infected person with active participation of a patient in the treatment process can be equal to the life expectancy of an average healthy person. HIV-infected patients could learn to live with this status [1]. Overcoming the psychological and social difficulties that have arisen, as well as the restoration and preservation of the old way of life are possible with timely psychological support and comprehensive rehabilitation work. That is why the problem of social rehabilitation is relevant.

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The authors

1.   Evdokimov Harry Eduardovich, student of the Institute of Psychology, contact information: 677016, Yakutsk, Kulakovsky street 46/2, room 26 89644299617, ev-alice07@mail.ru;

2.   Egorova Valentina Nikiforovna, cand. psychological science, Associate Professor of the Department of Psychology and Social Sciences, Institute of Psychology, NEFU, contact information: 677013, Yakutsk, Kalandarashvili street 21/2, flat6 8241663788, VE373@mail.ru;

3.   Vinokurova Svetlana Petrovna, cand. medical science, Associete Professor of the Department of «Propedeptic and Faculty Therapy with Endocrinologists and LFK», Medical Institute, NEFU, contact information: 677907, Yakutsk, Khatassy village, Severnaya street 4, 89142207804 , Xitvsp@mail.ru.

E.Yu. Sizykh, N.A. Solovyova, M.A. Varlamova,
A.T. Dyakonova, Kh.A. Kurtanov, N.I. Pavlova

MOLECULAR GENETIC STUDIES AS AN AUXILIARY METHOD FOR DETERMINING RISK FACTORS IN THE CLINICAL EXAMINATION OF THE ADULT POPULATION

ABSTRACT

Indicators of morbidity of adult population according to out-patient office of Hospital of the Yakut Science Center of Complex Medical Problems (Yakutsk) during 2015-2017 are presented in article. The characteristic of dynamics and structure of cases of the general and primary incidence is given. Decrease in level of the general incidence for all analyzed period is established. In structure of the general incidence of adult population the prevalence of diseases of respiratory organs and the blood circulatory system is revealed. The analysis of dynamics of indicators of primary incidence has shown the stable growth of her level with prevalence a case of diseases of respiratory organs.

The obtained data on the dynamics and distribution patterns of diseases have served as the basis for selecting the directions of molecular genetic research, the search for associations of genetic markers of the system of cytokines responsible for the development and maintenance in the body of chronic systemic inflammation, the genes B2 - adrenoreceptor and genes of cold receptors involved in the hereditary predisposition to hyperreactivity of the respiratory and the cardiovascular system in response to the effects of low temperatures.

Keywords: clinical examination, morbidity general and primary, structure and dynamics of morbidity, genes of cytokines, adrenoreceptor genes, cold receptor genes.

Introduction. Clinical examination is a method of systematic medical observation of the health status of certain groups of the healthy population or patients with chronic diseases with the aim of preventing and early detection of diseases, timely treatment and prevention of exacerbations.

Clinical examination is aimed primarily at the early detection of chronic non-infectious diseases, which include: diseases of the circulatory system and especially ischemic heart disease and cerebrovascular diseases, malignant neoplasms, diabetes, chronic lung diseases, diseases of the musculoskeletal system, gastrointestinal tract and urinary system. These diseases cause more than 75% of all mortality in our country.

In addition, according to the regulatory documents, a clinical examination is designed to identify and correct the main risk factors for the development of diseases, such as elevated blood pressure, cholesterol and glucose in the blood, smoking, harmful alcohol consumption, overweight or obesity [3]. But, taking into account that even minimal deviations from the norm of laboratory or functional indicators, and even more so the initial clinical manifestations of diseases occur when there are already established pathological processes in the human body, the question arises of the timeliness of clinical examinations regarding the prevention of risk factors.

To improve the effectiveness of measures to identify predisposing risk factors, modern medicine has technologies that are able to calculate the risk of developing diseases long before the first clinical, laboratory and functional changes appear, in other words using high-tech diagnostic methods, it is possible to carry out not only accurate molecular diagnostics, but also to determine a person's predisposition to a particular disease [2].

The use of the results of molecular genetic testing can significantly facilitate the solution of the task of conducting all citizens with a history of risk factors for brief preventive counseling, as well as for individuals with high and very high total risk of individual in-depth and group (patient's school) preventive counseling in the context of dispensarization . Such active prophylactic interventions make it possible to quickly and significantly reduce the likelihood of the development

of dangerous chronic non-infectious diseases in each particular person, and in those already suffering from such diseases significantly reduce the severity of the course of the disease and the incidence of complications [3, 4].

The introduction of active medical examinations using the capabilities of molecular genetic methods will enhance the effectiveness of preventive measures to reduce mortality and disability of the population, reduce economic losses, by restoring labor potential.

For an informed choice and correction of the directions of molecular genetic studies to determine biological predictors of susceptibility, in order to optimize measures for the organization of preventive measures, an analysis of the indicators of the clinical examination of the outpatient department of the Hospital YSC CMP was carried out.

Materials and methods. To assess the organization of the dispensarization carried out, we used the method of analyzing the indicators of the clinical examination of adults aged 18 to 80 years based on the statistical reports of the outpatient department of the Hospital of the Nuclear Physics Center for the period 2015-2017.

All participants of the clinic were examined by a therapist and narrow specialists: a neuropathologist, obstetrician gynecologist, surgeon, oculist.

Laboratory and functional studies were performed: clinical blood analysis, urinalysis, biochemical blood analysis (cholesterol, sugar, total protein, creatinine, fibrinogen, bilirubin, AST, ALT, sodium, potassium), blood test for tumor marker PSA (for men older 51 years old); fecal occult blood; cytological examination of a smear from the cervical canal; electrocardiography (ECG); fluorography (FLG), mammography (for women over 39 years old). Statistical data processing was carried out using descriptive statistics methods [1].

Results and discussion. According to the results of the analysis, for 3 years, 2348 people were subject to planned medical examination. In 2015, dispensaryization was carried out in relation to - 657 people, in 2016 - 789 people, in 2017 - 874 people, thus, for the period from 2015 to 2017. 2320 people underwent medical examination, or 98.8% of the planned volume.

According to the results of research and examinations of medical specialists, each patient was determined by the health group: Group 1 - the patient is healthy; Group 2 - the patient is healthy, but has

risk factors (smoking, increased weight, elevated blood cholesterol, etc.); Group 3 - a patient who needs to be examined or treated in a polyclinic; 4 patient group who needs inpatient treatment; 5 patient group needs a high-tech type of medical care.

Indicators of the distribution of the attached population are presented in table 1. According to the results of clinical, laboratory and instrumental examination, the largest number of people were identified in the 3rd group of health, and amounted to 53.9 - 85% of the total number of those undergoing medical examination. The analysis of the dynamics of population distribution indicators by groups showed an annual increase in the number of population assigned to groups 1 or 2 of health, which indicates the timely prevention and diagnosis of diseases.

Table 2 presents the dynamics of the level of general morbidity of the attached population. General morbidity is the totality of all the diseases among the population, both newly diagnosed in a given calendar year and registered in previous years, about which patients again applied in a given year. Analysis of the dynamics of indicators of general morbidity showed a certain increase in its level in 2017 compared to the level of 2016, which is explained by the increase in the number of attached population of the older age group in this period. However, the overall incidence rate for the entire analyzed period decreased by 1.3 times, which is the result of timely preventive work aimed at early detection and treatment of diseases.

An analysis of the overall morbidity structure according to the data of the outpatient department showed that diseases of the respiratory system and circulatory system are in the lead among adult diseases, which may be due both to the high level of this pathology among the population and to the diagnostic capabilities and active identification of patients with these diseases. organs and systems (table 3).

The analysis of the dynamics of the indicators of primary morbidity is presented in table 4. Primary morbidity

characterizes the totality of new, nowhere previously recorded, and for the first time in a given calendar year, diseases detected per 1,000 people and registered among the population. The analysis of the dynamics of the indicators of primary morbidity showed a steady growth of its level, with the maximum rates in 2016, which is explained by the increase in the number of the attached population of the older age group during this period, as well as the active detection of diseases in the newly attached population. It should be noted that the primary incidence rates of 2017 with the same size of the attached population decreased compared with the previous figures of 2015 -16, which may indicate a systematic and effective medical examination, as well as the organization of preventive measures aimed at reducing the incidence of whole.

Analysis of the structure of the primary morbidity for the entire analyzed period revealed the following features, first place in frequency is occupied by respiratory diseases, second - diseases of the genitourinary system, third place - diseases of the circulatory organs (table 5). The maximum increase in the rates of newly diagnosed diseases of the urogenital system and circulatory system is in 2016, which may be associated with an increase in the number of assigned population and the active detectability of these diseases. Despite the fact that respiratory diseases occupy a leading place throughout the analyzed period, in general, they tend to decline.

Conclusion. Thus, an analysis of the organization of the outpatient dispensation of the attached population of the Hospital of the YSC CMP has shown that the systematic implementation of preventive measures helps to reduce the incidence rate in general.

Table 1

Population distribution by health groups for 2015 - 2017

Period (year)	Health group			Patients from the 3rd group. transferred to groups 4 and 5	
	1 group n. (%)	2 group n. (%)	3 group n. (%)	4 group n. (%)	5 group n. (%)
2015				25 (4.5)	7 (1.3)
2016	175 (22.1)	189 (24)	425 (53.9)	19 (4.5)	8 (1.9)
2017	115 (13.2)	123 (14.1)	636 (72.7)	17 (2.7)	21 (3.3)

Table 2

The general incidence for the years 2015 - 2017

	2015	2016	2017
Absolute figure	15 971	10 914	12 060
Per 1000 population	1651,6	1091,4	1246,9

The obtained data on the dynamics and structure of the distribution of diseases served as the basis for choosing the directions of molecular genetic studies, the results of which will be used as an additional factor in planning personalized prevention and treatment programs, taking into account the genetic characteristics of patients.

Currently, the staff of the laboratory of population genetics and hereditary pathology of the YSC CMP within the framework of the research «Study of the genetic structure and load of the hereditary pathology of populations of the Republic of Sakha (Yakutia)» are conducting research on the formation of bronchopulmonary and cardiovascular pathologies prevalent in patients according to dispensary data. An association of genetic markers of the cytokine system responsible for the development and maintenance of chronic systemic inflammation, adrenoblocker genes and cold receptor genes involved in hereditary susceptibility to hyperreactivity of the respiratory and cardiovascular systems in response to the effects of low temperatures.

Table 3

The rating of registered diseases for 2015 – 2017, %

	2015	2016	2017
1 place	Diseases of the cardiovascular system (17,6)	Diseases respiratory organs (19,4)	Diseases respiratory organs (19,6)
2 place	Diseases respiratory organs (14,6)	Diseases of the cardiovascular system (15,7)	Diseases of the cardiovascular system (18,0)
3 place	Diseases of the urogenital system (11,3)	Diseases of the urogenital system (13,4)	Diseases of the urogenital system (12,9)

Table 4

Indicators of primary morbidity for 2015 - 2017

	2015	2016	2017
Absolute figure	3197	5603	4490
Per 1000 people	303,6	579,4	464,3

Table 5

The rating of newly diagnosed diseases for 2015-2017

Год	2015 abs.(%)	2016 abs.(%)	2017 abs.(%)
1 place	Diseases respiratory organs 1589 (49,7)	Diseases respiratory organs 1533 (27,3)	Diseases respiratory organs 1481 (33)
2 place	Diseases of the genitourinary system 310 (9,7)	Diseases of the genitourinary system 927 (16,4)	Diseases of the genitourinary system 714 (16)
3 place	Diseases of the cardiovascular system 140 (4,4)	Diseases of the cardiovascular system 197 (3,5)	Diseases of the cardiovascular system 151 (3,4)

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The authors

1. Sizykh Elena Yuryevna - junior researcher associate of laboratory of population genetics of department of molecular genetics of YSC CMP;

2. Solovyova Natalya Alekseevna - candidate of medical sciences, senior research associate of laboratory of population genetics of department of molecular genetics of YSC CMP, contacts: sonata608@yandex.ru, 8-924- 171-34-89, 677010, Yakutsk, Sergelyakhskoye Highway 4, FGBNU "The Yakut science center of complex medical problems";

3. Pavlova Nadezhda Ivanovna - candidate of biology sciences, the leading researcher - the head of laboratory of hereditary pathology of department of molecular genetics of YSC CMP;

4. Kurtanov Khariton Alekseyevich - candidate of medical sciences, the chief researcher – head of department of molecular genetics of YSC CMP;

5. Varlamova Marina Alekseevna - research associate of laboratory of hereditary pathology of department of molecular genetics of YSC CMP.