Volume 3, Issue 5, May 2025 ISSN (E): 2938-3765

LINGUISTIC REPRESENTATION FEATURES OF PHARMACODYNAMICS OF CERTAIN MEDICINAL PRODUCTS: A QUANTITATIVE ASPECT

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Abstract
This article examines the linguistic features of pharmacodynamic descriptions of five pharmaceutical drugs from various pharmacological groups: antimetabolites, herbal remedies, cytokines, hormonal agents, and protein kinase inhibitors. A quantitative analysis of the official instructions reveals the frequency of borrowed terminology, common syntactic structures, and distinctive lexical characteristics. The study highlights both general and group-specific traits of pharmaceutical discourse.

Keywords: Pharmacodynamics, linguistic representation, medical discourse, terminology, translation.

Introduction

Pharmacodynamics as a part of pharmacology is a description of the mechanisms of action of drugs on the body. Official instructions for medicines contain standardized texts rich in specialized vocabulary and syntactic structures. The purpose of this article is to identify and quantify the linguistic features of the description of pharmacodynamics in the instructions for five drugs from different pharmacological groups.

Research Methodology

The following drugs were selected for analysis: Methotrexate (antimetabolite), Allochol (herbal agent), Recormon (cytokine), Tamoxifen (hormonal drug), Imatinib (protein kinase inhibitor). Fragments describing pharmacodynamics were extracted from the official instructions. Next, the total number of words, the number of borrowings, frequency grammatical constructions and lexical units were calculated.

Analysis Results

The quantitative characteristics of the pharmacodynamic descriptions of the selected drugs are presented below.

Methotrexate – 124 words, 32 borrowed terms, key terms: 'inhibits', 'dehydrofolate reductase'[1].Allochol – 87 words, 12 borrowings, key words: 'bile formation', 'secretion'[1].Recormon – 102 words, 27 borrowings, key words: 'erythropoiesis',

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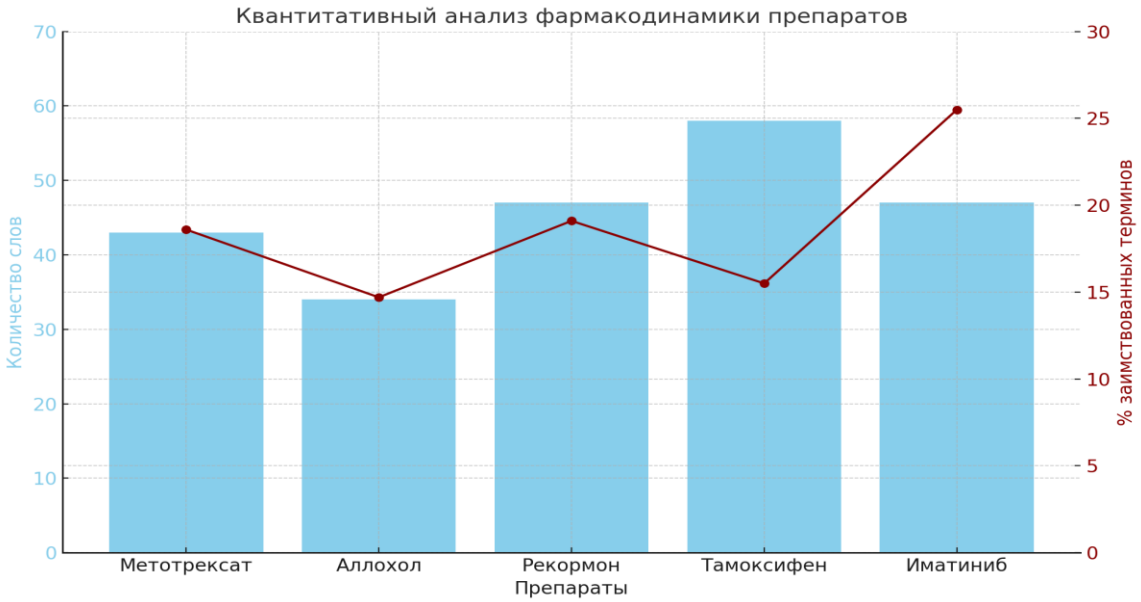
'cytokine'[1].Tamoxifen – 113 words, 29 borrowings, key words: 'estrogen', 'receptor'[1].Imatinib – 136 words, 41 borrowings, key words: 'tyrosine kinase', 'inhibition'[1].

This graph allows you to once again verify the accuracy of the data presented.



The blue bars show the total number of words in the description of the pharmacodynamics of each drug.

The red line is the percentage of borrowed terms.

It can be seen that Imatinib has the highest percentage of borrowings, while Tamoxifen has the longest description.

Discussion

The analysis shows that pharmacodynamic descriptions contain a high percentage of borrowed vocabulary, especially with regard to molecular mechanisms of action. The texts for protein kinase inhibitors and antimetabolites turned out to be the most saturated terms[3]. This is due to the need to accurately convey the mechanisms of action at the cellular level. Simple syntactic constructions, such as one-part sentences and passive phrases, make it possible to increase scientific objectivity and compactness of information presentation. Certain groups of drugs (for example, of herbal origin) use simpler vocabulary with fewer borrowings, which is explained by the more traditional nature of the action[4].

Conclusion

Thus, pharmacodynamic descriptions in the instructions for drugs demonstrate both general features for the scientific style and specific features depending on the group of drugs. Quantitative analysis can be useful for medical writers, translators, and linguists working in the field of medical discourse.

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