REVIEW ARTICLE

PEDAGOGICAL CHARACTERISTIC OF PHYSICAL THERAPY SPECIALIST'S TO BE NATURAL-SCIENCE COMPETENCE AND STAGES OF ITS FORMATION

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Anna V. Fastivets[1], Olena V. Kolesnyk[1], Anatoliy V. Emetc[2], Yevheniia O. Skrinnik[2], Oleksandr V. Petryshyn[2]
[1]POLTAVA INSTITUTE OF BUSINESS PHEE «ISTU», POLTAVA, UKRAINE
[2]POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

ABSTRACT

The aim: Of article reveals the essence of the matter of scientific substantiation of theoretical concepts of pedagogical characteristic of natural-science competence of physical therapy specialist to be and stages of its formation.

Materials and methods: To achieve an object of the research a complex of research methods was used, in particular, theoretical ones: analysis and synthesis of scientific and methodic literature, methodic and normative documents ; synthesis and systematization of research data; synthesis of scientific theories, approaches and conceptions to define the conditions of education of physical therapy specialist to be; empirical methods: observation and questioning.

Conclusions: In process of the research were defined: step-by-step specific features of natural-science education process, functions , typical activity tasks and types of skills of physical therapy specialist to be which made it possible to define the criteria of the formation of natural-science competence and formulate their competence characteristics. The developed criteria and indicators made it possible to substantiate the development of phased substance of natural-science education of physical therapy specialist to be at higher educational institution.

KEY WORDS: physical therapeutist, methodical system of education of physical therapeutists, natural-science competence, pedagogical characteristic

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INTRODUCTION

The present-day system of higher education of Ukraine transforms under the conditions of globalized society of the 12st century. The problem of organization of educational process is one of the most important problems today. The dominating idea of it is the focus on professional education of specialists who are competent, professionally mobile, competitive and able to work effectively. Nevertheless, in Ukrainian pedagogical science the problems of modernization of content and technologies of natural-science education of physical therapy specialist to be are still unexplored; an integrated system of biomedical education is undeveloped; the ways to meeting the social demand of connection of theoretical knowledge and practice of educational and training, methodical and self-educational activity of the specialists are unexplored. Didactic and methodic problems of disciplines of natural-science course are scantily explored in system researches concerning physical therapy specialists. Thus, the main tendencies of update of content and forms of education of physical therapy specialist to be under the conditions of development of national educational system and market economic relations resulted in the research which is dedicated to modernization of natural-science education of physical therapy specialist to be at higher educational institutions on the basis of increasing of biomedical orientation and development of natural-science competence by means of structuring of content of biomedical disciplines and increasing of importance of natural-science component of practical work and internships.

THE AIM

The research is aimed at scientific substantiation of theoretical concepts of pedagogical characteristic of natural-science competence of physical therapy specialist to be and stages of its formation.

MATERIALS AND METHODS

To achieve an object a complex of research methods was used, in particular, theoretical ones: analysis and synthesis of scientific and methodic literature, methodic and normative documents (standards of education, educational and professional characteristics, programs of professional education of physical therapeutists) which made it possible to fix the contradictions, formulate the problems of education of physical therapy specialist to be and find the possible ways to their solution; synthesis and systematization of research data which allowed to form the theoretical

and methodological basis of the research; synthesis of scientific theories, approaches and conceptions to define the conditions of education of physical therapy specialist to be; empirical methods: observation and questioning.

REVIEW

Substantiation of the essence of natural-science competence of physical therapy specialist is considered to be begun with basic terms which cause the specific features and principles of natural-science education of physical therapy specialist to be.

A term "professional education" is interpreted by the researchers as a formation of combination of special knowledge and skills, work experience and norms of behavior which ensure an opportunity for successful work [1; 2]; process of acquisition of knowledge and skills [3]; skills acquisition in appropriate course or specialty [4]; a combination of knowledge, skills, qualities, professional experience and behavior which ensure the success of work in the chosen field [5]. The process of learning of the complex of data shows that professional education of physical therapy specialist to be is a polysemantic formation, one of the components of which is pedagogical system of natural-science education. This system is composed of the unity of subsystems which are connected by hierarchy of inner correlations and relations with the environment.

At the same time, a term "professional education of physical therapy specialists to be" is considered to be a process which reflects scientifically and methodically valid measures of higher educational institutions which are directed to the formation of a level of professionally competent person able to organize rehabilitation activity for different social groups from a region and successfully work in all spheres in accordance with modern labor-market demands. Natural-science education of physical therapy specialist is considered to be an organized process of acquisition of biomedical competences and formation of professional qualities, knowledge, skills, experience, values of health preservation which are important for future professional activity. In process of research we specified the integrational aspects of natural-science education which remains in system-synergetic correlation with humanitarian, socioeconomic, professional education and practice of training activity of specialist. They were modified according to the idea of modernization of natural-science education as a system which coordinates the external (social) and internal (personal) sources of specialist to be in accordance with the ways of their optimal use and focus on the professional values.

Natural-science knowledge of physical therapy specialist are considered to be the objective and integrated scientific information combining medical, biological and health-preserving components, based on the level of comprehension of its external and internal correlations and available with the creative personal actualizing of specialist under changeable living conditions as a basis for the formation of natural-science competence [6]. This interpretation of natural-science knowledge takes account of integration aspect of professional education in a context of system-synergetic unity of cycles and stages of education. The acquisition of natural-science knowledge results in the formation of key and subject competences which is realized in accordance with competence component of developed scientific approach. In process of our research the term "natural-science knowledge" was expanded by health-preserving aspect inasmuch as the cognitive component of competence is the key in formation of health-preserving educational space. That's why in gnoseological context the natural-science competence of physical-therapy specialist to be consists of health-preserving, medical and biological competences.

Modernization of natural-science education of physical therapy specialist is considered to be an improvement of the process of formation of natural-science competence according to the new social demands. This term was modified from the position of optimization of natural-science education by use of information and communication technologies and expanded by health-preserving aspect which makes it possible to regulate the content of separate modules of the programs of disciplines professional course which include the knowledge of health-preserving sphere [7].

Subject natural-science competences are considered to be the system of knowledge and skills form within the complex of disciplines which form the professional qualities of physical therapy specialist and are important for professional activity. Medical competence in the structure of natural-science competence is considered to be the system of knowledge, skills and specific personal qualities within the content of disciplines of medical course (bases of medical knowledge, medicinal physical training, massage) which are required for the solution of educational problems, tasks and situations by specialists. Medical subject competences include general medical, hygienic, ecological, prophylactic, recreational and diagnostic ones. They include knowledge of basic features and manifestation of disease and injuries; complications and risks in cases of pathological states; principles and methodic of use of facilities in process of providing of first aid; specific features of the effect of different environmental factors on human organism for the development of hygienic recommendations, norms and rules of the development of favorable conditions for work, private life and physical training; indications and contra-indications for use of therapeutic physical training; character of exercises which are used for therapeutic physical training, etc [8].

Biological competence is considered to be a complex of knowledge and ways of students' activity which form the highly tailored of information about anatomical structure, physiological functions, biomechanical and biochemical characteristics of motor function which are needed for personal and professional activity. Biological subject competences include anatomic, physiological, biochemical, biomechanical and prognostic ones. Biological competences are considered on the basis of knowledge of structural, functional, biochemical and biomechanical changes in

human organism in process of physical training; mechanism of development of human motor function; metabolic bases of adaptation, etc.

According to theoretical analysis data a competence of a specialist is a combination of the following activity aspects: cognitive (knowledge), operational (methods of activities and availability for work) and axiological (availability of corresponding motives and values). Thus, health-preserving competence is considered to be an integrated personal quality of physical therapy specialist which has a complex system organization. It is also considered to be a unity and correlation of axiological, cognitive and operational components formation of which reflects the availability of physical therapy specialist to preserve and improve physical, mental and social health of patients. Axiological component includes the perception of a system of health formation and keeping healthy lifestyle as the main human value; cognitive component provides for having a system of knowledge of factors and elements of physical and mental health of person and nation; operational component characterizes the experience of behavioral responses and actions in the line of preservation of own health and development of health-preserving educational environment.

Thus, a health-preserving competence is considered to be an integrated personal quality of physical therapy specialist which has a complex system organization and forms a unity, interaction and interosculation of axiological, cognitive and operational aspects, level of formation of which reflects the ability of physical therapy specialist to be to preserve and improve physical, mental and social health of people [9].

Health-preserving competences include the comprehension of basic mechanisms of personal development in different age periods; specific features of effect of different environmental factors on human organism; requirements of assurance of optimal conditions for normal physical development, preservation and improvement of human health; effect of biological rhythms on human health.

In operational context functional elements of health-preservation include: forming function which is acted on the basis of biological and social mechanisms of personal development; information and communication which ensures the transmission of healthy lifestyle experience, traditions, value orientations which form careful attitude to individual health, value of every human life; adaptive – formation of students' orientation to improvement of health, healthy lifestyle, optimization of health status and increasing of tolerance to different stressful factors of natural and social environment; reflexive which lies in re-comprehension of personal experience in preservation and improvement of health which allows to compare real results and perspectives; integration which combines national experience, different scientific conceptions and educational systems on the way to preservation of health of different social groups [10].

In process of solving of the tasks of integration of axiological, cognitive and operational components of natural-science competence of physical therapy specialist to be we determined the work functions which reflect the specific features of his professional activity, typical tasks and skills which are needed for the process of learning of the disciplines of natural-science course [11].

We determined the main types of skills which are important for physical therapy specialist to be: practical-subject, mental-subject, practical-sign and mental-sign skills. These skills include: 1) ability to act on basis of material media medium; 2) ability to act on basis of constant mental control without any material media medium; 3) ability to act automatically.

Learning function of physical therapy specialist in process of education is realized through the following typical activity tasks: formation of the system of knowledge of physical therapy – professional diagnostic task which include the formation practical-subject skills on a level of constant mental control without any help of material media medium. In process of learning of the disciplines of natural-science course is appropriate to determine the following operation features of competence: ensuring of teaching of theoretical data in accordance with the level of complexity; use of different methods of visual perception in accordance with educational tasks; effective use of didactic principles; assurance of combination of theoretical data and practice.

Educational function in process of professional training of physical therapy specialist is implemented through the following typical professional tasks which include the formation of practical-subject skills and experience on a level of constant mental control: formation of bases of rational behavior, ethic norms and skills in educational process; contribution to the intellectual and aesthetic education [12].

Organizational function in process of education of physical therapy specialist is implemented through typical professional stereotyped tasks which include formation of subject and practical skills on a level of constant mental control: organization of process of physical rehabilitation; this task include the formation of ability to organize the process of physical rehabilitation of people of different age groups and to create the individual rehabilitation system with biomedical requirements compliance.

Development function of physical therapy specialist is implemented through typical professional stereotyped tasks which include formation of subject and practical skills on a level of constant mental control: consideration of characteristics of motion ability, their age dynamics, substantiation of age and individual features of patients to promote development of motor activity; comparison of their dynamic with age norms, injuries prevention.

Planning function of physical therapy specialist includes gaining the experience of planning of educational process and extracurricular work on physical rehabilitation in accordance with age norms and dynamics of work availability of patients [13].

Control function is implemented through the aims of activity which include the formation of subject and practical skills and experience on a level of constant mental

control: determination of the initial level of physical development and physical status of patients, assessment of a level of physical development and degree of training; implementation of operative control in process of physical training which is shown in ability to analyze the indicators of work availability, fatiguability and recreation in training process; implementation of closing control as an ability to accomplish recreational and educational tasks [14,15].

Communication function includes the determination of formal and informal relations with patients in process of physical rehabilitation.

Research function of physical therapy specialist in implemented through the following aims of activity: determination of age and individual specific features of patients; determination of the possible types of physical activity in process of physical training [16].

On a basis of generalization of data of system analysis of research works for the assessment of formation of professional competence of physical training specialists we determined the criteria of their professional competence in the field of natural-science disciplines. Systematization of the results of theoretical analysis of the complex of sources on the problem made it possible to prove that the formation of natural-science competence of physical therapy specialists is an integral unity of a complex of different criteria: professional and motivational, cognitive and methodical, integral and content, functional and reflexive, information and communication, health-preserving, diagnostic and prognostic ones.

Professional and motivational criterion includes the unity of features which determine specialist's ability to self-realization and self-improvement in process of future professional activity. Cognitive and methodical criterion includes the indicators of quality of natural-science knowledge, methodical training and specific features of practical use of biomedical knowledge in process of physical rehabilitation. Information and communication criterion includes the skills and ability of specialists to be to use computer programs, analyze the process of education and training using the international technologies, ability to alternative search of data sources, their critical perception and analysis. Integral and content criterion of natural-science competence includes the ability to implement the intrasubject, intersubject and trans subject integration of knowledge and skills, availability for creative interpretation of practical experience. Functional and reflexive criterion includes the adequacy of specialist's self-appraisal, his ability to identify the other and himself, carry out self-reflection of own activity. Health-preserving criterion includes the indicators of a level of comprehension of a role of valeological culture in process of personal development of specialist to be; specialists' to be acquisition of new knowledge about healthy lifestyle and formation of motivation and value attitude to health preservation and improvement. Diagnostic and prognostic criterion makes it possible to determine a level of specialists' to be acquisition of methods of assessment of health status and dynamics of results of rehabilitation activity [17].

DISCUSSION

In process of analysis of research data we established the fact that works of a number of researchers provide for phased process of formation of specialist's competence. In the context of the defined problem the term "stage of formation of natural-science competence of physical therapy specialists to be" is considered to be a completed period of education which has its own specific features caused by the criteria (stage of development of professional competence; domination of definite types of educational activity; a complex of natural-science disciplines which is peculiar to the stage) and remain in system and structural subordination and synergetic interdependence with other stages of professional education.

We are sure that the structure of stages of formation of natural-science competence of physical therapy specialists to be should include three stages:

1. Professional orientation (opening) stage includes the first and the second years of education of specialist to be. This stage is aimed at the development of professional motivation, basic components of professional competence of physical therapy specialists to be in process of learning of natural-science disciplines. On professional orientation stage the disciplines of biological course (human anatomy, human physiology and biochemistry) are the dominating ones. Medical disciplines are represented by the discipline "Physical therapy theory and practice" which aimed at the formation of basics of medical comprehension of health-preservation. In process of learning of biological and medical disciplines at professional orientation stage of education the specialists to be generalize and extend their knowledge of human body structure, get the basic comprehension of primary integration of knowledge by learning of morphological and functional changes in human organism in process of rehabilitation activity. A discipline "Biomechanics" is considered to be the main discipline on professional orientation stage as it shows the idea of integration of content of natural-science knowledge by means of modelling of a system of intrasubject, intracourse and intercourse integral correlations.

2. Fundamental professional (main) stage includes the third year of education of physical therapy specialist to be. The disciplines of this stage are aimed at the development of professional competence on a basis of general knowledge and skills; learning of the courses of theoretical disciplines of peculiarly professional orientation and practical training in process of which the synchronous approbation of gained experience takes place; development of cognitive, operational and axiological components of natural-science competence in process of practice. This stage include mostly the disciplines of medical course ("Physical therapy in therapeutic and surgical diseases of abdominal cavity organs", "Physical therapy in diseases and disorders of musculoskeletal apparatus", "Paramedic assistance in medical emergencies", "Kinesio taping", etc.). On fundamental professional stage the discipline "General theory of health, diagnostics and monitoring of health status" is considered to be the dominating one, because it

determines the perspective ways of implementation of the idea of optimization of natural-science education on basis of the use of information and communication technologies.

3. Specialized professional (final) stage includes the fourth year of education of physical therapy specialist to be. Natural-science disciplines of specialized professional stage are focused on the development of creative aspects of professional competence the beginning of formation of which was initiated on the previous stages of professional education; doing educational and psychological practical work, internships; projecting for the degree. On this stage disciplines of biological course are dominating ("Biological research methods in physical therapy", "Biological aspects of physical rehabilitation", "Instrumental research methods in physical rehabilitation"); medical subject competences are formed in process of learning of the disciplines "Research methods in medical control" and "Methodology of teaching of adaptation physical rehabilitation". The discipline "Biological research methods in physical therapy" is considered to be the dominating one on specialized professional stage because it realizes the ways of interaction of teachers and physical therapy specialists to be which results in the formation of initiative, independence and creativity of the students, involving them into the research educational activity.

The matter of the problem aspects of natural-science competence of physical therapy specialist to be and stages of its formation is still open to question. At the same time, the problem of development of the structure of integration-functional model of natural-science education of physical therapy specialists to be requires further discussion.

CONCLUSIONS

Thus, we characterized the integrated natural-science competence of physical therapy specialist to be. According to the main scientific ideas of the work we made more exact the basic terms which determine the specific features and patterns of natural-science education of physical therapy specialists to be. The modernization aspects of the terms "subject natural-science competences" and "natural-science knowledge" in the context of competence systemic synergetic approach were modified. The basic terms were expanded form the position of health-preserving and optimization of educational process.

In process of the research were defined: step-by-step specific features of the process of acquisition of natural-science knowledge, functions (educational, organizational, developing, planning, control, communication and research), typical activity tasks (professional, social, domestic, stereotype, diagnostic and heuristic) and types of skills (practical-subject, mental-subject, practical-sign and mental-sign) of physical therapy specialist to be which made it possible to define the criteria of the formation of natural-science competence (professional and motivational, cognitive and methodical, integral and content, functional and reflexive, information and communication, health-preserving, diagnostic and prognostic) and formulate their competence characteristics. The developed criteria and indicators made it possible to substantiate the development of phased substance of natural-science education of physical therapy specialist to be at higher educational institution.

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ORCID and contributionship:
Anna V. Fastivets: 0000-0001-6333-5519 [B,D,E]
Olena V. Kolesnyk: 0000-0001-9140-9829 [A,B,D]
Anatoliy V. Emetc: 0000-0002-2088-8428 [A,B,C]
Yevheniia O. Skrinnik: 0000-0001-5741-4384 [C,D,F]
Oleksandr V. Petryshyn: 0000-0002-5722-8036 [E,F]

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CORRESPONDING AUTHOR
Olena V. Kolesnyk
Poltava Business Institute of Higher Educational Institution "Academician Y. Bugay International Scientific-Technical University"
7 Sinna St., 36039 Poltava, Ukraine
tel: +380667441888
e-mail: kolesnik_o_v@ukr.net

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REVIEW ARTICLE

INFORMATIZATION OF HEALTH CARE ON THE EXAMPLE OF A UTILITY COMPANY

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Tatiana V. Pluzhnikova, Oksana I. Krasnova, Svetlana M. Tanianskaia, Valeriia E. Tanianskaia, Irina A. Kolenko, Mariya O. Rumyantseva, Maria M. Bezborodko
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

ABSTRACT

The aim to provide valid, relevant, permanent, timely information to all health care institutions, as well as citizens of Ukraine in the framework of public health management processes for quality medical care.

Sociological method - allows you to study the social structure and its impact on health. Systems analysis as a scientific method of cognition, which makes it possible to establish structural connections between system elements.

Medical information system is a type of information system that differs in a set of methodological techniques, techniques and management algorithms designed to collect, store, process and transmit information in health care facilities. An single information system ensures the provision of reliable information in the right amount, in the right place, at the right time for members of the health care system. One of the important factors in the implementation of health care reform is the electronic health care system (E-Health). E-Health consists of two interconnected parts, one of which - the central database - will be controlled by the state. Institutions will have access to it through the second part, which is called privately developed medical information systems. The National Health Service of Ukraine ensures the functioning of the electronic health care system and a website containing information on the electronic health care system.

Health care informatization today is an integral, perhaps the main, component of any health care reform in today's world. Creating a single information space has many advantages.

KEY WORDS: informatization, health care, utility company

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INTRODUCTION

The rapid development of information and communication technologies is seen by most countries as the main response to these challenges in the field of big data and artificial intelligence. In developed countries, the digital transformation has already changed a number of industries and organizations. Information and communication technologies bring significant benefits to both public health and individual health care, adapt the methods of providing medical services and the nature of health systems management at all levels [1].

During the years of independence, the state has carried out significant work on the formation of theoretical foundations and practical application of the latest computer technologies in health care. In Ukraine, health care reform is about changing the funding system and introducing the «money follows the patient» principle.

The creation of a modern electronic system that will significantly increase the efficiency and transparency of health care is an important tool for implementing reform. The medical industry is closely involved in the accumulation and processing of large amounts of information. There is a need for long-term data collection and analysis and the use of electronic systems to ensure the proper quality of health care [2].

Today, it is impossible to ensure the reform of the health care system, it is impossible to achieve high quality health care, transparency and efficiency of management without the introduction of modern methods of storage, processing and transmission of information. In order to raise the system of practical medicine, medical education, science to the current level, the state policy of health informatization provides for measures aimed at eliminating the gap in this area with the advanced world powers and accelerating the entry into the information space of the international community.

The implementation of this policy is carried out in several main areas: development of the legal framework for health care informatization, improvement of its organizational and personnel support, formation of the appropriate technical base and means of informatization, involvement of public organizations in the informatization of the industry [3].

The main tasks of health care informatization:

- at the state and regional levels - to ensure prompt and long-term control of the Government's efforts to improve the health of the population of Ukraine, which will help reorient public policy to new approaches to public health;
- at the departmental level - to exercise quality control of management decisions through operational and reliable

statistics of health indicators, to create a basis for the introduction at a fundamentally new level of insurance and family medicine, new technologies for diagnosis and treatment;
- at the level of every citizen of Ukraine - to ensure the sequence of medical actions, monitoring of personal health and protection of the patient from possible unprofessional actions of medical worker

THE AIM

The purpose of health care informatization is to provide valid, relevant, permanent, timely information to all health care institutions, as well as citizens of Ukraine in the framework of public health management processes for quality medical care.

MATERIALS AND METHODS

Sociological method - allows you to study the social structure and its impact on health. Systems analysis as a scientific method of cognition, which makes it possible to establish structural connections between system elements.

REVIEW AND DISCUSSION

An information system is a set of methodological, organizational, regulatory and legal support, as well as staff and software and hardware to meet the information needs of users. Medical information system is a type of information system that differs in a set of methodological techniques, techniques and management algorithms designed to collect, store, process and transmit information in health care facilities [4, 5].

The task of health care informatization is to provide tools for the implementation of health care financing reform and the functioning of the National Health Service of Ukraine as a single national customer and payer for medical services.

An single information system ensures the provision of reliable information in the right amount, in the right place, at the right time for members of the health care system [6].

Information and communication technologies provide the benefits of big data processing and intelligent systems for forecasting health care needs, planning resource resources, supporting clinical decisions, and improving the quality of health care. They provide an opportunity to involve the patient in the care of their own health, quality control of services received by providing access to their own medical data and their disposal.

One of the important factors in the implementation of health care reform is the electronic health care system (E-Health). In order to sign an agreement with the National Health Service of Ukraine, a health care institution must be registered in this system. And in order to fulfill the contract with the National Health Service of Ukraine, chief physicians and medical staff must have their own qualified electronic signatures [1].

E-Health consists of two interconnected parts, one of which - the central database - will be controlled by the state. Institutions will have access to it through the second part, which is called privately developed medical information systems.

Medical institutions can choose any medical information system among those who passed the test and connected to the central component of the electronic health care system. Developers of medical information systems are required to adhere strictly to the requirements for reliability, security and confidentiality of data that their systems will share with the central database.

The National Health Service of Ukraine ensures the functioning of the electronic health care system and a website containing information on the electronic health care system.

The owner of the central database is the state represented by the National Health Service of Ukraine.

The administrator of the Register of Medical Specialists and the Register of Business Entities in the field of health care and the owner of their information is the Ministry of Health. The administrator of other registers and the owner of their information and other information in the central database is the National Health Service of Ukraine, unless otherwise provided by law.

In public utilities of Poltava, information systems have been implemented since the beginning of the existence of public utilities in the form of separate software packages - hospital letters, registry, statistical accounting.

In 2007, the hospital began implementing a medical information system - «Chestnut». The introduction of an information system, firstly, gives the doctor more information about the patient, and secondly, there is less time for patients to see a doctor.

With the help of this system in electronic mode is carried out:
- formation of an outpatient card of the patient;
- prescription medication card;
- appointment with doctors;
- work schedule of the doctor's office;
- letter of incapacity for work;
- the passage of patients by specialists is monitored;
- in the automatic mode distribution of patients on sites;
- statistical reporting is created;
- extract of prescription forms.

The existing corporate computer medical network provides automation of the process of organizing medical care for city residents.

The branches of public utilities of the city of Poltava were merged into a single network using unshielded twisted pair of the 5th category (UTP cat5). A database server was purchased and installed. The register of all population of the city is created. Since 2010 [4, 6], all hospital buildings have been integrated into a single network using fiber optic cable.

At present, three medical institutions of Poltava are united into a single network of medical information system. At least five kilometers of unshielded twisted pair have been

laid in public buildings. Equipped with more than 200 automated doctor's workstations. The connection between the buildings of medical institutions is provided by two cable internet operators using «vlan» technology.

The public utilities of Poltava are equipped with servers, which have: database server, terminal server, Internet gateway, file server, internal web-server. In 2019, a powerful server was purchased at the expense of the city council, to which the database was transferred. The hospital plans to use the old database server as a PACS server. Currently, the institution has ordered a network modernization project and plans to move from unmanaged network equipment to managed third-level.

CONCLUSIONS

Health care informatization today is an integral, perhaps the main, component of any health care reform in today's world.

Creating a single information space has many advantages [2, 6]. Such advantages include:

- introduction of electronic document management and public key system;
- two-level protection against loss or destruction of information and ensuring the autonomy of all users at all levels;
- wide opportunities for data exchange between regions in real time, as well as data storage with virtually no restrictions on the volume and duration;
- no costs for the purchase of application software for health care facilities due to the use of cloud technologies with the ability to update simultaneously throughout the system;
- no costs for permanent maintenance of technical specialists (system administrators, programmers), which are not provided for in the staff list;
- low cost of deployment across the country and regions;
- implementation in the shortest possible time (up to five years);
- the ability to maintain any registers in the health care system while maintaining their relevance in real time;
- the possibility of immediate access to the patient's medical data, regardless of the place of registration and the place of seeking medical care;
- wide opportunities for population and scientific research in the field of medicine, through the received information;
- comfortable access of doctors to medical knowledge bases formed on the basis of the use of the proposed system.

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ORCID and contributionship:
Tatiana V. Pluzhnikova: 0000-0001-8300-854X [A, F]
Oksana I. Krasnova: 0000-0001-9819-1818 [B, D]
Svetlana M. Tanianskaia: 0000-0003-3764-2181 [B]
Valeriia E. Tanianskaia: 0000-0002-7954-7628 [B]
Irina A. Kolenko: 0000-0003-2124-4509 [B]
Mariya O. Rumyantseva: 0000-0001-7247-9792 [B]
Maria M. Bezborodko: 0000-0002-4837-6061 [B,C]

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CORRESPONDING AUTHOR

Oksana I. Krasnova
Poltava State Medical University
23 Shevchenko st., 36000 Poltava, Ukraine
tel: +380984673750
e-mail: krasnovaoksana197@gmail.com

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ABSTRACT BOOK

ALL UKRAINIAN SCIENTIFIC AND PRACTICAL ABSENTEE CONFERENCE WITH INTERNATIONAL PARTICIPATION "POLTAVA'S DAYS OF PUBLIC HEALTH" MAY 28, 2021, POLTAVA, UKRAINA

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TREAT OR DO NOT TREAT THE INITIAL FORMS OF FLUOROSIS

Lyudmila I. Amosova, Lyudmila F. Kaskova, Yulia I. Soloshenko, Oksana S. Pavlenkova
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Introduction: Some authors argue that there is no point in treating the initial forms of dental fluorosis, since they disappear on their own over time. However, there are currently no studies to confirm or refute this statement. To study the changes that occur with untreated . of the enamel, we conducted a study of 80 maxillary incisors with manifestations of the initial forms of fluorosis in children from Poltava.

The aim: To study the dynamics of enamel changes arising from untreated initial fluorotic lesions of enamel in children.

Materials and methods: Evaluation of the manifestations of dental fluorosis was carried out according to the Dean criteria, as recommended by WHO experts. Determination of the area of chalk spots was carried out by our proposed method. At the same time, the initial ones were considered to be very mild forms of fluorosis, when chalk changes in enamel occupied less than 25% of the tooth surface, and light ones - with damage from 25% to 50% of the tooth surface. The criterion for improving the condition of the affected enamel was the disappearance or reduction in the size of chalk spots. The criterion for deterioration was considered to be an increase in the size of the enamel affected by fluorosis, the appearance of new chalky spots, pigmentation or erosion. When the process was stabilized, the size of the fluorous spots, their color and the integrity of the enamel did not change.

Results: We have been monitoring the dynamics of untreated fluorotic lesions for two years. During the first year of observation, no improvement in the condition of the enamel affected by fluorosis was not registered in any tooth. Stabilization was found in 45.0 ± 5.6% of the teeth, among which very light fluorosis was previously diagnosed in 30.0 ± 5.1% of the teeth, light - in 15.0 ± 3.9% of the teeth. Stability of the state of enamel affected by fluorosis was diagnosed in 55.0 ± 5.6% of the teeth. Of these, 20.0 ± 4.5% initially had manifestations of very light fluorosis, and 35.0 ± 5.3% - light. Deterioration was manifested not only by an increase in the size of fluorosis spots in 20.0 ± 4.5% of the teeth, but also by the appearance of new chalk spots in 10.0 ± 3.4% of them, pigmentation in 10.0 ± 3.4%, and in 15.0 ± 3.9% - even destructive changes in the enamel surface. During the second year of observation, improvement in the state of fluorosis lesions was also not diagnosed in any of the teeth. Stabilization of fluorosis, in comparison with the data of the first year, significantly decreased ($p < 0.001$) and was found only in 18.8 ± 4.4% of the teeth. Deterioration of the state of the enamel affected by fluorosis was registered already in 81.3 ± 4.4% of the teeth, which is 1.48 more than in the first year of observation ($p < 0.001$). At the same time, the occurrence of new chalk spots was diagnosed in 17.5 ± 4.3%, pigmentation - in 21.3 ± 4.6%, and destructive changes - in 27.5 ± 4.9% of the teeth relative to the initial data.

Conclusion: Thus, with age in children, the initial forms of fluorosis disappear not because they «self-heal», but because they are transformed into more severe forms, which dictates the need for secondary prevention of fluorosis as early as possible after teething.

KEY WORDS: Chalk changes, fluorotic lesions, destructive changes, enamel.

MORTALITY OF THE UKRAINIAN POPULATION FROM ROAD TRAFFIC ACCIDENTS AS A PROBLEM OF PUBLIC HEALTH

Inna V. Bielikova, Anastasiia O. Dryha
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Introduction: According to the WHO global report on road safety, more than 1.2 million people worldwide die each year from road traffic accidents (RTA), and another 20-50 million are injured. Studies indicate that over 90% of deaths due to RTA worldwide occur in low- and middle-income countries, even though there are less than half of all vehicles in the world. Almost half of worldwide RTA deaths are among pedestrians, cyclists, and motorcyclists. RTA injuries are the leading cause of death among people aged 5-29 years.

The aim: To conduct an analysis of population mortality from RTA and to identify ways of behavioural correction in population as one of the problems of the public health system in Ukraine.

Materials and methods: The materials of the study were data from Patrol Police of Ukraine. Methods of descriptive epidemiology and statistical methods (time series analysis) were used to achieve the stated aim.

Results: According to the data of the Patrol Police of Ukraine, there were 168107 RTA in 2020 (in 2019 – 160675, which indicates 4.6% growth), including accidents with victims 26140 (in 2019 - 26052, which indicates 0.3% growth) where 3541 people died (in 2019 - 3454, which indicates 2.5% growth).

The total number of RTA caused by pedestrians is declining in Ukraine. Thus, in 2020 there were 705 cases (in 2019 – 776, which is -9.7%). At the same time, the number of deaths resulted from such RTA is increasing: in 2020 – 117 (in 2019 – 107, which is +9.3%). There is a marked concern for an amount of RTA involving children. During 2020 there were 3574 traffic accidents where 168 children under the age of 18 died. It's important to highlight that the amount of RTA where children were involved, considerably decreased in 2020 compared to 2019 (-8.4%), while the number of child fatalities increased by 2.4%.

The most common causes of accidents caused by drivers are illegal driving manoeuvres – 22%; excess speed – 34%; not maintaining the driving safety distance – 8%; violation of the rules on crossroads – 8%; drunk driving – 3.23%; wrong-way driving – 1.35%; violation of the rules while driving across a pedestrian crossing – 6%.

In order to reduce the amount of RTA in Ukraine, several legal documents were adopted, including approval of a Strategy to improve road safety in Ukraine until 2024. The Strategy aims to reduce mortality rates from RTA at least by 30% until 2024, to decrease the severity of the consequences from RTA for traffic participants, to diminish social and economic losses from road traffic injuries, and to introduce an effective system of road safety management for life and health protection of the population.

Conclusions: One of the main tasks of the public health system is formation of safe behaviour in traffic participants, which includes: social campaigns launching to inform the public about the risks on the roads and the need to follow traffic rules (outdoor advertisements, commercials on television and social networks, etc); researches on the commitment of traffic participants to the traffic rules and the need to comply with them; creation of playgrounds for conducting classes on road safety; explanatory work on children's road traffic injuries prevention in a preschool educational establishment, other educational institutions; popularization of the safe driving rules among the population (use of seat belts, child seats, ban on drunk driving, telephone conversations, etc.); compulsory inclusion of road safety issues to the educational programs of pedagogical staff, etc.

KEY WORDS: public health, mortality, road traffic accidents.

АНАЛІЗ ДИНАМІКИ ПОКАЗНИКІВ ПЕРВИННОЇ ІНВАЛІДНОСТІ СЕРЕД УЧАСНИКІВ АТО/ООС В 2014-2020 РР

Ірина А. Голованова, Олександр Д. Гавловський, Наталія О. Ляхова, Інна В. Бєлікова, Галина В. Калатур
ПОЛТАВСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ, ПОЛТАВА, УКРАЇНА

ANALYSIS OF THE DYNAMICS OF PRIMARY DISABILITY INDICATORS AMONG ATO / OOS PARTICIPANTS IN 2014-2020

Iryna A. Holovanova, Alexander D. Gavlovsky, Natalia O. Lyakhova, Inna V. Belikova, Galina V. Kalatur
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Вступ: Військові дії на сході України, спочатку як Антитерористична операція (АТО), а з 2018 року – Операція об'єднаних сил (ООС), призвели до змін у житті всієї країни й появи нових категорій громадян, які стали особами з інвалідністю, зокрема й через вогнепальні та осколкові поранення. Наслідки участі у військових діях – це також наявність бойових травм, розвиток психологічних та соціальних порушень, які зазвичай мають довготривалий пролонгований характер та потребують проведення різнопланових реабілітаційних заходів. Оперативне збирання статистичної інформації дає змогу чітко контролювати стан та динаміку інвалідності даної категорії громадян, як у масштабах усієї країни, так і на окремих її територіях.

Мета: дослідити динаміку показників первинної інвалідності серед учасників АТО/ООС в 2014-2020 рр.

Матеріали і методи: Аналіз статистичних даних ДУ «УД НДІ медико-соціальних проблем інвалідності МОЗ України» за 2014-2020 рр. Методи: контент-аналіз, системного підходу та аналізу.

Результати: Згідно з отриманою статистичною інформацією, упродовж 2014–2020 років, тобто усього часу проведення АТО/ООС, в Україні медико-соціальними експертними комісіями було первинно оглянуто 31 334 її учасники. З них більше половини (63,3 %), а саме 19 846 визнано особами з інвалідністю. Серед уперше визнаних особами з інвалідністю найчастіше встановлювалась III група (70,2 %, 13 925 осіб) інвалідності. II групу встановлювали у 27,3 % випадків (5416 осіб), I встановлено 505 особам, що становило 2,5 % випадків. У 32,3 % випадків (10 116) установлено тільки відсотки втрати професійної працездатності. Усі визнані особами з інвалідністю комбатанти потребували забезпечення виробами медичного призначення. Аналіз засвідчив, що до 2017 року, незважаючи на загальні тенденції до зниження загального рівня первинної інвалідності в Україні, спостерігалася чітка тенденція до зростання первинної інвалідності серед учасників АТО з 214 осіб у 2014 році до 2347 осіб у 2015-му та 3216 осіб у 2016 році. У 2017 році первинна інвалідність учасників АТО досягла загальнодержавних тенденцій і знизилась до 2861 особи. А у 2018 році цей показник зріс на фоні загальної тенденції до зростання первинної інвалідності в країні й склав уже 3805 осіб. У 2019 році, незважаючи на зниження загального рівня первинної інвалідності в країні, первинна інвалідність серед учасників АТО/ООС продовжувала зростати, досягнувши свого найвищого рівня за усі роки проведення АТО/ООС – 4157 осіб. Дане явище можна пояснити не тільки рівнем бойових травм у комбатантів, але й значним зростанням соматичної патології у даного контингенту, пов'язаної із захистом Батьківщини. У 2020 році уперше за останні 3 роки зафіксовано зниження рівня первинної інвалідності серед учасників ООС до 3246 осіб, що на 911 осіб менше, порівняно з минулим роком, і відповідає загальнодержавним тенденціям щодо зниження як кількості первинно оглянутих на МСЕК, так і загальної кількості первинно визнаних особами з інвалідністю, зумовленого, насамперед пандемією COVID-19.

Встановлення інвалідності було зумовлено як стійкими функціональними порушеннями постраждалих, які потребували насамперед медичної реабілітації, так і незворотними порушеннями – анатомічними дефектами, яким рекомендували соціальну, побутову та професійну реабілітацію. Серед травматичних уражень, як і в минулі роки, переважають ураження головного мозку, травматичні ураження нижніх та верхніх кінцівок. Серед оглянутих учасників АТО/ООС найбільше потребували

послуг з медичної реабілітації, включаючи відновне лікування, реконструктивну хірургію та ортезування.
Висновки: Інтеграція осіб з інвалідністю – учасників АТО/ООС у суспільство потребує забезпечення їх реабілітаційними заходами, а саме медичною, психолого-педагогічною, фізичною, професійною, трудовою, соціально-побутовою реабілітацією, забезпечення технічними та іншими засобами реабілітації. Незважаючи на деяке зменшення кількості оглянутих у МСЕК у 2020 році учасників ООС та подальше зниження кількості первинно визнаних особами з інвалідністю, пріоритетними напрямами, як державної соціальної політики взагалі, так і діяльності служби медико-соціальної експертизи зокрема, на сучасному етапі реформування галузі охорони здоров'я України повинні бути комплексна реабілітація та соціальний захист осіб з інвалідністю внаслідок військової травми, учасників антитерористичної операції/операції об'єднаних сил і формування оптимальної системи реабілітації та соціальної інтеграції даного контингенту осіб.
Ключові слова: АТО/ООС, первинна інвалідність.

KEY WORDS: anti-terrorist operation / environmental protection, primary disability.

ANALYSIS OF PROFESSIONAL VOICE DISORDERS IN TEACHERS

Iryna A. Holovanova, Tatyana V. Pluzhnikova, Inna V. Bielikova, Natalia O. Lyakhova, Oksana I. Krasnova, Maria M. Bezborodko
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Introduction: The human voice, human language is the result of a complex mechanism of interaction of various organs and systems. Almost all major physiological systems of the body are involved in the implementation of phonation. They are combined to achieve a result by the central nervous system. Nowadays, an increasing number of professions are gaining a direct or indirect connection with the voice or speech function. The professional activity of teachers and lecturers of higher educational institutions requires significant energy expenditure and nervous and muscular tension. Voice load significantly affects the condition of the vocal apparatus. Diseases of the vocal apparatus reduce the ability to work in almost all healthy people. There are a number of requirements for people who use voice in their professional activities. Preliminary assessment of suitability for such work is undoubtedly appropriate in the framework of measures for professional selection and career guidance.
The aim: to investigate the causes of voice disorders in teachers and ways to prevent them.
Materials and methods: 26 bibliographic sources devoted to professional voice disorders in representatives of language professions were analyzed. Methods: bibliosemantic, systems approach and analysis.
Results: Voice disturbance occurs in the most able-bodied age - from 25 to 55 years. In the process of professional activity there are two main «critical» periods. The first is when adapting to the voice load. It coincides with the first three years of professional work, and the second period coincides with the last years of work. At this time, people with a voice profession have problems with the voice.
Observing the representatives of language professions, namely the teaching staff of higher education institutions, it was found that about 73 % of respondents note that the cause of voice disorders is voice fatigue at the end of the school year. The impact of various infectious diseases of the upper respiratory tract in the autumn-winter period was noted by 22 % of respondents and 17 % of the causes of voice disorders indicated emotional overload. Uncertainty and fear of the audience during the speeches, as the cause of voice violations, identified 15 % of respondents. About 10-12 % of educators have obvious vocal disorders and need the help of a phoniatrician. About 61 % of educators can not cope with their voice load and are at «risk» of voice disorders. Therefore, it is very important to be able to distribute the voice load to the educator in the process of his activity.
During their professional activities, teachers are forced to speak longer than usual for many years in a row. They speak louder than usual and in front of a large audience (more than 30 people), where everyone present is a potential source of noise, in different acoustic conditions.
Conclusions: The possibility of professional use of the vocal apparatus depends on maintaining these bodies in a satisfactory condition. To prevent voice disorders, teachers and professors of higher education should carefully follow the regime and hygiene of the voice, apply only the right voting skills, avoid being in large crowds (prevention of respiratory infections), if possible to limit voice load in the open. Chronic and acute diseases can lead to voice disorders, sometimes - quite pronounced. The purpose of prevention of professional voice disorders is early diagnosis of diseases of the larynx, in connection with which persons of language professions should be under the constant dispensary supervision of a phoniatrician and follow his recommendations.

KEY WORDS: voice disorders, teachers, professional disorders.

АНАЛІЗ РІВНІВ ЗАХВОРЮВАНОСТІ НА ДИФТЕРІЮ ТА ЛЕТАЛЬНОСТІ СЕРЕД ЩЕПЛЕНОГО ТА НЕЩЕПЛЕНОГО ДОРОСЛОГО НАСЕЛЕННЯ УКРАЇНИ В ПЕРІОД ЕПІДЕМІЇ 1992-2002 РР

Лілія Я. Кушнір, Руслана В. Кушнір, Наталія О. Ляхова, Тетяна В. Плужнікова, Оксана І. Краснова
ПОЛТАВСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ, ПОЛТАВА, УКРАЇНА

ANALYSIS OF DIPHTHERIA AND MORTALITY LEVELS AMONG VACCINATED AND UNVACCINATED ADULT POPULATION OF UKRAINE DURING THE 1992-2002 EPIDEMIC

Lilia J. Kushnir, Ruslana V. Kushnir, Natalia O. Lyakhova, Tatiana V. Pluzhnikova, Oksana I. Krasnova
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Вступ: Згідно даних експертів ВООЗ, для досягнення епідемічного благополуччя відносно дифтерії, не менше 75% дорослих повинні мати захисний рівень протидифтерійних антитіл. В 1991 р. на фоні здійснення планової імунізації населення в Україні виникла епідемія дифтерії, причиною початку якої серед дорослих вважається низький рівень колективного імунітету, пов'язаний з відсутністю планової ревакцинації дорослого населення. З початком епідемії розпочалася масова імунізація дорослих, проте проведені щеплення не змогли забезпечити достатнього рівня імунітету. Згідно офіційних даних МОЗ, в Україні серед померлих від дифтерії в 1998 р. щеплені особи становили 80%.

Мета: Порівняти рівні захворюваності на дифтерію серед щепленого та нещепленого дорослого населення в період епідемії 1992-2002 рр., дослідити вплив щеплення на перебіг захворювання та летальність, оцінити якість вакцинації.

Матеріали та методи: Використані дані статистичного відділу МОЗ України за 1992-2022 рр. Методи: епідеміологічний, контент-аналіз, системного аналізу та системного підходу.

Результати: Причиною початку епідемії дифтерії 1992-2002 років вважається низький рівень колективного імунітету, який пов'язаний з недостатністю планової ревакцинації дорослого населення (1991 – 59.5%), при необхідності досягнення епідемічного благополуччя не менше 75%. Проведення масової імунізації населення почалось в 1994 р., і на початок 1997 р. 26,4 млн. осіб (88,6% дорослого населення) одержали триразове щеплення адсорбованим дифтерійно-правцевим анатоксином зі зменшеним вмістом антигенів (АДП-М). Проте, вакцинація дорослих проводилась без урахування початкового рівня антитоксичного імунітету, інтервали між щепленнями не завжди дотримувались, антигенне навантаження вакцин не враховувалось, що вплинуло на якість імунізації.

За період епідемії значно змінився показник щеплених серед хворих: на етапі підйому рівнів захворюваності з $3,02^0/_{0000}$ (1992) до $5,77^0/_{0000}$ (1994) цей показник складав 46,3±1,26-50,0±0,90%. В 1995 р. при МАХ рівні захворюваності $10,30^0/_{0000}$ частка щеплених серед хворих зросла до 59,03±0,67%.

В 1996-1998 рр. на етапі зниження показників захворюваності продовжувалося зростання частки щеплених серед хворих до 69,9±1,24%-75,0±1,17%. В 1999-2002 рр. настав період стабілізації показників до $0,39\text{-}0,74^0/_{0000}$, а питома вага щеплених серед хворих стала найвищою - 80,05±2,07-85,79±2,53%.

Статистично підтверджено позитивний вплив щеплень на клінічний перебіг хвороби (співвідношення важких та легких форм). Кількість легких форм в 1994-2001 рр. перевищувала кількість тяжких в 8 разів. В цей же час на показник смертності щеплення вплинуло незначно: нещеплені 4,35±0,52% в 1992 р., 3,69±1,19 %. в 2002 р., щеплені 3,18±0,65% в 1992 р., 1,23±0,38% в 2002 р.

Висновки: Встановлено, що епідемія дифтерії в Україні в 1992-2002 рр. розвивалась в умовах високих показників щепленості населення, що суттєво відрізняє цю епідемію від попередніх. Високий рівень захворюваності серед щеплених, велика кількість вакцинованих серед померлих свідчить про недостатню якість та ефективність імунізації дорослих, що виконувалася в період епідемії.

КЛЮЧОВІ СЛОВА: Дифтерія, епідемія, імунізація населення.

KEY WORDS: Diphtheria, epidemic, immunization of the population.

APPLICATION OF THE ANTISEPTIC "TROKLOSENE" IN THE COMPLEX TREATMENT OF PATIENTS WITH CHRONIC GENERALIZED PERIODONTITIS

Liliia I. Lyashenko, Larysa M. Lobach, Zoriana Yu. Nazarenko, Irina M. Tkachenko, Olena V. Khmil, Natalya M. Brailko
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Introduction: Generalized periodontitis (GP) is an urgent medical and social problem. Its importance is determined by the fact that the number of people with GP is steadily increasing and this pathology loses its age restrictions. The vast majority of drugs used in periodontics are means of etiotropic or symptomatic therapy. It is believed that the basic principle of complex therapy of GP is the use of targeted antimicrobial therapy. But in some cases it is advisable to use antiseptics in combination with immunocorrelators.
The aim: Study of the effect of antiseptic, which includes: 10 mg of latent chlorine extracted from troclozen sodium on an effervescent basis, on pathogenic microorganisms and the effectiveness of comprehensive treatment of patients with chronic generalized periodontitis II and III severity.
Materials and methods: We examined 29 patients aged 45 to 55 years, who were diagnosed with CGP of II and III degree of severity. All patients noted manifestations of the disease for 3-15 years. The scheme of complex treatment of CGP of II and III degree of severity included the drug in the form of pills containing latent free chlorine extracted from troclozen sodium on an effervescent basis. Patients were divided into 2 groups. Patients of the first experimental group by simple randomization were divided into two subgroups depending on the treatment with the additional use of the drug, which includes this drug (group 2, n = 17) and without it (group 3, n = 12). The dental status of 7 practically healthy people of the same age who made up the control group was also determined.
Patients of all groups used clinical and laboratory research methods. To assess the condition of periodontal tissues, color, configuration, edema, pain, bleeding gums were determined, and the depth of the gingival sulcus was checked. The presence of dental layers was taken into account. Hygiene indices according to Green-Vermilion, PMA index in Parma modification and species specificity of microflora were determined as additional research methods. Studies of the biocenosis of the oral cavity were performed by multiplex polymerase chain reaction.
Patients of the 2nd and 3rd subgroups received standard basic therapy, which included professional oral hygiene, local anti-inflammatory therapy. Patients of the 2nd group, in addition to standard basic therapy, were prescribed pills that contain latent free chlorine on an effervescent basis. The effectiveness of the treatment was judged on the basis of objective periodontal indices and laboratory parameters. A comprehensive examination of patients was performed before and after completion of treatment.
Results: As shown by the results of laboratory tests, in patients of the 2nd and 3rd experimental groups after treatment, the total bacterial mass decreased significantly from 6.074 ± 0.8 to 5.41 ± 0.8 (p = 0.044). Such a significant decrease was due to Enterobacterium spp., Which after treatment decreased to 2.8± 0.3 (p = 0.048) and Gardnerella vaginalis /Prevotella bivia/ Porphyromonas spp. to -3.3 ± 0.4 (p = 0.044). That is, with the additional use of this drug, in contrast to traditional care, there was a change in the bacterial ratio of microorganisms, which affected a significant reduction in total bacterial mass. Also in patients of the 2nd and 3rd experimental groups the following indicators were noted: the PMA index was 17.1 ± 1.4% and 17.9 ± 1.2%, respectively, which indicates a decrease in inflammatory phenomena in more than 2.6 times compared to pre-treatment. The Green Vermilion index is 1.3 ± 0.3 and 1.6 ± 0.3, respectively. The bleeding index was 0.3 ± 0.1 points for patients of group 2 and 0.6 ± 0.3 points for patients of group 3. Pathological mobility of teeth decreased to the first degree. The hygienic condition of the oral cavity was characterized as satisfactory.
The effectiveness of treatment of patients in the experimental groups was also evaluated, taking into account the number of visits required to achieve a positive clinical result. In patients of the 2nd experimental group after the 5th, and in the 3rd group after the 7th visit there were signs of clinical remission.
Conclusion: Analyzing the obtained results, it can be noted that changes in the clinical status are correlated with laboratory data, in particular with the total bacterial mass and species species of pathogenic microflora of periodontal pockets. We recommend the use of this drug in patients with CGP of II and III severity with simultaneous removal of supra- and sub-gingival dental deposits.

KEY WORDS: The drug "Troklosene", chronic generalized periodontitis, periodontal index.

FACTORS INFLUENCING THE PSYCHO-EMOTIONAL STATE OF CAREGIVERS IN PATIENTS WITH DEMENTIA DURING A CORONAVIRUS PANDEMIC

Olga V. Orlova, Lilia V. Zhyvotovska, Yuriy O. Fisun, Oleksiy A. Kazakov
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Introduction: Any large-scale outbreak of a dangerous infection has a negative impact on people and society. Acute coronavirus respiratory syndrome quickly caused a pandemic. Active quarantine measures and social distancing in public places have been developed to slow the spread. Social constraints have significantly affected the organization of the outpatient service, which in turn has caused significant difficulties for carers. Widespread "infodemia" provoked socio-psychological reactions, such as tension, anxiety and fear, loss of landmarks and plans for the future.

The aim: to investigate the factors that affect the level of stress resistance of people caring for patients with dementia.

Materials and methods: a comprehensive clinical-psychopathological, socio-demographic and psychodiagnostic examination of 46 caregivers and 46 patients with dementia was conducted on the basis of KP "Regional Institution for Psychiatric Care POR" using the Short Mental State Examination Scale (Mini-Mental State Examination, MMSE, 1975) to assess the severity of dementia and the questionnaire PSM-25 (adapted by N.E. Vodopyanova, 2009) to determine the level of psychological stress. Patients caring for patients were divided into 3 groups. In Gr. I was included 8 (17.4%) caregivers with a low level (up to 100 points) of mental stress (MS), in Gr. II - 23 (50%) with an average level of MS (100–154 points), in Gr. III - 24 (32.6%) with a high level of MS (more than 155 points).

Results: an increase in the frequency of psychological stress in caregivers depending on the progression of the degree of dementia in patients : in Gr. I a mild degree of dementia was in 75.0 ± 0.15% of cases compared with Gr. II - 21.74 ± 8.6% ($x2 = 7.355$, $p < 0.007$) and Gr. III ($x2 = 15,221$, $p < 0,001$), where no patients were registered. It is stated that the psychological load has a direct correlation with the duration of patient care: in Gr. III for more than 10 years cared for in 66.7 ± 12, 17 % of caregivers in comparison with Gr. I - 12.5 ± 11, 69 % ($x2 = 5.957$, $p < 0.0015$), and in Gr. II - 17.39 ± 7.9% ($x2 = 9.474$, $p < 0.003$). Negative impact was observed in people who combined care and daily work: in Gr. I there were no working caretgivers in comparison with Gr. II - 73.91 ± 9.16% ($x2 = 9.407$, $p < 0.003$), and with Gr. III - 80.0 ± 10.33% ($x2 = 13.382$, $p < 0.001$).

Conclusions: the study identified factors that influenced the psycho-emotional state of caregivers: the degree of dementia in the patient, the duration of care and employment of caregivers.

KEY WORDS: dementia, mental stress, caregivers, stress, coronavirus disease.

INTERNAL FACTORS AS PREDICTORS OF BURNOUT SYNDROME IN STUDENTS

Borys I. Palamar, Vitalii M. Rudichenko, Liubov A. Lytvynova, Svitlana V. Vlasenko
BOGOMOLETS NATIONAL MEDICAL UNIVERSITY, KYIV, UKRAINE

Introduction: Exhaustion is a consequence of physicaland psychologicalpere load. Students have a negative effect on emotional exhaustion (EB) by an increase in stressogens of different natures of origin. EB has a destructive and destructive effect on humans. At the same time, physiological, mental and physical capabilities are reduced, which does not allow students to study normally and build their future. Studying and preventing the impact of risk factors is an important aspect of preventive work.

The purpose of the study.

The aim: To investigate the presence of personal factors in higher education institutions that can adversely affect the development of emotional burnout syndrome (CEV).

Materials and methods: The research was carried out among students of Bogomolets National Medical University and Taras Shevchenko National University of Kyiv using theoretical, empirical and statistical methods.

Results: To study the development and spread of CEV among students, a study of personal characteristics of anxiety, neuroticism and extraversion, which may be predictors in the sevegenesis, was conducted. It was found that 8.49% of students have low levels of personal anxiety (OT), an average OT level of 42.09% and a high level of OT in 49.46%. introverts and deep introverts 12.77%; extroverts and bright extroverts 25.36%. No students with very low levels of neuroticism were found.

Conclusions: The study found a significant prevalence of personal characteristics that have signs of internal negative factors among students. There are individual manifestations and variations in the influence of negative factors.

KEY WORDS: Anxiety, extraversion, introversion, neuroticism

THE USE OF VARIOUS DESENSITIZERS IN THE TREATMENT OF DENTAL HYPERESTHESIA

Svitlana A. Pavlenko, Olena V. Pavlenkova, Alla I. Sidorova, Lilia I. Lyashencko,Volodymyr V. Petrushanko
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Introduction: Hypersensitivity of enamel and dentin from various irritants still remains a pressing problem in dentistry. There is no single reason for the sensitivity of the hard tissues of the tooth, but the literature describes the factors that contribute to its occurrence. The tooth becomes sensitive to stimuli after the enamel is lost or the root surface is damaged. Enamel loss can occur due to occlusal abrasion, cervical abrasion, or chemical erosion.

Dentin sensitivity is associated with the movement of dental liquor through the dentinal tubules. Sometimes, dentin can increase the degree of mineralization, but in most cases requires active intervention from the outside.

The aim: The aim of our study was to conduct a comparative description of the action of different groups of desensitizers used in the clinic of therapeutic dentistry in the treatment of hypersensitivity of the teeth.

Materials and methods: Treatment of hypersensitivity of the hard tissues of the teeth was performed in 45 patients aged 18 to 45 years using desensitizers of different groups. Evaluation of the effectiveness of the drugs was performed 20 minutes and 10 days after use.

Results: In 8 patients (group 1) we used unfilled desensitizers containing HEMA without glutaraldehyde. HEMA is able to bind to dentin collagen, narrowing or closing the lumen of the dentinal tubules. We used AauaPrep F (BISCO, USA) in our research. According to the results obtained in 5 patients, the decrease in sensitivity occurred after the first session. In 3 patients after 5 visits.

5 patients (group 2) used unfilled desensitizers containing HEMA and glutaraldehyde, which causes precipitation (coagulation) of proteins in the dentinal tubules, and HEMA helps it to penetrate deeper (up to 200 μm). We used Cluma Detensitizer (Heraeus Kulzer. Germany) for our study. A positive result was obtained in 5 patients after two visits.

In 6 patients (group 3) used a filled desensitizer containing HEMA with nanofiller (particle size = 7 nm) based on compomer. This desensitizer is not able to penetrate deep into the dentinal tubules and form a tight layer of resin on the surface of the dentin. In our study, we used SealAProtect (Dentsply). Tooth sensitivity in patients in this group decreased immediately after dental treatment, but reappeared after 10 days.

8 patients (group 4) used the 7th generation Butler Protect adhesive system (JO. Butler, USA). In 6 patients the sensitivity disappeared after the 2nd visit, and in 2 patients - after the fourth visit.

In 8 patients (group 5) to reduce the sensitivity of the teeth, we used a synthetic varnish Dentin-Protector (Ivoclar). The use of Dentin-Protector (Ivoclar) varnish reduced the sensitivity of dentin patients at the first visit, but after a month 5 patients regained hypersensitivity.

In 10 patients (group 6) we used the drug «Gluftored» (Vladmyva), which is used for deep fluoridation of enamel and dentin. It consists of a liquid with fluorine and copper ions and a suspension of calcium hydroxide in distilled water. The use of «Gluftored» allowed to reduce the sensitivity of the teeth in the first visit, even after the treatment of teeth under ceramic crowns. One month later, only one patient had hyperesthesia.

Conclusions: Thus, given the large number of desensitizers in the dental market, the doctor must select a desensitizer depending on the clinical situation. In this case, the hypersensitivity of the enamel and dentin in the patient can be minimized and completely cured.

KEY WORDS: desensitizer, hyperesthesia of enamel, hyperesthesia of dentin.

OVERVIEW OF METHODS FOR STUDYING SALIVA IN CHILDREN WITH GINGIVITIS/PERIODONTITIS AND TYPE I DIABETES MELLITUS

Olga V. Sheshukova, Iryna O. Kuz, Alina I. Maksymenko
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Introduction: Type I diabetes is an autoimmune disease in genetically predisposed individuals, which leads to destruction of pancreatic β-cells with subsequent development of absolute insulin deficiency.

Vascular changes in periodontal tissues in children with diabetes are observed earlier than in other organs. Examination of children with diabetes in 50% of cases revealed periodontal lesions, with lesions more often localized in the area of the molars of the mandible. In the absence of treatment, the symptoms of periodontal disease in childhood diabetes are: bleeding gums, bright red color of the gum margin, granules may explode from pathological gum pockets.

The aim: of the study was to analyze scientific literature about different methods for studying saliva in children with gingivitis/periodontitis and type I diabetes mellitus.

Materials and methods: The analysis included original articles, review articles and scientific reports and expert meetings according to above mentioned question.

Results: The presence of type I diabetes in children is a major risk factor for periodontitis. Due to hypoglycemia metabolism in periodontal tissues is disrupted, which in turn leads to the progression of inflammatory and dystrophic processes in the oral cavity. Pathogenetically important common features for endocrinological diseases and periodontal pathologies are primarily angiopathy, namely at the level of the vessels of the microcirculatory bed; metabolic disorders, changes in lipid peroxidation; autoaggression and secondary immunodeficiency. In addition to the fact that diabetes mellitus increases the risk of periodontal pathologies, this somatic disease complicates the course of periodontal diseases due to microcirculation disorders in the periodontal tissue complex; insufficiency of phagocytic functions and immune protection of oral tissues; reduction of resistance to pathogenic microflora of the oral cavity; accumulation of toxic products released due to disruption of all types of metabolism.

Despite the wide range of possibilities for saliva research, there is very little data available regarding the oral fluid of children with type l diabetes among the available literature.

Conclusions: Adequate knowledge of saliva and its role in the health of the oral cavity is needed by dentists to detect and treat possible abnormalities in a timely manner.

Clinical, microbiological, biochemical and immunological markersof periodontal disease in diabetic patients, such as cytokines, are still poorly understood. From this it follows that the establishment of etiological factors and pathogenetic mechanisms of caries and periodontal diseases in diabetes mellitus is quite important and urgent in order to create new methods of prevention and treatment of these dental diseases.

KEY WORDS: gingivitis, diabetes mellitus, children, cytokines.

ЕФЕКТИВНІСТЬ ЛІКУВАННЯ КАРІЄСУ ТИМЧАСОВИХ ЗУБІВ У ДІТЕЙ ПОЛТАВСЬКОЇ ОБЛАСТІ

Ольга В. Шешукова, Валентина П. Труфанова, Тетяна В. Поліщук, Катерина С. Казакова, Софія С. Бауман, Анна С. Мосієнко, Станіслав О. Ставицький
ПОЛТАВСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ, ПОЛТАВА, УКРАЇНА

EFFECTIVENESS OF TREATMENT OF CARIES OF TEMPORARY TEETH IN CHILDREN OF POLTAVA REGION

Olga V. Sheshukova, Valentina P. Trufanova, Tetyana V. Polishchuk, Kateryna S. Kazakova, Sofia S. Bauman, Anna S. Mosienko, Stanislav O. Stavytsky
POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE

Вступ: Карієс зубів і дотепер є серйозною проблемою в системі охорони здоров»я не тільки в Україні, а й в усьому світі. Карієс є поширеним хронічним захворюванням серед дітей і зустрічається в двадцять разів частіше, ніж діабет, в п'ять разів частіше, ніж астма, в чотири рази частіше, ніж ожиріння. Провідні фахівці в області карієсології вважають, що карієс зубів - це захворювання, від якого неможливо позбутися через складну взаємодію культурних, соціальних, поведінкових, харчових і біологічних факторів ризику, що провокують захворювання і сприяють його прогресуванню.

На жаль, батьки з трудом усвідомлюють важливість регулярної санації порожнини рота для збереження здоров'я органів порожнини рота своїх дітей, що в багатьох випадках призводить до незадовільних, а іноді і навіть до тяжких наслідків. При відсутності лікування карієс тимчасових зубів і його ускладнення, в першу чергу періодонтит, часто служать джерелами хронічної інтоксикації організму дитини і впливають на загальний стан здоров'я, викликаючи запалення або підтримуючи його в інших органах і системах організму. Такі захворювання, як ендокардит, ревматоїдний артрит, нефрит, тонзиліт, можуть бути пов'язані з прогресуванням карієсу, що підтверджується відповідними повідомленнями в науковій літературі.

Наслідки, викликані місцевим запаленням в структурах періодонту тимчасового зуба, також дуже серйозні, починаючи від гіпоплазії емалі до загибелі зубного зачатка постійного зуба і формування одонтогенної кісти з наступним ускладненим остеомієлітом кістки щелепи, і як наслідок - затримкою росту щелепи, виникнення ортодонтичних проблем.

Мета: провести детальний аналіз епідеміології карієсу зубів і його ускладнень, а також оцінити ефективність лікування карієсу тимчасових зубів у дітей Полтавської області за останнє десятиріччя на основі даних річних звітів муніципальних стоматологічних установ Полтавської області.

Матеріали та методи: Вивчено дані, що відображають епідеміологію карієсу і його ускладнень в Полтавській області за останні десять років (2010 - 2020 рр.), отримані в результаті аналізу річних звітів про кількісні та якісні показники дитячих стоматологічних муніципальних закладів по всій області.

Результати: Згідно річними звітами районів, кількість випадків лікування тимчасових зубів при ускладненому карієсі істотно не змінилося при порівнянні відповідних даних 2010 і 2020 років.

При проведенні порівняльного аналізу річних звітів за 2010 і 2020 роки за показником частки ускладненого карієсу слід звернути увагу на середнє зростання показника з 33,4% у 2010 році до 39,9% в 2020 році.

Висновки: Аналіз річних звітів за 2010 і 2020 роки по Полтавській області вказує на низьку ефективність лікування карієсу тимчасових зубів у дітей. В результаті лікування карієсу і ускладнень карієсу тимчасових зубів у дітей оцінюються як незадовільні як в профілактичному, так і в терапевтичному плані.

Ключові слова: карієс зубів, діти, ускладнений карієс.

KEY WORDS: dental caries, children, complicated caries.