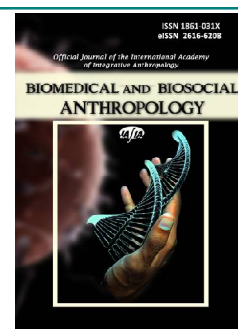




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Strategic directions of implementing a system of psychophysiological support of professional activity of military pilots

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To date, the state aviation of Ukraine has an urgent problem of improving the existing system of medical support for flights by introducing measures of psychophysiological support for improving the professional health of military pilots, increasing the duration of their professional longevity and ensuring the safety of flights. That is why, the purpose of our research was to offer a list of strategic directions of scientific substantiation and development of a conceptual model of a system of measures for psychophysiological support of professional activities of military pilots based on an analysis of the problems of its implementation in the state aviation of Ukraine. For this, the methods of analysis and synthesis, generalization, induction and deduction, complex and system analysis were used. As a result of the research, it was found that the strategy for introducing a system of measures for psychophysiological support of the professional activities of military pilots should be perceived as a process of improving the existing system of medical support for flights of state aviation in Ukraine on the basis of defining qualitatively new goals and objectives of its functioning, harmonizing internal capabilities with the conditions of the professional environment, development of a set of measures to improve its reliability and efficiency in the long term. From these points of view, the systematic approach to determining the strategic directions of implementation of the said system should be based on the complex of organizational, regulatory, information-analytical, personnel and technological problems. To solve them, it is necessary to conduct research on health assessment of different categories of military pilots, hygienic assessment of conditions and features of their professional activity, selection of a set of informative psychophysiological characteristics and methods of their evaluation, development of mechanisms and criteria for access to flights, regulatory, legal, personnel and organizational bases of functioning of system of measures of psychophysiological support of professional activity of military pilots.

Keywords: system of measures of psychophysiological support, strategic directions of its implementation, military pilots.

Introduction

Many generations of domestic scientists have dedicated their lives to solving extremely important problems of such occupational medicine as aviation medicine - finding methods and ways to save lives and health, prolong professional longevity, ensure high efficiency, efficiency, reliability of aviation personnel and flight safety. The results of their titanic work to study the conditions and nature of flight work, study the mechanisms and consequences of negative, and often pathological, the impact of occupational

factors and labor process on the body of military pilots, formed the basis of scientific substantiation, development and implementation of domestic health care system flights of aviation operating in Ukraine to date [23, 24]. This system is based on the principles of continuity, consistency, continuity and individuality of organizational, treatment and prevention, physiological and hygienic and rehabilitation measures during the commission and inter-commission periods.

As a result, the introduction in the 50-60s of the last century of measures of medical and psychological selection, normalized 45-day regular leave in sanatoriums, standardized 4 meals a day in flight canteens, regulatory regular and extraordinary medical examinations, as well as annual conducting medical and flight examination in the framework of the concept of occupational health, for 30 years has led to a decrease in aviation events due to deteriorating health and reduced efficiency of flight crew members in flight to the level of 0.3-0.8 % [25].

However, the current situation regarding aviation accidents and catastrophes [2, 7, 19, 26, 28], as well as the level of morbidity and disqualification of military pilots on medical grounds [13, 21, 25, 27], somewhat contradicts these data and shows about the lack of effectiveness of the presented approaches. In particular, according to some data [3] in the 80's the level of disqualification for the health of this contingent in the Armed Forces of the USSR was already 44 % and was constantly growing. Later, in the 90s of last century in the aviation of the Armed Forces of the Russian Federation, it was already 85 %. In Ukraine, the level of disqualification of flight crew for health reasons during 2001-2007 was 7.3-11.8 % [12]. Negative results of medical and psychophysiological prognosis on the human factor, social, humanitarian and economic consequences of low flight safety in general are impressive in their scale and do not inspire much optimism [28].

The main reason for the emergence and development of this situation, in our opinion, given the current conditions of technological progress, widespread use of new information technologies and modernization of technical systems, features of aviation in the area of anti-terrorist and peacekeeping operations, aggressive influence of social, demographic, environmental factors, today there is a low level and limited capabilities of the body of military pilots, as the weakest link in the aviation system "pilot-aircraft-environment". First of all, this "weakness" according to the literature [3, 19, 28, 29, 30] is due to the inconsistency of professionally determined requirements to the psychophysiological characteristics of this contingent.

That is why today in the state aviation of Ukraine there is an urgent problem of improving the existing system of medical flight support by introducing psychophysiological technologies to improve the professional health of military pilots, increase their professional longevity and overall life, flight safety and more. Analysis of literature sources on the current state of psychophysiological support of professional activities of military pilots in Ukraine and abroad [14, 15, 18, 26, 31, 32] allows to identify a set of key problems not only scientific justification, but also examples of systematic implementation of psychophysiological technologies and measures psychophysiological support as such in the existing system of medical support of flights of the state aviation of Ukraine. Awareness of these problems has led to a gradual definition of place and role [17], establishing on this basis a list of basic terms, their definitions and

basic principles of functioning of the system of measures of psychophysiological support of professional activities of military pilots [16]. This approach, in our opinion, allows us to offer a list of strategic directions and a set of necessary research, which in fact should determine the method of its scientific substantiation and further development of a holistic conceptual model.

The purpose of the work is to propose a list of strategic directions of scientific substantiation and development of its conceptual model on the basis of the analysis of problems of introduction in the state aviation of Ukraine of the system of measures of psychophysiological support of military pilots' professional activity.

Materials and methods

To highlight the problems of introduction in the state aviation of Ukraine of the system of measures of psychophysiological support of military pilots, development of the main strategic directions of their solution and formation of a set of necessary researches on further scientific substantiation and development of a conceptual model of the specified system methods of analysis and synthesis, generalization, induction and deduction, complex and system analysis are used.

Results

Before highlighting the problems of introducing a system of psychophysiological support for military pilots in the state aviation of Ukraine and developing the main strategic directions for their solution, it is necessary to dwell on the characteristics of the very concept of "strategy". A review of modern scientific publications on the characteristics of this term indicates the absence of a single generally accepted definition [1, 5, 20, 22]. In essence, these literature sources consider two approaches to the definition of the term "strategy" - "strategy as a process" and "strategy as a result". In the first case, the strategy is perceived as a process of determining the direction of action from the initial to the final (desired) state, with the allocation of means to achieve the goal, building a plan and establishing rules for decision-making. Otherwise, the strategy is associated with the establishment of specific benchmarks or results of strategic activities that ensure the improvement and high efficiency of a particular system or organization. In this context, the strategy is often compared with the existing situation for a particular activity, measures to change it and achieve the desired results. Such a strategy is a concretized, according to certain indicators, position on finding ways to effectively achieve the goal by making the necessary changes to the components and their combinations within existing or updated systems [1, 20, 22].

That is why, in our opinion, the strategy of introducing a system of psychophysiological support for professional activities of military pilots should be perceived as a process of forming strategic directions for improving the existing

system of medical support of Ukraine state aviation on the basis of qualitatively new goals and objectives, coordination of internal capabilities professional environment, the development of a set of measures that can ensure greater reliability and efficiency in the long run.

From these positions, a systematic approach to determining the strategic directions of the introduction of a system of psychophysiological support for the professional activities of military pilots should be based on organizational, regulatory, information-analytical, personnel and technological issues.

The organizational problems, first of all, include the absence in the state aviation of Ukraine of any concept and interdepartmental program of introduction of measures of psychophysiological support of professional activity of military pilots. In addition, to date, no single governing and coordinating body has been identified in this area. Therefore, the functions established by the current legislation on the implementation of certain components of psychophysiological support are distributed between different units of the aviation activities of the state aviation of Ukraine or are not implemented at all, or are implemented spontaneously and unsystematically.

The existing regulations governing the work of the medical service of the aviation activities of Ukraine state aviation on medical support of military pilots professional activities do not contain any data on the establishment of types, stages, sequence, methods and timing of psychophysiological support, and those provisions that require consideration of the results of assessment of the psychophysiological state during the implementation of measures of dynamic medical surveillance are only declarative in nature due to the lack of a real mechanism for their implementation.

Institutions and divisions of the medical service of the aviation activities of Ukraine state aviation do not provide for information and analytical work on the results of psychophysiological support of professional activities of military pilots, mainly due to lack of a full register with relevant databases.

There is a lack of sufficient positions of psychophysiologicalists in the institutions and divisions of the medical service of the aviation activities of Ukraine state aviation, and the Ukrainian Military Medical Academy has long stopped recruiting students for internships (master's degrees) in "Psychophysiology".

From the technological point of view, there is an urgent need to develop and approve the established standards, software and hardware requirements, a list of measures of psychophysiological support, reflecting their types, stages, sequence and timing. The criteria for evaluating the effectiveness of psychophysiological technologies have not been defined either.

The solution to these problems, in our opinion, lies in the implementation of the following strategic areas:

development of a conceptual model of the system of

measures of psychophysiological support of military pilots' professional activity of Ukraine state aviation;

reorganization (modernization) of the existing forces and structural subdivisions of the medical service of the subjects of aviation activity of the state aviation of Ukraine to expand their functionality to medical and psychophysiological support;

creation of a scientific and practical coordination center for psychophysiological support of professional activity of military pilots of Ukraine state aviation;

opening of research work on development of the concept of system of measures of psychophysiological support of professional activity of military pilots of the state aviation of Ukraine, with reflection of types, stages, sequence, methods and terms of carrying out, criteria of estimation of efficiency of application, and also questions of normative-legal, informational, organizational, material-technical, scientific-methodical and personnel support;

making appropriate changes to existing ones, as well as developing and approving in the prescribed manner new regulations on the introduction of a system of measures of psychophysiological support, standards and criteria for evaluating the effectiveness of their application;

creation of a register with databases for the implementation of information and analytical work on the results of psychophysiological support of military pilots' professional activities of Ukraine state aviation;

introduction of positions of psychophysiologicalists in institutions and subdivisions of medical service of subjects of aviation activity of Ukraine state aviation;

restoration in the Ukrainian Military Medical Academy of all forms of postgraduate training (specialization and master's degree) in the specialty "Psychophysiology";

introduction in the Ukrainian Military Medical Academy cycles of thematic improvement of medical service medical personnel of aviation activity subjects of Ukraine state aviation concerning psychophysiological support of military pilots' professional activity.

The basis for scientific substantiation and development of a conceptual model of the system of measures of psychophysiological support of military pilots' professional activity of Ukraine state aviation should be researches concerning:

implementation of professional description and hygienic assessment of conditions and features of professional activity of different categories of military pilots;

health assessment of various categories of military pilots;

allocation of a complex of informative psychophysiological characteristics for carrying out of actions of psychophysiological support of professional activity of various categories of military pilots;

formation of a set of methods for assessing professionally important psychophysiological characteristics of different categories of military pilots at different stages of psychophysiological support of their

professional activities;

assessment of basic psychophysiological and psychological characteristics of different categories of military pilots;

development of mechanisms and criteria for admission and determination of the degree of suitability of various categories of military pilots to perform flights;

development of normative-legal, personnel and organizational bases of functioning of the system of measures of psychophysiological support of military pilots' professional activity;

development of a conceptual model of the system of measures of psychophysiological support of military pilots' professional activity.

Discussion

The presented results of scientific research on determining the strategic directions of introduction in the state aviation of Ukraine system of measures of psychophysiological support of professional activity of military pilots are considered for the first time. Of course, given the existence of a strong social and economic effect of the introduction of psychophysiological technologies [4, 6, 8, 9, 21, 29], in modern literature there are examples of scientific justification and introduction of certain elements of psychophysiological support of professional activities, including military pilots. However, some of them are aimed at the implementation of psychophysiological selection measures and related psychophysiological examination [4, 9, 10, 29, 30]. The purpose of these measures, by definition, is to establish the degree of professional suitability of professionals to perform certain professional duties, in order to select a profession and appoint persons whose psychophysiological characteristics meet its requirements. Others, aimed at ensuring the effectiveness

of the professional activities of flight crew by increasing the efficiency [12] of this contingent or optimizing the adaptive capacity of man [11].

All the presented models on the one hand differ significantly from each other in organizational and substantive aspects due to the lack of a clear strategy of scientific substantiation, development and implementation, and on the other - they are united by spontaneity and unsystematic implementation, lack of functional links or separation from the existing system. medical support, which leads to reluctance and resistance to the introduction of psychophysiological technologies in medical practice by both doctors and workers, in relation to which these measures should be taken [18]. That is why the definition of clear and understandable strategic directions of introduction of the system of measures of psychophysiological support of professional activity of military pilots of state aviation of Ukraine will allow in the future to approach scientific substantiation and development of its integral and really effective conceptual model.

Conclusions

1. As a result of the conducted researches the characteristic of organizational, normative-legal, information-analytical, personnel and technological problems of introduction in the state aviation of Ukraine system of measures of psychophysiological support of professional activity of military pilots is allocated and given.

2. The list of the basic strategic directions and a complex of necessary researches concerning a scientific substantiation and development of conceptual model of measures system of psychophysiological support of military pilots state aviation of Ukraine professional activity is offered.

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