FEATURES OF THE "EDUCATION STANDARDIZATION" CONCEPT AS A COMPONENT OF THE RESEARCH VOCABULARY FOR STUDYING THE FOUNDATIONS OF THE MEDICAL AND PHARMACEUTICAL EDUCATION DEVELOPMENT

Iryna Radziievksa

The research analyses the legislative framework and scientific sources on the interpretation of the concepts of "educational standards" and "standardization of education" as components of the research vocabulary for studying the foundations of medical and pharmaceutical education development. The study of Ukrainian and foreign regulatory documents and scientific and pedagogical developments of medical scientists and educators has been conducted on the basis of a systematic generalizing approach. The sequence of the terms "educational standards" and "standardization of education" introduction in the Ukrainian education system is considered. Differences in the interpretation of the concept of "educational standards" from the point of view of the meaning that a particular organization (or person) puts into the definition of this concept are presented. It is indicated, that higher medical and pharmaceutical educational institutions still have educational standards, developed on the basis of an activity-based approach, which cannot fully satisfy the pedagogical and medical educational community. The paper studies the imperfection of the legislative framework in the State regarding the development of educational standards, the lack of educational standards for medical and pharmaceutical specialists of the junior specialist (junior Bachelor) educational level. Since the European and in Ukrainian education systems focus on the educational process, aimed at the development of employees' ability to solve practical problems in various fields of activity on the basis of acquired theoretical knowledge, the priority direction of the state educational policy for the development of educational standards for medical and pharmaceutical educational institutions is the need for a competence-oriented approach. The research states that updating the educational legislation, improving and modernizing the educational system and introducing a new generation of state education standards, will help increase the competitiveness of medical and pharmaceutical specialists in the labor market.

Keywords: educational standard, standardization of education, fundamentals of education development, medical and pharmaceutical education

How to Cite: Radziievksa, I. (2021). Features of the "education standardization" concept as a component of the research vocabulary for studying the foundations of the medical and pharmaceutical education development. ScienceRise: Pedagogical Education, 2 (41), 17–22. doi: http://doi.org/10.15587/2519-4984.2021.228067

© The Author(s) 2021
This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0).

1. Introduction

The process of forming of a medical or pharmaceutical specialist in educational institutions as a future healthcare specialist is influenced by many factors, affecting the formation of the character, values, motivational and emotional sphere of the educational applicant and his/her personality as a whole. Modern medical (pharmaceutical) education is aimed at providing the applicant with the necessary knowledge, forming professional skills, during the training period, it is necessary to learn a lot of factual material, to think critically, make decisions, and work in a team.

Rethinking the methodology and generalizing the existing directions of education development allow us to invent approaches to the scientific interpretation of basic concepts regarding the theoretical and practical foundations for the development of medical and pharmaceutical education of junior specialists. The theoretical basis for the implementation of this task was the research of scientists-teachers and doctors, who note the importance of scientific understanding of the process of professional training of healthcare specialists.

2. Literature review

Lifelong learning is the leading pedagogical idea and contributes to the setting of basic requirements for the education system: the development of general cultural foundations of a person, his/her abilities, the formation of a person's capability to adapt to the changing conditions of our time.

The development and reform of medical and pharmaceutical education is accompanied by integration processes, occurring in the world. Modernization of the education system is carried out in connection with the need of the healthcare industry to provide highly qualified and professional personnel that must meet the new requirements for specialists.

The creation of new educational standards for training medical and pharmaceutical specialists is accompanied by the development of a new generation of educational programs, curricula, scientific and methodological materials. New approaches to the standardization of medical and pharmaceutical education contribute to the expansion and deepening of international cooperation, and the ideas of academic mobility of teachers and students are introduced into the educational process.
We consider the concept of "standardization of education", first, from the point of view of normative and legal regulation of the development of the education system [1, 2], as a component of the growth of competitiveness of educational institutions [3, 4], a social norm aimed at learning outcomes [5] and as a condition for ensuring the quality of education [6]. Secondly, as a scientific phenomenon of continuing professional education [7, 8], a means of improving professional training and the basis of scientific research and ideological positions for establishing general pedagogical patterns for the standardization of professional education [9, 10]. Thirdly, as a basis for the integration of Ukrainian and foreign educational systems, taking into account social partnership, national differences, individualization of education [11, 12] and the importance of developing an innovative results-based approach to education for the effectiveness of supporting and evaluating the professional development of healthcare professionals [13]. Also, in many Ukrainian and foreign sources, there is an opinion about the most obvious need to integrate regional and national educational systems with the rest of the globalized world [14].

In the text of the article, there is no need to mention the researchers, whose work this research is based on, and Their names the author already reported to readers in a special section of the “references”. In square brackets, you can specify a link to a maximum of two sources [3, 4], and such a reference format [6, 10, 12, 15] is not allowed. You must either remove two unnecessary sources from the link list or give a separate critical analysis. Please note, in the article after source 13, the author gives a reference to source 15. Where is source number 14?

In 1998 the World Federation of Medical Education (WFMO) in a statutory document launched a pilot program for creating international standards in medical education in order to provide a mechanism for improving the quality of medical education [15]. The World Federation of Medical Education has resulted in the international standards of the WFMO, adopted at the World Conference in Copenhagen (2003), covering three phases of medical education: pre-graduate (basic, Bachelor’s) medical education, postgraduate medical education and continuous professional development.

3. The aim and objectives of the study

The aim of this study is to study the concept of “education standardization” as a component of the research vocabulary for studying the foundations of the medical and pharmaceutical education development. To achieve this goal, the following tasks were set:

1) to study a wide range of scientific and pedagogical findings of domestic medical scientists and teachers;
2) to study domestic and foreign legislative acts of the educational sector;
3) to analyse regulatory legal acts of the Ministry of Education and Science of Ukraine regarding the requirements for standardization of the educational process;
4) to apply a system-generalizing approach in the study of the basics of developing the education of medical and pharmaceutical specialists.

4. Materials and methods

The methodological basis for the study of the research vocabulary on the principles of development of medical and pharmaceutical education of junior specialists is a system of interrelated methods and approaches.

Theoretical approaches:
- chronological, quantitative problem-comparative analysis (content analysis) allowed us to conduct a study of the regulatory framework;
- the problem-prognostic method helped to outline the directions of using the experience of professional education of future specialists in the system of medical and pharmaceutical education of Ukraine;
- thematic analysis was used for the definition of basic research concepts in accordance with the topic;

Historical and pedagogical approaches:
- logical-system approach was used to systematize the received information on various aspects of the topic under study;
- comparative analysis was applied to study the works of outstanding scientists-teachers, doctors, pharmacists, scientific literature and archival materials in order to ensure the truth of the results obtained;
- generalization of the processed materials was used for drawing the conclusions, recommendations and determination of ways to use scientific heritage in modern conditions.

The use of a group of specific scientific research methods made it possible to apply a system-generalizing approach to the generalized characterization of the concept of “education standardization” as a component of the research vocabulary for studying the features of training junior specialists in the healthcare industry.

5. Research results and discussion

Modern research of theoretical and practical training of specialists is an invariable component of the comprehensive education of the individual, one of the conditions for successful performance of professional functions. The educational process is based on general human values and principles of scientific, multicultural, secular nature of education, consistency, integration, unity of education and upbringing, on the principles of humanism, democracy, public consciousness, mutual respect and tolerance. The State has adopted a number of legislative and regulatory documents to ensure and maintain the latest modern ideas on reforming the educational sector. In particular, the Decree of the President of Ukraine of 25.06.2013 No. 344/2013 approved the National Strategy for the development of education in Ukraine for the period up to 2021, which provided for updating the legislation in the field of education, improving the structure of the education system, modernizing the content of education, which provides for the introduction of state standards of education "based on the national framework of qualifications and competence-oriented approach in education, the need to train specialists for sustainable development with a new environmental thinking; coordination of educational and qualification characteristics and training programs with professional qualification requirements" [16]. The fundamental documents for standard developers are the Laws of Ukraine "On Education", "On Higher Education", "On Professional Pre-higher Educa-
tion", the National Qualifications Framework, Methodological recommendations for the development of higher educational standards [17].

In particular, the Law of Ukraine "On Higher Education" distinguishes the concepts of "standards of higher education" and "standards of educational activity". The standard of higher education is a set of requirements for the content and results of educational activities of higher educational institutions and scientific institutions for each level of higher education within each specialty (Article 10). The standard of educational activity is understood as a set of minimum requirements for a personnel, educational, methodological, material, technical and informational support of the educational process of a higher educational institution and a scientific institution [17].

Interpretation of the term "standard" (derived into Ukrainian from English) in the broadest sense of the word is a sample, standard, or model, taken as the source code for comparing other similar objects with them. The main objects of standardization in education are its structure, content, the amount of academic load and the level of training. The education standard defines the mandatory minimum content of the main educational programs, the maximum amount of academic load of students, requirements for the level of training of graduates and is the basis for creating a number of regulatory documents [18].

The concept of "State Educational Standard" was first introduced at the legislative level in Ukraine by the law of Ukraine "On Education" in 1991 (Article 15 "State Educational Standards") [17]. Currently, the State standard of primary general education, the State standard of basic and full general secondary education, and the system of higher education standards have been created and are being used in educational activities. Thus, at the state level, a standard is a document, setting out official requirements, norms and rules for the education system. Depending on the body that approves them, Ukraine has adopted state, industry standards and standards of educational institutions.

The interpretation of the concept of "educational standard" depends on the meaning, used by a particular organization (or person) in the definition of this concept. In particular, in the Ukrainian Pedagogical Dictionary of S. Goncharenko (1997), the concept of "educational standard" is defined as "a system of basic parameters, taken for the state norm of education, indicating the social ideal and taking into account the capabilities of a real person and educational system to achieve this ideal; in the International Encyclopedia of Education – "the goal to be achieved, planned expectations in the chosen direction, levels of performance of certain activities"; the UNESCO thesaurus defines the standard of education as "criteria, established by an educational institution to determine the success of students"; the world declaration on higher education for the XXI century: approaches and practical measures - "a set of training resources to implement the syllabus"; the Convention on the Recognition of Qualifications concerning Higher Education in the European Region (Lisbon, 1997) is a single international credit system, the level of education for the students to achieve through a specially designed program [18].

According to the American teacher and activist M. Strong, the meaning of education should be the preparation of a young person for life, he insists on creating an education system that keeps up with the changes, taking place in the world around us. Education is complex, says M. Strong, but it is a market commodity, waiting for normal competition of ideas and enterprises [11]. Innovations in education provide for a free access of teachers and students of medical educational institutions to information, guidelines and evidence, development of individual plans for applicants for education, a clear understanding of standardized procedures and practices, the ability to work in a team, perception and consideration of other people’s ideas [13].

V. Baidenko defines the concept of "educational standard" as a market commodity, "visible only due to its focus on learning outcomes – characteristics of personal "gains" in terms of ensuring effective life of the individual in a society and increasing the potential of his/her self-realization and competence within the general and professional culture, morality, spirituality and social responsibility" [5].

T. Desyatov defines three functions of requirements for standards: "the main function is to provide a link between a professional training and the sectors of the economy, in which students get a job after completing their studies. The second function is to ensure comparability of diplomas/certificates within the country. The third function of standard requirements involves a qualification level that would be recognized in other countries" [8].

N. Nychkal, studying the issues of education standardization, focuses on the results of training: "the normativity of the standard consists in a clear, detailed definition of the results of training and upbringing" [7].

According to the researcher, "the criterion for such differentiation can be a clearly defined priority: the goal a specialist is trained for, the area, which he/she will apply the acquired knowledge in." To ensure the quality of education, the development of standards must be carried out, taking into account the following requirements:

1) independent formation of educational plans by the educational institution with a list of disciplines, offered for students to study;
2) paying the main attention to the quality of training of scientific and pedagogical personnel;
3) training in educational institutions of a specialist-encyclopedist, which is typical for the European educational tradition (providing a certain level of education, and not a certain level of qualification);
4) using modern teaching methods, interactive teaching methods in the educational process [19].

Researchers A. Kyseleva, A. Yankova emphasized the basic principles of standardization of education – purposefulness, diagnostics and predictability; generalized that education standards determine: the education content, the training content, diagnostic tools and normative terms of training; identified five levels of tasks of "standardization of education":

1) tasks of the global level (maintaining world order, the formation of the Information Society);
2) tasks of the regional (European) level (creating a single European educational system, competitiveness, mobility);
3) tasks of the national level (implementation of national development priorities);
4) tasks of the industry level (correlation of training of specialists within one industry);
5) tasks at the level of educational institutions (ensuring autonomy) [20].

M. Bilynska, studying aspects of the state management of standardization in the context of reforming of higher medical education in Ukraine, emphasizes that "the state policy in the field of standardization of higher medical education is provided by the mechanisms of state management in this area." Investigating the mechanisms of public administration, the scientist suggests applying a "conceptual approach and a more specific approach", while highlighting narrow and broader areas of the state activity in the field of standardization of medical education [21].

So, the analysis of the legislative framework and scientific sources revealed that there are many approaches to the interpretation of the concepts of "educational standards" and "standardization of education". Currently, Ukraine still has educational standards with the activity-based approach that fail to satisfy the pedagogical and medical educational community. According to V. Salov "one of the key points of assessing the quality of education is the results of the formation of a system of competencies", so a competence-based approach was adopted as the basis for developing new generation educational standards [22].

The idea of standardization of education as a means of improving the professional training of specialists is developed by O. Elbrecht. The researcher notes: "the solution to the problem of improving the quality of professional training of specialists is associated with the presence of requirements for graduates of educational institutions – specialists of a certain profile and their qualification characteristics. In general, such requirements are formulated in guidelines and regulatory documents, the main one of which is the State Educational Standard" [23]. A. Elbrecht considers the creation of a model of professional behavior of a specialist based on a competence-based approach, which is the basis for updating the content of education and its standardization, to be an urgent problem of didactics of higher education.

State standards of education as amended by the Law of Ukraine "On Higher Education" of 2002 is a list of qualifications for the relevant educational and qualification levels; a list of areas and courses, in which specialists are trained in higher educational institutions at the relevant educational and qualification levels; requirements for educational levels of higher education; requirements for educational and qualification levels of higher education. State education standards are approved by the Cabinet of Ministers of Ukraine. Article 32 of the Law of Ukraine "On education" 2020 gives a new interpretation of the requirements for the Educational Standard, it defines: requirements for mandatory competencies and learning outcomes of an educational applicant of the appropriate level; the total amount of educational load of educational applicants; other components, provided for by special laws [17].

Industry standards of higher education were developed in 2002–2012 and had the following components: educational and qualification characteristics, educational and professional programs and tools for diagnosing the quality of education. Educational and qualification characteristics represented the purpose of higher education and professional training, determined the place of specialists in the structure of professional activity and requirements for their competence, other socially important qualities, a system of production functions and typical tasks of activity and skills for their implementation; Educational and Professional Training Program determined the normative term and normative part of the content of training in a certain direction or specialty of the corresponding educational and qualification level, established requirements for the content, volume and level of education and professional training of a specialist; means of diagnostics of the quality of higher education, determined standardized methods that are designed for quantitative and qualitative assessment of the level of knowledge formation, skills, professional, ideological and civic qualities, achieved by a person. However, according to Yu. Zinkovskyy, "despite the standardized nature of these documents, they, in the vast majority of cases, were not implemented." The researcher insists on the inefficiency and unviability of industry standards due to the fact that "they were created for the existing curricula and therefore did not affect either in essence or procedurally the training of specialists" [3].

According to the Guidelines for the Development of Higher Education Standards, the next generation of standards was higher education standards, which replaced industry standards. They are "based on a competent approach and the philosophy of defining requirements for a specialist, underlying the Bologna Process and in the International Project of the European Commission "harmonization of educational Structures in Europe" (Tuning Educational Structures in Europe, TUNING)". Higher education standards are developed by Scientific and methodological commissions under the Ministry of Education and Science of Ukraine "for each level of higher education within each specialty", are used to determine and evaluate the quality of content and results of educational activities of higher education institutions and define certain requirements for educational programs [24, 25]. Therefore, a new generation of education standards plays a "key role in the national education system" and their proper formation and use will contribute to improving the quality of education, "bringing it closer to the needs of the labor market, and successful integration into the European educational system".

During 2000–2012 Ukraine issued the Order of the Ministry of Health "On approval of the regulations on the features of stepped education of medical direction" (24.02.2000 No. 35), according to which the training of specialists in educational institutions of medical (pharmaceutical) direction was carried out on educational qualification levels (step education) and orders of the Ministry of Education and Science of Ukraine, which put into effect industry standards of higher education for educational levels of junior specialist and Bachelor in nursing (2003, 2011) and pharmacy (2012), educational level specialist in the areas of training "medicine" and "pharmacy" (2003, 2004).
6. Conclusions

During 2017–2021 years in Ukraine the standards of higher education were developed and put into effect at Master and Bachelor educational levels of specialties 221 Dentistry, 222 Medicine, 223 Nursing, 225 Medical and Psychological Rehabilitation, 226 Pharmacy, Industrial Pharmacy, 227 Physical Therapy, Occupational Therapy in the field of knowledge 22 "Healthcare". Standards for postgraduate education and continuous professional development of healthcare professionals are currently at various stages of development.

However, educational standards for medical and pharmaceutical specialists of the junior specialist (and/or junior Bachelor) educational level have not been developed yet, which indicates the imperfection of legislative and regulatory documents of the state. The activities of educational institutions of colleges, technical schools that are not included in the field of higher education are no longer regulated by the Law of Ukraine "On higher education" (2014), according to the Law of Ukraine "On education" (2017), they are classified as a system of professional pre-higher education. The Law of Ukraine "On professional pre-higher education" entered into force only on 09.08.2019, which became one of the "main constraints on the formation of a single conceptually coordinated and scientifically based state policy for the development of the domestic education system" [15]. Therefore, the realities of today are the training of junior medical and pharmaceutical specialists in educational and professional programs of specialties of the field 22 Healthcare, developed by creative teams of institutions of professional pre-higher education and approved by their heads.

The concept of medical (pharmaceutical) education development is the methodological basis of educational activities in the context of the European integration of domestic education into the European educational system, the sustainable development of a post-industrial society, in which the highest social value, its postulate, is to maintain and improve the health of society. It defines the ways to solve pressing problems in the field of medical (pharmaceutical) education through the understanding of its purpose, objectives, content and technologies.

Thus, the entry of Ukraine into the European and world educational system posed a challenge to the educational community of the state and has led to the adoption of legislative documents, contributing to "improving the quality of education, developing professional mobility of graduates, integrating educational institutions, introducing flexible educational programs and information technologies of training" (national doctrine of education development of Ukraine in the XXI century, 2002).

Hence, the study of legislative and regulatory documents allowed us to find out the specifics of the formation of the concept of "standardization of education", to determine the features of changes in approaches to the interpretation of this term, depending on changes in the legislation of Ukraine. The analysis of the source base proved that the standardization of education, the orientation of education to new market relations, the differentiation of requirements for the content of education of specialists of different educational levels, the differentiation of production functions depending on the level of Education, will accelerate the development of the structure of education in Ukraine, bring it closer to the structure of developed foreign countries.

Acknowledgment
I express gratitude to staff members of the scientific medical library of Cherkassy medical academy, represented by the director Dikhytaryuk L.P.

References
1. Shevchuk, A. V. (2013). Standardization of Education as an Essential Condition for the Development of Regional Educational Systems. Regional economies, 1, 107–113. Available at: http://nbuv.gov.ua/UJRN/regek_2013_1_15
2. Tymoshenko, M. O. (2015). Standarty vyschoi osvity yak rezultat zhalsansuvannia pryvatno-publicnychykh interesiv. Pravo i suspilstvo, 4, 26–29. Available at: http://www.pravinosuspilstvo.org.ua/archive/2015/4/2015_part_1/7.pdf
3. Zinkovskyi, Yu. F. (2010). Standardizacijas in education. Visnyk KDU imeni Mykhaila Ostrohardskoho, 5 (64 (1)), 204–207.
4. Khomyshyn, I. (2017). Current standardization of higher education in Ukraine. Visnyk Natsionalnoho universytetu "Lvivska politekhnika". Seria: Yurydichnyi nauky, 876, 205–210.
5. Baidenko, V. I. (1999). Standarty v neperyvnom obrazovanii: kontseptualnye, teoreticheskie i metodologicheskie problemy. Moscow: Issledovatelskii tsentr problem kachestva podgotovki spetsialistov, 210.
6. Shchudlo, S. A. (2018). Sotsialna standartyzatsiia osvity yak umova zabezpechennia yyi yakosti. Metodolohiia, teoria ta praktyka sotsiolohichnoho analizu suchasnoho suspilstva, 16, 563–566. Available at: https://www.researchgate.net/publication/326380724_Socialna_standartizacija_osviti_ak_umova_zabezpechenia_iy_akosti
7. Nychkal, N. (2001). Nepervnaya profesionnaya osvita yak filosofska ta pedahohichna katehoriia. Nepervnaya profesionnaya osvita, 1, 9–21.
8. Desiatov, T. (2002). Suchasne naukove bakhchenia nepervnoyi professinuii osvity: stratehiia rozvytku u mashtabakh heopolitychnykh rehioniv. Nepervnaya osvita, 2, 10–17.
9. Poliachenko, Yu. V., Perederii, V. H., Volosovets, O. P et. al. (2003). Medychna osvita u sviti i v Ukraini. Kyiv: Vydavnystvo «Knyha plius», 383.
10. Kalenskyi, A. A., Luzan, P. H., Vanina, N. M., Paschenko, T. M., Kravets, S. H., Piatnychuk, T. V. (2018). Standartyzatsiia professinoi osvyty: teoriia i praktyka. Zhytomir: «Polissia», 256.
11. Strong, M. (2014) Zlokhachestvennoe obrazovanie. Available at: https://esquire.ru/archive/5497-michael-strong/
12. Eriksen, Ya. (2015). A Metaphorical Study: EFL Teachers’ Concepts of “Standard”, “Standards for Quality EFL and International Teacher”. International Online Journal of Educational Sciences, 7 (3), 67–83. doi: https://doi.org/10.15345/iojes.2015.03.019
13. Henderson, A., Prescott, C. (2020). Re-envisioning continuing professional development to improve patient outcomes. Nurse Education Today, 89, 104402. doi: https://doi.org/10.1016/j.nedt.2020.104402
14. Nazarova, S. I. (2014). Trends in the development of European education: structure, standards, quality assessment. Modern scientific researches and innovations, 9 (2). Available at: http://web.snauka.ru/issues/2014/09/38434

15. Introduction to the project Tuning – harmonization of educational structures in Europe. Available at: http://www.unideusto.org/tuningeu/images/stories/documents/General_Brochure_Ukrainian_version.pdf

16. Pro Natsionalnu stratehiu rozvytku osvity v Ukraini na period do 2021 roku (2013). Ukaz Prezydenta Ukrainy No. 344/2013, 25.06.2013. Available at: https://zakon.rada.gov.ua/laws/show/344/2013#Text

17. Pro osvitu (2017). Zakon Ukrainy No. 2145-VIII. 05.09.2017. Available at: https://zakon.rada.gov.ua/laws/show/2145-19#Text

18. Honcharenko, S. (1997). Ukrainskyi pedahohichnyi slovnyk. Kyiv: Lybid, 376.

19. Kravchuk, M. V. (2009). Osnovni napriamy reformuvannia ta standartyzatsii vyshchoi yurydychnoi osvity. Ukrainskohretskyi mizhnarodnyi naukovyi yurydychnyi zhurnal «Porivnialnopravovi doslidzhennia», 1, 161–167.

20. Kyselova, O. I., Yankova, O. V. (2013). Contents and tasks of higher education standardization. Nauka i osvita, 6, 90–95.

21. Bilynska, M. M. (2004). Derzhavne upravlinnia haluzevymi standartamy v umovakh reformuvannia vyshchoi medychnoi osvity v Ukraini. Kyiv: Vydavnytstvo NADU, 246.

22. Calov, V. O., Pysmenkova, T. O. (2011). Zasoby diahnostyky yak skladova standartiv vyshchoi osvity. Naukovyi visnyk NHU, 3, 132–137.

23. Elbrekht, O. M. (2013). Standartyzatsia vyshchoi osvity yak zasib udoskonalennia profesiinoi pidhotovky fakhivtsiv. Pedahohika, psykholohiia ta medyko-biologichni problemy fizychnoho vykhovannia i sportu, 38–42.

24. Pro zatverdzhennia ta vvedennia v diiu Metodychnykh rekomendatsii shchodo rozroblennia standartiv vyshchoi osvity (2016). Nakaz MON Ukrainy No. 600. 01.06.2016. Available at: https://ru.osvita.ua/legislation/Vishya_osvita/51506/

25. Poriadok rozghliadu proektiv standartiv vyshchoi osvity ta yikh zatverdzhennia (2016). Skhvaleno sektorom vyshchoi osvity Naukovo-metodychnoi rady Ministerstva osvity i nauky Ukrainy protokol vid No. 9. 22.11.2016.

Received date 02.02.2021
Accepted date 23.02.2021
Published date 31.03.2021

Iryna Radziievska, PhD, Department of Fundamental Disciplines, Cherkasy Medical Academy, Khreshchatyk str., 215, Cherkasy, Ukraine, 18001
E-mail: raisin0303@gmail.com