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**ФІЗІОЛОГІЯ
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«АКТУАЛЬНІ ПРОБЛЕМИ ТА СУЧАСНІ
ДОСЯГНЕННЯ»**

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ОГЛАВЛЕНИЕ

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Chirva A.V., Zubovich E.D., **Sokol E.N., Hloba N.S.** RESEARCH OF MENTAL CAPABILITY AND MENTAL TEMPO DYNAMICS IN CASE OF CHANGES OF BACKGROUND AND PRINT COLOR OF TEXT DOCUMENTS // Тези доповідей III Всеукраїнської студентської наукової конференції з фізіології з міжнародною участю (18 травня 2016 р.). – Харків. – 2016. – С.

Didova T.V., **Sokol E.N., Zelenska A.N., Hloba N.S.** RESEARCH OF ARTERIAL PRESSURE IN MEDICAL STUDENTS WITH INDIVIDUAL TYPES OF AUTONOMIC REGULATION OF ORGANISM'S FUNCTIONS // Тези доповідей III Всеукраїнської студентської наукової конференції з фізіології з міжнародною участю (18 травня 2016 р.). – Харків. – 2016. – С.

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diarrhea, anorexia, tiredness, aching joints and muscles, thrombocytopenia, immunosuppression, coagulopathy, and central nervous system manifestations have been largely attributed to the various cytokines released in response to these parasite and red cell membrane products. In addition to these factors, the plasmodial DNA is also highly proinflammatory and can induce cytokinemia and fever. The plasmodial DNA is presented by hemozoin (produced during the parasite development within the red cell) to interact intracellularly with the Toll-like receptor-9, leading to the release of proinflammatory cytokines that in turn induce COX-2-upregulating prostaglandins leading to the induction of fever. Hemozoin has also been linked to the induction of apoptosis in developing erythroid cells in the bone marrow, thereby causing anaemia.

People in tropic regions, Indians, are mostly affected with malaria. Southeast Asia contributed to only 2.5 million cases to the global burden of malaria. Of this, India alone contributed 76% of the total cases. In India, the epidemiology of malaria is complex because of geo-ecological diversity, multi-ethnicity, and wide distribution of nine anopheline vectors transmitting three plasmodial species. The problem is more pronounced in areas where there is intermixing of the population, such as project areas, including construction sites, in big metropolitan areas, and along international borders. In some cases, travellers from India infected with malaria can transmit this parasite to foreigners via blood transfusion or by the means of biological vectors. The immune response of such travellers will drastically reduce allowing them to get entry from new parasites/diseases like pneumonia, respiratory distress, anaemia, and hypoglycaemia.

Conclusion: Malaria obviously has a devastating socio-economic impact on affected countries, the majority of which are developing, poor, and located in the tropics. Such is the effect that the cost of control measures is worthwhile, considering the disability, mortality, economic loss and industrial inefficiency the afflicted population and the country faces. It is a disease that can be treated in just 48 hours, yet it can cause fatal complications if the diagnosis and treatment are delayed. Despite centuries of efforts, malaria continues to infect millions and kill thousands.

Nabok T.A., Polyakova A.D., Zelenskaya A.N., Hloba N.S.

METHODS OF DIAGNOSTICS OF LEARNING MOTIVATION DEVELOPMENT IN MEDICAL STUDENTS IN CONDITIONS OF INFORMATIONAL OVERLOADS

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Choice of profession, success in education and labor are all connected with motivational sphere of personality. From psychophysiological point of view, learning motivation is a basic social need of a person. Learning motivation development has the significant influence on vital activity of

healthy human organism and its social adaptation level. The main trigger of social adaptation reactions development is an informational stressor, therefore research of development, structure and content of learning motivation of medical students in conditions of informational overloads is an important problem of psychophysiology.

The aim of our research was to find out the diagnostic methods of learning motivation of medical students that would have a reliable degree of protection from insincerity of probationer and would in fact reflect his relation to the surrounding reality.

The research was carried out on second year medical students who gave voluntary written agreement to take part in the experiment. Based on informational research the traditional questionnaires, projective psychodiagnostic methods, methods of experimental psychosemantics for measurement of subjective values of various objects for a person (semantic differential of Charles Osgood, repertory lattices of J. Kelly, the method of color metaphors) were chosen. The method of color metaphors in I.L. Solomin's modification is a variant of psychosemantic diagnostics of motivations and relations to different occupations, people and events that is based on indication of a number of concepts with help of the standard set of color stimuli. That method was adapted for the quantitative measurement, qualitative assessment and comparative analysis of content and structure of a wide range of motives in people of different social groups. As a result of those methods appliance the opportunity to analyze medical students' motivation from the point of view of its relation to needs of A. Maslow's hierarchical model was received. The appliance of the traditional questionnaires and projective psychodiagnostic methods of motivation analysis didn't allow the revealing of their content and structure with sufficient degree of accuracy. Studying of learning and informational motivation dynamics with help of repertory lattices technique of J. Kelly and semantic differential of Charles Osgood showed the efficiency of the methods in the individual psychophysical research. However, these methods have fairly high requirements of educational level and intellectual development of respondents, and turned out to be sufficiently power-consuming for the research. The method of color metaphors of I.L. Solomin precisely corresponded to the task of our research, and the interpretation of its results detected appropriate advantages comparing to the other methods of students learning motivation diagnostics. In contrast to traditional psychological tests that method focuses on determination of content and structure of conscious and unconscious similar to other methods of psychosemantic diagnostics, but has the optimal power intensity of research.

Therefore, the diagnostics of learning motivation of medical students using I.L. Solomin's method of color metaphors completely meets the objectives of our research as it allows the

estimation of structure and content of learning and informational motivation of medical students adequately and in a short period of time.

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PHYSIOLOGICAL MECHANISMS OF PHANTOM LIMB SYNDROME DEVELOPMENT

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Phantom limb syndrome is the perception of sensations, including pain, in a limb that has been amputated. The objective of this work was to review and summarize the recent research related to the proposed mechanisms of phantom limb pain (PLP) and its treatment.

The incidence of PLP has been reported in 42,2-78,8% of patients after amputation. Proposed PLP mechanisms include peripheral mechanisms, central neural mechanisms and psychogenic mechanisms. Peripheral mechanisms result from massive tissue and neuronal injury that causes disruption of the normal pattern of afferent nerve input to the spinal cord. This is followed by a process called deafferentation and the proximal portion of the severed nerve sprouts to form neuromas. Increased accumulation of molecules enhancing the expression of sodium channels occurs in these neuromas that results in hyperexcitability and spontaneous discharges. Central neural mechanisms include changes at the level of spinal cord and at the level of brain. In spinal cord the central sensitization due to formation of connections between amputated peripheral nerve and neurons in the receptive field of the spinal cord occurs, accompanied by increase in the activity at N-methyl-D-aspartate receptors by neurotransmitters such as substance P, tachykinins, and neurokinins at the dorsal horn. In cortical reorganization the cortical areas representing the amputated extremity are taken over by the neighbouring representational zones in both the primary somatosensory and the motor cortex. The extent of cortical reorganization has been found to be directly related to the degree of pain and the size of the deafferented region. Psychogenic origin of PLP can be partly proved by the fact that stress, anxiety, exhaustion, and depression are believed to exacerbate PLP, though this point of view has not been supported recently. PLP treatment consists of pharmacotherapy, surgical procedures and adjuvant therapy, including transcutaneous electrical nerve stimulation and mirror therapy.

Conclusions. Proposed PLP mechanisms include peripheral mechanisms, central neural mechanisms and psychogenic mechanisms, however, there is still no unified theory relative to the mechanism of PLP. Specific mechanism-based treatments are still evolving, and most treatments are based on recommendations for neuropathic pain. Further research is needed to elucidate the relationship between the different proposed mechanisms underlying PLP. A synthesized hypothesis