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TABLE OF CONTENT

1	ANALYSIS OF BIOCOENOSIS OF ORAL CAVITY IN CHILDREN WITH DIFFERENT DEGREES OF CARIES ACTIVITY, WHO PERMANENTLY RESIDING IN CONDITIONS OF BIOGEODEFICIT OF FLUORINE AND IODINE. O.V. Klitynska	3
2	ЗАГАЛЬНА ХАРАКТЕРИСТИКА ЗАХВОРЮВАЛЬНОСТІ ДИТЯЧОГО НАСЕЛЕННЯ УКРАЇНИ ТА ПОШИРЕНOSTI СЕРЕД ДІТЕЙ ХВОРОБ Г.О.Слабкий, М.А.Знаменська	9
3	MONITORING OF CHANGES IN BIOPHYSICAL STUDIES OF ORAL FLUIDS AND ORAL HEALTH IN CHILDREN OF PRIMARY SCHOOL AGE WITH MULTIPLE CARIES AFTER SECONDARY PREVENTION O.V. Klitynska, Y. A. Mukhina, V.Z.Rozlutska, I. Trubka	16
4	SPECIAL APPROACHES OF DENTAL CARE PROVIDING TO PATIENTS WITH DIABETES MELLITUS I.O. Mochalov, A.O. Pushkaryov	20
5	ACUTE RENAL FAILURE: ETIOLOGY AND PROBLEMS OF ITS PREVENTION V.Chaplyk	25
6	CHARACTERISTICS OF DEATH RATES FROM MALIGNANT TUMORS OF THE DIGESTIVE SYSTEM IN TRANSCARPATIHON REGION AND UKRAINE A. Keretsman	29

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Analysis of biocoenosis of oral cavity in children with different degrees of caries activity, who permanently residing in conditions of biogeodeficit of fluorine and iodine.

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Summary: Microbial scenery of the oral cavity plays an important role in the formation and progression of dental disease that is particularly revealing in preschool and early school age. Research microbiota of the oral cavity, species identification and quantitative composition marker is the origin and progression of diseases of the oral cavity as caries, inflammatory and degenerative inflammatory diseases periodontal tissues and lesions of the oral mucosa..

Key words: oral cavity, careis, biogeodeficit , microbiota.

Actuality. Microbial scenery of the oral cavity plays an important role in the formation and progression of dental disease that is particularly revealing in preschool and early school age. According to different authors in the oral cavity occurs more than 100 species of microorganisms, and 1 ml saliva

contains more than 108 microbial cells [6-9]. The prevalence of certain kinds of microorganisms creates conditions for the formation and rapid progression of dental disease [1,5,10,11]. Evaluation of microbial scenery plays an important role in the choice of medical tactics and as a result improve the effectiveness of treatment [2-4,12-14]. For setting the microbial scenery oral saliva sampling was carried out and microbial soft plaque in the cervical area. Hung held the following nutrient medium: - meat peptonny agar to determine TMC (total microbial count) - agar selective for streptococci - selective agar for *Streptococcus mitis* and *S. salivarius*; - semi-selective medium for the isolation of streptococci - semi environment for the allocation of bifidobacteria (environment Blauroka) - Endo environment to check for gram-negative microbiota - bismuth-sulphite agar for the isolation of *Salmonella* and *Shigella* - enterokokovyy agar for the cultivation of species of *Entecococcus* spp.; - laktobak-agar (MRS - Man -Rogosa-Sharpe agar) for the cultivation of lactobacilli in microaerophilic conditions - bifidum, *Bifidobacterium* Agar for cultivation.

For the detection and identification using Gram smears production and further their microscoping, routine biochemical tests. All relevant strains isolated during the experiment strains of microorganisms will be saved.

The study was conducted in 146 children with different degrees of caries activity, aged 3-8 years, who permanently live in conditions of biochemical deficits of different ethnic groups. A survey of children was conducted after informed consent of parents or guardians of LLC "Dental clinic" Dental Faculty SHEI "Uzhhorod National University". Microbiological and immunological studies were conducted in microbiological laboratories Transcarpathian

Ukraine Branch of microbiologists name S.M.Vynohradskoho - TUBM.

Results and discussion. The results of determining microbiota in saliva of inspected children, Roma ethnic group, mixed ethnic groups and the control group presented in Figure 1.

Average value of total microbial number of children in the control group was 4×10^5 , not significantly different rates in children of the Roma ethnic group 6×10^5 ($p > 0.05$)., And the children of mixed ethnic groups was significantly higher and was 6×10^9 ($p < 0.05$).

Among the species belonging were significant differences among children of different groups. So, children of mixed ethnic groups were representatives of normal oral microflora and opportunistic and pathogenic microorganisms.

Normal microflora presented oral *Streptococcus mitis*, *S. salivarius*, *Lactobacillus salivarius*, *Bifidobacterium* spp. - normally found in the mouth, including saliva, plaque, in the mucous membranes of the mouth. Number of microbiota in children of the main group was small: *Streptococcus mitis* - 1×10^4 CFU; *Streptococcus salivarius* - 2×10^4 cfu; *Bifidobacterium* spp - 1×10^4 CFU; *Lactobacillus salivarius* - 8×10^2 CFU; *Lactobacillus acidophilus* - 8×10^1 CFU.

Streptococcus sobrinus - typical caries forming species with *Streptococcus mutans* to form a group of similar species *Streptococcus mutans* biochemical properties and effects on the surface of the tooth enamel and tooth tissue destruction. owed by 100% of children of the main group, the average values were *Streptococcus sobrinus* - 4×10^4 CFU.

Other species, including representatives of gram-negative microbiota and species of the genus *Enterococcus* spp. and *Staphylococcus aureus* normally have to be

present among the normal microbiota; Data representatives (*Escherichia coli* - 6×10^6 CFU; *Proteus vulgaris* - 8×10^8 CFU; *Citrobacter freundii* - 2×10^7 cfu; *Pseudomonas aeruginosa* - 1×10^9 CFU; *Enterococcus faecalis* - 1×10^5 CFU; *Enterococcus faecium* - 1×10^3 CFU) is normobiota and opportunistic bacteria by the gastrointestinal tract. A *Staphylococcus aureus* is the causative agent of many infections and diseases causing opportunistic and nosocomial infections in people with lowered immunity sown amount of 1×10^3 CFU.

This oral microbial scenery corresponds to the third degree of dysbiosis V.V.Hazanovoyu for all children of the main group, regardless of the degree of activity of dental caries, and is characterized by the detection of pathogenic monoculture with a sharp decrease in the number or total absence of representatives of normal (physiological) microflora.

The children of the Roma ethnic group frequency of sowing microflora significantly different. So, the average total microbial number was 6×10^5 . Flora represented *Streptococcus mitis* - 9×10^3 CFU; *Streptococcus salivarius* - 1×10^4 CFU; *Bifidobacterium* spp - 2×10^7 cfu; *Lactobacillus salivarius* and *Lactobacillus acidophilus* available.

Among the opportunistic pathogenic *Enterococcus faecalis* - 1×10^5 CFU. All members of the Roma ethnic group were allocated *Streptococcus mutans* in quantities of 1×10^4 CFU and *Streptococcus sobrinus* not sown. Accordingly, in this group of patients diagnosed subcompensated form of dysbiosis, which is characterized by the presence of one or two kinds of opportunistic microorganisms against the background of a reduction in titer lactobacilli.

In the control group inspected flora represented *Streptococcus mitis* - 9×10^3

CFU; Streptococcus salivarius - 1×10^6 CFU; Bifidobacterium spp, Lactobacillus salivarius and Lactobacillus acidophilus available.

Acid-streptokky are Streptococcus sobrinus in number 9×10^3 CFU;

opportunistic presented Enterococcus faecalis - 9×10^3 cfu. The average values of total microbial count was 4×10^5 .

Table 1

		<i>Streptococcus mitis</i>	<i>Streptococcus sobrinus</i>	<i>Pseudomonas aeruginosa</i>	<i>Enterococcus faecalis</i>	<i>Enterococcus faecium</i>	<i>Proteus vulgaris</i>	<i>Lactobacillus salivarius</i>	<i>Lactobacillus acidophilus</i>	<i>Staphylococcus aureus</i>	<i>Bifidobacterium</i>	<i>Citrobacter freundii</i>	<i>Escherichia coli</i>
<i>Streptococcus mitis</i>	r	1	-0.03632	-0.07963	-0.02141	-0.04393	0.02341	0.21537	0.46036	-0.07302	0.77805	-0.07387	-0.07985
<i>Streptococcus mitis</i>	σ	--	8.36E-01	6.49E-01	9.03E-01	8.05E-01	8.94E-01	0.21404	5.39E-03	6.77E-01	3.78E-08	6.73E-01	0.6484
<i>Streptococcus sobrinus</i>	r	-0.03632	1	-0.04681	-0.07599	0.99134	-0.03547	-0.04883	-0.00636	0.23332	-0.02791	-0.02339	-0.0419
<i>Streptococcus sobrinus</i>	σ	8.36E-01	--	7.89E-01	6.64E-01	0	8.40E-01	0.78057	9.71E-01	0.17737	8.74E-01	8.94E-01	0.8111
<i>Pseudomonas aeruginosa</i>	r	-0.07963	-0.04681	1	-0.03722	-0.03155	-0.06418	0.92528	-0.05538	-0.12008	-0.04147	-0.0485	-0.03102
<i>Pseudomonas aeruginosa</i>	σ	6.49E-01	7.89E-01	--	8.32E-01	8.59E-01	7.14E-01	2E-15	7.52E-01	4.92E-01	8.13E-01	7.82E-01	8.60E-01
<i>Enterococcus faecalis</i>	r	-0.02141	-0.07599	-0.03722	1	-0.0605	-0.1068	-0.04136	-0.05318	0.22091	-0.02369	-0.03769	0.97643
<i>Enterococcus faecalis</i>	σ	9.03E-01	6.64E-01	8.32E-01	--	0.73396	5.41E-01	0.81351	7.62E-01	2.02E-01	8.93E-01	8.30E-01	0
<i>Enterococcus faecium</i>	r	-0.04393	0.99134	-0.03155	-0.0605	1	-0.03461	-0.04216	-0.05415	0.2357	-0.04585	-0.03992	-0.0303
<i>Enterococcus faecium</i>	σ	8.05E-01	0	8.59E-01	0.73396	--	8.46E-01	0.81288	0.76099	1.80E-01	7.97E-01	0.82264	8.65E-01
<i>Proteus vulgaris</i>	r	0.02341	-0.03547	-0.06418	-0.1068	-0.03461	1	-0.08462	-0.10864	0.36465	-0.08301	0.15265	-0.06085
<i>Proteus vulgaris</i>	σ	8.94E-01	8.40E-01	7.14E-01	5.41E-01	8.46E-01	--	6.29E-01	5.34E-01	3.13E-02	6.35E-01	3.81E-01	0.7284
<i>Lactobacillus salivarius</i>	r	0.21537	-0.04883	0.92528	-0.04136	-0.04216	-0.08462	1	0.186	-0.17998	0.33466	-0.0766	-0.03123
<i>Lactobacillus salivarius</i>	σ	0.21404	0.78057	2E-15	0.81351	0.81288	6.29E-01	--	0.28471	0.30085	4.94E-02	6.62E-01	0.85867
<i>Lactobacillus acidophilus</i>	r	0.46036	-0.00636	-0.05538	-0.05318	-0.05415	-0.10864	0.186	1	-0.23537	0.5945	-0.09864	-0.05251
<i>Lactobacillus acidophilus</i>	σ	5.39E-03	9.71E-01	7.52E-01	7.62E-01	0.76099	5.34E-01	0.28471	--	1.73E-01	1.66E-04	5.73E-01	7.65E-01
<i>Staphylococcus aureus</i>	r	-0.07302	0.23332	-0.12008	0.22091	0.2357	0.36465	-0.17998	-0.23537	1	-0.18186	0.41907	0.2231
<i>Staphylococcus aureus</i>	σ	6.77E-01	0.17737	4.92E-01	2.02E-01	1.80E-01	3.13E-02	0.30085	1.73E-01	--	2.96E-01	1.22E-02	1.98E-01
<i>Bifidobacterium</i>	r	0.77805	-0.02791	-0.04147	-0.02369	-0.04585	-0.08301	0.33466	0.5945	-0.18186	1	-0.07844	-0.03421
<i>Bifidobacterium</i>	σ	3.78E-08	8.74E-01	8.13E-01	8.93E-01	7.97E-01	6.35E-01	4.94E-02	1.66E-04	2.96E-01	--	6.54E-01	8.45E-01
<i>Citrobacter freundii</i>	r	-0.07387	-0.02339	-0.0485	-0.03769	-0.03992	0.15265	-0.0766	-0.09864	0.41907	-0.07844	1	-0.03126
<i>Citrobacter freundii</i>	σ	6.73E-01	8.94E-01	7.82E-01	8.30E-01	0.82264	3.81E-01	6.62E-01	5.73E-01	1.22E-02	6.54E-01	--	0.85853
<i>Escherichia coli</i>	r	-0.07985	-0.0419	-0.03102	0.97643	-0.0303	-0.06085	-0.03123	-0.05251	0.2231	-0.03421	-0.03126	1
<i>Escherichia coli</i>	σ	0.6484	0.8111	8.60E-01	0	8.65E-01	0.7284	0.85867	7.65E-01	1.98E-01	8.45E-01	0.85853	--

Microbiota. Internal correlation

Pearson correlation coefficients "r" and the level of reliability "σ" for different pairs of microorganisms

All patients with decompensated caries had established the presence of oral

dysbiosis 3-4 degrees. These figures correspond dysbiotic change of 1 degree.

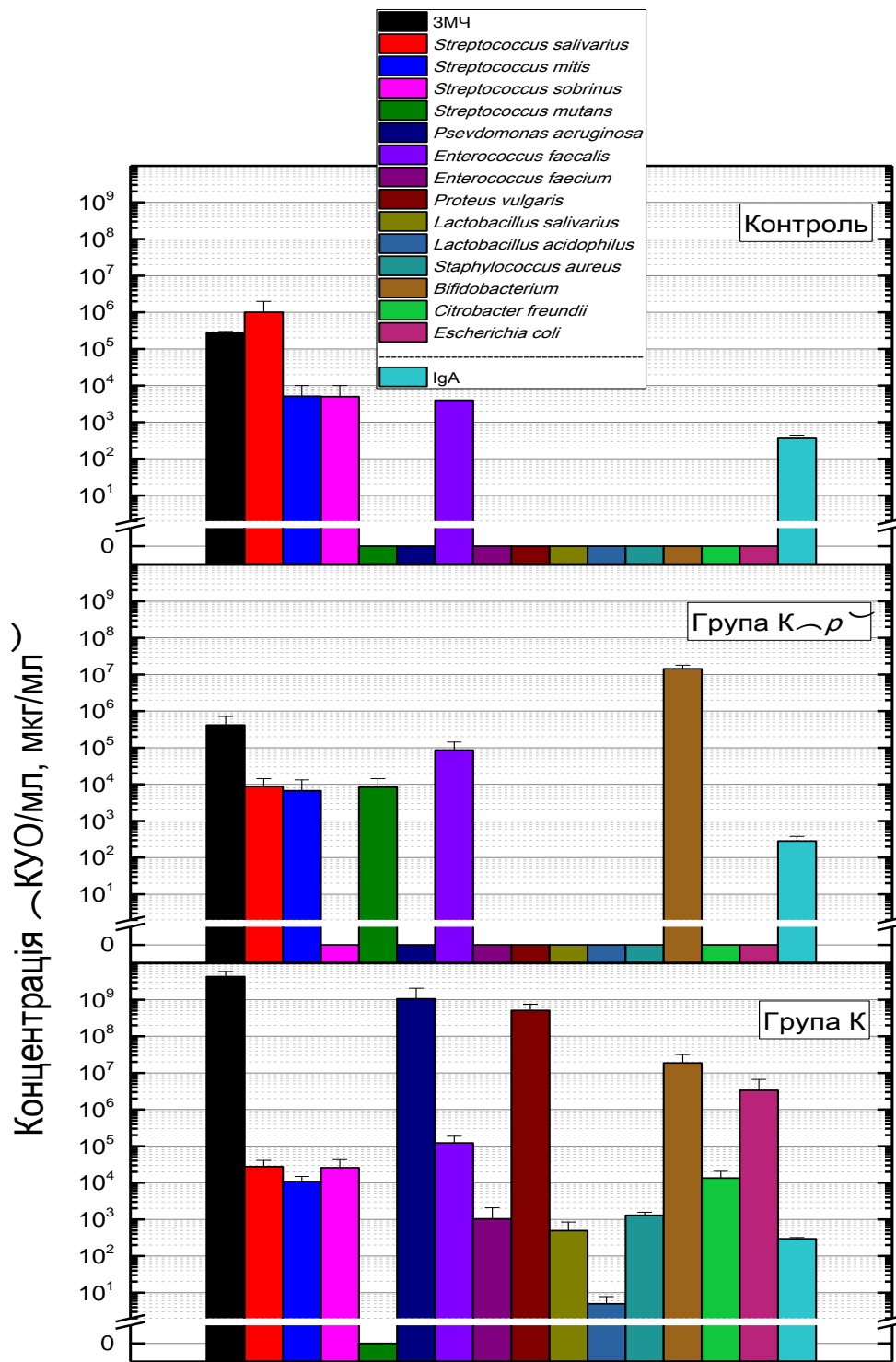


Figure1. Determination of various types of microorganisms and secretory immunoglobulin A in saliva inspected depending on the ethnic group.

Were the following bacteria: Streptococcus sobrinus - 100%; Streptococcus mitis - in 88.3%; Streptococcus salivarius - at 82.4%; Escherichia coli - 5.9%; Proteus vulgaris - at 47.1%; Citrobacter freundii - at 53.1%; Pseudomonas aeruginosa in 47.1%; Lactobacillus salivarius - at 11, 8% of cases (there are doubts about the plant species, 97% accuracy, using biochemical test Erba-Lachema, needs clarification on MALDI); Staphylococcus aureus - at 76.5%; Enterococcus faecalis - in 88.3%; Enterococcus faecium - 5.9%; Bifidobacterium spp.- in 53.0% (giving

Streptococcus sobrinus - typical cavities forming species with Streptococcus mutans to form a group of similar species Streptococcus mutans biochemical properties and effects on the surface of the tooth enamel and tooth tissue destruction. One of the most important factors of virulence is its acid stability. In the analysis of the mechanism kyslotostiykosti streptokoiv and adaptation to the acidic environment found that Streptococcus sobrinus can continue its growth and reproduction in acidity pH 5.0, in such circumstances it continues to ferment carbohydrates through glycolysis and continues to acidification of the environment around them, with specific enzyme System Streptococcus sobrinus (including fosfotransferazna system) in a state of higher activity at pH 5.0 than in a neutral

Conclusions. Research microbiota of the oral cavity, species identification and quantitative composition marker is the origin and progression of diseases of the oral cavity as caries, inflammatory and degenerative inflammatory diseases periodontal tissues and lesions of the oral mucosa. In particular, Streptococcus sobrinus, which was allocated 100% of the surveyed children aged 4-6 years

questionable results (65%) using biochemical anaerotestu Erba-Lachema, needs clarification on MALDI).

Streptococcus mitis, S. salivarius, Lactobacillus salivarius, Bifidobacterium spp. - Normally found in the oral cavity, including saliva, plaque, in the mucous membranes of the oral cavity.

Streptococcus mitis, S. salivarius, Lactobacillus salivarius, Bifidobacterium spp. - Normally found in the oral cavity, including saliva, plaque, in the mucous membranes of the oral cavity.

environment, creating conditions for the emergence of enamel demineralization, especially deciduous teeth in children [7, 12-14].

Other species, including representatives of gram-negative microbiota and species of the genus Enterococcus spp. and Staphylococcus aureus normally have to be present among the normal microbiota; Representatives of data (Escherichia coli, Proteus vulgaris, Citrobacter freundii, Pseudomonas aeruginosa, Enterococcus faecalis, E. faecium) is normobiotoyu and opportunistic bacteria by the gastrointestinal tract. A Staphylococcus aureus is the causative agent of many infections and diseases causing opportunistic and nosocomial infections in people with reduced immunity.

residing near biogeochemical fluorine and iodine deficiency, considered the most acidophilus bacteria that persist in the mouth of man because of bacteria colonies in rN5, 0 still active synthetic processes, they lack the shock and stress protein that has been proven to hemostatniy culture, DNA, RNA analysis and Western blotting.

Their timely identification and efficient removal of toxic effects by reducing their

number will reduce the risk of diseases of the oral cavity and create conditions for proper formation of all the structures of the oral cavity in children.

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ЗАГАЛЬНА ХАРАКТЕРИСТИКА ЗАХВОРЮВАЛЬНОСТІ ДИТЯЧОГО НАСЕЛЕННЯ УКРАЇНИ ТА ПОШИРНОСТІ СЕРЕД ДІТЕЙ ХВОРОБ

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Summary: The dynamics of changes in indices of children morbidity in Ukraine and the prevalence of diseases among them for 2010-2014 is presented. Decrease of indices of morbidity among children and prevalence of diseases among them is determined in all main classes of diseases. Exception is made up by blood diseases, the diseases of blood-forming organs, certain lesions that involve immune mechanism and neoplasms. The highest rate of decrease in prevalence was registered in the following classes: mental and behavioral disorders; endocrine diseases; alimentary and metabolic disorders; diseases of the digestive system and diseases of the genitourinary system.

Keywords: children, primary morbidity, prevalence of diseases, dynamics.

Постановка проблеми у загальному вигляді та її зв'язок з важливими науковими чи практичними завданнями. Забезпечення потреби дитячого населення в ефективній та якісній медичній допомозі передбачає виявлення особливостей і тенденцій стану здоров'я дітей, що є надзвичайно важливим в умовах реформування системи охорони здоров'я.

Аналіз останніх досліджень і публікацій, в яких започатковано розв'язання проблеми. Здоров'я дітей – це майбутнє нації, її трудовий резерв та інтелектуальний потенціал і найбільш важливий ресурс будь-якого суспільства [3, с.1-2]. Особливого значення стан здоров'я дітей набуває у період несприятливої демографічної ситуації. Здоров'я дитини можна охарактеризувати як стан її життєдіяльності, що відповідає біологічному віку, гармонійній єдності фізичних та інтелектуальних характеристик, а також адекватному формуванню адаптаційних та компенсаторних можливостей організму в процесі його росту [1, с.38-42; 7, с. 5-9].

В нашій країні захворюваність серед дитячого населення упродовж останніх п'яти років не зменшилася, не дивлячись на досягнуті певні успіхи у зниженні рівня захворюваності новонароджених та дітей віком до 1 року [4, с.215-238; 5, с.9-16]. Це викликає занепокоєння органів державного управління охороною здоров'я з огляду на щорічне зростання показників захворюваності, недостатню ефективність профілактичних заходів та негативний вплив на стан здоров'я населення у майбутньому [2, с.37-51].

За період 2008–2012 рр. рівень поширеності хвороб зріс на 10,2% – з 1885,79 на 1000 дітей відповідного віку до 1922,8. За цей самий період захворюваність

зросла на 3,9% – з 1332,62 до 1385,03 на 1000 дітей відповідного віку [6, с.112-135; 8 с.47-61].

Не вирішені питання. Відсутній аналіз динаміки показників захворюваності дітей та поширеності хвороб серед дитячого населення у сучасних соціально-економічних умовах розвитку країни та реформи охорони здоров'я в розрізі адміністративних територій та вікових груп.

Мета. Вивчити та проаналізувати показники захворюваності дитячого населення країни та показники поширеності хвороб серед дитячого населення в динаміці п'яти років.

Методи та матеріали дослідження.

Бібліосемантичний, статистичний, системного підходу. Використані матеріали галузевої статистичної звітності за період 2010 - 2014 роки.

Статистична обробка отриманих даних проведена з використанням комп'ютерної програми Statistica 8.0

Результати та їх обговорення. На першому етапі дослідження вивчено показники первинної захворюваності дитячого населення країни та поширеності серед них хвороб. Далі проведено аналіз отриманих показників.

Проведений аналіз динаміки захворюваності і поширеності хвороб за основними класами хвороб (табл. 1) засвідчив зниження показників як захворюваності, так і поширеності хвороб у дітей, що відбулося за рахунок зменшення рівня захворюваності за всіма класами хвороб, за винятком хвороб крові й кровотворних органів та окремих порушень із залученням імунного механізму та новоутворень. За період дослідження відмічалися найбільш високі темпи зниження поширеності хвороб за такими класами: розлад психіки та поведінки; ендокринних хвороб, розладів харчування та порушення обміну речовин; хвороб органів травлення та хвороб сечостатевої системи..

Таблиця 1

Показники захворюваності та поширеності хвороб серед дітей України (2010–2014 рр., на 1000 дитячого населення)

Клас хвороб	Рік					2014 р. до 2010 р. (%)	
	2010	2011	2012	2013	2014		
Деякі інфекційні та паразитарні хвороби	п	59,73	67,98	65,26	65,48	55,18	92,38
	з	51,13	59,17	56,14	56,52	47,47	92,84
Новоутворення	п	8,56	8,73	9,08	9,21	8,84	103,27
	з	3,35	3,43	3,62	3,66	3,43	102,39
Хвороби крові й кровотворних органів та окремі порушення із залученням імунного механізму	п	43,25	42,50	41,13	39,56	36,83	85,16
	з	6,53	15,80	15,01	14,36	13,46	206,13
Ендокринні хвороби, розлади харчування та порушення обміну речовин	п	93,68	90,47	87,24	83,42	76,55	81,71
	з	21,77	20,52	19,45	18,07	16,37	75,2

Клас хвороб		Рік					2014 р. до 2010 р. (%)
		2010	2011	2012	2013	2014	
Розлади психіки та поведінки	п	33,87	33,31	33,42	31,38	26,92	79,48
	з	5,81	5,70	5,34	5,26	4,28	73,67
Хвороби нервової системи	п	62,72	62,98	61,64	59,94	54,58	87,02
	з	22,00	22,40	21,28	20,29	19,03	86,5
Хвороби ока та його придаткового апарату	п	105,57	105,75	105,3	104,35	95,47	90,45
	з	48,02	48,40	47,57	47,51	43,46	90,5
Хвороби вуха та соскоподібного відростка	п	46,70	47,52	46,86	47,13	43,56	93,28
	з	42,36	43,24	42,62	42,89	39,65	93,6
Хвороби системи кровообігу	п	36,75	38,49	38,49	38,78	34,67	94,34
	з	10,71	11,12	10,41	9,90	8,74	81,61
Хвороби органів дихання	п	1035,4	1014,7	969,85	984,71	918,83	88,74
	з	971,13	950,65	905,25	920,93	858,94	88,45
Хвороби органів травлення	п	144,92	141,21	138,70	133,63	120,13	82,89
	з	52,65	51,11	50,22	49,47	46,99	89,25
Хвороби шкіри та підшкірної клітковини	п	86,75	85,76	86,51	86,22	79,00	91,07
	з	74,69	73,74	74,31	74,00	67,46	90,32
Хвороби кістково-м'язової системи та сполучної тканини	п	86,40	86,08	84,60	84,57	73,31	84,85
	з	31,65	31,07	30,17	30,74	26,57	83,95
Хвороби сечостатевої системи	п	56,71	55,75	54,15	53,13	47,79	84,27
	з	30,49	29,65	28,75	28,27	25,38	83,24
Природжені вади розвитку, деформації та хромосомні аномалії	п	27,60	28,70	29,24	30,10	27,64	100,14
	з	5,86	6,26	6,16	6,24	5,70	97,27
Симптоми, ознаки, відхилення від норми, що виявлені при клінічних та лабораторних дослідженнях	п	2,87	2,79	2,66	2,58	2,50	87,11
	з	2,19	2,15	2,02	1,98	1,98	90,41
Травми, отруєння та деякі інші наслідки дії зовнішніх чинників	п	56,43	57,77	59,11	57,05	50,73	89,9
	з	54,44	55,84	57,27	55,29	49,06	90,12

П - поширеність хвороб
З - захворюваність

Проведений та представлений на рис. 1. аналіз структури захворюваності та поширеності хвороб серед дитячого населення показує, що у 2014 р. у структурі захворюваності традиційно, як і в попередні роки, переважали хвороби органів дихання (66,78%), шкіри та підшкірної клітковини (5,24%), травми,

отруєння та деякі інші наслідки дії зовнішніх чинників (3,81%), деякі інфекційні та паразитарні хвороби (3,69%), хвороби органів травлення (3,65%), ока та його придаткового апарату (3,37%). Сумарна частка цих хвороб становить 86,52% .



Рисунок 1. Структура захворюваності та поширеності хвороб серед дітей за основними класами хвороб (2014 р., %)

Структуру поширеності хвороб серед дітей формували переважно хвороби органів дихання (52,18%), органів травлення (6,82%), ока та його придаткового апарату (5,42%), кістково-м'язової системи та сполучної тканини (4,16%), шкіри та підшкірної клітковини (4,48%). Сумарна частка вказаних класів

хвороб у структурі поширеності становить 73,06%.

Наступним кроком дослідження було вивчення та проведення аналізу динаміки показників захворюваності дітей та поширеності серед них хвороб в розрізі адміністративних територій. Отримані результати наведена на рис.2.

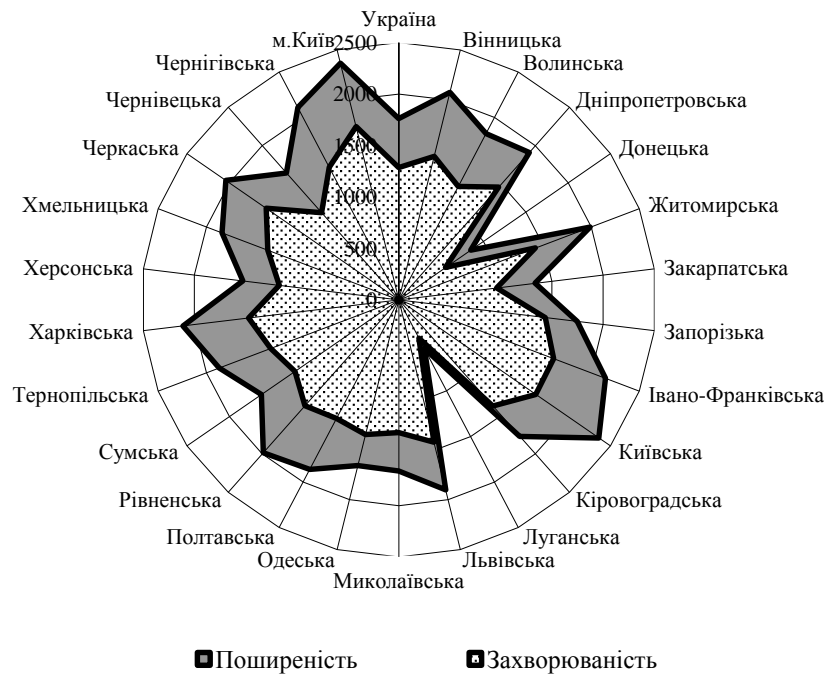


Рисунок 2. Показники захворюваності та поширеності хвороб серед дитячого населення в розрізі адміністративних територій України (2014 р., на 1000 дітей)

За даними рис.2. видно, що у 2014 р. відмічається достовірні коливання показника захворюваності дитячого населення України: від 959,1 на 1000 дітей у Закарпатській, 1124,48 у Сумській, 1130,0 у Чернівецькій областях до 1609,4 у Івано-Франківській, 1618,28 у Київській, 1566,9 у Черкаській областях та 1735,14 у м. Києві. Різниця граничних показників складає 1.8 ($p \geq 0,05$). Регіональні відмінності у показниках поширеності хвороб коливалися від 1334,1 у Закарпатській, 1620,8 у Сумській, 1660,9 у Одеській областях до 2384,4 у м. Києві, 2361,7 у Київській, 2112,9 у Чернігівській, 2041,8 у Черкаській областях. Різниця граничних показників складає 1.8 ($p \geq 0,05$).

До проблемних, за станом здоров'я дитячого населення, адміністративних

територій можна віднести м. Київ та Київську область, у яких у 2014 р. рівні захворюваності і поширеності хвороб були найвищими в Україні. Рівні захворюваності дитячого населення у 2014 р. перевищували відповідні загальнодержавні показники у 11 регіонах України, а поширеності хвороб – у 10.

Показники захворюваності та поширеності хвороб в окремих вікових групах мають свої особливості. Показники захворюваності дітей зменшувалася до шести років життя з подальшим збільшенням у віці 7–14 і зменшенням у віці 15–17 років, а показники поширеності хвороб зростали з віком, що, вірогідно, зумовлено накопиченням з віком хронічних хвороб (табл. 2).

Таблиця 2

Показники захворюваності та поширеності хвороб серед дітей різних вікових груп (2010–2014 рр., на 1000 відповідного населення)

Вік дітей		Рік					Темп змін
		2010	2011	2012	2013	2014	
До 1 року	з	1591,9	1560,6	1479,5	1450,71	1454,45	-0,09
0–6 років	п	1931,5	1875,7	1803,3	1780,24	1624,47	-0,16
	з	1681,3	1631,8	1565,7	1545,44	1410,88	-0,16
7–14 років	п	2018,3	2023,3	1963,1	1969,05	1801,42	-0,1
	з	1355,7	1348,9	1284,1	1305,81	1206,39	-0,1
15–17 років	п	2089,9	2116,9	2109,6	2159,60	2022,28	-0,03
	з	1209,0	1218,9	1188,2	1220,13	1151,06	-0,05

П - поширеність хвороб

З – захворюваність

У 2014 р. захворюваність дітей віком 0–6 років становила 1410,88 на 1000 дітей відповідного віку, віком 7–14 років – 1205,4, а віком 15–17 років – 1151,06; поширеність хвороб – 1624,5, 1801,4 та 2022,3 відповідно. Питома вага

Висновки. Проведений аналіз зміни показників захворюваності дітей України та поширеності серед них хвороб за 2010–2014 роки показав зниження показників захворюваності дітей та поширеності серед них хвороб за всіма основними класами хвороб за винятком хвороб крові і кровотворних органів та окремих порушень із залученням імунного механізму та новоутворень. Встановлені

захворювань з діагнозом, встановленим вперше у житті, від усіх зареєстрованих захворювань у 2014 р. становила 86,9% серед дітей 0–6 років, 66,9% серед дітей 7–14 років та 56,9% серед дітей у віці 15–17 років

найбільш високі темпи зниження поширеності хвороб за такими класами: розлади психіки та поведінки; ендокринні хвороби, розлади харчування та порушення обміну речовин; хвороби органів травлення та хвороби сечостатевої системи. **Перспективи подальших досліджень** пов'язані з вивченням ефективності медичної допомоги дитячому населенню

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Monitoring of changes in biophysical studies of oral fluids and oral health in children of primary school age with multiple caries after secondary prevention

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Summary: The problem of prevention of dental caries, despite the considerable number of domestic and foreign publications, today remains the relevant. To compare the study oral fluid performance and condition of oral hygiene during treatment and secondary prevention of investigated young students with multiple cavities separated into groups: basic (41 people) and relative (37 people) of CPV ≥ 10 . Using techniques developed multiple secondary prevention of dental caries in primary school children contributed significantly to the improvement of health and condition of the oral cavity.

Key words: children, caries, oral health, primary, school.

Actuality. The problem of prevention of dental caries, despite the considerable number of domestic and foreign publications [3, 6, 7], today remains the relevant. This is supported by considerable intensity and prevalence of caries in the population [4,5]. Attention is drawn to development of multiple cavities, especially in children of primary school age, according to the authors [1, 5, 6, 10, 11], due to age-related changes in lifestyle associated with adaptation to the school and the negative impact of external and internal environment. Among the important factors that promote the development of multiple dental caries, is the state of oral health and the qualitative and quantitative composition of the oral fluid, because of them formed an environment in which teeth constantly functioning. In this connection, during a set of preventive measures should include measures aimed at the normalization of the mouth state. For this purpose, prescribe calcium adaptogens, symbiotyks, homeopathic remedies [1, 2, 5, 6, 9]. The scheme, which maximize the impact on the basic pathogenesis of multiple dental caries and includes preparations (application of preparations "Biokosmovit plus", "Enerion", "Inulin", "Symbilakt VIVO») and without medical prevention (strengthening physical health and oral hygiene).

The purpose of research is to study the dynamics of changes in oral hygiene and the results of biophysical studies of oral fluid in primary school children with multiple cavities in the process of secondary prevention.

Material and methods. To compare the study oral fluid performance and condition of oral hygiene during treatment and secondary prevention of investigated young students with multiple cavities separated into groups: basic (41 people) and relative (37 people) of CPV ≥ 10 . The control group consisted of 41 children of a similar age without multiple caries (CPV $\leq 4,9$). After dental health among children of

the main group was carried out the complex secondary prevention. It consisted of two components - the medicinal and no medicinal prevention. Medicinal prevention include: preparations "Biokosmovit plus" for 1 capsule after a meal twice a day for two months (to improve the mineralization of hard tissue of teeth) ; "Enerion" on the 1 tablet twice a day for 4th weeks (to correct psycho-vegetative syndrome); "Inulin" on the 1 tablet three times a day for a month (microecological to restore balance and improving oral salivation) "Symbilakt VIVO» - always as dairy products (for recovery symbiotic flora of the mouth); physiotherapy - carbonic bath for 5 minutes - 20 procedures (to correct sympathicotonia) ; psychotherapy that includes group disputes and role-playing games with the development of complex exercises autogenous training for the Schulz in 1932 [8,9] and use «Remin Pro» VOCO, Germany as applications once a day for a month (to improve the mineralization of hard tissues teeth) . For oral hygiene to children of the main group was appointed toothpaste that contains fluoride and calcium carbonate "Maximum protection against tooth decay," and picked up a toothbrush Curaprox 5460, Switzerland.

The complex of developed method of multiple secondary prevention of dental caries in schoolchildren included measures without medicinal prevention: the normalization of the daily routine, work and rest, good nutrition, sports. The developed technique of multiple secondary prevention of caries in children used the main group three times a year.

Schoolchildren of comparative group after the sanitation of oral cavity was administered multivitamin and multimineralnyy complex "Calcinova" on the 1tablet four times a day for two months, three times a year. The preparation contains: vitamin B6 - 0.4 mg Vitamin A - 1000 IU vitamin D3 - 100 IU, vitamin C 15 mg, calcium hydrogen phosphate dihydrate (corresponding to 100 mg of calcium

and phosphorus 77 mg in one tablet). In order to improve mineralization of hard tissues of the teenagers multiple applications caries performed 10% solution of calcium gluconate 15 minutes for 10 days, then the application of 2% sodium fluoride solution for 5 minutes for 10 days.

For realization of hygienic measures, children of comparative group were using toothpaste "Mint freshness" and universal toothbrush company "Colgat."

Children in the control group were held only oral sanitation of without imposing preventive measures. Assessment of the hygienic condition of the mouth conducted through a simplified index Green_Vermilion -OHI_S (1964) [9]. Clinical evaluation of resistance to tooth decay and multiple remineralizade ability of saliva (KOShRE test) were conducted by the method of T. Relinovoyita. (1982) [2]. Evaluation of mineralizade potential of saliva, the recommendation HM Saifullin [6], expressed in a generalized score based on types of crystallization: 0,0-1,0 - very low; 1,1-2,0 - low; 2,1-3,0 - satisfactory; 3,1-4,0 - high; 4,1-5,0 - very high. Determination of the viscosity of the mixed non-stimulated saliva was carried out by Oswald viscometer [6]. Determination of the pH of oral fluid test was performed by Saliva Check. Oral fluid buffer capacity was determined by Krasse [2]. Bicarbonate buffer capacity evaluation was performed as follows: $\text{pH} > 6$ - high capacity buffer 5 $\text{pH} < 6,0$ - normal, $\text{pH} < 5$ - low. Statistical analysis of the results of research conducted by t Student's test.

Results and discussion. In carrying out prevention all the studied parameters of the main group and the comparison group were identical and were not significantly differed ($P > 0.05$). After prophylactic course the average values of the experimental group were significantly better compared to baseline. Application developed a set of preventive measures contributed to a significant

improvement of the hygienic condition of the oral cavity. Thus, in the main group Green_Vermilion index was $0,93 \pm 0,08$ (against $1,97 \pm 0,11$), which was significantly lower than for prevention ($P_2 < 0.001$), and corresponds to satisfactory evaluation of hygienic condition of the oral cavity. In analyzing the state of oral health of children in the comparison group found a slight nonsignificant decrease in OHI-S, indicating the low efficiency of the traditional method of multiple prevention of dental caries in this group of patients. Equally important in maintaining homeostasis of the oral cavity with the activity of the salivary glands and saliva secretion in nature [2, 6]. The definition of this indicator in the main group of teenagers after the course of prevention revealed a significant increase in salivation from $0,31 \pm 0,01$ to $0,44 \pm 0,01$ ($P_2 < 0.001$). In addition, the concentration of hydrogen ions was $6,64 \pm 0,06$ (against $6,23 \pm 0,05$ at $P_2 < 0.001$). Markedly improved neutralizing buffer properties of oral liquid and its viscosity (from $4,68 \pm 0,05$ to $5,22 \pm 0,08$ and $1,84 \pm 0,08$ to $1,34 \pm 0,02$ at $P_2 < 0.001$). Children comparative group after the course prevention indicator values that define the dynamic equilibrium of metabolic processes in the mouth, almost unchanged. Thus, the rate of secretion of saliva mixed to prevention was $0,35 \pm 0,01$, buffer capacity - $4,64 \pm 0,05$, pH - $6,4 \pm 0,06$; viscosity - $1,78 \pm 0,08$; after prophylaxis - respectively $0,4 \pm 0,02$; $4,78 \pm 0,05$; $6,42 \pm 0,07$; $1,56 \pm 0,08$; with less than acceptable in medical research authenticity difference indicators ($R_2 > 0.05$). It is known that the stability of dental caries depends on susceptibility of enamel to acids and remineralizuyuchoyi ability of oral fluid [2, 3, 6]. After a course of preventive figure solubility of tooth enamel in children of the main group was $39,76 \pm 1,46$; and the rate of remineralization of enamel - $3,87 \pm 0,16$; reliability that 99.9% differed from those of

the original. At the same time, despite holding conventional prevention in the comparison group of children studied sustainability indicators teeth to the caries process remained low and not significantly different from the initial ($R_2 > 0.05$). Under the influence of caries and preventive measures in the research group of younger pupils indicator micro crystallization of saliva changed from $1,37 \pm 0,08$ to $2,47 \pm 0,13$ ($P_2 < 0.001$). On increasing the capacity of saliva mineralize indicated that the experimental group increased 1.5 times and the number of children with type micro crystallization and twice with type II. At the same time among the comparative group recorded 1.6 times more children with type III, most unfavorable type of microcrystals and 1.4 times less than with type II, and the rate has not changed mikrokystalizatsiyi ($1,34 \pm 0,08$ - for the prevention, $1,37 \pm 0,09$ - after at $P_2 > 0.05$).

It should be noted that after the secondary prevention of multiple caries the proposed methodology research results of basic biophysical parameters and the state of oral health in the experimental group patients reached values of "pure" control (indicators remineralizuyuchoyi ability saliva pH and compliance enamel against acids) significantly improved (speed salivation, buffer capacity of saliva, and saliva mikrokystalizatsiya oral hygiene) and significantly decreased viscosity of saliva and increased salivation rate compared to placebo.

Remark : P - significant difference between the basic indicators and the comparison group for the prevention; P1 - significant difference between the basic indicators and the comparison group after prevention; P2 - significant difference in performance in the study group and a comparison group before and after prevention; P3 -dostovirnist performance difference between the main and control group and between comparative and control groups after prevention.

Conclusion. So using techniques developed multiple secondary prevention of dental caries in primary school children contributed significantly to the improvement of health and condition of the oral cavity. High efficiency of the developed method confirmed

significant improvement in acid base status of the mouth, improving the structural properties of the mixed saliva significant influence in its buffer and mineralize properties, the rate of salivation to ensure the implementation of its key features.

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Special approaches of dental care providing to patients with diabetes mellitus

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Summary: Nowadays, diabetes mellitus is a one of the most common chronic disease among the population of many countries. Dental disease among that patients are characterized by resistance to standard methods of therapeutic intervention. Increasing of dental patients affected diabetes mellitus quantity and special approaches in dental care providing to them require to change dental care standards for patients with existing back-end disease (diabetes mellitus). Addressing the prevention and treatment of dental diseases among patients with diabetes mellitus may include a systemic integrated interdisciplinary approach.

Key words: diabetes mellitus, dental diseases, prevention, treatment

Nowadays, diabetes mellitus is a one of the most common chronic disease among the population of many countries. We know diabetes mellitus of two types - first and second types. Both are medical and social problem. It is noted that dental diseases lasting among the individuals affected by diabetes is a long and unfavourable in 47-98% of cases

observations. At the same time, dental disease among that patients are characterized by resistance to standard methods of therapeutic intervention.

Worldwide increasing of diabetes mellitus prevalence affected by following (according to the conclusion WHO experts) :

- improving of methods of diagnosis the diabetes mellitus;
- improving of access to health care for population;
- using of active detection of the disease among population (screening, check-up);
- improving of health care literacy among the population (particularly in early signs of diabetes mellitus) is one of the reasons for medical care seeking;
- modern methods of treatment significantly prolonged a life of patients with disease which leads to accumulation of diabetes mellitus affected individuals among the population;
- trend of life expectancy increasing in most countries; which causes an increasing of elderly people proportion with higher prevalence of diabetes mellitus [1,2].

Increasing of dental patients affected diabetes mellitus quantity and special approaches in dental care providing to them require to change dental care standards for patients with existing back-end disease (diabetes mellitus). For example, among patients with diabetes mellitus indicators of periodontal lesions essentially depend on the degree of carbohydrate metabolism compensation.

Compensated form of diabetes mellitus is accompanied by generalized periodontitis of medium severity in 83% cases, among 16% patients revealed a

severe generalized periodontitis. In cases of subcompensated and decompensated forms of diabetes mellitus 84% of patients have severe generalized periodontitis.

Individuals affected by diabetes mellitus have lesions of various organs and systems. The most common are different types of vascular lesions. Indeed, a leading role of chronic generalized periodontitis pathogenesis among patients is owned by diabetic angiopathy of parodontium, while the small periodontal vessel lesions are caused by dysproteinemia. Severe clinical symptoms of periodontal disease among patients with diabetes mellitus, especially during decompensation of disease, are explained to be caused by metabolic disturbances and intoxication, changing in vascular permeability, while fluid motion and proteins prevails between blood and tissues are affected.

Patients with diabetes mellitus have a decreased stability of capillary vessels' walls in oral cavity, while the intensity of changes depends on disease's duration. But still, according to most scientists and clinicists, periodontal pathology among patients with diabetes is a local manifestation of diabetic microangiopathy [3,4].

Pathological changes in oral mucosa may be manifested by complaining on dry mouth, burning and pain when eating, breach of taste sensitivity and poor odor from the mouth. Due to changes in metabolism the rheological properties of saliva became affected, xerostomia develops and even saliva can taste sweet, in oral cavity we can detect the signs of mucosal atrophy, tongue's papillas' atrophy, increasing of value of soft dental accretions and tartar.

As a rule, all outpatient dental treatments for patients with diabetes mellitus must be done in the morning

in order to don't disrupt their familiar mode (insulin, meal) or to reduce such infringements to an acceptable minimum.

Rarely, patients on insulin therapy in outpatient surgery or immediately after treatment may fall in hypoglycemia and even in hypoglycemic coma. Due to such possibility in the doctor's office are always needed the sweet liquids, glucose for injection, portable glucometers.

Usually, tactics of surgical interventions, including teeth's extractions, abscess incision, treatment of periodontal disease, preparing to dental implant are slightly different in different clinics and countries. For example, some specialists are sure that in the absence of emergency conditions surgery should only be undertaken in cases of a well compensated diabetes mellitus. This opinion is based on the fact that inflammatory (especially purulent) and disease processes in oral cavity exacerbate the course of diabetes mellitus. Well-known "diabetic" contraindication for surgery can only be revealed a ketonemia that first must be removed; glucose level optionally may be reduced to the "norm", but only to close to normal level.

According to increased tendency of patients with diabetes mellitus to catch the infections and to slower flow of reparative processes, even in the cases of well compensated diabetes a good advise after tooth extraction and other surgical procedures usually will be 5-7- day course of antibiotics. Particular attention and caution are required to outpatient surgery patients regularly in-taking insulin. Most preferably to perform the surgical manipulation in 1 hour after administration of needed insulin dose and eating out.

It is known that pathological manifestations on teeth and oral cavity are

often detected before clinical manifestation of diabetes mellitus, they are pretext for an appropriate examination and diagnosis of the disease. Therefore, at presence of such manifestations dentists strongly advise patients to consult with endocrinologist, and very often assumption of prediabetes or type 2 diabetes presence become confirmed.

For patients with diabetes mellitus clinical management a considerable attention is paid to preventive measures. All patients are advised to regularly (at least 2 times better than 3-4 times a year) visit a dentist, hygienists perform professional "tooth brushing." However, to regular services such measures are used only a fraction (about 20%) patients.

In Ukraine this group of patients deprived of the possibility of obtaining an adequate dental care. We have no elaborated system of organization and prophylactic measures.

Our studies in diabetic patients have shown poor hygienic condition of the oral cavity, the high prevalence of dental diseases that are depended on the type of disease, severity and duration of diabetes mellitus. Also, affected individuals have high prevalence of various lesions of periodontal tissues. All this shows a lack of preventive dental work with this group of patients of the planned rehabilitation of the oral cavity.

As a result, patients do not possess sufficient knowledge and skills in oral care, which leads to its poor condition and poor hygiene. Almost all patients need of hygiene education and training, the specifics of early detection of symptoms and signs of lesions of oral diabetes.

Usually dental care for patients with diabetes mellitus consists of emergency cases (pulpitis, exacerbation of gingivitis and periodontitis, etc.). Only 40% of patients in this group regularly visit their dentist. Their

negative attitude of dental procedures caused by fear of dentistry requires a certain perseverance by dental practitioner. Doctor must know features of mental and emotional state of patients, adequate approaches of motivation to personal hygiene of the oral cavity, modern treatment methods etc.

At the same time it should be noted that dentists are poorly oriented in diagnostics, clinical signs and basic tactics of dental diseases' treatment for patients with diabetes. Developed modern methods and approaches of dental care providing to these patients, prevention of emergency conditions arising are not found in practice and widespread usage. Lack of a comprehensive, integrated and systemic organization of dental care for patients with diabetes poses significant challenges for patients, making impossible to provide timely medical and preventive care in the early stages of the disease's process that leads to progression of inflammation in tissues of oral cavity. Underestimation of the general condition of the patient and its links with manifestations of diabetes mellitus in oral cavity, not knowing of treatment features of diabetes mellitus and its complications, wrong choice of tactics of treatment without careful planning of the upcoming dental treatment — are the most common mistakes missed by dentists in practice.

Therefore, during an outpatient dental procedures are important the following milestones:

- thorough and focused anamnesis taking;
- establishing the presence or absence of complications of diabetes;
- paying an attention to features of used treatment of diabetes mellitus by patient (insulin preparations, hypoglycemic tablet

preparations, diet, etc.);

- thorough and complete evaluation of the functional status of the patient;
- required to determine the level of glucose in the blood;
- assessment of personal oral hygiene;
- the right choice, if necessary, adequate analgesia (sedation or medical training without the use of epinephrine and adrenalin vasoconstrictors);
- careful planning of upcoming dental treatment;
- if necessary, consultation with an endocrinologist;
- constant monitoring and detailed recommendations to the patient after the conducted interference [5].

Patient assessment should begin with a careful and deliberate anamnesis' collection in order to identify the type of diabetes, duration of disease, determine the characteristics of current applied treatment to patient (medicines and their dosages, kind of diet etc.). Anamnesis data must be standardized.

Assessment of psychophysiological state of patients with diabetes should be carried out necessarily in order to establish features of their psycho-emotional status. Dental care for patients affected by diabetes mellitus should be carried out in an active and close cooperation of experts - dentists and endocrinologists, as well in direct and active participation of patient with diabetes. It is needed to define the organizational principles of their creative and practical cooperation. A particularly important role is played by health education on oral health with an emphasis on methods of prevention and control of diseases of the gums

and teeth, teaching practical techniques of early diagnosis of symptoms and signs of lesions. Implementation of these and other measures will significantly increase the level of dental care to patients with diabetes, improve their quality of life.

Thus, it is believed that such cooperation is possible under the following conditions:

the right organized interaction with public health (endocrinological) services;

regular contacts with NGOs of people with diabetes;

a comprehensive joint behavioral training patients with diabetes mellitus at special organizations.

Addressing the prevention and treatment of dental diseases among patients with diabetes mellitus may include a systemic integrated interdisciplinary approach, which is based on the following principles:

- 1) The community of the risk factors of oral diseases and diabetes;
- 2) The generality of the mechanisms of complications development in cases of diabetes mellitus and periodontal diseases;
- 3) The need for close cooperation of experts in determining the tactics of treatment of dental diseases for that patients;
- 3) Co-education of patients with diabetes mellitus through the endocrinologist with specially adapted programs;
- 4) Combining methods of prevention and using of its various forms with the active participation of patients;
- 5) The relationship of science and practice [6,7,8].

Thus, a central place in described system is taken by an integrated multidisciplinary prevention of dental diseases among patients with diabetes mellitus. It is

conceptually considered as the interaction of all three groups of factors (endocrinologist - a dentist - diabetic patients), we represent .

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ACUTE RENAL FAILURE: ETIOLOGY AND PROBLEMS OF ITS PREVENTION

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Summary: Etiological factors of the development of ARF have been studied in 120 patients. According to these factors the patients were divided into five groups. The analysis of mortality in all groups of patients has been conducted and the main causes of death in patients with ARF have been pointed out. It was found that about half of the patients with ARF do not receive timely nephrologist's consultation at the hemodialysis department. It was revealed, that mortality in patients with toxic and post-traumatic ARF was higher than that in patients with postoperative and obstetric-gynecological ARF. The main risk groups of patients with ARF have been identified and the main principles of ARF prevention have been developed.

Key words: acute renal failure (ARF), etiology, prevention, mortality.

Introduction. Acute renal failure (ARF) is a polyetiological secondary disease with sudden renal dysfunctions, which causes further emergence of azotemia and uremia. The urgency of ARF problem is determined by its significant growth and not always timely diagnosis and high mortality [1, 2, 8]. ARF is characterized by rapid development and hard

course of the disease. Despite the rapid progress of renal replacement therapy, mortality at ARF, even in the world's leading clinics, remains at a 50% level and over the last several decades there is no tendency for its decrease [5, 7].

The number of cases with ARF is 200 per 1 million people. Moreover, 50 per cent of these patients need hemodialysis [4, 6]. Beginning with the 1990s, ARF is increasingly becoming not only as a monogamous pathology, but as a part of the syndrome of multiple organ failure. The same tendency will be observed in the 21st century.

The objective of the article is to identify the main etiological factors of ARF and develop the main principles of this disease prevention.

Material and methods. There were 120 patients with renal form of ARF under observation, at which mortality is the highest. Studies on patients with prerenal and post-renal ARF haven't been carried out. Common intensive therapy, including the use of extracorporeal blood purification methods, have been applied to treat the patients. The effectiveness of medical treatment and the time of its prescription before and after the patient's admission to a specialized detoxication department have been studied. General clinical and biochemical laboratory tests were carried out daily after the patient's admission to hospital.

Results and discussion. All the patients were divided into five groups according to the etiological factor by E.M. Tareeva's (1983) qualification of ARF: 1) post-operative ARF – 47 patients (39.2 %); 2) toxic ARF – 36 patients (30.0%); 3) post-traumatic ARF – 11 patients (9.2%); 4) obstetric gynecological ARF – 8 patients (6.6%); 5) other causes – 18 patients (15%). It should be mentioned, that the part of women among the all operated patients was 55.3%.

Most patients were of working age. Thus, the distribution of patients admitted to hospital was as follows: 29 patients at the age under 30 years, 30 patients – under 40, 23 patients – under 50, 16 patients – under 60, 18 patients – under 70, 5 patients – over 70 years. The patients were admitted to hospital or moved from other medical departments to be given a specialized medical care mainly after 1-7 days from the start of the disease. Thus, 13 patients (10.8%) were admitted to hospital within 24 hours from the start of the disease; from 1 to 2 days – 53 patients (44.2%); from 3 to 5 days – 38 patients (31.6%); from 6 to 7 days – 9 patients (7.6%); later than 7 day period of time – 7 patients (5.8%).

Mortality in patients with postoperative ARF was 17% (of 47 patients – 8 died), with toxic ARF – 38.9% (of 36 patients – 14 died), with post-traumatic ARF – 45.4% (of 11 patients – 5 died), with obstetric gynecological ARF – 12.5% (of 8 patients – 1 died), the other causes of ARF made up 22.2% (of 18 patients – 4 patients died). The main causes of the patients' death with ARF were as follows: 1) infectious complications – 15 patients, 2) hyperhydration – 6 patients, 3) hypercaliemia – 5 patients, 4) gastroenteric bleeding – 2 patients. It was found, that mortality in patients with toxic and post-traumatic ARF was higher than that in patients with postoperative and obstetric-gynecological ARF.

An early diagnosis of kidneys' dysfunction is of great importance [3]. After the development of ARF in a shock stage, it is necessary that causal factors should be eliminated as quick as possible. These factors include: shock, hypovolemia, ischemic and toxic renal injury.

Prevention of ARF was based on risk groups of patients selection. It was found, that the risk of ARF was highly increasing in patients with dehydration in children and in elderly people as well as in case of alcoholism, drug addiction, toxicomania, in patients with

multiple injuries and massive burns, during operations on heart and large vessels and with many cases of chronic metabolic (such as gout, generalized atherosclerosis, diabetes) and renal diseases.

According to our tests results, the patients with ARF needed nephrologist's consultation from the specialized department of hemodialysis in 31.7% of cases. But only 15.5% of the patients got the consultation they needed. Nephrologist consultation is required in almost all cases of ARF since it might contribute to better prognosis of the disease. If the cause of ARF is unknown and especially in case of possible occurrence of the kidneys' disease, the urgent consultation of nephrologist is necessary because these cases might need the urgent dialysis therapy. However, nephrologist's consultation is not required during the treatment of shock state (the 1st stage of ARF), because these patients should be treated in the intensive therapy department.

An important factor in ARF prevention is to treat dehydration, especially in children and in elderly people.

Timely restoration of extracellular fluid volume is important for the patients with burns, traumas, lymphopenia and infectious diseases. In addition, increasing blood volume and urine output intensification by means of diuretics, may be useful for the patients with pigmenturia, myeloma, nephrotoxins poisoning and after allergic reactions. An acute decrease in blood pressure and in blood volume, the use of rentgencontrast and nephrotoxic drugs as well as the drugs which activate the renin-aldosterone-angiotenzin system and reduce renal blood flow should be avoided in patients of risk groups. The application of antibiotics, non-steroidal anti-inflammatory drugs, heparin, saluretics should be done for these groups of patients very carefully and strictly according to the

indications for the use of these drugs. At the same time, antibiotic prescription is an

important part of ARF prevention in case of infection by nephrotoxic agents.

The risk of ARF development might be reduced by decreasing traumas during surgery, strict observation of asepsis rules, timely control in case of infection (non-nephrotoxic antibiotics), using the prophylactic injection of low-dosed heparin as well as caffeine-bensonat of sodium.

In uncomplicated course of ARF, absolute recovery of kidneys' functions after ARF was observed in 65 patients (70.6%), partial recovery – in 9 patients (10.9%), transformation of this disease into chronic renal failure – in 2 patients (2.2%). Observation of kidneys' function after patients discharging from hospital in 17 patients (18.5%) couldn't be carried out for various reasons.

- The rich experience in treating patients made it possible to reveal the following basic principles of ARF prevention:
- a qualitative monitoring of hydration level, central venous pressure, diuresis, acid-base balance, electrolyte change in patients in a critical state of health;
- an optimization of cardiac output and renal blood flow;
- avoiding using nephrotoxic drugs in patients with impaired renal function, but in case of obligatory application of these drugs, their doses should be adjusted depending on the state of renal function;

- an early active detoxication by stimulating patient's endogenous detoxication mechanisms: adequate hydration, diuresis stimulation, oncotic pressure adjustment, adequate dose of dopamine or its combination with dobutamine, etc;
- careful use of sulfanilamide and rengecontrast drugs in patients in a shock state, avoiding using uncontrolled introduction of diuretics;
- non-steroidal anti-inflammatory drugs and polyvinylpyrrolidone solutions should be used according to strict indication;
- timely surgical intervention in case of urinary tracks blockade by stones;
- an early use of corticosteroids pulse – dose and urine alkalization (under pH control) at hemoglobin – and myoglobinuria;
- calcium antagonists (verapamil, etc) glycine, theophylline and antioxidants (glutathione, vitamin E) should be used as cytoprotectors which reduce the risk of ARF.

Conclusions.

Early diagnosis of ARF and timely prescription of medical nephroprotective therapy improve its course and help to optimize its prognosis.

Observation of the main principles of prevention makes it possible to avoid the development of ARF in patients.

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CHARACTERISTICS OF DEATH RATES FROM MALIGNANT TUMORS OF THE DIGESTIVE SYSTEM IN TRANSCARPATIHON REGION AND UKRAINE

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Summary: The article analyzes the level and structure of mortality from malignant neoplasms of the digestive organs population of Transcarpathian region and Ukraine as a whole. It is noted growth rate of mortality from cancer of the digestive system Transcarpathian region in population dynamics for 2010 - 2013 rr. 11% (3.1% in Ukraine) among the urban (+ 8.7%), and among the rural population (11, 5%) with marked gender differences (1% and 7% in Ukraine). So men pathology increase over the period was 12.3% for women - 6.8% (compared to 4% and 2.3% in Ukraine). Also increased the proportion of digestion by 5% of the mortality from cancer pathology and 14.3% of the total area of mortality (0.9% and 11.4% in Ukraine). Determining the importance of cancer of the digestive system and their impact on mortality from all malignant neoplasms, open real and potential life extension as the population of the region and the country.

Keywords: mortality, malignant neoplasms, digestive organs, speaker level structure of the population of Transcarpathian region and Ukraine

Introduction. The most serious problem in Ukraine, still remains a high level of mortality. Despite the positive developments in 2010 - 2015 gg., General mortality, both in Ukraine and in the regions, held in too high (15.3 - 14.7 per 1,000 population) and they are one-the highest in Europe.

Structure of mortality by cause of death in general remains unchanged in Ukraine in recent years. In 2014 the number of deaths by tumor belongs to the second position (13.9%) after cardio - vascular diseases (66.5%). Behind them in the appropriate sequence are external causes (6%), diseases of the digestive system (4.2%), respiratory diseases (2.5%), infectious and parasitic diseases (1.9%) [1, p. 27].

Malignant neoplasms of digestive pathologies are the five that form the structure of mortality from malignant neoplasms both male and female population Ukraine. In addition, great concern is the low incidence of malignant tumors of the digestive system in the pre-invasive stage, when treatment is most effective, which directly affects the formation of a high level of mortality from malignant neoplasms in all age groups [2, p. 234].

The situation regarding mortality Transcarpathian region from cancer continued to deteriorate, as in Ukraine in general. According to some data the National Cancer Registry of Ukraine (NCC) in 2013 compared to 2012 the death rate from malignant tumors, shilas decrease by 3.0% in the gross figure and 2.3% - on standardized [3, p. 6]. However, annual growths cause 15 - 17% of all deaths of persons of working age. Now the cancer death rate of male population-tion of working age in Ukraine (2014) exceeds that of developed countries by 40%, while the female - by 20% [1, p. 29].

In the structure of mortality from cancer of the male population ranked the first five places in the 2013 occupied cancer of the

trachea, bronchus, lung, stomach, prostate, rectum and colon (55.0%); women - cancer of the breast, colon, stomach, rectum and ovary (50.5%). Moreover, the share of stomach cancer of mortality from cancer of the digestive system accounted for 10.9% of men and 8.2% for women with cancer of the colon and rectum - for men 12.6%, women - 15.5%. Ineffective in Ukraine in 2014 is an indicator of preventive examinations to detect tumors of the rectum (22.3%) and observed significant fluctuations (from 0% in the Transcarpathian region to 58.1% in m. Kyiv). Inconsolable situation and to detect malignant tumors of the oral cavity, indicating a lack of medical oncology cautious, particularly in the Transcarpathian region, including dentists [3, p. 3; 4, p. 15].

It should also be noted that more than one third of patients is on cancer of the digestive system in Ukraine have not received special treatment: cancer of the pancreas (29.1%), stomach (46.7%), esophagus (52.0%). In this connection, 30-70% of patients lived no more than a year after diagnosis (in the Transcarpathian region 36.4% of them children). It certainly affected the mortality and survival of patients both in the region and in Ukraine in general. Also, available data National Cancer Registry of Ukraine (NCC) in 2014 found a high ratio of mortality and morbidity, which serves as an auxiliary criterion for the assessment of cancer care organization. Ukraine on average it is 51.3% and in the Transcarpathian region significantly exceeds the average value - 56.8% [5, p. 10; 6, pp. 84].

Thus, determining the significance of cancer of digestive diseases and their vply-ing the formation mortality from malignant neoplasms reveal real and potential extension of life expectancy Transcarpathian region and Ukraine as a whole.

Purpose. Analysis of the level and structure of mortality Transcarpathian region

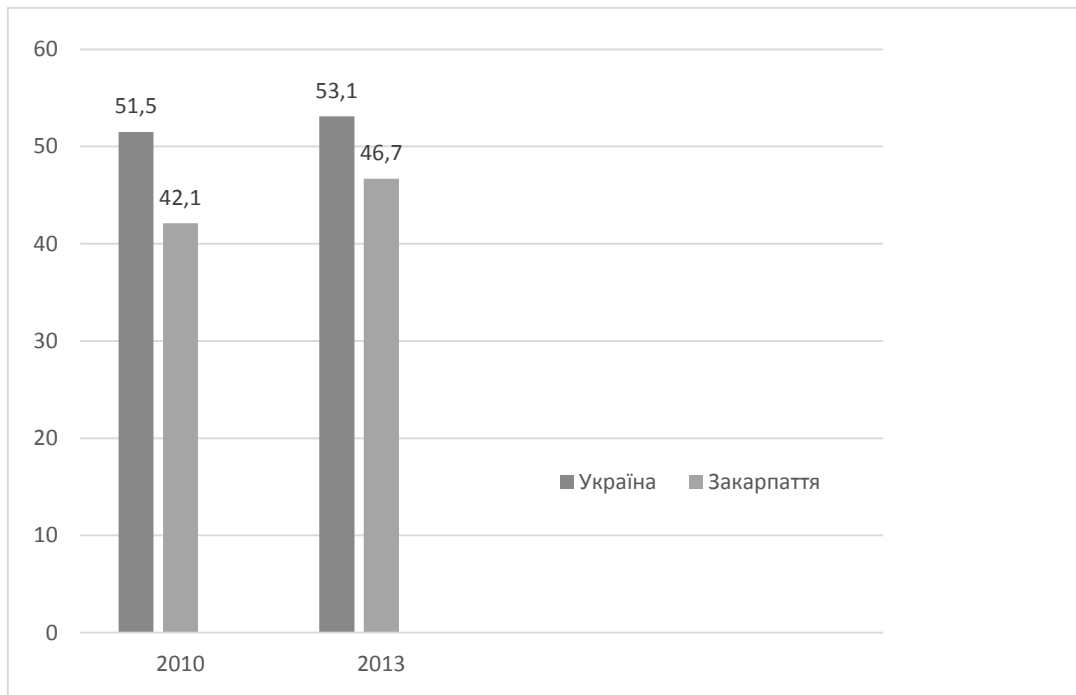
of malignant tumors of the digestive system in dynamics for the years 2010- 2013.

Materials and methods. Analyzed the State Statistics Committee of Ukraine (TS - 4) data Regional Information - Analytical Center and the National Cancer Registry database of Ukraine for 2010-2013. Research Methods served: medical-statistical method and standardization.

Research results. As a result of detailed study of mortality from malignant tumors of the digestive system Transcarpathian region in population dynamics for 2010 - 2013 rr. Marked increase in levels of almost 11% (from 42.1 to 46.7 per 100 thousand. Population), although it remains lower the corresponding in Ukraine by nearly 12% (53.1 to 100 thousand. population) (Fig. 1). It should also be noted that malignant tumors of the digestive system owns about 27.6% of the Transcarpathian region mortality from all malignant neoplasms (30.7% in Ukraine) and 4% of the total mortality area that is somewhat lower than in the corresponding Ukraine (4.9%).

Analysis of structural changes witnessed an increase in the proportion of malignant tumors over the period by 5% of the mortality from cancer pathology, and 14.3% of the total mortality Transcarpathian region (from 3.5% to 4.0%), which was more significant than in the country as a whole (0.9% and 11.4% respectively).

Figure 1



The death rate from cancer of the digestive system of the population of Ukraine and Transcarpathian region in 2010 - 2013.

Table 1

Years	2010		2013	
	men	women	men	women
Ukraine	77,2	35,5	80,3	36,3
Transcarpathia	62,1	27,8	70,0	29,7

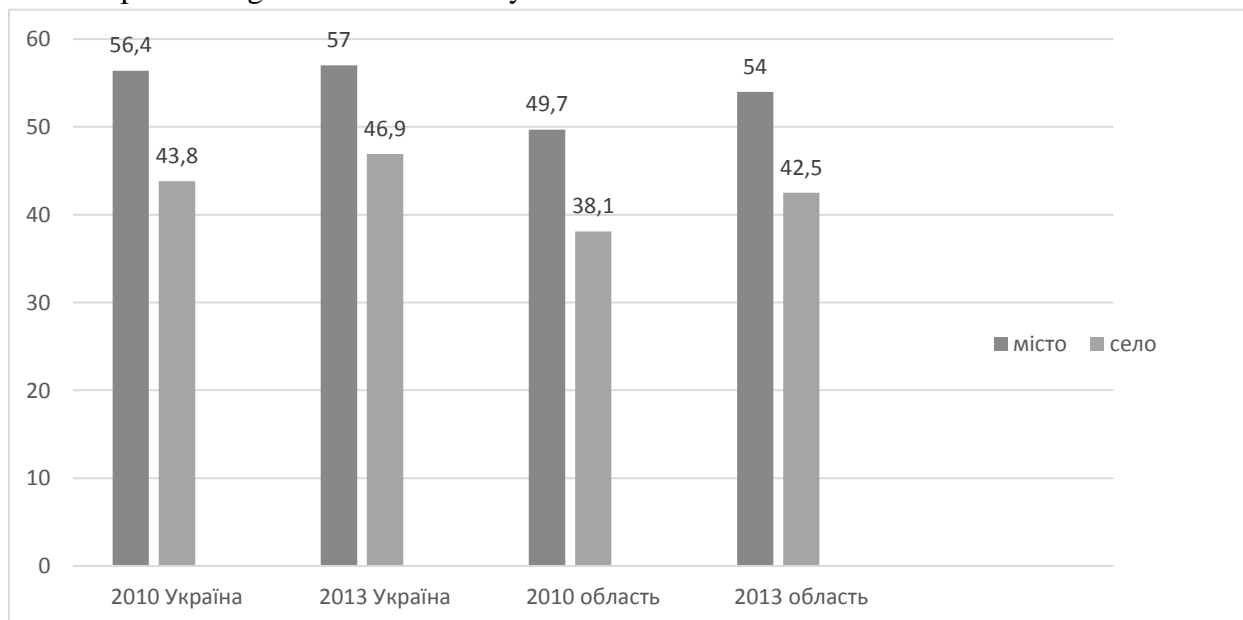
The dynamics of mortality from cancer of the digestive system of the population of Ukraine and Transcarpathian region in 2010 - 2013 years by sex (100 thousand population, the standardized rate)

Deaths from cancer of the digestive system in 2013 Transcarpathian region among men is 2.4 times higher than the corresponding women (70.0 vs 29.7 per 100 thousand population), which is more significant than in Ukraine as a whole (80, 3 vs 36.3 per 100 thousand of the population concerned). The dynamics during the analyzed period marked by a significant increase in mortality from cancer of the digestive system for both men and women Transcarpathian region (12.3% and 6.8%), and

among man and women in Ukraine (4% and 2 3%). While this mortality from cancer of the digestive system among men in Ukraine in 2013 is 12.8% higher than among the male population of the Transcarpathian region, and among the female popula-tion - 18.2% (Table 1).

Figure 2

Deaths from cancer of the digestive system among urban and rural population in Ukraine and Transcarpathian region in 2010 - 2013 years



Also in dynamics for 2010 - 2013 rr. Marked increase in mortality from cancer of the digestive system in urban and rural areas of the country and the region, with a significantly more Transcarpathian region: 8.7% among the urban population (with 49.7 to 54, 0 100 000 population) and 11.5% of the rural population (from 38.1 to 42.5 per 100 thousand population) to 1% (from 56.4 to 57.0 per 100 thousand. urban) and 7 % (from 43.8 to 46.9 per 100 thousand of rural population) in Ukraine. This death rate from cancer of the digestive system among the urban population

is traditionally higher than the corresponding Rural someone among the population in Ukraine and in the Zakarpattya Oblast 57.0 against 46.9 in Ukraine and 54.0 against 42.5 in the Transcarpathian region (100 thousand people). Although deaths from cancer of the digestive system among urban and rural residents is higher (5.3% and 9.4%, respectively) than in the region Answers tion in the general population, the prevalence of mortality from cancer of the digestive system among urban residents Transcarpathian region is relatively rural residents are more significant than in Ukraine as a whole (21.3% vs. 17.7%)

Research sexual characteristics of deaths from cancer of the digestive system among urban and rural population of the region and the country as a whole demonstrates the undeniable increase in its levels in study groups. So the dynamics of the three-year death rate from cancer of the digestive system of man-centuries of the city in the Transcarpathian region increased by 11.7% (from 73.2 to 81.8 per 100 thousand population), which is 5 times higher than the corresponding growth rate of Ukraine male population - from 83.2 to 85.1 per 100 thousand. people (+ 2.3%). Among men of rural population growth for the Transcarpathian region yet disappeared, deaths from cancer of the digestive system is 12.8% (from 56.3 to 63.5 per 100 thousand. Population), which is 1.7 times higher than growth in Ukraine - 67.2 to 72.3 per 100 thousand. people (7.6%). For urban women Transcarpathian region increasing levels of mortality from cancer of the digestive system are less significant and the dynamics of + 4.4% (from 34.1 to 35.6 per 100 thousand. Population) but almost twice higher than in Ukraine - 40.1 per 100 thousand population (growth rate dynamics were observed). For residents of the village increase mortality from

cancer of the digestive system in the Transcarpathian region was + 7.4% (from 24.4 to 26.2 per 100 thousand population) in Ukraine - + 6.5% (from 27.8 to 29.6 per 100 thousand population).

The death rate from cancer of the digestive system among men than among women, both in the region and in the state in 2013 was: 85.1 versus 40.1 among women in Ukraine and 81.8 to 35.6 for women in the Transcarpathian region (urban residents) and 72.3 to 29.6 for women in Ukraine and 63.5 against 26.2 for women in the Transcarpathian region (rural inhabitants) (per 100 thousand. relevant population). However, comparing the mortality rate from cancer of the digestive system among males in urban and rural Transcarpathian region marked predominance among its residents by 22.4% (81.8 vs. 63.5 per 100 thousand population), which is 1.5 times higher than in Ukraine (85.1 vs 72.3 per 100 thousand of the population concerned). For women, the field is also characterized by the predominance of deaths from cancer of the digestive system among residents of the city and a total of 26.4% (35.6 vs. 26.2 per 100 thousand population), as in Ukraine (40.1 vs 29.6 per 100 thousand population)

Table 2

The death rate from cancer of the digestive organs of men and women in urban and rural population in Ukraine and Transcarpathian region in 2010 - 2013 years (per 100 thousand population, the standardized rate)

Years	2010				2013			
	town		village		town		village	
	m	w	m	w	m	w	m	w
Ukraine	83,2	40,1	67,2	27,8	85,1	40,1	72,3	29,6
Trascarpatia	73,2	34,1	56,3	24,4	81,8	35,6	63,5	26,2

It should also be noted that malignant tumors of grass-tion owned almost 33% of the Transcarpathian region male mortality from all malignant neoplasms and 4.5% of the total mortality. In the structure of mortality from malignant tumors among women Transcarpathian region destiny cancer of the digestive system accounted for 27%, and in the structure of total mortality - 3.3%. For Ukraine this figure and even more: 35% of the male mortality from all malignant neoplasms and 5.4% of the total mortality for women - 31% of the deaths of women of all malignant tumors and 4.6% of the total mortality . Thus the dynamics for 2010 - 2013 rr. Increase in terms of the proportion of cancer of the digestive system of mortality from all-zloyakis these tumors and the structure of total mortality among men and women in the Transcarpathian region is more significant (+ 15.4% for men and 13.8% for women) than in Ukraine as a whole (12.2 - 12.5%).

In the structure of mortality from all malignant neoplasms and in the structure of the total urban population mortality Transcarpathian region cancer of the digestive system owned 31.5% and 4.5%, which is slightly lower than among the urban population of Ukraine

(34.3% and 5.5% respectively). Among the rural population of Transcarpathian region proportion cancer of the digestive system is 30.3% and 3.7% respectively, which is also slightly lower than the national value (31.2% and 4.0%). The share of cancer of the digestive system of mortality in men of all malignancies in the Transcarpathian region ranged from 34.4% in the city (36% in Ukraine) to 31.8% (32.2% in Ukraine) in rural areas and among women - from 27% in the city (31.9% in Ukraine) to 27.5% in rural areas (29.1% in Ukraine).

The share of cancer of the digestive system in the structure of total mortality in men Transcarpathian region ranges from 5.1% in the city (5.9% in Ukraine) to 4.2% in rural areas (4.4% in Ukraine), among women - from in 3.8% (5.2% in Ukraine) to 3% in rural areas (3.5% in Ukraine)

Table 3

Proportion of malignant tumors of the digestive system of mortality from all malignant neoplasms and in the structure of total mortality of men and women, urban and rural population in Ukraine and Transcarpathian region in 2013 (%)

Years	in the structure all malignant tumors							
	town		village		town		village	
	ч	ж	ч	ж	ч	ж	ч	ж
Ukraine	36,0	31,9	32,2	29,1	5,9	5,2	4,4	3,5
Transcarpathia	34,4	27,0	31,8	27,5	5,1	3,8	4,2	3,0

As can be seen from the table, malignant tumors of the digestive system in men and women in Ukraine belongs to the larger share in mortal-STI of all malignancies in the structure and overall mortality than in the Transcarpathian region. Also most of them share in the structure of mortality among the urban population in the Transcarpathian region and in the country. However, in the Transcarpathian region observed greater proportion of cancer of the digestive system in the structure of malignant tumors among women in rural areas than in cities women (27.5% vs. 27%).

Cancer situation with digestive diseases in the Transcarpathian region and in Ukraine as a whole demonstrates the need to take measures to combat cancer. Of course, these measures should hrunuvaty subsequent to credible statistics on mortality, including cancer of the digestive system, taking into account the specifics and trends among different territorial indicators and sex-age groups. Therefore, determining the significance of cancer of the digestive system and their impact on mortality from all malignant neoplasms, open real and potential oppor tunities lengthening life-like population of the region and the country.

Conclusions. Malignant tumors of the digestive system owns about 27.6% of the Transcarpathian region mortality from all malignant neoplasms (30.7% in Ukraine) and 4% of the total mortality area that is somewhat lower than in the corresponding Ukraine (49%).

It is noted increasing levels of mortality from cancer of grass-tion of the population of Transcarpathian region in 2010 - 2013 by almost 11% (in Ukraine - 3.1%) and increased their share to 5% of the mortality from cancer pathology, and 14.3% of the total area of mortality that was more significant than in the country as a whole (0.9% and 11.4% respectively).

Despite the fact that death rates from cancer of the digestive system in men and women in the Transcarpathian region are lower than the national (12.8% and 18.2%), the growth rate for the three-year period in the area was more significant and amounted to 12.3% for men and 6.8% for women (compared to 4% and 2.3% in Ukraine). Thus, the advantages of Joan of deaths from cancer of the digestive system in 2013 among man-ages the Transcarpathian region is more significant than those in the Ukraine-scrap (2.4 and 2.2 times, respectively).

Increased mortality of the population of Transcarpathian region of cancer of the digestive system (8.7% in urban and 11.5% in rural) was more significant than in the Ukraine (respectively 1% and 7%). This Transcarpathia mizhposelenseka more expressive differentiation - the prevalence of mortality from cancer of the digestive system among city residents compared with residents of rural areas are relatively more significant than in Ukraine as a whole (21.3% vs. 17.7%).

The death rate from cancer of the digestive system in men of the city in the Transcarpathian region increased by 11.7% (in Ukraine + 2.3%), among men of the rural population by 12.8% (7.6% in Ukraine) among urban Women - 4.4% (0% in Ukraine) among rural residents - 7.4% (6.5% in Ukraine). The death rate from cancer of the digestive system among the male population is higher than among the female both in the region and in the country.

The death rate from cancer of the digestive system, you men Officer for residents by 22.4%, which is 1.5 times higher than in Ukraine, among the women of the city - by 26.4%, as in Ukraine.

Among women in rural areas of Transcarpathian region vidmicha etsya greater proportion of cancer of the digestive system in the structure of all malignant tumors than women of the city (27.5% vs. 27%) in contrast

to the corresponding in Ukraine (31.9% vs 29.1%). Besides increasing the proportion of cancer of the digestive system in the current mortality from all cancer and overall mortality structure in the Transcarpathian region for both sexes are more significant than in Ukraine (+ 15.4% for men and 13.8% for

women against 12.2% and 12.5% respectively).

Therefore, determining the significance of cancer of the digestive system and their impact on mortality from all malignant neoplasms, open real and potential life extension as the population of the region and the country.

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