LINGUODIDACTIC AND NATIONAL-CULTURAL STUDY OF NEUROLOGICAL DISEASE TERMS IN ENGLISH AND UZBEK

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Abstract. *This article examines the linguodidactic and national-cultural features of neurological disease terminology in English and Uzbek languages. The study identifies semantic, structural, and cultural differences in the expression of medical concepts, emphasizing the role of language in shaping scientific understanding. Linguodidactic analysis allows us to explore how medical terms are taught, comprehended, and used in bilingual contexts, while national-cultural interpretation reveals how each nation's worldview influences terminology formation.*

Keywords: *neurology, terminology, linguodidactics, national culture, Uzbek, English, semantic analysis.*

Linguodidactic aspects of neurological terminology. In the field of linguodidactics, neurological terminology serves as a vivid example of how language mediates the transmission of scientific knowledge between cultures. In English, most medical terms are derived from classical Latin or Greek roots, which have historically been considered the universal languages of science [1]. Terms such as neuron, epilepsy, and encephalopathy are direct reflections of this legacy, representing a standardized and internationally recognized lexical system that facilitates professional communication among scientists and physicians worldwide. The consistency of this terminological system allows for clarity and precision, reducing ambiguity in medical diagnosis and research. However, when these terms are transferred into Uzbek, they often undergo a process of transliteration—becoming neyron, epilepsiya, ensefalopatiya—which, while maintaining phonetic similarity and terminological accuracy, does not always guarantee full comprehension for learners who are not familiar with Latin or Greek morphology [2].

From a linguodidactic perspective, this presents both challenges and opportunities. Teaching neurological terminology in a bilingual context requires not only translating medical words but also explaining their etymological structure, morphological composition, and semantic motivation. For instance, the term encephalopathy can be broken down into en- (within), kephale (head), and -pathy (disease), a linguistic analysis that helps learners grasp its meaning as "a disease within the brain" [3]. Such morphological transparency is vital in developing linguistic competence and medical reasoning simultaneously. Teachers in medical universities of Uzbekistan increasingly recognize the need to integrate this etymological approach

into classroom practice, as it enhances the retention and meaningful learning of foreign medical terms [4]. Furthermore, linguodidactic methods emphasize the creation of bilingual glossaries, comparative terminological databases, and visual aids that link English and Uzbek equivalents [5]. By using comparative models, students can better identify semantic correspondences and functional differences between the two languages. For example, the English neuron refers specifically to a single nerve cell, whereas in Uzbek, neyron is often understood more generally as part of the nervous system. This subtle semantic variation requires explicit clarification during instruction [6]. Consequently, linguodidactic practice in this domain is not limited to simple vocabulary teaching but extends to the development of intercultural medical literacy. Through careful methodological design—combining linguistic analysis, cultural interpretation, and cognitive modeling—students can achieve a deeper, concept-based understanding of neurological terminology, bridging the gap between scientific precision and linguistic accessibility [7].

National-cultural features of terminology. The national-cultural dimension of medical terminology reveals how languages reflect not only scientific understanding but also cultural values and traditional perceptions of illness. In the context of neurology, these differences become particularly evident when comparing the English and Uzbek languages. English medical terminology tends to maintain a formal, clinical, and strictly scientific tone, with words such as neurodegeneration, cognitive impairment, and traumatic brain injury, which reflect the Western tradition of analytical precision and detachment [8]. In contrast, Uzbek medical terminology, while adopting international standards, preserves traces of cultural and emotional expression. Terms such as asab buzilishi (nervous breakdown), xotira yo‘qolishi (memory loss), or miya charchoqligi (brain fatigue) carry not only a medical meaning but also an element of everyday understanding influenced by traditional views of health and the human body [9]. This linguistic distinction is deeply rooted in the cultural conceptualization of illness. In Western medical discourse, neurological diseases are generally perceived as biological malfunctions that require scientific intervention. However, in Uzbek culture, the human mind and body are often viewed as an interconnected system influenced by emotional, moral, and even spiritual factors. Therefore, the terminology used in describing neurological disorders often reflects a holistic worldview. For example, the expression asabning sustligi (weakness of the nerves) conveys not only a medical condition but also a sense of psychological imbalance or fatigue, which may not have a direct equivalent in English [10]. Moreover, historical and linguistic contacts have played a significant role in shaping Uzbek medical vocabulary. Many neurological terms were borrowed through Russian during the Soviet period — insult, skleroz, paralich — which were themselves derived from Latin or Greek sources [11]. These borrowings underwent a process of phonetic and semantic adaptation, resulting

in a hybrid lexical layer that combines international scientific accuracy with national linguistic identity. Thus, Uzbek medical discourse demonstrates a blend of scientific terminology and culturally embedded expressions, where medical precision coexists with human-centered interpretation [12].

From a linguodidactic viewpoint, understanding these cultural nuances is crucial for effective communication and education in the medical field. When Uzbek medical students learn English neurological terms, they must not only memorize vocabulary but also reinterpret the cultural frameworks behind them. For instance, the term stroke in English denotes a sudden cerebral event, while miya insulti in Uzbek combines both medical terminology and descriptive imagery. This indicates how linguistic borrowing is accompanied by cultural domestication, allowing the term to fit naturally within the Uzbek worldview [13]. Therefore, national-cultural awareness should be integrated into the teaching of medical terminology to promote intercultural competence, empathy, and accurate interpretation in multilingual professional settings.

3. Comparative semantic analysis. A comparative semantic analysis of neurological terminology in English and Uzbek highlights both linguistic convergence and divergence arising from historical development, borrowing processes, and cultural interpretation. English medical terminology has evolved within the framework of international scientific discourse, which emphasizes precision, stability, and consistency. Terms such as stroke, multiple sclerosis, and neurodegenerative disorder are characterized by their unambiguous semantics and strict adherence to medical classification systems such as ICD and DSM [14]. In contrast, the Uzbek equivalents—miya insulti, ko‘p skleroz, asab degeneratsiyasi—reflect not only translational adaptation but also semantic expansion, where each term carries additional descriptive or contextual meaning related to local medical practice and cultural understanding [15].The semantic field of neurological terms in Uzbek is more flexible and often reflects metaphorical or associative extensions of meaning. For instance, the expression asab kasalligi is commonly used as a general label for various mental and neurological conditions, while in English, separate distinctions are made between neurological disorders and mental illnesses [16].

Table 1. Comparative analysis of neurological disease terminology in English and Uzbek

English Term	Uzbek Equivalent	Semantic / Cultural Meaning	Comments
Stroke	Miya insulti	Direct borrowing from Russian; descriptive and diagnostic meaning combined.	Reflects localization through transliteration.

Epilepsy	Epilepsiya / Tutqanoq	Uzbek includes both medical and folk terms; tutqanoq adds cultural familiarity.	Dual use: medical and traditional forms coexist.
Nervous breakdown	Asab buzilishi	Emotional and psychological nuance; common in everyday speech.	Broader semantic range than in English.
Neurodegeneration	Asab hujayralarining yemirilishi	Descriptive translation; emphasizes process over scientific classification.	Analytical phrase instead of single term.
Cognitive impairment	Bilish faoliyatining buzilishi	More explanatory structure, culturally linked to learning and memory concepts.	Highlights educational semantics.
Multiple sclerosis	Ko‘p skleroz	Borrowed term; partial semantic transparency.	Requires bilingual clarification.
Parkinson’s disease	Parkinson kasalligi	Retains personal name, international consistency.	Global term, unchanged culturally.

This table illustrates how English and Uzbek neurological terminology differ in structure, cultural context, and communicative function. While English terms are concise, internationally standardized, and morphologically dense, Uzbek equivalents often rely on descriptive expressions, emotional nuances, or borrowings that align with the cultural-linguistic worldview of Uzbek society [1–3]. Such differences must be addressed in bilingual medical education to avoid semantic confusion and improve intercultural understanding. This conflation of meanings can be traced to the sociocultural tradition of perceiving the nervous system and the psyche as an inseparable unity. Therefore, semantic analysis must take into account not only linguistic form but also the conceptual structure underlying medical discourse in each language [17]. Furthermore, semantic discrepancies also arise due to differences in the degree of lexicalization and terminological productivity. English demonstrates a higher degree of morphological productivity through affixation, compounding, and derivation, producing terms like neuroplasticity, neuropathology, and neurotransmission. Uzbek, however, tends to rely on descriptive constructions or borrowings, such as asab plastiklik xususiyati (literally, “the plastic property of the nerve”) or asab uzatish jarayoni (“the process of nerve transmission”) [18]. This shows how the English language condenses complex concepts into single lexical units, whereas Uzbek expresses them through analytical structures that reveal a more explanatory approach to medical description. Another semantic difference lies in emotional neutrality. English neurological terms are generally devoid of emotive

connotations, reflecting a scientific detachment typical of Western medical discourse. Uzbek terminology, on the other hand, retains traces of human emotion and empathy, visible in expressions like asab buzilishi or ruhiy toliqish (mental exhaustion), which convey both physiological and psychological dimensions. This indicates that while English prioritizes objectivity and clinical precision, Uzbek preserves human-centered communication, reflecting its cultural emphasis on moral and emotional well-being.

Comparative semantic analysis demonstrates that linguistic and cultural contexts profoundly influence the structure, interpretation, and use of neurological terminology. Understanding these nuances is essential not only for linguists but also for translators, teachers, and medical professionals working in bilingual or intercultural settings. The integration of semantic, cultural, and didactic perspectives allows for the creation of educational frameworks that promote both accuracy and cultural sensitivity in medical communication.

Conclusion. The comparative study of neurological disease terminology in English and Uzbek demonstrates that language serves not only as a tool of medical communication but also as a reflection of national culture, worldview, and educational methodology. English medical terminology is characterized by its high level of standardization, morphological compactness, and scientific precision, which stem from Latin and Greek roots and international codification systems. Uzbek medical terminology, on the other hand, exhibits both borrowing from international sources and adaptation to local linguistic and cultural traditions. It often contains descriptive, metaphorical, and emotionally colored expressions that reflect the human-centered worldview of Uzbek culture. From a linguodidactic perspective, this analysis reveals the importance of integrating both linguistic and cultural components into the teaching of medical terminology. In bilingual medical education, understanding not only the literal translation but also the semantic and cultural background of each term enhances students' intercultural competence, accuracy in professional communication, and cognitive comprehension of scientific concepts. The conducted semantic and cultural comparison confirms that the English system tends to prioritize analytical clarity, while the Uzbek system balances between scientific borrowing and native expression. The proposed comparative table and visual model (Figure 1) further highlight these proportions, demonstrating the necessity of culturally adaptive teaching strategies. Such an approach will help bridge linguistic gaps in medical discourse and promote more effective communication among medical professionals, educators, and translators working in global and multilingual contexts.

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