

## THE SAKHALIN REGION NATURE AND ITS INFLUENCE UPON THE ELDERLY PEOPLE'S HEALTH

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The Sakhalin region climatic – natural factors are quite able negatively to make their influence upon the human organism, especially of the elderly and the senior ages. The human organism normal vital functions and the life activity maintenance, in a case of the environment unfavorable factors long – term effect, is being needed in the additional physiological resources expenditure and their consumption, that is being resulted in the physiological mechanisms overstrain, in the pathological processes development, and also in their chronization. The elderly people are usually being characterized by the defined and the specified physiological peculiarities and the special features, which are quite able to be progressed much quickly under the unfavorable influence and the impact, having caused the accelerated ageing, the multiple chronic diseases and the illnesses, and also the earlier and the immature death.

It has also been revealed, that in connection with the prolonged adaptation of the long duration, the ageing accelerated type is being formed at the elderly people, which is being evident and is being declared itself in the expected life duration decrease for 1, 0 9 time, in total mortality increase in 1,09 time, for all this, the men death rate is higher, than the women death rate in 1, 34 time.

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### Introduction

The Northern territories are being characterized by the original and the peculiar natural factors unfavorable complex. The Sakhalin region is being equal to the Northern territories. The climatic – natural conditions complexity, the ecological «fragility», the economy structure one – sidedness, having based on, basically, the non – renewable natural resources extraction and the following processing, the public health insufficient maturity and the development – all these and the other factors are usually being made an influence upon the demographical processes and the residential population health state, especially, of the socially inactive – elderly and the senior people [1, 2]. On the whole, the Sakhalin region climate is quite possible to be characterized, as the monsoon climate of the moderate latitudes [3]. The circulation processes seasonal change is the most character and the typical one in the atmosphere for it, having appeared under the high atmospheric pressure influence just over the Euro – Asian continent in the winter and also over the Pacific Ocean in the summer. The water surface, having accumulated the solar energy warming during the whole summer, is being promoted the cold air mass heating, having entered from the North and also from the North – West directions. The seas and the water surfaces cooling down influence is be-

ing affected, indeed, during the whole summer, especially of the colder Sea of Okhotsk. The water temperature in the Sea of Okhotsk is being left quite the very low one even in August. The water temperature is only equal to 5.6° C in the Western sea coast region of the Big Kuril Range Islands, where the deep – sea and the depth waters are being risen up to the surface. The sea cooling down is being revealed during the winter and just in the beginning of the summer and also in the fact, that the internal valleys are being warmed up much better, than the coastal regions. During the fall it is being taken its place just on the contrary: it is much warmer on the seashores, and it is much colder in the valleys [4]. The shifts, having made in the human organism by the weather – forming factors oscillations, will be defined, first of all, by their changeability degree, and also by the human organism state, by his compensatory reactions degree of the stability [3]. The human health formation ecological regularities and his disorders are being had the more and more significance, in the connection with the continuous process of the dependence consideration in the «man – natural environment» system [4,5,6,7]. The human organism accommodation and the adaptation to the inadequate external influences are being accompanied by the physiological systems reliability decrease, and it quite often is being reached at

the price of the considerable, as morphological, well as physiological shifts, having entered just into the pathology region. The sufficient large number of the experimental and the clinical data have already been stored to the present time, having confirmed the given theory [6,8,9]. The processes insufficiency connection of the tissues biochemical regeneration, the anabolic and the reparative reactions activity decrease, the atrophy development with the ageing signs and the indications manifestation, which is being revealed in «the defecto – reparative correlations» have been registered by many researchers [10,11]. And this phenomenon is being connected with the entropy. In his time, Hompertz has still paid his attention upon the death rate and the entropy age – related change curves likeness, the formula of which is being characterized the ageing processes essence, as the entropy accumulation in the biological systems [12]. Consequently, the «payment» processes are being developed for the long – term accommodation and the adaptation for the environment unfavorable factors prolonged influence, which, in the real situation, are being functioned in the complex. And they have been presented in the following manner [7]: the social activity and the work – efficiency decrease; the predisposition formation to the various diseases and the different illnesses; the advent and the appearance elevation of the acute attack and the exacerbation of the chronic diseases and the illnesses; the human organism premature ageing; the indices decrease of the average life duration; the health state aggravation of the next generations. So, the state on the ageing syndromes has been formulated by the scientists and the scholars [13,14]. They are being characterized by the more expressed manifestations from the side of that or another system: the neurogenetic, the endocrine, the hemodynamic ones and the others. The syndromes are being especially significant and important, having singled out by the ageing rate e.g. the accelerated and the delayed ones. The accelerated ageing, having characterized for the people aggregation,

having lived in the Sakhalin region, which has been considered by us, is being named the age of return. It is the basis for the early development or the prematurity of the age – related pathology (e.g. the atherosclerosis, the ischemic heart disease, the cancer, the diabetes and etc.), and, ipso facto, it is one of the leading reasons of the life shortening.

#### **Discussion**

First of all, it is necessary to consider the elderly and the senior part of the people, at the ageing consideration, who are at the defined and the specified people aggregation level, having lived on the defined and the specified territory. The part of the people, having lived in the Sakhalin region, is older of the working age, has been made up 15,8 % at the end of the 2005 year. So, it is the same, as in the urban, well as in the countryside. For all this, the men have been made up 25,2 %, the women – 74,8 % among the townspeople, who are older the working age. But among the villagers, it has been made, correspondingly, – 26, 7 % and 73, 3 %. The Sakhalin region is being occupied the fourth place after the Republic of Sakha (Yakutsk), the Magadan and the Kamchatka regions by the population growth rates, who are older the working age. The country population is being considered the old one, in the case, if the part of the people has been made up at the age of 65 years, and it has been exceeded the older age for 7 %, according to the international criteria. The Sakhalin region population has already been passed into the old ones category, as far as back, in 1997 year, as the elderly and the senior population specific ratio has been reached 7,1 %. The senior age citizens' population growth in the Far Eastern region, on the whole, and in the Sakhalin region, in particular, is being proceeded on with the more slow rates, than, in the average, in the Russia. The population in the Far East is much younger, than, in the average, in the Russia, but in the Sakhalin region – is much younger, than, in the average, in the Far East. So, in the 2005 year, the elderly and the senior age persons share has been made up 9,4 % in the Far East region, on the

whole, by the Russia it has been made up – 13,9 %, in the Sakhalin region it has been made up – 8,8 %. The lesser part is the elderly and the senior ages' population, in comparison with the averages indicators and the indices by the Russia, by all the regions, having related to the Extreme North regions and also having equated to them territories. At the same time, we suppose, that this phenomenon is, mainly, being explained by the fact, that in the Soviet period the state's social and economic policy has been directed to the people attraction and the involvement, who are capable of their working to these regions, and these people, to the retirement age achievement time, have had their possibility to provide themselves with the accommodation just in the favorable for the life regions, and then they simply have left the North with the retirement age achievement. That is why, such removal for the overwhelming majority of the elderly, the senior, and the old people has been become the most problematic challenge with the market relations transition. By the Russian Statistical Data forecasts, to the 2025 year, the population part, which is older the age capable of the working, will be increased, in our region, up to 21,7 %, the population part, which is older 65 years, will be made up in the 2015 year – 9,4 %, but in the 2025 year, it will be made up – 12,5 %. The ageing indicators and the signs dynamics for the elderly and the senior ages is the following: the life expectancy (LET) and the mortality and the death rate have had the following tendency. The LET index has been decreased from 0,649 down to 0,593 for the period from 2000 till 2005 year. For all this, in the 2000 year, the women and the men life expectancy indices have been made up 0,763 and 0,558, and, in the 2000 year, they have been made up – 0,718 and 0,491, correspondingly. Having judged from the men life expectancy (MLET) indices values, it should be related to the unsatisfactory group, as in comparison with the women life expectancy (WLET), their LET is quite less in 1,4 time. By the scientists and the scholars forecasts, the LET index decrease and its transition just

into the unsatisfactory group, it will be able to be brought in 20 years to the fact, that the men life expectancy (MLET) is quite possible to be decreased down to 50 years in the Far East regions, if the region social and the economic development realization is being proceed by the pessimistic scenario.

Thus, it is quite well – known, that the LET indicators and the signs are being usually depended on many factors, but, especially, on the social and the economic ones. Such scientists and the scholars, and also the doctors, as A.P. Dobroslavin, E.A. Osipov, V.O. Portugalov, and F.F. Arisman have already indicated and mentioned on this phenomenon in the end of the 19–th and in the beginning of the 20–th centuries [15]. That is why, the LET sharp decrease in the Sakhalin region – is the life socio and the economic conditions worsening consequence in the region. The transition to the new economic conditions just in the region (e.g. of the market economy) has been resulted in the fact, that the overwhelming majority of the people have experienced the whole shock from the fact, that the state is not being worked, as it has been before, having controlled the man's human living cycle from the birth up to the death. Such social diseases and the illnesses, as the misery and the poverty have been, intensively, flourished and blossomed in the society, the consequence of which the mortality and the death rate have been increased, especially at the persons with their low social activity. So, the elderly and the senior people, having been in their overwhelming majority the socially inactive ones, with the diseases and the illnesses whole complex, so they are not quite able, completely, to satisfy their needs, that is being resulted in the fact that many from them, practically, do not want to live for the long time. So, the mortality and the death rates indices (such as, GDI, MDI, WDI) of the general, the men, and the women ones are, constantly, being raised in the side of the further increase. Thus, for the period from the 2000 till the 2005 – es, the general mortality and the death rate index have been made up 4,667 and 5,097, that is,

it has been raised for one unit. That is why, it has been registered, that the men mortality and the death rates indices are being exceeded the women mortality and the death rates indices at the ages from 65 – 69 years from 2,3 times up to 2,7 times, and at the age of 70 and also more years from 1,4 time up to 1,5 time for the researched period of the time. So, the mortality and the death rates indices are being connected, as with the human organism internal adaptive possibilities, well as with the external factors. This is being promoted to the quite unfavorable climate influences and the impacts, the environmental pollution and the following contamination, the high level background radiation, the elderly and the senior people low social possibilities, as all of them are the pensioners and, mainly, they are the invalids, without their possibility of the sufficiently qualitative medical treatment and the Sakhalin region outside and beyond the borders departure. So, the main death rates reasons at the age of the older population, capable of their working are the blood circulation system diseases, the neoplasms, and the tumors illnesses, the accidents and the casualties, and in the less degree – the respiratory and the digestive organs. By the Russian Statistical data, it has been revealed, that the 67,7 % men and the 73,9 % women of the elderly and the senior age have died from the blood circulation system diseases and the illnesses in the 2005 year. In the 2005 year, the 15,8 % men and the 11,8 % women have died from the neoplasms, and the tumors diseases and the illnesses, the 6,5% men and the 4,3 % women have died from the accidents and the casualties, and, correspondingly, the 2,8 % men and the 1,9 % women from the respiratory organs diseases and the illnesses, and the 4,2 % men and the 4,3 % women from the digestive organs diseases and the illnesses. In the 2000 year, the men mortality and the death rate at the age of 65 - 69 years has been made up from 70,9 %, and then it has been raised up to 86,2 % in the 2005 year, and it, moreover, has been exceeded the women mortality and the death rate just in 2,2 and 2,7 times. The

men mortality and the death rate exceeding has been made up 1,4 – 1,5 time at the age of 70 and more years. The population mortality and the death rate is the country people ageing consequence. It has already been statistically revealed, that in the 2005 year, the elderly and senior age people, having had the necessity to be addressed to the medical Institution and the corresponding Establishment, and not having addressed, because of their impossibility to pay for the necessary medical services, have been made up 61,3 % from them 12,4 % – have been the men, and 48,9% have been the women, that it has been conditioned by the population's low money income: that is the incomes, which are lower the living age and the minimum of the subsistence at the 102,2 thousand people (e.g. 19,3 %).

#### **Conclusion**

The elderly, the senior and the old people specific ratio, having lived in the Sakhalin region for the 2005 year, has been made up 8,8 %, and it, moreover, is being proceeded to be increased.

The ageing accelerated type is being formulated at the elderly and the senior people in the connection with the long – term lasting adaptation, which is being revealed at the expected life span decrease for the 1,09 time, in the general mortality and the death rate increase in the 1,09 time, for all this, the men mortality and the death rate is being much higher, than at the women mortality and the death rate in the 1,34 time.

Therefore, having taken into the consideration the region environmental discomfort climatic – natural factors, which, doubtless, have the very high significance at the prolonged living and the residence, the continuous social and the economic conditions worsening, the negative tendencies of the elderly and the senior population health state dynamics, the environmental pollution and the following contamination. Thus, they all together are being brought the considerable contribution into the life span shortening and the reducing of the life, into the elderly and the senior people morbidity, the death rate,

and the sickness rate growth and the following rise.

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