HEALTHY LIFESTYLE. PREVENTION

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MALE OVERMORTALITY IN THE REPUBLIC OF SAKHA (YAKUTIA) AND THE WAYS OF ITS REDUCTION IN ORDER TO MAINTAIN DEMOGRAPHIC SECURITY OF THE REGION

ABSTRACT

The purpose of the study is to show the significance of high mortality of men as one of the most problematic issues in the sphere of mortality. The main characteristics of the excess mortality of males identified using the methods of demographic data analysis on the dynamics of mortality rates by individual age groups, gender breakdown, by selected causes of death. A sufficient number of problematic issues present in the sphere of mortality. This is a relatively high proportion of deaths in working age, maintaining the structure of causes of death substantial relative weight of deaths from accidents, poisonings and injuries, i.e. external causes.Although the positive dynamics in reducing the proportion of these causes of death in the total number of deaths observed, however, these causes of death consistently occupy 2nd place after diseases of the circulatory system.

Male overmortalityof men is one of the significant problems in the field of mortality and has economic consequences, e.g., loss of the working population, and social (from the point of view of family life). In recent years, the mortality rate in men was constantly higher than in women. Male overmortalityis stored in the active working ages; in the working age index of high mortality of men is much higher than a similar index in the general population. The highest rates are added to these causes of death external causes of death, suffering from consumption and chronic alcoholism. Mortality due to external causes is significant growth potential for the life expectancy as one of the integral indicators of demographic security. In this regard, the reduction of mortality from external causes should be one of the major events in the regional demographic policy in the sphere of mortality.

The complex of measures to reduce the high mortality of men should include the units on the improvement measures of a medical nature,and also the block of measures of primary prevention (the formation of self-preservation behavior, healthy lifestyles), the unit of measures for creation of safe habitat.

Keywords: mortality, male overmortality, the cause of death, life expectancy, regional population policy, Republic of Sakha (Yakutia).

Introduction. The process of mortality at the present time largely determine population reproduction in the Republic of Sakha (Yakutia) [5]. As in other Northern subjects of the Russian Federation in the Republic the situation with mortality of the population has a number of rather negative effects [8], although the dynamics of total mortality tends to decrease (by 13% by 2016 compared to 2000).

A fairly high proportion of deaths in working age is a problem in the field of mortality [3], although this indicator tends to decrease in 2000 to 46.5%, 2016 – 37,5%). Maintaining the structure of causes of death substantial relative weight of deaths from accidents, poisonings and injuries, i.e. external causes, is a significant problem in the field of mortality. «External mortality is consistently ranked the 2nd place after diseases of the circulatory system, identifying more than 17% of all population losses. For the years 1990-2015, the number of deaths fell by almost 24.2%. However, unfortunately, the mortality rate remained at the 1990 level» [6]. Positive dynamics in the reduction in the share of these causes of death in the total number of deaths observed: in 1990 the proportion of deaths from external causes amounted to 24.6%, in 2016 – an increase of 16.2%. However, the mortality rate for these causes of death consistently occupy 2nd place after diseases of the circulatory system.

The high mortality in the Northern and Arctic regions of the Republic is a significant problem in the state of mortality [2].

Materials and methods. The main method applied in the study, – demographic analysis. Data on dynamics of mortality rates by individual age groups, gender breakdown, by selected causes of death was used and analyzed. The main characteristics of the excess mortality of men is revealed. Indexes of high mortality for selected causes of death, age group the evolution over the years 2000-2016 calculated.

The results and discussion. Supermortality of men is one of the most urgent problems in the sphere of mortality, i.e. the excess mortality in men compared with similar indicators in women. In recent years, the mortality rate in men was constantly higher than in women (Fig.1), moreover, the excess mortality of men over 2000-2016 he has not changed as significantly. Supermortality of men is not an entirely new phenomenon in the demographic development of the Republic; it was noted by researchers earlier [4].

Not only higher mortality rates are typical for the male population, but a slower decline in the mortality rate.

The greatest excess mortality of the male population over the female is noted at a young age. Maximum value of the index of high mortality observed in the age groups 20-24,25-29, 30-34. Even among children under the age of 1 year mortality of boys is much higher than girls.

In total for 2000-2016 high mortality growth index was characteristic only for age groups over 60 years(table 1),while earlier ages 10-14, 15-19, 20-24, 45-49, 50-54, 55-59, 65-69 years, i.e. mainly in the young and the older working ages.

In comparison with the Russian Federation, in Yakutiasimilar indicators of 20-24, 25-29 and 30-34 yrsage groups look particularly anxious,where a significant excess over the average rates is observed. Age 5-9 years was in this group, oddly enough, where it exceeded the national index of high mortality over Russia in 2016, was the biggest - 1.5 times.

Compared with the figures for Russia and the Far Eastern Federal district the index of high mortality of menin the Republic, calculated from standardized mortality rates for men and women,is slightly lower. However, if in the Russian Federation and the Far Eastern Federal district this index for 2005-2015 has decreased, in Yakutia it was increased

(table2).

Index of high mortality of men of working age is much higher than a similar index in the general population (table 3).In the Russian Federation index of high mortality of men of working age over the 2005-2015 was decreased, but inYakutiait has not changed.

Differences in the index of high mortality of men in the context of individual causes of death are of greatest interest in terms of developing measures to reduce the high mortality of men.In connection with a significant array of data analysis of high mortality of men held on selected causes of death.They included diseases of the circulatory system, neoplasms and external causes of death.These classes of reasons account for the vast number of deaths in men and women.For example, in 2000 these causes of death in men «gave» 82% of all deaths, in 2016 – 81%.

However, a significant index value of the high mortality observed for some individual reasons, were not included in these major classes of reasons taken for analysis. In this regard, they are also included in the preliminary list of analyzed causes of death. Thiscausessuchastuber culosisandchronicalcoholism.

On these causes of death over a long period of time the highest values of the index of high mortality men observed (table 4).

Substantial changes occurred in the ranking of causes of death with the highest indexes of high mortality of men for 2000-2016. The highest index of excess mortality during 2000-2016 is maintained for such reason as suicides (5,54 in 2000 and 6,26 in 2016) (table 5).

Among all the reasons, the situation with the excess mortality of men from external causes of death, which largely determine the loss of life potential in the country, attracts the most attention. It is more typical for the rural population, which is typical for Russia as a whole [1]. Men's super-mortality rates remain almost at the same level as in 1990; moreover, this gap even increases for the urban population (in 1990 – 4.48, in 2014 – 4.81).

By some reasons this class of causes of death the largest index of high mortality of men in 2016 was typical for suicides (table 6). For this reason, there is death index growth of high mortality of men, in contrast to other causes (traffic injuries, homicide), for which there is some positive dynamics.

Conclusion.Thus, the high mortality rate of men in comparison with women is one of the most significant moments in the processes of mortality both in the Republic of Sakha (Yakutia) and in Russia as a whole. The highest rates are for causes of death, such as external causes of death, tuberculosis and chronic alcoholism. Over a long period of time the highest values of the index of high mortality of males observed on these causes of death. Unlike other causes of death with a high index of male excess mortality, this suicide rate is on the rise.

The analysis of the phenomenon of over-mortality of men leads to the conclusion that mortality due to external causes is significant growth potential for

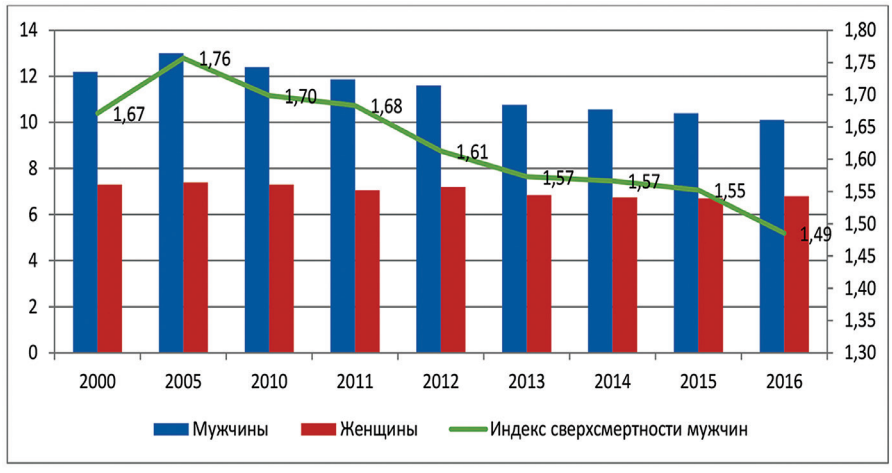

Fig.1. The overall mortality rates of men and women in the Republic of Sakha (Yakutia), 2000-2016.

Table 1

Index of high mortality of men in the Republic of Sakha (Yakutia)

Age	2000	2005	2010	2015	2016	2016/2000
0-4	1,67	1,76	1,70	1,55	1,49	0,889
5-9	1,33	1,59	1,16	1,38	1,19	0,891
10-14	2,25	1,00	1,25	1,00	1,50	0,667
15-19	2,50	2,25	1,00	1,33	1,33	0,533
20-24	2,00	2,89	3,13	3,00	1,83	0,917
25-29	4,64	5,10	3,60	3,00	4,17	0,897
30-34	4,18	3,53	3,13	4,88	3,20	0,766
35-39	4,30	4,40	5,27	3,27	3,12	0,725
40-44	3,46	4,08	3,25	3,18	2,91	0,841
45-49	3,19	3,51	3,62	3,80	3,03	0,951
50-54	2,97	3,19	2,87	2,54	2,68	0,902
55-59	2,82	2,96	2,92	2,96	2,62	0,929
60-64	2,97	3,08	2,75	2,99	2,76	0,929
65-69	2,11	2,20	2,47	2,60	2,62	1,242
70 лет и старше	1,81	2,14	2,40	2,17	2,17	1,196
total	1,26	1,33	1,40	1,32	1,31	1,040

Table 2

Index of high mortality of men for 2005-2015*

	2005	2010	2011	2012	2013	2014	2015	2015/2005
RussianFederation	2,10	2,05	2,05	2,03	2,02	2,03	2,00	0,95
The Far Eastern Federal district	2,06	2,06	2,03	2,01	1,99	1,99	1,99	0,97
The Republic Of Sakha (Yakutia)	1,92	1,99	2,00	1,95	1,91	1,98	1,95	1,01

*Calculated on standardized mortality rates for men and women.

Table 3

Index of high mortality of men of working age in 2005-2015

	2005	2010	2011	2012	2013	2014	2015	2015/ 2005
RussianFederation	3,85	3,73	3,66	3,65	3,64	3,64	3,56	0,92
The Far Eastern Federal district	3,38	3,36	3,36	3,30	3,22	3,20	3,14	0,93
The Republic Of Sakha (Yakutia)	3,75	3,66	3,47	3,77	3,76	3,62	3,75	1,00

Table 4

Index of high mortality of men in the separate classes of causes of death in 2000-2016

	2000	2005	2010	2015	2016	2016/ 2000
From all causes	1,66	1,75	1,69	1,55	1,48	0,89
From diseases of the circulatory system	1,24	1,38	1,40	1,41	1,41	1,14
From tumors	1,35	1,36	1,22	1,25	1,36	1,01
From external causes of death	4,51	4,77	4,08	4,57	4,47	0,99
From tuberculosis (allforms)	3,04	4,97	3,04	4,67	5,25	1,73
From chronic alcoholism	3,39	2,79	1,31	1,50	5,50	1,62

Table 5

The ranking of causes of death largest index of high mortality of men in 2000 and 2016

	2000	2016
Fromallcauses	1,66	1,48
Suicides	5,54	6,26
Murders	5,36	4,45
Accidentalalcoholpoisoning	4,49	3,48
Chronicalcoholism	3,39	5,50
All types of transport injuries	3,38	2,96
Tuberculosis (allforms)	3,04	5,25

Table 6

Index of high mortality of men by selected causes of class «External causes of death» for 2000-2016

	2000	2005	2010	2015	2016	2016/2000
Fromallcauses	1,66	1,75	1,69	1,55	1,48	0,89
From external causes of death	4,51	4,77	4,08	4,57	4,47	0,99
From all types of transport injuries	3,38	3,72	3,80	3,67	2,96	0,88
Fromsuicide	5,54	6,04	4,25	4,63	6,26	1,13
Frommurders	5,36	5,95	5,25	10,46	4,45	0,83

the life expectancy as one of the integral indicators of demographic security. In this regard, the reduction of mortality from external causes should be one of the main activities in the regional population policy in the field of mortality. Amongof all the measures to reduce mortality, priority should be given to measures to reduce the excess mortality of men, primarily from external causes of death, especially suicide.

The development of such measures should be based on the understanding that the risk factors for men causing high mortality are the low value of health, which is expressed in the absence of self-preservation behavior in everyday life and in the workplace, high alcohol consumption, as well as the specifics of men's employment. According to experts, neglect of one's own health, among other things, may be associated with social factors, including an incorrect understanding of the male role. Therefore, it is necessary to define as measures «education of boys in the spirit of gender equality, which, unlike the Patriarchal system, does not impose rigid roles and identities» [7].

Along with measures to improve specialized medical care preventive steps in the formation of a self-preservation behavior of the population and creating a safe environment should be mandatory directions. The formation of self-preservation behavior, increase the value of healthy life in the system of life values can be recommended such measures as informing the population about the risk factors, initiation of social advertising, TV and radio broadcasts, video clips, interviews, publications in mass media on problems of depression, psychological disadaptation and crisis in children, teenagers and adults, organization and implementation of an information campaign on the principles of prevention of crisis conditions.

Raisingthelevelofearlydetection, treatmentandcareforpeoplewithmentaldisordersandvariousaddictions, chronicpainand acuteemotionaldisorderscanbeameasuretoreducethenumberofsuicides. Improving the professional skills of doctors and medical psychologists involved in assisting patients in crisis and suicidal conditions can contribute to this.

In the spectrum of measures to counter excessive alcohol consumption, it is necessary to see such as changes in the type of alcohol consumption, as happened, for example, in the Nordic countries, which is possible when carrying out a competent anti-alcohol policy.

Measures to overcome the excess mortality of men, SC and in General policies to reduce mortality should be focused on the whole society as a whole, and on certain social groups (by sex and age, risk, etc.). Improving scientific validity and conducting scientific research should be a necessary part of the package of measures.

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HYGIENE, SANITATION, EPIDEMIOLOGY AND MEDICAL ECOLOGY

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EPIZOOTOLOGICAL EPIDEMIC MONITORING OF THE ANTHRAX IN THE CENTRAL AND SOUTH AREAS OF YAKUTIA

ABSTRACT

739 epizootics of anthrax were registered in 244 stationary disadvantaged settlements on the territory of the republic.

In the present work there are modern data on epizootological epidemic monitoring of anthrax in the central and southern economic zones of the Republic of Sakha (Yakutia), which significantly clarify the quantitative and qualitative aspects of the indicated problem. Thus, the maximum number of epizootics of anthrax (numerator) and disadvantaged settlements (denominator) is registered in the areas of the central economic zone (323/109), and their respective minimum values are in the areas of the south economic zone (2/2). It has been determined the intensity of death of domestic animals by species, the number of registrations at disadvantaged settlements, the prevalence and periodicity of epizootics by area of the zone.

Attention is focused on an episode associated with the possible, specific, infectious and epidemiological danger of group burials of people.

Keywords: epizootic-epidemiological monitoring, anthrax, anthrax burial sites, agricultural animals, stationary disadvantaged settlements, economic zones, incidence level.

Introduction

Anthrax, an especially dangerous saprozonotic infection, is now manifested in the form of sporadic cases, and sometimes in the form of outbreaks. The causative agent of anthrax, actively spreading in the abiotic environment, poses a potential danger to wild and farm animals, as well as humans. Despite the significant decline in economic damage from this infectious disease in recent decades as a result of preventive measures, the disease continues to be registered in many countries around the world, in various regions of Russia [1]. In Siberia and the Far East to the territories with marked epizootic-epidemiological disadvantage in the Siberian anthrax include the Altai Territory, the Omsk Region, the Republics of Buryatia and Tyva, the Novosibirsk Region and the Trans-Baikal Territory, as well as Central Yakutia [8] , on the territory of which, by the example and results of modern microbiological research, archaeological remains (Churapchinsky district) of the group burial of dead people, evidence of their specific epidemiological danger has been obtained [10].

On the territory of the Russian Federation there are over 35,000 registered stationary disadvantaged settlements, which account for about 8 thousand anthrax cattle cemeteries. More than 70,300 group and single cases of diseases of humans and animals with anthrax have been identified.

Didactic interest is represented by epizootic and epidemiological events of 2016 taking place in the tundra regions of the Yamalo-Nenetsky Autonomous District, where a large epidemic outbreak of anthrax with a number of stricken - 36 people and a case of 2,650 heads of domestic deer was recorded. The source of infection were reindeer and unaccounted anthrax burials in which B.anthracis spores persisted for a long time in the Yamal soils [2]. In the before- revolutionary Yakutia, anthrax was one of the most common and dangerous infectious diseases. The first information about the occurrence of anthrax in Yakutia dates back to 1811. In subsequent years, up to 1993-1994, i.e. for more than 100 years, almost annually diseases and death of animals from anthrax were recorded [3-5, 8]. Our monitoring studies and generalizations do not exclude the relevance of anthrax on the territory of the Republic of Sakha (Yakutia). Due to the impossibility of defining clear boundaries of stationary disadvantaged settlements (SDS), the only indicators of potential disadvantage are information on the mortality of animals from anthrax and burial related to the objects of the first class of danger. According to the study results of the characteristics of anthrax burial sites (CABS), it was established that most of the burial sites on the territory of the republic date back to 1960 [4]. For the planned organization of anti-anthrax measures, it is necessary to keep a record and constant monitoring of the status of all known stationary disadvantaged settlements, since the potential danger of occurrence of new outbreaks remains in any of these disadvantaged settlements, including «dormant» or «forgotten» [8].

The aim of the study is to conduct, evaluate and forecast epizootic-epidemiological monitoring of anthrax for various disadvantaged (primarily stationary) settlements in the Central and Southern economic zones of the Republic of Sakha (Yakutia), indicating their veterinary medical and