

FEATURES OF MEDICAL CARE IN THE CONDITIONS OF OIL EXPLORATION AND PRODUCTION IN THE EXTREME NORTH

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INTRODUCTION

The Arctic is defined as a natural extreme zone, which places high demands on the adaptive capabilities of the body. The Far North is a territory that exceeds several European states. At the bottom of the Arctic Ocean is almost 20% of the world's oil reserves and 30% of gas reserves [2]. He is characterized by extreme climatic conditions, a quarter of all foreign exchange earnings to the state budget of Russia comes from this region. Every year, 20% of the world's and 90% of Russian gas and oil are produced. Moreover, the Far North is not only a powerful raw material base of the country today, it is also a kind of guarantor for the energy security of the state for many years to come: here is concentrated a quarter of all the world's proven reserves of natural gas and oil. At this point, changes can be rapid and unexpected, often causing a switch to very different ecosystem types. Many of these triggers for change are amenable to management, suggesting that our choice of policies in the coming decades will substantially influence the ecological and societal consequences of current climatic change [9].

To preserve the human potential, we need deep knowledge and experience in studying the fundamental specific northern problems, identifying the prospects for socio-economic development of the North and the Arctic, which is inextricably linked with the problems of health care in conditions of shift, seasonal and permanent jobs [5]. The effectiveness of human labor in the Far North is largely determined by

the degree of its adaptation to external conditions of activity, to social and environmental factors. Therefore among researchers [8] it is axiomatically considered that the foremost pragmatic goals of studying the mechanisms of psychological adaptation to work in the Arctic are prediction of the dynamics of adaptation to existing conditions there and the implementation of an external correction of this process with a view to optimizing it.

Deficiency of the workforce in the conditions of the Far North against the backdrop of a professional high-intensity load significantly exceeding the standard for normal working conditions, create the prerequisites for violations in the psychoemotional sphere and accompany the development of psychosomatic pathology in workers [4]. In addition, the complex of natural factors of the Far North has a pronounced negative effect on the physical and mental state of a person, called the "polar tension" syndrome [3]. The human body is adversely affected by: low temperatures in combination with strong winds, short cold summers, high humidity, the presence of peculiar periods of polar night and polar day, lack of solar radiation, geomagnetic activity, sudden changes in atmospheric pressure, eating habits, prolonged exposure to enclosed spaces and etc.

All this dictates the immediate development of urgent legislative measures of medical care for workers in the oil and gas industry.

RESULTS

Nowadays, in indigenous populations of the North and Siberia lower indicators of psychic health are registered. The evidence of this occurrence is high mortality due to external causes and significant prevalence of alcoholism. The high level of suicide among indigenous children and adolescents reflects extreme social troubles.

Problematic for the northern territories are the presence of natural focal infections and zoonoses; peculiarities of nutrition, the way of life of the population and the ecological situation, since in regions equal to the Far North, a peculiar microelement composition of soil and water is noted, which in turn also requires analysis and study.

Life and work in the harsh conditions of the North is accompanied by an increase in functional loads on the body, thereby creating a greater risk of

impairment or loss of health. The climate of the North presents high demands on the human body, especially in the initial period of stay in unusual environmental conditions. The shortcomings in the healthcare system itself in the Far North, the health management system of the northern territories, functioning in difficult social conditions amid the changes in the regulatory framework and health management, the practical elimination of the system of centralized provision of health care facilities with medical equipment and medicines, medicines and budget cuts.

The respiratory disease-related mortality rates in the majority of Russian Northern regions were much higher compared to the national average.

According to McMahon BJ, Bruce MG, Koch A, Goodman KJ, Tsukanov V, Mulvad G, Borresen ML, Sacco F, Barrett D, Westby S, Parkinson AJ. (2016) *Helicobacter pylori* infection is a major cause of peptic ulcer and is also associated with chronic gastritis, mucosa-associated lymphoid tissue (MALT) lymphoma, and adenocarcinoma of the stomach [7]. Guidelines have been developed in the United States and Europe (areas with low prevalence) for the diagnosis and management of this infection, including the recommendation to 'test and treat' those with dyspepsia. A group of international experts performed a targeted literature review and formulated an expert opinion for evidenced-based benefits and harms for screening and treatment of *H. pylori* in high-prevalence countries [7]. They concluded that in Arctic countries where *H. pylori* prevalence exceeds 60%, treatment of persons with *H. pylori* infection should be limited only to instances where there is strong evidence of direct benefit in reduction of morbidity and mortality, associated peptic ulcer disease and MALT lymphoma and that the test-and-treat strategy may not be beneficial for those with dyspepsia.

Maslov L. (2015) and his co-authors was showed that in the case of indigenous people, dyslipidemia, which leads to diseases of the heart and vessels, develops less often. Habitation within the polar circle increases cardiovascular mortality rate and particularly increases mortality as a result of coronary events. The main reason of elevation of mortality from these diseases is a dyslipidemia which developed more among alien population residing long time in Far North. Dyslipidemia is less found among aboriginal population of Arctic Circle keeping traditional way of life and respectively it is low rate of mortality from coronary heart disease [6]. Bruklich NA, Nersesian EG, Tsitronov ES, et al. (2013) noted that high mortality in the North is observed due to pancreatonecrosis. This can be related to the peculiarities of nutrition in the North [1].

CONCLUSION

It is necessary to continue to carry out scientific research aimed at creating not only new equipment and technologies for prospecting, exploring and developing oil and gas fields on the shelves of the Arctic seas, in the zones of year-round ice, but also to study the influence of the specifics of the Far North on the human body. The strategy of further development and preservation of the polar regions is related to the need to solve tactical problems related to the preservation of the health of people living in the North today. This is the second and third generation of alien inhabitants of circumpolar regions — people who have moved to the North in recent decades, as well as indigenous populations of high latitudes.

The actual stage of development of public health rendering of specialized medical care is based on principles of generality, accessibility, addressness, qualitiveness, and effectiveness. However, the problem of rendering specialized medical care to population is one of most critical targets in district centers and requires immediate solution. The organization of reanimation counseling center, maintenance of remote monitoring of newborns and development of telemedicine and means of sanitary aviation play main role in supporting accessibility of high-tech medical care in conditions of this region. The revealed regional distinctions regarding the prevalence of, and mortality from, chronic respiratory diseases should be taken into consideration when designing integrated programs for chronic non-communicable disease prevention in these regions.

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