	0	0 %	100%	100 %

Table 4. Post-Education Survey Summary.

\* Incorrect answers

Tabulation data from previous SPSS surveys

Prepared by Diana Gahona, Claudia Piedra, Susana Gonzalez and Cisne Merino.

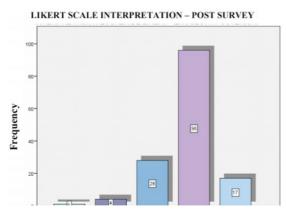


Figure 6. Interpretation applying the Likert scale to the Post-Education Survey.

The Likert scale was applied to the processed data of the 146 parents surveyed (100%), 65.8% (96 parents) with 7 correct questions, a Very Good level, 19.2% (28 parents) with 6 correct questions Good level, 11.6% (17 parents) with 8 correct questions Excellent level, 2.7% (4 parents) with 5 correct questions acceptable level and 0, 7 (1 parents) with >4 correct questions Deficient level.

Statisticians		Add score Pre-Education Survey	Post-Education Survey Score Adds	
Surveye	ed	146	146	
Fashio	n	0	7,00	
Minimu	m	0	4,00	
Maximu	m	4	8,00	
	20	,00	6,0000	
	25	,00	7,0000	
D (1	40	,00	7,0000	
Percentiles	50	1,00	7,0000	
	70	1,00	7,0000	
	75	2,00	7,0000	

Table 6. Descriptive statistics of the Sum of the scores of the pre- and post-Education surveys.

The processed data from the 146 pre- and post-surveys added together reveals in the pre-survey the score of 0 is the most repeated, the minimum number of incorrect answers is 0 and the maximum number of correct answers is 4, in the surveys carried out after the execution of the promotion program. and oral health education the most repeated score 7, minimum of incorrect answers 4 and maximum 8 correct answers.

Next, the Normality Test was applied to correlate the results of the surveys and evaluate whether they are parametric or not, subsequently the non-parametric tests of Wilconson and McNemar were applied to evaluate whether the treatment applied is acceptable or not.

	Kolmogorov-Smirnov <sup>a</sup>			
	Statistical	Gl	Sig.	
Add pre-Education survey score.	,281	146	,000	
Add post-Education survey score.	,362	146	,000	

Table 7. Kolmogorov-Smirnov Normality Test.

*Analysis:* The normality test is performed between the sum of the scores from the preand post-education surveys. According to the Kolmogorov Smirnov normality test, it indicates that they are not parametric, there are significant differences between the results of the pre- and post-Education surveys.

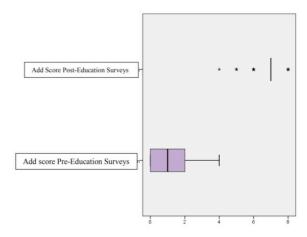


Figure 7. Comparison of the sum of the sum of the pre- and post-education survey

**Analysis :** The graph shows a comparison of the sum of test 1 and test 2, indicating that knowledge improved after education.

	Sum score post-Education survey - Sum score pre- Education survey
Z	-10,564 <sup>b</sup>
Sig. Asymptotic (bilateral)	,000
a. Wilcoxon signed rank tes	st
b. Based on negative ranges	S.

Table 8. Wilcoxon non-parametric test.

**Analysis:** It is made from the sum of averages from the Pre- and Post-Education survey. Resulting in P value = 0.000000 which is less than 0.05. Which indicates that the Wilconson non-parametric test shows significant change, the treatment worked, the level of knowledge after Education increased.

	Values	Interpretation
D	0-1	Inadequate Knowledge
Previous Survey	>1	Adequate knowledge
C I I	<6	Inadequate knowledge
Survey Later	7-8	Adequate knowledge

Table 9. Interpretation McNemar test.

To perform the Mc Nemar test, the descriptive statistics of the sum of the averages of the Pre- and Post-Education Survey were taken into account, taking the data of the 25th percentile (cut-off point 0 and 6) as a cut-off point with interpretation., appropriate and inappropriate.

McNemar test Interpretation before Education and Interpretation after Education	
Surveyed	146
Chi squared	16,118
Asymptotic singular	,000
a. McNemar test	
b. Corrected for c	ontinuity

Table 10. McNemar non-parametric test.

**Analysis:** the P value = 0.000000 is less than 0.05. McNemar's non-parametric test shows that the treatment applied to improve the level of knowledge worked.

#### DISCUSSION

Evaluating the level of knowledge of a population is essential to establish strategies that reinforce concepts and habits, thus improving the quality of life. As mentioned (Mayta Sulla & Tapoa Laguna, 2021) in the study carried out in Arequipa-Peru, pointing out that this type of study contributes statistical data to health professionals, directing their promotion strategies towards parents, in order to improve their knowledge on oral health issues; They are responsible for the overall health of their children.

The present study evaluated the level of knowledge of 146 parents of children under 5 years of age from the Saraguro canton, Province of Loja and determined that there is a high level of ignorance regarding oral hygiene habits, especially in relation to the use silk or dental floss.

Similarly, in a study carried out in Quito among the students of Eugenio Espejo (Revelo Navarrete, 2019), the objective of which was to determine the prevalence and severity of early childhood caries in 431 children aged 3 to 5 years and the different risk factors. risk, a high prevalence and severity of dental caries in early childhood was obtained, related to the lack of knowledge about oral hygiene and proper use of dental floss. Likewise, in the study by (Sánchez-Peña et al., 2018) carried out at the Child Development Centers of the Colombian Institute of Family Welfare of Santa Rosa de Cabal, which had the purpose of determining the knowledge and practices of 20 educators and oral health conditions of 198 children from community homes, it was recorded that 50% of the educators brushed the infants without using dental floss, showing a high prevalence of cavities in the infants, as a consequence of conceptual gaps that require educational approach.

Unlike another study carried out in the Dentistry Service of the Polyclinic of the

National Police of Peru in the district of Chorrillos (Yucra Jacinto, 2018), where the degree of knowledge of 160 parents was determined, related to elements of oral hygiene, in pediatric dental patients from 3 to 9 years old. The following results were obtained: regular knowledge 63.75%, good 30%, poor 6.25%. This difference is due to the different instruments applied in each research work, as well as socioeconomic, sociocultural, and sociodemographic differences, which influence the level of knowledge about oral health.

The present study also allowed us to determine the level of knowledge of parents after the application of the education and motivation program on oral hygiene in children under 5 years of age taught in the Manu-Saraguro parish, achieving an increase in parents' knowledge. family by 96.6%, highlighting that the program taught in the community was productive (wilconson 0.000), and had significantly positive results. Results that are similar to those obtained by (Bizarro et al., 2019), who applied the educational program on oral health prevention in children under five years of age aimed at 40 parents in situations of vulnerability and poverty in Puno-Peru, The results of the knowledge prior to the application of the educational program detailed that 29% knew about the different oral health prevention topics and 71% did not know. After applying the educational program, 95% acquired knowledge on different oral health topics (Wilcoxon =-7.186 p=0.000). Likewise, a study carried out at the Buen Vivir Children's Center - Manuela Cañizares in Quito-Ecuador (Narváez Chávez, 2017) with the objective of determining the association that exists between the knowledge of 45 parents about oral health and the use of educational techniques in relation to the presence of biofilm and dental caries in children from 1 to 3 years of age, demonstrated that after

the educational intervention to improve the knowledge of parents, there was a difference between before and after with a average rating from 7.53 to 9.13; finding a statistically significant difference (Students t).

The present study sought to reinforce and guide parents on the care of oral hygiene in children under 5 years of age in the population of Manú canton Saraguro, being responsible for transmitting adequate knowledge about oral hygiene to their children, who They will put them into practice throughout their lives, as mentioned (Benavente Lipa et al., 2014) in their study carried out in Lima-Peru; indicating that parents are responsible for Oral Health Education in homes, but not all are prepared to carry it out correctly, transmitting wrong concepts and habits to their children, harmful to the child's oral health.

# CONCLUSIONS

According to the investigation carried out, the following conclusions were reached:

• According to the application of the first survey in which we were able to evaluate the level of knowledge of parents of children under 5 years of age, it was shown that there is 100% ignorance regarding the use of dental floss; 97.3% on toothbrush change time; and 95.9% regarding the beginning of the child's oral hygiene; At the same time, it was possible to evaluate other topics related to oral hygiene, in which there was a high level of ignorance.

• An oral health education program was executed, reinforcing the topics of lack of knowledge from the previous survey such as use of dental floss, changing the toothbrush, beginning of oral hygiene, brushing technique, amount of toothpaste oral hygiene instruments, brushing frequency and those responsible for the child's oral cleaning; Subsequently, a new survey was applied and it was observed that the level of knowledge increased by 96%.

• The results obtained in the survey prior to the implementation of the prevention program demonstrated a high percentage of general ignorance in all applied topics. Thus, taking these results into account, a poster was made to reinforce and guide parents on oral hygiene care in children under 5 years of age in the population of Manú, Saraguro canton.

# REFERENCES

Armas Vega, A. del C., Pérez Rosero, E. R., Castillo Cabay, L. C., & Agudelo-Suárez, A. (2019). Calidad de vida y salud bucal en preescolares ecuatorianos relacionadas con el nivel educativo de sus padres. *Rev Cubana Estomatol*, 56(1), 52–61.

Benavente Lipa, L. A., Chein VIllacampa, S. A., Campodónico Reátegui, C. H., Palacios Alva, E., Ventocilla Huasupoma, M. S., Castro Rodríguez, A., Huapaya Paricoto, O., Álvarez Paucar, M. A., Paulino Córdova, W., & Espetia Aguirre, A. (2014). Nivel de conocimientos en salud bucal de las madres y su relación con el estado de salud bucal del niño menor de cinco años de edad. *Odontología Sanmarquina*, *15*(1), 14. https://doi.org/10.15381/os.v15i1.2823

Bizarro, W., Sucari, W., & Quispe, A. (2019). Revista Innova Educación. Revista Innova Educación, 1. https://bit.ly/2ZvDx6K

Cabeza Bernhardt, G., González Andrade, F. y Paredes Andrade, C. (2016). Estado de salud oral en el Ecuador. *Revista OACTIVA UC Cuenca*, 65-70.

Cisneros Domínguez, G. y Hernández Borges, Y. (2011). La educación para la salud bucal en edades tempranas de la vida. *MEDISAN*, *15*(10), 1445-1458. http://scielo.sld.cu/scielo.php?script=sci\_arttext&pid=S1029-30192011001000013&lng=es&tlng=pt

Cruz, S., & Mamani, G. (2016). IMPACTO DE APLICACIÓN DE UNA ESTRATEGIA EDUCATIVA DE AUTOCUIDADO EN LA SALUD BUCAL EN ESCOLARES. IMPACT. *Evidencias En Odontologia Clinicaogia Clinica*, 2, 15–17.

Delgado Pilozo, M. E., Bravo Cevallos, D., & Chusino Alarcon, E. (2016). Nivel de conocimiento de higiene oral de las madres y su influencia en la salud bucodental menores 0 – 3 años. *Revista Publicando*, *3*(7), 90–97.

 $GAD\,MANU.\,(2015).\,PLAN\,DE\,DESARROLLO\,Y\,ORDENAMIENTO\,TERRITORIAL.\,https://docplayer.es/20425326-Gobierno-autonomo-descentralizado-parroquial-rural-de-manu.html$ 

González Penagos, C., Cano-Gómez, M., Meneses-Gómez, E. J., & Vivares-Builes, A. M. (2015). Perceptions of children's oral health. *Revista Latinoamericana de Ciencias Sociales, Niñez y Juventud*, 13(2), 715–724. https://doi.org/10.11600/1692715x.13211270314

Mayta Sulla, A. V., & Tapoa Laguna, M. (2021). Nivel de conocimiento sobre salud bucal en padres de niños preescolares en consultorios odontológicos, Arequipa 2021. [Cesar Vallejo]. In *Promoción de la salud y desarrollo sostenible*. http://repositorio. uwiener.edu.pe/handle/123456789/2216%0Ahttp://www.scielo.br/pdf/ean/v13n2/v13n2a08.pdf. 2009 abr-jun; 13(2).

Narváez Chávez, A. M. (2017). ASOCIACIÓN ENTRE EL CONOCIMIENTO DE LOS PADRES SOBRE SALUD BUCAL Y USO DE TÉCNICAS EDUCATIVAS CON RELACIÓN A LA PRESENCIA DE BIOFILM Y CARIES EN INFANTES (Vol. 110265).

Revelo Navarrete, C. E. (2019). Prevalencia y severidad de caries de la primera infancia y sus factores de riesgo en niños de edad preescolar. http://www.dspace.uce.edu.ec/bitstream/25000/18254/1/T-UCE-0010-FIL-349.pdf

Sánchez-Peña, M. K., Galvis-Aricapa, J. A., Álzate-Urrea, S., Lema-Agudelo, D., Lobón-Córdoba, L. M., Quintero-García, Y., & Carmona-Medina, S. L. (2018). Conocimientos y prácticas de las agentes educativas y condiciones de salud bucal de niños del municipio de Santa Rosa de Cabal, Colombia. *Universidad y Salud*, 21(1), 27–37. https://doi.org/10.22267/rus.192101.137

Yucra Jacinto, D. A. (2018). GRADO DE CONOCIMIENTO DE LOS PADRES SOBRE HIGIENE BUCAL EN PACIENTES ODONTOPEDIÁTRICOS. In *Universidad Inca Garcilaso de la Vega* (Vol. 1, Issue 52). http://repositorio.uigv.edu.pe/ handle/20.500.11818/344