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ANALYSIS OF DEMOGRAPHIC SITUATION AND HEALTH INDICATORS OF  
REPRODUCTIVE AGE WOMEN IN THE REPUBLIC SAKHA (YAKUTIA)

The article represents the results of the study of the dynamics of basic demographic indicators and indicators of reproductive health in the Sakha Republic (Yakutia) within the period 1990-2011. The authors register the decrease in reproductive potential of the population.

**Keywords:** demography, fertility, abortion, gynecological morbidity, infertility.

**Introduction.** Nowadays despite positive changes like birth wave, reduction in the number of abortions, reduction in maternal and infant mortality, the number of population is still declining. Negative consequence of depopulation is not only decline in population but also the deterioration of its quality parameters such as demographic "aging" of the population, the growing disparities in number of men and women [5]. In this connection the problem of reproductive health has a great social significance. The Concept of Demographic Policy of the Russian Federation for the period till 2025 emphasizes that demographic policy should be based on a systematic theoretical and practical research in the field of reproduction of the population with the transition to a comprehensive, integrated research on the regional level. The reproductive health plays an important role and is one the most significant problems. Demography and reproductive potential depend on several factors: the health of children and teenagers, physical and reproductive health of women and men, course and outcome of pregnancy, the level of reproductive losses [4].

The analysis of the regional characteristics of medical and demographic situation allows to identify the main trends in health indicators and to develop particular proposals for possible scientific solutions [2,3,6].

This article is based on the data collected by Health of the Sakha Republic (Yakutia) and the Territorial Office of the Federal State Statistics Service of the Sakha Republic (Yakutia). The authors have analyzed demographic and health indicators of the reproductive health of female population.

Analysis of the population dynamics in the Sakha Republic (Yakutia) shows that within the period 1990 - 2011. it decreased on 14% (1111,5 thousand people in 1990 and 955.9 thousand people in 2011) (Figure 1). The most dramatic decrease can be observed in 1993. Thus, in 1993 the population decreased on 20.6 thousand people, in 1996 it decreased on 16.9 thousand people, and in 2000 on 14.6 thousand people due to the political, social and economic changes in the country.

Before 90's the rate of population growth in the Sakha Republic (Yakutia) in comparison with the Russian Federation was much higher. In 60's the rate of population growth in the republic was the highest and reached 33.8% (Fig. 2). In the 70's and 80's the rate of population growth remained positive but compared to the 60's began to decrease on 31.4% and 26.8%. During 1992 – 2003 the

rate of population growth reached its minimum "7.2%". Since the last decade of the last century, the

rate of the population growth became negative. In the first decade of XX century it was "0.5 %". In the last decade of the twentieth century, the rate of the population growth in the Sakha Republic (Yakutia) and the Russian Federation was negative. In the first decade of this century, the rate of population decline in the Sakha Republic (Yakutia) in comparison with the Russian Federation is different. When in the Sakha Republic (Yakutia) the rate of population decline has slowed and is positive, in the Russian Federation it is negative.

During the analyzed period, the female population has decreased on 11%. In the structure of the population by sex there is a predominance of women, the proportion is 51.6% (490.2 thousand people in 2011). Sex structure of the population continues to decline. On average, for 1,000 men of all ages there are 1,068 women (in 1994 1001 women). This sex imbalance, especially in the reproductive age has a negative impact on marriage and, as a result, fertility. The proportion of women of reproductive age (according to WHO- criteria including a group of 15-49 year old women) was 53.9% (264,270 people) in 2011. During the period 1990 - 2011 there was a decrease in its population (33 233 people). At the same time there was a reduction in the number of 0-14 year old girls (on 65,594 people, or 60.6%) and 15-18 year old girls (on 2,871 people - 8.2%), which could adversely impact on the birth rate. A group of women of reproductive age (46 – 49 year old) increased on 13,478 people. The number of women older than 49 years increased on 29,104 persons (23.2%). This is the evidence of the aging of women of reproductive age and is a negative factor for reproduction.

To study the demographic situation in the Republic we have made the analysis of fertility, which is the basic demographic processes, and to a great extent determines the nature of human reproduction.

In the 90's of the twentieth century, the total fertility rate in the Republic decreased by 1.4 times. Respectively, the rate of decline was "-29.3%" (Table 1). It can be connected with poor social protection of the population, as well as the fact that the most fertile age group were women who were born in the 60-70 years and whose mothers were born in war and post-war period, when the birth rate was extremely low. The fertility rate in the first decade of the new century is a positive trend that has increased in comparison with 1999 on 23.4%. In 2011 it was 17.1 per thousand. The year of 2000 can be considered as an initial in terms of the growth of total fertility rate (Fig. 3).

More than 40 years ago, WHO- experts developed and adopted the Concept of family planning. Family planning is considered to be a component of Program of Mother and Child Health Care. The experience of the International Planned Parenthood Federation, representing more than 120 countries, suggests the possibility of solving the problem of maternal, perinatal and infant mortality by reducing the number of abortions. Every year 45 million abortions are made in the world. One in three women having abortion experiences complications, and about 500 thousand women die from complications related to pregnancy. In the last decade, Russia has been a strong tendency to reduce the number of abortions.

In 2001 in the Sakha Republic (Yakutia) the number of abortions was 45.4 per 1,000 women of reproductive age, the abortion rate - 72.6 per 100 births. According to official statistics (statistical Form #13, "Information on the termination of pregnancy before 28 weeks") during 1991-2011 the abortion rate in the Sakha Republic (Yakutia) decreased twice - from 149.5 to 72.6 per 100 births and from 100.0 to 45.4 per 1,000 women of reproductive age. There is a tendency to change the structure and types of abortions. Percentage of spontaneous abortion increased on 3%. Proportion of unspecified abortion increased on 4.3%. Proportion of induced abortions decreased on 7.3%.

One of the consequences of a large number of induced abortions among women population is a high level of maternal mortality in the country. Abortions take the second place in the structure of the preventable causes of maternal mortality in the country, which is 16.3% [5].

Maternal and perinatal mortality rates are rising among young women of reproductive age and older with intervals between pregnancies less than 2 years and a large number of abortions in history. In the Sakha Republic (Yakutia) there is a decline in perinatal (1995 - 24.07, 2010 - 8.1 per 1,000 live births) and maternal mortality (2000 - 76.1, 2010 - 25.0 per 100 thousand live births) mortality, which corresponds to a reduction in the number of abortions.

Contraception is an important aspect of family planning programs. It is the primary method of preventing unintended pregnancy. In Russia there was no contraceptive revolution - the substitution of abortion as a method of family planning methods of modern contraception, which took place in developed countries. As we know, the effective methods include voluntary surgical sterilization, intrauterine and hormone contraception. Today, thanks to the work of family planning services there is an increase in the number of women using these methods. For example, in Russia in 1990 hormonal contraception was used by 1.7 of 10,000 women of childbearing age, in 2006 - 9.8. However, the level of contraceptive use in the country remains very low. In 2006 only 23.3% of women of reproductive age used effective methods of protection from unwanted pregnancy. [1]

In Yakutia there is an increase in the number of women of reproductive age using effective methods of contraception. In 2011 the figure was 279.2. In 2000 - 254.2. The most commonly used

contraception is hormonal one. However, in our Republic as well as in Russia the use of hormonal contraception is a poorly regulated process because women don't need to have a prescription to buy tablets.

Fixture and removal of intrauterine devices is a process controlled by a doctor, so the performance of this method is the most reliable. The popularity of intrauterine contraception is reduced, but remains at a high level. This is confirmed by the number of women using IUDs: in 2000 - 187.9, in 2011 - 137.0 per 1,000 women of child-bearing age. At the same time there is a growth in the number of users of hormonal contraception. In 2000, for example, hormonal tablets were taken by 66.4 per 1,000 women of childbearing age, in 2011 - 142.2.

The analysis of the demographic situation would not be complete without the analysis of the reproductive function of the female population, the state of which can be assessed in terms of gynecological morbidity. We have analyzed the incidence of gynecological morbidity according to official statistical reporting forms (Fig. 4). In recent years there is an increase in menstrual disorders, inflammatory diseases of the pelvic organs, cervical disease, endometriosis, infertility as a consequence, which is a negative trend and reduces the reproductive potential of the female population in the Republic. The growth of female infertility in the Sakha Republic (Yakutia) within the analyzed period from 2000 to 2011 had periodic setbacks. In the first decade of the XXI century the rate of the female infertility growth was 29.6%. In 2011, the fertility rate was 149.4 per 100 000 women of child-bearing age.

Thus, these data reveal unfavorable demographic situation in the Sakha Republic (Yakutia). The implementation of the national project has led to the stabilization of fertility. However, high level of abortions, increase in gynecological morbidity with infertility as a result, and aging of reproductive age women show low reproductive potential.

The patterns lead to the need for the development and adoption of measures to improve the reproductive health of women in Yakutia. To improve the quality of care to the female population it is necessary to promote effective modern methods of contraception especially among adolescents for annual checkups with cytology smears from the cervical canal. Engaging the clinical account of women diagnosed with disorders of the reproductive system, the surgical treatment of background and precancerous conditions of the cervix with a control inspection and removal from the dispensary health of women, the introduction into medical practice of modern methods of diagnosis and treatment such as hysteroscopy and laparoscopy, which will reduce the time recovery of lost health, the construction of the Republican Center for training of professionals working in the field of maternal and child health.

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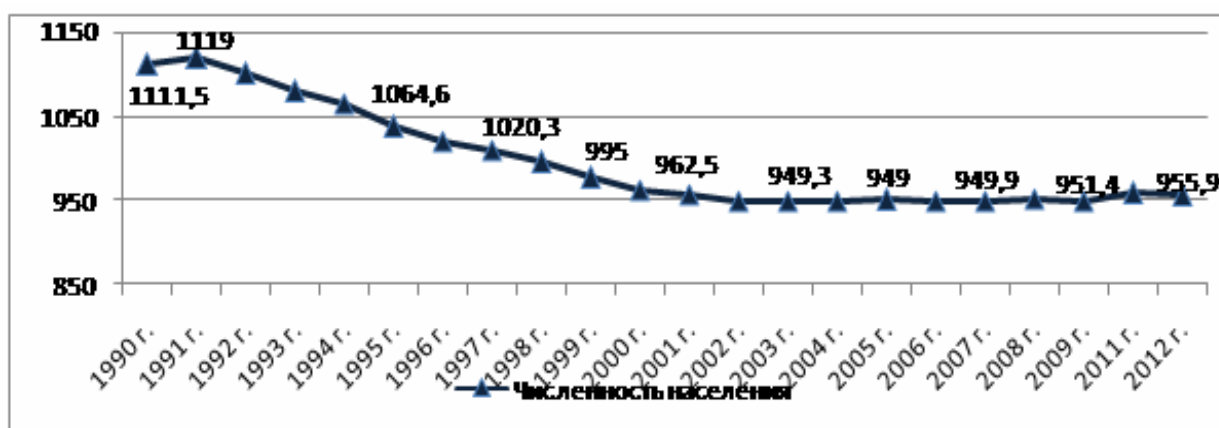


Fig.1. The population of the Sakha Republic (Yakutia) in the dynamics 1990 - 2012 (thousands people)

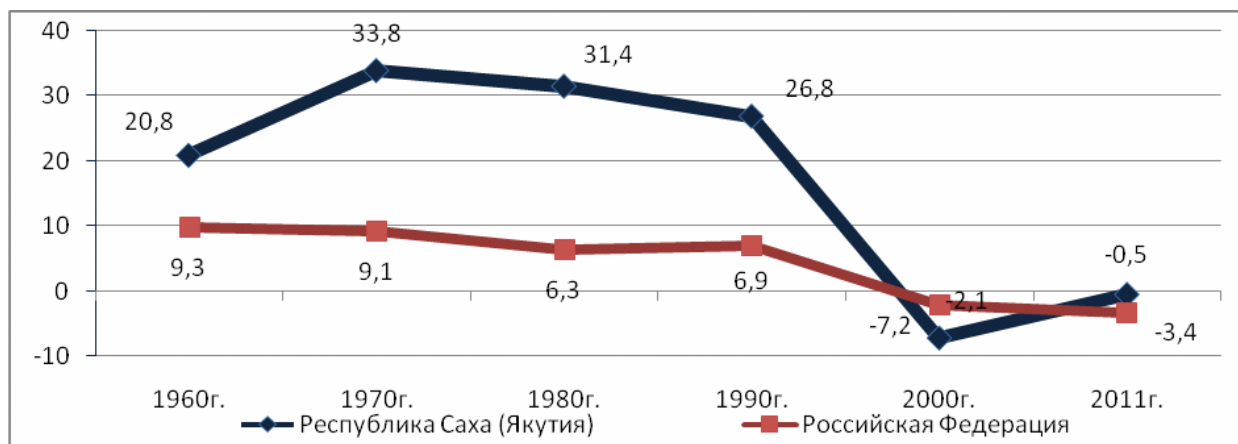


Fig. 2. The rate of population increase (decrease) in the Sakha Republic (Yakutia) in comparison with the Russian Federation within 1960 - 2011. (%)

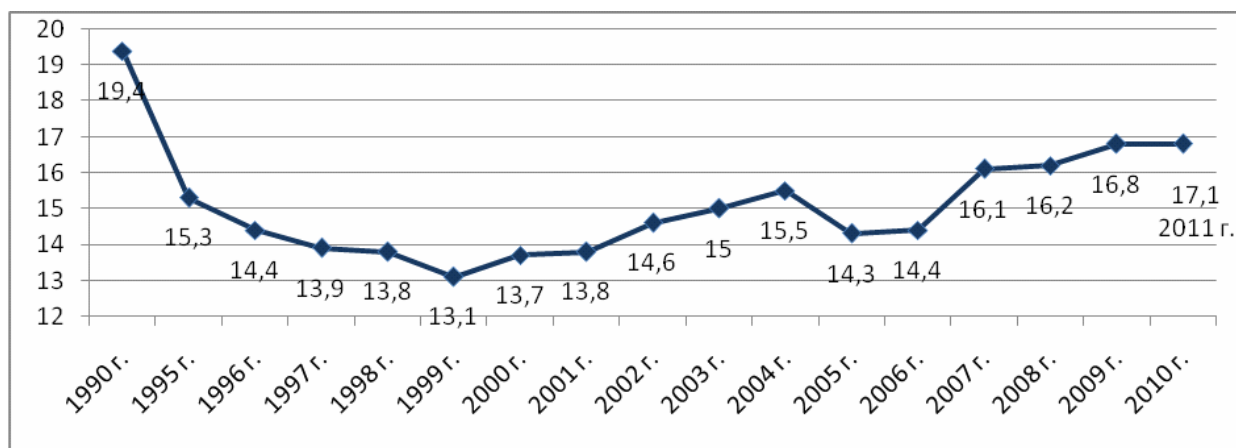


Fig.3. The birth rate in the Sakha Republic (Yakutia) in the dynamics 1990 - 2011 (per 1,000 people)

Table 1.

The rate of increase (decrease) the total fertility rate in the Sakha Republic (Yakutia) in the dynamics within 1990 - 2010

years	The Sakha Republic (Yakutia)		The Russian Federation	
	Per 1,000 people			
	Total	The rate of population increase (decrease) within a decade	Total	The rate of population increase (decrease) within a decade
1990	19,4	-6,7%	13,4	-8,2%
2000	13,7	-29,3%	8,7	-43,2%
2011	17,1	+23,4%	12,5	+30,4%



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