

REMOVAL PROGRAM OF NONNUTRITIVE SUCKING HABITS BASED ON SIMPLE ACTIONS AND PARENTS AND CHILDREN MOTIVATION

ABSTRACT

AIM: This research aims to present a program that uses simple measures and practices for the child becomes motivated to remove the habit. **MATERIAL AND METHODS:** The sample consisted of children aged 3-6 years, of both genders, with habit of finger or pacifier sucking enrolled in preschools in the municipal education of Araraquara, S.P (Brazil). The methodology can be divided into three parts: 1. Parents orientation about the need and importance of immediate abandonment of the habit; 2. Problem presentation for the child; 3. Development of playful activities. It was considered as a parameter for successful cases when the habit was removed within 8 weeks from the beginning of the work. **RESULTS:** As a result, it was observed that when the children were motivated, most of them removed the habit, reducing the chances of future malocclusions. **CONCLUSION:** It is considered that the presented method is an alternative to be used by professionals such as dentists, psychologists, pediatricians and speech therapists in helping to care for children with non-nutritive sucking habit.

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INTRODUCTION

Despite the stomatognathic system is able to perform several functions, sucking, breathing and swallowing can be considered neonatal functions present at delivery and vital for baby's survivor outside the uterus. Maturation of these oral functions starts very early, still inside the womb with small mandibular and deglutition movements^{1,2}.

Sucking instinct is very intense during the early three months of life and tends to decrease gradually from the sixth month, whether the child receives free and naturally breastfeed. During the suckling, the child should supply both physiological hunger and the neural need for sucking, once when suck the mother's breast, perioral muscles is weary, what makes the child sleep and without additional suction¹.

Even that the sucking reflection reduces considerably still in the first year of life, psychological need for sucking persists for some time, manifesting when the child is unhappy, tired, about to fall asleep or in regression period to an anterior stage of emotional development. In these moments, nonnutritive sucking habits with fingers or pacifier appear.

Pacifier and finger sucking are very common, being part of initial stages of life and persisting as undesirable habits in about 30% of children in growth stage³. Further possible changes in dentofacial complex, it involves

psychological and cultural aspects which should be considered when the orthodontist plans the treatment or the approach to remove these habits. Tense, anxious or stressed children have higher prevalence of harmful buccal habits than those considered quiet children⁴.

Several treatment are proposed searching eliminate nonnutritive sucking habits. In any treatment is fundamental the child comprehension and parents or responsible collaboration, who must accept the orientation and do not interfere punishing the child or super valuating the problem⁵.

The treatment approach can vary, depending, among other factors, on the child's age and on the professional preference. Conditioning techniques, positive reinforcement, braces and speech treatment to eliminate the habit or treat its consequences are the main methods used by professionals⁶.

Currently more attention is given to techniques which aim leave the habit on the own will, because children's acceptance is fundamental for the success, prevent or minimizing possible consequences^{7,8}.

Under orthodontic viewpoint, nonnutritive sucking habits can still generates changes on the face growth and development of occlusion when persist or occur up three to four years old. When the habit is removed until this age group, occlusal changes due to the

habits suffer a process of spontaneous correction in most cases^{9,10}.

We believe that these habits can be removed during the appropriate age without psychological trauma, and we develop a program which uses simple and practical measures to motivate children quitting the finger or pacifier sucking habits in spontaneous way.

MATERIAL AND METHODS

The sample was constituted by children from 3 to 6 years old, of both genders, attending preschool at municipal teaching network of Araraquara and who presented sucking habits (finger and/or pacifier), whose removal was desired by their parents. In order to have access to children with these habits, a communication was sent via school material for all the parents of children enrolled in preschool participants, with explanation about the project and how to participate. The parents interested were oriented to devolve the pamphlet together a statement of free and informed consent signed. The children registered by the Project were scheduled via telephone for attendance at the Preventive Orthodontic Clinic of University Center of Araraquara - UNIARA, according to their availability and of their parents, as well as the researchers.

Inclusion criteria considered for the sample were: (1) Being within the stipulated

age group (3-6 years old); (2) Having complete deciduous dentition with no deciduous tooth exfoliated; (3) Presenting the finger and/or pacifier sucking habit during the first months of the life; (4) Not have being submitted to any orthodontic treatment previously the evaluation or during the removal program of habits; (5) Not belonging to another Project for removal habits which could compromise the results of the program.

The program proposed by the authors involves a multi section attendance to remove nonnutritive sucking habit associated to the positive reinforcement and playful activities to this process. Each family (responsible and child) were attended separately with weekly consultations along 30-60 min, until the removal of the habit.

On the first consultation, parents were oriented on the importance of removal the habits and on their consequences on the dentofacial growth and development, while children were awareness about the matter by illustrations and stories. Besides, a clinical exam was performed and the children who needed orthodontic treatment were registered and lead to the Preventive Orthodontic Clinic of University Center of Araraquara - UNIARA to receive attendance after the removal of habit. The technique proposed by the removal program of habits can be divided into three parts: (1) Orientation for parents about the need and importance of immediate quitting the

nonnutritive sucking habit. The matter was approached as an individual way, considering characteristics of habit and familiar context for each case. To comprehend the characteristics of habit and for development of an individualized activity plan, a card was filled with answers for questions regarding to the starting, frequency and duration of habit; time in which the child goes to school and whether the child performs the habit inside the school environment; who is the responsible by the child when he/she is at home; presence of friends or siblings who live with the child and that could also present the same habit; child's routine regarding to the habit; parents' previous trying to remove the habit; among other aspects. In this stage, each parent or responsible received weekly orientations, further an explaining leaflet, until the removal of habit. These orientation aimed to expose the problem and emphasize the importance of involvement and cooperation by parents in the process, once dedication time of living with children are fundamental in this stage. In each consultation, a card with information about the process of removal of habits was filled. Similarly, each responsible received a form with a daily report to be filled with questions like: Did your child perform the habit today? When? Why? What did he/she report feel in that moment? What was the parents' conduct to avoid the habit? Which were the difficulties faced on? Daily reports were delivered during

the return consultation and the answer discussed with the researchers; (2) Presenting the problem to the child: It aimed to awareness the child on the effects that the habit is causing in his/her occlusion. Through a simple language and the use of photos, videos and mirrors, the problem and the consequences were exposed, like open bite, vestibularization teeth, changes on speaking and breathing, among others (Figures 1 and 2). The orientation was performed weekly in an individual way until the removal of habit. Each child received a calendar with a "Successful table" (Figure 3), in which the child was oriented to color the figure on the days in which the habit was not performed. Together this, a "Rewards table" was delivered in which each day of effort without the habit, she/he will be rewarded with small acts or prizes. Each reward was composed in agreement among parents and child, according to the family financial conditions and with the parents' time availability. The rewards were usually simple acts like walking in the park, an ice-cream or some kidding aiming the Family union and a higher time of living of parents with the child. In the case of finger sucking, children also received an agreement to be signed by the child and his/her parents in order to achieve a commitment in the process for removal of habit. Together this, a list was delivered for the child fill with his/her 10 better qualities in order to work the self-

esteem and the self-confidence. Both cards (figures 4 and 5) were from the book “My thumb and I” by authors Mayer & Brown⁸ (2000); (3) Development of playful activities: After the child and parents’ awareness, the next step was developing playful activities based on tales for children that get the attention and help the child to remove the habit with no trauma or sequels. In cases of pacifier sucking, we chosen work with a story elaborated by the initiation research students of Orthodontics department based on the “Tooth fairy”. Each child received a bed or a pail in reduced dimensions (figures 6 and 7) to put the pacifier before lay down, once it could not “sleep” in the child’s mouth. According to the child collaboration degree or involvement, the pacifier will be replaced during the night, without the child see, by a puppet supposedly left by the “Tooth fairy” (figure 8). According to the story elaborated, the puppet will become into a star and will go to the sky with all the other stars which one day were pacifiers.

Parents were oriented to show the starry sky and try to see each one pacifier of family members which are in the star shape nowadays. Both bed or pails and puppets were available to the parents with no financial costs. In the case of finger sucking, the story was based on transform the finger suctioned in children history characters or in an imaginary friend of child (figure 9). Thereunto, the mother should draw on the suctioned finger

daily, doing human colored traces with accessories. Then the finger would pass to have a name and participate in daily family activities. The child was oriented do not put the character or friend inside the mouth because it “was afraid of sleep in the darkness and could takes a cold when wet”. Then the finger should sleep together the child, under the pillow. After the first week, the child was attended by the professional again, and in case of the habit has not be removed, the importance of child and family collaboration and commitment was emphasized, and a new week was indicated with the same procedures or with changes on the method of approach of habit. If the goals were not achieved until this moment, parents were oriented do not punish the child.

Figures 1 and 2. Exposition through videos, photos and mirrors of occlusal problems caused by nonnutritive sucking habits.





Figure 3. Rewards table that the child was oriented to color the figures in the days in which he/she did not perform the habit.

Pinte a carinha feliz no dia em que você não usou a chupeta				
Dia __/__/__	Dia __/__/__	Dia __/__/__	Dia __/__/__	Dia __/__/__
Dia __/__/__	Dia __/__/__	Dia __/__/__	Dia __/__/__	Dia __/__/__
Dia __/__/__	Dia __/__/__	Dia __/__/__	Dia __/__/__	Dia __/__/__


According to the project, the successful parameter considered for the program proposed were the cases in which the habit were removed in a maximum of 8 weeks after starting the program with the child. Thereunto, children and their responsible received weekly

attendance until the habit were removed; other consultant will occur in 15 or 30 days after this stage.

Figure 4. Agreement signed by the child and parents as an auxiliary method to remove the finger sucking habit.

Você está pronto para participar do programa *Meu Dedão e Eu*?

Se está, juntamente com seus pais, leia e assinie *Meu Dedão e Eu – Acordo*.



MEU DEDÃO E EU – ACORDO

Eu quero parar de sugar meu dedo.

Eu posso parar de sugar meu dedo.

Eu vou participar deste programa.

Participante: _____

Eu vou participar juntamente com meu filho deste programa.

Pais: _____

Agora você está pronto para iniciar os Passos e Atividades!

Source: Mayer & Brown, 2000.

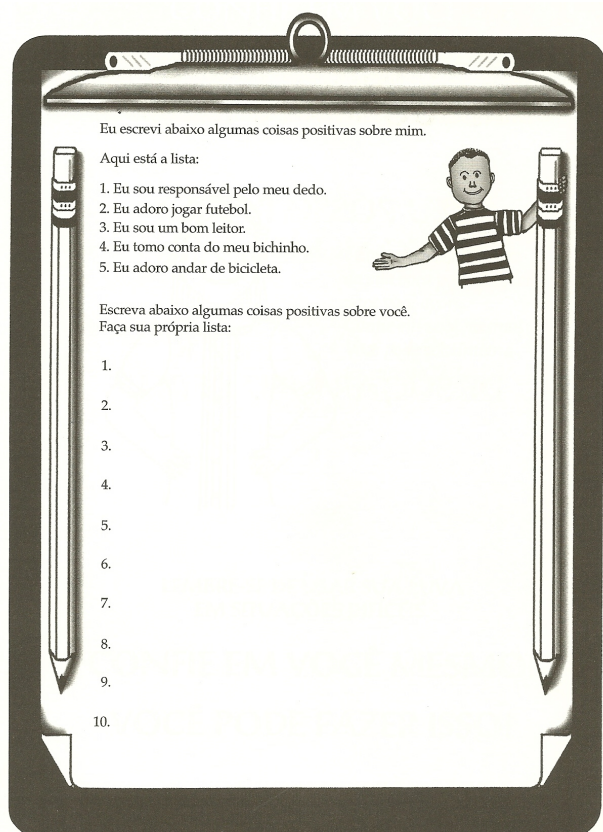
RESULTS

The program attended 27 children; 7 of them were excluded of the final results because they were above or below the age group stipulated. Despite these children were not part of the sample, they received attendance according what proposed by the program because they were siblings of

children included in the sample or by parents' solicitation.

Hence, from 20 children remaining, 12 were male and 8 female, with mean age 3.9 years. The graph 1 shows the distribution of the sample according to the gender and age.

Figure 5. List to be filled by the child with his/her 10 best qualities in order to work the self-esteem and self-confidence.



Source: Mayer & Brown, 2000.

DISCUSSION

The low age of children in the sample probably is related to the higher interest of parents to remove the nonnutritive habit precociously, motivated by professional orientation of health area, such pediatrician and pedodontist. Literature^{9,10} describes that,

when the sucking habit is removed before the transition of deciduous for mix denture, there is a great chance of occlusal changes due to the habit of self-correction without need of orthodontic intervention.

Figure 6. Bed used by the child to put the pacifier in the bedtime.



As the proposal of the Project was create a program which could be applied in public services, children's age would not be elevated, allowing preventive actions easy to execute and which do not require specific previous knowledge by who will apply it. Hence, the age from 3 to 6 years stipulated for the children in the program was based on the fact that children will need minimum maturity to comprehend orientations and the activities

proposed, then the minimum age of 3 years; at the same time, the child would need removing the habit before the first permanent teeth erupt, in order to improve or correct the occlusal changes without need orthodontic devices.

Figure 7. Pail used by the child to put the pacifier in the bedtime.



Regarding to the distribution of habits, only 4 children had the finger sucking habit, while the others (16) had the pacifier sucking habit. This proportion was expected once the pacifier presents means prevalence 4 times higher than the finger⁹. The fact that pacifier is a commodity with reduced price, widely affordable and that is a cultural part of baby layette, it influences directly on its high

prevalence^{9,11}. Despite its use is frequent by children in early age, its removal is easier when compared to the finger sucking, once the pacifier can be maintained far from children or substituted by another object, for example, a gift.

Figure 8. Puppet of teeth that parents put on the bed, provided by researchers, in substitution to the pacifier



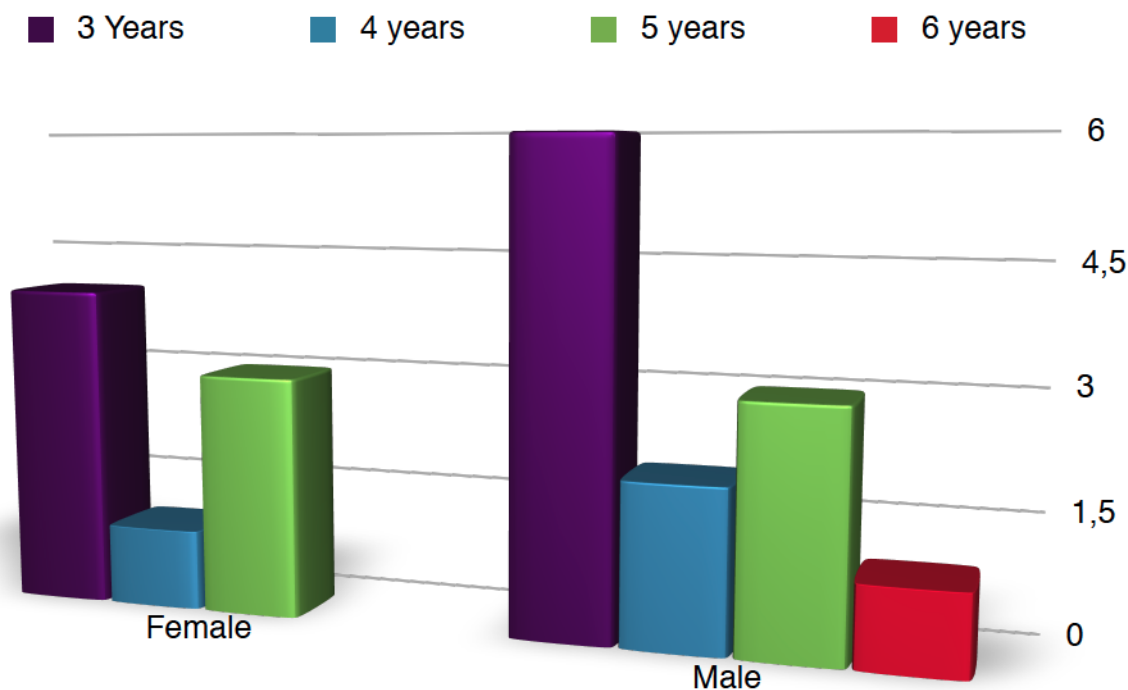
In total, 10 children removed completely the habit without recurrence. Other 2 children reduced drastically the habit, but still persist only for sleep. In a specific case, the child removed the habit of pacifier sucking, but because of psychological problems involving the family, he/she returned the habit. Four children of sample did not return after the first

consultant, and it was considered abandon to the program. Other children (3) did not remove the habit within the deadline and they were considered unsuccessfully treatment. Among these 3 children, 2 of them had the habit of finger sucking and one of them, the pacifier one.

Figure 9. Painting performed on the suctioned finger as a way to inhibit the habit.



Graph 1. Distribution of patients according with age and gender.



The results were favorable once more than 50% of sample removed or reduced the sucking habit. In the case of children who did not continue in the Project, we believe that some factors can be influenced the desistance, such as: difficulties with transport and schedule the attendance, because most of

parents work full time; and the fact of the child was not psychologically prepared to remove the habit. The lack of commitment by parents follow the orientation provided by the program was also observed in some cases.

Regarding to the time necessary for removal of habit, it was observed that with 5

children of the sample, the habit was removed in only 1 day (4 with pacifier habit and 1 with finger sucking habit). The other patients (5) removed the habit from 2 to 13 days. The time of removal obtained by the program was considerably inferior to the time of two months proposed by this research project.

At the end of the Project, we observed that through the technique proposed linked to training, attention and playful activities, is possible help children to unlink the habit. Through clarifying about the importance to quit the habit for children and parents and using appropriate and simple techniques for the age group, it was possible awaken child's self-esteem, who left the habit by own free will, without trauma or emotional damage. When harmful habits are removed in the appropriate age is possible prevent or intercept most part of malocclusions which affect this age group.

CONCLUSION

We considered that the technique or method presents an efficient alternative to be used by professionals like dentists, psychologists, pediatricians and speech therapists to help children who have the nonnutritive sucking habits, and its low cost allows that the inclusion of the Project in health programs in several municipalities around Brazil.

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