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Health Status of Adolescents in the Republic Sakha (Yakutia)

ABSTRACT

This article analyzes health status indicators of adolescent population of the Republic Sakha (Yakutia), including the dynamics of diseases, socially conditioned diseases, disability and mortality among the teenage population. Negative trends of deceasing of adolescent population, the increase in performance of both primary and general morbidity were established. Analysis of the dynamics of disability among children and adolescents showed a reduction in performance. Among the main causes of deaths in adolescence are external causes, there is no downward trend.

Keywords: adolescents, morbidity, disability, mortality.

The health status of any nation in prospect is determined by health of children as well as adolescents. Adolescence is a period that has high potential for intellectual and physical development, during which forms social skills, including those related to health. For the Republic of Sakha (Yakutia) and Russia as a whole problem the adolescent health status is still actual.

The aim of this research was estimation of adolescent health status and analyzing of trends of their morbidity, disability and mortality in the Republic Sakha (Yakutia).

Analysis of state statistical reports showed that as of 2013 in the Republic Sakha (Yakutia) live 254,298 thousand children under the age of 17 years, inclusive, of which 40,052 15-17 yearsadolescents.

In 2013, in comparison with 2005, the total population increased by 4.9 thousand people (0.5%), and the child population from 0 to 17 years to 25.9 thousand people (8.5%). It should be noted that the number of adolescents in the Republic of Sakha (Yakutia), aged 15-17 years was increased till 2004 (60.8 thousand.), and then began to decrease each year. In 2013 amounting of adolescents became 40.052 thousand, that 20.0 thousand less (33.3%) than in 2005 (table 1).

Analysis of adolescentmorbidity in Republic of Sakha (Yakutia) showed a negative trend of increasing indicators of both the general and primary morbidity.

Compared with 2000, the primary morbidity increased almost 2 time, and the general is 2.7 times (table 2).

In the Republic of Sakha (Yakutia) among primary morbidity in adolescents 15-17 years the 1st place stably occupy respiratory disease with increasing incidence from 2000 in 2 times. At the 2nd place – diseases of the digestive system (159,5 ‰, with an increase in 3.3 times). III place –injury and poisoning and certain other consequences of external causes (115,9 ‰, with an increase in 1.5 times) (table 3).

In dynamics, there is increase of general morbidity in all classes and individual diseases. In structure of morbidity the 1stplace are take respiratory diseases, 2^{d} and 3^{d} place are occupied by diseases of the eye and diseases of the digestive system (table 4).

Against the background of a high level of general morbidity of 15-17 years aged adolescents in the structure of pathology an important role is played by socially significant diseases (HIV, tuberculosis, drug addiction,

sexually transmitted infections by et al.). Causes of social diseases among adolescents believe social maladjustment, low hygiene knowledge, environment condition and early sexual activity. So, abortions among girls aged 15-17 in 2013 amounted to 1.2% of the total number of abortions in all age groups. Of these, 22.3% were spontaneous, 70% health (legal), unspecified 9%, 7% and 1% were produced for medical and social reasons.

Analysis of socially significant diseases indicators of adolescents aged 15-17 years showed a reduction of infections, transmitted mainly through sexual contact. The number of syphilis and gonorrhea cases in 2005 was 36.4 and 97.7 per 100 thousand of teenage population, by 2013 noted the decreasing by 2.5 times (14.6 and 38.9, respectively).

The tuberculosis morbidity in adolescents in 2012 decreased compared to 2005 by 1.7 times (from 51.3 to 30.3 per 100 thousand.), but in 2013 again showed an increase in this indicator till 51.1 per to 100 thousand.

There is still high number of adolescents who are on preventive supervision related with alcohol abuse (257.8 per 100 thousand.), drugs (60.8 per 100 thousand.) and non-narcotic drugs (55.9 per 100 thousand) (table 5).

For better understanding of social determinants of health and well-being of adolescents, we conducted a survey research, considering demographic and social impact on the health of adolescents (11-17 years) in the Republic of Sakha (Yakutia). Our study was conducted in July and November 2011 and May 2012 in Yakutsk city and 7 districts of the Republic Sakha (Yakutia) –Olekminsky, Ust-Maysky, Suntarsky, Aldansky, Tomponsky, Allaykhovsky, Churapchinsky.

We conducted an anonymous opinion poll (dispenser group questioning) of pupils from different educational institutions, using questionnaires the Global epidemic surveillance system health status of schoolchildren with support from WHO / UNAIDS / UNICEF / UNESCO. 748 adolescents aged 10-17 yearswas interviewed. There were 43.9% of boys and 56.2% girls.

According to results of the studies, every third boy and girl answered that never smoked. 35% of boys and 38% girls tried to smoke, 25% of adolescents of both sexesoccasionally smoke. Regularsmokersanounted 7% of boys and girls. Age-related test of first smoking among girls showed the following parameters: 14 years – 23%, 13 years – 12%, 15 years – 15.7%. The boys also start smoking at age 14 years – 26.7%, 13 years – 12% 15 years – 13%. The intensity of smoking was as follows: 1 cigarette per day in 27% of teenage smokers, then 6-10 cigarettes per day in 25%, 3-5 cigarettes per day at 23%.

Children and adolescents had a bad example of smoking due to their immediate environment: friends – 58%, fathers – 33%, mothers – 29%, teachers – 11%. Children of parents who smoke, smoke more frequently than children of non-smokers ($p < 0.04$).

About 30% of teens surveyed intake alcohol. 75% of them prefer beer, 10% wine, 3% vodka. The debut of the first test of alcohol among girls often been in 14-15 years – 42%, in 12-13 years – 32%, in 10-11 years – 11%; in boys the same age trend: 14-15 years – 39%, 12-13 years – 24%, 10-11 years – 16%.

From whole number of interviewed teenagers, 8 persons admitted to the use of narcotic drugs (1.1%), including 6 boys and 2 girls. They rest hashish, cannabis, marijuana and cocaine. The reason for the test, as in the case of smoking and alcohol was curiosity and the desire to feel like an adult.

Another actual medical and social problem of the modern society is children's disability. A level of disability, along with infant mortality, morbidity, physical development and demographic processes is a basic indicator of the health status of the child population. According to WHO experts (Healthforall.DateBase. - Copenhagen: WHO Regional Office Europe Update, 2006), the number of children under the age of 16 years with a limited life and social functions is about 10% of the world population, i.e. more than 120 million.

At the end of 2013 in the Republic Sakha (Yakutia) registered 1091teenager with disability, representing 18.3% of all children with disabilities. Of these, 8.8% – are teenagers with newly installed disabilities.

In recent years, there has been tendency to relative reduction of child, including and adolescent disability. Compared with 2006, the number of young people with disabilities in 2013 decreased by 6.5%. However, it should be noted decrease in the total number of child and adolescent population over the years (table 6).

The structure of the disability causes remains the same: diseases of the nervous system and sense organs 63.9%, congenital malformations 62%, mental illnesses 34.9%.

Another important socio-demographic problem ismortality of adolescents, especially from unnatural and violent deaths. Main place of deaths of teenagers take external causes. Among them, constitute a serious problem suicidal behavior, road traffic injuries, domestic violence, both physical and psychological, the latter is often the cause of suicide in adolescents.

In 2010, we studied202 cases of death among adolescents, which were registered by the Bureau of medical examination during the period 2005-2010. As well, we analyzed data of the Federal State Statistics Service, the territorial authority of the Federal State Statistics Service of the Republic of Sakha (Yakutia), the State report on the health state of the Republic of Sakha (Yakutia) population in 2009.

The following featuresrevealed that the lethality rate among adolescents were related with acts of violence, including suicide and accidents, which is one of the most negative trends in mortality of the child population. There were significant gender differences – deaths from unnatural causes among young men were almost 3 times higher than that of girls. In most cases recorded the death of teenagers from regions of the republic – 109 cases (54%), which may be associated with lower living conditions; in Yakutsk city– 66 cases (33%), the suburbs of Yakutsk – 27 cases (13%). In the structure of mortality from external factors in almost half of all cases are the cause of suicides – 48.5% (28.2% - mechanical asphyxia by airway compression, 9.4% - acute poisoning). The most of accidents are traffic accidents – 16.3%, drowning – 6.4%, a drop of 3.9%, the impact of natural low temperatures – 4.4%.

These results are consistent with the literature, according to which in the past three decades has been an increase of suicidal behavior among young people, when indicated polyvalence risk factors: the relationship between suicide and such factors as unfavorable climate in the family, school problems.

Thus, the analysis of the health status of the adolescent population in the Republic of Sakha (Yakutia) indicates the need for further implementation of therapeutic and preventive measures to reduce the incidence of teenagers. Needs to further improve the system of social assistance to families to ensure the availability and quality of psychological assistance to children and adolescents.

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Table 1.

Indicators of child population of the Republic of Sakha (Yakutia)

for the 1990-2013 years

	1990		1995		2000		2005		2010		2013	
	Abs	%	Abs	%	Abs	%	Abs	%	Abs	%	Abs	%
Total population	1121,3	100	1035,5	100	986,0	100	950,7	100	949,4	100	955,6	100
Children 0-17 year	394,1	35,1	345,8	33,4	301,8	30,6	277,1	29,1	250,7	26,4	303,0	31,7
Adolescents 15-17 year	52,5	4,7	54,0	5,2	59,8	6,1	60,0	6,3	44,5	4,7	40,0	4,2

* The data, is based on the results of the National Population Census 2002

Table 2.

15-17 years adolescents morbidity (by 1000 the teenage population)

	2000	2006	2007	2008	2009	2010	2012	2013
Primary morbidity	763,3	1055,4	1027,0	1111,0	1244,5	1339,9	1457,4	1476,6
General morbidity	784,5	1772,0	1668,3	1740,9	1915,6	2001,6	2182,1	2136,0

Table 3.

Primary morbidity of adolescents aged 15-17 per 1,000 teenage population (according to the YRMIACdata)

Name of classes and certain diseases	by 1000 adolescents					
	2000	2006	2009	2010	2012	2013
Infectious and parasitic diseases	34,5	29,9	23,9	25,8	26,7	31,1
Neoplasms	1,9	5,2	3,7	3,6	5,7	6,8
Diseases of the blood-forming organs	8,3	11,1	16,4	12,4	15,8	14,5
Endocrine diseases, nutritional disorders	31,9	26,5	21,6	21,9	32,3	37,4
Mental and behavioral disorders	19,7	11,3	10,7	10,5	5,5	6,9
Diseases of the nervous system	24,7	41,5	44,8	57,7	59,0	72,3
Diseases of the eye	48,2	61,3	71,2	78,9	77,5	79,2
Diseases of the ear and mastoid process	14,7	20,0	21,8	22,8	24,6	24,6
Diseases of the cardiocirculatory system	7,5	12,3	14,7	13,8	16,7	20,7
Respiratory system diseases	**334,5**	**444,3**	**594,2**	**622,3**	**705,2**	**687,2**
Diseases of the digestive system	48,0	**117,4**	**119,4**	**126,9**	**149,4**	**159,5**
Diseases of the skin	**52,1**	68,2	67,6	76,5	88,1	92,5
Diseases of bones and muscle	16,4	35,7	49,2	54,7	59,5	54,2
Diseases of the genitourinary system	29,9	39,6	40,8	45,3	49,0	56,5
Pregnancy, childbirth and the postpartum period *	13,1	12,2	14,1	19,4	14,9	16,9
Congenital anomalies	2,7	2,7	3,9	3,3	3,4	3,7
Symptoms, signs and abnormal findings on clinical. and of lab. studies, not elsewhere classified, etc.	5,0	8,5	3,1	1,6	4,8	5,3
Injury, poisoning and certain other consequences of external causes	**76,6**	**113,9**	**130,6**	**152,5**	**127,0**	**115,9**

* Index, is calculated on the female population aged 15-17

Table 4.

The general morbidity of adolescents aged 15-17 years (according to the YRMIACdata)

Name of classes and certain diseases	by 1000 adolescents					
	2000	2006	2009	2010	2012	2013
Infectious and parasitic diseases	35,4	41,1	30,4	32,6	33,6	36,0
Neoplasms	2,0	8,2	7,2	7,1	4,4	3,9
Diseases of the blood-forming organs	8,6	29,1	29,2	25,4	29,7	28,2
Endocrine diseases, nutritional disorders	32,8	90,8	72,4	83,5	78,1	83,2
Mental and behavioral disorders	20,2	42,0	45,8	38,3	38,1	46,3

Diseases of the nervous system	25,4	151,6	154,4	162,1	203,4	174,8
Diseases of the eye	**49,6**	**163,8**	**193,5**	**215,4**	**236,5**	**254,0**
Diseases of the ear and mastoid process	15,1	31,9	33,4	33,4	35,4	33,3
Diseases of the cardiocirculatory system	7,7	7,9	6,5	5,1	39,7	39,9
Respiratory system diseases	**343,9**	**542,2**	**709,3**	**708,7**	**795,8**	**754,1**
Diseases of the digestive system	49,3	**204,0**	**199,0**	**202,4**	**226,9**	**230,0**
Diseases of the skin	**53,6**	91,5	89,8	102,3	112,7	113,7
Diseases of bones and muscle	16,9	68,3	80,3	89,9	98,8	88,9
Diseases of the genitourinary system	30,7	74,3	71,2	76,9	81,4	89,3
Pregnancy, childbirth and the postpartum period *	13,4	15,9	16,4	22,4	21,7	20,4
Congenital anomalies	2,7	15,0	18,3	18,9	17,2	18,8
Symptoms, signs and abnormal findings on clinical. and of lab. studies, not elsewhere classified, etc.		59,2	5,7	3,5	7,0	6,2
Injury, poisoning and certain other consequences of external causes	78,7	118,8	135,5	158,5	127,0	118,0

* Index, is calculated on the female population aged 15-17

Table 5.

Socially significant diseases in 15-17 years adolescents of Republic Sakha (Yakutia)

(with the first-ever diagnosis of 100 000 adolescents)

	2005	2006	2007	2008	2009	2010	2012	2013	РФ 2012
Addiction	-	-	-	1,9	2,1	4,3	-	2,4	3,3
Substance abuse	24,8	15,3	43,0	28,7	12,3	19,7	9,3	7,3	4,1
Consists on preventive supervision because the abuse:									
drug	24,8	47,7	44,8	13,4	14,4	35,04	2,3	60,8	н/д
non-narcotic agents	102,6	136,2	127,3	51,7	80,2	74,4	53,6	55,9	н/д
alcohol	395,7	570,5	476,9	633,4	646,0	562,9	116,5	257,8	н/д
Syphilis	36,4	15,3	30,5	30,6	37,0	32,9	14,0	14,6	21,2
Gonorrhea	97,7	93,7	71,7	95,7	86,4	81,0	53,6	38,9	28,6
Tuberculosis	51,3	49,2	30,5	38,3	39,1	32,8	30,3	51,1	32,1
HIV infection:									
Abs. number	1	-	-	-	-				н/д
On 100 000 children	1,6					4,4	-	-	

Table 6.

Dynamics of the number of teenagers who are on disability

In the Republic Sakha (Yakutia), in%

	2006		2010		2012		2013	
	abs	%	abs	%	abs	%	abs	%
Total child population	268,9	100	250,7	100	253,7	100	254,3	100
Total children with disabilities	7,172	2,7	6,166	2,5	6,045	2,4	5,952	2,3
Total teenage population	57,4	100	44,5	100	41,1	100	40,0	100
Adolescents with disabilities	1,750	3,0	1,294	2,9	1,139	2,7	1,091	2,7