

Definitional Strategy of Medical Term Semantization

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Abstract – The article is devoted to the definition as the main means of term semantization. The results of the survey of therapists and prospective university students of Medical University are considered. The respondents use a definitional strategy when dealing with terms. This language strategy is focused on the reflection of certain standards, typical situations known to most speakers, and it is aimed at establishing match of the content of the language unit with the reflected reality. The material shows the existence of certain regularities of understanding and defining medical terms. As a result of this experiment, the definitions are obtained, the structure of which follows the logic of constructing definitions with two components (full definitions) and one component (incomplete definitions). A set of generic and specific components in the definitions is compared.

Keywords – *medical term, semantization, specific difference, generic component, complete definition, incomplete definition*

I. INTRODUCTION

The problems of studying the language of science, including terminology, are paid much attention in linguistics [1–4]. The main emphasis is on improving the system of terms as elements of scientific communication within the professional sphere [5].

In the context of increasing complexity of human intellectual activity, developing technologies, this approach is particularly relevant since there is a professional need for logical strategies of debating the meanings of language signs in mind, authentic reflection of the main informational characteristics of objects, events and processes of the real world.

A well-developed, ordered terminology is a tool of scientific, practical and educational spheres of professional activity. There is no doubt that the problem of terminological literacy is relevant not only for specialists, but also for the large sections of the public. The problem encourages interest in medicine as a system of scientific knowledge and practical activity.

Numerous linguistic research tasks are to identify and describe the specifics of term functioning in the consciousness of native speakers, namely, the consideration of their semantization [6–10]. Semantization implies the natural way of thinking, as a result of which the meaning is comprehended and interpreted.

The concept of "semantization" covers a wide and varied range of linguistic phenomena in modern linguistic studies; as a result, it is not uniquely defined.

D. Rosenthal defines semantization as "the identification of the meaning, the meaning of the language unit" [11]. Zh. Varbot

interprets semantization as "the understanding, discovery semantics, word meaning, ascribing of meaning" [12]. T. Kuznetsova considers that "semantization as a form of meta-linguistic activity of a native speaker, aimed at explication of cogitative content, represented by the word in his/her (native speaker) language consciousness" [13].

Individuals use different strategies to semantize a lexical unit. Strategy is "the consistent pattern in decision-making in the course of cognitive activity of man" [14].

A. Rostova distinguishes four types of language strategies – identifying, illustrating, classifying types and, opposite to the previous, associative type [15]. Other researchers suggest the following types of strategies: definitional, descriptive, associative, contextual, motivational and reference [7, 13].

The preferred choice of strategies is determined both the properties of lexical units – the object of interpretation, and the mental features of the "defining subject".

II. METHODS AND MATERIALS

The specific problem of the research, as mentioned above, is to describe the definitional strategy of semantization of medical terms, identified in the result of linguistic experiment, reflecting the specificities of the real functioning of medical terms in the consciousness of both ordinary native speakers at the initial level of professionalization and professionals.

50 prospective university students of Novosibirsk state medical university and 50 therapists – participants of "Selected chapters of therapy" course – are respondents.

Medical terms from the conceptual field "Purulent inflammatory diseases of the skin and subcutaneous fat (soft tissues)" are analyzed. The informants are asked to define the following terms: abscess, carbuncle, omphalitis, panaris, phlegmon, furuncle.

We give the following reasons for our preference of these terms:

1. Inflammatory diseases of the skin and subcutaneous fat are quite widespread.
2. They are the common cause of seeking medical advice and temporary incapacity for work.

According to our thesis, the interpretation of highly specialized terminological vocabulary is carried out through the usage of a definitional strategy. It allows finding out variability of semantization result, revealing in content of interpretation, viz denotata and set of class features.

Informant aims to explain, the meaning of the word using distinctive features for this word, from his/her point of view, when building a definition. The definition implies the description of any concept, containing its most significant features.

Classification definitions are widespread among types of definitions. They define the concept through generic differences. The definitions are obtained during the interpretation of terms related to the denotative field "Purulent inflammatory diseases of the skin and subcutaneous fat (soft tissues)" have the structure which consists of two components (complete definition) showing the gender (class) and specific difference.

III. RESULTS

First of all, the generic component is identified by informants. Let us give examples.

The doctors – the participants of the experiment – note that abscess – inflammation – 14 (28%); suppuration – 6 (12%); process – 8 (16%).

Carbuncle – inflammation – 24 (47%); process – 6 (12%); disease – 3 (6%).

Omphalitis – inflammation – 36 (72%); disease – 6 (12%).

Panaritium – inflammation – 38 (76%); process – 5 (10%); disease – 3 (6%); defeat – 2 (4%).

Furuncle – inflammation – 31 (62%); disease – 5 (10%); process – 4 (8%).

Phlegmon – inflammation – 20 (40%); disease – 6 (12%); process – 4 (8%); condition – 1 (2%); defeat – 2 (4%); neoplasm – 1 (2%).

Prospective university students indicate that abscess-inflammation – 5 (10%); process – 3 (6%); disease – 1 (2%); infection – 1 (2%); defeat – 1 (2%).

Carbuncle-inflammation – 6 (12%); child – 1 (2%); fungus – 1 (2%).

Omphalitis-inflammation – 11 (22%); disease – 3 (6%).

Panaritium-inflammation – 13 (26%); disease – 2 (4%).

Phlegmon – inflammation – 5 (10%); disease/disease – 3 (6%); formation – 1 (2%).

As is obvious from the examples, the doctors have a minimum variability of semantization at the stage of correlation with the denotata, but the prospective university students have wide degree of abstraction.

The second stage of semantization involves the process of differentiation, based on identifying the essential, unique properties and qualities of the object.

The vast majority of respondents, both doctors and prospective university students, primarily pointed to the localization.

The doctors give the following definitions: abscess is a process localized mainly in soft tissues and parenchymal organs.

Carbuncle – inflammation of the oil bag; groups of hair follicles; hair follicle and surrounding subcutaneous fat.

Omphalitis – inflammation of the navel-string/ umbilical ring; testicular tissue; umbilical duct; epididymis.

Felon – inflammation of the nail bed; the tissues of the finger; periungual roller; distal segment.

Furuncle – inflammation of the hair bulb / pouch; around the hair bag; hair follicle; excretory ducts of the glands.

Phlegmon – inflammation of subcutaneous fat; neoplasm of the skin, subcutaneous tissue and muscle layer; disease, spreading in the intermuscular spaces.

The prospective university students determine that abscess is an inflammation of the soft tissues; infection, let us say the leg.

Carbuncle – inflammation of the skin; sebaceous glands or hair follicles.

Omphalitis – inflammation of the omphalus; kidneys; appendages; nasopharynx; brain membranes; bone disease.

Felon – a disease of the kidneys; inflammation of phalanges; the nail bed; cuticle of a finger. Boils – inflammation of the sebaceous glands; hair follicles; skin disease.

Phlegmon – inflammation of soft tissues; subcutaneous tissue.

These examples show that the presence of specialized knowledge in medicine allows the doctors to indicate accurately the target affected organ/organ area, while the prospective university students are not united in their choice due to lack of required training in determining the localization.

During the analysis of definitions, it is emphasized that the definition of a term could be either exhausted or supplemented by one or more essential specific characteristics/characters.

The disease can have a certain form, which is characterized by the peculiarities of the course and requiring a

Furuncle-inflammation – 12 (24%); disease – 2 (4%). certain treatment tactics. Therefore, it becomes the next feature in the response of informants.

The therapists indicate that abscess, carbuncle, omphalitis, felon, furuncle are a purulent process/inflammation/disease.

Phlegmon – purulonecrotic inflammation.

The prospective university students indicate that abscess is a purulent disease.

Abscess, carbuncle, panaritium, boils, and cellulitis are a purulent inflammation/disease.

Omphalitis in the responses of entrants in the full definition of this symptom is absent.

This feature is absent in omphalitis in the responses of the prospective university students.

The next significant feature in the responses of the informants is symptoms.

In the responses of the doctors – carbuncle – a process with several purulent pathes; (local) with the involvement of the surrounding layers; limited skin disease; multiple purulent inflammation.

Panaritium – a limited process; inflammation of the nail bed (tumor, pain, fever, redness).

Furuncle – a disease accompanied by purulent formation; local inflammation of the sebaceous gland (one rod); limited inflammation.

Phlegmon – spilled; diffuse; unlimited inflammation; inflammatory process, the walls of which is muscle tissue; the focus is not limited to the capsule; extensive inflammatory process.

The prospective university students note that abscess – purulent thickening; accumulation of pus.

Felon – abscessus.

Furuncle – inflammation, the less of a carbuncle.

This component is not available in definitions of carbuncle, phlegmon, and omphalitis.

The therapists point out that clinical thinking involves mastering different categories, primarily associated with symptoms and syndromes.

Understanding the symptoms and syndromes of internal diseases is necessary to make the correct diagnosis and prescribe an effective treatment.

The prospective university students have an idea of how the disease is expressed and manifested. It is primarily based on the patient's complaints.

Further, a significant specific feature, from the point of view of informants, is pathogenesis.

Knowledge in the field of pathological physiology, pathological anatomy, pathogenetic reactions, their course and interaction among themselves allows the doctors to describe pathogenetic processes of these diseases.

The therapists indicate that abscess is inflammatory; inflammatory-suppurative process.

Carbuncle – suppurative of tissue; multiple furuncles with the confluence of suppurative; limited area of inflammation.

Omphalitis – an inflammatory disease.

Panaritium – inflammatory process/disease.

Furuncle – inflammatory process/disease; necrotic inflammation.

Phlegmon – an inflammatory process; a condition associated with the spread of pus; inflammatory and infectious process.

This component carries false information in responses of the prospective university students.

In their responses – abscess - decay; inflammatory process; infection.

Omphalitis – an inflammatory disease.

Panaritium – inflammation with the formation of pus.

Furuncle - suppurative; formation of abscess.

Cellulitis - a disease leading to the formation of pus.

This feature is not available in complete definitions of carbuncle.

The doctors note the course of the disease in all diseases of this group, except phlegmon.

The internists indicate that abscess, carbuncle, panaritium, omphalitis are acute inflammations. Furuncle – chronic inflammation.

And abscess has such differentiating feature as a clinical picture. For example, abscess – an inflammation limited; local; encysted fester; the process is limited by the capsule.

The prospective university students do not have this component in their responses.

The participants of the experiment also pay their attention to the etiology.

The therapists indicate that carbuncle is an infectious disease.

Omphalitis – an inflammation of an infectious nature.

Panaritium – inflammation of the infectious nature.

Furuncle – an infectious inflammatory process.

Phlegmon – an infectious disease.

Abscess does not have this component.

The prospective university students note that abscess – inflammation as a result of infection of wounds.

Furuncle – inflammation caused by infection.

Phlegmon – an odontogenic disease. Carbuncle, omphalitis, panaritium have not this component.

Understanding the etiology of the disease is the great practical importance for the doctor because it offers the possibility to have an effect on factors of the disease by therapeutic means.

Basic knowledge in the field of rational prevention also allows some students to partially determine the cause of internal diseases.

There is such component as a sequela in which the nail germinates into the skin in panaritium.

The age category has added to the above-mentioned features by the informants. The doctors – the participants of the experiment, indicate that omphalitis is a disease of newborns.

The prospective university students note that omphalitis is an inflammation of the umbilical wound of a child.

From the point of view of the prospective university students, the category of disease is the next significant differentiating feature.

For example, omphalitis is an infectious disease. Panaritium and furuncle are skin diseases. Phlegmon is a mental illness. This feature is absent in other diseases of this group.

The responses of the prospective university students contain references to morphology. Phlegmon is a cellular formation.

They identify such a differentiating feature as treatment in the definitions of the abscess. Abscess – inflammation that requires surgical interference; because of infection, you need to remove the leg, arm.

Carbuncle has such a component as a method in the responses of the prospective university students. For example, a child "born" in vitro by scientific methods.

An additional undefined component is identified in the course of processing the responses of the prospective university students.

It is used when the informants find it difficult to give an answer. For example, carbuncle is some kind of fungus.

The definitions consisting of one component (incomplete definitions) are obtained as a consequence of the experiment. They may include either a generic or specific component.

Let us notice that the number of specific components in incomplete definitions can reach three or more ones. Incomplete definitions are found in all terms of this group. Thus, the indication of only the generic component is much more common in responses of the prospective university students than among the doctors.

For example, abscess is inflammation; tumor; medicine. Carbuncle is medicine; inflammation; disease. Omphalitis is a disease; disease; inflammation; medicine. Panaritium – inflammation; disease; medicine. Furuncle – inflammation Phlegmon – a tumor; disease; medicine. A generic component is presented only in omphalitis in the definitions of the doctors. Omphalitis is inflammation.

Let us go into the details of definitions, containing only specific differences. In the doctors' responses:

Abscess – boil; inflammatory infiltrate (clinical picture). Limited (1) area of purulent (3) inflammation (2) (clinical picture + localization + form).

Carbuncle – inflammable infiltrate; fused furuncles (symptoms). Local (1) suppuration (2) of the oil glands (3) (several (4)) (symptoms + pathogenesis + localization + symptoms).

Omphalitis – purulent (1) melting (2) tissues (3) (form + pathogenesis + localization).

Panaritium – suppuration (1) of finger phalanges (2) (pathogenesis + localization).

Furuncle – limited (1) suppuration (2) of tissue (3) single (4) (symptoms + pathogenesis + localization + symptoms).

Phlegmon – purulent melting (1) of tissues (2), in which the affected area does not have a capsule/ not limited by a capsule (3) (pathogenesis + localization + symptoms).

The prospective university students note that abscess – necrotic tissue (pathogenesis).

Carbuncle – abscess (symptoms); the excess of carbon (laboratory parameter).

Omphalitis – swelling (symptoms).

Panaritium – root (of the word) – pan means a lot (literal translation).

Furuncle – (large) a pimple; boil; purulent formation/eruption (symptoms).

They note: abscess – infection (1) in case of damage (2) of tissues (3) – 1 (pathogenesis + etiology + localization).

Carbuncle – rash (1) on the skin (2), infectious (3) or inflammatory (4) (symptoms + localization + etiology + pathogenesis).

Panaritium – usually manifests itself as a small tumor (1) with red dots (2), can appear on the arm (3), leg (4), fingers usually (5). Dirt gets into the wound (6), hangnail (7), if you do not treat a wound, you get panaritium (8). (symptom + symptom + localization + localization + localization + localization + etiology + forecast).

Furuncle – purulent (1) infection (2) (form + pathogenesis); when you catch a cold (1), rash on the skin (2) (etiology + localization);

Cellulitis – layering (1), destroying the integrity of the soft tissues of the body (2) (symptoms + pathogenesis).

IV. DISCUSSION

The informants (both the doctors and the prospective university students) try to build logical definitions. In the process of interpreting medical terms, the doctors make actual the professional cognitive system, which allow them to accurately determine denotata and identify its essential features. The prospective university students also demonstrate knowledge of the general, well-known information to ordinary native speakers about denotata. They identify denotata (as an element of the general class) and the differential features in the structure of the definition.

Statistical data on the frequency of representation of distinctive species features allow us to build a certain hierarchy, which can be qualified as a representation of the degree of materiality of the feature. In the group of "Purulent inflammatory diseases of the skin and subcutaneous fat (soft tissue) of" specific species, features observed by the physicians are as follows: localization – 47.94%; symptoms of 14.60%; form – 14.58%; the clinical picture – 9.91%; the pathogenesis – of 9.19%; clinical course -1.83%; etiology – 1.25%; sequela – 0.36%; age – 0.28%.

The prospective university students: localization – 46.34%; symptoms – 24.18%; pathogenesis – 9.30%; form – 6.26%; etiology – 3.47%; uncertainty component – 2.74%; category of disease – 2.71%; age – 0.98%; morphology – 0.93%; treatment – 0.82%; method – 0.79%; forecast – 0.54%; literal translation – 0.54%; laboratory parameter – 0.40%.

V. CONCLUSION

The commonality of choice and the dominance of a certain strategy are due to a single mechanism of thinking processes, the unity of mental functions (perception of a language sign) inherent in this speech community.

The definition strategy is used in the process of semantization of medical terms by the informants. This language strategy is focused on the reflection of certain standards, typical situations known to most speakers, and it is aimed at establishing match of the content of the language unit with the reflected reality.

As a result of this experiment, definitions are obtained, the structure of which follows the logic of constructing definitions with two components (full definitions) and one component (incomplete definitions). The findings highlight the existence of certain patterns of understanding about the content and defining of medical terms.

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