

level of professional education of nurses, frequency of courses to improve the skills of low-only 20% of the total number of respondents, according to nurses, many parents did not want to be active and cooperation in social adaptation of their children, as one of the reasons is the lack of an integrated approach by

all specialists working with violence. Assistants and nurses believe that social inclusion of children with disabilities in the educational process of educational institutions is possible, provided that the approach to such children is complex and individual, and it will create the proper conditions in the learning process.

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## **Evaluation of preventive measures' effectiveness in the children of school age with the aim to prevent basic stomatological diseases on the basis of the prophylactico-educational program**

**Abstract:** High prevalence of the stomatological diseases presupposes an urgency of their preventive measures. Pediatric dental service requires a preventive tendency — only this requirement can decrease the tooth diseases level. Successful primary preventive measures mainly depends on it organization. Very important here is the competent planning of the system and individual measures on preventing the most spread stomatological diseases. To achieve this aim we have developed and implemented an educational program of the children's stomatological health formation.

**Keywords:** preventive stomatological program, healthy lifestyle, exogenic and endogenic prevention, caries, professional oral hygiene.

High prevalence of the stomatological diseases presupposes an urgency of their preventive measures. Pediatric dental service requires a preventive tendency — only this requirement can decrease

the tooth diseases level [3, 113–124] (Khomenko). One of the most important sections of the stomatological prophylaxis is the endogenic prevention of the teeth caries directed on formation of the caries



resistant hard tooth tissues, beginning from their formation and mineralization, and also exogenic prevention which presupposes direct influence on the hard tooth tissues with the aim of the caries resistance increase. On the basis of the timely and systematic methods of the endogenic and exogenic preventions it is possible to decrease caries intensity for 20–50 % [5, 27].

Pediatric dentists are worried about the statistics of the children of the school age caries development. There are many reasons of the caries development. Scientists have advanced a lot of versions. Unbalanced diet, low quantity of fluorine in the drinking water, child's somatic diseases, food with a lot of refined carbohydrates, genetic caries liability, pathogenic microflora of tooth spots, change in the saliva structure — all this causes development of the disease.

Caries risk growth depends on the following factors: abnormalities and deformations of the jaw-facial area, orthodontic treatment with the use of the bracket system, harmful habits, etc. Prevention of the stomatological diseases in children mostly depends on the stomatological literacy of parents, teachers, kindergarten tutors; to achieve it is only possible in cooperation with dentists.

To support health of the mouth cavity parents, teachers and children themselves need to apply a lot of knowledge, skills, means and methods for preventing and strengthening of the child's health. School age is the best period for gaining and training skills on the oral hygiene which causes positive results in preserving the child's mouth cavity health. At this age the hygienic skills will develop into a lasting habit [1, 38; 2, 329].

Due to the data of the epidemic investigations of the WHO, every day double-ply teeth cleaning during 2 years decreases caries intensity for 30–40 %. Though, 60–80 % of the school children have unsatisfactory hygienic state of the mouth cavity which witnesses not keeping to the oral hygiene [3, 124].

We have developed and implemented an educational program of the children's stomatological health formation. The program is destined for the children of the age 9–13 years, as in this period there is the final stage of the change from the temporary to the permanent teeth. Children at this age have to visit the dentist systematically, keep oral hygiene, use

qualitative tooth-pastes [4, 74]. Implementation of this program allows strengthening children's dental health comparing to those children who didn't take part in the program. The aim of the mentioned program is to find and eliminate mistakes, gaps in the children's stomatological literacy. Dental hygienic education should be strictly differentiated according to the aims and content depending in the age.

### **Tools and methods**

Stomatological program has educational and developmental tendency. 9–13 year old children take part in the investigation, they are students of the boarding school “Multi-profile lyceum for the talented children” in Chernivtsi. The program is planned for 3 years. It consisted of two parts: theoretical and practical. In the theoretical part teachers took part, tutors, medical staff, students-stomatologists, students-internees of Bukovyna State medical university, doctors-stomatologists of the children surgical department of BSMU. Every week we had health-classes where we demonstrated multimedia presentations, thematic instruments, models, booklets. Health corner was organized. Open lectures for teachers and students of the boarding school were held by the leading stomatologists of the region, the staff took part in the on-line conferences. Lectures were held once in two months. The topics were dedicated to the relevant aspects of the sanitary-educational work: balanced diet and its influence of the teeth health and periodontium tissues; individual oral hygiene; modern means for the individual care of the mouth cavity, reasons of the caries, caries and its complications, caries preventive methods, history of the tooth-brush, ways of tooth-brushing, etc.

112 children of the age 9–13 were investigated before and after the stomatological program. For evaluation of the mouth cavity organs and tissues state we studied the characteristics accordingly the WHO, the knowledge level of the oral hygiene in the children was evaluated by the methods of emphasis. Defining and calculating of indices was carried out due to the standard methodologies, level of the oral hygiene was identified with the help of the simplified hygiene index OHI — S (Green J. C., Vermillion J. R. 1964). The periodontium state was identified with the help of the gum index GI (H. Loe, J. Silness, 1963). The state of the mucous membrane of the mouth



cavity was identified with the help of the PMA-index and visually. The qualitative and quantitative structure of the microflora was investigated and the medium caries prevalence and intensity was evaluated.

Complex investigation was carried out with the help of the modern diagnostic systems Saliva-Check Buffer, Saliva-Check Mutans и Plaque Indicator (GC). Main advantages of the modern diagnostic systems are: high reliability, visualization for the patient, highlighting of the local risk factors, ability to be accomplished by the dentist without any long laboratory investigations or adjacent specialists.

The primary and final levels of the tutors', teachers' and children's sanologic culture were evaluated due to the results of the elaborated questionnaire.

The results of the questionnaire helped us to reveal the main problems of the dental health in the given age group. The first part of the questionnaire is the rated part. The second section allowed evaluating the initial or obtained level of the stomatological knowledge.

The third section of the questions reflects the risk factors of the stomatological diseases and children's awareness of them. Every student who took part in the educational stomatological program had an "individual patient's card". All the investigating manipulation was carried out in the trusted atmosphere with an intelligible explanation and demonstration of results.

Within the scope of the program we have prescribed and applied endogenic non medicinal prophylaxis, aimed at balancing the diet: food with the digestible carbohydrates, fruit and vegetables, dairy products depending on the children's age. Endogenic medicinal prevention is applied through prescribing the pelleted form of Sodium Fluoride 0.22 mg. during the whole year with the exception of summer months. Exogenic medicinal prevention is carried out through applying the fluorine containing gel Difluena Gel (Spofa Dental). Exogenic non medicinal prevention — fissure sealing with the sealant Fissurit F (VOCO) and individual and professional oral hygienic measures. All the measures are carried out due to the indications. In the result of the stomatological prevention program we could see positive dynamics of the mouth cavity organs and organism in the whole.

### Results

The received investigation data allowed us assume that on the initial stage of the stomatological project the level of the sanitary-hygienic knowledge and skills of the investigated in the area of the preventive stomatology was unsatisfactory. This is the weakest link of the preventive stomatology. Due to the results of the program the level of the sanitary-hygienic knowledge and skills increased more than 60 %. Data of the epidemiologic investigation (tested "risk factors") are presented in the table 1.

Table 1. – Factors influencing caries appearance in the of 9–13 old children in the period from 2012 to 2014

Factors	2012 %	2013 %	2014 %
Cleaning teeth twice a day (in the morning and in the evening)	17.8	45	88
Visit a dentist once in half a year	0	10	53
Use of the interdental floss and devices for the tongue cleaning	0	6	32
Professional hygiene of the mouth cavity once in half a year	0	8	47
Keeping to a balanced diet	30	69	92
Application of the sodium fluoride due to the scheme	50	65	93
Use of the tooth paste with fluoride	21	70	100
Dinner after the evening tooth cleaning	80	50	27
Use of the gas drinks, digestible carbohydrates	100	60	15

Due to the table results the index of the decompensated caries form decreased in 14 times. In the dynamics of the periodontium tissues state the indices PMA and S-Loy increased in 0.1 %, as the main revealed pathology of the periodontium tissues in children was

catarrhal gingivitis, in most cases caused by changes in bite. The availability of Streptococcus mutans in the mixed saliva decreased in 2 times, which distinctly reflects in the improvement of the acid-base balance of the mixed saliva. The results show that in the group



of children with the decompensated caries we could see the significant increase of the saliva viscosity with the low speed of the saliva flow, which stimulated cumulating of the dental deposit which is a risk factor of the caries development in the children of school age. The data show positive dynamics of the preventive work. Dynamic of the indices of the caries intensity demonstrates reduction of the caries increase 54 %, which is a very successful result.

### Conclusions

The preventive program of the hygienic education of children provides significant improvement of the oral hygiene, which is witnessed by the numeral

data and objective evaluation of the mouth cavity state. So, the carried out measures of the hygienic education are the effective means of caries decrease and periodontium disease decrease.

Thus, as the questionnaire analysis results show that the prevailing risk factors of caries emergence are: cleaning teeth less than 2 times a day and cleaning time up to 40 seconds, poor oral hygiene, low motivation to prevent stomatological diseases, much sweets, not using the additional means of hygiene. The mentioned in the work risk factors allow increasing the quality and effectiveness of the realized sanitary-prophylactic measures.

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## The features of carbohydrate metabolism disorders in patients co-infected with HIV/HCV

**Abstract:** This article discussed the state of carbohydrate metabolism in HIV-infected persons, patients with chronic hepatitis C (CHC) and patients co-infected with HIV/HCV. The study of carbohydrate metabolism of blood was performed in 107 patients, including: CHC patients — 36 with HIV — 35, co-infection with HIV/HCV — 36. In the investigated patients identified carbohydrate metabolism disorders as an increase in serum glucose, insulin, glycosylated hemoglobin, level of insulin resistance. The most significant manifestations of disorders of carbohydrate metabolism were observed in patients co-infected with HIV/HCV ( $t = 27.4$ ;  $p < 0.001$ ), that exceed a specified changes in patients with HCV 1.53 times ( $t = 17.9$ ;  $p < 0.001$ ) and HIV-infected patients ( $t = 12.8$ ;  $p < 0.001$ ) 2.14 times.

**Keywords:** chronic hepatitis C, HIV infection, co-infection with HIV/HCV, carbohydrate metabolism.

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