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SYNONYMY IN MEDICAL TERMINOLOGY: LANGUAGE NECESSITY OR REDUNDANCY?

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Abstract

In this paper, the authors make an attempt to define the status of synonymy in medical terminology that accumulates linguistically expert knowledge and opinions in an important area of human activity as treatment and saving a human life. The use of synonyms in terms' definition indicates, firstly, that there is regularity in appearing synonymic relationships in medical terminology and, secondly, there is a need for such relations since terms acquire the meaning in most cases through synonymous terms, through a "place" that they take within one family of terms. Followed by some philosophical and linguistic research, we decided to consider the possibility of applying the idea of describing the meaning of linguistic expressions to determine the semantic scope of medical terms. Due to the fact that identical and simultaneously different components co-exist in the semantic scope of synonymous terms, it seems possible to compensate for the incompleteness of a meaning transmitted by one term with the help of its synonyms. Finally, we conclude that the study of synonymous relations between medical terms is of particular importance in systemizing medical terms necessary for their standardization. The latter is capable of reliably ensuring specific information structuring, its dissemination and adequate perception. Considering into attention that the semantic content of synonymous terms largely determines collective actions in the professional activity of physicians, there is a firm reason to make synonymous relationships in medical terminology much more relevant to study in linguistic research.

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1. Introduction

Globalization and integration, predetermined by human development, involve in communication processes the peoples who belong to different histories, languages, cultures, and religions with their valuable ideas about the world. In situations of coexistence and interaction, there is an objective need in understanding and resolving issues related to the search for ways that would turn intercultural interaction into a true dialogue, with the help of which it would be possible to overcome some contradictions and disunity between the nations. In this regard, the problem of effective interaction dialogue and its regulation is becoming one of the most relevant for a number of sciences. The exchange of information, its subsequent discussion, and adoption as mutually acceptable agreements and actions are of paramount importance for people who solve the same scientifically and socially significant challenges.

2. Problem Statement

The importance of intercultural communication is becoming bigger and bigger that makes the specialists point out the issues related to information, as the global phenomenon, and the ways of information transmission and procession in a scientific discourse from the point of its adequate understanding by representatives/communication participants of different cultures. The comprehension in a scientific discourse does not exclude a multiplicity in interpretations, a diversity of opinions, misunderstanding, and a probability of erroneous interpretations. In connection with the foregoing aspect, the question inevitably arises of how to achieve efficiency in information exchange, including the specificity of modern information that it is targeted at interactive communication to have the development based on knowledge sharing that will result in science development due to joint actions of world specialists. It seems that overcoming misunderstanding and achieving mutual understanding in the scientific discourse is possible on the basis of a symmetrical cognitive understanding of the described phenomenon under the term of joint activity. To create the conditions enabling to develop the environment for symmetrical cognitive comprehension in the scientific discourse, we need a special set of language tools, whose functional purpose is to provide the practical possibility of professional communication. That means there are some specific language tools – terminological units, which are labeled scientifically important words in discourse.

The desire to overcome the semantic vacuum and ambiguity in information, when this or that phenomenon is being discussed, can be explained through the emerging trend towards a theoretical rethinking of the terminology key points. This primarily refers to the explicitation of properties and characteristics of terms that entails the overhaul of a number of requirements existing in the terminology theory. These requirements are set to the definition and parameterization of the concept '*term*' and what distinguishes it from ordinary words of a natural language.

The need to make some corrections to the previously established features of a term is caused by the difficulty of maintaining its uniqueness, which, despite the desire to increase it in the scientific discourse, is becoming unattainable for a number of reasons. One of the consequences of a term ambiguity is synonymy, which is classified by many experts as something undesirable for terminology.

3. Research Questions

Numerous synonyms in the terminology of various knowledge branches require certain explanations and analysis on the cases when the same concept can be expressed with synonymous terms. Linguistics should find the answer to the question about the pros and cons of synonyms in the terminology system and how to eliminate misunderstanding in professional communication when synonymy is used in the terminological language. The object of the study is medical terminology, which accumulates scientific knowledge expressed in a linguistic form, collected in an important human profession as curing and saving lives.

In the works devoted to some terminology studies in various terminological systems of medicine, the consideration of synonymy used in terms was brought to the periphery of the research interests of linguists.

Consideration of synonymous relations between terms in medical terminology – their analysis and description – was fragmented in connection with the discussion of other aspects of the terminology under the study. Synonymy in medical terminology was considered and evaluated as a dangerous phenomenon that occurs when a term transmits a narrower or wider sense than it is in reality or, what is worse, the sense can be completely different. The fragmentation in the analysis and in documenting the synonymic relationships in medical terminology is also explained by the beginning in studying this field because the terminology is still imperfect and shifting for the reason that a suitable term has not been adopted yet by the scientific domain. Another explanation is based on the insufficient study of the scientific concepts themselves, assigned to one or another term. Explicitly or implicitly behind such explanations, there is an idea that synonymic relations in terminology is the short-term phenomenon that leads to semantic redundancy and, as a consequence, to futility to name the same phenomenon with different synonymous terms.

4. Purpose of the Study

However, in the case of defining some medical terminological units by referring one term to another, an unconditional preference of constructing a term definition through its synonyms, numerous cases of synonymous repetitions in medical discourse require determining the status of synonymy in medical terminology. The purpose of the article is to define synonymy in medical terminology as excess or necessary phenomenon and at the same time to identify the role and place of synonymy in medical discourse.

5. Research Methods

In accordance with this goal, it seems reasonable to look at the existing experience in the theoretical development of synonymy, which is included as an integral part of the priority issues, relevant to modern knowledge, with the focus on the issue – meaning and sense of linguistic units. Based on the understanding of the medical term as a unit of the linguistic and medical knowledge, it seems reasonable to use the idea of describing the meaning of linguistic expressions through some synonymous

transformations, which are used in a number of logical, philosophical and linguistic works (Apresyan, 1995; Paducheva, 1974; Wierzbicka, 1980).

The idea of defining the meaning of a language expression through a class of all synonymous expressions used in the description of synonymous medical terms is complemented by a component analysis of terms and the analysis of their vocabulary definitions. The latter allows revealing the information capacity of a medical term, in other words, the entire set of term meanings within the terminological information. The source for making the conclusions and assumptions is comparative method enabling to find something common that synonymic terms have in and to identify the singular with which it is becoming possible to separate one term from a synonymic one.

6. Findings

Any medical term, like a word in any natural language, is included in the system of terms, taking there a certain place and performing a certain function, which acquits its existence in this system. A term enters into various semantic relations with other terminological units. Beyond these connections and relations, the term may not always have an explicit and clearly defined meaning, in comparison with what it can mean within the whole set of medical terms. Here, as with natural language words, a meaning of a term is created by its relations with other signs. Therefore, the study of synonymous relations between medical terms makes a more complete understanding of their relationship with the designated fragment of reality.

This is facilitated by the special logic of the relationship between synonyms, which is seen through the fact that each synonym acquires a semantic certainty through a relationship with another synonym, through a "place" taken by the term within the synonymous chains. In this case, the synonyms influence each other in such a way that each of them assumes the entire system of the senses of the synonymous chain, which is arranged in the way that whatever synonym was used in the discourse, the whole "network" of the interdependent senses of a chain is compulsorily implied. Therefore, it is logical that a term used in medical literature to describe a disease or its symptoms and syndromes, the name of some surgical procedures, instruments, equipment, is accompanied by a reference to its synonymous terms. Such references are based on the mechanisms making senses, typical to synonyms, and this allows recording, storing, transmitting and understanding scientifically the significant information through synonymous terms.

It turns out that understanding the meaning of a term is its "essence" into a relatively homogeneous semantic space (a synonymous chain) and, as it were "agreement" with it, both with the whole and with other terms from the same semantic space. In the definition of a medical term, using the references to its other synonyms, the gaps of the transmitted information are filled in and its content is clarified or detailed. In other words, with synonyms, all the information related to the description of a scientific concept in medical terminology is activated explicitly or implicitly.

So, for example, when defining the term *Coats' disease*, its synonyms *retinitis (exudative retinitis)* and *retinal telangiectasis (retinal telangiectasis)* are used: "Coats' disease, (also known as exudative retinitis or retinal telangiectasis, sometimes spelled Coates' disease), is a rare congenital, nonhereditary

eye disorder, causing full or partial blindness, characterized by abnormal development of blood vessels behind the retina" (Shields et al., 2006, p. 313).

The terms *exudative retinitis* and *retinal telangiectasis* in the above definition are due to the need in eliminating the gaps in the information transmitted through the term *Coats' disease*, about a disease that is characterized by hemorrhages on the surface of the retina caused by the accumulation of exudate between the retina and the eye.

A reference to the synonymous term 'exudative retinitis' implicitly presents the information not expressed by the eponymous term *Coats' disease* about the exit of the liquid part of the blood through the vascular wall into the inflamed tissue.

Clarification of the essence of a disease described in the definition of Coats' disease along with its synonym *exudative retinitis* serves another term *retinal telangiectasis*, with the help of which, in addition to the general meaning of these terms, the information is transmitted on the persistent expansion of the retinal vessels. Since the meaning of each of the terms *Coats' disease*, *exudative retinitis* and *retinal telangiectasis*, like any other medical term, can in most cases determine the collective actions of ophthalmologists and be used as a guideline in a medical activity, there is the reason to consider synonymy in the terminology of medical science as a necessary phenomenon. The use of terminological signs *exudative retinitis* and *retinal telangiectasis* in the definition of the eponymous term *Coats' disease* seems possible with the semantic identity of their meanings, which does not exist without any difference in the semantic scope of the terms, otherwise, most likely, will be about unjustified tautology in definitions.

The relevance of such a conclusion may cause some doubts since in our focus there was a definition of a term from among the eponymous, which includes the names of researchers who discovered a new diagnosis or developed a method for treating a disease, etc. Without dwelling on some controversial issues regarding the status of eponymous terms in medical terminology, we note that they, combining the attributes of a term and proper name and characterized by the opacity of a meaning and information uncertainty, nevertheless, matters much. Despite the fact that for a number of objective reasons and, most importantly, their relevance in the practical activities of specialists, an eponymous term can be considered as an independent sign in a chain of other terms, we, nevertheless, turn to the definition of another, descriptive term – *vitelliform dystrophy (macular degeneration)*. Here, as in the case of the eponymous term described above, an explanation of the meaning of the term *vitelliform dystrophy* is also accompanied by a reference to another term – its synonym *Best disease*, cf.: Vitelliform dystrophy, or Best disease, is a hereditary involving the retinal pigment epithelium (Epley, Moss, & Moura-Coelho, 2019).

In the definition of the descriptive term *vitelliform dystrophy*, intended to denote a disease accompanied by a progressive tendency to loss of vision and the development of cystic dystrophic changes in the macular zone, a significant part of the information is also expressed by a reference to another term. This is the eponymous term *Best disease*, which provides information on the genetic nature of eye disease. Such information is implicitly expressed through the proper name Best, which forms the basis of the term *Best disease*. The eponymous term *Best disease* appeared due to the name of a researcher who first drew attention to such visual impairments in patients and determined the hereditary

nature of the pathology and described it. Presented in synonymous terms *Vitelliform dystrophy* and *Best disease* information about the described disease is interconnected and complementary that leads to the elimination of information uncertainty in scientific and professional communication. This circumstance gives reason to doubt the assumption that the existence of synonyms in terminology leads to semantic redundancy and either to futility to name the same phenomenon in the scientific discourse with different synonymous terms.

It is quite obvious that in the aggregate of two or more synonymous medical terms, there is a plurality of descriptions of the same phenomenon from medicine. The meaning of the term is created within its relations with other language signs and can be deduced through many of its synonymous transformations. It turns out that the identification of synonymous terms can become one of the main ways of describing their meaning.

Therefore, the more synonymous terms are used to denote a scientific concept, the better understanding is gained since “what is usually called a meaning-based interpretation is simply a synonym formulated in a more clear language than the original utterance” (Quine, 1952, p. 189). Each term from a number of synonyms helps to fill in the gap in communication and explain the opacity of the meaning. In other words, all the information related to the description of disease is activated through synonymous terms.

In medical practice, as already noted, it seems important to achieve mutual understanding between people in the process of joint efforts in curing and saving people. Excessive focus on one and the same thought, which is expressed in a synonymous repetition of terms, can only at first glance be redundant information. A synonymous repetition of terms can be qualified as one of the most important guidelines in professional communication and its regulators. The basis for this is the principle of complementarities introduced in the field of physical knowledge. The former was verified in solving a wide range of problems in other areas of knowledge (Bohr, 1971). Especially in those frequent cases when, due to the multidimensionality and heterogeneity of the semantic scope of terms, each individual term, apart from other meaningfully related terms, cannot always provide an understanding of the essence of the phenomenon, described by this term in medicine. The principle of complementarities is crucial in medical discourse and affects communication success taking place in medical communities among some medical staff. This fact significantly raises the scientific interest to research addressing synonymy in terminology and its relevance in developing information in the medical discourse. The mutual complementarity of the terms, the resulting effect of synonymous duplication and not only a few cases of the use of synonyms in the medical discourse once again confirms the conclusion about the need in synonymy in medical terminology and not the redundancy of it.

Proceeding from the lingo-philosophical interpretation of synonymy from the standpoint of identity and difference, which have become its basic concepts, a large number of language units are “skipped”, new language categories are covered, including medical terminological units. Moreover, a number of synonymous terms can significantly expand and complement the perception and interpretation of a phenomenon designated by only one term since along with the senses presented in the term explicitly, there are a number of unexpressed senses.

Implicit senses, without formal indicators, but necessary for the interpretation of the term, seem to “appeal” to its synonymous terms, the association with which generates something that is not explicitly expressed.

For example, in the definitions of the synonymous terms Cogan syndrome, congenital oculomotor apraxia, congenital saccade initiation failure, the same disease is described but information about the described disease is presented differently, with different degrees of completeness, detail and accuracy. In the definition of Congenital oculomotor apraxia, information on a birth defect is updated. According to the definition of the term, it is difficult for a person with such a disease to perform horizontal movements with the eyes, he is unable to move his eyes to the right or left, and hence, the difficulty associated with tracking the horizontal movement of objects. The cause of the disease is damage to the area of the brain (Cogan oculomotor apraxia, 2011). In the definition of another term (the synonym of Congenital saccade initiation failure) other symptoms are noted which were not indicated in the definition of the term Congenital oculomotor apraxia. We are talking about symptoms such as dizziness, tinnitus and the rapid development of the disease (Saccade initiation failure, congenital, 2019).

The definition of the eponymous term Cogan syndrome focuses on not only the name of a researcher but on the information that inflammation of the front of the eye (cornea) is accompanied by problems of the auditory and balance parts of the ear, as well as the appearance of pain in the patient's joints and muscles (Cogan syndrome, 2019).

The terms *Cogan syndrome*, *Congenital oculomotor apraxia* and *Congenital saccade initiation failure* used to describe the same disease, do not have a completely identical sense. From the definitions of the considered terms, it becomes obvious that all the information about the described disease cannot be fully expressed in just one term. This is possible by a combination of terms from a homogeneous semantic space. A single term from a chain of synonymous may, from our point of view, be comparable with human knowledge, which, according to the fair remark of Gadamer (1988) is essentially “inaccurate” or it allows for “greater” or “lesser” conformity with the subject. Therefore, with each reference to another term, the possibility of “covering the essence” arises. “Covering the essence” is happening through a synonymous repetition of terms in their definitions, which is another argument for us in favor of considering synonymy as a necessary phenomenon in studying approaches to medical terminology.

The next argument, which makes synonymy a necessary phenomenon to study in medical terminology, is the processes of systematization, ordering and standardization of its terminological units. These processes are impossible without establishing and describing synonymous relationships between medical terms since synonymy is, firstly, one of the ways to streamline and systematize the medical terms. Secondly, the complete systematization of terminological names, including the types of their use and all synonyms, constitutes the first stage of standardization, which plays an important role in ensuring reliable organization of professional communication in the field of knowledge under study.

Moreover, the standardization of the terminology of any science in general and medical one, in particular, includes, along with an analysis of the logical and grammatical organization of the derivative ability of terms and systematization, a choice from a variety of terms, including from a certain number of synonyms (Standards catalog ICS, 2018).

The standardization and systematization of medical terminology optimize professional communication and cooperation in the context of the intensive development of medical science and the expansion of contacts between peoples. Particularly the unified medical nomenclature of terms, characterized by ordering on the basis of their synonymous relationships with each other, becomes the guarantor of the success in a dialogue-based interaction, facilitating, on the one hand, the way through what the information is organized and, on the other hand, how it is perceived. Thus, with all the attractiveness of the opinion about the synonymy as an excess phenomenon in terminology, it is easy to see that medical terminology cannot do without revealing and establishing synonymous relations between the terms.

7. Conclusion

The analysis of the definitions related to the medical terms allowed us to conclude that the synonymy is necessary for medical terminology development. The analysis confirmed that the meaning of a medical term is created by its relationship with other synonymous terms. Beyond these relations, the term may not always have an explicit and clearly defined meaning, in comparison with what it can mean within the whole set of medical terms. The references to its synonymous terminological names used in the definition of the medical term activate the information related to the description of the phenomenon under the discussion. The analysis of synonymic relations between medical terms allows stating not only the need for synonymy but also its significance in systematizing and streamlining the terms of such a branch of knowledge as medicine. The identification or definition of synonymous relations between medical terms is one of the stages of terminology system standardization, which effectively organizes, disseminates and perceives scientifically significant information using the same language means for all participants of medical knowledge. The combination of synonymous terms contributes to the achievement of a symmetrical cognitive understanding of what they describe by specialists from different countries. From this point of view, synonymy in medical terminology can be considered as one of the most important landmarks in professional communication and regulators of a dialogue-based interaction in the medical discourse.

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