


Educational program on prevention of oral health in children under the age of five

Programa educativo sobre prevención en salud bucal en niños menores de cinco años


Sheyla Cervantes¹

Universidad Nacional del Altiplano de Puno, Puno – Puno, Perú

 <https://orcid.org/0000-0002-7249-8966>


Wilson Sucari²

Universidad Nacional del Altiplano de Puno, Puno – Puno, Perú

 <https://orcid.org/0000-0001-5874-0966>

Tania Padilla³

Universidad Nacional del Altiplano de Puno, Puno – Puno, Perú

 <https://orcid.org/0000-0002-3083-1417>

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ORIGINAL ARTICLE

KEYWORDS

children, parents,
educational program,
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Summary: The objective of the research was to improve the level of knowledge of preventive techniques in oral health through the Educational Program called "Healthy mouths, happy faces" in children under 5 in vulnerable situations in Puno (Peru). Study was experimental, longitudinal and prospective with pre and posttest using educational and communicative method. The simplified Greene-Vermillion index and a validated questionnaire called "Oral Health for Parents" were used to evaluate oral hygiene in children. From the analysis of the results, it's highlighted that the aforementioned program should be considered in prevention and promotion of oral health, since it promotes optimal knowledge in the adult population that was evident in the oral health of children under 5 years of age at the end of the intervention. It's concluded that an educational program on prevention in oral health improves the level of knowledge of parents about the oral health of their children, reducing bacterial plaque in children, evidenced by a positive index of oral hygiene after the intervention.

PALABRAS CLAVE

niños, padres,
programa educativo,
prevención, salud
bucal.

Resumen: El objetivo de la investigación fue mejorar el nivel de conocimiento de técnicas preventivas en salud bucal mediante el Programa Educativo denominado "Boquitas sanas, caritas felices" en niños menores de 5 años en situación de vulnerabilidad en Puno (Perú). Estudio fue de tipo experimental, longitudinal y prospectivo con pre y post prueba utilizando método educativo y comunicativo. Para evaluar la higiene oral en los niños fue empleado el índice simplificado de Greene-Vermillion y un cuestionario validado denominado "Salud bucal para padres de familia". Del análisis de los resultados destaca que el mencionado programa debe ser considerado en prevención y promoción de la salud bucal, ya que promueve el conocimiento óptimo en la población adulta que se evidenció en la salud bucal de los niños menores de 5 años

¹ Correspondencia: slcervantes@unap.edu.pe

² Correspondencia: wsucari@unap.edu.pe

³ Correspondencia: tpadilla@unap.edu.pe



al finalizar la intervención. Se concluye que un programa educativo sobre prevención en salud bucal mejora el nivel de conocimiento de los padres de familia sobre la salud oral de sus hijos, disminuyendo la placa bacteriana en los niños, evidenciado en un positivo índice de higiene oral después de la intervención.

1. INTRODUCTION

Peru is one of the countries most affected by oral diseases like any developing country (Santa Cruz et al., 2019), bacterial plaque is considered by the World Health Organization (WHO), as the etiological factor fundamental of caries and periodontal diseases (Van HJ, 2002). Thus, the importance of oral hygiene in promoting and preventing oral health in children can be understood (Rufasto Goche & Saavedra Alvarado, 2014).

Early childhood has been defined from gestation to eight years of age, considered an important stage due to the growth and development process in this period (Sánchez-Peña et al., 2018). Being early childhood caries one of the most frequent pathologies in childhood whose etiology is multifactorial. The knowledge, practices and attitudes of parents in their prevention and control are important, as well as eating habits, care in oral hygiene, frequency of visits to the dentist, presence and severity of the disease, etc. (Victorio -Pérez, et al., 2019). Reason why, special attention should be given to children who are in this stage and guaranteeing their proper development through policies and strategies that benefit their quality of life; considering their general health and oral health conditions during this process (Sánchez-Peña et al., 2018).

Regarding the educational program, it consisted of the development of a sequence of activities, in order to achieve a goal of change in the studied population (Soncco et al., 2018). This program provided guidance regarding the content to be taught (Rafaela & Heredia, 2019), the way in which you have to develop your teaching activity and the objectives set (Merino, 2015). The Educational Program “Healthy mouths, happy faces” used an innovative resource which was to integrate parents and teachers in the learning sessions, this interactivity allowed better active communication (Noborikawa & Kanashiro -Carmen, 2014).

Regarding preventive dentistry and health promotion to achieve an improvement in the quality of life (De la Torre et al., 2012), priority is given to these actions whose purpose was to reinforce the most important basic measures such as oral hygiene, Adequate food, the elimination of harmful habits and provide an educational program of easy application (Rufasto Goche & Saavedra Alvarado, 2014). Also carried out at all social levels, influencing places with the highest concentration of poverty due to poor access to oral health, such as state educational institutions,

Where the objective of this research was to improve the quality of life of children, reaching changes through the application of a didactic pedagogy and awareness of the population (Boy & Castillo, 2019), obtaining good oral hygiene habits and encouraging them to practice them on a daily basis (Celis et al., 2015).

To achieve this purpose, we were in need of resorting to innovative strategies that generate greater motivation in our children through their parents (Armas et al., 2019). Considering the interest and pleasure that is awakened in them towards recreational activities (López & Llerena, 2019), we find in the educational theater an attractive means to learn while having fun reducing fear and anxiety (Munayco et al., 2018), leading them to reflection and analysis of various situations, acting as transformers of a certain reality, using fantasy and creativity, thus managing to address issues of great concern in health, spreading messages of prevention and preservation of oral health frequently in our sessions learning. Finally, the collaboration of the teachers of the first years of teaching in the detection of bad habits in which children may be incurring is of vital importance, obtaining greater benefits, if we include parents as long as they present adequate knowledge (Diana, 2018), since with the family the most significant learning is developed in all areas, mainly health (Serrano et al., 2019); reason why the main objective of this investigation is to improve the level of knowledge of preventive techniques in oral health through the Educational Program.

2. METHOD AND MATERIALS

To achieve the objectives, an experimental study (Acosta et al., 2019) with pre and posttest were carried out, lasting 6 months of intervention (in two stages of 3 months each) in the PRONOIES (Non-school program of Initial Education) of the populated center of Salcedo located to the south and 4 km from the department of Puno. The study population consisted of children under 5 years of age, the population chosen from the periphery of the city due to their vulnerability and poverty, the non-probability sampling for convenience, was made up of 28 children and 40 parents with regular attendance at the Educational Institution. Likewise, the parents of the small students were selected to be part of the educational program by carrying out activities that strengthen oral health during the interventions, significantly increasing the level of knowledge, attitudes and healthy practices, demonstrating that continuing education in oral health can create favorable skills in the intervened population. However, the sustainability of the program in the study population, occurs in greater proportion through reeducation, there should be a continuity of information and avoiding student dropout, mainly due to economic factors.

Data collection techniques and instruments:

1. To know the level of knowledge of parents in oral health prevention, the following was used:

- Technique: Interview
- Instrument: Survey sheet on oral health prevention.

2. To measure the development of workshops, we used:

- Technique: Educational sessions, demonstrations and dramatizations.
- Instrument: Record of attendance at educational sessions on techniques for the prevention of diseases of the oral cavity (Palma & Cahuana, 2010).

3. To know the results at the end of the investigation:

- Technique: Observation and Interview
 - o Interview with parents.
 - o Oral Exam or Review for children under 5 years of age.
- Instrument:
 - Survey on techniques for the prevention of diseases of the oral cavity and healthy eating.
 - Index sheet of Oral hygiene of children under 5 years (Palma & Cahuana, 2010).

The Oral Health Education Program was made up of:

- Educational strategies
- Demonstration sessions
- Teaching workshops
- Dramatization with didactic techniques in oral health prevention (Salud, 2017).

It was carried out in 6 months within the academic year in 2 stages of three months each from May to July and from September to November 2018, with 4 demonstrative educational sessions in each stage, making a total of 8 sessions aimed at adults and children (Rufasto & Saavedra, 2014).

The Oral Health Program was carried out as follows:

1. First stage: Includes from May to July 2018, with a duration of 3 months.

- Presentation, acceptance of the project with the promoter and Coordinator of PRONOIES in the southern area of Puno, in addition the letter of informed consent was sent to the parents for the approval of the participation of their son and the tutors in the study
- Coordinated with the National University of the Altiplano - Puno, so that a group of students could participate as part of their University Social Responsibility activities.



- Initially, the initial condition of bacterial plaque in children was evaluated using the Greene and Vermillion simplified oral hygiene index, an entry test was taken on the level of oral health knowledge for parents and adults (coordinator and promoters). through a questionnaire, with 15 questions
- 1st educational session:
- Educational and demonstrative sessions on oral hygiene applicable to children under 5 years of age.
- 2nd educational session:
- Educational and demonstrative session on foods with cariogenic potential and preparation of the child's dietary diary.
- 3rd educational session:
- Educational session on the importance of the use of fluoride applicable to the first years of life and on the importance of the first dental visit in the first years of life.
- 4th educational session:
- Educational session for parents on harmful habits that affect oral health in children under 5 years of age.

2. Second stage: Includes from September to November 2018, with a duration of 3 months.

- In this second stage, the sustainability of the project was sought by strengthening the involvement and commitment of the chosen population to promote a culture of prevention.
- Four educational sessions were also held, with the same programs, aimed at children and adults.
- Evaluation by means of surveys, with 15 questions on oral health to the parents about the level of knowledge after the application of the educational program "Boquitas Sanas, Caritas Felices".
- Evaluation through the IHO to children under 5 years after the application of the educational program "Boquitas Sanas, Caritas Felices".

The Greene and Vermillion oral hygiene index was used to measure the bacterial plaque record; performing initial measurement and another at the end of the program.

The questionnaires that were used to measure the oral hygiene knowledge of adolescents were anonymous. Codes were used to match the questionnaires between the evaluation times.

The Wilcoxon non-parametric test was used to compare the level of knowledge of the total adult population before and after the application of the preventive program (Noborikawa &



Kanashiro, 2014). For the analysis of the Oral Hygiene Index of children under 5 years before and after the application of the Educational Program, to compare the level of hygiene at 0 months, 3 and 6 months after application, the ANOVA test was used.

3. RESULTS

Table 1. Level of knowledge of preventive techniques in oral health of parents before and after the application of the Educational Program.

LEVEL OF KNOWLEDGE OF PARENTS	PRE - TEST		POST - TEST	
	KNOW	DON'T KNOW	KNOW	DON'T KNOW
	%	%	%	%
Oral hygiene applicable to children under 5 years old.	50%	50%	100%	---
Healthy food with cariogenic potential.	45%	55%	95%	5%
Use of fluorine applicable to the first years of life	10%	90%	95%	5%
First dental visit in the first years of life.	30%	70%	100%	---
Harmful habits affecting oral health in children under 5 years old.	10%	90%	95%	5%
Total knowledge level	29%	71%	95%	5%

Source: Prepared by the executors based on the results obtained from the Data Collection Instrument.

On the level of knowledge aimed at parents in the oral health care of their children (Suyo & Iannacone, 2013). It is observed that before applying the educational program an average of 29% knew about the different prevention topics in oral health and 71% were unaware of the prevention topics addressed in the different learning sessions (Revelo, Gutierrez, Castro, & Rodriguez, 2019). After applying the educational program, 95% were able to learn, on average, about the different topics of prevention in oral health (Wilcoxon = -7,186 p = 0.000).

Table 2. Oral hygiene index of children under 5 years of age before and after the application of the Educational Program.

PRACTICES OF PREVENTIVE TECHNIQUES OF PARENTS OF THE FAMILY	BEFORE		AFTER	
	N°	%	N°	%
Excellent (0)	---	---	4	14%
Good (0.1 – 1.2)	2	7%	18	64%
Regular (1.3 – 3.0)	10	36%	6	22%
Bad (3.1 – 6.0)	16	57%	0	---
TOTAL OF CHILDREN	28	100%	28	100%

Source: Prepared by the executors based on the results obtained from the Data Collection Instrument.

Analyzing the average of the oral hygiene indices in children, at 0 days, 3 months, and 6 months (before and after the application of the educational program in the preschool group), there is a statistically significant difference when applying the ANOVA test (p = 0.000). The achievement



of the educational program is verified through the Oral Hygiene Index carried out on children under five years of age, improving the index from good to excellent (Rufasto & Saavedra, 2014).

4. DISCUSSION

Celis et al. (2015), carried out a study that aimed to determine the effectiveness of the educational program on the condition of oral hygiene in children of 4 and 5 years, it was observed that the proportion of oral hygiene index during the post test was 80% good, this being significantly higher than the pre-test ($p < 0.05$) having coincidences with our study since the oral hygiene index at the end of the application of the educational program was positive, good with 64% and excellent with 14%. In addition (Noborikawa & Kanashiro-Carmen, 2014), in their educational and preventive study in health, they also used the Greene-Vermillion plaque index. In order to ensure that the results are reliable, carried out a theoretical review of the instrument that was used, also adding that to measure the level of knowledge a questionnaire was used which was applied before and after the program. This questionnaire went through a validation process through an expert judgment made up of specialists and university teaching professors in the area. Denoting similarity with our studies, instead we differed with the study that applied the O'Leary index, an index different from ours for determine bacterial plaque in children despite the fact that bacterial plaque reduction was also evidenced in their experimental group (Álavarez et al., 2015).

In the research Influence of teaching on oral hygiene knowledge to parents of children under three years of age at the Mala, Peru health center. The largest number of parents before the workshop had a low level (65.5%) and medium of knowledge about oral hygiene. A very significant increase in knowledge has been observed after the educational workshop provided, the educational workshop allows participants to have a higher level of understanding about oral health (Suyo & Iannacone, 2013). Also in our research, the best level of knowledge was evident in the post-test at the end of the learning sessions, reaching 95%.

Benavente (2007), deduces that the level of health education on oral health that parents and teachers possess is related to the state of oral health and hygiene of the children studied; what agrees with the obtained in the present study, that the level of knowledge about the parents' health influences the oral health care of the children.

Cuenca et al., (2019), in the research on the level of knowledge in oral health in adolescents, the results of this study coincide with the findings found in the study called the Oral Health Educational Program, which after applying educational interventions, obtained good oral hygiene



in patients (Acosta, Morgado, & Arencibia, 2019).

Rengifo & Muñoz (2019), report that the majority of mother's didn't have adequate knowledge about caries or oral care at the initial study, as in our research, being the initial stage of our intervention that was considerably modified with the learning sessions. Likewise, the comprehensive analysis of the pedagogical practices of an educational program is important; it is necessary to insist on the importance of the individual dimension of the educator, requiring a participatory evaluation oriented towards learning (Peñaranda et al., 2006).

Another feature is to raise the children's knowledge when carrying out educational interventions, even though, they may be too young to understand them, the evaluation of the level of knowledge of the preschool after applying the program was satisfactory, which demonstrates the effectiveness of the actions carried out in this research and in the study called Educational intervention in oral health in children and teachers. Likewise, it happened in the case of teachers, it was of great importance, since they, together with parents, are responsible for the education and comprehensive training of children (Soto et al., 2014).

Regarding the vulnerable population considered of poverty in our research, we found the same limitations with the study "Impact of the experience of caries on the quality of life related to oral health", denoting stratification in socio-economic levels and in the educational levels of the parents or these schoolchildren, who are two fundamental points to better understand access to oral health services so that it can be modified in order to make prevention and promotion of health more scientific and qualified that encompasses all social strata with equality (Vélez et al., 2019).

5. CONCLUSIONS

The Educational Program "Healthy mouths, happy faces" on prevention in oral health positively improves the level of knowledge of parents, reducing bacterial plaque in children under five years of age, evidenced by a good to excellent oral hygiene index.

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Wilson Sucari: conceptualización, análisis formal, investigación, metodología, administración del proyecto, recursos, software, supervisión, validación, visualización, escritura - preparación del borrador original, escritura - revisar & edición.

Tania Padilla: conceptualización, investigación, metodología, administración del proyecto, recursos, software, supervisión, validación, visualización, escritura - preparación del borrador original, escritura - revisar & edición.

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