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Materials collection devoted to scientific and practical achievements of students and young scientists in dentistry. Under the guidance of their supervisors were carried out research in the field of surgical, orthopedic, therapeutic, children's dentistry, implantology, oncostomatology and forensic dentistry in order to improve research and practice and identify areas for further research.

**EFFECT OF XYLITOL ON ORAL CAVITY STATUS****O.V. Klityns'ka, I.O. Mochalov, A.O. Pushkaryov***Department of Dentistry of Childhood, Uzhhorod National University*

Diabetes mellitus is one of the most common diseases among children and adults worldwide. There are its two main clinical forms - first and second type diabetes mellitus. Diabetes of first type is characterized by decreased insulin release from the cells of the Langerhans' isles in pancreas. Diabetes of the second type differs by stable insulin production, but disrupt its use, as a result, hormone function is not performed properly. The result of both types of diabetes is an increased blood glucose levels and the phenomenon of "starvation" of cells after violations of glucose transport through cytoplasmic membrane. Metabolic disorders cause many pathological changes for patient - disturbance of immunity, tissues' regeneration, increasing the risk of coronary heart disease, cerebrovascular diseases, hypertension, nephropathy, angiopathy, reduced vision, neuropathy, and others. (S.F. Dzhuraeva, 2010).

Long lasting diabetes mellitus treatment regimens, excepted of drug therapy also included a special regime of diet and carbohydrate intake, including reducing their amount in the diet and replacing them with artificial sweeteners and food. Sweeteners are divided into natural and artificial (FDA, 2010) ones.

The natural - proteins brazzeyin, kurkulin, mabinlin, mirakulin (modifier taste buds) monelin, osladyn, pentadyn, taumatyn, the amino acid L-tryptophan; polyhydric alcohols - glycerol, isomaltol, xylitol, laktytol, mannitol, malytol, sorbitol; izokumaryn filodul'tsyn; hlitsyrryzynova acid, glycosides, terpenoids stevioside. Artificial - aspartame, acesulfame, dul'tsyn, saccharin, sucralose, d-6-hlortryptofan, cyclamate and others. These compounds are used not only in the diabetic diet, but rather extensively in the food industry and cosmetics - including toothpastes, mouthwasheners, chewing gum, beverages and food. Today, artificial sweeteners are quite common.

One of the most long used as a tool in the diet of patients with diabetes and healthy way of life of the population is a polyhydric alcohol xylitol (Xylitol). Xylitol is a naturally occurring 5-atomic spirit that can be found in small amounts in some fruits, berries, in wood of birch and beech. Xylitol for

the past 40 years is recommended as a means to reduce the formation of plaque in the mouth (A.N. Prathibha, 2014).

Xylitol is a neutral compound to humans, its absorption in the gut is minimal. Xylitol has antycaries properties - inhibits the enzyme system of *Streptococcus mutans*, capturing the metabolism of xylitol may even cause cell death bacteria. Optimal bacteriostatic effect provided by intake of 5-6 grams of xylitol per day, broken down into 3-4 receptions (P. Milgrom, 2006). Also proven bacteriostatic effect of xylitol on *S. pneumonia* and *S. mitis*. At doses of 11 - 15.6 g of xylitol per day it is able to influence the growth of *S. sobrinus*. In combination with chlorhexidine xylitol in the mouth is able to inhibit the growth of *S. sanguis*. Along with the inhibition of growth of bacteria, xylitol increases the amount of saliva, which leads to increased pH in the oral cavity (K.K. Mäkinen, 2000). When receiving xylitol in the mouth are reduced adhesive properties of the components of plaque. The result of prolonged use of xylitol is to improve oral hygiene, caries process flow stabilization and prevent it, reduce the intensity of inflammatory periodontal tissues. Increased salivation promotes remineralization of tooth enamel better recovery and epithelial mucosa. In some cases, xylitol is introduced into the probiotic preparations with resistant strains of *L. reuteri* it and *L. rhamnosus* GG (S. Twetman, 2008).

## **MODERN APPROACHES TO DENTAL DISEASES' PREVENTION IN THE ORGANIZE CHILDREN'S GROUPS**

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Nowadays we know a high prevalence of caries among children and increasing intensity proves the urgent need to increase preventive work among practicing dentists, brings modern dental science paradigm shift to its further development towards preventive measures and support of dental health.

Today the main methods of primary prevention of dental caries consider sanitary and educational work. There are three main areas: dissemination of information on healthy lifestyles, disease prevention; promote adherence to the rules and ways of healthy lifestyles and prevention through education and persuasion; hygienic education.

In modern special literature there are a lot of conflicting information on the effectiveness of an approach, the need for placement of emphasis on individual methods and on the optimal age of the target audience for the start of such work. In many foreign publications preventive measures recommended to start with early childhood - 18 - 47 months. (M.C. Figueiredo et al., 2008; G.D. Slade et al., 2011). According to many researchers, hygienic education is effective as early as preschool children, in that audience hold discussions on the role and the need for dental oral care, maintaining the level of health.

Development of prevention and education for such young audience needs to use as general pedagogical approaches and specific methods to stimulate active thinking (A.H. Haryfullina, 2006). Another important dimension is the organization of educational studies in a game that is perceived well enough organized groups of children and gives tangible effect.

It is worth noting the need for an integrated approach to hygiene education preschool and primary school groups - the process should involve all their environment - parents, teachers, health workers of preschool establishments.

According to the recommendations B.G. Tushin (2005) the duration and frequency of sessions on hygiene education is different for certain age groups. For children aged 2-3 years is recommended 5 sessions lasting 15 minutes, for children aged 3-4 years - 6 lessons of 20 minutes, for children 4-5 years - 6 sessions of 20-25 minutes, children 5-6 years - 6 lessons of 30 minutes and for children aged 6-7 years - 6 lessons of 35 minutes. Work to ascertain the preservation of acquired knowledge is carried out as follows: conversation - training teeth cleaning - checking the effectiveness of training; conversation - definition of hygiene's indexes - brushing - redefining hygiene's indexes; conversation - definition of hygiene's indexes - brushing teeth - brushing teeth correction - definition of hygiene's indexes; conversation - brushing - definition of hygiene's indexes — remineralization therapy.

Other authors supplemented prevention program special section on work with older age groups - 12-13 and 7-8 years, in such cases, prevention included the sealing of fissures and periodic routine inspections - three times a year (E.M. Kuzmina, 2009). A. Topaloglu-Ak and others. (2009) offered a general motivational approach that attracted people of all ages.

So, today in professional literature there is sufficient choice of approaches and methods of primary prevention for dental diseases based on

sanitary and educational work. There is the problem of choosing an adequate approach and its adaptation to specific populations.

## **PERI-IMPLANTITIS: COMPARSION OF TREATMENT METHOS EFFICIENCIES**

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Oral rehabilitation with dental implants becomes more popular in recent years. For more than 20 years the main criterion of succses was dental implant existance in alveolar bone, but now clinicists and scientists are interested in quality and quantity of hard and soft tissues around the implant. Every fifth dental implant is affected by peri-implatitits or mukositis and this is the leading challenge for the practitioners to deal with.

The role of bacteria in peri-implantitis infection was debated already in the early era of dental implantology. Implants with advanced pocket formation shown hight level of spirochetes, coccoid microbiota. In 1987 microbiological data from seven cases with unsuccessful titanium implants were reported. Microbial samples had collected from peri-implant pockets with radiographic evidence of bone loss. For comprehension, samples were also been taken from sulcus of implant with no signs of infectionin the same individuals as well as from implants with no signs of infection in five other subjects with only successful implants. Microscopically, samples from failing implants showed an abundance of motile rods, fusiform bacteria and spirochetes, whereas samples from succesfull implants contained only a small number of cocoid cells and very few rods. Forty-one percent of the organisms cultivated from failing implants were gram-negative anaerobic rods.the successful implants were characterized by very low number of gram-positive cocci. These findings suggested that peri-implantitis was a site specific disease process with microorganisms associated.the rough implant surface offers the ideal conditions for the pathogenic bacteria to stick and multiple.

## CONTENT

<b>EFFECT OF XYLITOL ON ORAL CAVITY STATUS</b> O.V. Klityns'ka, I.O. Mochalov, A.O. Pushkaryov	<b>3</b>
<b>MODERN APPROACHES TO DENTAL DISEASES' PREVENTION IN THE ORGANIZE CHILREN'S GROUPS</b> O.V. Klityns'ka, I.O. Mochalov, K.G. Dyachuk, V.Z. Rozlutska	<b>4</b>
<b>PERI-IMPLANTITIS: COMPARSION OF TREATMENT METHOS EFFFICIENCIES</b> I.Tukalo`	<b>6</b>
<b>THE ORAL CAVITY CONDITION IN CHILDREN WITH CHRONIC GASTRODUODENITIS</b> V.S. Mel'nyk, L.F. Horzov, A.V. Sabov	<b>7</b>
<b>GROWTH-FRIENDLY FIXED GLASS-FIBER REINFORCED COMPOSITE RESIN SPACE MAINTAINER</b> N. Dydyk, B. Kadushkevych	<b>9</b>
<b>RADIUS AND DEPTH OF CURVE OF SPEE IN PATIENTS WITH ERUPTED LOWER THIRD MOLARS: A COMPARATIVE STUDY</b> N. Dydyk, K. Kopychyn, J. Filyak	<b>10</b>
<b>MONITORING OF THE MOST POPULAR DENTAL FILLING MATERIAL VIA DENTISTS OF TRANSCARPATHIAN REGION</b> S. Kostenko, A. Liah	<b>11</b>
<b>GUMS RECESSION: IMPACT AND GUIDED SOLUTIONS</b> S. Tsuperyak	<b>12</b>
<b>SUPERIMPOSITION PRINCIPLES: PROSPECTIVE IN BONE CHANGES EVALUATION</b> A.Kenyuk, V. Rusyn, M. Goncharuk-Khomyn	<b>13</b>