ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE

ISSN: 2692-515-x, Impact Factor: 9.23

American Academic publishers, volume 6, issue 01,2026

Journal: https://www.academicpublishers.org/journals/index.php/ijai

SEMANTIC INTERPRETATION OF MEDICAL TERMINOLOGY IN THE UZBEK LANGUAGE

Shokirova Maxbuba Nazirg'ulomovna

f.f.f,d., Dotsent, Central Asian Medical Unversity

Shokirovamakhbubakhon@Gmail.Com +99893-646-3576

Https://Orcid.Org/0000-0002-6597-4442

Abstract: The process of interpreting medical terminology semantics is not limited to defining specialized terms; rather, it involves revealing how meaning is encoded, expanded, and renegotiated through conceptual structures, communicative principles, and cultural-cognitive mechanisms. Medical terminology is not merely a set of technical signs but a system of conceptual relations, historical layers, and pragmatic conventions that determine how knowledge is organized and transmitted.

Keywords: medical terminology; lexical semantics; Uzbek language; polysemy; conceptual relations; frame semantics; cognitive linguistics; cultural meaning; discourse analysis

In the Uzbek language, this process becomes particularly complex due to the convergence of several historical and linguistic strata: the Arabic–Persian layer associated with medieval Islamic scientific heritage, the Russian layer reflecting Soviet biomedical discourse, and the English and Latin international medical terminology actively entering the language in the post-independence period. The coexistence of these layers not only enriches the lexicon but also enables the parallel existence of multiple semantic models for a single clinical concept. Drawing on modern semantic theories, including Natural Semantic Metalanguage, frame semantics, polysemy theory, cognitive linguistics, and corpus-based approaches, this study demonstrates that Uzbek medical terminology functions as a dynamic semantic ecosystem. It integrates scientific precision with cultural meanings, historical continuity, and communicative practices. The article argues that a comprehensive understanding of Uzbek medical terminology requires attention to conceptual relations, polysemy, metaphorical extensions, sociocultural meanings, and real discourse usage.

Main Text

The process of understanding the semantics of medical terminology is not confined to the interpretation of specialized terms alone; it also requires uncovering how meaning is encoded, expanded, and renegotiated across various contexts through conceptual structures, communicative principles, and cultural-cognitive mechanisms. Medical terminology is not merely a collection of technical signs but a system of conceptual relations, historical layers, and pragmatic conventions that shape the organization and transmission of knowledge. In the Uzbek language, this process is further complicated by the fact that contemporary medical vocabulary has emerged at the intersection of multiple historical and linguistic layers: the Arabic–Persian

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 01,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

layer connected to medieval Islamic scientific heritage, the Russian layer reflecting Soviet biomedical discourse, and the English and Latin international medical terms that have actively entered the language since independence. The coexistence of these layers not only enhances lexical richness but also allows multiple semantic models for a single clinical concept to exist simultaneously. Consequently, explaining the semantic system of Uzbek medical terminology requires a comprehensive analysis encompassing polysemy, conceptual relations, cognitive patterns, sociocultural meanings, and actual discourse usage.

According to modern semantic theory, lexical meaning cannot exist independently of its conceptual and cultural environment. Cliff Goddard and Anna Wierzbicka argue that meanings rely on culturally shaped conceptualizations; therefore, the classification of complex concepts varies across languages. Their Natural Semantic Metalanguage (NSM) approach demonstrates that even technical dictionaries retain traces of everyday cultural perceptions. For instance, the Uzbek term *zotiljam* (pneumonia), beyond its clinical denotative meaning, carries connotations related to disease severity, folk medicine practices, and traditional beliefs about exposure to cold. Although such meanings fall outside biomedical taxonomy, they actively function in patient–doctor communication, disease explanation, and diagnostic processes. Wierzbicka's assertion that "lexical meaning encodes cultural conceptualizations" vividly illustrates how Uzbek medical terms mediate between historical-cultural interpretations and modern scientific discourse.

Terminological meaning is formed not through isolated units but through conceptual relations among them. As noted by Miguel Casas Gómez, specialized languages are structured by systematic relations such as part–whole (lung → alveolus), cause–effect (infection → inflammation), and taxonomic grouping (parasite → protozoa). In Uzbek, several conceptual traditions coexist simultaneously: Soviet anatomical nomenclature, the international English–Latin medical system, and the Arabic–Persian scientific classification inherited from medieval scholarship. The incomplete alignment of these models generates zones of semantic tension. Terminological analysis thus requires identifying which conceptual network a term belongs to and explaining semantic polysemy, synonymy, or meaning shifts arising from the interaction of different models.

One of the persistent debates in terminology studies concerns the opposition between monosemy and polysemy. The ideal model of scientific language assumes that each term denotes a single concept. However, as Beata Szép argues, polysemy is an inherent feature of specialized languages and often enriches communication. In Uzbek medical terminology, terms such as *krizis* (crisis), *insult* (stroke), and *o'pka* (lung) may express different meanings depending on clinical context. Moreover, metaphorical extensions such as *yurak siqilishi* (heart tightness) or *asab buzilishi* (nerve disorder) introduce everyday experiential meanings into medical discourse. This phenomenon supports Szép's claim that technical and general meanings evolve through interaction. Frame semantics, as developed by Charles Fillmore, also plays a crucial role in explaining semantic dynamics. According to Fillmore, a word's meaning is understood only within a broader knowledge scenario, or frame. For example, the term *diabetes* activates a complex frame involving hormonal regulation, glucose metabolism, dietary control, and symptoms. However, the Uzbek expression *qandli diabet* (sugar diabetes) incorporates additional culturally grounded elements such as "sweetness," "weakness," and "imbalance." As Petruck notes, frames are shaped by shared social experience, making meaning inherently

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 01,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

linked to collective knowledge. From this perspective, Uzbek terms like *kuydirgi* (anthrax), *tutqanoq* (epilepsy), and *ich ketish* (diarrhea) activate frames rooted in folk experience that may diverge from strictly clinical definitions.

From a cognitive linguistics standpoint, Vivien Evans distinguishes between lexical concepts and meaning construction. Lexical concepts represent relatively stable semantic cores associated with words, while meaning construction is a dynamic, context-dependent process. For example, while the clinical definition of *shock* is precise, its discourse interpretation varies depending on context, informational background, and cultural assumptions. This dynamic is particularly evident in interdisciplinary borrowed terms. Synonymy constitutes another central issue in medical semantics. According to Leona Van Vaerenbergh, synonymy in scientific language reflects theoretical plurality. In Uzbek medical discourse, terms such as *saraton*, *rak*, and *karsinoma* coexist, each rooted in different scientific and historical traditions. This phenomenon reflects "epistemic multiplicity," whereby multiple explanatory frameworks coexist for the same phenomenon. Corpus-based studies, such as those by Andreeva and Shaekhova, demonstrate how terms cluster in authentic contexts and how meaning is shaped by usage. In Uzbek clinical texts, expressions like *ko'krak qafasi siqilishi* (chest constriction) or *qorin dam bo'lishi* (abdominal bloating) combine technical observation with cultural-metaphorical expression. These examples show that medical semantics in Uzbek is shaped not only by technical definitions but also by contextual, cultural, and communicative resources. Computational linguistic studies of Uzbek medical semantics by Mengliev and colleagues further support this conclusion: the Uzbek medical lexicon is not based on a single semantic system but is formed through interaction among Arabic–Persian, Russian, English, and folk medicine frameworks. While this complexity complicates semantic modeling, it also enriches scientific analysis.

Metaphor and semantic extension are among the most active mechanisms in Uzbek medical vocabulary. Research by Nodira Salikhova shows that medical expressions often expand metaphorically to describe psychological, moral, or social states: *ko'ngil aynishi* (nausea), *ruhiy charchoq* (mental fatigue), and *ichim buzildi* (my stomach is upset) reveal culturally grounded links between bodily processes and emotional experience. Although such extensions may lack biomedical precision, they significantly enhance communicative effectiveness.

Taken together, approaches from cross-cultural lexical semantics, conceptual relations, polysemy theory, frame semantics, cognitive modeling, synonymy theory, and computational linguistics converge on a single conclusion: medical terminology is not a static lexicon but a dynamic semantic ecosystem. It integrates conceptual structures, cultural narratives, professional practices, and historical continuity. Therefore, the philological study of Uzbek medical lexicon fulfills two essential tasks: (1) providing a theoretically precise description of lexical-semantic mechanisms, and (2) analyzing how these terms function as tools of scientific and everyday communication within a multilingual and multicultural environment. This chapter establishes a conceptual foundation for subsequent sections on morphology, terminology theory, and philological development.

References.

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 01,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

1. Casas Gómez, M. (2003). *Towards a theory of terminological meaning*. Terminology, 9(1), 1–28.
2. Evans, V. (2009). *How Words Mean: Lexical Concepts, Cognitive Models, and Meaning Construction*. Oxford University Press.
3. Fillmore, C. J. (1982). *Frame Semantics*. In Linguistics in the Morning Calm. Seoul: Hanshin.
4. Goddard, C., & Wierzbicka, A. (2014). *Words and Meanings: Lexical Semantics across Domains, Languages, and Cultures*. Oxford University Press.
5. Шокирова.М.Н., Жураев.З.К., Я Мудрец латинской медицинской терминологии. Учебник для медицинских колледжей и институтов.Фергана, 2023г
6. Salikhova, N. (2018). *Metaphorical Extensions in Uzbek Medical Discourse*. Uzbek Philology Journal, 4, 45–58.
7. Szép, B. (2010). *Polysemy in Specialized Languages*. Terminology Science & Research, 21, 67–81.
8. Van Vaerenbergh, L. (2003). *Synonymy and Theoretical Plurality in Scientific Language*. Meta, 48(3), 433–447.
9. Saidakhmadovna, I. M., Usmanovna, A. R., Muxtorovna, Y. S., Ganiyevna, A. S., & Usmailovich, A. Y. (2024). Research Of The Concepts Of Text And Discourse. *Library of Progress-Library Science, Information Technology & Computer*, *44*(3).
10. Munosib, I., & Madina, A. (2024). Exploring Linguo-Cultural Features Of Interrogative And Command Sentences In English And Uzbek Languages. *Fan, Jamiyat Va Innovatsiyalar*, *1*(7), 8-11.