

Table 6

Indicators of primary morbidity of adolescents 15-17 years of 2000-2014 in the Sakha Republic (Yakutia) of the main classes of diseases, by 1000 adolescents

Наименование классов болезней	2000	2005	2010	2014
All diseases of them:	784,5	1046,9	1339,9	1521,6
infectious and parasitic diseases	35,4	30,5	25,8	33,3
neoplasm	2,0	4,9	3,6	6,5
diseases of the blood and blood-forming organs	8,6	15,1	12,4	12,8
endocrine, nutritional, metabolic and immunity	32,8	30,6	21,9	26,1
mental and behavioral disorders	20,2	9,6	10,5	5,9
diseases of the nervous system	25,4	46,4	57,7	70,9
Diseases of the eye	49,6	57,5	78,9	97,5
Diseases of the ear and mastoid process	15,1	23,9	22,8	26,2
diseases of the circulatory system	7,7	16,9	13,8	19,6
respiratory diseases	343,8	416,5	622,3	691,0
diseases of the digestive organs	49,3	105,8	126,9	184,1
diseases of the skin and subcutaneous tissue	53,6	80,8	76,5	89,5
diseases of the musculoskeletal system	16,9	34,1	54,7	57,2
diseases of the genitourinary system	30,7	44,1	45,3	52,4
complications of pregnancy, childbirth and the postpartum period ¹	13,4	18,6	19,4	–
congenital anomalies (birth defects), deformations and chromosomal abnormalities	2,7	2,9	3,3	2,3
injury, poisoning and certain other consequences of external causes	78,7	114,8	152,5	134,6

References:

1. Baranov A.A. Zaboлеваemost' detskogo naseleniya Rossii (itogi kompleksnogo mediko-statisticheskogo issledovaniya) [Russia incidence of child population] [(results of comprehensive medical and statistical research)]. Zdravookhr. Ross. Federatsii [Health of Russian Federation], 2012, №5, P. 21-26.

2. Baranov A.A. Sostoyanie

zdorov'ya detej v Rossijskoj Federatsii kak faktor natsional'noj bezopasnosti [The health of children in the Russian Federation as a national security factor] Puti resheniya sushhestvuyushih problem [Ways to solve the existing problems]. Spravochnik pediatri [Pediatrician guide], 2006, № 3 P.9-14.

3. Baranov A.A. Sostoyanie zdorov'ya detej v Rossijskoj Federatsii [The health of children in the Russian

Federation.]. Pediatriya [Pediatrics], 2012, № 91, P. 9-14.

4. Kozlov V. K. Zdorov'e detej i podrostkov na Dal'nem Vostoke [The health of children and adolescents in the Far East]. Novosibirsk: SO RAMN, 2003, 288 p.

5. Chichakhov D. A. Nauchnoe obosnovanie anesteziologo-reanimatsionnogo obespecheniya detskogo naseleniya regiona (na primere Respubliki Sakha (Yakutiya)) [Scientific substantiation of anesthetic and resuscitation to ensure the child population in the region (on the example of the Republic Sakha (Yakutia))]. Avtoref. dis. ... d-ra med. nauk [Abstract MD Dis.], SPb, 2011, 35p.

Information about authors

Burtseva Tatyana Egorovna - MD, Deputy Director for science of the FGBNU YNC CMP, Yakutsk, Russia, bourtsevat@yandex.ru;

Grigorieva Antonina Nikolaevna, Deputy Minister of Health of the Republic of Sakha (Yakutia), Yakutsk, Russia

Chichahov Dulustan Anatolevich, MD, chief pediatrician of the Ministry of Health of RS (Y), Yakutsk, Russia;

Evseeva Sardana Anantolievna - postgraduate student of GBOU VPO "Saint-Petersburg state pediatric medical Academy", Saint-Petersburg, Russia, sarda79@mail.ru.

E.N.Alexandrova, P.M.Ivanov, M.I.Tomskiy, A.S.Golderova, T.I.Nikolaeva, F.G.Ivanova, V.M.Nikolaev

MODERN TENDENCIES OF LUNG CANCER MORBIDITY IN YAKUTIA

ABSTRACT

Analysis results of 6865 cases of lung cancer morbidity in the territory of the Republic Sakha (Yakutia) in the period of 1991-2010 are presented. Most of them are men-4789(69.8%), women-2076 (30.2%). Populational, territorial and temporal regularities are found out.

Keywords: lung cancer, morbidity, prevalence, dynamics, prognosis.

INTRODUCTION

Annually in the world about 1.5 mln new cases of lung cancer are expected, it's about 12%. According to the MAIR data in economically developed countries three kinds of diagnosed cancer are singled out: men have cancer of prostate gland,

lung, bronchial tubes and colorectal cancer, women-cancer of mammary gland, cervix, lung, bronchial tubes, colorectal cancer.

In some developed countries the highest data of lung cancer morbidity of both sexes are observed (Population is 100000) in Germany-63.7 and

13.5, in England-51.2 and 22.0, in Canada-80.2 and 30.8, in the USA-85.9 – black people, 36.8- white people, in some provinces of China-44.4, Korea 49.0, Japan-41.9. The lowest data of men are in Uganda (Africa)-3.9. The highest data of lung cancer are found out in Canada-30.8-women,

the USA-36.8 – black people.

According to MAIR experts' opinion the main reason of lung cancer is smoking (80%-men, 50%-women and only 1-2% -air pollution. [3,4]

In Russia in 2010 57000 cases of lung cancer are found out: men-84.9%, women-15.1%. In 2000-2010 data of new cases lowered (-12.9%), especially men by 12.3% but women data increased by 4.1%.

In general structure of oncological morbidity lung cancer is in the 3rd place (11.0%), but men are in the 1st place (19.5%) and women are in the 11th place (3.8%).

"Rough" morbidity data are 41.1, standardized-25.2 to 100000 population. Risk of malignant tumor of breathing organs of men is higher 10 times than of women. Morbidity is increasing with age, maximum age of men is 70-74—408.8 and of women 61.0 in the group of 80-85 years old. 64.3% of men and 72.4% of women are in the group of more than 60 years old. [1.2]

Research aim is finding out populous, territorial and temporal regularities of lung cancer morbidity of population in Yakutia.

MATERIALS AND METHODS

Initial documents of 6612 patients with the first diagnosis of lung cancer in the period of 1991-2010 were analyzed. It's 17.5% (in RF 11.0% in 2010) out of

37380 registered MT in the Republic of Sakha. (Fig.1)

Men make up 68.5%, the ratio of men and women is 2.2:1.0, Annual structure of MT morbidity of men and women is presented in Figure 2. Data calculation is done by applied program "Statistica".

RESULTS AND DISCUSSION

A portion of lung cancer in the structure of man MT morbidity is 24.1 (RF-19.5%), woman – 11.3%(RF-3.8%) in the analysed period of time. It's noticed that lung cancer of men is in the first place for many years, women's lung cancer is in the second place after mammary gland cancer (16.5%). According to the received data standardized data (SD) of lung cancer morbidity of men had a bright negative dynamics. By the end of observation the SD morbidity of the given population (2010-53.9±3.34) made up to 76.0% of the first level (1991-70.9±3.56% 000, $p<0.05$) Morbidity coefficient of women in 2010 made up to 64.4% (32.2±2.10 in 1991 till 18.5±1.86% 000 in 2010, $p<0.05$). Thus, average annual lowering of women was more significant and

made up 1.85%, but men – 1.25%. Dynamics of rough data (population 100000) proves lung cancer morbidity character (13.0%), at the same times dynamics of SD had an opposite tendency (-24.6%). It stresses a high morbidity level among old and elderly people.

During the given period of time a number of population in the Republic Sakha lowered by 3.6% because of lowering men number (-5.9%), young people of 30 (-7.2%), old people of 60 and more years old (-1.7%). It's noticed a high level of men number lowering till 30 years old (-8.0%) and older than 60 years old (-4.7%). The given coefficient of women till 30 years old is 6.3% while those above 60 and more years old women (-0.32%)demonstrated positive dynamics. A change in the aged population structure, average annual lowering (-0.35%) can be explained

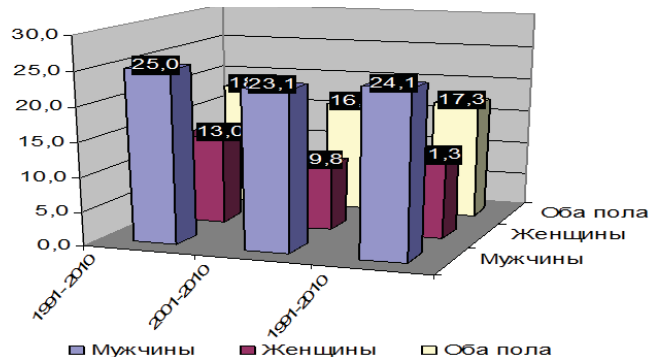


Figure 1. Dynamics of the incidence of lung cancer in the population of RS(Ya) in the period from 1991 to 2010 on 100 thousand population

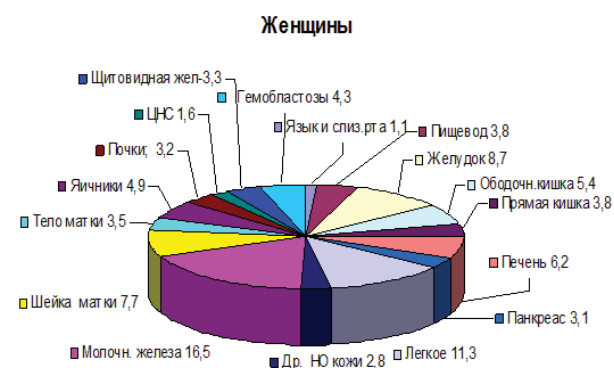
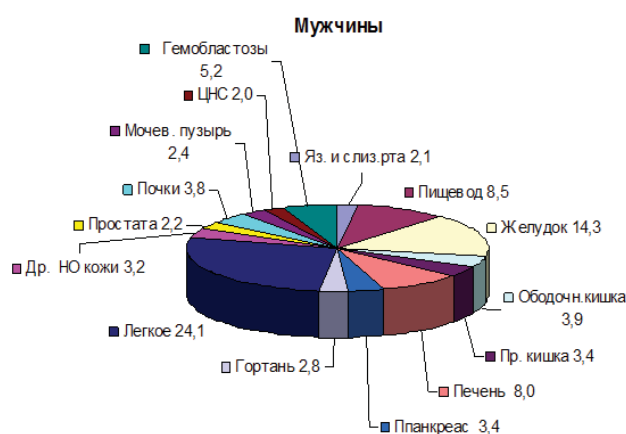


Figure 2. The structure of cancer incidence in the population of the RS (Y) for years 1991-2010. (%)

by unfavorable migratory movement in Yakutia. However, the migratory activity lowering is not compensated by increasing demographic data.

According to the analysis results man morbidity with lung cancer increased (from 40.9 in 1991 to 50.1‰ in 2010) but SD lowered (from 70.9 to 53.9‰ accordingly), meanwhile woman morbidity data were stable (population 100000) (22.0 in 1991 and 22.4 in 2020), SD lowered, from 32.2 in 1991 to 18.5‰ in 2010 (Table 1).

Extrapolation of morbidity tendency (1991-2010) allowed defining a possible morbidity level of both populations in the nearest future. Thus, SD analysis in dynamics prognosticates by 2020 lowering men morbidity by 51.5%, average annual lowering is -3.0%. Lung cancer level of women will be 66.5% of the first data, average annual lowering is 2.15% (Fig.3).

Age lung cancer morbidity data of five-year-age groups are presented in Table 2. During the analyzed period lung cancer morbidity data of all age groups not depending on a sex have a tendency to lower except age group of 70 and more years old. In this group average annual increase made up 0.45% (from 196.4 in 1991 to 346.0 ‰ in 2010). According to the prognosis by 2020 a possible level (402.1) lung cancer morbidity of 70 year-old will increase by 33.1% exceeding the first data (301.8 ‰ in 1991). A possible level of aged women will be 228.5 ‰ by 2010, it's higher by 50.0% of 1991 (152.4 ‰).

Average age of fallen ill patients in 2010 was 59.0 (RF-63.4) for men, for women – 59.7 (RF-63.2). Age median is 55.3 (RF-63.4) and 56.2 (RF-63.3) accordingly for men and women.

Yakutia is considered to be a region of a high morbidity risk with lung MT (RS(Y) – 63.9 ± 3.7 ‰, RF-54.0 in 2010) – men, women – (20.2 ± 2.0 , RF-7.1 ‰ accordingly) among 87

administrative – territorial zones of RF (Table 3).

The first three places of men lung cancer morbidity (population 100000) are occupied by Allaikha (RD-95.0 ‰), Verkhnekolymysk (95.1), Olekminsk (75.9), women – Moma (41.7), Tatta (41.4), Allaikha (40.3 ‰). The lowest level of men morbidity is in Gorny (19.7), Eveno-Butantaisk (28.9) and Churapcha (31.1 ‰), of women morbidity-

Oimyakon (7.3), Mirny (9.1), Neryungri (10.5 ‰).

Relatively a high morbidity, higher than average Republican data (33.8 ‰) can be observed in South Yakutia ($SD-46.7 \pm 5.0$ ‰), Beyond the Polar circle zone (38.7 ± 2.0) and in the Western Yakutia (39.2 ± 9.7 ‰) (Table 4).

Component analysis of MT morbidity dynamics was used to settle a problem of morbidity increase depending on

Table 1

Dynamics of incidence of the population in RS (Ya) lung cancer for 1991-2010 and its probable characteristic for 2020 (0/000)

Year	Both sexes		men		women	
	DIRI	DISI	DIRI	DISI	DIRI	DISI
1991	27,7–30,9	37,7–41,4	38,2–43,6	56,9–63,4	15,7–19,3*	19,1–23,0*
1992	31,5–35,0	40,6–44,5	42,2–48,0	59,4–66,1	19,3–23,2*	22,7–27,0*
1993	30,1–33,5	39,8–43,8	41,5–47,2	59,1–65,9	17,2–21,0*	20,9–25,0*
1994	30,4–33,9	38,9–42,8	37,2–42,7	50,2–56,5	22,2–26,5*	25,7–30,3*
1995	31,7–35,3	24,0–27,2	43,9–49,9	58,8–65,7	18,2–22,1*	20,8–25,0*
1996	33,0–36,6	40,8–44,8	46,8–53,1	61,4–68,5	17,8–21,7*	20,5–24,7*
1997	33,6–37,4	40,6–44,7	43,7–49,8	56,9–63,8	22,2–26,5*	24,1–28,6*
1998	30,3–33,9	35,6–39,4	37,8–43,5	47,9–54,3	21,5–25,9*	23,0–27,4*
1999	28,2–31,7	32,1–35,8	38,8–44,6	47,9–54,3	16,5–20,3*	16,3–20,1*
2000	32,4–36,1	34,3–38,1	41,5–47,5	49,5–56,0	21,9–26,3*	19,3–23,5*
2001	31,8–35,5	33,8–37,6	39,3–45,1	45,6–51,9	22,9–27,4*	21,7–26,1*
2002	31,7–35,3	33,8–37,6	44,6–50,8	51,0–57,7	17,6–21,6*	16,4–20,3*
2003	28,8–32,4	31,9–35,7	40,9–47,1	49,7–56,5	15,8–19,6*	15,2–19,0*
2004	32,0–35,8	34,6–38,5	44,9–51,4	52,4–59,4	18,3–22,4*	17,7–21,7*
2005	30,8–34,5	33,2–37,1	45,4–51,9	53,9–61,0	15,5–19,3*	14,4–18,0*
2006	31,7–35,5	33,5–37,4	45,9–52,5	53,9–60,9	16,9–20,8*	14,9–18,6*
2007	32,4–36,2	32,7–36,5	43,9–50,2	49,8–56,6	20,1–24,4*	17,0–20,9*
2008	29,3–32,9	30,9–34,6	44,3–50,8	53,0–60,0	13,9–17,5*	12,8–16,3*
2009	36,9–41,0	36,0–40,0	53,1–60,1	62,7–70,3	20,3–24,6*	16,3–20,2*
2010	31,2–34,9	32,6–36,5	46,8–53,4	54,0–61,1	15,3–19,0*	13,6–17,2*
2020	35,2	30,0	54,1	52,7	18,1	10,7

Explanatory note: DIRI - dynamic interval of a rough index, DISI - dynamic interval of the standardized indicator; * – distinction statistically is significant in comparison with men ($p < 0.05$).

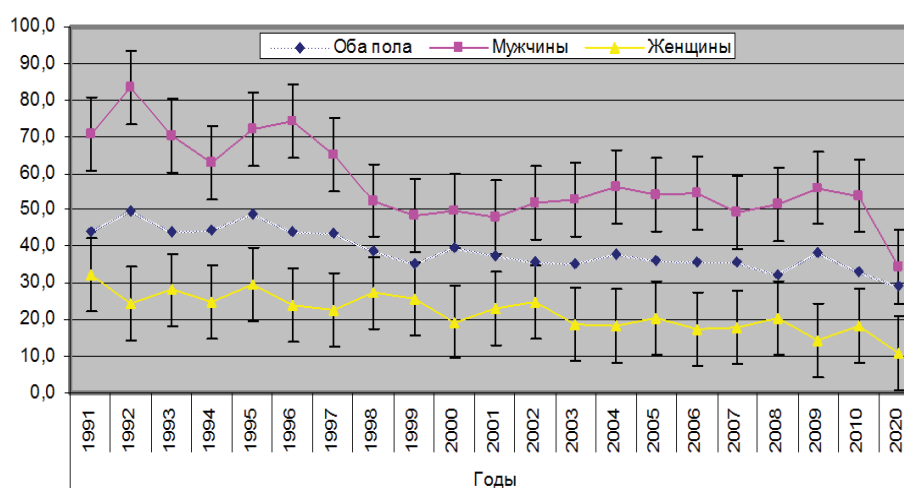


Figure 3. Dynamics of standardized incidence rates of lung cancer the population of the RS(Ya) for the 1991-2020 and its forecast in 2020

Table 2

**Dynamics of incidence of the population in RS (Ya) lung cancer
depending on gender and age for 1991 - 2010**

Year	Number of patients with for the first time in life the established diagnosis, on 100000 population									
	до 29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	>70
Both sexes										
1991	0,0	1,6	6,3	25,6	35,1	85,3	205,5	245,1	334,7	196,4
1992	0,2	1,7	6,4	20,2	39,6	83,9	163,7	279,3	397,3	299,2
1993	0,2	2,7	3,7	9,8	44,7	92,3	183,4	313,1	289,9	181,9
1994	0,0	2,0	7,6	17,3	35,7	83,7	170,0	248,0	309,1	263,5
1995	0,2	0,0	1,9	3,3	10,6	19,4	42,1	67,7	134,2	134,1
1996	0,2	3,5	4,9	24,9	44,7	83,5	157,0	252,8	303,3	236,9
1997	0,0	0,0	5,0	20,5	49,1	74,8	173,7	211,9	332,8	249,2
1998	0,0	4,1	8,4	19,5	26,8	82,0	122,9	198,2	303,3	235,3
1999	0,4	1,5	2,2	14,2	34,9	78,8	129,4	186,7	212,5	222,1
2000	0,2	0,0	2,4	12,0	34,3	74,3	88,7	211,5	269,2	320,0
2001	0,0	0,0	5,1	7,6	38,7	69,6	100,4	198,6	266,1	279,6
2002	0,0	0,0	8,2	13,2	43,1	67,1	130,9	152,5	255,2	245,4
2003	0,6	1,4	2,9	8,2	31,9	63,8	109,5	183,8	272,0	232,3
2004	0,0	0,0	3,0	14,5	30,3	71,8	146,9	181,0	239,1	282,2
2005	0,2	0,0	0,0	7,6	26,1	68,3	102,4	168,8	299,4	272,9
2006	0,0	0,0	3,0	14,9	20,8	59,4	148,3	177,1	227,3	270,1
2007	0,2	0,0	1,5	10,1	28,1	62,4	110,6	181,1	205,8	314,5
2008	0,9	2,8	1,5	12,0	18,7	55,8	109,7	209,3	187,2	208,8
2009	0,0	1,4	0,0	9,3	32,1	64,9	118,9	191,5	209,9	346,0
2010	0,0	1,4	5,9	17,4	21,0	60,5	85,3	192,3	260,3	217,1
The forecast to 2020	0,3	-	-	6,2	17,4	48,6	64,2	131,0	160,1	313,8
Men										
1991	-	3,1	7,0	43,3	65,6	143,6	340,1	395,3	503,3	301,8
1992	0,3	3,3	8,9	24,2	52,9	143,6	262,6	443,3	636,0	587,6
1993	0,3	5,2	7,3	17,9	78,0	162,0	297,1	442,5	439,8	316,0
1994	-	1,9	13,0	25,6	61,5	150,5	249,1	262,2	384,0	431,8
1995	-	-	11,4	28,1	78,9	136,1	284,2	389,9	383,3	496,2
1996	0,4	6,7	3,8	43,1	81,3	136,7	268,4	375,0	443,4	497,4
1997	-	-	5,9	38,7	82,5	126,5	280,5	271,2	470,8	376,3
1998	-	5,3	14,3	28,0	41,0	115,4	185,5	308,1	402,0	335,8
1999	0,8	-	2,2	23,8	65,4	140,5	214,1	284,9	315,8	324,4
2000	-	-	4,7	17,3	54,9	129,8	151,3	370,2	371,1	406,4
2001	-	-	5,0	8,7	61,7	118,9	145,7	313,4	335,6	399,4
2002	-	-	16,2	26,3	70,9	121,8	236,8	261,5	319,7	402,6
2003	0,8	2,9	2,9	14,2	50,5	118,7	190,1	317,1	456,0	366,0
2004	-	-	6,0	24,5	52,5	121,0	255,2	284,7	378,6	471,9
2005	-	-	-	13,0	49,0	137,8	187,5	300,5	506,5	444,7
2006	-	-	6,1	24,9	38,2	100,4	278,4	320,3	404,9	395,1
2007	-	-	3,0	14,7	43,4	94,9	223,0	298,2	386,0	429,6
2008	1,7	5,6	3,0	21,5	26,0	99,2	219,7	389,9	313,0	339,8
2009	-	-	-	16,0	56,5	121,7	206,7	416,1	347,4	505,4
2010	-	-	9,0	26,0	41,2	115,0	164,3	329,0	478,5	360,0
The forecast to 2020	-	-	0,4	8,9	23,9	82,0	134,2	287,9	313,4	402,1
Women										
1991	-	-	5,5	7,1	4,7	26,4	85,2	135,1	239,8	152,4
1992	-	-	3,8	16,0	26,3	24,4	73,5	157,9	256,6	181,5
1993	-	-	-	2,3	11,6	23,9	76,5	216,3	197,9	127,7
1994	-	2,0	1,9	8,8	10,1	18,9	95,9	204,6	257,1	194,9
1995	-	-	2,0	4,4	12,1	21,6	73,0	119,8	211,4	190,6
1996	-	-	6,0	6,5	8,4	33,5	53,8	158,1	214,0	124,8
1997	-	-	4,1	2,2	15,9	26,0	75,6	165,4	243,5	193,5
1998	-	2,8	2,1	10,9	12,7	50,3	66,2	110,0	239,0	178,5
1999	-	3,0	2,3	4,4	4,9	19,8	53,8	107,3	144,3	169,4
2000	0,4	-	-	6,6	14,5	20,8	33,4	84,1	200,8	245,0
2001	-	-	5,2	6,6	16,6	22,2	60,7	106,1	219,1	222,7
2002	-	-	-	-	16,4	14,9	37,1	64,8	211,2	170,1
2003	0,4	-	2,8	2,3	14,7	15,0	40,6	82,6	147,3	167,5
2004	-	-	-	4,7	9,7	28,7	54,5	103,0	145,0	189,8
2005	0,4	-	-	2,5	4,8	8,3	30,1	69,6	161,6	188,8
2006	-	-	-	5,3	4,7	24,3	39,0	69,0	109,8	208,6
2007	0,4	-	-	5,6	14,1	34,4	18,0	92,9	87,1	257,4
2008	-	-	-	2,9	11,9	18,2	20,2	73,4	105,6	143,6
2009	-	2,8	-	3,0	9,8	15,5	48,1	22,7	121,2	258,9
2010	-	2,9	3,1	7,5	2,6	15,7	36,8	169,3	97,8	146,5
The forecast to 2020	-	-	-	1,0	5,8	14,2	-	8,9	17,6	228,5

“aging” of population and new or existing intensification of aetiology factors (Table5).

According to the analysis the first decade of analyzed period found out an increase of men number with the first diagnosis of MT (6.67%), because of a number change and age population structure (4.74%) and “risk to fall ill” (1.93). But at the same time men morbidity dynamics with lung cancer (2.36%) was positive under the influence of “risk to fall ill” increase.

A general number of women with MT (9.65%) is connected with a number change and age structure (9.71%). A low number of new patients with lung MT (-4.76%) can be explained by a low

Table 3

**Annual incidence of the population of
uluses of RS (Ya) of lung cancer
for 2001-2010,
(on 100 thousand population)**

District	Both sexes	Men	Women
Abyjskij	42,1	51,7	32,9
Aldanskij	45,4	69,1	21,6
Allaihovskij	67,2	95,0	40,3
Amginskij	24,3	29,8	19,2
Anabarskij	29,8	44,6	15,0
Bulunskij	32,7	39,4	25,6
Verhnevilyujskij	39,3	41,8	36,8
Verhnekolymskij	65,9	95,1	35,5
Verhoyanskij	41,0	51,3	30,7
Vilyujskij	35,8	38,7	33,1
Gornyj	18,4	19,7	17,1
Zhiganskij	39,4	43,2	35,9
Kobyajskij	31,0	42,9	19,5
Lenskij	49,4	73,3	26,1
M-Kangalasskij	40,3	53,4	27,8
Miminskij	23,3	37,2	9,1
Momskij	46,8	52,1	41,7
Namskij	27,5	36,8	18,9
Neryunginskij	29,4	49,7	10,5
Nizhnekolymskij	35,4	54,3	16,7
Nyurbinskij	32,9	39,5	26,5
Ojmyakonskij	23,9	38,3	7,3
Olekminskij	50,1	75,9	24,5
Olenekskij	41,6	63,3	19,6
Srednekolymskij	32,3	44,0	21,1
Suntarskij	33,0	33,7	32,2
Tattinskij	37,9	34,4	41,4
Tomponskij	38,0	64,7	11,7
Ust'-Aldanskij	25,5	36,0	15,6
Ust'-Majskij	28,5	38,2	18,0
Ust'-Yanskij	27,0	38,5	14,5
Hangalasskij	27,0	37,2	16,0
Churapchinskij	28,8	31,1	26,4
Ehveno-Bytantajskij	32,6	28,9	36,3
Yakutskij	32,5	50,8	16,2
RS(Ya)	33,8	48,3	19,9

Table 4

Annual incidence of the population of territories of RS (Ya) of lung cancer for 2001-2010. (on 100 thousand population)

Zone RS(Ya)	All population		Men		Women	
	RI	SIw	RI	SIw	RI	SIw
Polar	38,7±2,0	45,2±7,4	50,5±3,3	66,4±3,8	26,8±2,4	28,5±2,4
East	30,4±1,8	30,8±5,6	47,6±3,2	54,2±3,4	12,0±1,6	11,7±1,6
Western	35,1±1,9	39,2±9,7	38,3±2,9	47,5±3,2	31,9±2,6	32,2±2,6
Central	29,8±1,8	36,9±7,5	37,6±2,8	52,6±3,4	22,2±2,1	24,2±2,2
Southern	49,7±2,3	46,7±5,0	74,4±4,0	84,1±4,3	25,4±2,3	20,3±2,0
Big cities	31,5±1,8	36,3±2,8	50,0±3,3	68,9±3,9	14,4±1,7	15,3±1,8
RS (Ya)	33,8±1,9	38,6±2,0	48,3±3,2	63,9±3,7	19,9±2,0	20,2±2,0

Explanatory note: RI - rough index, SIw - the standardized (world) indicator,* - distinction statistically is significant in comparison with men (p < 0.05).

Table 5

Components of an increase of number of again revealed patients with lung cancer in RS(Ya) from 2001 to 2010, (% of a datum level)

Localization of a tumor	General increase	Including in connection with change	
		of number and age structure of the population	of risk of disease
Men			
All new growths - (C00 – 97)	6,67	4,74	1,93
Lungs (C33, 34)	2,36	1,03	1,33
Women			
All new growths - (C00 – 97)	9,62	9,71	-0,09
Lungs (C33, 34)	-4,76	0,87	-5,62

influence of "risk to fall ill" factor (-5.62).

CONCLUSION

Thus, to achieve positive results aimed at perfection of "oncoepidemiological" situation in the Republic Sakha it's necessary to pay a special attention to a negative demographic process and to intensify an effort to get rid of a risk factor to increase MT morbidity.

REFERENCES

1. Chissov V. I., Starinsky V. V., Petrov G. V. Zlokachestvennye novoobrazovaniya v Rossii v 2010 g. (zabolevaemost' i smertnost') [Malignant Tumors in Russia in 2010 (morbidity and mortality)]. Moscow, 2012, p.260.
2. Statistika zlokachestvennykh novoobrazovaniy v Rossii i stranah SNG v 2008 g. / pod red. M.I.

Davydova i E.M. Aksel' [Statistics of malignant Tumors in Russia and CIS in 2008 (edited by Davydov M. I., Aksel E.M.) Vestnik RONC im N.N. Blohina [Vestnik RONC RAMN named after N. N. Blokhin RAMS]. Moscow, 2010, 160 p.

3. Cancer incidence in Five Continents, Leon. MAIR, 2002.

4. Mackay J. Eriksen M. Shafey O. The Tobacco Altos. 2nd edition. Atlanta: American Cancer Society; 2006

Authors:

YSC CMP, Yakutsk, Russia:

Alexandrova E. N. – researcher, Head of YROD Polyclinic

Ivanov P. M. – MD., prof., head of cancer course MI NEFU

Tomsky M. I. – MD., prof., director

Nikolaeva T. I. – PhD, MD, senior researcher, deputy director YROD

Ivanova F. G. – MD, head of lab., YROD

Nikolaev V. M. – PhD, senior researcher, e-mail: nikolaev1126@mail.ru;

Colderova A. S. – MD, chief researcher, e-mail: hoto68@mail.ru.

ORIGINAL RESEARCHES

G.A. Usenko, D.V. Vasendin, A.G. Usenko VARIATIONS OF HOMEOSTASIS PARAMETERS IN HYPERTENSIVE PATIENTS

ABSTRACT

The aim of the study was analysis of the effectiveness of targeted antihypertensive treatment based and are not based on the correction of sympathicotonia in patients suffering from arterial hypertension, with choleric and sanguine temperament, and the activity of the renin-angiotensin-aldosterone system in phlegmatic and melancholic, for example, reduction of total cholesterol, total fraction of lipoproteins of low and very low density, the value of atherogenic index and increase in high density lipoprotein and magnesium in the blood serum. It is established that the content of magnesium and atherogenic lipid fractions, and the proportion of persons with complications in terms of antihypertensive therapy and, moreover, is not associated with the correction features of psychosomatic status, high anxiety phlegmatic and melancholic persons are at high risk of developing complications of hypertension.

Keywords: hypertension, magnesium, lipids, variants of antihypertensive therapy.