

Міністерство охорони здоров'я України  
Вищий державний навчальний заклад України  
«Буковинський державний медичний університет»

# МАТЕРІАЛИ



98-ї підсумкової наукової конференції  
професорсько-викладацького персоналу  
Вищого державного навчального закладу України  
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13, 15, 20 лютого 2017 р.



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**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
ВИЩИЙ ДЕРЖАВНИЙ НАВЧАЛЬНИЙ ЗАКЛАД УКРАЇНИ  
«БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

**98 – ї**

**підсумкової наукової конференції  
професорсько-викладацького персоналу  
вищого державного навчального закладу України  
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adnexa caused by pathogenic or opportunistic microorganisms. Thus, the study of microecological interrelations in vulvovaginal microbiota is necessary for paraclinical diagnostics and formation of therapeutic tactics.

The aim of the study was to investigate vulvovaginal microflora in women with infertility of II type.

With the help of microscopic, bacteriological and mycological methods there has been conducted the survey of vulvovaginal content of 67 women (age: 19-34 years old; average age:  $27,33 \pm 2,73$  years old) with diagnosed II type of infertility. To detect the mechanisms of colonization of the vaginal cavity there has been used the ecological method, which enables to form a concept of coexistence of representatives of ecological system "microbiota – macroorganism (host)" and to trace direction of dynamic changed of vulvovaginal microecology by the destabilization of microbiocenosis. There have been studied indices of species diversity (Wittaker index), species richness (Margalef index), species domination (Berger-Parker and Simpson indexes), and also indices of taxon consistency and frequency of occurrence.

Microbiological investigations it has been conducted to determine taxonomic composition and population level of autochthonous obligate anaerobic bacteria of genera *Bifidobacterium*, *Propionibacterium*; autochthonous anaerobic opportunistic bacteria of genera *Bacteroides*, *Peptostreptococcus*, *Peptococcus*, *Clostridium*, *Eubacterium*; facultative anaerobic and aerobic *Enterobacteria* (*E. coli*, *E. coli Hly+*, *E. coli lac-*, *Proteus*, *Klebsiella*, *Enterobacter* etc.) and yeast-like fungi of genus *Candida*. Received results testify that II type of infertility is accompanied with the dynamic changes of taxonomic content of vulvovaginal microbiota in the form of partial elimination of autochthonous obligate *Lactobacteria*, *Bifidobacteria* and *Propionibacteria*. Against this background there is colonization of biotope with pathogenic and conditionally pathogenic yeast-like fungi of genus *Candida*, *S. aureus*, *T. vaginalis*, bacteria of genus *Peptostreptococcus*, *Enterobacteria* (*E. coli*, *K. pneumoniae*), *E. faecalis*, *N. gonorrhoeae*, *B. fragilis* etc. They reach average in biotope constancy index, frequency of occurrence, Wittaker, Margalef, Berger-Parker and Simpson indices.

Pathogenic and opportunistic microbes of vulvovaginal content of women with infertility of II type are generally represented in the form of association, which consist of 2 taxons (35,82 % of women), 3 taxons (40,30 %) or 4 taxons (13,44 %).

So, microbiological investigations of vulvovaginal microflora in women with infertility of II type show changes in taxonomic composition and population level of autochthonous obligate and facultative bacteria with formation of associations of pathogenic and opportunistic microbes.

**Sydorchuk I.Y., Sydorchuk L.I., Rotar D.V., Sydorchuk A.S.\***

#### **STATE OF CAVITARY MICROBIOTA OF COLON IN PATIENTS WITH CHRONIC VIRAL HEPATITIS C**

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Hepatitis C is an ubiquitous infectious disease caused by the hepatitis C virus (HCV). Number of chronic carriers of HCV in the world is from 150 millions to 500 millions. And their number is growing and there is no reducing trend. Traditionally, main role in protection of macroorganism against foreign bodies belongs to the enzymatic processes that take place in the liver, and the role of intestinal microbiota in processes of detoxification is ignored or given a secondary role.

To determine taxonomic composition and population level of colon microbiota in patients with chronic hepatitis C.

Content of the colon was studied by bacteriological examination and prior was taken with a sterile spatula from median portions of faeces. Identification of pure cultures of *Enterobacteriaceae* (*Escherichia*, *Citrobacter*, *Proteus* and other *Enterobacteriaceae*) was made by W. Ewing, using 30 basic tests recommended by the International Committee of *Enterobacteriaceae*.

By indices of species diversity (Wittaker index), species richness (Margalef index), species domination (Berger-Parker and Simpson indexes), indices of taxon consistency and frequency of occurrence main microbiota of colon in patients with chronic hepatitis C consist of bacteria from genera *Bacteroides*, *Escherichia*, *Bifidobacterium*, *Lactobacillus*, pathogenic and opportunistic *Enterobacteria* of genus *Proteus*, hemolytic *E. coli* (*E. coli Hly +*), opportunistic *P. niger* and anaerobic spore-forming bacteria from genus *Clostridium*.

Additional microbiota of colon in patients with chronic hepatitis C is represented by opportunistic *Staphylococci*, related to them *Peptostreptococci* and yeast-like fungi of genus *Candida*. A characteristic feature of the formation and course of chronic hepatitis C is contamination of colon with pathogenic and opportunistic *Enterobacteria* (*E. coli Hly+*, EPEC, *E. coli Lac-*, *Proteus*, *C. freundii*, *S. marcescens*, *E. acregenes*), *Peptostreptococci*, *Peptococci*, anaerobic spore-forming *Clostridium* and yeast-like fungi of genus *Candida* (*C. albicans*).

Thus, in patients with chronic hepatitis C there is formation of a trend towards the elimination of (reduction of constancy index by 9,94 % and frequency of occurrence - by 57.14 %) *Bifidobacteria* and *Lactobacilli*, *Eubacteria* (by 3.88 and 2 times, respectively) and growth of persistence of *Peptostreptococci*, *Clostridia*, *Proteus*, *Staphylococci* and yeast-like fungi of genus *Candida*, which creates conditions for contamination and persistence of pathogenic and opportunistic *Enterobacteriaceae* (EPEC, *E. coli Hly+*, *E. coli Lac-*, *Citrobacter*, *Enterobacter*, *Serratia*), *Peptococcus*.

There is formation of distinct reduction of indigenous obligate multifunctional *Bifidobacteria* by 41.28 % (three orders), lactic acid bacteria - by 42.15 % (three orders) in cavity of colon in patients with chronic hepatitis C; increasing concentrations of *Bacteroides* in biotope (by 65.01 %), *Peptostreptococci* - by 57.43 %, *Clostridia* - by 2.03



times and significantly increasing concentration in colon microbiocenosis of facultative anaerobic component of the normal flora - bacteria of genus *Escherichia* - by 52,21 %, *Enterococcus* - 26,48 %. We established dysbiosis in 20,83 % of cases, dysbiosis – in 75 % by changes of taxonomic composition and population level of main, additional and accidental microbiota of colon in patients with chronic hepatitis C. Normal microflora of the large intestine was established in 3 (4,17 %) patients with chronic hepatitis C.

**Vlasyk L.I., Fundiur N.M., Grachova T.I., Korotun O.P.**  
**HYGIENIC EVALUATION OF FATS IN THE DIETARY INTAKE OF PRESCHOOL INSTITUTIONS IN THE TOWN OF CHERNIVTSI**

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The problem of children's health under contemporary conditions is of a special importance, as economic and social complications as well as ecological environmental conditions influence upon the rising generation. It is explained by a high sensitivity of children to harmful environmental factors. According to all the WHO data available an alimentary factor is one of the leading determinants of health. An adequate diet is one of the major factors determining the physical development of children, optimal functioning of all the organs and systems, their adaptive-compensatory possibilities and the level of children's health. Fats are one of the chief nutrients in dietary intake of children and adults. According to contemporary view they are not only energy substrate, but they perform a plastic function and take part in important metabolic processes.

Objective: to study and analyze the state of nutrition of preschool children in Chernivtsi by fats constituent.

The state of organized food supply of children attending nine preschool institutions in Chernivtsi was examined by means of the calculation method by copying the data during 10 days from the menu according to the seasons of the year, and then an average amount of products per one child a day was determined and compared with the recommended one. Energy value of food and the content of fats in it were detected by means of specially elaborated program compiled on the basis of I.M. Skurykhin's reference tables. Qualitative and quantitative indices of children's diet were estimated according to the "Food Standards in Educational and Health Institutions" (2004), "Standards of Physiological Requirements of Ukrainian Population in the Major Dietary Substances and Energy" (1999).

The nourishment of children in preschool institutions of Chernivtsi is organized according to group principle: practically healthy children of a certain group get similar by its volume and chemical content food corresponding to average physiological requirements of their organisms in the main nutrients and energy. Children have three meals a day providing 70-80% of their daily diet. The volume of food is distributed according to the time of meals: breakfast – 20-25%, lunch – 35-40%, afternoon snack – 10-15% out of daily energy food value. There was insufficient content of products found that are the sources of fats of vegetable and animal origin (meat, fish, eggs, vegetable oil, milk, dairy products, cheese). The content of  $\omega$ -3 polyunsaturated fatty acids in all of the preschool institutions was lower than the recommended one. The ratio of  $\omega$ -6:  $\omega$ -3 was 32: 1, which is not recommended.

Conclusion. Qualitative and quantitative composition of the daily nutrition ration of children at preschool institutions of Chernivtsi was investigated and analyzed. Analysis of the daily children's diets in 9 preschool institutions of Chernivtsi showed that their food was variable, the order and intervals between meals were kept, as well as the sequence of taking dishes and distribution of energy value.

Hygienic evaluation of fats and polyunsaturated fatty acids constituent was provided. The diets were insufficient in the content of products that are the sources of fats of vegetable and animal origin. The content of  $\omega$ -3 polyunsaturated fatty acids and ratio of  $\omega$ -6:  $\omega$ -3 does not meet the recommended standards. The results obtained serve as the basis for development of recommendations for correction of children actual nutrition at preschool institutions of Chernivtsi.

**Vlasyk L.I., Kushnir O.V., Fundiur N.M., Iftoda O.M.**  
**THE CONTENT OF CARBOHYDRATES IN DIETARY INTAKE OF PRESCHOOL INSTITUTIONS IN THE TOWN OF CHERNIVTSI**

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Carbohydrates are one of the chief nutrients in dietary intake of children and adults. According to contemporary view they are not only energy substrate, but they perform a plastic function and take part in important metabolic processes. An excessive intake of simple carbohydrates on the ground of insufficient intake of dietary fiber in children's organism promotes constipation, diverticulosis, intestinal dysbacteriosis resulting in metabolic disorders, and thus creating the preconditions for the development of diabetes mellitus and diseases of the bile ducts. Being an anti-toxic component of food, dietary fiber prevents absorption of toxic and carcinogenic substances in the intestines, favours the formation of normal intestinal microflora, increasing the body resistance to unfavourable environmental factors.

Objective: to study and analyze the state of nutrition of preschool children in Chernivtsi by carbohydrate constituent.