

To disrupt the Candidiasis development chain, disinfectants must be used. Disinfection is the killing of pathogenic and opportunistic microorganisms on (in) the environmental objects. The mechanism of action of disinfectants proceeds in two directions: the colloidal state of the cell of the microorganism is disturbed, and the main component of protoplasm – protein – is exposed to their direct destructive influence. First of all, disinfection should take into account the Candida resistance to disinfectants of various chemical groups.

Conclusions. To prevent the development of the yeast-like fungi resistance to disinfectants, it is necessary to conduct a studies of new agents and improve its usage regimens.

THE INFLUENCE OF SALTS OF HEAVY METALS ON THE GROWING OF *LACTOBACILLUS BULGARICUS* CULTURE ON AGARISED MRS

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Introduction. Since ancient times, people have used a wide variety of lactic acid bacteria to make lactic acid products such as kefir, brasserie, kumys, yoghurt, etc., not knowing at the same time that they are to some extent protect themselves against the effects of pathogenic bacteria. Data on the treatment of sour-milk products are still found in the «Canon of Medical Science» Abu Ibn Sina. For the first time scientifically substantiated the role of lactobacilli in preventing the development of rotting processes in the digestive tract Mechnikov I.I. He put forward the idea of replacing the harmful flora of the intestine with the use of bacteria *Lactobacillus bulgaricus* and others that can suppress the development of pathogenic microflora.

Normal microflora is more resistant to the effects of external physical, chemical and biological factors, regulating the relationship between the environment and the body, and protects the latter from adverse effects. But such a balance of the microbial ecosystem may be affected by environmental factors such as chemical or radiation factors, etc. Normal microflora, especially intestinal microflora, has a marked detoxification effect in relation to endogenous and exogenous factors due to hydrolytic and restorative reactions.

Often, microflora manifests itself as a natural sorbent, accumulating in itself a considerable amount of various toxic substances: metals, phenols, poisons, etc. The most dangerous toxicants, along with radionuclides and pesticides, are heavy metals. The term «heavy metals» is understood as a group of metals with a density greater than 5.0 g/cm³ or with an atomic number of more than 20. These include a number of environmental pollutants: Cd, Pb, Ni, Cr, Hg, Cu, Zn and others.

Aim. The aim of the research was to determine the influence of aqueous solutions of salts Hg(NO₃)₂, Bi(NO₃)₂, Pb(NO₃)₂, Co(NO₃)₂, CuSO₄, NiSO₄, ZnSO₄ in concentrations of 0.01 mol / l and 0.001 mole / l on the growth of *Lactobacillus bulgaricus*.

Materials and methods. In this research, object is the bacteria *Lactobacillus Bulgaricus* that used in the preparation of home yogurt. These bacteria were cultivated in solutions of salts Hg(NO₃)₂, Bi(NO₃)₂, Pb(NO₃)₂, Co(NO₃)₂, CuSO₄, NiSO₄, ZnSO₄, NaCl at concentrations of 0.01 mol / L and 0.001 mol / l. This range of concentrations corresponds to the actual concentrations in soil and groundwater in the natural environment, and therefore the salts in such concentrations are most likely to enter the food.

The method of research is:

1. Preparation of aqueous solutions of salts of heavy metals.
2. Preparation of the product «Yogurt».
3. Preparation of culture samples for research.
4. Cultivation of *Lactobacillus bulgaricus*.
5. Carrying out organoleptic analysis.
6. Homogenization of the product obtained.
7. Sampling of the product on the nutrient medium «agarized MRS».
8. Counting of microorganisms of *Lactobacillus bulgaricus*.

Results and discussion. According to the results of organoleptic and microbiological studies, the salts $\text{Hg}(\text{NO}_3)_2$ and $\text{Co}(\text{NO}_3)_2$ exhibit bactericidal action against *Lactobacillus bulgaricus* irrespective of their concentrations. $\text{Bi}(\text{NO}_3)_2$, $\text{Pb}(\text{NO}_3)_2$, $\text{Co}(\text{NO}_3)_2$, CuSO_4 , NiSO_4 , salts exhibit bacteriostatic activity irrespective of their concentrations (small number of colonies when grown on a nutrient medium compared with the standard and control sample), and violate the homogeneous structure of the product «yogurt». ZnSO_4 in experimental samples compared with control does not inhibit the growth of *Lactobacillus bulgaricus*. The nutrient media on which *Lactobacillus bulgaricus* was cultivated with ZnSO_4 and NaCl salts gave the largest number of colonies compared to cultivating lactobacilli with other salts studied.

Conclusions. *Lactobacillus bulgaricus* refers to the beneficial microflora of the human body, its intensity and growth is reduced due to the action of heavy metal salts on it.

HEPATITIS B. STATISTICAL ANALYSIS OF MORBIDITY IN UKRAINE FROM 2013 TO 2017

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Introduction. Hepatitis B is one of the most common infectious diseases. It is caused by the hepatitis B virus (HBV). About 2 billion people are infected in the world and 400 million have chronic hepatitis B (CHB). Every year are detected 4.5 million new infections and 700 thousand deaths.

Aim. To conduct investigation of the morbidity and development trends of Hepatitis B on the Ukrainian territory for the period of 2013-2017.

Materials and methods. Analysis of the scientific literature and the results of the advanced research in the field of medicine and pharmacology.

Results and discussion. According to the official registration of cases of the disease of the Ministry of Health of Ukraine «Report on individual infections and parasitic diseases» (annual), for 5 years (2013-2017), 15801 cases of HBV infection were officially registered in Ukraine, including 7578 cases of acute hepatitis B (AHB) – $(47.96 \pm 0.40)\%$ and 8223 CHB (chronic hepatitis B) – $(52.04 \pm 0.40)\%$. In recent years, according to official statistics, in the country as a whole and in separate territories, the same number of acute and chronic forms of GV-viral infection were registered, with a slight predominance of chronic forms.

Specific gravity, % / ratio	Years				
	2013	2014	2015	2016	2017
AHB (acute hepatitis B)	48.87	52.51	56.48	51.13	58.36
CHB (chronic hepatitis B)	51.13	47.49	43.52	48.87	41.64
AHB/ CHB	0,96:1	1.11:1	1.30:1	1.05:1	1.40:1

For comparison, in EU / EEA countries, according to official ECDC data, in 2013 (28 countries), 2014 (30 countries) and 2015 (30 countries) among the total reported cases of HB, 15.2% (2896 cases), 11.9% (2667) and 10.2% (2505), respectively, had acute forms of the disease; 71.4% (13629), 64.0% (14371) and 63.5% (15595) – chronic; At the time of registration, 11.2% (2138), 22.4% (5020) and 19.4% (4777) remained «unknown», according to diagnostic criteria common to EU / EEA countries, and 2.3% (438), 1.7% (384) and 6.9% (1696) of the cases were not included in the list of «acute», «chronic» or «unknown» because of incompatible format required for reporting data. Thus, in Ukraine, the proportion of AHB (on the basis of official registration) is much higher than in the EU, because we can observe a significant «under-estimation» of CHB cases, in particular, due to the lack of standardized diagnostic criteria, according to which the case of HB refers to «acute», «chronic», or «unknown»; it is possible that a certain proportion of cases registered as AHB are in fact chronic cases.