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Studying of psycholinguistic features of doctors' professional communication under war conditions

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ABSTRACT

Aim: Studying of psycholinguistic features of doctors' communication competence in Ukraine under war conditions.

Materials and Methods: Biblisemantic method; method of system analysis, comparison and generalization; empirical methods – direct observation of the doctors' and patients' living language, typology of empirical data according to socio-demographic indicators.

Results: Within the study, 286 dialogues were collected. With voluntary consent, they were recorded in video and audio formats in compliance with ethical, bioethical, and legal norms. Next, initial typology of dialogues, their lexical and semantic analysis with identification of typical positive and negative communicative strategies were carried out. With the help of the «Textanz» specialized computer software, 48 dialogues were subjected to the content analysis procedure for two separate «Doctors» and «Patients» samples.

Conclusions: The results of the analysis of «Doctor-Patient» dialogues enabled identifying and describing psycholinguistic markers of typical physiological, mental, social, and spiritual states of individuals seeking medical help under martial law. Thus, the markers of positive emotional states (optimism, confidence, empathy, etc.) and affective, negative emotional processes (anxiety, fear, anger, aggression, sadness, depression, etc.) were identified.

KEY WORDS: Higher medical education, psycholinguistics, doctors, communication competence, numbing, martial law

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INTRODUCTION

FORMULATION OF THE PROBLEM

The war waged by the Russian Federation affected the physical and mental well-being of every individual in Ukraine. The number of patients with inclusion, chronic psychotraumatization, the consequences of physical and mental injuries, the manifestation and exacerbation of mental and chronic non-infectious diseases, and other issues that require systematic psychological support, assistance, and rehabilitation is steadily rising.

Participating in hostilities, being under occupation or in an area with constant rocket and artillery fire significantly increases vulnerability to psychosocial stress, leads to chronic distress, and contributes to the spread of such mental disorders as depression, anxiety and post-traumatic stress disorders. Different mental health disorders can be also caused by moving to other regions or countries with the associated loss of work and a familiar, comfortable environment; household troubles;

financial difficulties; social isolation; uncertainty about the future and anxiety for family and friends; distress due to lack of sleep, separation from close people (death, moving, etc.)

There is a noticeable problem of the psychological retraumatization risk of the patient when contacting a doctor. This problem is caused by a combination of numbing (avoidance of trauma reminders) and increased vulnerability to the quality of medical communication.

Therefore, the communication competence of future masters of medicine acquires new features and the status of a socially significant problem.

AIM

The focus of our research is aimed at creating a catalog of «Doctor-Patient» dialogues and their psycholinguistic processing in order to develop the strategies and tactics aimed at the formation of professional communication of doctors in the conditions of martial law.

MATERIALS AND METHODS

To accomplish the tasks set, the following methods were used: theoretical (biblio-semantic, system analysis, comparison and generalization) for substantiating approaches to lexical and semantic analysis; empirical (direct observation of the doctors' and patients' live language, typology according to socio-demographic indicators: gender, age, level of education, marital status, type of professional employment, presence of physical and mental injuries in history, etc.); statistical processing by the «Textanz» specialized software.

RESULTS

In order to study the psycholinguistic features of the doctors' professional communication under the war conditions, we have organized the collection of materials to create a database of «Doctor-Patient» dialogues. The dialogues were recorded through collaboration with doctors who work in war conditions and patients who have experienced stressful situations. Currently, the collection consists of 286 dialogues recorded with voluntary consent in video and audio formats in compliance with ethical, bioethical, and legal norms. Each dialogue is accompanied by information about gender, age, education, marital status, region of permanent residence, professional employment, presence of physical and mental injuries in the anamnesis.

After the initial typology of dialogues (medical, patient; age categories; gender categories; regions of material collection, etc.), they were transcribed with maximum preservation of all the features of «live speech». Then, we held the lexical and semantic analysis of dialogues with the identification of typical positive and negative communication strategies and tactics, analysis of the structure of sentences and features of the certain grammatical constructions usage for different types of messages, recommendations, and questions.

With the help of the «Textanz» (v. 2.3) specialized computer software, 48 dialogues were subjected to the content analysis processing for two separate samples: «Doctors» (sample 1) and «Patients» (sample 2). For further semantic analysis, generalization and interpretation, only the words with the recorded frequency of 3 or more were taken [1, 2], as it is a statistically significant indicator within the framework of the psychosemantic approach. The obtained results are summarized in Table 1.

The obtained results were analyzed in more detail using a noun as the main part of speech. Based on the results of the content analysis of the transcribed

texts, 1,781 nouns were singled out; namely, 1,272 nouns are in the «Doctors» sample, and 509 are in the «Patients» one (as already mentioned above).

DISCUSSION

In works [3-11], typical recommendations regarding the interaction of a doctor with patients in various clinical situations are considered. Next the effectiveness of using modern technologies in the process of forming the communication competence of the future medical worker; mechanisms that reduce the impact of distress on the emotional state of medical workers aiming at restoring the psychosomatic and psychosocial health of the population are also studied.

Now, let us analyze the results given in the table 1. First of all, we noticed that in sample 1, a total of 7,697 statistically significant words were recorded against 4,296 in sample 2. This means that doctors communicate almost twice as actively as their patients. This fact can be explained, in particular, by the presence of doctors in a mostly predominant role in the situation of an official reception. Then, it can also imply the reaction of a certain psychophysiological depression of patients considering their situation coupled with the need to consult a doctor.

Pronouns were the most frequent among the main parts of speech in both samples, and their relative number is slightly higher among doctors (32.18%) compared to patients (28.44%). All in all, if the «You» category clearly dominates in «Doctors» sample (44.42% of the total number of recorded pronouns), the «I» category dominates in «Patients» sample (50.42%). Such a result is also natural regarding the positions and tasks of various communicators in the «Doctor-Patient» system. The main task of a doctor is to find out the true reason for a visit and to develop mechanisms for optimal treatment of a probable disease through an appeal to the patient. The task of a patient, respectively, is to tell as much as possible about their complaints and problems.

The second largest number of recorded words consists of nouns, and again, its relative representation is slightly higher in sample compared to sample 2. We can see the differences between the samples according to the leading category: it is «Diseases and their symptoms» for doctors (19.89%), and «Temporality» for patients (27.70%). Thus, in this context, the professional orientation of doctors was revealed – to identify a specific disease or diseases based on their symptoms in this case. Instead, as we can assume according to the obtained data, the patients are aimed at restoring the usual rhythm of life, which was obviously

Table 1. Dominant categories and lexemes of different parts of speech

Part of speech (total word count)	«Doctors» sample			«Patients» sample		
	Total count	Basic category (absolute/relative number)	Basic lexemes	Total count	Basic category (absolute/relative number)	Basic lexemes
I. Main parts of speech (7519)	5037			2482		
Pronoun (2327)	1621 (32,18%)	«You» (720 / 44,42 %)	«You», «Your»	706 (28,44%)	«I» (356 / 50,42 %)	«I», «me», «my»
Noun (1781)	1272 (25,25 %)	«Diseases and symptoms» (253 / 19,89 %)	«problems», «pain», «illness, disorder»	509 (20,51 %)	«Temporality» (141 / 27,70 %)	«day», «time», «years»
Verb (1595)	1099 (21,82 %)	«Communication and its components» (335 / 30,48 %)	«talk, speak», «think, understand», «move in space»	496 (19,98 %)	«Being» (137 / 27,62 %)	«was, be», «last», «continue»
Adverb (1472)	834 (16,56 %)	«Temporality» (249 / 29,86 %)	«after, then», «now», «often»	638 (25,71 %)	«Temporality» (196 / 30,72%)	«sometimes, seldom», «after, then», «now»
Adjective (294)	174 (3,45 %)	«Neutral» (99 / 56,90 %)	«that», «possible», «general»	120 (4,83 %)	«Neutral» (55 / 45,83 %)	«last», «that», «previous»
Numeral (50)	37 (0,73 %)	–	«once, several», «one, first», «two, second»	13 (0,52 %)	–	«once, several», «three», «one, first»
II. Additional parts of speech	2660		The most frequent part	1814		The most frequent part
Conjunction (1853)	1220 (45,86 %)	–	«and»	633 (34,90 %)	–	«and»
Preposition (1516)	987 (37,11 %)	–	«in, on»	529 (29,16 %)	–	«in, on»
Particle (876)	331 (12,44 %)	–	«no, not»	545 (30,04 %)	–	«no, not»
Exclamation (216)	109 (4,10 %)	–	«please»	107 (5,90 %)	–	«well»
Interjection (13)	13 (0,49 %)	–	«for example»	–	–	–

disturbed by the disease and accompanying factors.

The verb ranked third in terms of its representativeness in general (however, not for both samples, which we will later focus on separately). In sample 1, 1099 relevant words were recorded within the «Communication and its components» dominant category (30.48%), while 494 verbs were within the «Being» basic category in sample 2 (27.62%). Such a result is also completely natural, since the doctor at work is a representative of the sociomic profession, in which communication is the main means of its effective implementation. Instead, an ill person worrying not only for their health but also life, generally begins to be more deeply and fully aware of their existence. This was clearly evidenced by the results of the content analysis.

The adverb is fourth in total number, but it is the

second most recorded part of speech in sample 2 (25.71% vs. 16.56% in sample 1). Although in both samples «Temporality» category turned out to be the dominant one (20.86% and 30.72% respectively), the significant predominance of adverbs in the sample of patients demonstrates the need for a more detailed description of their own conditions than it is offered by the doctor, who, obviously, communicates according to more abstract and generalized cognitive options. Certain trends are also proved by a deeper analysis of the content of these leading categories. Particularly, the questions of doctors usually start with: «How often...», but the answers of patients – «Sometimes, rarely...». In other words, doctors focus on specific indicators, while patients give often not so specific answers. This can be associated, among other things, with the functioning of the mechanisms

of psychological protection (the displacement of traumatic experiences into the unconscious and other mechanisms).

The adjective is significantly less significant in terms of its quantitative representation (174 of them are in sample 1 and 120 – in sample 2). The characteristic of the recorded data implies the following: although the relative number of this part of speech differs slightly in both samples (3.45% and 4.83% respectively), doctors use «neutral» adjectives significantly more often (56.90%) than their patients (45.83%). This fact illustrates the greater affective «charging» of patients, with whom the doctors remain more neutral: on the one hand, they should not provoke the patient to probable affective «outbreaks», and, on the other hand, prevent their own emotional «burnout».

Finally, the least frequent among all recorded main parts of speech are numerals. The total count of numerals is 37 in sample 1 (0.73%) and 13 – in sample 2 (0.52%). Here, the following fact is significant: both doctors and patients sometimes count different events and phenomena (some number of «times») and talk about what happened «for the first time». However, only the doctors use the lexemes «two, second» in their speech. This all is connected with the need to remind the patient about a probable second (next) appointment.

Let us now move on to the additional parts of speech. In both samples (1220 and 633 words respectively), such a part of speech as a conjunction became dominant among them. Also, the conjunction «and» prevails in both samples; however, despite this, its relative share is significantly higher in the statements of doctors (45.86%) compared to patients (34.90%). This indicates a greater semantic coherence of the verbal communication of doctors: they, unlike patients, are (as already mentioned) mostly in a dominant position and in a more balanced psycho-emotional state.

The second most frequent additional part of speech (though not for both samples – we will focus on it below) was the preposition (1516 words). Its representation is 987 words in sample 1 (37.11%), and 529 – in sample 2 (29.16%). In both samples, the preposition «in» turned out to be dominant. In particular, this happened due to the fact that while describing the symptoms, the examples of their specific localization are often given («... in the back», «... in the tooth», etc.).

The participle was the third official part of speech in terms of the total number of words (876), but it is the second in sample 2, and its absolute quantitative indicator significantly exceeds the one in sample 1 (545 against 331). In addition, the relative indicator of the dominant share of «no, not» in both samples

is also significantly higher in sample 2 (30.04% and 12.44% respectively). This result can be explained by the fact that in response to the specialist's numerous questions, the patients deny, if, for example, the mentioned symptoms do not apply to them or, at least, are not recognized by them.

The fourth official part of speech is an exclamation (total count is 216). Its relative presence in both samples turned out to be approximately the same: 109 in sample 1 (4.10%) and 107 – in sample 2 (5.90%). Nevertheless, the most frequent word is «please», in doctors' exclamation count, and «well» – in patients' one. This fact indicates the manifestations of the necessary politeness in the professional communication of the specialists and everyday vocabulary of the patients. With such words, the latter show their expectation for continued communication and for consistent professional help.

Lastly, such an interjection as «for example» was found only in the statements of doctors (13 words). Thus, while communicating, they try to explain the essence of a certain issue as understandably as possible to patients using specific examples. Instead, patients do not use this interjection, although they also explain something to doctors (in particular, their symptoms).

It is also worth paying attention to those lexemes that are found either only among doctors or, on the contrary, only among patients in various contexts. This fact is a characteristic from the point of view of doctors' professional communication. In particular, it is necessary to mention the differences in the semantic content of the «Physiological and mental processes, states, qualities» category. For example, there are such lexemes as «thoughts», «attention», «memory», «wisdom» only in the sample of doctors. This fact indicates the efforts of specialists to transfer communication with the patient to rationalistic notions, to appeal to the intellectual abilities of the recipients, to stimulate their reflection on their own conditions. Instead, the concepts of «irritability» and «panic» are found only in a sample of patients. This testifies to their efforts to convey the negative psycho-emotional states caused, in particular, by the conditions of military operations. The doctors, however, avoid such words in order not to retraumatize their patients.

CONCLUSIONS

The results of the analysis of «Doctor-Patient» dialogues made it possible to identify and describe psycholinguistic markers of typical physiological, mental, social, and spiritual states of people seeking medical help under martial law conditions; single out the markers of

positive emotional states (optimism, confidence, empathy) and affective and negative emotional processes (anxiety, fear, anger, aggression, sadness, depression).

The results of the study can be used in the development of scientifically based recommendations regarding the content of both mandatory questions and

precedent textual and event allusions, which should not be mentioned during the collection of anamnesis and performed physical examination. They also should be avoided when discussing sensitive and taboo topics with the patient during the collection of anamnesis and further observation.

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CONFLICT OF INTEREST

The Authors declare no conflict of interest

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