

LEASECON 2021
Conference on Land Economy and Rural Studies Essentials**SPECIFICITY OF VETERINARY LATIN TERMINOLOGY IN THE
CONTEXT OF TEACHING PRACTICES**

Ekaterina A. Abrosimova (a), Irina V. Kulamikhina (b)*, Elena A. Hudinsha (c),
Liliya F. Rakhuba (d), Marianna G. Boyko (e)

*Corresponding author

(a) Omsk State Agrarian University named after P.A. Stolypin, 1, Institutskaya ploschad str., Omsk, Russia,
abrosimova@inbox.ru,

(b) Omsk State Agrarian University named after P.A. Stolypin, 1, Institutskaya ploschad str., Omsk, Russia,
irakula@yandex.ru,

(c) Logistic Support Military Academy Branch Omsk Tank Automotive Engineering Institute, 14 Vojenny gorodok,
Cherjomushky, Omsk, Russia, hudelena@mail.ru,

(d) Siberian State Automobile and Highway University, 5, Prospekt Mira str., Omsk, Russia, lira_omsib@mail.ru

(e) Logistic Support Military Academy Branch Omsk Tank Automotive Engineering Institute, 14 Vojenny gorodok,
Cherjomushky, Omsk, Russia, mari_leonid@inbox.ru

Abstract

In veterinary education, a special attention should be paid to teaching students a Latin language course. The main objective of this course is to make students competent in using veterinary Latin in the study and future veterinary practices. Veterinary Latin terminology has some distinctive features that define methodology of Latin teaching practices at university. The present work focuses on specificity of veterinary Latin terminology in comparison with the medical one to improve terminological training of veterinary students. The research involves the study of veterinary terminology, analysis of standard documentation, textbooks and reference books for animal and food safety and inspection veterinarian students. The findings reveal a tendency to simplification and even ignoring of basic rules concerning the usage of veterinary Latin terms (grammatical and spelling aspects) in the prescriptions. Having an animal body as an object of terminological description, veterinary terminology is more diverse in its subject matter with its own traditions of constructing and using terms in comparison with the medical Latin terminology.

2357-1330 © 2022 Published by European Publisher.

Keywords: Latin language, medical Latin terminology, veterinary education, veterinary Latin terminology, veterinary prescription form



This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 Unported License, permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

1. Introduction

Teaching terminology has become a central issue in veterinary education. Terminological competence of students, teachers and practicing professionals ensures continuity and stability of professional knowledge, promotes professional cooperation and communication (Kulamikhina et al., 2020). Of particular concern is veterinary terminology which is a rather specific phenomenon. Despite its closeness to general medical terminology, it has a number of distinctive features that require special attention when developing and teaching a Latin language course at University. Having thematic, lexical and syntactic affinity with medical Latin terminology, veterinary Latin terms have their own specifics directly related to the object of terminological description which is an animal body, not a human one. In addition, veterinary terminology has its own traditions of constructing and using terms. Veterinary Latin includes a wider variety of terms. Veterinary students must study traditional anatomical, clinical and pharmaceutical terminology as well as general biological terms. Also, anatomical terminology is studied by veterinarian students in several variants because organs and systems of different animal species have significant differences, which is reflected in the terms. Since the anatomical position of the animal's body is in the horizontal plane as opposed to the vertical one, which is typical for humans, there are changes in the terminology reflecting “spatial coordinates”. For example, the adjectives “anterior” – “posterior”, “cranialis” – “caudalis” and some others have a slightly different meaning in veterinary terminology than in medical terminology.

2. Problem Statement

From the scientific point of view, veterinary Latin has always been “in the background” of medical terminology. Little research has been done in relation to the specifics of veterinary Latin and how these specifics define methodology in teaching practices.

3. Research Questions

The present study discusses the following research questions:

1. How is veterinary Latin terminology different from medical Latin terminology?
2. How do the specifics of veterinary Latin affect teaching practices in veterinary education?

4. Purpose of the Study

The purpose of our study is to identify the specificity of veterinary Latin terminology and its differences from medical Latin terms through the study of veterinary terminology, textbooks and reference books for animal and food safety and inspection veterinarian students.

5. Research Methods

The following research methods have been used in the study: veterinary terminology comparative analysis, veterinary Latin textbooks and reference books analysis, standard documentation analysis.

6. Findings

Nowadays, there is a definitely small body of literature that is concerned with veterinary Latin as a specific phenomenon different from general medical terminology (Goryaev, 2019; Kiryukhin, 2018a, 2018b). Traditionally, researchers focus on the Latin language issues in the context of “human” medicine. Veterinary Latin terminology issues are discussed at methodological seminars and conferences in addition to the problems of teaching the Latin language to medical students. However, veterinary Latin has special features that influence teaching methodology in university practices. In our work, we will consider these features and identify differences between veterinary and medical Latin terminology for better teaching practices in veterinary education.

The first distinctive feature of veterinary Latin is the indeterminacy of the vocabulary of subject areas. In various textbooks and reference books, the authors include different volume of the obligatory terminology: zoological, botanical, mycological, anatomical, clinical and pharmaceutical. If medical students focus on anatomical terminology with the addition of clinical and pharmaceutical ones, veterinary students also have to study the nomenclature of plants and animals, and sometimes fungi, viruses and bacteria.

The second feature is associated with a less detailed study of anatomical terminology by veterinary students in comparison with medical students. However, students majoring veterinary medicine study anatomy of various animals such as cows, horses, goats, sheep, pigs, dogs, cats, and also birds such as chickens, ducks, geese, as well as exotic animals, fish and even insects. Since the anatomy of different types of animals varies, students have to deal with different variants of anatomical terminology. For example, blood vessels and peripheral nerves are described specifically for different groups of animals beginning with the designation of the genus, class, order in the veterinary nomenclature (Zelenevsky, 2013).

The third feature is connected with the difference in the anatomical position of the animal and human body. In accordance with the International Veterinary Anatomical Nomenclature, the direction of the animal's body has a different designation compared to the direction of the human body. After the adoption of the Basel Anatomical Nomenclature, it has become apparent that it is not suitable for veterinary medicine for two reasons. Firstly, it is impossible to apply terms suitable for the vertically oriented human body to the horizontally oriented animal's body. Secondly, according to the Basel nomenclature, the thoracic limbs are considered in the supination position, but most of the animals are not able to hold the limbs in this position. The International Veterinary Nomenclature was approved in Paris only in 1967, and in 1971 the basic rules for designating the directions of the animal's body were proposed. For example, the terms “cranialis” and “caudalis” are used in relation to the neck, trunk, tail and limbs up to the level of the end of a forearm and a lower leg; the terms “dorsalis” and “palmaris” are used to describe a hand, and the terms “dorsalis” and “plantaris” are used in relation to a foot. To describe the structures of the head, it was recommended to use the terms “rostralis”, “caudalis”, “dorsalis” and “ventralis”. The terms “anterior”, “posterior”, “superior” and “inferior” are used only for characterizing the eyeball, eyelids and inner ear. “Medialis” and “lateralis” are recommended for the whole body, except

for the designation of the side of the fingers in some domestic mammals (“axialis” and “abaxialis” should be used) (Zelenevsky, 2013).

However, even after the adoption of Zelenevsky (2013), some contradictions and inconsistencies remain, which are noted by researchers. For example, the adjectives “cranialis” – “caudalis”, in addition to the main meaning “cranial” – “caudal”, convey a spatial meaning: “directed towards the skull (anterior)” and “directed towards the tail (posterior)”, which leads to contradictory combinations such as “arteria temporalis profunda caudalis” (literally it means “deep temporal tail artery”) (Goryaev, 2019). The same can be said about a pair of terms “dorsalis” – “ventralis”, which received the additional meaning “upper” – “lower” (towards the back or stomach).

The fourth distinctive feature of veterinary Latin is associated with the poor quality of editions of reference books, textbooks and other teaching materials apart from the well-established ones (unfortunately, the latter are not reprinted at the present time). Those contain numerous errors and inaccuracies. There is a consideration that veterinarians are not very concerned with the state of terminology because errors in spelling, incorrect explanation of the origin of words, wrong forms of number, gender and case have been noted in numerous reference books for decades. As a result, Latin and Greek words and term elements in reference books on veterinary medicine are often incorrect. Moreover, mistakes are ignored. None of the current literature on veterinary terminology raises the question of poor terminological literacy. In 1981, academician Orlov (2009) made his report on the topic “The state and tasks of nosology of animal helminthiasis” at a scientific conference of the All-Union Society of Helminthologists. The thesis was published only in 2009. The scientist focused the attention of the scientific community on significant inaccuracies in the names of parasites and diseases caused by them. Orlov (2009) stated that in most editions of current textbooks, reference books and even in the veterinary encyclopaedia, the rules of producing scientific names of diseases had not been observed. As a result, the quality of presentation of scientific information was very poor and it did not meet international standards (Orlov, 2009).

The fifth feature is connected with the veterinary prescription form which is not standardized in full. In textbooks on veterinary pharmacology, the authors make reference to Order No. 328 of 23.08.1999 of the Ministry of Health of Russia “On the rational names of drugs, the rules for prescribing them and the procedure for their selling by pharmacies (organizations)” (Vashchekin & Malovasty, 2020). The rules for filling out a part of the prescription form in Latin in veterinary medicine should be identical to the rules adopted in medicine. At the same time, veterinary terminology is based on the International Code of Botanical Nomenclature, the International Pharmacopoeia, and the Register of Uniform International Nonproprietary Names of Medicinal Substances.

On the other hand, there is the Order of the Ministry of Agriculture of the Russian Federation N 761 of December 17, 2020, “On approval of the procedure for prescribing medicinal products for veterinary use, the type of a prescription form for a medicinal product for veterinary use, and the procedure for issuing these prescription forms, their accounting and storage”. This order does not provide recommendations on the use of the Latin language in the prescription. In addition, the sample prescription form does not contain any Latin words or phrases at all. This order is due to enter into force on September 1, 2021, and is likely to serve as a reason to revise the rules for prescribing drugs in the courses of

veterinary Latin and veterinary pharmaceuticals. However, until now veterinary doctors have followed general medical rules for prescriptions, though there has been a reduction and violation of these rules.

For example, in the veterinary pharmacology guidelines by N.B. Boychenko & V.A. Kolesnikov (2014), there are examples of the nominative case in the prescription (with the declension of the agreed attribute):

Rp.: Carbo activati 100.0

D. S. Take orally.

20 grams per 5 litres of water for gastric lavage.

In the next example, the word “flowers” (chamomile) is in the plural form in the accusative case, while the rest of the components are in the genitive case. There is a spelling mistake in the word “Quercus”:

Rp. : Folii Salviae

Flores Chamomillae ana 20.0

Corticis Qercus 30.0

Olei Terebinthinae XV gtt

M., f. species

D. S. For irrigation. Add 2 table spoonfuls to 1 litre of boiling water (Boychenko & Kolesnikov, 2014).

In the following prescription, the word “aqua” is in the nominative case, which is a mistake, and not simplification of grammar (the attribute “destillatae” is in the genitive case):

Rp. : Olei jecoris Aselli 20 ml

Gelatosae 10.0

Aqua destillatae ad 200 ml

M., f. emulsum

D. S. Take orally. 2 table spoonfuls 3 times a day.

In the textbook by Lyandesberg and Golikov (1952), there is an example of the wrong usage of the accusative case instead of the genitive case in the prescription:

Rp. : Unguentum Hydrargyri cinerei (Lyandesberg & Golikov 1952, p. 152).

Besides, many mistakes are made in the usage of the accusative case in textbooks. In the well-established textbooks by Wulf (1988), Lyandesberg and Golikov (1952), it is stated that only the genitive case is used in the prescription. The accusative case is used only in relation to the word “drop”: “liquids are prescribed in millilitres (0.1 ml, 20 ml, etc.) or in drops. Drops, unlike grams, are denoted by Roman numerals with the spelling of the word “drops” in the accusative case: one drop - guttam I (Acc. Sing.), Ten drops - guttas X (Acc. Plur.).

For example:

Recipe: Olei Eucalypti guttam I. - Take: 1 drop of eucalyptus oil.

Recipe: Olei Menthae guttas X. - Take: 10 drops of peppermint oil (Wulf, 1988, p. 75).

Also, there are a lot of mistakes in the prescriptions for tablets and suppositories in textbooks. For example, in the textbook by Lyandesberg (1972), nothing is said about the usage of the accusative case in the above cases. However, a sample prescription demonstrates the usage of the accusative case:

*Rp.: **Tabulletam** sulfadimezini (Lyandesberg, 1972, p. 158).*

The author does not give any comments on the form of this word.

In the same way, without any explanation, an example of a prescription with the use of the accusative case is given in the textbook by Belousova and Budytsky (2015), though in the sample prescription the word “tablet” is in the plural form:

*Rp. .: **Tabulletas** “Theophedrinum” No. 20*

Da. Signa (Belousova & Budytsky, 2015, p.124).

Next, in this textbook suppositories are prescribed with the use of the accusative case without any explanation, only examples are given.

In the textbook by Vashchekin and Malovasty (2020), the accusative case is indicated in the prescription: “The second way of writing a prescription includes the starting word “tablets”, which is in the plural form in the accusative case right after the word “Rp.:”. However, this rule is illustrated by a prescription with the use of the genitive case instead of the accusative case and singular form instead of the plural one:

For the dog

*Rp.: **Tabulettae** Sulfadimezini 0.5 No. 20*

D.S. Take orally every 6 hours, one tablet a day with minced meat (Vashchekin & Malovasty, 2020, p.61).

In the same textbook, there is a prescription for tablets in the plural form in the genitive case:

Dog

*Rp.: **Tabulettarum** “Ascophenum” No. 18*

D.S. Take orally. 2 tablets 3 times a day for 3 days. (Vashchekin & Malovasty, 2020, p.63).

In the textbook by W. Wulf (1988), the word “tablet” is used in the singular form in the genitive case:

*Rp.: **Tabulettae** Amidopyrini 0.25*

Dentur tales doses numero 6

Signetur (Wulf, 1988, p.75).

In the textbook by Boychenko and Kolesnikov (2014), the word “tablet” is used in the singular and plural forms in the genitive case:

*Rp.: **Tabulettae** Prednisoloni 0.005 D. t. d. N. 20 S. Take orally. 1 tablet 2 times a day.*

*Rp.: **Tabulettarum** “Ascophenum” N 6 D. S. Take orally. 2 tablets 2 times a day (Boychenko & Kolesnikov, 2014, p.19).*

We have found only one textbook by Shavyrina (2010) explaining the use of the accusative case in prescriptions: “The accusative case is used in prescriptions for tablets, suppositories, aerosols of complex composition with a conventional name, when the components are not listed and their dose is not indicated, because it is standard for this mixture. The name of the medicine is written in quotation marks and after the verb “prescribe” in the accusative case (accusativus), because it is grammatically dependent on the verb.

For example:

Take: 20 tablets of Allochol

Give. Designate.

Recipe: Tabulettas “Allocholum” numero 20

Da. Signa.

The accusative case can be used when prescribing tablets and pills of a simple composition, consisting of one medicinal substance. In this case, the name of the medicine is written in Acc. Sing. The prescription ends in a standard way:

For example:

Take: Tablets of Digoxin 0.0001

Give out such 12 doses,

Recipe: Tabulettam Digoxini 0.0001

Da tales doses numero 12

Suppositories are prescribed in the same way, if their names contain the description of the medicinal substance (Shavyrina, 2010, p. 47).

However, this textbook also contains violation of rules followed in medicine. For comparison, in the textbook by Chernyavsky (2013), there are recommendations on the prescription of tablets and suppositories using the plural form in the accusative case. This rule is applied both to the prescription of tablets of a simple composition and tablets under the trade name (Chernyavsky, 2013).

The sixth distinctive feature of the veterinary Latin is the greater productivity of Latin roots in the formation of terms. According to Goryaev (2019), the root term elements build the whole terminological series though they are of Latin origin and do not have a Greek match. It means that veterinary terminology is not necessarily formed with Greek roots (Goryaev, 2019, p. 10). This refers to the terms such as ruminitis, reticulitis, omasitis, obomasitis.

7. Conclusion

The present work has discussed the most obvious differences between veterinary Latin and general medical Latin. The conclusion was made that the use of the Latin language in veterinary medicine has its specificity. The findings reveal a tendency to simplification and, at the same time, ignoring of grammar and spelling rules with a habit of preserving traditions. Veterinarians seem to be inaccurate about terminology usage, considering the Latin language of little importance and only causing additional difficulties. Moreover, veterinary terminology is objectively more diverse in its subject matter, which leads to the indeterminacy of the vocabulary of subject areas recommended for study in the veterinary education. The ignoring of strict rules concerning the usage of veterinary terms (grammatical and spelling aspects) makes us agree with the conclusion made by Goryaev (2019) that in comparison with the medical Latin terminology, veterinary terminology is even farther from the laws of living languages (p. 10).

References

- Belousova, A. R., & Budylsky, A. I. (2015). *Latin in biology and veterinary medicine*. ZooVetKniga.
- Boychenko, N. B., & Kolesnikov, V. A. (2014). *Veterinary prescription: method. Directions*. Krasnoyarsk State Agrarian University.

- Chernyavsky, M. N. (2013). *Latin language and the basics of pharmaceutical terminology. Textbook* (5th ed.). GEOTAR-Media.
- Goryaev, S. O. (2019). Features of veterinary Latin. In N. G. Nikolaeva, A. V. Ermoshin, & O. S. Paymina (Eds.), *Teaching classical languages in the era of global informatization* (pp. 7-11). Kazan State Medical University.
- Kiryukhin, D. V. (2018a). Olympiad in Latin and ancient culture as a means of forming the creative potential of first-year students. *World of Science. Pedagogy and Psychology*, 2.
- Kiryukhin, D. V. (2018b). The use of adapted and original texts in the classroom in the Latin language on the example of texts about animals. *World of Science. Pedagogy and Psychology*, 4(6).
- Kulamikhina, I. V., Abrosimova, E. A., Esmurzaeva, Zh. B., & Kamysheva, E. Yu. (2020). The content of terminological training of specialists and its implementation based on the pedagogical technology of scaffolding. *Modern Problems of Science and Education*, 4.
- Lyandesberg, Y. S., & Golikov, N. N. (1952). *Latin language. Textbook for veterinary universities and faculties*. Sovetskaya Nauka.
- Lyandesberg, Ya. S. (1972). *Latin language. Textbook for veterinary universities and faculties* (4th ed.). Higher school.
- Order of the Ministry of Agriculture of the Russian Federation N 761 of December 17, 2020 “On approval of the procedure for prescribing medicinal products for veterinary use, the form of a prescription form for a medicinal product for veterinary use, the procedure for filling out these prescription forms, recording and storing them” (2020). Retrieved from <http://ivo.garant.ru>.
- Orlov, I. V. (2009). The state and tasks of nosology of helminthiasis in animals (reported on January 21, 1981 at a scientific conference of the All-Union Society of Helminthologists). *Russian Parasitological Journal*, 1, 10-14.
- Shavyrina, T. G. (2010). *Latin language and the basics of veterinary terminology* (2nd ed.). Russian University of Friendship of Peoples.
- Vaschekin, E. P., & Malovasty, K. S. (2020). *Veterinary prescription* (3rd ed.). Lan.
- Wulf, V. F. (1988). *Latin language and the basics of veterinary terminology*. Agropromizdat.
- Zelenevsky, N. V. (2013). *International veterinary anatomical nomenclature*. Lan.