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**SPECIFICS OF APPLICANTS' SELECTION FOR TRAINING
AT HIGHER MEDICAL SCHOOLS OF GREAT BRITAIN**

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**ОСОБЛИВОСТІ ВІДБОРУ АБІТУРІЄНТІВ НА НАВЧАННЯ
ДО ВИЩИХ МЕДИЧНИХ ШКІЛ ВЕЛИКОЇ БРИТАНІЇ**

The aim of the work – to perform systematic analysis of the process of applicants' selection for training at higher medical schools of Great Britain.

The main body. The process of candidates' competitive selection for professional (medical) education requires continuous improvement. Development of a perfect assessment system for university applicants that would meet up-to-date requirements is an essential problem of interdisciplinary level, covering issues of medicine, pedagogy, psychology and other disciplines. The psychological component of candidates' selection is no less important than a professional one, and acts as an integral part for determining their professional appropriateness. The article deals with the formation of appropriate student contingent at British higher medical schools. The principal tools of selecting candidates for the study are marked out; academic and non-academic entrance requirements are systematized and characterized.

Conclusions. Based on the foreign experience, we can conclude that in the countries with the selection mainly carried out prior to the study at the medical school, much attention is paid by the teachers, medical students, and those responsible for the health care both to the selection criteria and selection procedure. In the countries where selection is practised after the students have begun to study medicine, there is concern with regard to the quality of medical education, as the number of those, recently entering high medical schools is not balanced by their capacity-building in terms of specialists training.

Conclusions regarding reasonability of applying certain methods in selecting candidates for training at the national medical universities have been derived from the analysis. Besides, the latter it is also expected to provide a basis for developing admission recommendations for foreign students.

Key words: medical education; applicant; selection; entrance examinations; interviews; enrolment.

Мета роботи – здійснити системний аналіз процесу відбору абітурієнтів на навчання у вищих медичних закладах Великої Британії.

Основна частина. Процес конкурсного відбору кандидатів для здобуття фахової (медичної) освіти вимагає постійного вдосконалення. Складною проблемою міждисциплінарного рівня, що охоплює питання медицини, педагогіки, психології та інших дисциплін, є розробка такої системи оцінювання абітурієнтів, яка б максимально відповідала сучасним вимогам. Психологічний компонент відбору кандидатів є не менш важливим, ніж професійний, і являє собою невід'ємну складову визначення фахової придатності. У статті розглядаються питання формування контингенту студентів британських вищих медичних шкіл. Виокремлено основні засоби відбору кандидатів на навчання, систематизовано академічні та неакадемічні вступні вимоги, подана їхня характеристика.

Висновки. Вивчення досвіду організації допрофесійної і професійної освіти за кордоном дає змогу врахувати такий досвід при реформуванні системи освіти незалежної України, виявити критерії ефективності допрофесійної підготовки фахівців. У тих країнах, де відбір практикується тільки після того, як студенти вже розпочали вивчати медицину, має місце стурбованість щодо якості медичної освіти, оскільки збільшення останнім часом кількості осіб, що вступають до вищих медичних навчальних закладів, не компенсується відповідним розширенням їх можливостей щодо підготовки спеціалістів.

Проведений аналіз дозволив зробити висновки про доцільність застосування деяких способів відбору абітурієнтів до вітчизняних медичних вузів на сучасному етапі. Крім цього, він може стати основою для розробки рекомендацій щодо прийому на навчання іноземних студентів.

Ключові слова: медична освіта; абітурієнт; відбір; вступні випробування; інтерв'ю; зарахування.

Introduction. Awareness of progressive trends and practical results in the European countries is a priority

area of higher medical education modernization. Over recent years, they have progressed significantly in reforming their educational systems, so Ukraine,

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being committed to the integration into the European Community and expansion of international links, ought to focus on the careful and creative use of European scientists' developments, seeking for the most promising avenues of the national science advancement, including medical.

Within the context of borrowing advanced experience, the system of British higher education, medical in particular that is long since highly reputed and acknowledged worldwide, is worth considering. The United Kingdom is ranking high in the leading world ten with regard to the level of medicine development, use of latest know-how, and amount of research. Therefore, despite considerable requirements, imposed by the British institutions on the entrants, the number of those willing to be trained as a medical doctor at prestigious high medical schools, is ever growing.

The aim of the work – to perform systematic analysis of the applicants' selection for the study at the British high medical schools.

The main body. The study object is the peculiarities of the applicants' selection for the study at the British high medical schools, the main task involving the use of theoretical research methods (analysis, synthesis, comparison, classification, concretization, theoretical generalization). The research is based on the analysis of research works on the subject by Ukrainian and foreign authors, as well as on the site content of the General Medical Council of the Great Britain and medical departments of British universities.

The process of applicants' selection can be distinguished among the main factors, effecting the quality of training at the British medical schools. As pointed out by Ya. Tsehmister, "if the ultimate goal of higher medical education is the output of trained doctors, meeting the needs of public health, then the degree of achieving the goal largely depends both on the system of training and the process of candidates' selection" [1].

The British system is characterized by high degree of decentralization, and local authorities are given responsibility of managing educational policy (through intermediary organizations, committees, commissions, et al.), academic institutions and professional societies. Decentralization contributes to the independence of the universities and enables them to establish their own admission rules, determine training program, forms and methods, keeping to the educational standards of the General Medical Council of the Great Britain. The General Medical Council in its turn upholds high standards of candidates' selectivity pursuing the concept that medical education and training should take

into account modern requirements of the national system of the health care regarding the needs of patients, medical students, and doctors throughout their professional career [2].

Admission to the University is preceded by the long period of submitting documents, considering the candidates, and their selection for the study. According to established rules, an applicant, who intends to enter Oxford or Cambridge, is supposed to submit documents for the consideration of the University Central Council by 15 October of the previous year [3].

A year before admission, a pupil of the graduating class submits an application in electronic form to UCAS (Universities and Colleges Admissions Service) [4] – a licensed admission Internet service, providing a link between the University and a future student. Advantages of the procedure of compulsory registration through Internet are obvious: high efficiency of applications collection, increased personal motivation and responsibility of applicants in choosing the trend of professional orientation, institution, etc. Automated system of admission to higher educational institutions provides efficient use of time by the applicants and admission board, and, according to the standards of the General Medical Council, makes the entrance system maximally objective, transparent, and open [3].

In his application, a candidate notes the so called "predicted" results he expects at the graduation exams, his main achievements in studying core disciplines on the time of documents' submission, and gives in the alphabetic order a list of Universities (not more than 4 for medical specialties), where he intends to study for the doctor.

Attached to the set is the personal statement of the applicant – a 1–2.5 page essay, meant to give the impression of the depth of a candidate's character, his moral characteristics and intellectual potential, as well as to show an ambition for acquiring new knowledge, energy in mastering and level of interest in the future profession [4].

A peculiar condition of enrolment to the British medical schools is a necessity of submitting two or three letters of credit, written by the representatives of administration or school teachers whose status allows them to evaluate the intellectual potential of future applicants, their ingenuity and initiative, adaptability, strive for study, as well as capability to show their competence in the chosen speciality, leadership, etc. Letters of credit are directly mailed by the reviewers to the admission board of an institution [4].

UCAS processes each application and promptly refers its copies for consideration to the Universities, chosen by an applicant. Based on the application submitted, the University authorities either offers a place or refuses on the spot. Usually, the proposal is conditional, since most of the candidates submit their applications before graduation exams. In this case the applicant may be additionally required to get a fixed sum of points or to pass the test on a core discipline with a mark not below certain level.

Selection criteria, the admission boards of the British Universities are guided by, can be divided into academic (directly related with the educational process and its results) and non-academic. The first include official results of A-level tests or their equivalents. Non-academic criteria evaluate an applicant's capability for verbal/logical, mathematical, and abstract thinking (through an admission test); his motivation and potential (personal statement, references/recommendations from his school, interview).

Most high medical schools require compulsory A-level in chemistry; the others, aside from chemistry, in physics, biology or mathematics. The results must not be worse than AAB or AAAB, where A corresponds to "excellent" and B – to "very good".

It should be noted that the maximum number of points in core disciplines at the graduation exams and the certificate of A-level comprehensive education is a compulsory but not the only condition of entering the most prestigious British Universities. Particularly, selection of the candidates for the medical study at Cambridge, Oxford, Imperial College London, and University College London is performed based on the results of the interview and additional entrance exams that makes possible differentiation of the most capable applicants who have shown the highest results at the national standardized tests [3].

The peculiarity of the entrance exams to the British Universities is that they are not held in the premise of a chosen institution only – in the United Kingdom there is a vast network of certified test-centres. The test tasks of close, open, and combined forms include: 1) picking up one or a few correct answers of those suggested; 2) short answer to the question; and 3) writing an essay. Cambridge and Oxford Universities were the first educational establishments in the UK to initiate Biomedical Admissions Test (BMAT) [5], Brighton and Sussex Medical School, Imperial College London as well as Lancaster University being their followers.

BMAT, a two-hour paper based test, was designed to check the future students' knowledge of core discip-

lines, their relevant intellectual skills and aptitude for success on challenging medical or biomedical courses. It is organized into three sections [6].

Section 1, a 60-minute test of *Aptitude and Skills*, comprises 35 multiple-choice tests and short-answer question type on the following items: 1) Problem Solving, requiring the candidates' ability to select relevant information, to recognise analogous cases as well as to determine and apply appropriate procedures; 2) Understanding Argument, demanding respondents to identify reasons, assumptions and to draw conclusions; 3) Data Analysis and Inference, checking the applicants' skills in data interpretation, analysis and scientific inference, etc. to reach appropriate conclusions from information provided in different forms.

Scientific Knowledge and Applications (Section 2) lasts for 30 minutes and includes 27 tests to evaluate if the applicants possess core knowledge of natural sciences (Biology, Chemistry, Physics) and Mathematics and have the capacity to apply it, which is a prerequisite for high-level biomedical study.

Writing Task (Section 3) requires composing a one-page essay on one of the four science-based topics within 30 minutes. This section tests the candidates' ability to select, develop and organise ideas, and to communicate them in writing, concisely and effectively.

Each correct answer to the questions of parts 1 and 2 of the text is assessed as one grade. The total number of grades is converted on the BMAT scale from 1 grade (the lowest mark) to 9 (the highest one). Part 3 is assessed by two examiners, each of them determining how laconic, consequent, and logical the answer to the chosen question is (scale 0–5) and how correctly presentation of the material is made from the standpoint of the English grammar (scale A, C, E). Completeness of the answer to the question is assessed by the mark that is the average of grades, assigned by the two examiners. The mark in linguistic correctness is drawn according to the pattern: AA = A, AC = B, CC = C, CE = D and EE = E. For example, if the first examiner assesses performance of the written exercise 4A, and the second – 4 C, the eventual mark will be 4B; when the first examines assesses 3C, and the second 2 C – the eventual mark will be 2.5C [6].

The United Kingdom Clinical Aptitude Test (UK-CAT) is used as an additional tool for the selection process by high ranking British universities with the purpose to make more informed choices between medical candidates. The UKCAT helps the Universities to select applicants with the most appropriate mental abilities, attitudes and professional behaviours required

for future doctors to be successful in their clinical careers. It is used in collaboration with other admission processes such as the UCAS application and academic qualifications. UKCAT lasts for 2 hours and comprises tasks for: 1) verbal reasoning; 2) quantitative reasoning; 3) abstract reasoning; 4) decision analysis; and 5) situational judgement [7].

Interview is an obligatory non-academic selection criterion for admission to the UK medical schools [8]. Candidate's aptitude and awareness for the doctor's profession are determined at the interview, the following criteria being taken into consideration:

“Empathy: ability and willingness to imagine the feelings of others and understand the reasons for the views of others;

Motivation: a reasonably well-informed and strong desire to practise medicine;

Communication: ability to make knowledge and ideas clear using language appropriate to the audience;

Honesty and integrity;

Ethical awareness;

Ability to work with others;

Capacity for sustained and intense work” [9].

This taken into consideration, Cambridge and Oxford University Admission Committees suggested a selection of Medical School interview questions [10–12], which may be tentatively classified as:

1) Questions about the Applicant's Character and Personality:

What are your greatest strengths and weaknesses?

What special qualities do you feel you possess that set you apart from other medical school candidates? What makes you unique or different as a medical school candidate?

Thinking of examples from your recent past, how would you assess your empathy and compassion?

What qualities do you look for in a physician? Can you provide an example of a physician who embodies any of these ideals? How do they do this?

2) Questions about the Applicant's Motivation:

Discuss your decision to pursue medicine. When did you decide to become an MD, and why?

Why did you decide to choose medicine and not some other field where you can help others, such as nursing, physical therapy, pharmacology, psychology, education, or social work?

What will you do if you are not accepted to medical school this year? Have you an alternative career plan?

What general and specific skills would you hope an ideal medical school experience would give you? How might your ideal school achieve that result?

3) Medicine- and Healthcare System-Related Questions:

What excites you about medicine in general?

What do you think of the state of the NHS? What would you do to improve it?

What do you know about the current trends in our nation's healthcare system?

What do you believe to be some of the most pressing health issues today? Why?

What do you feel are the negative or restrictive aspects of medicine from a professional standpoint?

What are some solutions that we can introduce immediately to help the healthcare system become more equitable, inclusive, efficient, and sustainable, etc?

What should be done about the shortage of medical specialists and adequate resources in rural settings?

What's the greatest medical innovation this century?

4) Society Related Questions:

What do you feel are the social responsibilities of a physician?

Can you think of any examples in our society when healthcare is a right? When is it a privilege? When is it not clear?

How do you think national health insurance affects physicians, patients, and society?

5) Questions about Ethic Issues of Medicine:

Are you aware of any current controversies in the area of medical ethics? List and discuss some of these.

How do you feel about euthanasia or medically assisted suicide?

How would you feel about treating a patient who has tested positive for HIV?

What are some of the ethical issues that our society considers in regard to teenage pregnancy?

Should someone sell their organs?

At what point is a person “dead”?

In addition, in our opinion, it is worth-while to emphasise issues that make it possible to test the applicant's cognitive and analytical thinking skills, namely:

How would you design a better brain?

If urine was emptied into the intestine instead of the bladder, what would happen?

Why don't we just have one ear in the middle of our face?

Why is it a disadvantage for humans to have two legs?

How would you describe a human to a person from Mars?

All the above-mentioned confirms that the policy of admission campaign in British Universities is aimed at

the selection of the students with the maximum level of mental capabilities, regardless their social status, race, religion, and financial security (for the UK citizens the opportunity to receive financial support is provisioned). Of 100 thousand candidates, submitting documents for the study at high medical schools of UK yearly, only about 6 thousand are selected – another proof of the high selectivity of British Universities [13].

Conclusions. Based on the foreign experience, we can conclude that in the countries with the selection mainly carried out prior to the study at the medical school, much attention is paid by the teachers, medical students, and those responsible for the health care

both to the selection criteria and selection procedure. In the countries where selection is practised after the students have begun to study medicine, there is concern with regard to the quality of medical education, as the number of those, recently entering high medical schools is not balanced by their capacity-building in terms of specialists training.

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List of literature

1. Цехмістер Я. В. Відбір учнів на професії медичного профілю: аналіз зарубіжного досвіду / Я. В. Цехмістер // Неперервна професійна освіта: теорія і практика. – 2001. – Вип. 2. – С. 163–171.

2. General Medical Council. Education and Training. – Retrieved from : <http://www.gmc-uk.org/education/index.asp>.

3. Вакуленко Т. С. Загальні питання відбору студентів до вищих навчальних закладів Англії / Т. С. Вакуленко, Л. М. Калашнікова // Педагогіка формування творчої особистості у вищій і загальноосвітній школах. – 2013. – Вип. 32. – С. 505–511. – Retrieved from : http://nbuv.gov.ua/UJRN/Pfto_2013_32_70.

4. UCAS. Undergraduate. Getting started. – Retrieved from : <https://www.ucas.com/ucas/undergraduate/getting-started>.

5. Вакуленко Т. С. Біомедичний вступний тест як засіб відбору студентів до вищих медичних шкіл Великої Британії / Т. С. Вакуленко // Вісник. Тестування і моніторинг в освіті. – 2011. – № 10. – С. 40–43.

6. BioMedical Admissions Test (BMAT). – Retrieved from : <http://www.admissionstesting.org/images/47829-bmat-test-specification.pdf>.

7. United Kingdom Clinical Aptitude. – Retrieved from : <http://www.ukcat.ac.uk>.

8. Паламаренко І. О. Інтерв'ю як обов'язковий неакадемічний критерій зарахування до медичних шкіл Великої Британії / І. О. Паламаренко // Вісник УМСА: Актуальні проблеми сучасної медицини. – Полтава, 2009. – Вип. 4 (28), ч. 3, т. 9. – С. 263–264.

9. University of Oxford. Medical Sciences Division. Selection Criteria. – Retrieved from : <https://www.medsci.ox.ac.uk/study/medicine/pre-clinical/requirements/criteria>.

10. Classic Medical School Interview Questions. – Retrieved from : <https://www.princetonreview.com/medical-school-advice/medical-school-interview-questions>.

11. Medical School Interview Questions. – Retrieved from : <http://www.medical-interviews.co.uk/interview-questions-medical-school-interviews.aspx>.

12. Medicine (Oxford & Cambridge Interview Questions). – Retrieved from : <https://sites.google.com/site/oxbridgeinterviewquestions/medicine>.

13. Воронка Г. Особливості відбору кандидатів на навчання у закладах вищої освіти в Канаді та Великій Британії / Г. Воронка // Педагогіка і психологія професійної освіти. – 2005. – № 1. – С. 199–207.

References

1. Tsekhmister, Ya. V. (2001). Vidbir uchniv na profesii medychnoho profilu: analiz zarubizhnoho dosvidu [Selection of students for obtaining medical profession: analysis of foreign experience]. *Neperervna profesiina osvita: teoriia i praktyka – Continuing Professional Education: Theory and Practice*, 2, 163-171 [in Ukrainian].

2. General Medical Council. Education and Training. – Retrieved from : <http://www.gmc-uk.org/education/index.asp>.

3. Vakulenko, T.S., & Kalashnikova, L.M. (2013). Zahalni pytannia vidboru studentiv do vyshchych navchalnykh zakladiv Anhlii [The common questions for admission

process in higher educational institutions of England]. *Pedahohika formuvannia tvorchoi osobystosti u vyshchii i zahalnoosvitnii shkolakh – Pedagogy of the Creative Person Formation in Higher and Secondary Schools*, 32, 505-511. – Retrieved from : http://nbuv.gov.ua/UJRN/Pfto_2013_32_70 [in Ukrainian].

4. UCAS. Undergraduate. Getting started. – Retrieved from : <https://www.ucas.com/ucas/undergraduate/getting-started>.

5. Vakulenko, T.S. (2011). Biomedychnyi vstupnyi test yak zasib vidboru studentiv do vyshchych medychnykh shkil

Velykobrytanii [Biomedical admission test as a means of selecting students for higher medical schools in Great Britain]. *Visnyk. Testuvannia i monitorynh v osviti – Bulletin. Testing and Monitoring in Education*, 10, 40-43 [in Ukrainian].

6. BioMedical Admissions Test (BMAT). – Retrieved from: <http://www.admissionstesting.org/images/47829-bmat-test-specification.pdf> /.

7. United Kingdom Clinical Aptitude Test. – Retrieved from: <http://www.ukcat.ac.uk>.

8. Palamarenko, I.O. (2009). Interviu yak oboviazkovyi neakademichnyi kryterii zarakhuvannia do medychnykh shkil Velykoi Brytanii [Interview as a compulsory non-academic enrollment criterion for the UK medical schools]. *Medychna nauka – 2009: Mater. Vseukr. nauk.-metod. konf. Visnyk UMSA: Aktualni problemy suchasnoi medytsyny – Medical Science – 2009: Proceedings of All-Ukrainian Scientific and Methodological Conference. Bulletin of UMSA: Current Issues of Modern Medicine*. (pp. 263-264). Poltava [in Ukrainian].

9. University of Oxford. Medical Sciences Division. Retrieved from: <https://www.medsci.ox.ac.uk/study/medicine/pre-clinical/requirements/criteria>.

10. Classic Medical School Interview Questions. – Retrieved from: <https://www.princetonreview.com/med-school-advice/medical-school-interview-questions>.

11. Medical School Interview Questions. – Retrieved from: <http://www.medical-interviews.co.uk/interview-questions-medical-school-interviews.aspx>.

12. Medicine (Oxford & Cambridge Interview Questions). – Retrieved from: <https://sites.google.com/site/oxbridgeinterviewquestions/medicine>.

13. Voronka, H. (2005). Osoblyvosti vidboru kandydativ na navchannia u zakladakh vyshchoi osvity v Kanadi ta Velykii Brytanii [Specifics of candidates' selection for study at higher education institutions in Canada and Great Britain]. *Pedahohika i psykholohiia profesiinoi osvity – Pedagogy and Psychology of Professional Education*, 1, 199-207 [in Ukrainian].

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