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Abstracts were published in the alphabetical order of authors' last names.

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## REASONING FOR PHAGOPROPHYLAXIS OF FOOD TOXICOSIS OF BACTERIAL ETIOLOGY

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**Introduction.** A direct threat to human health and well-being — bacteria and products of their activity. They are the cause of the huge economic losses caused by the decline in human efficiency and spoilage of food products. In an era of widespread and practically uncontrolled use of the various (not always safe for humans) ways to fight bacterial contamination, the question of phages using to control bacterial contamination of food becomes especially important. Bacteria have many adaptive mechanisms, able to adapt relatively quickly to the effects of bacteriocides and bacteriostats of various origins, but it is still not possible to overcome natural rivals. Bacteriophages (phages) or ‘bacteria eater’ – natural bacteria killers. Despite different (lytic and lysogenic) cycles of development, encounter of the bacterium with the phage inevitably ends with the death of the bacterial cell.

**The aim:** To prove the use of bacteriophage cultures for food processing.

**Materials and methods:** Analysis of research materials outlined in the public domain, on the possibility of using phages to control bacterial contamination of food stuffs by pathogens of food toxicosis.

**Review:** Several methods are used to improve food safety. First of all – thermal processing of products (pasteurization, sterilization) – destroys a large number of micro-organisms, but does not keep food fresh. Chemical agents have a detrimental effect on microorganisms, but are not environmentally safe, affect the quality of food and promote rapid wear and corrosion of equipment. Irradiation is also effective but negatively perceived by consumers and requires proper labeling. The main disadvantage of these methods is the elimination of not only potential pathogens of food toxicosis, but also humans “beneficial” microflora. In addition, there are cases of transmission of pathogens through pre-processed products.

Currently, bacteriophage biocontrol is increasingly perceived as a natural and “green” technology. It is effective for the specific destruction of bacterial pathogens in various foods without reducing their quality and nutritional value. Recently, a significant amount of research has focused on promoting the use of phages for processing fresh meat, vegetables and fruits. The number of available products containing bacteriophages allowed for use in food is steadily increasing.

**Conclusions:** There are, undoubtedly, some problems with the development and use of phage preparations aimed at improving food safety. But it is obvious that bacteriophage biocontrol remains an economically, environmentally and biologically very attractive method of eliminating pathogenic bacteria from food.

**KEY WORDS:** Bacteriophage, food toxicosis, prevention

## SOCIAL JUSTICE IN TERMS OF DIFFERENTIATION OF ELECTRICITY PRICES

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**Introduction:** Nowadays competitive relationships in society are characterized by increasing socio-economic inequality and the spread of poverty. Therefore, the topic of social justice is quite relevant these days. Such scientists as Socrates, Plato, Marcus Aurelius, T. Hobbs, V. Korzh, and K. Popper worked on issues of social justice. Thus, social justice is considered to be decency in the distribution of wealth, goods and income among members of society, as well as equality of citizens under the law, equal use of the benefits that the state can offer to citizens.

**The aim:** The energy sector is one of the most polluting industries. We believe that current methodology for calculating electricity tariffs should be modified by taking into account environmental and social components. The principle of social injustice in the energy field is detected in the following case: while some regions generate electricity for others, live in contaminated territory and suffer additional environmental and economic losses (such as deterioration of health, additional costs for treating diseases or preventing them); others live in green areas and consume electricity produced in regions described before. Therefore, the hypothesis of our differentiation is that the tariff in the places of its production should be lower than in the places of its consumption.

**Materials and methods:** Research was conducted by the Department of Public Health of Sumy State University on the basis of fundamental principles of economic theory, modern concept of stable development, ecological management and energy security

**Review:** Taking into account the fact that the largest part of carbon dioxide emissions is released by thermal power stations and thermal power plants (according to the Kyoto Protocol which was signed in December 1997, Ukraine was expected to reduce its carbon dioxide emissions by 20% from their level defined in 1996), it goes without saying that the production of electricity is environmentally burdensome for the residents of the regions where the highest thermal capacity is concentrated. For example, in Chernihiv region there is no power plant, but the population has uninterrupted power supply, whereas the population of Zaporizhzhya region, where Zaporizhzhya thermal power station is located, consume electricity at the same tariff as the population of Chernihiv region. Therefore, current pricing system does not encourage the company to take environmental actions, therefore, a new approach is needed to reduce specific fuel costs and losses in the networks gradually, and to reduce emissions of harmful substances released into the environment.

**Conclusions:** All things considered we propose to introduce regional differentiation of electricity prices for consumers, taking into consideration the eco-destructive impact of energy objects. The misconception is that it is better to pollute the environment in order to pay less for services. That is not the case. This recalculation is not aimed at stimulating or discouraging electricity producers, but it is aimed at establishing the principle of ecological and economic justice for consumers by region. Electricity producers are stimulated by the Wholesale Electricity Market to reduce emissions of harmful substances into the environment through a tariff on sales to WEM. As the main consumers of electricity are the enterprises and the population, in case of such conversion for the consumed electricity, managers will think about energy saving policy (environmentally oriented one) in order to reduce their electricity consumption (the cost of environmental tax).

**KEY WORDS:** social justice, power plants, deterioration of health, electricity

## COMPARISON CHARACTERISTIC OF ACNE VULGARIS IN MEDICAL STUDENTS WITH II-III AND V - VI PHOTOTYPES BY THE FITZPATRICK SCALE

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**Introduction:** Acne is one of the common chronic dermatoses, which can affect patients of all races and ethnicities. The peculiarity of this disease is the presence of acne lesions on open skin, and its impact on the social adaptation of patients. According to modern authors, 80 - 90% of adolescents had episodes of acne of varying severity, after 25 years the presence of acne elements decreases to 25 - 43%. Most patients with mild or moderate acne do not visit a dermatologist for medical prescription. An important point is the lack of awareness among patients about the possible effects of acne, such as the formation of postacne pigmentation and scars.

**The aim** is to study the prevalence of acne among the students with V and VI phototypes by the Fitzpatrick scale.

**Materials and methods:** Total of 378 students with II - III phototypes and V - VI phototypes by Fitzpatrick scale were included in the study. Medical students were divided by phototypes: 324 with II - III phototypes, 54 with V - VI phototypes by Fitzpatrick scale. The average age of the students with V - VI phototypes was 22.4 years; (M - 21 years); female/male ratio - 17/ 37 (31.5 / 68.5 %). Students with II - III phototypes averaged age was 20.87 years; female/male ratio was 236/88 (72,8/ 27,2 %). The study was conducted with the use of an anonymous specialized questionnaire, that contained 12 questions about the presence and localization of lesions, family history, and information on visiting a doctor and treatment (Questionnaire content distributed to medical students, Shadi Zari, Asraa Turkistani, 2017).

**Results:** According to the questionnaire results the lack of acne elements was indicated in 22 (40,7 %) students with V - VI phototypes: 14 students evaluated their condition as mild acne, 6 - moderate, 2 - severe. In students with II - III phototypes 240 (71%) of the students had acne lesions: mild acne - 204, moderate - 36 students. Positive family history for acne vulgaris (parents/ siblings) was found in 31.3 % and in 36.6 % students with II - III phototypes, in students with V - VI phototypes - 18,5% and 46,2%, respectively. Post-inflammatory scars were noted in 28 (51,2%), pigmentation - 16 (29,6%) students with V - VI phototypes. In group with II - III phototypes post-inflammatory scarring admitted in 63 (19,4 %) students, pigmentation in - 54 (16,6 %).

**Conclusion:** The data obtained demonstrate that students with V and VI phototypes by Fitzpatrick scale are 30% less prone to acne formation compared to students with II and III phototypes, with predominantly mild degree of severity.

**KEY WORDS:** acne vulgaris, epidemiology, acne, Fitzpatrick phototypes scale

## MICROBIOTA OF THE COLON STATE IN CHILDREN OF THE FIRST YEAR OF LIFE WITH ACUTE OBSTRUCTIVE BRONCHITIS

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**Introduction:** Respiratory diseases occupy one of the leading places among diseases in children due to the high prevalence in the general structure of bronchopulmonary pathologies, often accompanied by a severe course and complications. The large intestine microbiota is known to play an important role in maintaining immune status in children with bronchopulmonary status.

**The aim:** To investigate quantitative and qualitative status of intestinal microbiocenosis in children of the first year of life with acute obstructive bronchitis (AOB).

**Materials and methods:** The clinical study was conducted with the participation of 27 children of the first year of life with AOB. The control group consisted of 16 healthy children. To determine the state of gut microbiocenosis, microbiological studies of the faeces were performed to determine the species composition and population level of the microflora.

**Results:** At the time of hospitalization, almost all children with AOB had clinical manifestations of bowel dysbiosis in the form of dyspeptic syndrome.

The level of bifidobacteria in patients under 1 year with AOB in the acute disease period was significantly lower than in control children and comprised  $(3.95 \pm 0.32 \text{ lgCFU/g})$ . The *Lactobacillus* content was also significantly decreased  $(4.38 \pm 0.18 \text{ lgCFU/g})$ . At the same time in all patients of this group there was a decrease in the total number of *E. Coli*.