

O.F. Kucherenko, A.B. Kuanysheva\*, E.R. Keller-Deditskaya

*JSC Karaganda Medical University, Kazakhstan  
(E-mail: olg7524@yandex.ru, sab\_85@mail.ru, lenakd@mail.ru)*

### **The corpus of borrowings and their functioning in the medical terminology of Kazakhstan (on the material of professional periodicals)**

The article is devoted to the problem of functioning of borrowed lexemes in the medical terminology of Central Kazakhstan. It shows what influence the modern language policy of Kazakhstan has on the sublanguage of medicine. The problem of teaching Latin in medical universities of the Republic of Kazakhstan is touched upon. The arguments in favor of the compulsory introduction of Latin into the curricula of future physicians are presented. Terms extracted from specialized medical journals “Clinical Medicine of Kazakhstan” (J Clin Med Kaz), “Astana Medical Journal” in Central Kazakhstan and “Medicine and Ecology”, published by the Non-profit joint-stock company “Karaganda Medical University”, from 2011 to 2020 were analyzed. 6,450 terms from clinical medicine, pharmacy and anatomy were reviewed to confirm the hypothesis that Latin not only does not lose its position, but actively participates in the formation of new terms “serving” new branches of medicine and areas related to it. The scientifically and statistically unsubstantiated claim of total substitutability of Latin terminology for English terminology is refuted. Although it recognizes the growing influence of English in these spheres. To confirm the hypothesis, we propose an etymological and semantic classification of borrowings. Particular attention is paid to native Western European medical terms. Areas of medicine in which English-language terminology is actively incorporated are being established. The conclusion is that Greek–Latin terminology continues to be the core of the medical sublanguage, but the corpus of medical vocabulary is actively replenished by Anglicisms.

*Keywords:* language policy, trilingualism, Cyrillic, Latin, borrowings, medical terminology, term-element, etymological analysis, derivational analysis, semantic analysis.

#### *Introduction*

The state language policy of the Republic of Kazakhstan in recent decades is focused not only on promoting the study of Kazakh as the state language by representatives of all nationalities but also on introducing trilingualism into society: equal knowledge of the state, Russian and English languages.

This situation is dictated by the historical interaction of the Kazakh language with Russian and modern contacts with Western countries, where the “working” language is English.

The desire to integrate with the global community is also expressed in the decision of the state authorities to change the Kazakh script, replacing the Cyrillic with the Latin alphabet. This indirectly actualizes the interest of science and education in the Latin language as the primary source of writing and the conduit of the art of the word and knowledge in particular. “The translation of the Kazakh language into the Latin alphabet is a step toward integration into the global system of science and education, ensuring our spiritual unity. In the former post-soviet space, in the CIS, we use the Cyrillic alphabet, our compatriots in China use Arabic script, and our brothers in the West use the Latin alphabet. It turns out that when we talk we have one language, but when we read we have three different languages. We can’t understand each other. We can’t understand the writing. It distances us. Now we try to study and learn modern science, technology, and the Internet. It’s all based on the Latin alphabet now. We are now working to fill these gaps as quickly as possible. The translation of the Kazakh language into the Latin alphabet will strengthen our unity and spiritually bring us closer together”, said Nursultan Nazarbayev [1].

“I don’t think there’s any difficulty in that since our children have been taught English since the first grade. All schools teach English, which uses the Latin alphabet. The younger generation will have no difficulty with this. And I don’t think we’ll have much trouble either. Some of our friends are worried about their books, what will happen to them. Now, in the age of the Internet, there are no problems in this matter either” stated Nursultan Nazarbayev [1].

\* Corresponding author e-mail: *sab\_85@mail.ru*

The relevance of our study, firstly, is defined by the urgent need to determine the degree of influence of society on the sub-speech of medicine in the new language policy of Kazakhstan, and secondly, the work is performed within the framework of such basic approaches, defined in modern linguistics, as functional and sociolinguistic.

Medicine is a field of activity and knowledge that for centuries has been “serviced” by Latin and Greek, providing the stability of the language of science to maintain a common understanding throughout the world and supplying elements to the terminological apparatus of clinicians, pharmacists and anatomists. In this regard, there are two characteristics of medical terminology: Firstly, “medical terminology has reached a high degree of internationalization in comparison with the terminology of other branches of knowledge”, secondly, medical terminology has experienced the strongest influence of Latin language in the early period of its formation and development” [2; 173]. “Greek and Latin served as the basis for the formation of special words and highly productive terminological elements in medicine” [3; 111].

Meanwhile, modern medical education in the Republic of Kazakhstan is gradually abandoning the study of Latin as a compulsory language. During professional training of medical students of specialties “General Medicine”, “Dentistry” and several others, the Latin language in the last few years from the mandatory disciplines has moved into the category of elective languages. Only students majoring in Pharmacy are required to study Latin. The realities of the curriculum formation process lead to the fact that students “choose” as an elective component the disciplines offered to them by the graduate departments. Thus, future specialists, whose professional level directly depends on their ability to use terminology, are forced to learn Latin “by instinct”, using the word usage patterns of anatomy and other special disciplines.

The absence of specialists in Latin language in the training of physicians leads to errors, inaccuracies in the understanding and use of highly specialized terms, which in turn becomes the cause of their low level and unsystematic knowledge. It, consequently, reduces the competitiveness of Kazakh physicians in the modern world.

One of the arguments of the opponents of studying Latin as a compulsory language is the claim that Latin terminology in medicine is actively being replaced by English, and it is more relevant to learn English, while Latin will “master itself”.

Such an approach to the study of Latin, in our opinion, lowers the level of professional training of future physicians of any specialty. The role of Latin should not be underestimated in the training of biologists, pharmaceutical technologists, and public health professionals.

The statement about the total substitutability of Latin terminology for English terminology seems unsubstantiated, not supported by statistics and other data. On the contrary, we argue that Latin not only does not lose its position, but actively participates in the formation of new terms that “serve” new branches of medicine and fields related to it. At the same time, one cannot but admit that the influence of the English language in these spheres is also increasing. A detailed study of scientific articles published in medical journals in Kazakhstan provides the basis for such assertions.

An indicator of the demand for Latin and Greek terms in the medical community of Kazakhstan is their active use by medical scientists, teachers of all medical specialties, and practicing physicians. This conclusion is evident after studying scientific publications placed in specialized medical journals of Central Kazakhstan: *Clinical Medicine of Kazakhstan (J Clin Med Kaz)* [4], *Astana Medical Journal* [5] and in the journal *Medicine and Ecology* [6].

The quarterly journal “*Clinical Medicine of Kazakhstan*” is one of the leading multidisciplinary peer-reviewed medical journals in Kazakhstan. The main thematic focus is the publication of materials on medical science and practice, education, and health care organization. *J Clin Med Kaz* publishes original articles on clinical and/or experimental research, literature reviews, descriptions of clinical cases with unusual syndromes and diseases, brief communications aimed at advancing knowledge in the medical sciences with original images, and letters to the editor.

The journal “*Clinical Medicine of Kazakhstan*” provides open free access to the full text of all articles after online registration of the article at [www.clinmedkaz.org](http://www.clinmedkaz.org). The journal is included in the Index Copernicus database and the scientific electronic library eLIBRARY.RU.

*Astana Medical Journal* is a quarterly scientific and practical journal that has been published since 1998. The owner is a joint-stock company “*Astana Medical University*”. The journal is included in the list of scientific journals for publication of the main results of research works of master’s and PhD-doctoral students. The range of distribution is wide enough and covers all regions of the republic, countries of near and far abroad countries, which have connections with Kazakhstan on problems of hygiene, ecology, experi-

mental and clinical medicine; information exchange with medical institutions of Kazakhstan is carried out. Publications of works by practicing physicians have become an integral part of the issues of this scientific and practical journal for the qualification approbation of medical professionals.

The quarterly scientific and practical publication “Medicine and Ecology” was founded in 1996. The owner is the Republican State Enterprise on the right of economic management “Karaganda State Medical University” of the Ministry of Health of the Republic of Kazakhstan (Karaganda).

The journal publishes articles devoted to various problems of clinical, practical, theoretical and experimental medicine, history, organization and economics of health care, ecology and hygiene, issues of medical and pharmaceutical education. The journal has sections: Review of profile literature, Ecology and Hygiene, Clinical Medicine, Theoretical and Experimental medicine, Organization and Economics of health care, Medical and Pharmaceutical education, Observation from practice.

The working languages of all journals are *Kazakh*, *Russian*, and *English*. Regardless of the language in which the article is published, it must be accompanied by an abstract in the other two languages.

The purpose of our article is to study medical discourse in terms of its saturation with terminology of Greek-Latin origin in the light of the modern linguistic situation in Kazakhstan, as well as in terms of the presence in it of terms of non-Greek-Latin origin, their semantic and functional content.

The implementation of the goal involves the following tasks:

- 1) based on a continuous sampling from professional periodicals of the Republic of Kazakhstan to identify the corpus of borrowed vocabulary, functioning in medical terminology;
- 2) in the composition of the borrowed vocabulary to distinguish terms of Greco-Latin origin and terms of Western European origin;
- 3) to describe the linguistic material in terms of two aspects — derivational and semantic;
- 4) to establish which fields of medical knowledge most actively use classical terminological elements, and in which fields they introduce Anglicisms.

During the research the following methods were used: descriptive method, general scientific method of observation, the method of continuous sampling, the method of classification, statistical method.

The hypothesis underlying our work is that modern medicine is gradually abandoning Greco-Latinisms in favor of terminology of another origin for the following reasons: First, the emergence of new branches and areas of clinical and pharmaceutical science; Second, the development of innovative technologies, which are equipped with equipment and devices created in the United States and Europe and which receive a nomination from the language of the producing country or English as the most universal language; Third, “due to the increased interest in words of Western European origin, many scholars favor the use of foreign-language vocabulary over words of Russian origin, e.g.: «анальгетик» (analgesic) instead of «обезболивающее» (pain-killer), «болеутоляющее» (pain reliever); «аккомодация» (accommodation) instead of «привыкание» (addiction); «пролонгированный» (prolonged) instead of «продленный, длительный» (extended, long-term), etc. [7; 55].

### *Experimental*

To test the hypothesis proposed in our work, we examined articles published in medical journals of Central Kazakhstan: Clinical Medicine of Kazakhstan (J Clin Med Kaz) [4], Astana Medical Journal [5] and in the journal Medicine and Ecology. A total of 284 articles from 2011 to 2020 were reviewed: Astana Medical Journal (123 articles), Clinical Medicine of Kazakhstan (124 articles), Medicine and Ecology (37 articles).

A total of 6,450 terms from the fields of clinical medicine, pharmacy, and anatomy were extracted through *solid sampling*. The highest proportion belongs to clinical terms with 4,875 units, followed by anatomical terms with 927 units and pharmaceutical terms with 648 units.

The collected linguistic material was examined in terms of three aspects — *etymological*, *derivational*, *semantic*.

### *Results and Discussion*

The finished work can be represented as the following results.

**Etymological analysis** showed that the bulk (5681 units) were terms either completely borrowed from Greek and Latin or newly formed using Greek-Latin elements.

**Derivational analysis** of terms of Greek-Latin origin allowed us to classify them into three groups:

1. Simple terms consisting of a Greek or Latin root (borrowing words) (983 units).

2. Derived terms (formed with a root term element (TE) and affix(-es) (2,187 units).

3. Compound terms (formed by adding several roots and the connecting vowel “o” or without it, and comprising two or more words) (3280 units).

1. *Simple terms* consisting of a Greek or Latin root (borrowing words), e.g.: gypsum — *greek*. gypsos — mineral; diagnose — *greek*. diagnosis — recognition, detection; capsule — *lat.* capsula — box; cage — *lat.* cella — cell; lethality — *lat.* letalis — lethal; stenochoria — *greek*. stenosis — narrowing — narrowing of the tubular organ [8, 9].

2. *Derived terms* formed with a root term element (TE) and affix(-es), e.g.: *catheterisation* — *greek*. katheter — surgical instrument for emptying the cavity; *адреналин* (adrenaline) — *adren-* (adrenal-, *адрено-*; *lat.* adrenalis suprarenal; *ad-* + *lat.* ren — kidney) — “relating to the adrenal gland”, “related to the adrenal gland”; *перитонит* (peritonitis) — *anatom.* peritoneum abdomen — “pertaining to the peritoneum” and *suf. um-* inflammation; *гематома* (hematoma) — *greek*. haima, haimatos — blood — “blood-related” and *suf. oma* — tumor; *гемостаза* (hemostasis) — *lat.* haemostasis; *земо-* + *стаз* 1) in surgery — *v.* *Bleeding stoppage*; 2) in pathology (syn. blood stasis) — stopping the blood flow in the vessels of an organ or tissue area; *эндотоксический шок* (endotoxic shock) — *эндо-* (*greek*. endo — inside) and *токс-* (*greek*. toxikon (pharmakon) — poison, which the arrows were lubricated with, “poisonous”, toxic, relating to poisons [8, 9].

3. *Compound terms* created by combining several roots and the connecting vowel “o” or without it, and consisting of two or more words, e.g.: *лапароскопия* (laparoscopy) — *greek*. *lapara* — abdomen + *greek*. *skopeo* — consider, investigate; *тораоскопия* (thoracoscopy) — *greek*. *thorax*, *thorakos* — breasts, chest + *greek*. *skopeo* — examination of the internal walls and surfaces of the organs with special instruments; *лапаротомия* (laparotomy) — *greek*. *lapara* + *greek*. *tome section*, dissecting; syn. *wrecking*) — surgical operation: peritoneal cavity opening; *лапароцентез* (laparocentesis) — *greek*. *lapara* abdomen + *greek*. *kentesis* — piercing, puncture; *гемодинамика* (hemodynamics) — *greek*. *haima* — blood + *greek*. *dynamikos* — pertaining to power, strong; *аутопсия* (autopsy) — *greek*. *autos* yourself — “himself”, “same”, “his own” + *greek*. *opsis* — vision. (*autopsia*; *greek*. seeing with your own eyes) [8, 9].

A **semantic consideration** of the selected terms of Greco-Latin origin allows us to classify them into the following thematic groups: 1) names of diseases, 2) names of processes and methods of treatment, 3) names of substances, 4) names of body parts, 5) names of medical devices and instruments, 6) names of causes of diseases (etiology), 7) names of symptoms of diseases, 8) names of types of medicines, 9) names of branches of medicine [10].

The most frequent are the lexical units of groups 1, 2, 3, 4, 5. The terms included in groups 6, 7, 8, 9 occur much less frequently. It is connected with the scientific progress in medicine, with the appearance of new methods of diagnosis and treatment, devices and medical instruments, with the development of new directions in medicine.

The terms of Greek-Latin origin are in most cases taken from the following branches and sections of medicine: Oncology (breast, ovarian, prostate, oral, stomach, rectal cancer), Cardiology (arterial hypertension, arterial hypertension, stroke, heart disease), Surgery (pancreatic diseases, pancreatitis), gynecology, (childbirth, abortion anesthesia, cesarean section surgery), as well as diseases of the lungs, eyes (cataract, glaucoma), diabetes, anesthesia problems [10].

The only items represented are childhood diseases (foot deformities in children, clubfoot, cerebral edema), mental illnesses, diseases of the gastrointestinal tract, kidneys, urinary tract, and skin diseases.

The analysis of medical texts has shown that the medical terminology of Kazakhstan includes terms not only of Greek-Latin but also of Western European origin, mainly borrowings from English, French, and German.

For instance: 1. *тампон* (tampon) (fr. tampon) — A sterile strip of gauze to fill a wound or cavity; 2. *тампонада* (ger. Tamponade from fr. tampon — тампон) — filling wounds or cavities with tampons, sections of other tissues, or certain biologics (Ограничиться простой марлевой *тампонадой*) (Limit yourself to a simple gauze tamponade); 3. *канюля* (cannula) 1 (fr. canule) — a short tube with a blunted end, designed to be inserted into the cavities and canals of the human or animal body for diagnostic, therapeutic or research purposes; *канюля* (cannula) 2 — The thickened part of a tubular needle designed to connect it to various devices (В карман вводили тупоконечную *канюлю*) (A blunt-tipped cannula was inserted into the pocket); 4. *стресс-тест* от *стресс* (*stress test* from *stress*) (eng. Stress — tension), *тест* (eng. test — challenge, research) (Положительными результатами *стресс-тестов*) (Positive results of *stress tests*); 5. «*нон-дипперы*», «*найт-пикеры*» (eng. non — not; dip — downfall, suffix -er — figure, character, i.e. literally — не падающий (non-dropping); night — ночь, peak — вершина горы, suffix -er — figure, character,

i.e. literally — ночной вершитель (night peaker). (To the category of “non-dippers” (patients with insufficient nocturnal BP reduction) and “*night peakers*” (patients with nocturnal hypertension)); 6. *нон-респондеры* (non-responder) (eng. non — not, respond — answer, react, suffix -er — figure, character, i.e. literally не отвечающие не реагирующие (non-responder). (Thus, the greatest effect was observed in patients with hysterical and psychasthenic deviations and, to a lesser degree, in patients with schizoid, anancastic and paranoid deviations, who made up the non-responders group); 7. *кластер* (cluster) (eng. *Cluster* — grow in bunches, gather, accumulate) (...with metabolic syndrome (MS), which is a cluster of hormonal and metabolic disorders...); 8. *кластер-эффект* (cluster-effect) (eng. *Cluster* — grow in bunches, gather, accumulate) — a marked temporary increase in the incidence of certain malignant tumors in the population; 9. *шпатель* (spatula) (ger. Spatel) (Spatula was used to form a pocket in the tenon space up to the optic nerve); 10. *стент* (eng. stent) — a design that fits into the lumen of hollow organs and provides an expansion of the site [11–13].

It should be noted that during the analysis of the linguistic material, we did not consider medical terms-Europeanisms, which were borrowed from Latin and Greek (international medical terms). There are a few of them in our material, which is not accidental, because, as experts say, “... German medical terminology is based more on the Greek and Germanic linguistic structure. English medical terminology is almost entirely 'Latinized,' using only a small fraction of the Old English and Saxon syllabic structure” [14; 140].

The use of native West-Europeanisms, i.e. words originating from lexical and word-formation material of West-European languages, in medical terminology of Kazakhstan is comparatively few. From the point of view of semantics they are mainly represented by the terms referring to:

1. Medical equipment, equipment (ultrasound *scanners*, convex *sensor*, duplex *scanning*, *computer tomography*; by *Cryotome* apparatus, echocardiography using “*Hawk*” apparatus (Denmark), studied on computer 20 *DO Corol*), etc.;
2. Medical devices and instruments: *spatula*, *cannula*, *tampon*, *obstetric forceps*, *drainage*; *dilation syringe* (ger.: Spritze, from spritzen — to spritz), *stent*, mask and *Ambu* bag, etc.;
3. Surgical methods, techniques, methods: *tamponade*, *mini-laparotomy*, *mini-access*, *laser*, *helium-neon laser irradiation*, *B-Lynch compression suture*, laparoscopic total fundoplication (LTFN) of Nissen type, *laser* surgical techniques, according to *Papa-Nicolau* method, *gastric bandaging*, *gastros bypass surgery*, etc.
4. Genetics: *markers* of chromosomal pathology, etc.;
5. Physiology: breathing *patterns*, etc.;
6. Types of patients: *non-dippers* (patients with insufficient nocturnal BP reduction), “*nite peakers*” (patients with nocturnal hypertension), *non-responders*, in *Tritace* group patients, with *Hartil* group patients, etc.;
7. Drug names: the ACE inhibitor drug ramipril Tritace (Aventis, Germany) and its generic Hartil (Aegis, Hungary), azithromycin (Sumamed, Pliva, Croatia), amoxicillin/clavulanate (Flemoclave Solutab, Astellas Pharma Europe B.V., Netherlands), etc.;
8. Biochemistry: biochemical markers, etc.;
9. In the nomenclature of diseases (very rare): *Barrett's esophagus* (Barrett's syndrome), condition named after the English surgeon N. Barrett, who first described it in 1950; valve prolapse (German Klappe), etc.

Borrowings from modern European languages constitute a much smaller number as compared to the Greek-Latin ones (2143 units). These are the main terms that came into the Russian language in the 20th century and belong to such branches of medicine as immunology, microbiology, genetics, and dietetics. The process of penetration of such words has become especially pronounced in recent decades, which in turn is associated with scientific progress in medicine, the emergence of new diagnostic and treatment methods, devices and medical instruments.

The majority of Anglicisms, according to our observations, belong to the clinical and pharmaceutical subsystems. Anglicisms most commonly used in pharmaceutical terminology, for the most part, passed into Russian by transliteration (transmission of the spelling of an English word using the Russian alphabet), for example, *Uromodulin* — Уромодулин, *Trypsin* — Трипсин, *Zymosan* — Зимозан, *volumeter* — Волюметр.

We found a considerable number of English terms that retain the spelling of the original, indicating their novelty and lack of mastery by the “host” language. These incorporate 1. “sublay” and “onlay” techniques in relation to the “inlay” method; 2. Ablation mode; 3. according to the MRC (Medical Research Council dyspnea scale; 4. using nasal CPAP (continuous positive airway pressure); 5. according to the macro-reentry mechanism, etc.

Among medical terms of Europeanism there are many hybrid terms, that is, terms formed from elements of English and French origin, English and Latin: *гастрошунтирование* (ГШ) (Gastric Bypass) — Latin + English elements: *гастр*- (greek. gaster, gasteros or gastros — stomach) and *шунт* (eng. Shunt.) — the most common treatment for obesity in the United States; *биотампоны* (*biotamponades*) — greek + french elements: *био*- (greek. bios — life) and *тампон* (fr. tampon); *гелий-неоновое лазерное облучение* (*Helium-neon laser irradiation*) — greek + english: *helios*- (greek. — The Sun) and *лазерное* (eng. Laser); *нейроскрининг* (*neuroscreening*) — greek + english: greek. *Neuron* — *vein, tendon, fiber, nerve* — a compound part of compound words meaning «pertaining to the nerves, to the nervous system + eng. (screening) скрининг».

Among such terms-hybrids there are also unique neoplasms, the emergence of which is due to new trends in the approach to the treatment of patients. For instance, *молитвотерапия* (*prayer therapy*) — term-hybrid (old-slav. + greek.).

We note such a variety of Europeanisms as *eponymic terms* (*eponyms*). Within this group, there are also those in which two or more names of doctors are used, for example, *Chantz collar* — A. Schanz, (1868 — 1931, germ. surgeon) — A cotton-gauze dressing in the form of a standing collar; applied to immobilize the cervical spine; *Kirschner spiral fixation* — Martin Kirchner was a German surgeon who, in 1909, proposed the use of a thin metal spoke to treat fractures; *Doliotti probes* — sets of metal and plastic probes of a certain diameter, developed by Doliotti; Hamilton Depression Scale below 18 points — M. Hamilton (UK) developed a scale in 1960 to quantify the condition of patients with depressive disorders before, during and after treatment; about the Schulte Test — tables with randomly arranged numbers or letters, serving to test and develop quickness of finding them in a certain order. The doctor notes the time it takes the patient to find the numbers. Normally, the Schulte test time is 25–30 seconds. It was originally developed as a psychodiagnostic test to study the properties of attention by the German psychiatrist and psychotherapist Walter Schulte.

Thus, the described phenomena present a traditional picture, which seems to differ little from the use of medical terms in any other linguistic environment. The peculiarity of the functioning of the units under study lies in the dynamics of replenishing the professional language of physicians with terms of non-Greek-Latin origin. First of all, these are the words that came through the English language — directly or indirectly.

The time span of 7 years included in the scope of our study allows us to conclude that the flow of such terms has increased over the past few years. The number of Anglicisms in the medical arsenal is increasing year by year. So if in 2011–2013 we extracted 769 such units, then in subsequent years — 2014–2020 — the number of such terms increased to 1374. In terms of semantics, these are mainly names of medical devices and designations of officially used documents, programs and protocols, for example, LAE in the clinic was performed from lateral laparoscopic access through 4 trocars on an endoscopic rack *Karl Storz*; **on a microscope “Leica”**; on a computer hardware system “*Leica microsystems*” and a microscope “*Leica DM1000*”; CT picture of interstitial changes in the lungs according to the ground glass opacity type; and sealing of interlobular septa by crazy paving; *комплајенс* — eng. *compliance* (agreement, conformity; derived from the verb to comply) literally means to act as requested or directed; to obey. “Compliance” represents compliance with some internal or external requirement, or standard.

### Conclusions

Thus, our hypothesis of the unceasing importance of the traditional Greek-Latin terminology and the importance of the terminological elements as a source of lexical neologisms, on the one hand, is confirmed. On the other hand, the idea that the corpus of medical vocabulary is actively replenished by units of non-Greek-Latin origin, primarily by Anglicisms, is confirmed.

Our research is planned to be continued by a separate description of Russian- and Kazakh-speaking medical terms, and also to consider joint functioning of Greek-Latin and European terms with terms of Slavonic and Turkic origin in medical professional texts, published in periodicals of the Republic of Kazakhstan. This will allow reconstructing the full terminological picture that has developed in modern Kazakhstan, revealing regularities in this area and substantiating the justice of the introduction of trilingualism.

### References

- 1 Назарбаев о переходе на латиницу [Электронный ресурс]. — Режим доступа: <https://www.zakon.kz/4865601>.

- 2 Манукова О.В. Эквивалентность медицинских терминов в комбинации языков (русский–английский) / О.В. Манукова / Перевод как средство взаимодействия культур: материалы Междунар. науч. конф. (17–22 октября 2014 г.). — М.: Моск. ун-т, 2014. — С. 172–182.
- 3 Полухина О.Н. Роль греко-латинских заимствований в становлении российской медицинской терминологии. Саратовский ГМУ им. В.И. Разумовского / О.Н. Полухина, Е.А. Ремпель // Бюлл. мед. Интернет-конф. (ISSN 2224–6150). — 2016. — Т. 6. № 1. — С. 110, 111.
- 4 Сайт журнала «Клиническая медицина Казахстана» [Электронный ресурс]. — Режим доступа: <https://www.clinmedkaz.org>.
- 5 Сайт журнала «Астана медициналық журналы» [Электронный ресурс]. — Режим доступа: <https://www.amu.kz>.
- 6 Сайт журнала «Медицина и экология» [Электронный ресурс]. — Режим доступа: <https://www.kgmu.kz>.
- 7 Коннова О.В. Английские заимствования в научной медицинской прозе / О.В. Коннова, Т.С. Кириллова / Астрахан. мед. журн. — Т. 8, № 2. — 2013. — С. 54–56.
- 8 Медицинский латинско-русский словарь анатомических терминов. — [Электронный ресурс]. — Режим доступа: <https://www.kakras.ru/mobile/latin-anatomic-dictionary.html>.
- 9 Словарь греко-латинских терминологических элементов. — [Электронный ресурс]. — Режим доступа: [https://www.algor2csml.narod.ru/t\\_elem02.html#a](https://www.algor2csml.narod.ru/t_elem02.html#a).
- 10 Словарь медицинских терминов. — [Электронный ресурс]. — Режим доступа: [https://lib.ru/NTL/MED/slowar\\_a-k.txt](https://lib.ru/NTL/MED/slowar_a-k.txt).
- 11 Словарь иностранных слов. — М.: Русский язык, 1990. — 624 с.
- 12 Англо-русский медицинский энциклопедический словарь. — М.: ГЭОТАР-Медиа, 1995.
- 13 Большой немецко-русский и русско-немецкий медицинский словарь. — М.: Живой язык, 2009.
- 14 Верижникова Е.А. Влияние латинского языка на языки индоевропейских групп, в частности, на медицинскую терминологию (на примере английского и немецкого языков) / Е.А. Верижникова, Д.Д. Федорова // International scientific review. — 2016. — № 4 (14). — С. 138–141.

О.Ф. Кучеренко, А.Б. Куанышева, Е.Р. Келлер-Дедицкая

### **Қазақстанның медициналық терминологиясында басқа тілден енген сөздер корпусы және олардың қызмет етуі (кәсіби мерзімді басылымдар материалы негізінде)**

Мақала Орталық Қазақстан медициналық терминологиясындағы басқа тілдерден алынған лексемалардың қызмет етуі мәселесіне арналған. Қазақстандағы қазіргі тіл саясаты медицина саласының тіліне қаншалықты әсер ететіні көрсетілген. Қазақстан Республикасы медициналық жоғарғы оқу орындарында латын тілін оқытудың қиыншылықтары сөз етілген. Болашақ дәрігерлерге арналған оқу бағдарламаларына латын тілін оқытуды міндетті түрде енгізудің қажеттіліктері көрсетілген. Орталық Қазақстан өңірінде 2011–2020 жылдар аралығындағы мамандандырылған медициналық журналдар: атап айтқанда, «Клиническая медицина Казахстана» (J Clin Med Kaz), «Астана медициналық журналы» (Астанинский медицинский журнал, Astana Medical Journal) және «Қарағанды медициналық университеті» КЕАҚ шығатын «Медицина и экология» журналынан бірыңғай іріктеме жолымен терілген терминдер талданған. Латын тілі өз позициясын сақтап қала отырып, медицинаның жаңадан пайда болып жатқан салаларын және олармен аралас салаларға «қызмет көрсететін», яғни осы салаларда қолданылатын жаңа терминдердің қалыптасуына белсенді түрде қатысатынын дәлелдеп көрсету үшін, клиникалық медицина, фармацевтика және анатомия саласынан жалпы 6450 термин қаралды. Латын терминологиясының ағылшын тілді терминологиямен толықтай ауыстырылуы туралы ғылыми және статистикалық тұрғыдан негізі жоқ пікір жоққа шығарылған. Дегенмен, осы салалардағы ағылшын тілі әсерінің күшейіп келетіні де мойындалған. Гипотезаны дәлелдеу үшін еңбекте басқа тілдерден алынған сөздердің этимологиялық және семантикалық классификациясы ұсынылған. Бұрынғы батыс еуропалық медицина терминдеріне ерекше назар қойылған. Ағылшын тілді терминология қарқынды еніп келе жатқан медицина сфералары ерекшеленіп көрсетілген. Қорытындысында грек-латын терминологиясы медицина тілінің ядросы болып қала беруде, және медициналық лексика корпусына ағылшын тілді терминдер көптеп қосылуда екені айтылады.

*Кілт сөздер:* тіл саясаты, үш тілділік, кириллица, латын жазуы, сөз алмасым, медициналық терминология, терминдік элемент, этимологиялық талдау, деривациялық талдау, семантикалық талдау.

О.Ф. Кучеренко, А.Б. Куанышева, Е.Р. Келлер-Дедицкая

## Корпус заимствований и их функционирование в медицинской терминологии Казахстана (на материале профессиональных периодических изданий)

Статья посвящена проблеме функционирования заимствованных лексем в медицинской терминологии Центрального Казахстана. Показано, какое влияние оказывает современная языковая политика Казахстана на подязык медицины. Затронута проблема преподавания латинского языка в медицинских вузах Республики Казахстан. Приведены аргументы в пользу обязательного введения латинского языка в учебные программы будущих медиков. Анализу подвергнуты термины, извлеченные путем сплошной выборки из специализированных медицинских журналов Центрального Казахстана за 2011–2020 годы: «Клиническая медицина Казахстана» (*J Clin Med Kaz*), «Астана медициналык журналы» (Астанинский медицинский журнал, *Astana Medical Journal*) и журнала «Медицина и экология», издаваемого НАО «Медицинский университет Караганды». Всего рассмотрено 6450 терминов из области клинической медицины, фармации и анатомии с целью подтвердить гипотезу о том, что латинский язык не только не теряет своих позиций, но и активно участвует в образовании новых терминов, «обслуживающих» новые отрасли медицины и области, смежные с ней. Научно и статистически опровергается необоснованное утверждение о тотальной замещаемости латинской терминологии англоязычной. Хотя при этом признается усиление влияния английского языка в этих сферах. Для подтверждения гипотезы в работе предлагается этимологическая и семантическая классификации заимствований. Особое внимание уделяется исконным западноевропейским терминам медицины. Устанавливаются сферы медицины, в которых активно входит англоязычная терминология. В заключение констатируется, что греко-латинская терминология продолжает оставаться ядром в подязыке медицины, но корпус медицинской лексики активно пополняется англицизмами.

*Ключевые слова:* языковая политика, трехязычие, кириллица, латиница, заимствования, медицинская терминология, терминологический элемент, этимологический анализ, деривационный анализ, семантический анализ.

### References

- 1 Nazarbaev o perekhode na latinitu [Nazarbaev on a change to Latin]. *www.zakon.kz*. Retrieved from <https://www.zakon.kz/4865601> [in Russian].
- 2 Manukova, O.V. (2014). Ekvivalentnost meditsinskikh terminov v kombinatsii yazykov (russkii–angliiskii) [Equivalence of medical terms in the combination of Russian–English languages]. Proceedings from Translation as a means of interaction between cultures: *Mezhdunarodnaia nauchnaia konferentsiia (17–22 oktiabria 2014 goda) — International Scientific Conference*. (pp. 172–182). Moscow: Moscow University [in Russian].
- 3 Polukhina, O.N., & Rempel, E.A. (2016). Rol greko-latinskikh zaимstvovaniy v stanovlenii rossiiskoi meditsinskoi terminologii [The role of Greek–Latin borrowings in the development of Russian medical terminology]. *Biulleten meditsinskikh Internet-konferentsii — Bulletin of Medical Internet Conferences*, 6, 1, 110,111 [in Russian].
- 4 Sait zhurnala «Klinicheskaiia meditsina Kazakhstana» [Site of journal “Clinical Medicine of Kazakhstan”]. *clinmedkaz.org*. Retrieved from <http://clinmedkaz.org> [in Russian].
- 5 Sait zhurnala «Astana meditsinalyq zhurnaly» [Site of journal “Astana Medical Journal”]. *amu.kz*. Retrieved from <http://amu.kz> [in Russian].
- 6 Sait zhurnala «Meditsina i yekologiiia» [Site of journal “Medicine and Ecology”]. *kgmu.kz*. Retrieved from <http://kgmu.kz> [in Russian].
- 7 Konnova, O.V., & Kirillova, T.S. (2013). Angliiskie zaимstvovaniia v nauchnoi meditsinskoi proze [English borrowings in scientific medical prose]. *Astrakhanskii meditsinskii zhurnal — Astrakhan Medical Journal*, 8, 2, 54–56 [in Russian].
- 8 Meditsinskii latinsko-russkii slovar anatomicheskikh terminov [Medical Latin–Russian Dictionary of Anatomical Terms]. *kakras.ru*. Retrieved from <http://www.kakras.ru/mobile/latin-anatomic-dictionary.html> [in Russian].
- 9 Slovar greko-latinskikh terminoelementov [Dictionary of Greek–Latin term elements]. *algor2csml.narod.ru*. Retrieved from [http://www.algor2csml.narod.ru/t\\_elem02.html#a](http://www.algor2csml.narod.ru/t_elem02.html#a) [in Russian].
- 10 Slovar meditsinskikh terminov [Dictionary of Medical Terms]. *lib.ru*. Retrieved from [http://lib.ru/NTL/MED/slovar\\_a-k.txt](http://lib.ru/NTL/MED/slovar_a-k.txt) [in Russian].
- 11 *Slovar inostrannykh slov*. (1990). [Dictionary of foreign words]. Moscow: Russkii yazyk [in Russian].
- 12 *Anglo-russkii meditsinskii entsiklopedicheskii slovar*. (1995). [English–Russian Medical Encyclopedic Dictionary]. Moscow: GEOTAR-Media [in Russian].
- 13 *Bolshoi nemetsko-russkii i russko-nemetskii meditsinskii slovar*. (2009). [The Comprehensive German–Russian and Russian–German Medical Dictionary]. Moscow: Zhivoi yazyk [in Russian].
- 14 Verizhnikova, E.A., & Fedorova, D.D. (2016). Vliianie latinskogo yazyka na yazyki indoevropskikh grupp, v chastnosti na meditsinskuiu terminologiu (na primere angliiskogo i nemetskogo yazykov) [The influence of the Latin language on the languages of Indo-European groups, in particular on medical terminology (on the example of English and German)]. *Mezhdunarodnyi nauchnyi obzor — International scientific review*, 4 (14), 138–141 [in Russian].