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SOCIAL AND MEDICAL ASPECTS LONGEVITY

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The article deals with the demographical problem of population's **aging, life expectancy, premature aging**, are shown results on quality of life in countries **in relation** to different indexes, that form it

Introduction The demographic and social changes that have taken place in most of the countries in the first half of the XX century, were the immediate causes of the rapid development of gerontology – the science of aging and oldness. The progressive aging of the population, which means an increase in the share of older persons, is widely recognized. Besides the influence of environmental factors, unknowing of simple rules of a healthy lifestyle, lead to numerous diseases and premature aging of the population, which becomes a direct challenge for a safe living.

Demographic aging as a tendency has a long term character. Since 1950, the proportion of older persons has been constantly increasing. From 8% in 1950, for 2050, is projected to reach 22%. According to the WHO Expert Committee, among the world's population in 1950, people over 50 years amounted 214 million people, in 1975 – 350 million people, in 2000 – 590 million, in 2006, the number of older people had exceeded 700 million people, and it is expected that by 2050 it will amount up to 2 billion people, which means it will triple itself in 50 years. While there is a trend towards lower mortality in the elderly, and low birth rates persist, the proportion of elderly population will continue to increase.

Globally, the rate of growth of the elderly population is 2.6% per year, significantly outpacing the growth in the general population, which is 1.1% per year. The world population over the age of 60 years will double itself, from 11% in 2006 to 22% in 2050. In 2007, a fifth of the population of the most developed regions were aged 60 years and older, according to prognosis, by 2050, people in this age group will account for almost one third of the population in developed countries. In less developed regions the proportion of older persons in 2007 was only 8%, however, it's predicted that by 2050 it will account for one fifth of the total population, which means that by mid-century, developing countries will achieve the same stage of demographic aging, which will be in developed countries are at the present. Even more sharply increase the number of very old people. During the period of 1950-2050 years the number of people aged over 80 years worldwide will grow from 14 million to 400 million. Such high growth rates of the elderly population will require profound socio-economic reforms in most of the countries.

In Russia, at the end of 1999, were about 30 million pensioners, or 19% of the population, of whom 3.2 million were older than 80 years. During 1999-2010 this

situation did not change. In recent years, increasing attention is paid to the development of gerontology is the science of aging, the elderly, and therefore, of life expectancy, health and diseases, of a lifestyle that will ensure longevity. According to the scientific definition, gerontology is the science that studies the laws of the aging in living organisms (higher animals and humans) as well as some of its aspects: biological, medical, social, psychological, economic, [Frolksis 1969 186, Harman 1968 476-482]. Preventing premature aging of the persons is the main task of gerontology as an important social and biological problem.

The struggle for life has always been a social order of the society, but with the development of the civilization and the increase in life expectancy, in humans have been observed processes of premature aging [Frolksis 1969 186, Harman 1968 476-482, Lebourg 1996 645-653]. Traditionally they are associated with the occurrence of diseases that are typical for older age groups (atherosclerosis, diabetes, osteoarthritis and other) in connection with the impression that the problem of premature aging is characteristic only for countries with a predominance of non-infectious diseases. For countries with a predominance of infectious morbidity and mortality, the problem of premature aging is not traditionally considered.

Objective Explore global trends in physiological and premature aging of man and mankind.

Materials and methods: We analyzed data from official health statistics (World Health Organization, governments official data) for 2000-2009.

Results: We conducted our study in phases. In the first phase we studied the average life length, the life expectancy for all 192 countries of the World Health Organization [Official statistical reports to the World Health Organization (date accessed 21/01/2011), Official statistical reports to the World Health Organization (date accessed 21/01/2011), Official statistical reports to the World Health Organization (date accessed 21/01/2011)].

In the second phase, all countries were lined up in a rating, in decreasing order of average life length and life expectancy. Then were isolated countries with average life length of 75 years and above, for in these countries, the problem of premature aging, if it exists, then, is not a national problem. This group includes the following states: Slovakia, where the average life length is 75.05 years, and life expectancy – 74.8 years, Croatia with an average life length of 75.05 years and life expectancy – 76.0 years, UK – average life length 78.75 years, and life expectancy – 79.7 years, Germany – average life length 79.05 years, life expectancy – 80.2 years, Netherlands – average life length 79.05 years, life expectancy – 80.4 years, Japan – average life length 82.15 years, life expectancy – 82.8 years, Andorra – average life length 82.75 years, life expectancy – 81.7 years.

In the third phase, the remaining countries, with medium and average life length and life expectancy of less than 75 years, we analyzed the structure of the morbidity and mortality. Countries in which morbidity and mortality were due to diseases associated with aging, were classified as countries with a high risk of premature aging (Table 1).

Table 1

Scale of countries with high risk of premature aging (fragment)

Country	Average life length, years	Life expectancy, years	Leading mortality cause
Hungary	73,05	73,9	Cardiovascular diseases
Iran	70,6	72,0	Cardiovascular diseases
Russia	66,5	67,8	Cardiovascular diseases
Uzbekistan	65,1	68,3	Cardiovascular diseases
Bhutan	55,2	63,0	Cardiovascular diseases

As seen in Table 1, in countries with average length and life expectancy below 75 years, the leading causes of death are diseases associated with aging, and particularly, with cardiovascular diseases. Countries in which the first and second place for morbidity and mortality were occupied by infectious causes, and non-infectious diseases associated with aging, occupied the second and third places, were classified as countries with an average (probable) risk of premature aging of the population (Table 2)

Table 2

Countries with an average (probable) risk of premature aging

Country	Average life length, years	Life expectancy, years	First cause of deaths	Second cause of deaths
Gabon	55,9	60,0	Infectious and parasitic diseases	Cardiovascular diseases
Laos	55,9	62,6	Infectious and parasitic diseases	Cardiovascular diseases
Kenya	55,3	60,0	Infectious and parasitic diseases	Cardiovascular diseases
Republic of the Congo	53,3	54,2	Infectious and parasitic diseases	Cardiovascular diseases
Republic of South Africa	42,45	53,5	Infectious and parasitic diseases	Cardiovascular diseases

Table 2 shows examples of countries with an average (probable) risk of premature aging. In countries such as Gabon, the leading cause of death, are infectious and parasitic diseases, the average life length is 55.9 years and a life expectancy of 60.0 years. In Laos, the leading cause of death are infectious and parasitic diseases with an average life length of 55.9 years and life expectancy – 62.6 years. In Kenya, the average life length is 55.3 years, life expectancy – 60.0 years, the most common cause of mortality – infectious and parasitic diseases. In the Republic of Congo, the average life length is 53.3 years, life expectancy – 54.2 years, and the main cause of mortality – infectious and parasitic diseases. In the Republic of South