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# **THE ROLE AND IMPORTANCE OF EDUCATION AND PREVENTION PROGRAMS IN ORO-DENTAL HEALTH**

## **SUMMARY**

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## SUMMARY

In Romania, the increase in the incidence of dental caries is undoubtedly due to a causal situation represented by the association of direct and indirect risk factors, manifested by economic, demographic and nutritional transitions, incorrect habits for oral care, limited use of fluoride and lack of services. oral health. Differences in oral health and use of services exist for population groups of all ages and are universal among adolescents [5]. In our country, a significant percentage of children are served and not adequately targeted by preventing oral diseases and promoting health in the context of public health programs [8].

Health education is a key element in health promotion and requires sound planning based on theories of medical behavior. Oral health has been shown to be easily integrated into such school health activities. A handbook on how to integrate oral health in schools, as well as recommendations on how to assess oral health promotion in the community and disease prevention, has been developed by WHO [8; 9].

Oral health education is offered in many ways, using a wide range of techniques and materials that address topics related to oral health, ranging from diet, oral hygiene, tobacco, dental structures, oral health benefits, oral piercings. Diet and oral hygiene as well as its impact on oral health are probably the topics addressed the most. Oral health education must be based on the principles of active involvement and strengthening. Many studies show that oral health education for children can have a limited impact [9]. If oral health education is combined with additional activities and provided on a regular basis, health education is likely to have a positive impact on the oral health behavior as well as the adolescent's oral health status. [10; 11; 12].

Oro-dental diseases qualify as major public health problems due to their prevalence and high incidence in all regions of the world, and in the case of all diseases, the greatest burden of oral diseases is that of disadvantaged and socio-economically marginalized populations. .

All modern cultures were born in the Mediterranean basin: Egyptian, Greek, Roman, Jewish, Arabic, etc. Medicine, in turn, was asclepiad, Hippocratic, Arab, Christian. The latter is the one that has been transmitted and forms the foundation of the philosophy of modern medicine. Or this medicine was addressed to the human person defined by body, soul, and spirit. Each doctor and nurse address his patient individually. The medical staff who do not love their patient in its entirety cannot heal, and the patient who does not respect his doctor cannot be healed. Love of neighbor is not enough; it must be shared unconditionally.

Therefore, the issue of oral health remains a global issue and therefore requires a national concern. Despite a considerable improvement in oral health, however, there are problems that persist, especially among children.

Therefore, oral health promotion programs in schools are a necessity because most behavioral changes occur at school age and the school is also known to have a strong influence on the development and well-being of future adults. [13]. In Romania, the programs for promoting oral health started in 1960 when at Tg. Mureș was given fluoridated water to children aged between 3 and 14 years. Through this program, the number of dental caries was reduced by 52%. In 1999, a National Program for the Prevention of Oral and Dental Diseases was implemented, implemented in students from grades I-IV, a piGroup study in four university centers (Iași, Constanța, Bucharest and Timișoara) that proposes weekly mouthwash with 0.2 % sodium fluoride solution Fluorostom, The evolution of DMFT among 6-year-olds was 3.9 in 1996, increasing to 5.7 in 2007, then taking a decreasing trend to 4.4 in 2011. For 12-year-olds dmft was 3.1 in 1996, increasing to 7.3 in 2007, and then decreasing to 3.4 in 2011 [14].

The aim of the study was to improve the oro-dental health of primary school children in Arad County and to assess the impact of oral health on their quality of life.

Specific objectives:

- Analysis of the correlations between the indicators of the oro-dental health condition and the socio-behavioral factors.
- Analysis of the impact of health education methods on students' behavior towards oral health.
- Evaluating the effectiveness of health education methods on students' quality of life;
- Comparative evaluation of the efficiency of health education methods through multidimensional analysis of the percentage reduction of the microbial palpation index, in students aged 11-13 years.
- increasing the quality of life of both children and their relatives; by preparing in order to apply the means of dental prophylaxis, preventing the appearance of oro-dental lesions and more, of dento-maxillary anomalies, by warning about the correct postural attitudes and vicious habits;
- promoting oro-dental health in Arad County for primary school students;
- promoting oro-dental health in Arad County for adolescents;
- assessment of anxiety in adolescents;
- developing an effective strategy on communication methods in promoting oral health education in adolescents.

The special part includes three studies:

**The first study**, evaluating the effectiveness of health education methods on oral health behavior in students aged 11 to 13, in Arad, is a prospective cohort epidemiological study between 2017 and 2019 and contained a sample of 832 subjects. As a first step, we conducted a cross-sectional study to describe the oral health behavior of the school population, which then continued with the prospective cohort study for the same sample and there were changes following the implementation of educational programs.

**Study II** - was an educational program for the comparative evaluation of the effectiveness of education methods for oro-dental health in children aged 11-13 years, in which the initial sample of 832 students (the one from study I) was subdivided into 4 subgroups, each group being implemented an educational program, which includes three stages:

- **Stage I** - assessment of knowledge, attitudes, and behavior towards oral health, using the questionnaire survey.
- **Stage II** - implementation of the health education method as follows:
  - Group I - interactive discussion, lasting 10 minutes and activities in small groups, with the practical demonstration of the correct brush technique and the involvement of students through the subsequent practice of the technique on the didactic model.
  - Group II - watching an educational animated film and activities in small groups, with a practical demonstration of the correct brushing method and involving students by practicing the brushing technique on the teaching model.
  - Group III- interactive and later activities in small groups, with the practical demonstration of the correct brushing method and the involvement of students by practicing the brushing technique on the didactic model.
  - Group IV - constitutes the control group (control). For ethical reasons, this group benefited from the practical demonstration of the correct brushing method and the involvement of students by practicing the brushing technique, on the didactic model.

**Stage III** - conducted at an interval of 3 weeks from the previous stage, found in the reassessment of knowledge, attitudes and behavior towards oral health using the simplified initial questionnaire, consisting of 16 questions and assertions.

**Study III** - Study to assess the needs of an oral health promotion program, the study was conducted over a period of three years, January 2015-December 2018, being a qualitative study, on a group of 150 subjects (dentists), for who applied an 11-question questionnaire.

The importance of implementing oral health programs at regional and national level stems not only from medical but also financial reasons, because the treatment of oral diseases requires much higher costs, compared to the implementation of measures to prevent them.

## **STUDY I - STUDY ON THE EFFECTIVENESS OF HEALTH EDUCATION METHODS ON ORAL HEALTH BEHAVIOR IN STUDENTS AGED 11 TO 13, IN THE MUNICIPALITY OF ARAD**

### **Purpose of the study and research directions**

The main purpose of this study was to evaluate the effectiveness by applying methods of health education of behavior towards oral health and implicitly on the state of dental health in students aged 10 to 13 years, from Arad.

To carry out this study, I set myself the following objectives, which in fact represent the research directions:

1. Description of the school population from the point of view of dental health and behavior towards oral health;
2. Analysis of the correlations between the indicators of the oro-dental health condition and the socio-behavioral factors;
3. Analysis of the impact of health education methods on students' oral health behavior;
4. Evaluating the effectiveness of health education methods on students' quality of life;

### **Material and method**

To achieve the proposed goal and objectives, we conducted a prospective cohort epidemiological study.

The study was conducted in Arad between 2017 and 2019 and included a sample of 832 subjects, general school students aged between 11 and 13 years.

In a first stage, we conducted a cross-sectional study, to describe the behavior towards the oral health of the school population. Cross-sectional studies can be a first stage of cohort studies, to describe the distribution of variables to be tested in study groups (22). Then, for the same sample, there were changes following the implementation of educational programs.

#### *Description of the school population from the point of view of dental health and behavior towards oral health*

The sample was selected to ensure representativeness in terms of sex and the level of education of parents for the school population of 11-13 years in Arad. The sample used had a mixed, complex structure. The selection methodology was built in three stages, as follows:

1. First stage: by the quota method [80], a representative sample of six school units was selected, from the ultra-central area to the peripheral areas of Arad County, general schools and high schools;
2. Second stage: in each school a number of classes was randomly selected to be included in the sample;
3. The third stage: each selected class of students was randomly assigned (by drawing Groups) one of the four educational programs.

We found that this methodology proved to be appropriate for the purpose of the research, namely, to evaluate and compare the effectiveness of health education methods on dental health and oral health behavior applied to students aged 11-13 years.

The selected sample meets the following representativeness criteria:

The distribution of parents' education level is 35.45% parents with higher education, 56.72% parents with secondary education and 7.8% parents with secondary education. These

percentages do not differ significantly from the calculated values, based on information from the 2009 Statistical Yearbook for the urban environment [81], which indicated for the urban environment that 34% of adults have higher education, 60% of adults have completed secondary education and only 6% have a high school education;

The distribution of the two sexes in the sample does not differ from the demographic values;

- Interdependence between sex, age, level of education of the families from which the students come (for example the distribution of the level of education of the parents does not differ significantly for the subsamples of girls and boys  $\chi^2 = 0.739$ ,  $DF = 2$ ,  $p = 0.691$ , etc.) The percentage of students who make the last visit to the dentist themselves depends statistically significantly on the age of the students, So that 13-year-old students are the ones who record the highest percentage (24.20%), reflecting the degree of autonomy of the child ( $\chi^2 = 11.264$ ,  $DF = 3$ ,  $p = 0.010$ ).
- in terms of students' knowledge of the importance of maintaining oral health, it was found that approximately 79.12% of students consider maintaining oral health to be an important issue, while 18.8% of them consider maintaining oral health as being unimportant, and did not change significantly according to sex, age and socio-economic status;
- The frequency of visits to the dentist changes significantly statistically and depending on the socio-economic status, so that 34.80% of students from low-educated families went to the dentist once a year and 16.8% of them have not been to the dentist at all in the last year;
- Regarding sanogenic practices and skills, about 68% of students state that they brush their teeth twice or more a day, 21.2% brush their teeth once a day and 7.1% brush their teeth several times times a week, 75.28% of students use a fluoridated toothpaste for brushing, while 15.3% of students do not know if the toothpaste they use contains fluoride, and 2.21% of students do not use toothpaste of teeth when brushing teeth, the percentages of students using a fluoridated toothpaste do not differ statistically significantly according to sex, age or socio-economic status;
- regarding the role of food in the etiology of dental caries, approximately 63.2% of students know that foods rich in carbohydrates are involved in tooth decay, 32.4% of students have knowledge about the role of eating sweet foods in the etiology of dental caries;
- 62.7% of students went to the dentist for dental or gingival pain and only a percentage of about half of the first, 26.5% of students went to the dentist for prophylactic treatment;
- regarding the degree of anxiety about dental treatment, 76.25% of students say that they go to the dentist, without fear of pain during treatment, but 21.3% of students say they are afraid of pain
- the frequency of toothbrushing changes statistically significantly depending on the sex of the subjects, so that approximately 71.4% of girls compared to 61.3% of boys perform toothbrushing twice or more a day, instead of 0.7% of girls and 1, 1% of boys brush their teeth 2-3 times a month;
- regarding the use of additional means for brushing, 36.20% of students use dental floss, 30.40% use wooden toothpicks and 1.30% plastic toothpicks, and a percentage of 48.7% use sugar-free chewing gum, 40.30% girls and 26.90% boys use dental floss, the percentage of students who consume sugar-free chewing gum changes statistically significantly depending on age, so the highest consumers are 12-year-old students, 63.30 percent % and 64.20% 13-year-old students;

- 95.45% of students are non-smokers, while 0.12% of students smoke daily, 2.13% several times a week and 2.10% several times a month, 100% girls are non-smokers and 97.9% boys are non-smokers, 0.3% smoke several times a week, 1.3% smoke several times a month and 0.5% smoke daily;
- The frequency of food consumption shows statistically significant changes, depending on the sex of the subjects, in the case of consumption of refined fruits and sweets, so that 47.4% girls consume fruit daily compared to only 36.3% boys and 27% even a few times a day, and for the consumption of sweet carbonated juices it changes statistically significantly depending on the age of the students, so that 22.80% of 11-year-old students consume sweet juices daily, and 25.60% of 12-year-old students consume juice of even a few times a day, while 13-year-old student, 30.80% consume juice daily or 2-3 times a week.

The analysis of socio-behavioral factors showed an above average level of students' knowledge regarding the maintenance of oral health, but the degree of their application in practice is quite low. Thus, an aspect with a strong impact on students' oral health is the sources of information on maintaining oral health. In the present study, the family is the main source of information on maintaining the oral health of students in the proportion of 84.10%, relatives provide this information in the proportion of 29.20%, friends in the proportion of 11%, and teachers in the proportion of 8.3%. Also, the specialized medical staff are information sources in proportion of 63% the dentist and only 6.3% the hygienic nurse, a similar proportion being in the case of the family doctor, 6.1%. Regarding the information sources in the media, the highest percentage is held by the audio-visual press, respectively TV, radio-10.10%, followed by the written press, newspapers, and magazines, with 7.60%. Regarding the addressability behavior of students to the dentist, in the present study were highlighted aspects related to the frequency and reason for visits to the dental office. Thus, 24.55% of students went to the dentist only once, a similar proportion of 23.51 went to the dentist twice and a significant percentage, 21.83% of them went to the dentist more than four times. Also, a percentage of 7.25% of students did not go to the dentist in the last year, a proportion of about 60.6% of students went to the dentist for dental or gingival pain and only a percentage of about half of the first, 23.30% of students went to the dentist for prophylactic treatment. If we refer to hygienic practices and skills, we notice that in the initial stage of this study, approximately 65% of students say they brush their teeth two or more times a day, 25.32% of students say they brush their teeth once a day, and 7.36% of students say they brush their teeth several times a week. Regarding the eating behavior, in the present study 27.52% students consume refined sweets daily, 23.13% consume carbonated juices daily and 14.34% students consume biscuits and pastries several times a day. Regarding the frequency of ingestion of sweetened beverages, 19% of students consume tea with sugar and 15.63% consume milk with sugar several times a day. On the other hand, 42% of students eat fruit daily and 21.06% eat fruit only two or three times a week, and 0.39% of students do not eat fruit at all.

In conclusion, among students aged 10-13 years, 13-year-old students show a significantly higher degree of autonomy, compared to students in other age groups, regarding the frequency of visits to the dentist, most of the boys address the dentist once a year, and most girls go to the dentist at least four times a year.

Understanding the profile of adolescents in health education is essential, given the scope of interest in knowledge [85].

## **STUDY 2. EDUCATIONAL PROGRAM FOR THE COMPARATIVE EVALUATION OF THE EFFECTIVENESS OF EDUCATIONAL METHODS FOR ORONTAL HEALTH IN CHILDREN AGED 11-13**

In the present study, the initial sample of 832 students was subdivided into 4 subgroups, each group being implemented an educational program, which includes the following stages:

Stage I - assessment of knowledge, attitudes and behavior towards oral health, using the questionnaire survey (with 22 questions and assertions).

Stage II - implementation of the health education method as follows:

- Group I - interactive discussion, lasting 10 minutes and activities in small groups, with the practical demonstration of the correct brushing technique and the involvement of students through the subsequent practice of the technique on the didactic model. This method of education included information on the morphology, structure and functions of teeth, the role of microbial dental plaque and nutrition in the etiology of tooth decay, prevention of tooth decay by brushing and using adjuvants brushing and non-cariogenic diet, increasing accessibility to dental offices. The methods of health education, applied to this study group, will be hereinafter referred to as unitary, generic, method 1.
- Group II - watching an educational animated film "Journey to the Tooth Kingdom" ("Dr. Rabbit and the Legend of the Tooth Kingdom"), offered by the company Colgate-Palmolive and activities in small groups, with a practical demonstration of the method of correct brushing and student involvement by practicing the brushing technique on the didactic model. The methods of health education, applied to this group of students, will be hereinafter referred to as unitary, generic, method 2.
- Group III - watching the educational animation film, interactive discussion, and later activities in small groups, with the practical demonstration of the correct brushing method and the involvement of students by practicing the brushing technique on the didactic model. The methods of health education, applied to this study group, will be hereinafter referred to as unitary, generic, method 3.
- Group IV - constitutes the control group (control). For ethical reasons, this group benefited from the practical demonstration of the correct brushing method and the involvement of students by practicing the brushing technique, on the didactic micromodel. Given the fact that only the dental brushing technique was implemented in this group of students, I will refer to method 4 during the study.

Stage III - conducted at an interval of 3 weeks from the previous stage, found in the reassessment of knowledge, attitudes and behavior towards oral health using the simplified initial questionnaire, consisting of 16 questions and assertions.

## RESULTS

A. The ascending order of the efficiency of the educational methods applied within the educational program is the following: method IV (tooth brushing technique), method 2 (educational animation film + tooth brushing technique), method 1 (interactive discussion + tooth brushing technique), method 3 (educational animation film + interactive discussion + toothbrushing technique).

B. The efficiency of the interactive discussion (method 1) is higher compared to that of the animated educational film (method 2) on the dental health status and behavior towards the oral health of the students in the study groups, but the difference in favor of the interactive discussion is not is high: about 7% for IP. In the case of using another type of educational film and another structure of interactive discussion in an educational program, it is possible to reverse the order of effectiveness of these types of health education methods. What must be remembered is that the interactive discussion and the animated educational film had a comparable efficiency on the state of dental health and behavior towards the oral health of students in the study groups, of over 30%.

C. The significant efficiency (12%) of the exclusive application of the toothbrushing technique (method 4) on the dental health condition and the behavior towards the oral health of the students, highlights the low level of health education in students aged between 11 and 12 years and emphasizes the need for immediate implementation of oral health programs.

D. The highest efficiency on the dental health status and behavior towards the oral health of the students in the study groups was found in the case of the implementation, in the same session, of the educational animation film and the interactive discussion (method 3). This fact is not surprising from the point of view of psycho-pedagogical principles, but it should be noted the extremely high percentage of reduction in the average microbial dental plaque index, over 50%.

### **STUDY 3 - ORAL HEALTH PROMOTION PROGRAM NEEDS ASSESSMENT STUDY**

The aim of this study is to outline an oral health program with the active participation of dentists and professionals in this field, based on their opinions and willingness to be involved in oral health education projects.

The fundamental and applied research conducted on the target groups focuses on the following three directions of research and in fact represents the objectives of this study:

- staff involved in education projects / programs - staff to be involved - project team; human resources management from projects / programs;
- establishing the target groups to which the promotion project / program refers and the educational themes in correlation with the age group of the target group;
- means and methods related to the target groups - suitable for the target groups, for example for adolescents.

#### **Material and method**

This project is a retrospective study, over a period of three years, which aimed in particular at improving the oral health of children in primary schools in Arad County and assessing the impact of oral health on their quality of life.

#### **Methods of oral communication - methods of presentation**

- Explanation: reveals, clarifies situations, relationships, laws, hypotheses, requires a logical analysis and reasoning of facts or knowledge;
- Story: narrative, plastic and emotional exposure;
- Description: analytical presentation of subjects and phenomena;
- Lecture: systematic exposition of a large amount of knowledge;

#### **Oral communication methods - conversation methods**

- Conversation - dialogue made through a series of questions and answers;
- Debate: organized exchange of ideas and opinions;
- Variation: group discussion, "round table", brainstorming, etc.;
- Problem: the presentation of problematic situations, with several alternatives to solve, which generate preschoolers / students / pregnant women / people with disabilities, with doubt, uncertainty, curiosity, and the desire to discover the solution / solutions.

The study was conducted over a period of three years, January 2015 - December 2018, in which a questionnaire with 11 questions was applied to dentists or people working in dental clinics. The questionnaires applied were anonymous, so the answers received were just as sincere. Seven out of eleven questions were multi-responsive to allow for a wider range of answers.



## Results

The time for a dentist is relatively limited for health promotion actions, but their availability for a dental health program is essential. Hours per week vary from doctor to doctor: from 1-3 hours or less to 3-5 hours or as needed. Assessing the willingness to engage in such an activity (82%) and the time allocated to the dentists surveyed (44% between 1 and 3 hours per week and 51% over 3 hours per week), we can say that there are human resources for a project oral health.

Table 1. Potential involvement in dental health promotion projects of dentists

	N	%
<b>Involvement in a previous program to promote oro-dental health</b>		
YES	48	32%
NO	102	68%
<b>Desire to get involved in a program to promote oral health</b>		
YES	123	82%
NO	12	8%
DON'T KNOW	15	10%
<b>Time allocated daily for a program to promote oral health</b>		
Less than one hour	6	5%
1 - 3 hours	48	44%
3-5 hours	33	27%
As needed	30	24%
<b>Staff who should be involved in oral health promotion programs</b>		
Prophylaxis assistants	19	54%
School dentists	36	88%
Private dentists	24	70%
Students from the Faculty of Dentistry	50	82%
Professors / teachers from the Faculty of Dentistry	21	56%
<b>Materials needed for an oral health program</b>		
Posters	144	96%
Questionnaires	87	56%
Flyers	129	86%
Laptop	69	58%
<b>Target group in future oral health programs</b>		
Preschoolers	126	84%
Students	132	86%
Pregnant women	57	38%
Elderly	24	16%
<b>The active component of an oral health program</b>		
Oro-dental evaluation with visualization of bacterial plaque	132	88%
Visualization of the oral cavity with the help of an intraoral camera	27	18%
Explanation of the correct technique of toothbrushing, and of the auxiliary means of oral hygiene by exemplification on micromodel	147	96%
Application of questionnaires	30	20%

An oral health program should include the following sections: health education; food hygiene, oral hygiene (oro-dental evaluation with evidence of bacterial plaque) with demonstrations of correct brushing techniques, professional hygiene - 88% of the subjects surveyed; visualization of the oral cavity with the intra-oral chamber - 18% of the respondents; explanation of the correct technique of the toothbrush, of its auxiliary means, with examples on micromodel - 96% of the subjects; application of questionnaires for the assessment of oral hygiene knowledge - 20%.

In this study, we also evaluated the oral health programs that have taken place or are in progress, in which we analyzed the period, locations, implementation and results of health promotion programs.

The general aspect of the study consists in presenting a program to promote oral health in relation to the availability and desires of dentists both in private and in the state.

The target population of these health programs are pregnant women, preschool children, primary school children, middle school (adolescents), the elderly, people with disabilities [86; 87].

An effective oral health program should include the following:

1. Health education:

- supporting lessons for oro-dental health combined with illustrative materials in schools and kindergartens;
- broadcasting programs for health through television and radio, cartoons, videos with educational-sanitary message;
- distribution of guides, plans and agendas, story and coloring books on the prevention of diseases in the oral cavity;
- conducting a local, regional or even national competition and drawing exhibition on this topic;
- evaluating the feedback from the population to determine the efficiency of health education (teachers, parents and children);

2. Oral hygiene:

- mastering the correct brushing technique;
- the control of the oral hygiene by the doctor or the individual by the children, with revelatory substances for the visualization of the bacterial plaque.

3. Food hygiene:

- Establishing a national diet and nutrition program for children by age groups;
- Reducing the consumption of products with high content of refined sugars in the diet and increasing the consumption of fruits, vegetables, juices, dairy products.

Oral health education is effective in improving the knowledge and oral health of the target population when other important actors are involved, such as teachers and parents, especially in the oral health education of school children [91, 92].

Oral health programs have proven to be more effective than sporadic educational actions to promote oral health. [93; 94] Improving the oral health of children, families and communities clearly requires concerted efforts by several stakeholders; thus, the measurable and sustainable improvement of children's oral health will also require the integration of dental education into the analytical curriculum alongside other medical and social disciplines [95].

## **CONCLUSIONS**

1. Oral health education is effective in improving oral health attitudes and practice by: reducing bacterial plaque, caries, gingival bleeding, proper oral hygiene, dietary hygiene, and deconditioning vicious habits.
2. This study sheds light on the effectiveness of oral health education programs and identifies important variables that contribute to the effectiveness of these programs.
3. Dental prophylaxis through education and health promotion is effective in improving the oral health of the target population when other factors are involved such as: teachers and parents, especially in the oral health education of preschool and school children.
4. Interventions in health education have limited value and should be supported by a full range of health promotion approaches.
5. The promotion of oral health must focus on disadvantaged areas, to reduce social inequalities.
6. Addressing oral health issues through a common approach to risk factors would reduce the burden on government by reducing costs.
7. Realistic measures of all costs and benefits of oral health promotion should be included in evaluations, including non-clinical indicators such as the use of healthcare, etc.
8. Government through the Ministry of Health or the Ministry of Education also plays a key role in collaboration between academics and professionals to ensure that strategies are developed on a sound scientific basis and that they are rigorously evaluated. This may include several methodologies that, together, will highlight the total costs and benefits of individual health promotion interventions, as well as the overall strategic framework.

## **OWN CONTRIBUTIONS**

In this research, the questionnaires, surveys, concepts and models presented are designed by me, following the model of the most representative and most often applied in the promotion of oral health. They are not perfect, but they have the merit of showing that the promotion of oral health actively and permanently involves the population, in order to establish a daily program that can lead to the improvement of the oro-dental health condition. This means, in fact, the use of population preventive strategies, which try to reduce the incidence of diseases by changing the distribution of risk factors in the population.

Behavior change interventions, which have proven to be effective and efficient, are the first project of this kind in Arad County, and have been very carefully planned, taking into account evidence about the most sensitive predictors of behavior.

## **FUTURE RESEARCH DIRECTIONS**

These studies can be considered, in the future, a pioneering project for the city and county of Arad, being the first project of this kind that I intend to implement initially in the city of Arad and through which a large number of citizens, including children, will benefit from services to promote oro-dental health, in order to improve oral health and improve the quality of life of citizens, by streamlining measures to prevent primary and secondary dental diseases and treatment methods.

Current research could provide guidance both for the design of a national oro-dental and orthodontic education program, and for decision makers in promoting and funding such a program.

Of course, the urgency of interventions to overcome oro-dental health problems in Arad will allow an elaborate study - based on this research, which included concrete measures, based on universally recognized principles and specific evidence.

Expanding the coverage of the national program could benefit preschool children, school-age children who are in an early stage of permanent dentition, reducing not only the prevalence

of tooth decay, but also the acquisition of knowledge, attitudes and sanogenic practices related to oral health.

The workforce in the field of oral health promotion would like to be involved in such a program and considers that it could benefit from such a program and the construction of appropriate working mechanisms, specially designed for different regions, rural areas, for different social categories.

Given the simplicity and depth of this approach, in this paper, I intend in the future to implement as soon as possible the benefits of these methods and this study in the above-mentioned issues, compared to the promotion of oral health through education and prevention programs.

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