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Some issues of English medical terminography in the context of English globalization

Abstract. The research suggests the list of the most critical problems in medical terminography, such as, difficulties in the identification of terms, polysemy and synonymy, a great quantity of abbreviations, rapid expansion of the terminological field of medicine. The approach used consists in the analysis of the definitions of English medical terms in medical dictionaries widely used in Ukraine. The study of the theoretical literature and the results of the empirical research show, that the following aspects as adequacy (compliance of the meaning of the term with the modern scientific knowledge); accuracy (sound and semantic accuracy without doublets in microterminosystem); unambiguity (unified structural and semantic model); unification of terms representation should be central in improving lexicographical practice in the field of medical terminography. The identification of medical terms needs the specification of theoretical and clinical medicine at macro-, micro- and sub-microsystems levels. The work makes the attempt to identify these critical issues with focus on the problem of synonymy. To evince the state of the art in this area, we studied dictionary articles in which terms comprising the synonymic set “damage”: disorder, disturbance, hurt, impairment, injury, are defined. These and other issues are evident to the dictionary compilers. In different attempt to solve them, lexicographers resort to the incorporation of

collocations with the key terms. New strategies of dictionaries compilation should be developed for medical terminography to serve the tasks of promoting effective multinational communication in English. Some of the strategies can be based on the complex dynamical systems theory. Medical terminography in the aggregate should be a complex dynamical system developing in context with the global processes in the field of medicine and in compliance with linguistic theory.

Keywords: English medical terminology, medical community, medical reference works, dictionaries, terminosystem, synonymy, semantic analysis.

Анотація. У дослідженні запропоновано перелік найважливіших проблем медичної термінографії, а саме, труднощі в ідентифікації термінів, багатозначність і синонімія, велика кількість абревіатур, швидке розширення термінологічного поля медицини. Використаний підхід полягає в аналізі визначення англійських медичних термінів у медичних словниках, які широко використовуються в Україні. Вивчення теоретичної літератури та результати емпіричного дослідження показують, що такі аспекти, як адекватність (відповідність значення терміна сучасним науковим знанням); точність (звукова і семантична точність без дублетів в мікротерміносистемі); однозначність (уніфікована структурно-семантична модель); уніфікація термінів повинні бути центральними у вдосконаленні лексикографічної практики у сфері медичної термінографії. Визначення медичних термінів потребує уточнення в теоретичній та клінічній медицині на рівні макро-, мікро- та субмікросистем. Робота робить спробу виявити ці критичні питання з акцентом на проблемі синонімії. Для того, щоб продемонструвати стан справ у цій галузі, ми аналізували словникові статті, в яких визначаються терміни, що містять синонімічний ряд «пошкодження»: розлад, порушення, ураження, ушкодження, травма. Ці та інші питання є очевидними для укладачів словників. У спробах їх вирішення лексикографи вдаються до включення виразів з ключовими термінами. Необхідно розробити нові стратегії укладання словників для медичної термінографії для ефективної комунікації англійською мовою. Деякі стратегії можуть базуватися на складній теорії динамічних систем. Медична термінографія в сукупності має розглядатися, як складна динамічна система, що розвивається в контексті глобальних процесів у галузі медицини і відповідно до лінгвістичної теорії.

Ключові слова: англійська медична термінологія, медична спільнота, медичні довідники, словники, терміносистема, синонімія, семантичний аналіз.

Introduction

One of the consequences of globalization is the use of English as a ‘lingua franca’ in specialised discourse. Under the circumstances, English terminology is much more often used by non-native speaker than by the native ones. Conjoined

with variation of English this creates ambiguity in professional communication that is detrimental in medicine. While native-speaking members of medical community in their choice of appropriate terms rely on nomenclatures, non-native speakers turn to dictionaries. However, neither nomenclatures nor dictionaries allow solving the ambiguity in medical terminology. For Ukrainian medical practitioners, scientists and students, who are becoming a part of European medical community, this problem is urgent.

«Medical lexicography – a complex of activities concerned with the design, compilation, use and evaluation of reference works in the field of medicine» [7, p.93]. English medical lexicography (terminography), a branch of Language for special purposes lexicography, goes back to the publication of *A Physical Dictionary* as early as 1657. In spite of such a long history and almost 1000 English medical reference works published (see the catalogues of National Library of Medicine, Simon Frazer University Library, SOLO (Search Oxford Libraries Online), The British Library, The Internet Archive, Library of Congress, University of Toronto Library, World Cat, National Ukrainian Library named after V.I. Vernadskyi) many problems facing English medical terminography remain unsolved. One of them, a long-standing problem of unification and standardization of the terminosystem, became particularly urgent in the global era when thousands of medical practitioners and researchers, for whom English is not the native language, rely on dictionaries. The situation is further complicated by the rapid development of the medical terminosystem that outpaces the process of systematization, unification and registration of the terms. As a result, in spite of the regular development of nomenclatures and compilation of new dictionaries, both in paper and electronic formats, misunderstanding in professional communication between the members of the global medical community persists.

The aim of this research is to identify critical problems in English medical terminography that are hindering professional communication of Ukrainian medical practitioners, researchers and academics and also have some detrimental effect on education. The approach used consists in the analysis of the definitions of English medical terms in medical dictionaries widely used in Ukraine.

Methodology

The research was done in two steps. First, we studied literature in English LSP and in English medical terminography so as to identify the most common problems in the field. Second, we investigated one such issue – representation of synonyms in medical dictionaries.

The methodology used in the study is complex: survey and critical analysis of literature, empirical analysis, comparison method, semantic analysis and juxtaposition of obtained data

To achieve the aim of our study, we analysed the pertinent literature and investigated English medical dictionaries that are most popular in Ukrainian medical community, including medical universities: a monolingual English medical dictionary which contains definitions of medical terms from Stedman's

Comprehensive Medical Lexicon (SCML) (<http://www.medilexicon.com>) and bilingual medical dictionaries, 29th edition of English – Ukrainian Dorland's Illustrated Medical Dictionary (DIMD), English – Russian Medical Dictionary (ERMD) also we performed a semantic analysis of these terms in a general monolingual dictionary, Longman Dictionary of Contemporary English (LDCE).

Results and Discussion

A survey and critical analysis of the current literature in theoretical lexicography and the study of the introductory parts to medical dictionaries [1; 2; 3; 4; 7; 8; 9; 11; 12; 14; 15; 16; 17] showed that medical dictionaries compilers are struggling with a whole range of issues which they share with lexicography as a whole. Among these issues, difficulties in the identification of terms, polysemy and synonymy, a great quantity of abbreviations, and rapid expansion of the terminosystem are the most common ones in medical terminography. It is indicated in the literature that difficulties in the identification of medical terms are due to the specificity of theoretical and clinical medicine at macro-, micro- and sub-microsystems levels. However, methods of resolving these issues have not been developed.

Meanwhile, progress does not stand still and new problems arise in connection with the development of electronic terminography, which require the coordinated work of terminographers, doctors and programmers: the existing spectrum of problems requires a solution on a theoretical and practical level. First of all, the terminological science is faced with the task of forming a common theoretical apparatus.

The resolution of practical problems such as codification, unification, standardization is possible with the tools of terminography with the subsequent design and compilation of specialized terminological vocabulary directories of various types.

The above relates directly to medical terminology, primarily English, the development of which, on the one hand, is due to the use of English in scientific and technical discourse on a global scale, on the other hand, the intensive development of various fields of medicine. This tendency makes the need for a systemic streamlining of English medical terminology particularly relevant.

Ensuring effective professional communication in the field of medicine has always been and remains an important issue, the solution of which is directly related to the unification of the English-language medical term. Professional medical communication involves all participants in medical discourse: students, scientists, practitioners, patients.

This problem is particularly acute today when students and faculties of medical universities participate in international exchanges and actively participate in grant programs. Ukrainian students, for example, have to pass specialised exams (USMLE, IFOM) in English today, according to modern requirements. Doctors need standardization of medical English terminology to ensure fruitful communication when discussing diagnoses, protocols treatment, etc. Patients are

also active participants in the process of English medical communication in receiving consultations, diagnostics and treatment.

Of all the issues mentioned above, this study focuses on the problem of synonymy in English medical terminography. To evince the state of the art in this area, we studied dictionary articles in which terms comprising the synonymic set «damage»: *disorder, disturbance, hurt, impairment, injury*, are defined.

First, semantic analysis of these terms in a general monolingual dictionary, Longman Dictionary of Contemporary English (LDCE), was performed. Then the results of the similar analysis in SCML, DIMD, ERMD were juxtaposed with each other and with the results for LDCE.

Table 1. The definitions of the synonymic set «damage» in LDCE

Medical term	Dictionary definition
damage	physical harm to something or to part of someone's body; harm caused to someone's emotions or mind; a bad effect on something or someone in a way that makes them weaker or less successful.
disorder	a situation in which things or people are very untidy or disorganized; a situation in which many people disobey the law, especially in a violent way, and are impossible to control; an illness which prevents part of your body from working properly.
disturbance	something that stops you from being able to continue doing something, or act of stopping someone from being able to continue doing something; a situation in which people fight or behave violently in public; a state in which someone is emotionally upset and does not behave normally.
hurt	physically injured; a feeling of great unhappiness because someone, especially someone you trust, has treated you unkindly or unfairly.
impairment	something less good than it usually is or less good than it should be.
injury	a wound or damage to part of your body caused by an accident or attack.

Semantic analysis of the data in LDCE allowed singling out the following semantic components (dominants): *body, brain, harm, malfunction, pain, and accident*, comprising the semantic field covered by the above-mentioned terms. Semantic component *body* is found in the following terms: *damage, disorder, hurt,*

injury. Semantic component *brain* – in *damage, disorder, disturbance, hurt, impairment*. Semantic component *harm* – in *damage*. Semantic component *malfunction* – in *damage, disorder, disturbance, impairment*. Semantic component *pain* – in *disorder, disturbance, hurt*. Semantic component *accident* – in *injury*.

Similar analysis of the articles in medical dictionaries, SCML, DIMD, ERMD, revealed differences in the representation of the synonyms.

Thus, in SCML definition of the term *damage* includes the following semantic components: *body, harm, malfunction*. Definition of the term *disorder* – semantic components *body, brain, malfunction, pain*. Definition of the term *disturbance* – semantic components *brain, malfunction*. Definition of the term *hurt* – semantic component *pain*. The terms *impairment* and *injury* are not included in the word list.

In this dictionary, semantic component *body* is present in the definitions of the following terms: *damage, disorder*. Semantic component *brain* – in *damage, disturbance*. Semantic component *harm* – in *damage*. Semantic component *malfunction* – in *damage, disorder, disturbance*. Semantic component *pain* – in *disorder, hurt*. Semantic component *accident* is absent.

The study of DIMD shows that the definition of the term *disorder* has the following semantic components: *body, brain, malfunction*. Definition of the term *disturbance* – semantic component *malfunction*. Definition of the term *injury* – semantic components *body, accident*.

DIMD does not include such dictionary entries as *damage, hurt, impairment*, but it covers 6 pages with word combinations illustrating examples with its synonym *disorder*.

As for the semantic component *body*, it is present in the definitions *disorder, injury*. Semantic component *brain* – in *disorder*. Semantic component *malfunction* – in *disorder, disturbance*. Semantic component *accident* – in *injury*.

In ERMD, definition of the term *damage* includes the following semantic components: *body, brain, harm*. Definition of the term *disorder* – semantic components *body, brain*. Definition of the term *disturbance* – semantic component *brain*. Definition of the term *hurt* – semantic components *body, pain*. Definition of the term *impairment* – semantic component *malfunction*. Definition of the term *injury* – semantic components *body, accident*.

In this dictionary, semantic component *body* is present in the definitions of the following terms: *damage, disorder, hurt, injury*. Semantic component *brain* – in *damage, disorder, disturbance*. Semantic component *harm* – in *damage*. Semantic component *malfunction* – in *impairment*. Semantic component *pain* – in *hurt, accident – injury*.

Table 2. The juxtaposition of the data in general (G) dictionary (LDCE) and medical (M) ones (SCML, DIMD, ERMD)

Semantic component	BODY		BRAIN		HARM		MALFUNCTION		PAIN		ACCIDENT	
Dictionary	G	M	G	M	G	M	G	M	G	M	G	M
Term												
DAMAGE	+	+	+	+	+	+	+	+	-	-	-	-
DISORDER	+	+	+	+	-	-	+	+	+	+	-	-
DISTURBANCE	-	-	+	+	-	-	+	+	+	-	-	-
HURT	+	+	+	-	-	-	-	-	+	+	-	-
IMPAIRMENT	-	-	+	-	-	-	+	+	-	-	-	-
INJURY	+	+	-	-	-	-	-	-	-	-	+	+
	100%	100%	100%	60%	100%	100%	100%	100%	100%	67%	100%	100%

Table 2 illustrates the juxtaposition of the results of the semantic analysis of the synonyms comprising the semantic field *damage* in LDCE (general vocabulary) and in three medical dictionaries: SCML, DIMD and ERMD (ESP vocabulary – medicine), that together medical dictionaries cover about 88% of the analyzed semantic field that is fully (100%) covered in LDCE.

Also it was revealed the incorporation of collocations mostly with the term *disorder*. There are 52 such collocations in DIM, e.g. *acute stress disorder, mental disorder, organic anxiety disorder, thought disorder, disorder of written expression*, etc. And, in its turn, 118 collocations in SCML, e.g. *attention deficit hyperactivity disorder, body dysmorphic disorder*, etc.

Conclusions

Thus, the empirical part of the research revealed shortcomings in the lexicographic description of synonymous terms in the medical dictionaries most often used in professional communication in Ukrainian medical community. We studied dictionary articles in which terms comprising the synonymic set «damage»: *disorder, disturbance, hurt, impairment, injury*, are defined. Understandably, these and other issues are evident to the dictionary compilers. In the attempt to solve them, lexicographers resort to the incorporation of collocations with the key terms and the wide use of collocations.

Summing up the study of the theoretical literature and the results of the empirical research it is possible to suggest that in improving lexicographical practice in the field of medical terminography the following aspects should be central: adequacy (compliance of the meaning of the term with the modern scientific knowledge); accuracy (sound and semantic accuracy without doublets in microterminosystem); unambiguity (unified structural and semantic model); unification of terms representation.

Therefore, in conclusion, we would like to state, that new strategies of dictionaries compilation should be developed for medical terminography to serve the tasks of promoting effective multinational communication in English. Some of the strategies can be based on the complex dynamical systems theory. Ideally, medical terminography in the aggregate should be a complex dynamical system developing in context with the global processes in the field of medicine and in compliance with linguistic theory.

The perspective for the further study is a detailed study of other issues in English medical terminography, as a complex dynamical system, with working out new theoretical and practical approaches for different type dictionaries compilation.

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