COMPARATIVE RESEARCH OF HIGHER MEDICAL EDUCATION IN UKRAINE AND GERMANY

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The article conducts a comparative study of higher medical education in Ukraine and Germany in the context of state-building processes based on reformist assets; the institutional processes in the system of higher education are analyzed and the conformity of the modernization of the higher medical school of Ukraine with the needs of the community was analyzed; considered educational principles and trends from the point of view of social, economic and political prerequisites of each country and the orientation of higher medical education of Ukraine to a competency-based approach, increasing the amount of independent work of the student, expanding opportunities for individualization of the educational process. The principles of the construction of the content of medical education in Germany, its orientation towards practice and the strengthening of aspects of primary medical care during all studies planned at universities are investigated. Applying the provisions of comparative analysis, the author considers key educational institutes, the implementation of which in the Ukrainian educational environment will increase the quality of professional training of health care specialists, will ensure the implementation of competitive educational and scientific developments in institutions of higher medical education; will facilitate the transition to innovative education and improve the system of continuous professional development of specialists. It was determined that with a similar general orientation of the content of higher medical education in Ukraine and Germany, there is a certain difference regarding the level of fundamental and clinical training of doctors, according to modern international standards.

Key words: medical education, comparative analysis, medical education of Germany, medical education of Ukraine.
Introduction. Global pandemics, such as the recent outbreak of COVID-19, wars, or natural and technological disasters create a chain of challenges for the national level of higher education systems in different countries around the world. The European Union has a long and relatively rich history of supporting member states and cooperation between them in the field of education. The general and specific experience gained is an essential basis for the development and implementation of future training programs in which, ideally, the social and professional skills of future health care workers are integrated into the medical education of the training program throughout the course of study. The need for a theoretical approach to conducting comparative pedagogical research in higher medical education is determined by the current state of the theory and practice of pedagogical comparativistics – an interdisciplinary field of scientific knowledge that investigates interdisciplinary knowledge. The relevance of comparative studies, given the demands of the national system of professional training of future specialists in the field of health care, is an indisputable fact, because comparative studies in this field are positioned as a tool for the Ukrainian educational system to achieve international standards of professional education quality. Scientific research of this nature is based on a thorough analysis of foreign experience, and makes it possible to create effective programs and projects for the development of education both in the short-term and in the long-term perspective. The European choice of Ukraine necessitates the study, generalization, critical reflection and practical application of the experience of the European community in this area. In view of this, the experience of the Federal Republic of Germany (FRG) acquires special significance for Ukraine, because Germany has gone through a difficult path of building an effective system for monitoring the quality of education. A comparative study of the higher education system applied in several countries, in particular medical education in institutions of higher medical education, allows medical education institutions in Ukraine to take the best of the national systems of undergraduate training of future specialists of other countries, which depends, to a certain extent, on the future purpose of the system, taking into account the effect of the processes of globalization, European integration and digitalization of society on the development of higher education.

The purpose of the article. The integration of Ukraine into the world educational space, the need to study and implement European experience in the field of higher medical education, the search for an effective mechanism for the comparative characterization of individual pedagogical phenomena and the development of a functional model of professional training of specialists in health care institutions determined the purpose of this study, which consists in the study and comparative researches of higher medical education in Ukraine and Germany.

Research methods. In this study, a comparative vector of research searches and a comparativist approach are used. The article uses theoretical methods of research (analysis), empirical (description) and general logic (generalization, comparison).

Presentation of the main material. Today’s problems, digitization and globalization of education, require significant strategic and procedural reforms of the higher education system of Ukraine, which will result in the modernization of long-term strategies and methods that meet the needs of today [1; 2]. The impact of global processes is multidimensional and has significant social, economic and political implications. The mass spread of education and western-oriented learning norms at all levels are an integral part of the globalization process [3]. Globalization has become the main subject of study, especially in the field of comparative pedagogy, which applies historiographical and social scientific theories and methods to solving international problems of education. Numerous works of Ukrainian scientists-researchers, namely A. Sbruyeva [4], O. Sukhomlynska [5], O. Lokshina [6], N. Nychkalo [7], O. Pukhovska [8], A. Maksimenko [9] and others, are devoted to the problems of comparative research. The comparative (comparative) approach used in the research was used by K. Landman [10], R. Owens [11] in the theoretical justification of modern approaches to the content of educational programs; such researchers as L. Darling-Hammond [12], M. Dies [13], M. Bray [14], D. Wilson [15] were engaged in the study of the quality of professional training of teachers, the study of “university-school” cooperation; J. Edwards, M. Robler [16] and others were engaged in research on the implementation of information and communication technologies in professional education.

The basis of the classification of scientific approaches to conducting comparative studies of the problems of higher medical education was the degree of completeness of knowledge of the compared systems of graduate education of Ukraine and Germany, which allow to determine the strategies for solving the problems of comparative pedagogical research: historical-comparative, systemic-historical, synergistic, hermeneutic, historiographic, axiological,
narrative, thesaurus. Comparative research is characterized by epistemological integrity and constant methodological reflection. This means that in it, the study of objects, the discovery of their specificity, properties and connections is always to one degree or another accompanied by an awareness of the research procedures themselves, that is, the specificity of comparative studies in comparison with other fields investigating international education [17].

The structure of higher medical education in Ukraine is based on the education systems of leading countries in the world in accordance with the recommendations of the EU, UNESCO, the UN and other international organizations. Being an integral part of the Ukrainian educational system, higher medical education in Ukraine is regulated by the law “On higher education” [18], the regulation “On specialization (internship)” [19], the order “On approval of the specifics of training clinical residents for the needs of the Ministry of Defense of Ukraine” [20], etc. [21; 22]. The four-level system of educational institutions provides high-quality education with subsequent assignment of such qualification levels as Junior Specialist (2–3 years), Bachelor (3–4 years), Specialist (6 years) and Master (1–2 years). Higher education can be obtained at higher educational institutions of a certain level of accreditation. Applicants must have completed secondary education or an associate/bachelor’s qualification in order to be eligible for higher medical education. To obtain postgraduate education, the candidate must have a document confirming the qualification of a specialist or master.

The direction of training of future doctors is determined by the standards of higher education. The content of higher education in the medical direction is implemented in unified approaches to educational and qualification characteristics and educational and professional programs at the stages of undergraduate and postgraduate training of specialists, developed in accordance with the orders of the Ministry of Education and Science of Ukraine.

The educational and qualification characteristics of a graduate of a higher educational institution reflect the goals of educational and professional training, determine the specialist’s place in the structure of the health care system, and form his professional competencies. The educational component of the professional-oriented program defines the normative term of study, the normative part of the content of the study in the form of a system of blocks of meaningful modules, their information volume and level of assimilation in accordance with the requirements of the educational and qualification level. The educational and professional program establishes requirements for the content, scope, and level of the specialist’s educational and professional training. Thus, the educational and professional training program for a specialist in the specialty “medicine” determines the ratio of normative and variable parts of the content – 80% and 20% [23]. The content of education includes mandatory medical and biological disciplines, behavioral and social sciences, medical ethics, and clinical disciplines. Educational programs are focused on the principles of evidence-based medicine, on the development of analytical and critical thinking of students of higher education [24]. Programs of clinical disciplines involve contact with the patient, responsibility for clinical observations, preventive medicine.

The main principle of building the content of medical education in Ukraine is orientation towards the final goals and obtaining the basics of professional competence, the realization of which is facilitated by the credit-module system, increasing the amount of independent work of students of higher education, expanding opportunities for individualization of the educational process, etc. The undergraduate stage of medical education in Ukraine, as well as in Germany, ends with state certification (state approbation) of graduates in order to determine the compliance of the quality indicators of higher medical education with the requirements of state standards of higher education after completion of studies in the relevant educational and professional programs. In contrast to the content of the German system of higher medical education, there is a certain overload in the Ukrainian system, which is caused by socio-economic disciplines that are absent from the curricula of medical schools in Germany, which involves the study of such subjects as “Physics”, “Fundamentals of economic theories”, “Philosophy” and others. Overloading the content of medical education logically leads to an average weekly classroom load of 5–10 hours per student.

A significant shortcoming of higher medical education in Ukraine is the insufficient clinical and practical training of future doctors, for which, according to the curriculum of the training plan for specialists in the field of medicine, half as many ECTS credits are allocated as in a German university. Currently, the optimal reform of the system of higher medical education in Ukraine stands in the way of such obstacles as: political, socio-economic realities of wartime; shortage of budgetary funds for education. The main areas of implementation of the problematic issues of the development of higher medical education are the creation of legal, economic and organizational con-
ditions for improving the quality of higher medical education by bringing its standards to the needs of the health care industry and international requirements [25]. This includes improvements to the legal framework; creation of an end-to-end training program for graduates of the higher medical world for perfect mastery of practical skills and methods; preparation of national textbooks and manuals for educational disciplines that meet modern state educational standards; further development of the network of university clinics and university hospitals; integration of the educational process with the scientific and medical activities of higher educational institutions and the work of university clinics; modernization of the material and technical base, etc.

The multi-level structure of higher medical education means that after completing a certain level of study, students can continue their studies. Ukrainian medical graduates are required to complete an internship, as well as a master’s degree or a clinical residency upon request, while foreigners who have obtained a specialist qualification have the right to complete a master’s degree or a clinical residency only. An important place in the context of professional-oriented reforms was the introduction of professional education standards. Their main functions are: selection of candidates for admission to educational institutions; assessment of students’ educational achievements; quality assessment and accreditation of education programs; certification of teachers certifying professional level; determination of criteria for teachers’ reporting for constantly performed professional duties; periodic licensing and remuneration of teachers at different stages of their career growth; evaluation of the activity of teachers seeking to improve their professional status; direction orientation and quality assessment of teachers’ professional development; focusing the attention of the educational system on the problems of the quality of teaching, on the issues of accreditation of educational programs and professional development of the teacher; informing the general public about the quality of the educational system, etc. The processes of implementation of standards in the professional and educational sphere are at the stage of formation, not completed in any of the European countries, so the assessment of their impact on the effectiveness of the educational system is quite controversial and depends on the ideological positions of educational experts.

A feature of modern educational systems in Germany is the presence of new generation standards. The master plan for medical education in Germany, namely the “Masterplan Medizinstudium” [26], which was adopted in 2020, determined that the German government, together with the federal states, intends to develop measures to ensure a more targeted involvement in the training of applicants, to increase orientation to practice and to strengthen the aspects of primary care during all studies planned at universities. The master plan defines the tasks for the next generation of doctors and sets the course of their training. The course has great practical relevance; more attention is paid to communication and social skills to strengthen the relationship between the doctor and the patient, which is especially important for the success of the treatment. On the other hand, general medicine is expanding. At the same time, during training, special attention is paid to systematic training in safe handling of scientific concepts and methods. According to Federal Minister of Health Hermann Gröhe and Federal Minister of Research Professor Johanna Wanka, as well as representatives of conferences of health and education ministers of the federal states and coalition factions of the Bundestag, this is the only way doctors can always provide their patients with the latest medical research. The master plan envisages changes in the structure of education and the content of education. The goal is to familiarize future doctors with everyday diseases in outpatient and inpatient practice.

There are no entrance exams for studying at a medical institution in Germany. Enrollment in the first year is based on the average score of the certificate. The minimum passing threshold is 4.5 points, which is similar to the German 1–1.4. The duration of schooling in Germany must be at least 13 years, so most often medical education in Germany becomes available after a specialized Studienkolleg at a higher educational institution, since the final grades after studying at this institution are also counted.

Also, a positive passing of the “Test für Medizinische Studiengänge” (TMS) allows to increase the chances of obtaining a profession, since its results prevail over the average score of the certificate. Pragmatic German education believes that the knowledge of mathematics, biology, and chemistry shown on the test are among the necessary skills for future specialists in health care institutions. The more targeted selection of applicants is linked to the final school assessment (Abitur) and the medical studies exam “Test für Medizinische Studiengänge”, which makes it possible to hope that the student has a burning desire to become a doctor in six or more years. The validity of existing selection procedures can only be determined using surrogate parame-
In most universities, the beginning of studies in the field of medicine is possible only from the winter semester, that is, from the month of October. The term of study, as a rule, is 6 years and 3 months, but in some cases it can be longer. After all, in this case, it is not speed that is especially important, but quality. The entire period of study can be conditionally divided into 3 periods:

1. Pre-clinical period lasting 4 semesters (2 years). It involves obtaining basic knowledge in the field of humanitarian, medical and natural sciences. Students already at the beginning of their studies receive practical skills in caring for patients and providing first aid.

2. Clinical period with a total duration of 6 semesters (3 years). The clinical period of study includes the study of natural-scientific and clinical disciplines of general pathology and methods of laboratory and medical examination. The main goal of the clinical period is to acquire knowledge in the field of clinical disciplines, principles and algorithm of diagnosis, as well as development of a treatment plan.

3. Practice (1 year). The practice period involves working out the knowledge, skills and abilities acquired during the entire period of study. Under the guidance of their supervising physician, students are involved in activities with the aim of further deepening their knowledge in the field of medicine, and can also take part in clinical discussions (conferences).

The first and third stages end with a mandatory state exam. After graduating from the medical school, the graduate receives the first professional title, namely that of a practicing doctor. A young specialist must work for 1.5 years as a practicing physician and gain experience and positive recommendations. After that, he moves to the next step and can work as a doctor’s assistant. And only after a few years, the assistant doctor becomes a specialist doctor, that is, he receives a license for practical activity.

Various proposals for the improvement of medical education can already be found on the Internet by organizations such as the Medical Faculty Association (MFT), the German Medical Students’ Association (bvmd), the German Medical Association, the German Physicians’ Union (Marburger Bund, Hartmannbund), as well as some societies in the Association of German Medical Scientific Societies (AWMF) (Medical Faculty Association (MFT) and others. One of them is the provision that academic success (especially if we understand mainly cognitive requirements in the sense of knowledge-based exams) reflects only part of the competencies and personality traits that future doctors will receive. Other selection criteria used by German universities, in addition to individual scores from the Abitur exam, are subject-based ability tests, as a type of professional training, the Multiple-Mini-Interview (MMI) [29]. The Catalog of Learning Objectives for Undergraduate Medical Education (NKLM) was developed based on the definition of the national competence of German doctors [30], which was adopted in 2015 at the regular meeting of the Association of the Faculty of Medicine in Kiel (of the Medical Faculty Association in Kiel) and currently serves as the basis for determining measures to increase the practice-oriented learning of students of medical education institutions [31], which made it possible to move away from the historical distribution of hours and make them convenient and necessary for medical education [32].

But the “Masterplan Medizinstudium” reform caused significant additional costs for the faculties of higher medical education institutions, and their added value was not reliably proven. On the other hand, the master plan “Masterplan Medizinstudium” was adopted without any financial commitment. In addition, the reform measures of the “Masterplan Medizinstudium” are narrowed to the shortage of general practitioners in rural areas and general medicine, while the faculties see themselves in the role of training the widest possible spectrum. The new content of basic medical education in Ukraine also provides for the training of a doctor of a broad profile and the absence of undergraduate specialization of doctors, which is also typical for German-speaking countries.

Also, one of the main problems of higher education in Germany has become the problem of the growth of digitalization and the need to train doctors for the care structures of tomorrow.

The political structures of power in Germany also stood in the way of this reform. Politicians seek greater centralization of medical education. The system of teaching freedom, different profiles and competition between faculties is denied.

A widespread myth is the idea of a well-founded educational motivation of German youth, which is necessary for obtaining professional competence [33]. In fact, there is no special self-discipline. In fact, a fourth part of students, like students in Ukraine,
also do not attend classes. The main institutional difference compared to the academic independence of German students is that German students choose most subjects themselves depending on career plans and/or agreements with potential employers. The freer choice of study programs for German students is connected not only with the historical traditions of university autonomy, but also with the fact that the structure of social expectations in German society is not as strongly structured as in Ukraine [34]. Another institutional defect is the strengthening of institutions of external control, with weakness and insufficient attention to self-motivation. The minimization of educational efforts of higher education seekers, along with the spread of “commercial” dissertations, is the result of the democratization of society and the general institutional degradation of the social space [35]. Trying to minimize efforts to achieve the maximum result, students, acting as social agents, often switch their energy to the search for additional paid employment; participate in the activities of informal youth groups, etc. Despite all the inequality of starting conditions, cultural and economic features of Ukraine and Germany, similar problems and tasks are being solved in the field of higher medical education, which is determined by global development trends and established world and European standards.

The considered institutional features of the educational system of Germany are not deterministic. It is not necessary to borrow all German institutions. However, if one or two elements are selectively “extracted” from Western systems of higher education (such as the three-level bachelor-specialist-master’s system) and use them as a basis for other institutional transformations, the result can be considered satisfactory.

Conclusions. So, as evidenced by the analysis of the professional training of future doctors, comparative research shows a wide range of methodological approaches, which are characterized by expediency and adequacy, are determined by a high degree of consistency, which is a significant factor that affects the results of research work, and allow obtaining the most complete and objective information about the subject of research. The content of medical education in Ukraine and Germany ranges from an information-accumulating to a competency-based, person-oriented model, which reflects a system of professional knowledge, abilities and skills, personal and behavioral qualities, combined with a humane attitude towards the patient. The medical profession is one of the most prestigious, most respected and highest paid professions. However, those who have chosen the path of medicine must be ready for responsible painstaking work, constant development and improvement. It is this profession that requires special responsibility, self-discipline and does not allow the right to make mistakes. Medical education in Germany sets a high bar for future medical specialists. Starting from strict selection conditions and a frantic competition, a mandatory combination of practice with theory, state-level exams, stages of practical experience in the role of an intern, an assistant up to the moment of obtaining the cherished license for independent medical practice – this is what you will have to face on the way to your cherished dream. The educational system is a very important part of the social organism, so we hope that by focusing on certain principles, we will get a broader outlook and a firmer understanding of modern problems in the field of higher medical education, on the basis of which the educational reconstruction that should take place after the war can be built.

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