

MORPHOLOGICAL AND LEXICOSEMANTIC BEHAVIOUR OF LEXICAL UNITS *GOLOVNAYA BOL'*, *MIGREN'*, *TSEFALGIYA* AND *HEADACHE*, *MIGRAINE*, *CEPHALGIA* IN THE CORPUS ENVIRONMENT

MARTA LACKOVÁ

University of Žilina, Žilina, Slovakia
marta.lackova@fhv.uniza.sk

Abstract

The paper deals with the morphological and lexicosemantic characteristics of lexical units *golovnaya bol'*, *migren'*, *tsefalgiya* and *headache*, *migraine*, *cephalgia*. The research focuses on collocations, word combinations and concordances in which they appear. At the same time, we consider their grammatical relations, semantic restrictions and semantic prosody. The whole linguistic material is investigated in the framework of the text corpora Russian Web 2011 (ruTenTen11) and English Web 2015 (enTenTen15) with the help of the search tool Sketch Engine. To begin the research, the frequencies of these lexical units in individual styles are elaborated and we also look into the etymology of the studied words as these two factors influence their behaviour from the morphological and lexicological perspectives.

Keywords: collocation, concordance, corpus, lexicological, morphological, semantics

1. Introduction

The word corpus is of Latin origin with the specific meaning of “body” and for the users of both the Russian and English languages it is known as “the unity, the base, the principal part, the collection of elements, the main body or mass of a structure” (Oxford Dictionary of English 2008). The linguistic or textual corpus is then defined as an extensive collection of texts and linguistic information elaborated with the help of computers which is applicable for linguistic research (Baker, Hardie and McEnery 2006). In recent decades, research applying corpus linguistics techniques to the study of various linguistic phenomena have been growing in number (Meyer 2004, Halliday 2004, Gózdź-Roszkowski 2019, Leláková, Grajciar 2018).

The study of names of illnesses and diseases in the corpus environment has not been a topic of considerable interest; out of these reasons we strive to contribute to the uncovering of this linguistically challenging issue. For the needs of our research, we will work with the Russian monolingual synchronic annotated textual corpus Russian Web 2011 (ruTenTen11) and with the English monolingual synchronic annotated textual corpus English Web 2015 (enTenTen15). As

a corpus-based paper, its aim will be to identify recurrent patterns in which the keywords occur so that to examine their discourse functions.

In order to search for, sort and classify the chosen lexical units *golovnaya bol'*, *migren'*, *tsefalgiya* and *headache*, *migraine*, *cephalgia* in these two corpora, we will utilize methods of corpus linguistics together with statistical methods which are interconnected in the special tool for searching in corpus Sketch Engine. It is important to highlight the fact that on the one hand, the corpora allow the scholar to see the language in the context of discourse; on the other hand, the language samples provided by the corpora do not immediately display specific linguistic phenomena in their most general way. On the grounds of this, we will apply also methods of generalization and classification of linguistic phenomena.

We understand the computerised corpora and computational tools as a starting point for a qualitative analysis which allows us to study the immediate discourse in which the keywords occur together with wider psychological and social contexts in which they are localized. The principal criterion is that we select only statistically significant words for our analyses; we exclude lemmas that display frequency pre million < 0.01 .

The first phase of the research is represented by the observation of collocations, combinations and concordances of the studied lexical units in the corpora Russian Web 2011 (ruTenTen11) and English Web 2015 (enTenTen15).

Taking into account the number of concordances of individual lexical units in question, we state the following:

- *golovnaya bol'* appears in 200 429 concordances;
- *migren'* appears in 54 373 concordances;
- *tsefalgiya* appears in 268 concordances;
- *headache* appears in 166 310 concordances;
- *migraine* appears in 41 301 concordances;
- *cephalgia* appears in 80 concordances.

Arising from evident differences between them from etymological and stylistics angles, we suppose that also their morphological and lexicosemantic characteristics will be diverse. We find it crucial (before the morphological and lexicosemantic analyses themselves) to state the position of the above mentioned linguistic units in individual styles of the Russian and English languages according to their percentage manifestation in the text collected in Russian Web 2011 (ruTenTen11) and English Web 2015 (enTenTen15). We base our assumptions on the classification of functional styles suggested by Galperin (1981) that recognizes written genres of the language.

The proportional percentage of lexical units *golovnaya bol'*, *migren'* and *tsefalgiya* in individual styles according to their representation within the Russian Web 2011 (ruTenTen11) Corpus is calculated and displayed in numerical form. We do the same for *headache*, *migraine* and *cephalgia* within the English Web 2015 (enTenTen15) Corpus (see Table 1).

When looking at the table, it is apparent that the distribution of the compound noun *golovnaya bol'* and nouns *migren'*, *tsefalgiya*, *headache*, *migraine* and *cephalgia* in individual styles within the given textual corpora is not homogenous. On one side, the studied units evince various characteristics in common, but on the other side, it is possible to observe differences in their grammatical and semantic manifestations based on the componential analysis of fragments of meaning (Cowie 2009).

Table 1: Percentage manifestation of studied lexical units in individual styles

style	<i>golovnaya bol'</i> ,	<i>migren'</i>	<i>tsefalgiya</i>
the belles-lettres style	37%	23%	0%
newspaper style	9%	19%	12%
publicistic style	38%	37%	3%
the style of official documents	2%	6%	21%
scientific prose style	14%	15%	64%
style	<i>headache</i>	<i>migraine</i>	<i>cephalgia</i>
the belles-lettres style	43%	38%	0%
newspaper style	3%	15%	22%
publicistic style	30%	24%	3%
the style of official documents	1%	4%	24%
scientific prose style	23%	19%	51%

2. Results and discussion

2.1. Behaviour of the compound noun *golovnaya bol'* in the Russian Web 2011 (ruTenTen11) Corpus environment

To begin with, we pay attention to the word combinations (we search for the first lemma to the left from the studied lexical unit) in which the compound noun *golovnaya bol'* appears. The noun *vozniknovenie* is the most frequent one that emerges with it. Further, the compound noun *golovnaya bol'* in the genitive form is followed by the words of both:

- native *razvitie*, *otsutstvie*, *pristup*, *predvestnik*, *prichina*, *lechenie*, *ustranenie*, *snyatie*, *poyavlenie*, *istochnik*;
- Latin or Greek origin: *lokalizatsiya*, *intensivnost'*, *profilaktika*, *diagnostika*, *sindrom*(Example 1).

1. Esli izmenilas' lokalizatsiya golovnoy boli... (<http://healthbase.ru/1596-kak-lechit-golovnuju-bol.html>)

Additionally, there exist combinations with nouns directly expressing the classification of the phenomenon; it is illustrated in the subsequent examples: *tri vida golovnoy boli*, *forma golovnoy boli*, *v vide golovnoy boli*. Moreover, with the corpus evidence available, the keyword *golovnaya bol'* has turned into a part of a proper name *Klinika Golovnoy Boli*.

The immense influence of the English language on the contemporary Russian language is observable also in the studied context; the noun *trigger* is noticed in 11 concordances modifying the compound noun *golovnaya bol'*.

When talking about hyponymic relations, the compound noun *golovnaya bol'* is most often recorded in the surroundings of *povyshennaya temperatura tela*, *slabost'*, *serdtsebieenie*, *golovokruzhenie* (Example 2); with the help of these lexemes, semantic fields of illnesses symptoms are created. The connection between *golovnaya bol'* and other possible psychic problems of the patient are indicated also by hyponymic relations with lexemes like *nevroz*, *otsutstvie appetita*, *anoreksiya*, *nevralgiya*.

2. ... *poyavlyayetsya odyshka*, *slabost'*, *golovnaya bol'*, *toshnota*, *rvota*.
(<http://www.chudogrib.ru/lechenie/lechenie-132.html>)

One can find the verb *vyzyvat'* plentifully in the same position; the verbs of native origin *imet'*, *poyavit'sya*, *ustranyat'*, *snyat'*, *chuvstvovovat'*, *bespokoit'*, *voznikat'*, *vylechit'*, *stradat'*, *terpet'* (Example 3), and only marginally verbs of foreign origin *pul'sirovat'*, *provotsirovat'* are localized in the place of the first lemma to the left from the compound noun *golovnaya bol'*.

3. Krome togo, *otmechalis'*: *anoreksiya*, *golovnaya bol'*, *utomlyaemost'*...
(<http://www.veropharm.ru/products>)

Adjectives, which in the Russian Web 2011 (ruTenTen11) Corpus modify the compound noun *golovnaya bol'*, are classified from the point of view of their semantic signs in the following way:

- adjectives denoting local aspects of headache: *zatylochnaya*, *lokal'naya*, *odnostoronnaya*, *sheynaya*;
- adjectives denoting temporal aspects of headache: *beskonechnaya*, *mnogoletnaya*, *postoyanna*, *yezhdnevnyaya*, *khronicheskaya*, *utrennyaya*, *yezhegodnaya*, *vechnaya*, *periodicheskaya*, *epizodicheskaya*, *dlitel'naya*, *retsidivirushchaya*;
- adjectives denoting the subjective attitude to headache (the most extensive subgroup), while *sil'naya* is the prevailing lexical unit in this context: *lishnyaya*, *ogromnaya*, *strashnaya*, *nesterpimaya*, *nastoyashchaya*, *dikaya*, *zhutkaya*, *upornaya*, *bol'shaya*, *legkaya*, *uzhasnaya*, *ostraya*, *zhestokaya*, *intensivnaya*, *tupaya*, *muchitel'naya*, *tyazhelaya*, *obychnaya*

chelovecheskaya; the power of emotive words has been recognized and proved (Example 4);

- adjectives connecting headache with the psychic state of the patient: *abuzusnaya, psikhogennaya, posttravmaticheskaya*.
4. I pervoe, chto on oshchutil, byla uzhasnaya golovnaya bol' (<http://masterpera.mybb.ru/viewtopic.php?id=357>)

With regards to the etymology of these adjectives, the semantics of the compound noun *golovnaya bol'* is further developed by Latin or Greek ones *kongestivnaya, tservikogennaya, spazmaticheskaya* only marginally and only in chosen genres of the scientific-prose style. The attention should be focused also on the combination *zhenskaya + golovnaya bol'* (the adjective *muzhskaya* does not exist in this combination), which evokes that *golovnaya bol'* is connected mainly with the female part of the population.

In the Russian Web 2011 (ruTenTen11) Corpus there were recorded numerous prepositions which add extra information to the compound noun *golovnaya bol'* in the form of:

- genitive case: *izbavit'sya ot golovnoy boli; tabletka ot golovnoy boli* (Example 5); *dlya golovnoy boli; krome golovnoy boli*;
 - accusative case: *na golovnyu bol' mozhet deystvovat'*;
 - ablative case: *pomogat' pri golovnoy boli*;
 - instrumental case: *s golovnoy bol'yu*.
5. Pritom luchshaya tabletka ot golovnoy boli dumat' i deystvovat' pravil'no. (<http://www.dez-vesta.ru/includes>)

The spread of the compound noun *golovnaya bol'* in various styles of the Russian language is illustrated also by a rich system of formal expressive means of category of determination which are applied with it. The grammatical category of determination is understood as a universal element of interpretation in the languages of the world, and it is one of the key factors for successful realization of communication acts. *Golovnaya bol'* is the only Russian lexical unit in question that is further determined by possessive pronouns *vasha, nasha, svoya* and by the demonstrative pronoun *eta* (Example 6).

6. Sprashivaetsya, zachem yemu vsyo eto nuzhno, vsya eta golovnaya bol'. (<http://novlit.ru/shtirov/category/novosti/>)

2.2. Behaviour of the noun *migren'* in the Russian Web 2011 (ruTenTen11) Corpus environment

In order to identify statistically significant lexemes which provide a useful insight into the morphological behaviour of the noun *migren'*, it is the second linguistic

unit we deal with. Nouns which further modify the lexeme in the form of genitive are (*migren'* itself determines only one other noun *geneza*):

- widely used in all the spheres of human activity: *rasprostranennost'*, *pristup*, *vozniknovenie* (Example 7);
- 7 Patsienty s postoyannymi pristupami migreni mogut prodolzhat' ispytyvat' bol'. (<http://www.developmed.ru/cnt/news.php?id=313>)
- from the field of medicine: *patofiziologiya*, *patogenez* (Example 8).
- 8 ... osveshchaet razlichnye metody lecheniya migreni. (<http://www.developmed.ru/cnt/news.php?id=313>)

The space is dedicated also to the noun *aupa*, which acts in the sphere of headache research only in connection with the word *migren'*: *migreni s auroy*, *aura migreni*, and again the anglicism *trigger migreni* (27 concordances), which is in the contemporary Russian text corpus approximately as frequent as *provokator migreni* (28 concordances) (Example 9).

9. *Vo-vtorykh, shokolad sodержit kofein – trigger migreni.*
(<http://www.paininfo.ru/patienti/pain-syndrome/headache/migraine/trigger/42.html>)

When examining hyponymic relations, the noun *migren'* finds its place most frequently in semantic fields together with *golovokruzhenie*, *nevrалgiya*, *bessonnitsa*, *gipertoniya*, *epilepsiya*.

The adjectives which are placed in the position the first lemma to the left from the noun *migren'* in the Russian Web 2011 (ruTenTen11) Corpus are subdivided into two groups from the point of view of their etymology; some of them are assigned terminological status typical of medical texts:

- adjectives of native origin: *malyshevaya*, *kholodovaya*;
- adjectives of Latin or Greek origin: *transformirovannaya*, *vestibulyarnaya*, *menstrual'naya*, *bazilyarnaya*, *gemiplegicheskaya*, *retinal'naya*.

Looking deeply into the semantics of these adjectives, many of them denote the place in the patient's body which is affected by the pain: *sheynaya*, *abdominal'naya*, *glavnaya*, *oftal'moplegicheskaya*, *glaznaya*.

Similarly to the case of *golov'naya bol'*, there are present several emotionally coloured adjectives: *zhelokaya*, *zhutkaya*, *dikaya*, *muchitel'naya*, *uzhasnaya*, *proklyataya*, *strashnaya* and adjectives connected with the mental health of the patient: *posttravmaticheskaya*, *panicheskaya*. From the linguistic point of view, it is essential to realize that emotions and evaluation are communicated in systematic and patterned ways across all genres.

Moving to the word class of verbs, they are in the position the first lemma to the left from the noun *migren'* only of a limited number: *izlechivat'sya*, *vylechivat'sya*, *lechit'*, *izbavit'sya*, *provotsirovat'*. Simultaneously, emotionally coloured verbs participate in completing the meaning of the noun: *muchit'sya*, *stradat'*.

The noun *мигрень* is most often connected with other nouns and verbs with the help of the preposition *c*:

- noun + *s*: *bol'noy s migren'yu*, *patsient s migren'yu*, *bor'ba s migren'yu* (Example 10);
- verb + *s*: *sptavit'sya s migren'yu*, *borot'sya s migren'yu*.

10. ... malaya chast' zhenshchin s migren'yu budut ispytyvat' vdvoynye sil'nye golovnye boli. (<http://childrensportal.ru/article/7/boli-pri-beremennosti>)

In contrast, being of peripheral importance within the Russian Web 2011 (ruTenTen11) the prepositions *protiv*, *ot* are realized mainly with verbs *vylechit'sya ot migreni*, *izbavit'sya ot migreni* and nouns *lekarstvo protiv migreni*, *sredstvo protiv migreni*.

2.3. Behaviour of the noun *tsefalgiya* in the Russian Web 2011 (ruTenTen11) Corpus environment

Out of the lexical units studied by us, the noun *tsefalgiya* is the least covered on in concordances in the Russian Web 2011 (ruTenTen11). Its etymological and stylistic peculiarities predestine it to be able to collocate with other lexical units in the discourse. In other words, nouns which occur in its closest surroundings are equally of Latin and Greek origin: *angiospazmy*, *geminipesteziya*, *tservikalgiya*, *angioentsefalopatiya*, *gemiparez*. The same is valid for adjectives in these positions (Example 11): *orgazmicheskaya*, *gistaminovaya*, *glasternaya*, *postkommotsionnaya*, *vazomotornaya* (marginally, a native word *oslozhnennaya*).

11. Krome togo, postiktal'naya tsefalgiya usilivalas' pri kashle,...(<http://paininfo.ru/practitioner/classification/headache/prt/ii/unvascular/1069.html>)

The application of the noun *tsefalgiya* in the scientific-prose style and the style of official documents is supported by the fact that as the only one out of the three studied lexical units is modified by abbreviations utilized in the field of medicine: *TTSB*, *KHEGB*.

Directly in the Russian Web 2011 (ruTenTen11) Corpus one can search for concordances where *golovnaya bol'*, *migren'* and *tsefalgiya* function in a synonymic relation or are mutually modified, or are related to identical lexical units:

- *nemigrenoznaya golovnaya bol'*; *migrenoznaya golovnaya bol'*;
- *migrenoznopodobnaya tsefalgiya*; *migrenoznaya tsefalgiya* (Example 12);

12. ...migrenoznaya tsefalgiya i kharakternye dlya nee provotsiruyushchie faktory ...(<http://overcure.ru/materials/for-medicine-19/>)

- *davyashchaya migren'*; *davyashchaya golovnaya bol'*;
- *golovnaya bol'* together with *toshnota*, *rvota*; *migreni s toshnotoy i rvotoy*;
- *intensivnosti tsefalгии (golovnoy boli)*;
- *migren' (tsefalgiya)* (Example 13).

13. Golovnaya bol' (tsefalgiya) odna iz naibolee rasprostranennykh zhalob v meditsinskoy praktike. (<http://www.rosapteki.ru/articles>)

Finally, we illustrate points where the features of *golovnaya bol'*, *migren'* and *tsefalgiya* overlap and we demonstrate the word-formative power of the noun *migren'* as compared to *tsefalgiya*. The word-formation competence of the noun *migren'* in contrast to *tsefalgiya* is illustrated also in the number of derived lexical units with the base *migren'* and *tsefalgiya*. Below we provide a list of these derived lexical units as found in in Russian Web 2011 (ruTenTen11) Corpus.

migren' – *migrenoznyy*
migrenepodobnyy
migrenevyy
migrenol
migreneobraznyy
migren'-assotsirovannykh
tsefalgiya – *tsefalgicheskiy*.

2.4. Behaviour of the noun *headache* in the English Web 2015 (enTenTen15) Corpus environment

As already indicated, the category of determination represents one of the most complex noun categories in the languages of the world; therefore, we find it important to investigate the determiners which are manifested with the studied lexical units in the English Web 2015 (enTenTen15) Corpus. They reflect the actual usage of the structures by contemporary language users. We classify the formal expressive means of the category of determination with respect to their categorization provided by Quirk et al. (1985):

- predeterminers: *all*, *such* (Example 14);

14. This can result in the forehead till any such headache is relieved. (<http://www.mapped-project.eu/headachem/85-alcohol-suddenly-gives-me-headaches-worse-getting-auras/>)

- central determiners: *a, the, my, your, her, their, his, our, some, no, any, this, that, these, those, each* (Example 15);
15. These quality products eliminate the headache in a home improvement project. (<http://ww.timber-windows.org/>)
- postdeterminers: *many, much, more, other, another, few, first, most* (Example 16).
16. My girl has had a few headaches as well this week but has put it down to giving up regular tea. (<http://needtoloseweightfast.sapce/what-is-detox-diet-headaches/>)

At this point we consider it relevant to analyse individual references that are implemented in the articles usage with the keyword *headache*. The references mirror the language users' understanding of reality, their attitudes and either objective or subjective evaluations (Examples 17, 18, 19).

17. A trip can become a headache if you conduct your journey without the appropriate planning. (<http://www.wikiindia.org/tag/airport/transportation/>) the generic use of the indefinite article demonstrating any representative member of the class;
18. ..., she has complained of a very severe headache. (<http://americannutritionassociation.org/newsletter/ecoloogic-mental-illness-how-interest-developed-1949-1950>) the indefinite article with a descriptive role providing more precise information about the noun;
19. Of those who do get headaches, only about half report that they are severe. Pain medicine does not help control the headache but lying flat in bed for several hours after the procedure may help the headache. (<http://churchill.nv.networdkforce.org/ph/library/article.aspx?hwid=hw234563>) direct anaphoric reference when the noun was mentioned earlier in the context.

As for the verbs that express procedural meanings within which the compound noun *headache* is realized, they display wide semantic variations on the scale from positive to negative: *alleviate, prevent, treat, ease, relieve, eliminate, cure, reduce* on one end of the scale and *create, suffer, report, avoid, develop, induce, trigger, sudden, increase, produce, worsen* on its other end (Examples 20, 21).

20. The exercises were specifically designed to help alleviate headache and other symptoms. (<http://chronicpain.ie/our-services/research>)
21. Not only does bright light induce headache...(<http://72.9.148.189/library/Over-illumination>)

The most frequent nouns occurring in the hyponymic relation with the compound noun *headache* include the subsequent structures: *tension, nausea, fatigue, fever, pressure, dizziness, hangover, symptom, constipation* (Example 22). They possess the capacity to denote more health conditions existing together with headache.

22. ...only short-term symptoms such as high fever, severe headache, stiffness, nausea, abdominal pain and diarrhoea. (<http://www.arg.georgia.gov/nationwide-recall-of-certian-sabra-brand-classic-hummus-products.aspx>)

The etymological and stylistic natures of the compound noun *headache* allow the greatest variety of adjectives which are to be joined with it. They range from:

- terminological adjectives from the fields of medicine and psychology: *vascular, cervicogenic, spinal, frontal, muscular, post-traumatic, chronic, acute* (Example 23) through
23. Surgery is the last treatment option for spinal headache. (<http://www.mapped-project.eu/headachem/3198-headache-coughing-stuffy-nose-week-other-every/>)
- stylistically neutral adjectives applicable in all styles and genres: *minor, common, constant, permanent, enormous, occasional, frequent, daily, primary, persistent, recurrent, potential, secondary, extreme, serious, stress, continuous, regular, significant, additional* (Example 24) up to
24. I have told him I will not live my life with permanent headache and illness because of him (<http://narcissistbehavior.net/>)
- adjectives of subjective evaluation applicable only in subjective discourses (Example 25): *severe, terrible, splitting, huge, mild, massive, slight, great, intense, debilitating, horrible, painful, dull, strong, little, excruciating, nasty, ongoing, blinding, violent, awful, unnecessary, same, large, nagging, endless, giant, unbearable*.
25. I've been suffering from a nasty headache all day... (<http://www.eternalwinter.org/blog/category/bjd/page/6/>)

In order to put forward the full framework of these adjectives and show their nature it is necessary to mention also those ones which convey metaphorical meanings and the speaker's attitude to the content of the utterance; here we deal with indirect reference, the user of the language does not bear in mind a real pain of the head: *administrative, logistical, political, legal, national, financial*

(Examples 26). In this subcategory, technical terms acquire evaluative power in certain discourses.

26. Yes, Europe can be a political headache for a proud sovereign nation like Britain. (<http://www.marioemario.ilcannocchiale.it/?yy=2006&mm=9>)

One way of looking at the keyword *headache* is to examine the nouns which are modified by it within the English Web 2015 (enTenTen15) Corpus. The directly observable point is that they are of different characteristics:

- a name of a person who is affected by headache: *sufferer, patient*;
- a name of other health conditions which occur together with headache: *nausea, dizziness, diarrhoea, earache, toothache, ache, vertigo, lightheadness, dehydration; stomachache, drowsiness, vomiting, tiredness, plague, fatigue* (Example 27);

27. Short-term side-effects include nausea, vomiting, diarrhoea, headache and visual disturbances. (<http://www.iik-baku.eu/kbkuanca/9582/how-to-reduce-pimples-naturally-on-face-use-bactine-on/>)

- a name of mental health condition which occurs together with headache: *anxiety, insomnia, tension*;
- a name of a remedy for headache: *medicine, remedy, tablet, medication, remedies, drug, reliever*;
- general nouns from the field of medicine: *relief, treatment, symptom, attack, specialist, frequency, trigger, syndrome, episode, diagnosis, affect, severity, condition, history, duration, prevention, care, reduction* (Example 28).

28. This is a typically short duration headache and generally experienced behind eyes on one side of the head. (<http://universal-healthcare.org/healthy-life/chiropractic-excellent-remedy-for-headaches/>)

2.5 Behaviour of the noun *migraine* in the English Web 2015 (enTenTen15) Corpus environment

The aim of the following subsection is to have a deeper insight into the manifestations of lexical units which surround the noun *migraine* in English Web 2015 (enTenTen15) Corpus environment.

Starting with formal expressive means of the category of determination, they are applied with the noun *migraine*, hence to a lesser degree than with the noun *headache*. We sort them out according to the above-mentioned classification:

- predeterminers: *both, all* (Example 29);

29. Although children experience both migraine with aura and migraine without aura, migraine with aura is more common. (<http://www.w-h-a.org/headache-resources/page/5/>)

- central determiners: *my, your, her, their, his, our, a, the, some, no, any, this, these, each,*
- postdeterminers: *more, other, few, first, most.*

Verbs which are found in the position the first lemma to the left from the noun *migraine* reveal several interesting findings. Several of them clearly indicate that they are of opposite meanings: *develop, worsen, blow, cause, increase, support, induce* in opposition to *relieve, reduce, alleviate, eliminate, ease*. Moreover, there are few structures where a strong link between the extralinguistic purpose of communication (medical purposes) and lexical form can be established: *cure, diagnose* (Example 30). Naturally, there occurs a very clear implication that some of these verbs are of more general character: *manage, transform, report, trigger, suffer, fight, control, avoid, associate, identify*.

30. Fasting can cure migraine but I am not sure on how long...(<http://www.fasting.ws/juice-fasting/juice-fast-healing-cancer-immune-system/>)

Seen from the perspective of adjectives semantics, the noun *migraine* has the potential to be combined with numerous adjectives; but still there emerge several subgroups which unite meanings further specifying the features or signs of the noun *migraine*:

- adjectives denoting temporal aspects of migraine: *frequent, episodic, occasional, chronic, acute, daily, constant, regular* (Example 31);

31. Typical episodic migraine may increase in frequency to the point where it recurs daily. (<http://www.robosom.eu/headacher/5303-headache-nausea-face-pain-drink-water>)

- adjectives denoting subjective evaluation of the phenomenon: *severe, awful, splitting, nasty, crippling, debilitating, excruciating, massive, painful, moderate, horrific, horrible, terrible, intractable, mild, extreme, persistent, intense* (Example 32);

32. Unfortunately, that day I was suffering an excruciating migraine. (<http://media.moma.org/explore/inside-out/2013/03/14/>)

- adjectives denoting state of the patient's mental health: *stress-induced, post-traumatic;*

- adjectives denoting exact medical conditions: *hemiplegic, paediatric, refractory, retinal, ophthalmic, ocular, abdominal, vestibular, basilar*;
- adjectives of general character: *common, classic, typical, major, complex, effective, serious, natural, visual, atypical, optical, classical, oncoming, average, standard, specific, familiar, spontaneous*.

Several adjectives, namely *menstrual, female and hormonal* when appearing in collocations with the noun *migraine* suggest the connection between the health condition and the female part of the population (Example 33).

33. It is thought that menstrual migraine is related to the decline of estrogen levels. <http://www.w-h-a.org/headache-resources/page/24/>

Further temporal, special and instrumental relations of the lexeme *headache* are expressed in prepositional structures. The most frequent structure which is tied to the preposition with is: *migraine with aura I have a history of migraine with aura but no headache or just minor*.

Table 2: Prepositions used with the noun *migraine* both from the left and right sides.

with		with
for		for
from		without
of	+ migraine +	
to		
as		
in		
between		

To conclude the section on the keyword *headache*, we find it interesting to imply its word-formation power; it has become an element of a compound adjective (Example 34).

34. ..., and interactions within the migraine-generator network, in particular. (<http://pesquisa.biblioteca.iscte-iul.pt/>)

Our observation of the Russian Web 2011 (ruTenTen11) Corpus environment offers another proof of the influence of the English language on the contemporary Russian language, namely the noun *headache* occurs within the Corpus in 195 concordances.

2.6. Behaviour of the noun *cephalgia* in the English Web 2015 (enTenTen15) Corpus environment

The etymological analysis of adjectives which occur in the position of the first lemma to the left from the noun *cephalgia* shows that they have their roots in classical languages (the same is effective for *tsefalgiya* in the Russian language as it was stated above): *autonomic*, *trigemino-autonomic*, *trigeminal-autonomic*, *sub-occipital*, *secondary*, *histamine*, *post-coital*, *frontal* (Example 35).

35. Trigeminal autonomic cephalgia is a group of primary headache disorders characterized by pain in unilateral trigeminal distribution. (<http://www.guideline.gov/content.aspx/>)

Discourses abundant in terminology are not intended for general public as the applied vocabulary makes the understanding more complicated. The only exception out of this model is the adjective *severe* (Example 36):

36. ..., in addition to the often severe cephalgia.

Another way of examining the keyword *cephalgia* is to look at its potential to be modified by the formal expressive means of determination. There occur very few of these means, namely the demonstrative pronoun *this* (Example 37): and the indefinite article in the position of the second lemma to the left (Example 38):

37. Few studies have looked at the incidence of this cephalgia (<http://www.researchblogging.org/post-search/>).
38. Primary trochlear headache: a new cephalgia generated and modulated on the trochlear region. (<http://link.springer.com/article/10.1007/s11916-006-0036-9/>)

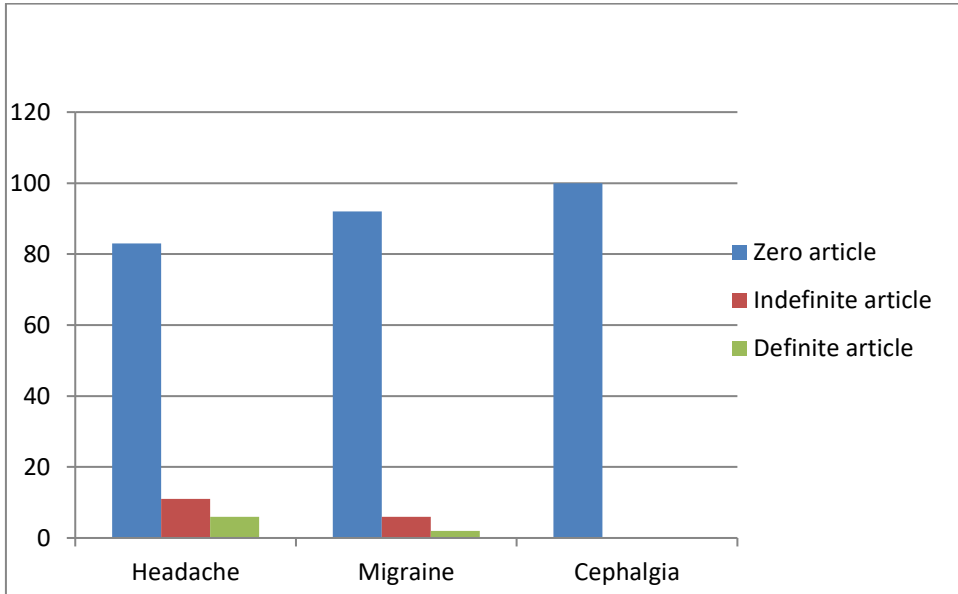


Figure 1. Percentage manifestation of the zero, indefinite and definite articles as applied with *headache, migraine and cephalgia*.

As for the nouns, which emerge around the noun *cephalgia* in the equal grammatical position as hyponyms, they are semantically related to further health conditions which are associated with headache: paresthesias, somnolence, dizziness, unconsciousness, depression. *This specific example below highlights this fact; at the same time, it indicates a possible connection between cephalgia and the mental health of the patient (Example 39).*

39. In this particular patient, the symptoms for which she presented included galactorrhoea, ataxia, dysphagia, inability to articulate with a new onset of stuttering, arrhythmia, chest pain, myalgias, arthralgias, hirsutism, cephalgia, insomnia, fatigue, malaise, depression, and anxiety (<http://udaan.org/specialized-treatments/drug-index/>).

Generally speaking, words of foreign origin try to assimilate to the systems of borrowing languages. The example aptly illustrates the adaptation of the noun *cephalgia* to the grammatical system of the English language as it appears in plural (Example 40):

40. Cluster headache or other trigeminal autonomic cephalgias – severe pain on one side of the head. (<http://www.diamondchildrens.org/services/headache-facial-pain>)

In order to summarize the capability of the studied lexical units to function either in singular or plural or both grammatical numbers and in this way to adapt to the grammatical structure of the studied languages, we calculate the proportional representation of the keywords according to this criterion.

Table 3: Percentage manifestation of the studied lexical units in singular and plural

	singular	plural
<i>golovnaya bol'</i>	golovnaya bol' (75.4%)	головные боли (24.6%)
<i>migren'</i>	migren' (78.4%)	мигрени (21.6%)
<i>tsefalgiya</i>	tsefalgiya (87.3%)	цефалгии (12.7%)
<i>headache</i>	headache (83.7%)	headaches (16.3%)
<i>migraine</i>	migraine (86.1%)	migraines (13.9%)
<i>cephalgia</i>	cephalgia (92.8%)	cephalgias (7.2%)

3. Conclusions

Morphological and lexico-semantic characteristics of lexical units *golovnaya bol'*, *migren'* and *tsefalgiya* in Russian Web 2011 (ruTenTen11) and *headache*, *migraine* and *cephalgia* English Web 2015 (enTenTen15) copy general principals of grammatical system functioning in contemporary language and at the same time, they reflect the needs of the languages users, which include various extralinguistic factors (sociological, psychological and others).

The other related and fundamental issue made about the investigated lexical units concerns their mutual interchangeability in numerous contexts. This phenomenon is predetermined by several factors:

- all lexical units in question are semantically related;
- the users of the language do not always perceive the discrete semantic nuances of individual words;
- the real utilization of words is strongly tied to extralinguistic reality;
- its frequent occurrence confirms the centrality of this phenomenon within the investigated field.

The aim of our research is to investigate the lexical units functioning as nouns. However, some of the English nouns undergo the processes of conversion; in our context the noun *migraine* becomes an adjective modifying another noun studied by us *headache* (Example 41).

41. Others may suffer from tension cluster or migraine headaches.
(<http://www.4fcrops.eu/headacheh/6027-headache-certification-exam-post-concussion-treatment-s/>)

The results presented above lead to several recommendations for teachers of English how to elaborate vocabulary in the teaching process (e. g. semantic compatibility, collocations, and morphological characteristics). Furthermore, this

paper might contribute to the understanding of processes which underline the choice of lexical units in given contexts both from linguistic and psychological points of view.

The methodology employed in this paper might encourage future studies in the area of corpus linguistics focusing on specific issues not only from general English but ESP as well.

References

- Baker, Paul. (ed.) 2012. *Contemporary Corpus Linguistic*. 2nd ed. New York: Continuum.
- Baker, Paul, Hardie, Andrew and McEnery, Tony. 2006. *A Glossary of Corpus Linguistics*. Edinburgh: Edinburgh University Press. <https://doi.org/10.1515/9780748626908>
- Cowie, Anthony, P. 2009. *Semantics*. Oxford: Oxford University Press.
- Galperin, Romanovich, I. 1981. *Stylistics*. 3rd ed. Moscow: Vysshaya škola.
- Gózdź-Roszkowski, S. 2019. Marriage, Liberty and Constitution: A Corpus-assisted Study of Value-laden Words in Legal Argumentation. *Research in Language*. [Online] Sciendo Database 17: 1. 71-91. Available from: <https://content.sciendo.com/view/journals/rela/17/1/article-p71.xml>. [Accessed: 2nd January 2022] <https://doi.org/10.2478/rela-2019-0006>
- Halliday, M. A. K. et al. 2004. *Lexicology and Corpus Linguistics: An Introduction*. London: Continuum.
- Leláková, Eva, Grajciar, Lukáš. 2018. *Lexico-semantic study of the English noun "cave" based on dictionary and corpus analyses*. *Vyssheye gumanitarnoye obrazovaniye XXI veka: problemy i perspektivy: materialy trinadcatoy mezhdunarodnoj nautchno-prakticheskoy konferencii*. 120-123. Samara.
- McEnery, Tony and Hardie, Andrew. 2012. *Corpus Linguistics: Method, Theory and Practice*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511981395>
- Meyer, Charles F. 2004. *English Corpus Linguistics: An Introduction*. Cambridge: Cambridge University Press.
- Oxford Dictionary of English*. 2008. 2nd ed. Oxford: Oxford University Press.
- Quirk, Randolph at al. 1985. *A Comprehensive Grammar of the English Language*. Essex: Longman.
- Scovel, Thomas. 1998. *Psycholinguistics*. Oxford: Oxford University Press.
- Spolsky, Bernard. 1998. *Sociolinguistics*. Oxford: Oxford University Press.
- Yule, George. 1996. *Pragmatics*. Oxford: Oxford University Press.

Sources

- English Web 2015 (enTenTen15). [Online] Available from: <https://app.sketchengine.eu/>. [Accessed: 2nd January 2022]
- Russian Web 2011 (ruTenTen11). [Online] Available from: <https://app.sketchengine.eu/>. [Accessed: 2nd January 2022]