

depend on the economic possibilities of the state. The most important component of a nation's health is mental and spiritual health. In modern medicine, along with the problems of verification, clinical diagnosis, treatment and prevention of various diseases, the general status of patients and their mental state are of particular importance.

Keywords: mental disorder, stress, psychoemotional tension, traumatic personality, emergency, increase in morbidity, personality changes.

It has been revealed that against the background of a decrease in the country's population over 35 years, an increase in the incidence of mental disorders is noted in the republic.

In 2015, the primary morbidity of the population with mental disorders increased by 47,6 % compared to 2002 and amounted to 717,7 per 100,000 populations (average annual growth rate of 3,1 %) [5].

In 2015, the primary incidence among children under 18 years old was 918,3 per 100,000 children; among adults – 670,5 per 100,000 adults. If in 2002–2005. the primary incidence in the pediatric population was 2 times higher than that of the adult population [5].

The suicide rate for the period from 2002 to 2015 in the republic decreased: in the general population - by 45,6%; among the urban population – by 49,0 %; among the rural population – by 32,3 % [4,6].

In the structure of mental morbidity, psychoses occupy a leading place, second place is mental retardation, and third is schizophrenia. There is an increase in the number of people suffering from psychoses: in 1980 - 26,126; in 1990 – 9 645 (56 650); in 2000 – 18 405 (50 039), in 2005 – 32 102 (45 552) people [3,4].

In addition, this country has developed an unfavorable environmental situation after the accident at the Chernobyl nuclear power plant.

Among liquidators, the prevalence of various mental disorders was the highest – 84,4 %. A significant proportion belongs to depression [1].

In addition to the increase in primary morbidity, among the affected population there is a decrease in the level of mental adaptation caused by self-doubt.

In general, 74 % of the victims recorded increased somatization of anxious expectations, a high prevalence of maladaptive forms of behavior [2–3].

As a result of the study, it was found that the liquidators in the aftermath of the accident had a high level of personal anxiety, emotional lability, anxiety, hypotension and frustration.

The analysis of indicators of the state of mental health of the population of the republic indicates a number of positive and negative trends that need to be taken into account when making managerial decisions in the field of healthcare.

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RESEARCH OF MICROBIAL COMMUNITIES USING ENVIRONMENTAL INDEXES

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Microbial associations are important in both the development and prevention of infection. To study the species diversity of bacteria that inhabit a particular biotope of a human body, one can use commonly accepted indicators such as the Shannon diversity index, the Simpson dominance and diversity indices, the Piel equilibrium index. The use of indexes helps to analyze both the quantitative and qualitative parameters of associations.

Keywords: microbial communities, ecological index, biodiversity, microorganisms.

The study of modern ecology of microorganisms introduces the concept of microbiome as a collection of all microorganisms of the human body. The human microbiome functions as a all-in-one system, regulated by its own signaling molecules, responds to the effects of the regulatory mechanisms of the human body and interacts with environmental factors. In general, human microbiocenosis can be regarded as a biosystem that is in a state of dynamic equilibrium with the body's immunity. Human biotopes such as skin, mucous membranes are inhabited by hundreds of species of microorganisms that make up the normal microflora of the human body. They form microbial associations that may include populations of two or more species of microorganisms. Microbial associations are important in both the development and prevention of infection. Resident microflora inhibit the growth of pathogens. Therefore, changes in the structural organization and functioning of the studied microbiocenosis need study and understanding. In connection with these problems of biodiversity conservation, the study of the structural and functional organization of the microbiome, the analysis of the processes that take place under different conditions of their existence are relevant and urgently needed. That is why the analysis of indices of diversity of different microbiomes of the human body became the purpose of our study.

Materials and methods. The study has a theoretical and methodological character, presented in the methods of comparison, systematization and interpretation of the obtained results.

Studying the species diversity of bacteria that inhabit a particular biotope of a human body, one can use such common indicators as the Shannon diversity index, and the Simpson dominance and diversity indices, the Piel equilibrium index [3]. Species richness is determined by the sum of species in a particular grouping, microbial ecosystem or biotope. At the same time, the Simpson index describes the likelihood of the ratio of any two individuals, randomly selected from an indefinitely large group, to different species. Increasing the value of the Simpson index means a decrease in diversity and an increase in the degree of dominance of one species. The degree of diversity of the grouping is illustrated by the Shannon index. The maximum of diversity will correspond to the situation when all individuals will belong to different species. Piel's equilibrium index is calculated on the basis of the Shannon index, and an increase in its value indicates the equilibrium of the structure of the group. Thus, due to the use of the Shannon and Simpson indices in the study of gastric microbiota in cancer patients, it was found that individual resident bacteria, this biotope, when changing abundance can become pathogenic [2]. Due to the use of indices in the study of intestinal dysbiosis, not associated with many neurological diseases, no significant differences were found in HIV patients [1]. Comparison of materials from different faecal collections, different methods of studying the microbiome with the involvement of different metabolomic studies, showed slight differences in the results of the Shannon and Simpson biodiversity indices [4].

Thus, the use of ecological diversity indices, which until recently have been little used in microbial study, helps to analyze both quantitative and qualitative grouping parameters.

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