

## Cognitive and Onomasiological Models of the Names of Pharmaceutical Forms in Comparative Perspective

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**Abstract.** The article examines the cognitive and onomasiological peculiarities of the Ukrainian names of medicinal forms of medical preparations from the standpoint of diachronic onomasiology. The etymology of the names of dosage forms was studied, their classification by the criterion of "language-source" was undertaken. Within a cognitive approach, the division of the following nominative units into eight groups in terms of "onomasiological basis" was proposed.

**Keywords:** *onomasiology, etymology, onomasiological base, language-source, dosage form.*

Medical students and pharmacists are faced with a large number of nominative units for the denotation of dosage forms. Well-known names, at first glance, should not cause questions. However, in reality, students operate with terms, the essence of which is often not fully understood. And, of course, a misunderstanding of the essence of the name makes it impossible to fully understand the essence of the functioning of a nominative unit. Thus, studies in the field of etymology and nominative features of the names of dosage forms for their correct interpretation remain relevant. Most often, the names of medicinal forms and elements of their etymology are described in the corresponding sections of medical and pharmaceutical textbooks and tutorials [3, 6, 7], while their thorough study is quite rare [2, 8].

**The aim of the work** is to study the etymology and onomasiological structure of the most common Ukrainian names of medicinal forms, and also classify them according to the parameter "onomasiological basis".

**The goal** was to solve such problems: sampling, etymological analysis of names and their classification according to the parameters "source-language" and "onomasiological basis".

**The object** of the study are the Ukrainian names of medicinal forms of preparations, the subject is the cognitive and onomasiological features of the formation of these nominathemes.

The material for analysis was nominathemes, selected by the method of continuous sampling from pharmaceutical reference books and nomenclatures of dosage forms. The total number of names studied was 140: 69 in Latin and 71 in Ukrainian.

The method of etymological analysis, the comparative method, the method of component analysis, the descriptive method and the method of formalizing the obtained results were used in the work.

**Scientific novelty** of the work is seen in the development of cognitive and onomasiological classifications of names of medicinal forms.

The study of the selected nominative pairs in the etymological and onomasiological perspectives made it possible to draw a number of conclusions regarding the features of the formation of these names.

Etymological analysis of the Ukrainian nominathemes has shown that most of the Ukrainian names of medicinal forms are borrowed (often through an intermediary language). The "language-source" parameter is dominated by nominative units that have Latin roots (26 units - 37%). Quantitative indices for this parameter are 35% for liquid, 50% for solid, 36% for soft forms.

Nominathemes with Proto-Slavic roots number 19 units

(27%); Greek - 12 units (17%); French, Hindi, Arabic, Italian, Proto-Indo-European - 2 units (3%) respectively, as well as borrowings from Polish, Chinese, German and mixed Greek-Latin roots - 1 unit (1%), respectively.

At the same time, the frequency of use of the Ukrainian proper names is about 27%. However, even in these cases, cognitive and onomasiological models of the original Ukrainian names retain similarities with models of Latin building forms. This fact can be explained by the certain universality of the cognitive mechanisms involved by man in the process of cognition and description of the world around him.

For example, Ukr. **відвар** (from the verb варити (Eng. to cook) and Lat. decoctum (from the verb decoquere "boil"). In this case, the same onomasiological signs "process", "duration", "heating", "boiling", "water" are foregrounded. Or the Ukr. **порошок** (Eng. powder) from Proto-Slavic (PS) \**porъxъ* "пыль" (Eng. dust) and Lat. **pulvis, eris m** - from Proto-Indo-European (PIE) \**pel-* "dust, ash", with the actualization of the onomasiological sign of "the nature of the substance". Ukr. **присунка** from PS *суну*, *сѣну* "сипать" (Eng. to dust) and Lat. **aspersio, ōnis f** from aspergere "dust"; Ukr. **мазь** from PS \**mazati* and Lat. **unguentum, i n** from Lat. *ungere* "to smear" - a sign of "method of application". Ukr. **ковток** from PS *klъti* "колътати, глотати" (Eng. to swallow) and Lat. **haustus, us m** from Lat. *haurire* "to swallow" from PIE \**h<sub>2</sub>ews-*; Ukr. **напій** from PS *piti* and Lat. **potio, onis f** from Lat. *potare* "to drink" from PIE \**po-/pi-* "drink" - a sign of "the way of taking medicine". Ukr. **зірчичник** (Eng. mustard plaster) from PS \**gorьkъ* "горький" (Eng. bitter) and Lat. **sinapismus, i m** from lat. *sināpis* "mustard". Ukr. **плівка** from PS *pleva* "thin shell" and Lat. **membranūla, ae, f** - diminutive from of the Lat. *membrāna, ae, f* "skin, shell".

It is necessary to emphasize that some names of dosage forms have got into modern terminology mediated through an intermediary language. Statistical calculations showed the following quantitative characteristics of the total number of Ukrainian names: borrowings through English is 3 units (4%), through French - 8 units (11%), German - 2 units (3%), Polish - 1 unit (1%), through Latin - 2 units (3%). This fact determines, as a rule, the features of the external form of such a nominathemes. Their grammatical design is different from the usual Latin paradigm. So, the nomenatheme **emulsum** (Ukr. емульсія) was borrowed by the Ukrainian language from Fr. **emulsion**, which caused the difference of the final word-building elements of the Latin and Ukrainian variants. The French language became an intermediary in the cases of nominathemes of **лосьйон, драже, еліксир** (Eng. lotions, dragees, elixirs) (compare Lat. **lotio** and French **lotion**, Greek **tragemata** and French

*dragee*, Arabic الإسكندر الـ (al-iksir) and Fr *elixir*); English was intermediary for шампунь, спрей (Eng. shampoo, spray) (compare *shampoo* from Hindi *chāmphā* "knead, crush" and *spray* from German *spreu* "flying" from *sprühen* "drizzle").

Interesting was the case of borrowing of the name of *chai* (Eng.tea), which became a synonym for the name of

the dosage form - *zōip* (tea from Chinese 茶 "tea"). The North-Chinese version of *chā* pronunciation was updated in Ukrainian, whereas the new-Latin name *thea, ae f* was created on the basis of French *thé*, which retained the South Chinese version of the pronunciation *tē*.

**Table 1.** General classification by the criterion "language-source "

Latin variant	Ukrainian variant	Language-source
Liquid dosage forms		
1. Auristilla, ae f	1. Вушні краплі	Latin / Proto-Slavic
2. Balsamum, i n	2. Бальзам	Greek
3. Collutorium, i n	3. Коллуторій	Latin
4. Concentratum, i n	4. Концентрат	Latin
5. Decoctum, i n	5. Відвар	Latin / Proto-Slavic
6. Dispersio, onis f	6. Дисперсія	Proto-Indo-European / Latin
7. Elixir, iris n	7. Еліксир	Arabic /via French
8. Emulsum, i n	8. Емульсія	Latin /via French
9. Extractum, i n	9. Екстракт	Proto-Indo-European / via Latin
10. Gutta, ae f	10. Крапля	Latin / Proto-Slavic
11. Haustus, us m	11. Ковток	Proto-Indo-European / Proto-Slavic
12. Infusum, i n	12. Настій	Proto-Indo-European / Proto-Slavic
13. Inhalatio, onis f	13. Інгаляція	Latin
14. Irrigatio, onis f	14. Омивання	Latin
15. Laccum, i n	15. Лак	Hindi / via German
16. Linctus, us m	16. Лінктус	Latin
17. Lotio, ōnis f	17. Лосьйон	Latin / via French
18. Magma, ātis n	18. Магма	Greek
19. Mixtura, ae f	19. Мікстура	Latin
20. Mucilāgo, īnis f	20. Слиз	Greek / Proto-Slavic
21. Naristilla, ae f	21. Краплі для носа	Latin / Proto-Slavic
22. Oculogutta, ae f	22. Краплі для очей	Latin / Proto-Slavic
23. Oleum, i n	23. Олія	Greek / via latin
24. Opodeldocum, i n	24. Оподельдок	Italian
25. Potio, onis f	25. Напій	Proto-Indo-European / Proto-Slavic
26. Saturatio, onis f	26. Сатурація	Latin
27. Shampoo	27. Шампунь	Hindi / via English
28. Sirupus, i m	28. Сироп	Arabic / via French
29. Solutio, onis f	29. Розчин	Latin
30. Spuma, ae f	30. Піна	Proto-Indo-European / Proto-Slavic
31. Succus, i m	31. Сік	Proto-Indo-European / Proto-Slavic
32. Suspensio, onis f	32. Суспензія	Latin
33. Thea, ae f	33. Чай	South Chinese / North-Chinese
34. Tinctura, ae f	34. Настоянка	Proto-Indo-European / Proto-Slavic
Solid dosage forms		
1. Aspersio, ōnis f	1. Присипка	Latin / Proto-Slavic
2. Briketum, i n	2. Брикет	French
3. Capsula, ae f	3. Капсула	Latin
4. Caramel, is m	4. Карамель	Latin / via French
5. Dragee	5. Драже	Греческий /через французский
6. Glossetta, ae f	6. Глоссета	Greek
7. Granulum, i n	7. Гранула	Proto-Indo-European
8. Implantum, i n	8. Імплантаг	Latin / via German
9. Lyophilisatum, i n	9. Ліофілізат	Greek
10. Pastila, ae f	10. Пастилка	Latin
11. Peletta, ae f	11. Пелетта	Latin
12. Pilula, ae f	12. Пігулка, пілюля	Latin /via Polish Latin / via French
13. Pulvis, eris m	13. Порошок	Proto-Indo-European / Proto-Slavic
14. Solvella, ae f	14. Солвелла	Latin
15. Spansūla, ae f	15. Спансула	Greek
16. Stilus, i m	16. Стілуc, олівець	Greek
17. Tabuletta, aef	17. Таблетка	Latin / via French
18. Trochiscus, i m	18. Троше	Greek / via English

Latin variant	Ukrainian variant	Language-source
Soft dosage forms		
1. Bacillus, i m	1. Паличка	Latin / Proto-Slavic
2. Cremor, oris m	2. Крем	Greek / French
3. Emplastrum, i n	3. Пластир	Greek
4. Gel (gelum, i n)	4. Гель	Latin
5. Globulus, i m	5. Кулька	Latin / Polish
6. Lamella, ae f	6. Ламелла	Latin
7. Linimentum, i n	7. Лінімент	Latin
8. Membranula, ae, f	8. Плівка	Latin / Proto-Slavic
9. Ovulum, i n	9. Овуль	Latin
10. Pasta, ae f	10. Паста	Italian
11. Pessarium, i n	11. Пессарій	Greek
12. Sinapismus, i m	12. Гірчичник	Latin / Proto-Slavic
13. Suppositorium, i n	13. Супозиторій Свічка	Latin Proto-Slavic
14. Unguentum, i n	14. Мазь	Latin / Proto-Slavic

Latin variant	Ukrainian variant	Language-source
Gaseous dosage forms		
1. Aërosōlum, i n	1. Аерозоль	Greek-Latin
2. Gasum, i n	2. Газ	Greek
3. Spray	3. Спрей	German / via English

Cognitive and onomasiological analysis of the nominathemes for dosage forms revealed major variations actualized in the names of the onomasiological basis “effect, the result of the” (27 units - 38%: **екстракт, емульсія, інгаляція, ковток, коллуторій, концентрат, краплі для носа, краплі для очей, лінктус, лосьйон, мікстура, напій, настій, настоянка, омивання, розчин, сатурація, суспензія, шампунь, ліофілізат, присипка, солвелла, мазь** (Eng. extract, emulsion, inhalation, ingestion, collagen, concentrate, drops for the nose, eye drops, conjunctiva, lotion, mixture, drink, infusion, tincture, irrigation, solution, saturation, suspension, shampoo, lyophilizate, powder, solvella, ointment), “similarity” (32 units - 45%: **сироп, сік, слиз, чай, таблетка, капсула, пігулка, пілюля, гранула, порошок, драже, брикет, стілу, троше, пелетта, паста, пластир, гірчичник, плівка, ламелла, овуль, кулька, пессарій, паличка, крем, газ** (Eng. syrup, juice, mucus, tea, tablet, capsule, pill, pill, granule, powder, dragee, briquet, stylus, troche, pellet, paste, patch, mustard plaster, membrane, lamella, ovule, globule, pessary, bacillus, cream, gas), “material” (3 units - 4% **карамель, свічка, гірчичник** (Eng. caramel, suppository, mustard plaster), “method” (5 units - 7%: **імплантат, пастилка, супозиторій, аерозоль, спреї** (Eng. implant, pastil, suppository, aerosol, spray), the “place” (1 unit - 1.5%: **глоссета** (Eng. glossete), “size” (1 unit - 1.5%: **спансула**) “integer part” (1 unit - 1.5%: **олія** (Eng. oil), “effect” (1 unit - 1.5%: **гель** (Eng. gel).

Thus, according to the classifier “onomasiological basis”, the selected names are divided into eight groups. For example, **лінктус** (Eng. linctus) - Lat. *linctus* from *lingere* “to lick”. These preparations are made on the basis of syrups with various pharmacologically active substances (sweet mixture). **Коллуторій** (Eng. collutory) - Lat. *collutorium, i n* from *colluere* “to cleanse”. A collutory is a liquid for washing the oral cavity. In these examples, the basis “action, result of action” is foregrounded. **Капсула** (Eng. capsule) - Lat. *capsula* “box”, a diminutive from the Lat. *capsa* “container, case, box”. The “similarity” basis is foregrounded. Onomasiological basis of “material” is

actualized in the example of a **свічка** from the PS *\*světja* “светлый” (Eng. light), namely, the similarity of the material and its properties, but not the purpose); basis “way”: **супозиторій** (Eng. suppository) from Lat. *suppositorium* “suppository, located below”; basis “location”: **глосетта** (Eng. glossete) - lat. *glosseta* from Greek *glossa* “tongue”; basis “size”: **спансула** (Eng. spansule) - Lat. *spansula* - new-Lat. from Greek- *span(ios)* “scanty” + (cap)sule “capsule”; basis “part of the whole (metonymy)”: **олія** (Eng. oil) - from PS *\*oleja* via Lat. *oleum* from Greek. *έλαιον* from *ἐλαία* “olive tree”; basis “effect”: **гель** (Eng. gel) - Lat. *gelum* from Lat. *gelu, us n* “frost, ice”.

The most actualized bases are “similarity” (32 units - 45%) and “action, result of action” (27 units - 38%). The “similarity” parameter is the most frequent for soft (9 units - 60%) and solid (11 units - 56%) dosage forms, while the criterion “action, result of action” is more often onomasiological basis for the names of liquid dosage forms (22 units - 65%). From the cognitive point of view, such results are explained by the peculiarities and conditions for the creation of the names of medicinal forms. The manufacture of any dosage form involves the presence of a process, therefore, in the names of the forms, the onomasiological signs of “process”, “time”, “duration”, “method” are frequently foregrounded. Also, in the process of terminology creation specialist often applies comparative mechanisms, finding similarities with already known objects of use, natural phenomena, etc.

In a number of cases it is possible to expand the cognitive and onomasiological model of the name at the expense of additional differential characteristics. So, for dosage forms, **настій** (Eng. infusion) from PS *stojati* and Lat. *infusum* from *infundere* “to infuse” from the PIE *\*gheud-* “to pour”; **настоянка** (Eng. tincture) from PS *stojati* and Lat. *tinctura* from *tingere* “to dye” from PIE *\*teng-* “to soak” is identical the basis “action, result of action”. Both Latin and Ukrainian nominathemes are verbal nouns. However, when comparing the Ukrainian and Latin equivalents, there is a presence in their meaning of differential onomasiological signs. Thus, in the models of the names of **настій** (Eng. infusion) and **настоянка** (Eng. tincture), the

sign “duration, time” is verbalized, whereas the method of preparation is actualized for the Latin nominative units.

In the example, *емульсія* (Eng. emulsion) - Lat. *emulsum* from Lat. *emulgere* “to milk” is verbalized the basis of “action”. But the fact that the “similarity” is based on a comparison with milk is additionally actualized. A typical example of natural emulsions is milk.

Of particular interest are cases of complex names of medicinal forms (composites). In Ukrainian, such names as **краплі для очей** (Eng. eye droplets), **краплі для носа** (Eng. nasal drops), **вушні краплі** (Eng. ear drop)s are compound names with an analytically distinct onomasiological symptom of “place”, whereas their Latin equivalents **oculogutta**, **naristilla**, **auristilla** are formed by

a basis, verbalizing the bases “place” and “action” (**oculogutta** from *oculus* “eye” and *gutta* “drop”, **naristilla** from *naris* “nostril” and *stillare* “to drop”, **auristilla** from *auris* “ear” and *stillare* “to drop”).

In the course of studying the Ukrainian names of medicinal forms, the features of their onomasiological models were revealed, their general and different features were established, and classifications were made according to the parameters of the “language- source” and “onomasiological basis”.

The prospect of further research is the derivation analysis of given nominathemes and modeling of their values, as well as a comparative analysis of onomasiological models of Ukrainian and English names.

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#### Когнитивно-ономасиологические модели названий лекарственных форм в компаративном ракурсе

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**Аннотация.** В статье рассмотрено когнитивно-ономасиологические модели построения украинских названий лекарственных форм медицинских препаратов с позиций диахронической ономасиологии. Изучено этимологию названий лекарственных форм, проводится их классификация по параметру «язык-источник». Предложено в рамках когнитивного подхода деление данных номинативных единиц на восемь групп по параметру «ономасиологический базис».

**Ключевые слова:** ономасиология, этимология, ономасиологический базис, язык-источник, лекарственная форма.