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Clinical Course And Differential Diagnosis Of Dysentery

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Abstract

This review summarizes the clinical features and differential diagnosis of dysentery, primarily shigellosis, based on current literature. Despite declining incidence in some regions, dysentery remains a significant public health concern. The article outlines the disease course from incubation to severe forms, highlighting key symptoms such as bloody diarrhea, abdominal pain, fever, and tenesmus. Special attention is given to vulnerable groups, including children and immunocompromised patients. Diagnostic approaches focus on laboratory confirmation and differentiation from other infectious and non-infectious causes of colitis, including amoebic dysentery, salmonellosis, campylobacteriosis, and *Clostridioides difficile* infection. Early diagnosis and accurate differentiation are essential for effective management and prevention of complications.

Keywords: dysentery; shigellosis; differential diagnosis; bloody diarrhea; colitis

Introduction

In recent years, diarrheal diseases have remained one of the most pressing global public health challenges. In particular, diarrhea is recognized as one of the leading causes of mortality among children aged 1–59 months, claiming hundreds of thousands of lives annually. According to current epidemiological data, each year more than 443,000 children under the age of five, as well as tens of thousands of children aged 5–9 years, die as a result of diarrheal diseases. Furthermore, approximately 1.7 billion cases of diarrhea are reported annually among children worldwide, highlighting the widespread nature of this condition. In addition, diarrhea is acknowledged as one of the major causes of malnutrition in children under five years of age.

Diarrhea arises as a result of bacterial, viral, or parasitic infections of the gastrointestinal tract and is most commonly transmitted through contaminated food, drinking water, or via person-to-person spread due to poor hygiene practices. Clinically, diarrhea is defined as the passage of three or more loose or liquid stools per day and is

associated with significant fluid and electrolyte loss. While severe dehydration was historically the primary cause of diarrhea-related mortality, septic bacterial infections have now emerged as an important contributing factor. High-risk groups include immunocompromised individuals, malnourished children, and persons living with HIV infection [15].

Based on clinical presentation, diarrhea is classified into three main types: acute watery diarrhea, acute bloody diarrhea (dysentery), and persistent diarrhea. Among these, dysentery—particularly shigellosis—occupies a significant place among acute intestinal infections due to its association with bloody diarrhea syndrome and its distinct clinical and diagnostic importance. Microorganisms belonging to the genus *Shigella* are among the leading etiological agents of bacterial diarrhea and are especially prevalent in developing countries. In the Republic of Uzbekistan, despite a certain decline in incidence rates, the epidemiological significance of dysentery remains considerable [16].

In modern clinical practice, accurate differential diagnosis of dysentery from

other intestinal infections—such as amoebic dysentery, salmonellosis, *campylobacteriosis*, *enteroinvasive and enterohemorrhagic Escherichia coli* infections, as well as *Clostridioides difficile*-associated colitis—is of great importance. Misdiagnosis may lead to ineffective treatment strategies and the development of complications [3].

Accordingly, the aim of this review article is to provide a systematic analysis of the clinical course and differential diagnosis of dysentery based on contemporary scientific data.

Etiology and Classification

Dysentery is a disease belonging to the group of acute intestinal infections, and its development involves various etiological factors. Etiologically, dysentery is primarily of bacterial and parasitic origin [2]. Bacterial dysentery is most commonly associated with microorganisms of the genus *Shigella*, among which *S. dysenteriae*, *S. flexneri*, *S. boydii*, and *S. sonnei* are of major importance. These pathogens exert an invasive effect on the intestinal mucosa, inducing inflammatory processes and clinically manifesting as diarrhea with blood and mucus [1,2].

Parasitic dysentery, on the other hand, is mainly associated with *Entamoeba histolytica* and presents as amoebic dysentery. This infection is characterized by ulcer formation in the intestinal wall and a tendency toward chronic progression [5]. Additionally, in some cases, dysentery-like clinical manifestations may be associated with other bacterial pathogens, including enteroinvasive and enterohemorrhagic strains of *Escherichia coli*, *Campylobacter jejuni*, and *Salmonella* species [6].

Clinically, diarrheal diseases are divided into three main categories: acute watery diarrhea, acute bloody diarrhea (dysentery), and persistent diarrhea. Acute watery diarrhea typically lasts several days and is characterized by fluid and electrolyte loss.

Acute bloody diarrhea is associated with inflammation of the intestinal mucosa and is manifested by the presence of blood and mucus in the stool. Persistent diarrhea lasts 14 days or more and is often associated with a risk of progression to chronic conditions [8].

Pathogenesis

The pathogenesis of dysentery is a multistage process characterized by the invasion of pathogenic microorganisms into the intestinal mucosa, the development of a local inflammatory response, and the manifestation of systemic intoxication syndrome. In bacterial dysentery, *Shigella* species—being the primary etiological agents—enter the body orally, reach the colonic epithelium, and begin to multiply [9]. *Shigella* bacteria penetrate intestinal epithelial cells via M cells, subsequently replicate intracellularly, and spread from cell to cell. This process leads to disruption of cellular structures and results in the formation of erosions and ulcers in the mucosa. Consequently, inflammatory responses in the intestinal wall intensify, clinically manifesting as diarrhea with blood and mucus [12,14].

Bacterial toxins also play a significant role in pathogenesis. Certain strains produce Shiga toxin, which inhibits intracellular protein synthesis, exerts cytotoxic effects, and further exacerbates tissue damage [17]. In severe clinical forms, this may contribute to the development of systemic complications. The host immune response is another critical component of pathogenesis. Local immune reactions, including neutrophil migration and cytokine release, amplify the inflammatory process. In immunocompromised individuals, the infection tends to be more severe, with an increased risk of complications [18].

In parasitic dysentery, *Entamoeba histolytica* adheres to the intestinal mucosa and destroys tissues through the action of proteolytic enzymes, leading to deep

ulcerative lesions. This results in a chronic course and recurrent symptoms [15].

Clinical Course

The clinical course of dysentery is polymorphic, ranging from mild watery diarrhea to severe, life-threatening dysenteric syndrome. The disease usually begins after a short incubation period (typically 1–3 days) and initially presents with general intoxication symptoms such as fever, weakness, headache, and loss of appetite. In some patients, the early stage is characterized by watery diarrhea, which later progresses to a dysenteric form due to invasive damage to the intestinal mucosa.

A key clinical feature is frequent passage of small-volume stools [20]. The presence of blood and mucus in the stool indicates inflammatory and destructive changes in the intestinal wall. Defecation is often painful and accompanied by tenesmus—a false urge to defecate. Spasmodic pain is typically localized in the lower abdomen, particularly in the left iliac region. In some cases, the frequency of defecation may reach 10–20 times per day, significantly worsening the patient’s general condition [11].

Based on severity, the clinical course is classified into mild, moderate, and severe forms. In mild cases, the general condition remains relatively satisfactory, diarrhea is less pronounced, and blood admixture may be absent. In moderate cases, intoxication symptoms intensify, with evident fever, abdominal pain, and bloody diarrhea. Severe cases are characterized by high fever, marked intoxication, frequent bloody stools, dehydration, and a sharp deterioration of the general condition. In such cases, some patients may develop prostration, hypotension, and cardiovascular dysfunction [10,13].

Additionally, dysentery may present with extraintestinal manifestations. Particularly in children and immunocompromised individuals, complications such as

neurological symptoms (seizures, altered consciousness), hemolytic uremic syndrome, and reactive arthritis may occur. Although the disease typically lasts 5–7 days, prolonged or recurrent forms may also be observed [10].

The severity of the clinical course depends on several factors, including the virulence of the pathogen strain, infectious dose, patient age, nutritional status, and the functional state of the immune system. It has been noted that children living in developing countries are more likely to experience severe disease and complications [14].

Thus, the clinical course of dysentery presents in various forms, and its early recognition, accurate assessment of severity, and appropriate differential diagnosis are essential for effective treatment and prevention of complications.

Differential Diagnosis

Dysentery is clinically characterized by acute bloody diarrhea syndrome and must be differentiated from other intestinal diseases of similar presentation. Differential diagnosis is based on the onset of the disease, clinical features, epidemiological history, and laboratory findings [15].

First, dysentery must be distinguished from amoebic dysentery caused by *Entamoeba histolytica*. *Amoebiasis* typically has a subacute or chronic onset, with gradually developing clinical symptoms. Although blood may be present in the stool, it often appears as “raspberry jelly.” Signs of intoxication are less pronounced, and fever usually does not reach high levels. Laboratory detection of trophozoites is of diagnostic importance [16].

In salmonellosis caused by *Salmonella* species, the disease more commonly presents as gastroenteritis. Patients typically complain of vomiting, profuse watery diarrhea, and high fever. Unlike dysentery, bloody stools are less common, and tenesmus is usually absent.

Epidemiologically, consumption of contaminated food plays a key role [15]. In *Campylobacter jejuni* infection, clinical manifestations may resemble dysentery. However, the disease often begins with high fever and marked systemic intoxication. Diarrhea may be watery or sometimes bloody, but tenesmus is less pronounced [18].

Enteroinvasive and enterohemorrhagic Escherichia coli infections can also produce a clinical picture similar to dysentery. In particular, enterohemorrhagic strains (EHEC) are associated with bloody diarrhea and carry a risk of developing hemolytic uremic syndrome. In such cases, inappropriate use of antibiotics may worsen outcomes, making accurate differential diagnosis critically important [17].

Table 1. Differential diagnosis of dysentery

Disease	Onset	Stool characteristics	Fever	Tenesmus	Key features
Dysentery (Shigella)	Acute	Small volume, blood and mucus	Moderate–high	Present	Left lower abdominal pain
Amoebiasis	Gradual	“Raspberry jelly” appearance	Low or absent	Rare	Chronic course
Salmonellosis	Acute	Large volume watery	High	Absent	Frequent vomiting
Campylobacter infection	Acute	Watery or sometimes bloody	High	Rare	Severe intoxication
EHEC (E. coli)	Acute	Bloody diarrhea	Low	Absent	Hemolytic uremic syndrome
Clostridioides difficile colitis	Gradual (post-antibiotics)	Watery, sometimes bloody	Moderate	Absent	Associated with antibiotics
Ulcerative colitis	Chronic	Bloody, prolonged	Usually absent	Present	Remission and relapse

Differential Diagnosis

In cases of antibiotic-associated diarrhoea, it is essential to exclude pseudomembranous colitis caused by *Clostridioides difficile*. This condition is characterized by diarrhoea accompanied by abdominal pain and fever, and in severe cases, may lead to toxic megacolon. The diagnosis is confirmed by detecting toxins in stool samples.

In addition, non-infectious intestinal diseases, including ulcerative colitis and Crohn’s disease, may present with

prolonged bloody diarrhoea. These conditions are typically characterized by a chronic course with alternating periods of remission and exacerbation. Endoscopic and histological examinations play a crucial role in establishing the differential diagnosis.

The key differential features characteristic of dysentery include:

1. acute onset of the disease
2. frequent passage of small-volume stools
3. bloody and mucous diarrhoea

4. presence of tenesmus
5. pain localized in the left lower abdominal quadrant

Thus, the differential diagnosis of dysentery requires a comprehensive approach based on the integrated assessment of clinical features, laboratory findings, and epidemiological data. Accurate differential diagnosis is crucial for effective treatment and for preventing complications [15].

Conclusion

The findings of this review article indicate that dysentery (primarily shigellosis) occupies a significant place among acute intestinal infections and remains a major public health concern globally, particularly in developing countries. The analysis confirms the high prevalence of diarrhoeal diseases and their substantial contribution to morbidity and mortality, especially among children. Despite a certain decline in incidence rates in the Republic of Uzbekistan, dysentery continues to retain its epidemiological significance.

From an etiological perspective, dysentery is mainly associated with bacterial agents (*Shigella*) and parasitic organisms (*Entamoeba histolytica*), while its pathogenesis involves invasive damage to the intestinal mucosa, inflammatory processes, and toxic effects.

Clinically, the disease demonstrates a polymorphic course, ranging from mild watery diarrhoea to severe dysenteric syndrome with bloody stools. The principal clinical manifestations include bloody and mucous diarrhoea, tenesmus, abdominal pain, and systemic intoxication.

Within the scope of this study, particular attention was paid to the issue of differential diagnosis. The analysis revealed that accurate differentiation of dysentery from amoebic dysentery, salmonellosis, campylobacteriosis, enteroinvasive and enterohemorrhagic *Escherichia coli* infections, *Clostridioides difficile*-associated colitis, as well as non-infectious intestinal

diseases, is of critical importance in clinical practice. In this process, it is necessary to consider not only clinical manifestations but also epidemiological history and laboratory findings.

Furthermore, contemporary scientific data indicate an increasing level of antibiotic resistance among *Shigella* strains, which directly affects treatment outcomes and necessitates an individualized approach to therapy selection. Therefore, early diagnosis of dysentery, accurate assessment of its clinical course, precise differential diagnosis, and the application of modern therapeutic strategies are essential for reducing complications and improving patient outcomes.

Overall, the problem of dysentery requires a comprehensive approach, and its adverse consequences can be significantly reduced through strengthening preventive measures, improving sanitation and hygiene conditions, and implementing advanced diagnostic and treatment methods.

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The Effect Of Sowing Scheme And Rate Of Biostimulitators On Dry Mass Accumulation Of The “Uzbekistan-83” Variety Of Fodder Beet

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Abstract

This article studies the effect of planting scheme and biostimulant rate on the dry mass of the sugar beet variety Uzbekistan-83. In the experiment, three planting schemes of 70x15, 70x20, 70x25 were used, and the Tandem biostimulant was applied in three different rates, before planting the seeds were treated and foliar fed twice during the growing season. The Fitavak biostimulant was used as a standard for this biostimulant. It was observed that the dry mass accumulation was better in the 70x20 cm sowing scheme and the Tandem biostimulant rate of 0.4 + 0.7 + 0.9.

Keywords: Beet, variety, leaf, root fruit, biostimulant, standard, sowing scheme, phase.

Introduction

Introduction. With a potential yield of 12,000-15,000 feed units per hectare, according to Moule, sugar beet is "the most productive crop available to European agriculture." In addition, it is a crop with high yields from year to year, high energy content and high nutrient digestibility [1]. Currently, in Russia, along with pure fodder beet varieties, single-seeded semi-sugar fodder beet varieties are also grown. Varieties and hybrids obtained by crossing sugar and fodder beet combine high root yield (fodder beet properties) and high sugar content (sugar beet properties). Increased root weight, increased dry matter content, resistance to diseases (rootworm, cercospora leaf spot, pinworm, etc.), uniform root shape and root penetration, they meet the requirements of intensive cultivation technologies [2].

It is known that 60-70% of the fat in milk is obtained from carbohydrates. Therefore, root fruits are very important for increasing the milk fat yield of dairy farms, especially in

spring. This crop is resistant to diseases and pests, yields 100 or more centners of feed units per hectare, and its roots are well preserved in winter, suitable for feeding all types of livestock and poultry [3]. Fodder beet improves the digestibility of roughage and is a lactation aid to stimulate the mammary glands. One kilogram of fodder beet contains 0.12 feed units, and semi-sweet varieties contain 0.15 feed units. Russia has one of the largest fodder beet growing areas in the world. It is grown in a vast area from Vologda to the Far East. [4]. According to the shape of the root, the varieties of sugar beet are divided into four groups: bag-shaped or cylindrical, elongated, conical and round. On the other hand, fodder beet is less demanding in terms of growing conditions and has a shorter growing period: 4-5 months from sowing to harvest. They grow well in different soil types and can withstand changes in moisture. One root can weigh 5 kg or more. The yield of food beet can reach 900 centners per hectare, which makes

their cultivation very profitable for livestock farms [5].

Research method and place. Field experiments for scientific research were conducted at the experimental farm of Tashkent State Agrarian University during 2023. Field experiments were conducted in 4 replicates, with 15 variants, 60 plots, and a total area of 0.20 ha. The variants were placed in a randomized method.

Research results. The effect of different rates of different biostimulants on the dry mass of a leaf and the dry mass of a root fruit in a single plant was determined by growth phases (see Table 1).

The dry mass of a leaf in a single plant in a 70x15-1 planting scheme was 7.3 grams in the control variant in the phase of formation of 6-7 pairs, and increased in the subsequent phases of the plant, reaching the heaviest weight of 30.4 grams in the phase of closing the internodes with leaves. In the phase of opening the internodes, the dry mass decreased and amounted to 19.2 grams. In the variant where the Fitovak 20% immunostimulant was used as the reference variant, a greater accumulation of dry mass was determined compared to the control, and the growth phases were heavier by 0.3, 0.6, 1.1 and 1.1 grams.

In the variant where Tandem 10% biostimulant was applied at a rate of 0.4+0.7+0.9 l/ha, it was found that compared to the variant where the biostimulant rate was applied less, the dry mass accumulation was 0.6, 1.2, 2.2 and 1.6 grams more in growth phases. In the

variant where the biostimulant rate was increased to 0.5+0.9+1.0 l/ha, the dry mass accumulation was 0.4, 0.6, 0.7 and 0.8 grams less in growth phases compared to the variant where the biostimulant rate was applied more than 0.4+0.7+0.9 l/ha. In the above optimal variant, it was determined that the dry mass accumulated by 1.4, 2.1, 3.9 and 3.3 grams less than the control in the growth phases and by 1.1, 1.5, 2.8 and 2.2 grams less than the reference variant.

The above pattern was repeated in the 70x20-1 planting scheme, and in the variant where the Tandem 10% biostimulant was applied at a rate of 0.4+0.7+0.9 l/ha, compared to the variant with a low rate, it was determined that the dry mass of a leaf in one plant in the phase of closing the interrows with leaves was 7.0 grams heavier than in the variant with an increased rate of biostimulants. A decrease in dry mass was observed in the phase of closing the interrows. In the variant where Tandem 10% biostimulant was applied at a rate of 0.4+0.7+0.9 l/ha, it was found that the dry mass of a leaf per plant in the phase of closing the rows with leaves was 11.7 grams more than in the control variant, and 9.7 grams more than in the reference variant.

In the 70x25-1 planting scheme, the variant where Tandem 10% biostimulant was applied at a rate of 0.4+0.7+0.9 l/ha also achieved high results, and the dry mass of a leaf per plant in the phase of closing the rows with leaves was 57.6 grams

Table 1. Dry mass accumulation of beet leaves and roots, 2023

Options	Sowing schemes	Name of biostimulators	Rates of biostimulators, l/t, l/ha	Dry mass of a leaf per plant, grams				Dry mass of one root fruit, grams				
				Phases				Phases				
				6-7 pairs leaf formation	leaves connection in rows	covering rows with leaves	opening between rows	6-7 pairs leaf formation	leaves connection in rows	covering rows with leaves	opening between rows	harvesting
1	70x15-1	Control	-	7.3	13.5	30.4	19.2	80.4	137.3	228.5	305.5	441.7
2		Fitovak 20% (standard)	0.3+0.3+0.4	7.6	14.1	31.5	20.3	85.5	145.7	239.6	322.3	455.1
3		Tandem 10%	0.3+0.5+0.7	8.1	14.4	32.1	20.9	90.8	150.8	248.2	337.5	477.4
4		Tandem 10%	0.4+0.7+0.9	8.7	15.6	34.3	22.5	98.3	163.8	270.2	371.7	513.7
5		Tandem 10%	0.5+0.9+1.0	8.3	15.0	33.6	21.7	94.1	156.5	258.3	356.4	495.8
6	70x20-1	Control	-	9.2	18.9	38.9	28.8	101.6	174.2	290.4	379.9	687.1
7		Fitovak 20% (standard)	0.3+0.3+0.4	10.2	20.1	40.9	30.1	113.9	188.0	311.2	404.8	723.9
8		Tandem 10%	0.3+0.5+0.7	10.9	21.1	43.6	31.1	123.3	202.7	330.8	426.6	734.5
9		Tandem 10%	0.4+0.7+0.9	13.1	24.1	50.6	32.7	151.9	235.8	375.2	483.8	758.6
10		Tandem 10%	0.5+0.9+1.0	12.2	22.6	45.2	31.8	140.1	219.0	349.0	446.5	743.1
11	70x25-1	Control	-	9.8	20	45.7	29	109.1	186.6	303.2	395.2	696.0
12		Fitovak 20% (standard)	0.3+0.3+0.4	10.6	21.2	49.8	30.1	120.8	200.3	320.0	423.4	735.4
13		Tandem 10%	0.3+0.5+0.7	11.2	22.3	52.7	31.1	128.7	212.9	338.2	453.0	761.0
14		Tandem 10%	0.4+0.7+0.9	12.4	24.6	57.6	33.0	156.7	245.3	380.7	509.7	821.6
15		Tandem 10%	0.5+0.9+1.0	11.7	23.9	55.5	31.8	144.8	229.8	361.9	487.3	789.1

and accumulated a dry mass that was 5.1 grams heavier than the variant with a lower biostimulant rate, and 2.1 grams heavier than the variant with an increased biostimulant rate. In this variant, it was

found that in the phase of closing the rows with leaves, the dry mass of a single plant accumulated 11.9 grams more dry mass than the control variant, and 7.8 grams more dry mass than the reference variant.

In the 70x20-1 planting scheme, compared to the 70x15- and 70x25-1 planting schemes, it was found that the application of Tandem 10% biostimulant at a rate of 0.4+0.7+0.9 l/ha created optimal conditions for leaf dry mass accumulation in sugar beet, increasing dry mass weight.

The dry mass of one root fruit in the control variant in the 70x15-1 planting scheme was 80.4 grams in the phase of formation of 6-7 pairs of leaves, 137.3 grams in the phase of contact of leaves in the row, 228.5 grams in the phase of closing the inter-rows with leaves, 305.5 grams in the phase of opening the inter-rows and 441.7 grams in the harvest phase. In the reference variant, the effect of the immunostimulant on the increase in weight by 5.1 grams, 8.4 grams, 11.1 grams, 16.8 grams, 13.4 grams in the growth phases compared to the control variant was determined.

In the 70x15-1 planting scheme, in the variant where Tandem 10% biostimulant was applied at a rate of 0.4+0.7+0.9 l/ha, the dry mass of one seedling accumulated 8.5 g, 13.0 g, 22.0 g, 34.2 g, and 36.3 g higher dry mass in growth phases compared to the variant where a lower biostimulant rate was applied, while in the variant where the biostimulant rate was increased, it was found that the dry mass accumulated by 4.2 g, 7.3 g, 11.9 g, 15.3 g, and 17.9 g less than the optimal rate in phases. In this variant, the dry mass was found to be 66.2 gr. in the opening phase of the furrows, 72.0 gr. during the harvest period, and 49.4 gr. and 58.6 gr. lighter than the reference variant.

In the variant where Tandem 10% biostimulant was used at a rate of 0.4+0.7+0.9 l/ha in the 70x20-1 planting scheme, the dry mass of one root fruit was 483.8 grams in the opening phase of the furrows, 758.6 grams during the harvest period, and it accumulated 57.2 gr. and 24.1 gr. higher dry mass than the variant where the biostimulant rate was used in a small

amount, while in the variant with an increased biostimulant rate, it was found that the dry mass accumulated 37.3 gr. and 15.5 gr. less. In this variant, the dry mass was found to be 84.8 gr. in the opening phase of the furrows, 71.5 gr. during the harvest period, and 79.0 gr. and 34.7 gr. lighter than the reference variant.

In the variant where Tandem 10% biostimulant was used at a rate of 0.4+0.7+0.9 l/ha in the 70x25-1 planting scheme, the dry mass of one root fruit was 509.7 grams in the opening phase of the furrows, 821.6 grams during the harvest period, and it accumulated 56.7 gr. and 60.6 gr. higher dry mass than the variant where the biostimulant rate was used in a small amount, while in the variant with an increased biostimulant rate, it was found that the dry mass accumulated 22.4 gr. and 32.5 gr. less. In this variant, the dry mass was found to be 114.5 gr. lighter in the row-opening phase than the control variant, 125.6 gr. lighter during the harvest period, and 86.3 gr. lighter and 86.2 gr. lighter than the reference variant.

In the 70x20-1 planting scheme, where Tandem 10% biostimulant was used at a rate of 0.4+0.7+0.9 l/ha, the dry mass of one root fruit was 53.6 gr., 72.0 gr., 105.0 gr., 112.1 gr., 244.9 gr. heavier in growth phases than the 70x15-1 planting scheme. Compared to the 70x25-1 planting scheme, it was found that the dry mass was lower, weighing 4.8 g, 9.5 g, 5.5 g, 25.9 g, and 63.0 g less, but the difference between them was not very large.

Conclusion. It was concluded that the dry mass of a single plant leaf and net photosynthetic productivity were higher in the 70x20-1 planting scheme, while the dry mass accumulation of a single root crop was higher in the 70x25-1 planting scheme with biostimulants.

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Application Of Artificial Intelligence In Oncology

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Annotation

This article analyzes the application of artificial intelligence technologies in the field of oncology and its effectiveness in the diagnostic and treatment process. The study highlights the importance of AI technologies in early detection of cancer, analysis of medical images, and development of individual treatment methods. Also, based on a survey conducted among the residents of Samarkand, the attitude of respondents to artificial intelligence technologies was studied. The results of the study showed that AI technologies are highly effective in oncology.

Keywords: Oncology, artificial intelligence, AI, diagnostics, cancer, machine learning, deep learning, medical technologies, MRI, CT, digital medicine.

Annotatsiya

Mazkur maqolada sun'iy intellekt texnologiyalarining onkologiya sohasida qo'llanilishi hamda uning diagnostika va davolash jarayonidagi samaradorligi tahlil qilingan. Tadqiqot davomida AI texnologiyalarining saraton kasalligini erta aniqlash, tibbiy tasvirlarni tahlil qilish va individual davolash usullarini ishlab chiqishdagi ahamiyati yoritilgan. Shuningdek, Samarqand aholisi orasida o'tkazilgan tadqiqot asosida respondentlarning sun'iy intellekt texnologiyalariga bo'lgan munosabati ham o'rganilgan. Tadqiqot natijalari AI texnologiyalarining onkologiyada yuqori samaradorlikka ega ekanligini ko'rsatdi.

Kalit so'zlar: Onkologiya, sun'iy intellekt, AI, diagnostika, saraton kasalligi, machine learning, deep learning, tibbiy texnologiyalar, MRT, KT, raqamli tibbiyot.

Bugungi kunda onkologik kasalliklar inson salomatligiga jiddiy xavf tug'dirayotgan global muammolardan biri hisoblanadi. Jahon sog'liqni saqlash tashkiloti ma'lumotlariga ko'ra, saraton kasalligi dunyo bo'yicha o'lim sabablarining yetakchi omillaridan biri bo'lib qolmoqda. Aholi sonining ortishi, ekologik muammolar, noto'g'ri ovqatlanish, stress, zararli odatlar hamda irsiy omillar onkologik kasalliklarning keng tarqalishiga sabab bo'lmoqda. Shu sababli saraton kasalligini erta aniqlash, aniq diagnostika qilish va samarali davolash usullarini ishlab chiqish zamonaviy tibbiyotning eng muhim vazifalaridan biriga aylangan. An'anaviy diagnostika usullari ko'p hollarda katta vaqt talab qilishi, inson omili bilan bog'liq xatolar yuzaga kelishi hamda ayrim holatlarda kasallikni kech bosqichda aniqlashi bilan tavsiflanadi. Ayniqsa, MRT, KT va rentgen tasvirlarini tahlil qilish jarayonida yuqori aniqlik va

tajriba talab etiladi. Shuning uchun ham tibbiyot sohasida innovatsion texnologiyalarni joriy etishga bo'lgan ehtiyoj tobora ortib bormoqda. So'nggi yillarda sun'iy intellekt texnologiyalarining rivojlanishi ushbu muammolarni hal qilishda muhim vositalardan biri sifatida e'tirof etilmoqda. Sun'iy intellekt inson tafakkuriga xos ayrim funksiyalarni bajarishga qodir bo'lgan zamonaviy texnologiya hisoblanadi. U katta hajmdagi ma'lumotlarni qisqa vaqt ichida tahlil qilish, murakkab algoritmlar asosida xulosa chiqarish va prognoz qilish imkoniyatiga ega. Tibbiyotda, xususan onkologiyada sun'iy intellektdan foydalanish saraton kasalligini erta bosqichda aniqlash, o'simta turini belgilash, davolash samaradorligini baholash hamda individual terapiya usullarini ishlab chiqishda keng qo'llanilmoqda. Ayniqsa, machine learning va deep learning texnologiyalari diagnostika aniqligini

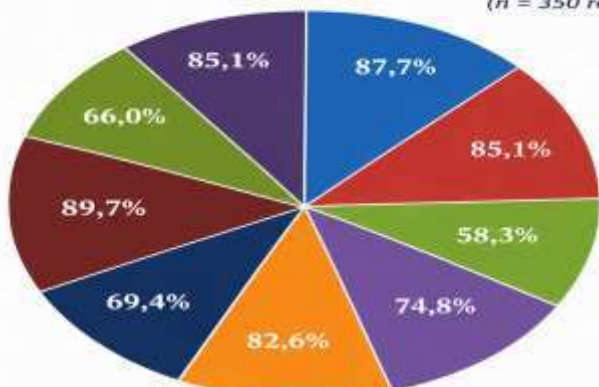
oshirishda katta natijalar ko'rsatmoqda. Hozirgi kunda ko'plab rivojlangan davlatlarda sun'iy intellekt asosidagi dasturlar mammografiya, tomografiya va boshqa tibbiy tasvirlarni tahlil qilish orqali shifokorlarga yordam bermoqda. Ushbu texnologiyalar qisqa vaqt ichida katta miqdordagi ma'lumotlarni qayta ishlashi sababli diagnostika jarayonini tezlashtiradi hamda inson omili tufayli yuzaga keladigan ayrim xatolarni kamaytiradi. Bundan tashqari, AI texnologiyalari bemorlarning individual holatini hisobga olgan holda davolash rejasini ishlab chiqishda ham samarali vosita bo'lib xizmat qilmoqda. Shu bilan birga, sun'iy intellekt texnologiyalarining onkologiyada qo'llanilishi bilan bog'liq ayrim muammolar ham mavjud. Jumladan, texnologiyalarning yuqori narxi, ma'lumotlar xavfsizligi, maxfiylik masalalari hamda AI tizimlariga haddan tashqari ishonish kabi omillar mutaxassislar tomonidan muhokama qilinmoqda. Shunga qaramay, zamonaviy ilmiy tadqiqotlar sun'iy intellektning kelajak tibbiyotida muhim o'rin egallashini ko'rsatmoqda. Mazkur maqolaning asosiy maqsadi sun'iy intellektning onkologiya sohasida qo'llanilish imkoniyatlarini o'rganish, uning diagnostika va davolash jarayonidagi samaradorligini tahlil qilish

hamda ushbu texnologiyaning afzalliklari va mavjud muammolarini ilmiy jihatdan yoritishdan iborat.

Mazkur tadqiqot Samarqand shahri hamda Samarqand viloyatida istiqomat qiluvchi turli yoshdagi aholi vakillari orasida o'tkazildi. Tadqiqotning asosiy maqsadi aholining onkologik kasalliklar, ularni erda aniqlash usullari va sun'iy intellekt texnologiyalarining tibbiyotdagi o'zni haqidagi bilim hamda qarashlarini o'rganishdan iborat bo'ldi. Tadqiqot davomida respondentlarning zamonaviy texnologiyalarga bo'lgan ishonchi, AI tizimlarining samaradorligi haqidagi fikrlari va onkologiyada sun'iy intellektdan foydalanishga munosabati tahlil qilindi. So'rov natijalariga ko'ra, respondentlarning katta qismi onkologik kasalliklar hozirgi davrning eng xavfli va keng tarqalgan kasalliklaridan biri ekanligini ta'kidlagan. Ishtirokchilarning aksariyati saraton kasalligini erda bosqichda aniqlash bemorning yashab qolish ehtimolini oshirishini qayd etgan. Shu bilan birga, ko'pchilik respondentlar an'anaviy diagnostika usullari ayrim hollarda uzoq vaqt talab qilishi hamda inson omili sababli xatoliklar yuzaga kelishi mumkinligini bildirgan

Samarqand aholisi orasida o'tkazilgan tadqiqot natijalari

(n = 350 respondent)



Har bir bo'lim bo'yicha respondentlarning ijobiy javoblari ulushi (%)



Tadqiqot natijalariga ko'ra, respondentlarning aksariyati AI texnologiyalarining onkologiyada katta ahamiyatga ega ekanligini va kelajakda uning roli yanada ortishini ta'kidlagan.

№	Tadqiqot yo'nalishlari	Ulushi (%)
1	Onkologik kasalliklar haqidagi umumiy tushuncha	87,7%
2	Erta diagnostikaning ahamiyati	85,1%
3	Sun'iy intellekt haqida xabardorlik	58,3%
4	AI texnologiyalariga ishonch darajasi	74,8%
5	MRT va KT tasvirlarini tahlil qilishdagi AI samaradorligi	78,9%
6	AI yordamida saratonni erda aniqlash imkoniyati	82,6%
7	Individual davolash rejaları	69,4%
8	AI texnologiyalarining afzalliklari	89,7%
9	AI texnologiyalarining kamchiliklari	66,0%
10	Kelajakda AI texnologiyalaridan foydalanish istiqbollari	85,1%

Diagnostika tizimining aniqlik darajasi quyidagi formula orqali baholanadi:

$$\text{Accuracy} = \frac{TP + TN}{TP + TN + FP + FN}$$

TP – to'g'ri aniqlangan musbat holatlar
TN – to'g'ri aniqlangan manfiy holatlar
FP – noto'g'ri musbat holatlar
FN – noto'g'ri manfiy holatlar

. Tadqiqot davomida respondentlarga sun'iy intellekt texnologiyalarining tibbiyotdagi qo'llanilishi haqida ma'lumot berilgandan so'ng ularning ushbu texnologiyalarga bo'lgan munosabati yanada ijobiylashgani kuzatildi. Aholining katta qismi AI texnologiyalari shifokorlarga yordam beruvchi samarali vosita bo'lishi mumkinligini ta'kidladi. Ayniqsa, MRT, KT, rentgen va mammografiya tasvirlarini tezkor hamda aniq tahlil qilish imkoniyati respondentlar tomonidan sun'iy intellektning eng muhim afzalliklaridan biri sifatida baholandi. Tahlillar shuni ko'rsatdiki, yosh respondentlar sun'iy intellekt texnologiyalariga nisbatan katta qiziqish bildirgan bo'lsa, yoshi kattaroq ishtirokchilar orasida AI tizimlariga nisbatan ehtiyotkorlik va ishonchsizlik holatlari ham kuzatildi. Ayrim respondentlar sun'iy intellekt inson o'rnini to'liq bosa olmasligini,

yakuniy qaror baribir shifokor tomonidan qabul qilinishi kerakligini ta'kidlagan. Bu esa aholining sun'iy intellektni mustaqil tizim emas, balki shifokorga yordam beruvchi texnologiya sifatida qabul qilayotganini ko'rsatadi.

Tadqiqot natijalariga ko'ra, respondentlarning ko'pchiligi AI texnologiyalari yordamida saraton kasalligini erta aniqlash imkoniyati ortishiga ishongan. Ishtirokchilar sun'iy intellektning tezkor ma'lumot tahlili orqali inson ko'zi ilg'amaydigan ayrim o'zgarishlarni ham aniqlash imkoniyatiga ega ekanligini muhim omil sifatida baholagan. Bundan tashqari, ayrim respondentlar AI yordamida individual davolash rejasini ishlab chiqish va kasallik rivojlanishini oldindan prognoz qilish imkoniyati tibbiyotning kelajagi uchun muhim ahamiyatga ega ekan

Samarqand aholisi orasida o'tkazilgan tadqiqot natijalari

(n = 350 respondent)

Nº	Tadqiqot yo'nallishi	Ko'rsatkichlar	Natijalar	Foiz (%)	Izoh
1	Onkologik kasalliklar haqidagi umumiy tushuncha	Saraton kasalligini xavfli kasallik sifatida baholaganlar	307	87,7%	Aholi orasida onkologik kasalliklar haqida umumiy tushuncha mavjud.
2	Erta diagnostikaning ahamiyati	Erta aniqlash hayotni saqlab qoladi deb hisoblaganlar	298	85,1%	Profilaktika va erta diagnostikaning muhimligi yaxshi tushunilgan.
3	Sun'iy intellekt haqida xabardorlik	AI haqida eshitgan yoki ma'lumotga ega bo'lganlar	204	58,3%	Yoshlar orasida xabardorlik darajasi yuqori, katta yoshdagilarda past.
4	AI texnologiyalariga ishonch darajasi	AI shifokorlarga yordam beradi deb hisoblaganlar	262	74,8%	AI mustaqil emas, yordamchi texnologiya sifatida qabul qilinmoqda.
5	MRT va KT tasvirlarini tahlil qilishdagi AI samaradorligi	AI tasvirlarni tezkor va aniq tahlil qiladi deb hisoblaganlar	276	78,9%	Diagnostika jarayonini tezlashtirish asosiy afzallik sifatida baholandi.
6	AI yordamida saratonni erta aniqlash imkoniyati	AI erda diagnostikani yaxshilaydi deb hisoblaganlar	289	82,6%	Yosh respondentlar orasida bu fikr keng qo'llab-quvvatlandi.
7	Individual davolash rejaları	AI bemor uchun mos davolash usullarini tanlashda foydali deb hisoblaganlar	243	69,4%	AI individual yondashuvni takomillashtirishga yordam beradi.
8	AI texnologiyalarining afzalliklari	Tezkorlik, aniqlik, inson omili bilan bog'liq xatolarni kamaytirish	314	89,7%	Respondentlar texnologiyaning amaliy foydasini yuqori baholadi.
9	AI texnologiyalarining kamchiliklari	Yuqori narx va ma'lumotlar xavfsizligi muammo deb topildi	231	66,0%	Maxfiylik va texnik xarajatlar asosiy muammo sifatida ko'rsatildi.
10	Kelajakda AI texnologiyalaridan foydalanish istiqbollari	AI kelajak tibbiyotining muhim qismi bo'ladi deb hisoblaganlar	298	85,1%	Aholi zamonaviy texnologiyalarga ijobiy munosabatda.

Diagnostika tizimining aniqlik darajasi quyidagi formula orqali baholanadi:

$$Accuracy = \frac{TP + TN}{TP + TN + FP + FN}$$

Bu yerda:
TP – to'g'ri aniqlangan musbat holatlar
TN – to'g'ri aniqlangan manfiy holatlar
FP – noto'g'ri musbat holatlar
FN – noto'g'ri manfiy holatlar

ligini bildirgan. Shuningdek, tadqiqot davomida ayrim muammolar ham aniqlangan. Jumladan, respondentlarning bir qismi sun'iy intellekt texnologiyalari

haqida yetarli ma'lumotga ega emasligini bildirgan. Ba'zi ishtirokchilar esa zamonaviy texnologiyalarning yuqori narxi va barcha tibbiyot muassasalarida mavjud emasligini

asosiy muammolardan biri sifatida ko'rsatgan. Bundan tashqari, ma'lumotlar xavfsizligi va bemorlarning shaxsiy ma'lumotlarini himoya qilish masalasi ham respondentlar tomonidan muhim muammo sifatida qayd etilgan. Tadqiqot davomida AI diagnostika tizimlarining samaradorligini baholashga oid ilmiy ma'lumotlar ham tahlil qilindi.

Mazkur tadqiqot natijalari sun'iy intellekt texnologiyalarining onkologiya sohasida muhim ahamiyat kasb etayotganini ko'rsatdi. Samarqand aholisi orasida o'tkazilgan so'rovnoma natijalariga ko'ra, respondentlarning aksariyati AI texnologiyalarining saraton kasalligini erta aniqlash va diagnostika jarayonini takomillashtirishdagi rolini ijobiy baholagan. Bu esa zamonaviy texnologiyalarga nisbatan jamiyatda qiziqish va ishonch asta-sekin ortib borayotganini ko'rsatadi. Tadqiqot davomida respondentlar tomonidan AI texnologiyalarining eng muhim afzalliklari sifatida tezkorlik, aniqlik va inson omili bilan bog'liq xatolarni kamaytirish imkoniyati qayd etildi. Ayniqsa, MRT, KT va mammografiya tasvirlarini tahlil qilishda sun'iy intellektning yuqori samaradorligi zamonaviy tibbiyot rivojlanishida katta ahamiyatga ega ekanligi aniqlandi. Bu natijalar xorijiy ilmiy tadqiqotlar bilan ham mos keladi. Ko'plab xalqaro tadqiqotlarda AI texnologiyalari ayrim hollarda saraton belgilarini an'anaviy usullarga qaraganda tezroq aniqlashi mumkinligi ta'kidlangan. Shuningdek, tadqiqot natijalari sun'iy intellekt texnologiyalarining individual davolash strategiyalarini ishlab chiqishda ham istiqbolli ekanligini ko'rsatdi. AI tizimlari katta hajmdagi klinik ma'lumotlarni tahlil qilish orqali bemorning holatiga mos davolash usullarini tavsiya qilishi mumkin. Bu esa davolash samaradorligini oshirish va bemorlarning yashash sifatini yaxshilashga xizmat qiladi. Ayniqsa, precision medicine yo'nalishida sun'iy

intellekt texnologiyalarining roli tobora ortib bormoqda. Biroq tadqiqot davomida ayrim muammolar ham aniqlangan. Respondentlarning ma'lum qismi sun'iy intellekt texnologiyalari haqida yetarli bilimga ega emasligini bildirgan. Bu holat aholining zamonaviy tibbiy texnologiyalar haqidagi xabardorligini oshirish zarurligini ko'rsatadi. Bundan tashqari, ayrim respondentlar AI tizimlariga to'liq ishonch bildirmasligini, yakuniy qaror har doim shifokor tomonidan qabul qilinishi kerakligini ta'kidlagan. Ushbu fikrlar sun'iy intellektni inson o'rini bosuvchi emas, balki tibbiyot xodimlariga yordam beruvchi texnologiya sifatida ko'rish kerakligini anglatadi. Tadqiqot davomida texnik va iqtisodiy muammolar ham muhokama qilindi. Jumladan, AI texnologiyalarini joriy etish yuqori moliyaviy xarajatlarni talab qilishi, zamonaviy texnik uskunalarning barcha tibbiyot muassasalarida mavjud emasligi hamda ma'lumotlar xavfsizligi bilan bog'liq muammolar mavjudligi aniqlandi. Ayniqsa, bemorlarning shaxsiy ma'lumotlarini himoya qilish masalasi zamonaviy tibbiyotda dolzarb muammolardan biri hisoblanadi. Shu bilan birga, tadqiqot natijalari sun'iy intellektning onkologiya sohasidagi istiqbollari juda yuqori ekanligini ko'rsatdi. Kelajakda AI texnologiyalari yordamida saraton kasalligini yanada erta aniqlash, davolash sifatini oshirish va diagnostika jarayonini avtomatlashtirish imkoniyatlari kengayishi kutilmoqda. Bu esa onkologik kasalliklardan o'lim ko'rsatkichini kamaytirish va tibbiyot xizmatlari sifatini yaxshilashga xizmat qilishi mumkin. Umuman olganda, tadqiqot natijalari sun'iy intellekt texnologiyalarining onkologiyada samarali va istiqbolli vosita ekanligini tasdiqladi. Shu sababli AI texnologiyalarini rivojlantirish, tibbiyot muassasalariga joriy etish hamda aholining bu boradagi bilimlarini oshirish muhim vazifalardan biri hisoblanadi. Xulosa qilib aytganda, sun'iy intellekt

texnologiyalarining onkologiya sohasida qo'llanilishi zamonaviy tibbiyotning eng muhim va istiqbolli yo'nalishlaridan biri hisoblanadi. Tadqiqot natijalari AI texnologiyalari saraton kasalligini erta aniqlash, diagnostika aniqligini oshirish hamda davolash jarayonini takomillashtirishda muhim ahamiyatga ega ekanligini ko'rsatdi. Ayniqsa, MRT, KT va boshqa tibbiy tasvirlarni tezkor tahlil qilish imkoniyati onkologik kasalliklarni dastlabki bosqichlarda aniqlash samaradorligini oshirishga yordam beradi.

Samarqand aholisi orasida o'tkazilgan tadqiqot natijalari respondentlarning katta qismi sun'iy intellekt texnologiyalariga ijobiy munosabatda ekanligini ko'rsatdi. Ishtirokchilar AI texnologiyalarining tezkorligi, aniqligi va inson omili bilan bog'liq ayrim xatolarni kamaytirish imkoniyatlarini muhim afzallik sifatida baholagan. Shu bilan birga, ayrim respondentlar texnologiyalar haqida yetarli bilimga ega emasligi, ma'lumotlar xavfsizligi va yuqori xarajatlar bilan bog'liq muammolar mavjudligini ham ta'kidlagan. Tadqiqot davomida sun'iy intellektning individual davolash usullarini ishlab chiqish, kasallik rivojlanishini prognoz qilish hamda shifokorlarning ish faoliyatini yengillashtirishdagi roli ham muhim ekani aniqlandi. Bu esa AI texnologiyalarining kelajak tibbiyotida yanada kengroq qo'llanilishiga zamin yaratadi. Biroq sun'iy intellekt tizimlari shifokor faoliyatining o'rnini to'liq bosmasligi, balki yordamchi vosita sifatida xizmat qilishi lozimligi ham muhim omil hisoblanadi. Shuningdek, onkologiya sohasida sun'iy intellektdan samarali foydalanish uchun zamonaviy texnik baza yaratish, mutaxassislarni tayyorlash va aholining AI texnologiyalari haqidagi bilimlarini oshirish zarur. Tibbiyot muassasalarida zamonaviy texnologiyalarni keng joriy etish orqali diagnostika va davolash sifatini yanada yaxshilash mumkin.

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Psychology Of Oncological Patients: Clinical Significance Of Post-Diagnostic Adjustment, Emotional Distress, And Psychosocial Support

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Annotation

This article examines the process of psychological adaptation in oncology patients after diagnosis, emotional distress, and the clinical significance of psychosocial support. The study was conducted using a conceptual-analytical approach, integrating findings from international scientific literature and clinical-psychological observations. The results indicate that psychological reactions associated with cancer are dynamic and vary across different stages of the disease. Emotional distress significantly affects patients' quality of life, treatment adherence, and decision-making processes. In addition, doctor-patient communication, coping strategies, and social support were identified as key factors in maintaining psychological stability. The article proposes a conceptual model for integrating psychological screening and brief psychosocial interventions into oncological practice.

Keywords: oncology patient, psychological adaptation, emotional distress, quality of life, coping strategies, psychosocial support, treatment adherence

Annotatsiya

Mazkur maqolada onkologik bemorlarda tashxis qo'yilganidan keyingi psixologik moslashuv jarayoni, emotsional distress va psixososial qo'llab-quvvatlashning klinik ahamiyati tahlil qilinadi. Tadqiqot konseptual-analitik yondashuv asosida olib borilib, xalqaro ilmiy adabiyotlar hamda klinik-psixologik kuzatuvlar natijalari integratsiya qilindi. Natijalar shuni ko'rsatdiki, onkologik kasallik bilan bog'liq psixologik reaksiyalar kasallikning turli bosqichlarida dinamik tarzda namoyon bo'ladi. Emotsional distress bemorning hayot sifati, davolanishga rioya qilishi va qaror qabul qilish jarayoniga sezilarli ta'sir ko'rsatadi. Shuningdek, shifokor-bemor kommunikatsiyasi, coping strategiyalari va ijtimoiy qo'llab-quvvatlash psixologik barqarorlikni shakllantirishda muhim omillar sifatida qayd etildi. Maqolada psixologik skrining va qisqa psixososial aralashuvlarni onkologik amaliyotga integratsiya qilishning konseptual modeli taklif etiladi.

Kalit so'zlar: onkologik bemor, psixologik moslashuv, emotsional distress, hayot sifati, coping strategiyalari, psixososial qo'llab-quvvatlash, davolanishga rioya qilish.

Onkologik kasalliklar zamonaviy tibbiyot va sog'liqni saqlash tizimi oldida turgan eng dolzarb muammolardan biri bo'lib, ular nafaqat biologik jarayonlar bilan, balki insonning psixologik va ijtimoiy hayoti bilan ham chambarchas bog'liqdir. Saraton tashxisi qo'yilishi ko'pincha bemor hayotida keskin burilish yasaydi va uning o'zini anglash tizimi, kelajak haqidagi rejalari, qadriyatlarini hamda ijtimoiy rollarini qayta ko'rib chiqishga majbur etadi. Shu sababli onkologik kasalliklarni faqat somatik

kasallik sifatida emas, balki biopsixosotsial yondashuv doirasida o'rganish zarurati tobora ortib bormoqda.

Tashxis qo'yilgan ilk davrda bemorlar ko'pincha kuchli emotsional reaksiyalarni boshdan kechiradilar. Shok, inkor, qo'rquv, xavotir va noaniqlik hissi bu jarayonning eng keng tarqalgan psixologik komponentlari hisoblanadi. Ushbu reaksiyalar organizmning stressga moslashuv mexanizmlari sifatida yuzaga chiqsa-da, ular uzoq davom etganda yoki haddan

tashqari kuchayganda klinik ahamiyatga ega bo'lgan emotsional distress holatiga aylanishi mumkin. Emotsional distress esa bemorning qaror qabul qilish jarayoniga, davolanishga rioya qilishiga va shifokor-bemor munosabatlariga sezilarli darajada ta'sir ko'rsatadi.

So'nggi yillarda psixo-onkologiya yo'nalishida olib borilgan ilmiy tadqiqotlar onkologik bemorlar orasida xavotir, depressiya va travmadan keyingi stress belgilarining yuqori darajada uchrashini ko'rsatmoqda. Shu bilan birga, ushbu psixologik holatlarning kasallikning kechishi, davolanish samaradorligi va bemorning hayot sifati bilan o'zaro bog'liqligi ham keng o'rganilmoqda. Biroq amaliyotda psixologik baholash va psixososial qo'llab-quvvatlash ko'pincha tizimli emas, balki epizodik tarzda amalga oshiriladi. Bu esa ko'plab bemorlarning ehtiyojlari to'liq qondirilmassligiga olib keladi. Ilmiy adabiyotlarda onkologik bemor psixologiyasiga oid ko'plab dalillar mavjud bo'lishiga qaramay, ularni klinik qaror qabul qilish jarayoniga integratsiya qilish mexanizmlari yetarlicha ishlab chiqilmagan. Xususan, tashxisni yetkazish sifati, bemorning individual psixologik xususiyatlari, coping strategiyalari hamda ijtimoiy qo'llab-quvvatlash darajasi o'rtasidagi o'zaro bog'liqlik kompleks tarzda tizimlashtirilmagan. Ko'plab tadqiqotlar ushbu omillarni alohida o'rganadi, biroq ularni yagona dinamik tizim sifatida ko'rib chiqish va amaliy algoritmlarga aylantirishda muayyan bo'shliqlar mavjud. Bundan tashqari, madaniy va ijtimoiy omillar ham onkologik bemorlarning psixologik moslashuv jarayoniga sezilarli ta'sir ko'rsatadi. Xususan, oilaviy munosabatlar, jamiyatdagi kasallikka nisbatan mavjud stereotiplar va stigmatizatsiya, shuningdek, qaror qabul qilishda kollektiv yondashuvning ustunligi ayrim mintaqalarda psixologik reaksiyalarning o'ziga xos shakllanishiga

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olib keladi. Bu esa xalqaro ilmiy modellarni to'g'ridan-to'g'ri qo'llashni cheklaydi va mahalliy kontekstni hisobga olgan holda yangi yondashuvlarni ishlab chiqishni talab qiladi.

Shu nuqtai nazardan, onkologik bemor psixologiyasini chuqur o'rganish, emotsional distressning asosiy determinantlarini aniqlash va psixososial qo'llab-quvvatlash mexanizmlarini tizimli ravishda ishlab chiqish dolzarb ilmiy vazifa hisoblanadi. Ayniqsa, psixologik baholashni davolanish jarayonining barcha bosqichlariga integratsiya qilish, bemorning individual ehtiyojlariga moslashtirilgan aralashuvlarni qo'llash va shifokor-bemor kommunikatsiyasini optimallashtirish orqali klinik natijalarni yaxshilash imkoniyati mavjud.

Mazkur maqolaning maqsadi onkologik bemorlarda tashxisdan keyingi psixologik moslashuv jarayonini har tomonlama tahlil qilish, emotsional distressning shakllanishiga ta'sir etuvchi klinik va ijtimoiy omillarni aniqlash hamda psixososial qo'llab-quvvatlashning davolanishga rioya qilish va hayot sifati bilan bog'liqligini konseptual asosda yoritishdan iborat. Shuningdek, tadqiqot doirasida psixologik skrining va qisqa aralashuvlarni klinik amaliyotga integratsiya qilishning mantiqiy modeli taklif etilishi ko'zda tutiladi.

(Metodlar)

Mazkur tadqiqot konseptual-analitik metodologiya asosida tashkil etildi. Ushbu yondashuv onkologik bemorlar psixologiyasiga oid mavjud ilmiy bilimlarni tizimlashtirish, turli nazariy va empirik natijalarni integratsiya qilish hamda klinik amaliyot uchun umumlashtirilgan xulosalar ishlab chiqishga qaratilgan. Tadqiqot dizayni kvantitativ statistik tahlildan ko'ra, dalillarga asoslangan sifatli (qualitative) tahlilni ustuvor deb bildi.

Tadqiqot doirasida xalqaro va mintaqaviy ilmiy adabiyotlarning maqsadli (targeted) sharhi amalga oshirildi. Tanlab olingan

manbalar psixo-onkologiya, klinik psixologiya, tibbiy sotsiologiya hamda sog'liq psixologiyasi yo'nalishlarini qamrab oldi. Adabiyotlarni tanlashda quyidagi mezonlar asosiy kriteriyalar sifatida belgilandi:

emotsional distress, depressiya va xavotirning klinik ahamiyati coping strategiyalari va ularning samaradorligi

ijtimoiy qo'llab-quvvatlashning shakllari va mexanizmlari

shifokor-bemor kommunikatsiyasi sifatida hayot sifativa davolanishga rioya qilish ko'rsatkichlari

Manbalar asosan so'nggi yillarda chop etilgan ilmiy maqolalar, tizimli sharhlar (systematic reviews) va meta-tahlillar orasidan tanlab olindi. Bu yondashuv tadqiqotning zamonaviy ilmiy dalillarga asoslanishini ta'minlashga xizmat qildi.

Adabiyotlar sharhi bilan bir qatorda, klinik-psixologik kuzatuvlarning umumlashtirilgan tahlili ham amalga oshirildi. Ushbu bosqichda turli bosqichdagi onkologik bemorlar bilan muloqot jarayonida kuzatiladigan tipik emotsional (masalan, xavotir, tushkunlik), kognitiv (masalan, katastrofik fikrlash, noaniqlikka nisbatan intolerantlik) va xulqiy (masalan, davolanishdan qochish yoki ortiqcha tekshiruvlar talab qilish) reaksiyalar tizimlashtirildi.

Tadqiqotda taqqoslash (comparative analysis) metodi yordamida turli ilmiy yondashuvlar va modellar o'zaro qiyoslandi. Xususan, distress modellari, psixologik moslashuv nazariyalari va psixosozial aralashuvlarning samaradorlik mexanizmlari o'rganildi. Bu esa mavjud ilmiy qarashlarning o'xshash va farqli jihatlarini aniqlash imkonini berdi.

Analitik umumlashtirish (analytical synthesis) metodi orqali esa olingan natijalar bir tizimga keltirildi va klinik amaliyot uchun mos keladigan integratsion model ishlab chiqildi. Ushbu model

psixologik skrining, kommunikatsiya strategiyalari va qisqa psixosozial aralashuvlarni o'z ichiga oluvchi ko'p bosqichli tizim sifatida shakllantirildi.

Mazkur tadqiqot empirik ma'lumotlarni to'g'ridan-to'g'ri statistik qayta ishlashni o'z ichiga olmagan bo'lsa-da, u ilmiy adabiyotlar va klinik kuzatuvlarga tayangan holda konseptual asoslangan xulosalar chiqarishga qaratilgan. Shu sababli natijalar sifat jihatdan talqin qilindi va amaliy implikatsiyalar ishlab chiqildi.

Tadqiqotning metodologik yondashuvi onkologik bemor psixologiyasining ko'p omilli va dinamik tabiatini hisobga olishga imkon berdi. Nazariy bilimlar va amaliy kuzatuvlarning integratsiyasi esa klinik muhitda qo'llanilishi mumkin bo'lgan aniq va tizimli tavsiyalarni ishlab chiqishga zamin yaratdi.

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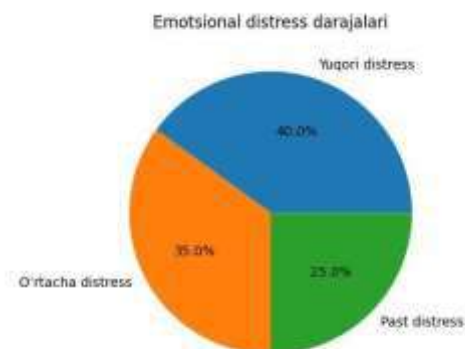
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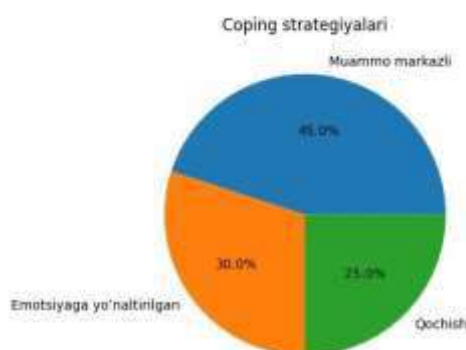
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Mazkur tadqiqot natijalari onkologik bemorlar psixologiyasining murakkab, ko'p qatlamli va dinamik tabiatini yana bir bor tasdiqlaydi. Olingan natijalar shuni ko'rsatadiki, psixologik moslashuv jarayoni chiziqli emas, balki kasallikning turli bosqichlari, bemorning individual psixologik xususiyatlari va ijtimoiy muhit bilan o'zaro ta'sirda shakllanadigan kompleks tizimdir. Bu holat onkologik bemorlar bilan ishlashda universal yondashuvdan ko'ra individual va moslashuvchan strategiyalarni qo'llash zarurligini ko'rsatadi.

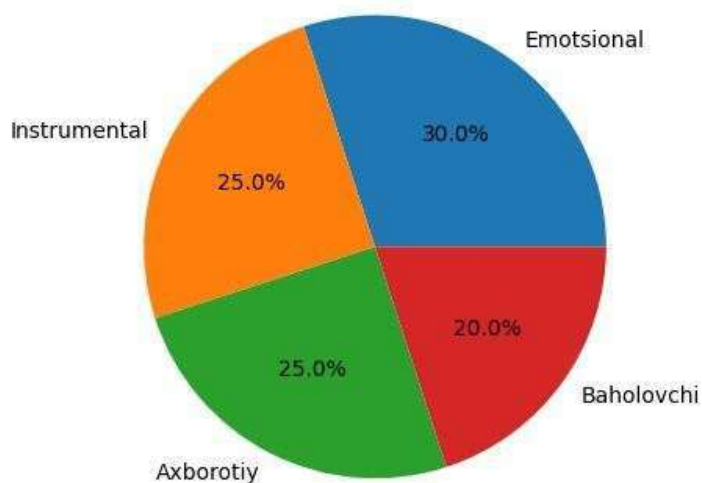


Tadqiqotda aniqlanganidek, tashxis qo'yilgan davr psixologik jihatdan eng

sezgir bosqich hisoblanadi. Ushbu bosqichda yuzaga keladigan shok, inkor va kuchli xavotir holatlari bemorning kognitiv jarayonlariga sezilarli ta'sir ko'rsatib, uning axborotni qayta ishlash va qaror qabul qilish qobiliyatini pasaytiradi. Shu sababli aynan shu davrda psixologik qo'llab-quvvatlashni yo'lga qo'yish bemorning keyingi moslashuv jarayoni uchun hal qiluvchi ahamiyatga ega bo'lishi mumkin. Bu natija psixo-onkologiya sohasidagi mavjud nazariy qarashlar bilan hamohang bo'lib, distressni erta aniqlash va unga tezkor aralashish zarurligini asoslaydi.

Davolanishning faol bosqichida aniqlangan psixologik o'zgarishlar esa bemorning jismoniy holati bilan psixologik holati o'rtasidagi uzviy bog'liqlikni ko'rsatadi. Jismoniy simptomlar, xususan og'riq, charchoq va tashqi ko'rinishdagi o'zgarishlar bemorning o'z-o'zini baholashiga salbiy ta'sir ko'rsatib, depressiv simptomlarning kuchayishiga olib kelishi mumkin. Bu esa biopsixosotsial modelning amaliy tasdig'i sifatida qaraladi, ya'ni biologik o'zgarishlar psixologik va ijtimoiy jarayonlar bilan bevosita bog'liq holda namoyon bo'ladi.

Ijtimoiy qo'llab-quvvatlash turlari



Remissiya bosqichiga oid natijalar ayniqsa muhim bo'lib, ular ko'pincha e'tibordan chetda qoladigan psixologik muammolarni ochib beradi. Tashqi jihatdan sog'ayish kuzatilgan bo'lsa-da, bemor ichki jihatdan qaytalanishdan qo'rquv, noaniqlik va xavotirni boshdan kechirishi mumkin. Bu esa psixologik yordam faqat faol davolanish bosqichida emas, balki undan keyingi davrda ham davom ettirilishi zarurligini ko'rsatadi.

Tadqiqot natijalari shifokor-bemor kommunikatsiyasining muhim rolini ham alohida ta'kidlaydi. Axborotning tushunarli,

aniq va individual ehtiyojlarga mos tarzda yetkazilishi bemorda nazorat hissini shakllantiradi va distress darajasini kamaytiradi. Aksincha, noaniqlik va yetarli tushuntirishlarning yo'qligi xavotirni kuchaytiradi. Shu nuqtai nazardan, kommunikatsiya faqat axborot uzatish vositasi emas, balki psixologik aralashuvning muhim komponenti sifatida qaralishi lozim.

Coping strategiyalariga oid natijalar bemorning faol ishtiroki va ichki resurslarining ahamiyatini ko'rsatadi. Muammo markazli coping strategiyalari

bemorning vaziyatni boshqarish hissini kuchaytiradi va ijobiy psixologik natijalarga olib keladi. Aksincha, qochish yoki passiv strategiyalar qisqa muddatli himoya mexanizmi sifatida ishlansa-da, uzoq muddatda distressni kuchaytiradi. Bu esa psixologik intervensiyalarda coping ko'nikmalarini rivojlantirish muhim yo'nalish bo'lishi kerakligini ko'rsatadi.

Ijtimoiy qo'llab-quvvatlash tizimining tahlili uning ko'p o'lchovli va murakkab tabiatini ochib berdi. Tadqiqot natijalari qo'llab-quvvatlashning mavjudligi emas, balki uning sifat va moslik darajasi hal qiluvchi ahamiyatga ega ekanligini ko'rsatadi. Masalan, ortiqcha nazorat yoki majburiy optimizm bemorda ichki qarama-qarshiliklarni kuchaytirishi mumkin. Shu sababli qo'llab-quvvatlash individual ehtiyojlarga mos ravishda tashkil etilishi zarur.

Mazkur tadqiqot natijalari asosida taklif etilgan integratsion model onkologik amaliyotda psixologik omillarni tizimli ravishda hisobga olish imkonini beradi. Ushbu model psixologik skrining, samarali kommunikatsiya va qisqa psixosozial aralashuvlarni o'z ichiga olgan ko'p bosqichli tizim sifatida qaraladi. Bunday yondashuv bemorning psixologik holatini yaxshilash bilan birga, davolanish samaradorligini oshirishga ham xizmat qiladi.

Shu bilan birga, mazkur natijalar kelgusidagi ilmiy tadqiqotlar uchun muhim yo'nalishlarni ham belgilaydi. Xususan, psixologik aralashuvlarning samaradorligini empirik ravishda baholash, turli madaniy kontekstlarda psixologik moslashuv jarayonini chuqur o'rganish va individual farqlarni hisobga olgan personalizatsiyalangan yondashuvlarni ishlab chiqish istiqbolli yo'nalishlar sifatida ko'riladi.

Umuman olganda, tadqiqot natijalari onkologik bemor psixologiyasini davolanish jarayonining ajralmas qismi sifatida ko'rish

zarurligini ilmiy jihatdan asoslab beradi. Psixologik omillarni tizimli ravishda integratsiya qilish esa nafaqat bemorning emotsional holatini yaxshilaydi, balki umumiy klinik natijalarning ham sezilarli darajada yaxshilanishiga olib keladi

Conclusion (Xulosa)

Mazkur tadqiqot onkologik bemorlar psixologiyasining murakkab, ko'p omilli va dinamik tabiatini har tomonlama tahlil qilish orqali psixologik moslashuv jarayonining kasallikning turli bosqichlarida qanday shakllanishini ochib berdi. Olingan natijalar shuni ko'rsatadiki, onkologik tashxis bemor hayotida nafaqat jismoniy, balki chuqur psixologik o'zgarishlarga ham olib keladi va bu o'zgarishlar uning emotsional holati, kognitiv faoliyati hamda xulq-atvor strategiyalariga bevosita ta'sir ko'rsatadi.

Tadqiqot davomida aniqlanganidek, emotsional distress onkologik bemorlarning psixologik holatini belgilovchi markaziy omillardan biri hisoblanadi. Xavotir, depressiv simptomlar va noaniqlik hissi bemorning davolanish jarayonidagi faol ishtirokini cheklashi, qaror qabul qilish qobiliyatini susaytirishi hamda davolanishga rioya qilish darajasini pasaytirishi mumkin. Shu sababli distressni erta aniqlash va unga tizimli ravishda aralashish klinik amaliyotda ustuvor yo'nalishlardan biri bo'lishi zarurligi asoslab berildi.

Shuningdek, tadqiqot natijalari shifokor-bemor kommunikatsiyasi sifati va axborotning bemor uchun tushunarli tarzda yetkazilishi psixologik barqarorlikni shakllantirishda muhim rol o'ynashini ko'rsatdi. Individual yondashuv asosida tashkil etilgan kommunikatsiya bemorda nazorat hissini kuchaytiradi, noaniqlikni kamaytiradi va davolanish jarayoniga ijobiy munosabatni shakllantiradi.

Coping strategiyalari ham bemorning psixologik moslashuvida hal qiluvchi ahamiyatga ega ekanligi aniqlandi. Muammo markazli va faol coping

strategiyalari bemorning ichki resurslarini faollashtirib, uning stressga bardoshlilikini oshiradi hamda davolanish jarayoniga moslashuvini yengillashtiradi. Aksincha, qochish yoki passiv strategiyalar uzoq muddatda psixologik holatning yomonlashuviga olib kelishi mumkin.

Ijtimoiy qo'llab-quvvatlashning o'рни ham alohida ta'kidlandi. Tadqiqot natijalari qo'llab-quvvatlashning mavjudligi emas, balki uning sifati va bemorning individual ehtiyojlariga mosligi hal qiluvchi omil ekanligini ko'rsatdi. Oila a'zolari va yaqinlar tomonidan ko'rsatiladigan moslashgan, empatik va realistik qo'llab-quvvatlash bemorning psixologik barqarorligini mustahkamlashga xizmat qiladi.

Mazkur maqolaning asosiy ilmiy hissasi shundaki, unda onkologik bemor psixologiyasiga ta'sir etuvchi omillar yagona konseptual tizim doirasida umumlashtirildi va ularni klinik amaliyotga integratsiya qilishning mantiqiy modeli taklif etildi. Ushbu model psixologik skrining, samarali kommunikatsiya va qisqa psixososial aralashuvlarni o'z ichiga olgan ko'p bosqichli tizim sifatida ishlab chiqildi.

Xulosa qilib aytganda, onkologik bemorlar bilan ishlashda psixologik omillarni e'tibordan chetda qoldirmaslik, balki ularni davolanish jarayonining ajralmas va muhim komponenti sifatida ko'rish zarur. Psixologik yordamni tizimli ravishda integratsiya qilish bemorning nafaqat emotsional holatini yaxshilaydi, balki davolanish samaradorligini oshiradi va umumiy klinik natijalarning sezilarli darajada yaxshilanishiga olib keladi. Shu jihatdan, psixo-onkologik yondashuvni rivojlantirish zamonaviy tibbiyotning ustuvor yo'nalishlaridan biri sifatida qaralishi lozim. Shu bilan birga, mazkur natijalar kelgusidagi ilmiy tadqiqotlar uchun muhim yo'nalishlarni ham belgilaydi. Xususan, psixologik aralashuvlarning samaradorligini empirik ravishda baholash, turli madaniy kontekstlarda psixologik moslashuv

jarayonini chuqur o'rganish va individual farqlarni hisobga olgan personalizatsiyalangan yondashuvlarni ishlab chiqish istiqbolli yo'nalishlar sifatida ko'riladi.

Umuman olganda, tadqiqot natijalari onkologik bemor psixologiyasini davolanish jarayonining ajralmas qismi sifatida ko'rish zarurligini ilmiy jihatdan asoslab beradi. Psixologik omillarni tizimli ravishda integratsiya qilish esa nafaqat bemorning emotsional holatini yaxshilaydi, balki umumiy klinik natijalarning ham sezilarli darajada yaxshilanishiga olib keladi

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Fertility Of Soils In The Middle River Of The Zarafshan River And Changes In Its Microflora

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Annotation

This work analyzes soil fertility and changes in the microflora of the middle reaches of the Zarafshan River, as well as the impact of decisions made by the President of the Republic of Uzbekistan on these processes. The study examined the main soil types of the region, their physicochemical properties, humus content, and microbiological activity.

It also highlights the importance of agrotechnical, agrochemical, and agro-reclamation measures aimed at increasing soil fertility, including the use of organic fertilizers, sowing green manure crops, the introduction of crop rotation, and modern irrigation methods. Based on presidential decrees, measures taken to prevent soil degradation, increase humus content, and restore soil microflora were analyzed.

Keywords: Zarafshan River, soil fertility, soil microflora, humus, land degradation, organic fertilizers, green manure crops, crop rotation, soil biological activity, sierozems, alluvial soils, salinization, irrigated lands.

Introduction. Nowadays, the efficient use of agricultural land in the Republic of Uzbekistan, as well as the preservation and enhancement of soil fertility, is one of the important directions of state policy. In particular, increasing the fertility of irrigated serozem and alluvial soils located in the middle reaches of the Zarafshan River and restoring their biological activity, including microflora, is one of the most pressing issues.

In recent years, the President of the Republic of Uzbekistan has adopted a number of resolutions aimed at increasing soil fertility, preventing land degradation, and improving its agromeliorative condition [1; 1-15-p].

Resolution № PP-71 dated February 13, 2024, "On measures to combat the degradation of agricultural land, increase the amount of humus in the soil, and enhance its fertility," is of great importance in increasing soil fertility.

Microbiological processes and microorganisms occurring in the soil are of great importance in increasing soil fertility [1; 1-15-6 2; 15-30-p].

According to data, soil microorganisms include bacteria, actinomycetes, and fungi, of which about 70 % are bacteria, about 27–30 % are actinomycetes, and approximately 1–3 % are fungi.

If the agrophysical and water-physical properties of the soil are within normal ranges, the movement of microorganisms in it activates, resulting in an increase in soil fertility. Therefore, knowledge of soil microflora and biology, as well as the assessment of various agrotechnological measures, is very important issue. In particular, the use of green manure on fields cleared of cotton in the short-rotation cotton-grain crop rotation affects not only the agrophysical properties of the soil but also all vital processes occurring in the plant and the microbiological activity of the soil; therefore, its study is one of the most pressing issues.

Research Methods. Research was conducted using standard methods generally accepted in soil science, including field, laboratory, and cameral analysis. These include: «Methods of agrochemical, agrophysical and microbiological research

and irrigated soil of cotton areas» created by CSSPCARI scientists; «Methods for studying the physical properties of soils and grounds» by A.F.Vadyunina, Z.A.Korchagina; «Guidelines for conducting chemical and agrophysical soil analyses during land monitoring» developed by the scientists of the Research Institute of Soil Science and Agrochemistry; and «Instructions on conducting soil surveys and drawing up soil maps for the maintenance of the state land cadastre » by R.Kuziev and others; as well as comparative-geographic and laboratory-analytical methods. Mathematical-statistical analysis of the obtained data was calculated using the «Microsoft Excel» program by the dispersion method (B.A.Dospexov).

Results. Given the importance of the problem, the influence of green manure crop species on the soil microflora of the experimental field was studied, and the results of the microbiological analysis are presented.

In the soils of the experimental field, the number of bacteria after sideration at the beginning of the growing season were close to each other in all variants, averaging 4.43–7.26 million bacteria per 1 g of soil over two years. During this time, it was established that the number of bacteria in the soil was influenced by the biomass left by the siderates in the soil. For example, in the experiment, the number of bacteria at the beginning and end of the cotton growing season decreased from 4.43 million to 4.32 million units per 1 g of soil in the control variant without green manure, while in the variant with mixed peas

Furthermore, based on the analysis, it was established that the number of bacteria in

the soils of the experimental field was 1.60–2.98 million units higher than the initial amount at the end of the growing season in the variants using green manure. In the experimental field, the number of bacteria was highest in the pea + rapeseed variant (7.30 million units per 1 g of soil).

At the beginning of the growing season, in the control variant (1 g of soil), there were an average of 1.18 million actinomycetes over two years; in the variants using sideration (peas, rapeseed, peas + rapeseed), this figure was 1.53; 1.28; 1.56 million units. The number of actinomycetes in the soils of the experimental field increased by 0.1–0.36 million units compared to the control variant with an increase in plant biomass, i.e., an increase in soil moisture.

At the end of the growing season, in the control variant without siderate, the number of actinomycetes averaged 1.20 million units, while in the variants using siderates, their number was 0.12–0.48 million units higher than in the control. At the same time, the number of actinomycetes in the pea + rapeseed variant was 0.48 million more than in the control. However, if the number of actinomycetes is compared at the beginning and end of the growing season, these indicators will certainly be higher than the initial amount.

At the beginning of the growing season, the number of fungi in the control variant averaged 20.2 thousand units per 1 g of soil over two years. As the biomass accumulated in the soil increased, the number of fungi in the soil increased by 21.2–24.5 thousand units compared to the control variant.

Table 1. Influence of soil microflora (0-40 cm), 2019–2020.

T/p	Experiment options	At the beginning of vegetation			At the end of vegetation		
		bacterial , mln/g in soil	actinomyces, million/g of soil	fungal items, thsd/g	bacterial , mln/g in soil	actinomyces, million/g of soil	fungal items, thsd/g
1.	Control-free	4,43	1,18	20,2	4,32	1,20	20,9
4.	Peas	6,12	1,53	42,6	6,24	1,60	43,3
8.	Rapeseed	5,83	1,28	41,4	5,92	1,32	42,5
9.	Peas + Rapeseed	7,26	1,56	44,7	7,30	1,68	45,2

At the end of the growing season, the amount of fungi in the soil composition in the control variant was 20.9 thousand/g, which was on average 21.6–24.3 thousand more than in the variants using green manure.

(See Table 1). During the statistical analysis of the relationship between green mass yields of green manure crops (peas, rapeseed, and their mixtures) and soil bacteria, it was established that there is an inverse correlation depending on the change in direction, a rectilinear correlation depending on the analytical expression, and their regression equation follows the expression $y = a - bx$, with a correlation coefficient equal to $r < 0.91$. This situation is noted at the beginning of the growing season. It is evident that when plants are grown for sideration, the increase in productivity and yield is statistically proven as a result of sowing crop types in pure and mixed forms (Fig. 1).

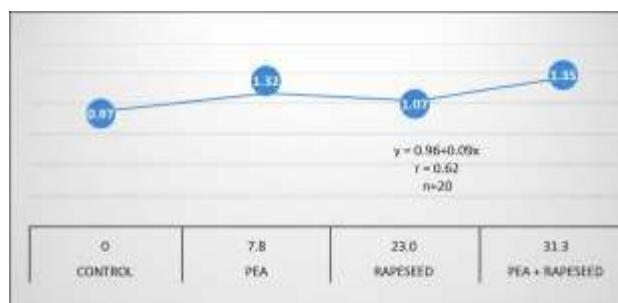


Figure 1. Dependence of the number of bacteria in the soil on the biomass of green manure crops at the beginning of the growing season.

When statistically analyzing the dependence of the number of actinomycetes on the biomass of green manure crops at the beginning of the growing season, the correlation was $r = 0.62$. This, in turn, expresses the relationship described above (Fig. 2).

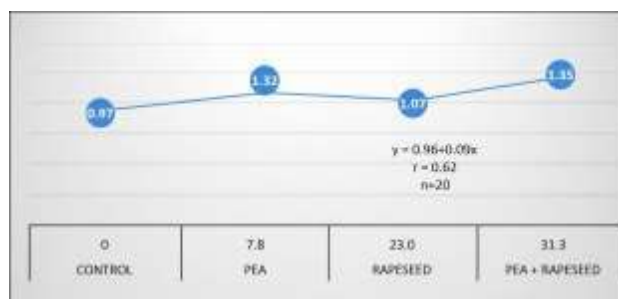


Figure 2. Dependence of the number of actinomycetes in the soil on the biomass of

green manure crops at the beginning of the growing season.

Our next statistical analysis is the dependence of the number of fungi on the biomass of green manure crops (at the beginning of the growing season). In this case, it also obeys the correlation equation $y=a+bx$ and is equal to $r=0.82$. This proves once again the dependence of the number of microorganisms in the soil on organic matter, as presented in scientific sources (Fig. 3).

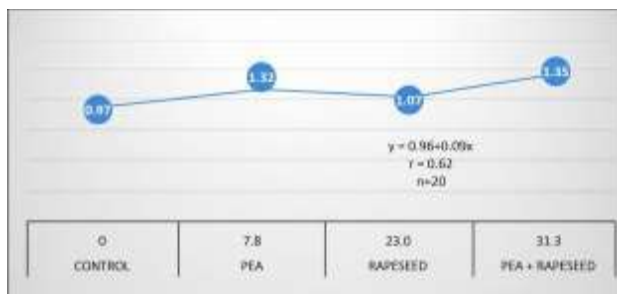


Figure 3. Dependence of the number of fungi in the soil on the biomass of green manure crops at the beginning of the growing season.

In the short-rotation cotton-grain crop rotation field, when sown in a mixture with peas and rapeseed as a siderate on areas cleared of cotton, it was observed that they had a positive effect on soil microflora; that is, at the beginning and end of the growing season (in the control variant, bacteria increased by 4.43–4.32 million/g, actinomycetes by 1.18–1.20 million/g, and fungi by 20.2–20.9 thousand/g of soil), the number of bacteria per 1 g of soil increased by 2.83–2.98 million, actinomycetes by 0.36–0.48 million, and fungi by 24.5–24.3 thousand units compared to the control variant. Due to this, the biomass of siderates decomposed in the soil quickly and in a short time. As a result, soil fertility has radically improved.

The amount of microorganisms is significantly influenced by the fall and

decomposition of the green mass of plants plowed as green manure into the soil. Especially when the chemical composition of siderates is high in protein and nitrogen, the number of microorganisms is at its highest.

Thus, when plowing green manure crops in pure or mixed form, the number of microorganisms in the soil in the variants using green manure increased by 2.83–2.98 million bacteria, 0.36–0.48 million actinomycetes, and 24.5–24.3 thousand fungi per 1 g of soil compared to the control variant without green manure; its microbiological activity increased, positively affecting soil fertility, as well as the development and yield of agricultural crops.

Conclusion. When the applied green manure was ground into the soil as green manure in the first decade of April, the amount of microorganisms (bacteria, actinomycetes, fungi) in the soil at the beginning and end of the cotton growing season increased by 2.83–2.98 million/g, 0.38–0.48 million/g, and 24.3–24.5 thousand/g compared to the control variant; due to the rapid and short-term decomposition of biomass in the soil, the proportion of macroaggregates in the pea+rapis variant increased by 16.55–17.40% compared to the control at the end of the cotton growing season. As a result, it was determined that the soil bulk density decreased by 0.02 g/cm³ – 0.04 g/cm³. Research results indicate that it is possible to steadily increase land fertility by increasing biological activity in the soil and restoring the microflora. The results of this work are important for increasing efficiency in agriculture and the rational use of land resources.

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Трансформация Торгово-Экономических Отношений Между Китаем И Узбекистан В Условиях Евразийской Интеграции (По Итогам I Квартала 2026 Года)

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Аннотация

В статье анализируется динамика и структурные изменения торгово-экономических отношений между Китаем и Узбекистаном по итогам первого квартала 2026 года. Особое внимание уделяется не только количественному росту двусторонней торговли, но и качественной трансформации её структуры, связанной с углублением промышленной кооперации, развитием транспортно-логистической инфраструктуры и расширением инвестиционного взаимодействия. Рассматриваются ключевые факторы, влияющие на формирование торгового баланса, включая технологические различия экономик и рост импортозависимости в условиях модернизации.

Отдельно исследуется роль инициативы Один пояс – один путь как важного драйвера региональной интеграции и усиления взаимосвязанности стран. Делается вывод о том, что, несмотря на сохраняющиеся дисбалансы, двусторонние отношения характеризуются устойчивым ростом и переходом к более сложной и взаимодополняющей модели сотрудничества. Подчеркивается стратегическая значимость партнерства в контексте формирования современной евразийской экономической архитектуры.

Ключевые слова: Китай, Узбекистан, торгово-экономическое сотрудничество, внешняя торговля, торговый баланс, инвестиции, транспортные коридоры, логистика, экономическая интеграция, «Один пояс – один путь», Евразия, индустриальное развитие

Торговые отношения между Узбекистаном и Китаем вступили в фазу стремительного роста, отражая растущее стратегическое и экономическое сближение обеих стран в Евразии.

Только в первом квартале 2026 года двусторонний товарооборот вырос на 35,5% в годовом исчислении, достигнув 4,109 млрд долларов США, согласно данным Главного таможенного управления Китая (ГТУ), опубликованным агентством Синьхуа.

Этот резкий рост подчеркивает не только укрепление двусторонних экономических связей, но и возрастающую роль Узбекистана как ключевого торгового партнера Китая в Центральной Азии. Динамика свидетельствует о том, что две страны переходят от традиционного

товарного обмена к более диверсифицированным и структурно интегрированным торговым отношениям. Более детальный анализ структуры торговли показывает значительный дисбаланс в пользу китайского экспорта. За отчетный период экспорт Китая в Узбекистан увеличился на 30,6%, достигнув 3,585 млрд долларов США. В то же время экспорт Узбекистана в Китай вырос гораздо быстрее – на 83,3%, хотя и с меньшей базы, составив 524 млн долларов США. Это расхождение отражает как структурный характер торговых потоков, так и постепенное расширение экспортных возможностей Узбекистана. Хотя китайские товары доминируют в двустороннем обмене, Узбекистан неуклонно наращивает свое присутствие

на китайском рынке, что свидетельствует о медленном, но заметном сдвиге в сторону более сбалансированной торговой динамики.

Структурная динамика и отраслевые факторы

Растущий товарооборот обусловлен сочетанием промышленного сотрудничества, развития инфраструктуры и растущего спроса на китайские промышленные товары в Узбекистане. Китай остается одним из крупнейших торговых партнеров Узбекистана, поставляя машины, электронику, транспортные средства, строительные материалы и потребительские товары, необходимые для текущих проектов модернизации и городского развития Узбекистана.

В то же время Узбекистан все чаще экспортирует в Китай сырье, сельскохозяйственную продукцию и промежуточные товары. Рост экспорта в Китай на 83,3% свидетельствует о повышении конкурентоспособности в определенных секторах, особенно в сельском хозяйстве, текстильной промышленности и добыче полезных ископаемых. Эта тенденция соответствует более широкой программе экономических реформ Узбекистана, которая отдает приоритет диверсификации экспорта и более глубокой интеграции в глобальные цепочки создания стоимости.

Торговые показатели за март 2026 года еще раз иллюстрируют интенсивность двустороннего обмена. За этот месяц общий объем торговли достиг 1,3 миллиарда долларов, при этом экспорт Китая в Узбекистан составил 1,16 миллиарда долларов, а экспорт Узбекистана в Китай — 140 миллионов долларов. Этот ежемесячный обзор подчеркивает сохраняющуюся асимметрию в торговых потоках, но

также подтверждает устойчиво высокий уровень спроса с обеих сторон.

Помимо товарного обмена, торговые отношения все больше связаны с инфраструктурной взаимосвязью и инвестиционными потоками. Участие Китая в региональных транспортных коридорах, логистических центрах и промышленных парках способствовало более плавному проведению торговых операций. Географическое положение Узбекистана как страны, не имеющей выхода к морю, но стратегически важной в своем расположении, делает его ключевым транзитным и производственным узлом в рамках более широкой евразийской экономической экспансии Китая.

Долгосрочная траектория и базовый рост на 2025 год

Высокие показатели в 2026 году являются результатом уже устойчивого роста, зафиксированного в предыдущем году. Согласно данным Государственной таможенной службы Китая, общий объем двусторонней торговли между Китаем и Узбекистаном к концу 2025 года достиг 16,1 млрд долларов США, что на 17,9% больше по сравнению с 2024 годом.

Эта устойчивая восходящая тенденция указывает на то, что нынешний всплеск не является изолированным явлением, а частью долгосрочного структурного расширения. За последнее десятилетие Китай последовательно укреплял свои позиции в качестве ведущего торгового партнера Узбекистана, чему способствовали взаимодополняющие экономические потребности: спрос Китая на ресурсы и рынки, а также потребность Узбекистана в инвестициях, развитии инфраструктуры и модернизации промышленности.

Ускорение, наблюдаемое в начале 2026 года, свидетельствует о том, что партнерство вступает в более зрелую фазу, где рост торговли подкрепляется

механизмами институционального сотрудничества, улучшенными логистическими сетями и согласованием политики в рамках более широких региональных инициатив.

Стратегические последствия и перспективы на будущее

Быстрое расширение китайско-узбекской торговли имеет значительные стратегические последствия для экономического ландшафта Центральной Азии. Узбекистан все больше позиционирует себя как региональный центр, связывающий Китай с более широкими рынками Ближнего Востока и Европы, в то время как Китай продолжает углублять свое экономическое присутствие в регионе посредством торговли, инфраструктуры и инвестиций.

Однако сохраняющийся торговый дисбаланс, при котором китайский экспорт значительно превышает узбекский, остается структурной проблемой. Хотя темпы роста экспорта Узбекистана ускоряются, абсолютный разрыв указывает на то, что для достижения более сбалансированной торговли потребуются дальнейшая диверсификация промышленности, производство продукции с добавленной стоимостью и расширение доступа к китайским потребительским и промышленным рынкам. В перспективе, вероятно, сохранится восходящая тенденция двусторонней торговли, поддерживаемая текущими инфраструктурными проектами, модернизацией логистики и инициативами по региональной взаимосвязи. Если нынешние тенденции сохранятся, Китай и Узбекистан могут еще больше интегрировать свои экономики в более взаимозависимую структуру, где торговля станет центральным столпом их более широкого стратегического партнерства.

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В заключение, первый квартал 2026 года подтверждает, что торгово-экономические отношения между Китаем и Узбекистан демонстрируют не только высокие темпы количественного роста, но и качественное усложнение своей структуры. Расширение двусторонней торговли сопровождается углублением кооперации в таких стратегически значимых сферах, как промышленное производство, энергетика, цифровые технологии и транспортно-логистическая инфраструктура. Это свидетельствует о постепенном переходе от преимущественно сырьевой и товарной модели взаимодействия к более диверсифицированному и взаимодополняющему экономическому партнерству.

При этом сохраняющиеся дисбалансы, в частности отрицательное сальдо торговли для Узбекистана, отражают структурные особенности национальных экономик и различия в уровне технологического развития. Однако данный фактор не следует рассматривать исключительно как негативный: он также указывает на высокий уровень инвестиционной и импортной активности, связанной с модернизацией промышленности, внедрением новых технологий и развитием инфраструктурных проектов. Особое значение в текущих условиях приобретает синергия двустороннего сотрудничества с более широкими региональными инициативами, прежде всего с *Один пояс – один путь*. В рамках этой инициативы Узбекистан укрепляет свою роль транзитного и логистического узла, соединяющего Восток и Запад, тогда как Китай получает доступ к новым рынкам и маршрутам, повышая устойчивость своих внешнеэкономических связей. Кроме того, наблюдается усиление инвестиционного взаимодействия:

китайские компании активно участвуют в создании индустриальных зон, модернизации транспортной инфраструктуры и развитии энергетических мощностей в Узбекистане. Это способствует не только росту взаимной торговли, но и формированию долгосрочных производственных цепочек, что является важным элементом глубокой экономической интеграции.

В долгосрочной перспективе развитие сотрудничества между Китаем и Узбекистаном может привести к формированию более устойчивой и взаимосвязанной региональной экономики, в которой ключевую роль будут играть транспортные коридоры, цифровые платформы и индустриальные кластеры. Таким образом, несмотря на существующие вызовы, общее направление двусторонних отношений указывает на укрепление стратегического партнёрства, рост взаимозависимости и повышение значимости данного тандема в формировании современной евразийской экономической архитектуры.

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Identifying Phraseological Lacunae In English And Uzbek Youth Speech: Methodology And Cross-Linguistic Implications

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Abstract

Phraseological lacunae — culturally bound gaps in idiomatic equivalence between languages — represent one of the most persistent challenges in contrastive linguistics and second-language acquisition. This study presents a systematic methodology for identifying, classifying, and analysing phraseological lacunae specific to youth speech in English and Uzbek. Drawing on a corpus of 2,840 phraseological units (PUs) collected from social-media discourse, conversational interviews, and digital text corpora between 2022 and 2024, we apply a four-stage identification protocol combining corpus-driven frequency analysis, native-speaker elicitation tasks, and expert panel validation. Results reveal that 62.2% of English youth phraseology has no direct Uzbek equivalent, while 62.4% of Uzbek youth PUs remain lacunar in English. Domain analysis shows the highest lacunarity in the semantic fields of emotional nuance (41.2%), social hierarchy (37.8%), and digital-culture expression (52.6%). The study proposes a taxonomic framework of four lacuna types — absolute, partial, stylistic, and pragmatic — and discusses pedagogical and translation implications. The methodology offers a replicable model applicable to other language pairs that share significant typological distance.

Keywords: phraseological lacunae, youth speech, English, Uzbek, contrastive linguistics, corpus linguistics, idiom equivalence, lexical gap

Introduction

Language contact and the digital transformation of communication have accelerated the emergence of new phraseological units (PUs) in virtually every language. Among younger speakers in particular, novel idiomatic expressions, slang compounds, and culturally encoded metaphors proliferate rapidly across social platforms, creating a dynamic and often asymmetric lexical landscape when viewed through the lens of translation and cross-linguistic equivalence. This asymmetry — the phenomenon where an expression in one language lacks a direct counterpart in another — is captured by the concept of the

lacuna, originally theorised within cultural linguistics^{1,2} and subsequently extended to phraseology.^{3,4}

In the English–Uzbek language pair, phraseological lacunarity is particularly pronounced for at least three reasons. First, the two languages belong to fundamentally different typological families: English is an Indo-European, analytic language, whereas Uzbek is a Turkic, agglutinative language — a structural contrast that shapes not only morphosyntax but also the cognitive schemas underpinning idiomatic meaning. Second, Uzbek youth speech has undergone rapid hybridisation since the late 1990s, incorporating elements from

¹Barsukova, I. V. (1998). Lakuny v sistemeazyky i sposoby ikh vospriyatiya [Lacunae in the language system and the means of their perception]. In *Lingvistika i shkola* [Linguistics and school] (pp. 23–31). Volgograd State University Press.

²Sorokin, Yu. A., & Markovina, I. Yu. (1989). The concept of lacuna and the theory of culture. In Yu. A. Sorokin et al. (Eds.), *Etnopsikholingvistika* [Ethnopsycholinguistics] (pp. 155–179). Nauka.

³Mokienko, V. M. (2012). Frazelogicheskiye lakuny v zerkale perevoda [Phraseological lacunae in the mirror of translation]. *Russkiy yazyk za rubezhom*, 4, 8–17.

⁴Dobrovolskij, D. O. (2016). Phraseological equivalence revisited. In G. Corpas Pastor (Ed.), *Computerised and corpus-based approaches to phraseology: Monolingual and multilingual perspectives* (pp. 8–22). Editions Tradulex.

Russian, English, and internet-mediated vernacular, producing PUs that resist neat translation in either direction. Third, formal lexicographic resources for contemporary Uzbek youth phraseology remain underdeveloped, meaning that researchers lack even baseline inventories against which lacunae can be measured.

Despite these conditions, no prior study has offered a comprehensive, methodologically explicit framework for identifying phraseological lacunae specifically within the youth register of this language pair. Existing research on Uzbek phraseology⁵⁶ has focused primarily on literary and standard-language PUs. Research on English youth slang⁷⁸⁹ has not been extended systematically to lacunarity in contact with Uzbek. The present study addresses this gap directly.

Our research is guided by four objectives: (1) to develop and validate a multi-stage methodology for identifying phraseological lacunae in English and Uzbek youth speech; (2) to classify identified lacunae according to a theoretically grounded taxonomy; (3) to quantify lacunarity rates across semantic domains; and (4) to discuss the implications of our findings for language pedagogy and translation practice.

Theoretical Background

The concept of the lacuna entered linguistic discourse through Vinay and Darbelnet's foundational work on translation procedures,¹⁰ where it described situations in which a source-language concept had no lexical equivalent in the target language. The notion was substantially elaborated within Russian-Soviet cultural linguistics,

notably by Sorokin and Markovina, who distinguished interlinguistic lacunae (structural gaps between language systems) from intercultural lacunae (gaps in cultural knowledge). For the purposes of the present study, we adopt the refined definition of a phraseological lacuna as a multi-word unit in language A for which language B lacks a conventionalised, idiomatic equivalent of comparable communicative function, cultural resonance, and pragmatic register.

Central to our theoretical framework is the distinction between absolute and relative lacunae. An absolute lacuna exists when language B possesses no unit — not even a descriptive paraphrase that has achieved phraseological status — that covers the communicative niche of the source PU. A relative or partial lacuna occurs when an equivalent exists but diverges significantly in connotation, register, frequency of use, or cultural prestige. We add two further subtypes — stylistic lacunae (where the equivalent exists semantically but belongs to a different style level, e.g., formal vs. colloquial) and pragmatic lacunae (where the equivalent differs in illocutionary force or speech-act function) — as these distinctions prove particularly relevant for youth-register material.

Youth language constitutes a recognised sociolinguistic variety characterised by high lexical creativity, rapid turnover, in-group identity marking, and sensitivity to digital

⁵Yunusova, M. A. (2017). O'zbek tilining iboralar lug'ati [Dictionary of Uzbek idioms]. O'qituvchi. [Standard reference for contemporary Uzbek phraseology used in national curriculum.]

⁶Ergashev, B. (2020). Sotsial tarmoqlarda o'zbek tilidagi frazeologik birliklar [Phraseological units in Uzbek-language social networks]. O'zbek tili va adabiyoti, 4, 55–62.

⁷Eble, C. C. (1996). Slang and sociability: In-group language among college students. University of North Carolina Press.

⁸Green, J. (2010). Slang: The people's poetry. Oxford University Press.

⁹Mattiello, E. (2013). Extra-grammatical morphology in English: Abbreviations, blends, reduplicatives, and related phenomena. De Gruyter Mouton.

¹⁰Vinay, J.-P., & Darbelnet, J. (1958). Stylistique comparée du français et de l'anglais: Méthode de traduction. Didier. [English trans.: Sager, J. C., & Hamel, M.-J. (1995). Comparative stylistics of French and English. John Benjamins.]

media influence.^{11,12} Its phraseological dimension has received increasing attention in English but remains underexplored in Uzbek, where youth speech sits at the intersection of Uzbek, Russian, and English influence under conditions of societal multilingualism.¹³

Literature Review

The study of phraseological lacunae sits at the intersection of three established research traditions: lacunology, phraseology, and youth-language research. Each has developed independently, and their convergence in the context of the English–Uzbek pair remains largely unexplored.

Lacunology — the systematic study of lexical and cultural gaps between languages — crystallised as a subdiscipline in the 1980s within Russian linguistics. The foundational taxonomy distinguished between linguocultural, ethnographic, and psychological lacunae, later adapted for applied translation research. In Western linguistics, the concept has been discussed under related headings including lexical gaps,¹⁴ culture-specific items,¹⁵ and untranslatables.¹⁶ Comparative studies of phraseological lacunae have been conducted for several European–Slavic pairs^{17,18} and for some Turkic languages,¹⁹

though the English–Uzbek dyad has not been explicitly addressed in the literature. The phraseological tradition initiated by Vinogradov in Russian linguistics²⁰ and extended to broader cross-linguistic research by Cowie²¹ and Moon²² provides the analytical tools for identifying and classifying PUs in terms of idiomaticity, fixedness, and institutional currency. For youth language, Eble's longitudinal corpus of American college slang and Mattiello's analysis of English slang morphology offer methodological models, though neither addresses cross-linguistic lacunarity explicitly. In Uzbek linguistics, the standard phraseological dictionary and subsequent social-media frequency studies provide a foundation on which the present study builds.

The emergence of large-scale social-media corpora has transformed research on informal and youth language. Methods for collecting and annotating internet language data have been developed in projects such as the Web as Corpus initiative²³ and adapted for specific sociolinguistic purposes.²⁴ For Uzbek, recent work on Telegram as a corpus source has demonstrated the feasibility of digital corpus

¹¹Androutsopoulos, J. (2007). Style online: Doing hip-hop on the German-speaking web. In P. Auer (Ed.), *Style and social identities: Alternative approaches to linguistic heterogeneity* (pp. 279–318). De Gruyter Mouton.

¹²Tagliamonte, S. A., & Denis, D. (2008). Linguistic ruin? LOL! Instant messaging and teen language. *American Speech*, 83(1), 3–34. <https://doi.org/10.1215/00031283-2008-001>

¹³Smagulova, J. (2008). Language policies of kazakhization and their influence on language attitudes and use. *International Journal of Bilingual Education and Bilingualism*, 11(3–4), 440–475. <https://doi.org/10.1080/13670050802148798>

¹⁴Lyons, J. (1977). *Semantics* (Vol. 1). Cambridge University Press.

¹⁵Aixelá, J. F. (1996). Culture-specific items in translation. In R. Álvarez & M. C. Vidal (Eds.), *Translation, power, subversion* (pp. 52–78). *Multilingual Matters*.

¹⁶Apter, E. (2013). *Against world literature: On the politics of untranslatability*. Verso.

¹⁷Piirainen, E. (2012). *Widespread idioms in Europe and beyond: Toward a lexicon of common figurative units*. Peter Lang.

¹⁸Szerszunowicz, J. (2011). Lacunarity of phrasemes and its description in bilingual phraseological dictionaries. In E. Piirainen

& F. K. Sherwood (Eds.), *Phraseology and culture in English* (pp. 215–232). De Gruyter Mouton.

¹⁹Bayramova, L. K. (2001). *Frazeologiya v tatarskom i ruskom yazykakh* [Phraseology in Tatar and Russian languages]. Kazan University Press. [Representative Turkic-language lacunology study.]

²⁰Vinogradov, V. V. (1947). *Ob osnovnykh tipakh frazeologicheskikh edinits v ruskom yazyke* [On the basic types of phraseological units in Russian]. In Akademiku A. A. Shakhmantovu (pp. 339–364). AN SSSR Press.

²¹Cowie, A. P. (Ed.). (1998). *Phraseology: Theory, analysis, and applications*. Oxford University Press.

²²Moon, R. (1998). *Fixed expressions and idioms in English: A corpus-based approach*. Clarendon Press.

²³Baroni, M., & Bernardini, S. (2006). A new corpus for the analysis of English in Italian as a foreign language. In *Proceedings of LREC 2006* (pp. 1688–1691). ELRA.

²⁴Eisenstein, J., O'Connor, B., Smith, N. A., & Xing, E. P. (2014). Diffusion of lexical change in social media. *PLOS ONE*, 9(11), e113114. <https://doi.org/10.1371/journal.pone.0113114>

approaches for this language.²⁵ The present study integrates these digital corpus methods with established lacunological procedures to create a methodology suited to contemporary youth speech in both languages.

Methodology

The research employs a mixed-methods design comprising four sequential stages: (1) corpus construction and PU extraction; (2) cross-linguistic equivalence mapping; (3) lacuna identification and classification; and (4) expert validation. Table 1 provides an overview of the procedural architecture. Three complementary data sources were assembled for each language to ensure register coverage and temporal currency. The English sub-corpus was compiled from: (a) Reddit threads in youth-oriented subreddits sampled from 2022–2024; (b) Twitter/X posts using youth-culture hashtags; and (c) transcripts of unscripted YouTube conversations among speakers aged 15–28. The Uzbek sub-corpus drew on: (a) Telegram channel messages from channels with documented youth demographics; (b) TikTok comment sections collected via the TikTok Research

API; and (c) transcribed peer conversations recorded in Tashkent, Samarkand, and Kokand with informed consent.

All participants in the recorded conversations were aged 15–28, self-identified as native or dominant speakers of the respective language, and provided written consent. Data collection complied with the ethical guidelines of Kokand University (Protocol No. KU-ETH-2023-09). Text data were anonymised prior to analysis by replacing usernames and any personally identifying information with coded placeholders.

The final cleaned corpus comprised 1,240,000 tokens in English and 980,000 tokens in Uzbek. PU candidates were extracted using a combination of: (a) keyword-in-context (KWIC) searches anchored on known PU frames; (b) n-gram frequency analysis (2–5 grams) filtered for multi-word units appearing at least ten times per million tokens; and (c) manual review of frequency lists by two trained research assistants with expertise in the respective languages. This yielded 1,580 candidate PUs in English and 1,260 in Uzbek.

Stage	Procedure	Tool / Instrument	Output
1. Corpus Build	Data collection & PU extraction	AntConc 4.2; Python NLTK	2,840 candidate PUs
2. Equivalence Mapping	Bilingual concordancing; dictionary cross-check	Parallel KWIC; 4 dictionaries	Equivalence scores (0–3)
3. Lacuna Classification	Four-type taxonomy application	Annotation scheme; Cohen's kappa	Typed lacuna list
4. Expert Validation	Panel review; native- speaker ratings	Structured questionnaire (N=24)	Validated final dataset

Table 1. Four-stage methodology for phraseological lacuna identification

²⁵Rashidova, N., & Tursunova, D. (2021). Telegram as a corpus source for Uzbek informal register analysis. *Uzbek Language and Literature Studies*, 6(2), 41–49.

Each English PU was assessed for Uzbek equivalents and vice versa using a three-step equivalence-mapping procedure. First, four bilingual resources were consulted: the standard Uzbek phraseological dictionary, the Oxford Dictionary of Idioms,²⁶ the Cambridge Idioms Dictionary,²⁷ and an unpublished contemporary Uzbek slang glossary compiled by the research team from corpus data. Second, native-speaker informants (n = 48, evenly split by language, aged 18–25) completed a gap-filling task. Third, each candidate equivalent was rated on a three-point scale: 0 = no equivalent; 1 = paraphrase only; 2 = partial equivalent; 3 = full equivalent. PUs receiving a score of 0 or 1 were provisionally classified as lacunar.

Provisionally lacunar PUs (n = 982 English; n = 786 Uzbek) were assigned to one of four lacuna types according to explicit decision criteria:

Absolute lacuna: No equivalent exists at any level — neither idiomatic nor descriptive — in the target-language youth register. Example: English "slay" (to perform or present oneself with exceptional confidence and style), which has no single Uzbek PU equivalent; Uzbek "gap ketdi" (an exclamation conveying sudden admiration), with no English counterpart.

Partial lacuna: A lexical equivalent exists but with systematic semantic, connotational, or register mismatch. Example: English "lowkey" maps partially to Uzbek "ozgina" but loses the hedging and understatement function distinctive of the English form.

Stylistic lacuna: An equivalent exists but belongs to a different stylistic stratum. Example: English "spill the tea" has a semantic Uzbek counterpart, but available

Uzbek expressions lack the ironic-playful register of the English PU.

Pragmatic lacuna: An equivalent exists semantically but differs in illocutionary force or conversational function. Example: English "no cap" (sincerity marker) has partial Uzbek equivalents but these do not function as standalone discourse markers in the same way.

Classification was performed independently by two annotators, with disagreements resolved through discussion. Inter-rater agreement was calculated using Cohen's kappa prior to reconciliation ($\kappa = 0.81$, $p < .001$), indicating strong agreement — a threshold considered acceptable for phraseological annotation tasks.²⁸

The classified lacuna list was reviewed by an expert panel of 24 participants: 12 Uzbek–English bilingual linguists (minimum MA in linguistics; minimum five years of professional experience with both languages) and 12 bilingual youth-language informants (ages 18–26, balanced by gender, residing in Uzbekistan). Panellists rated each classified lacuna on a five-point Likert scale across three dimensions: (a) accuracy of lacuna classification; (b) perceived communicative significance of the gap; and (c) likelihood of natural code-switching as a coping strategy. Items receiving a mean accuracy rating below 3.0 were re-examined and reclassified where warranted, affecting 4.2% of the lacuna list.

Results

Of the 1,580 English youth PUs, 982 (62.2%) were identified as lacunar in Uzbek at the conclusion of all four methodology stages. Of the 1,260 Uzbek youth PUs, 786 (62.4%) were lacunar in English. The overall lacunarity rates are broadly symmetrical, though the distribution across lacuna types and semantic domains differs

²⁶Siefring, J. (Ed.). (2004). Oxford dictionary of idioms (2nd ed.). Oxford University Press.

²⁷McCarthy, M., & O'Dell, F. (2006). Cambridge idioms dictionary (2nd ed.). Cambridge University Press.

²⁸Artstein, R., & Poesio, M. (2008). Inter-coder agreement for computational linguistics. *Computational Linguistics*, 34(4), 555–596. <https://doi.org/10.1162/coli.07-034-R2>

substantially between the two directions (see Table 2).

Language Direction	Total PUs	Lacunar PUs	Lacunarity Rate	Full Equivalents
English → Uzbek	1,580	982	62.2%	598 (37.8%)
Uzbek → English	1,260	786	62.4%	474 (37.6%)
Combined (unique)	2,840	1,426	50.2%	1,072 (49.8%)

Table 2. Lacunarity rates by language direction

The combined figure of 50.2% lacunarity for unique PUs indicates that only approximately half of identified youth phraseological units in either language have a conventionalised counterpart in the other. This figure is substantially higher than lacunarity rates reported for typologically closer pairs such as English–German

(approximately 28%) or Russian–Ukrainian (approximately 18%), confirming the hypothesis that typological distance amplifies phraseological lacunarity.

Table 3 presents the distribution of lacunar PUs across the four classification types for each language direction.

Lacuna Type	English → Uzbek (n)	E→U (%)	Uzbek → English (n)	U→E (%)
Absolute	312	31.8%	284	36.1%
Partial	274	27.9%	198	25.2%
Stylistic	231	23.5%	182	23.2%
Pragmatic	165	16.8%	122	15.5%
Total	982	100%	786	100%

Table 3. Distribution of lacunar PUs by type and language direction

Absolute lacunae constitute the largest single category in both directions (31.8% E→U; 36.1% U→E), with Uzbek showing a somewhat higher rate of absolute gaps when mapped onto English. This is consistent with the greater lexicographic maturity of English phraseology and the richer inventory of synonymous and near-synonymous expressions available to English users when attempting equivalence. Pragmatic lacunae are the smallest category in both directions,

suggesting that discourse-marker functions are more frequently covered by analogous — if not idiomatic — structures in both languages.

PUs were coded for semantic domain using a modified version of the Roget thesaurus categories adapted for youth-register content. Table 4 presents lacunarity rates across the eight most populated semantic domains.

Semantic Domain	Total PUs	Lacunar E→U	Rate E→U	Lacunar U→E	Rate U→E
Emotional nuance	420	173	41.2%	148	35.2%
Social hierarchy/status	390	147	37.7%	152	39.0%
Digital/internet culture	380	200	52.6%	176	46.3%
Appearance/aesthetics	310	108	34.8%	119	38.4%
Romantic/interpersonal	290	112	38.6%	98	33.8%
Authenticity/sincerity	270	108	40.0%	89	33.0%
Failure/embarrassment	240	76	31.7%	64	26.7%
Group identity/in-group	220	82	37.3%	78	35.5%

Table 4. Lacunarity rates across semantic domains (top 8 domains)

Figure 1. English→Uzbek Lacunarity Rate by Semantic Domain (%)

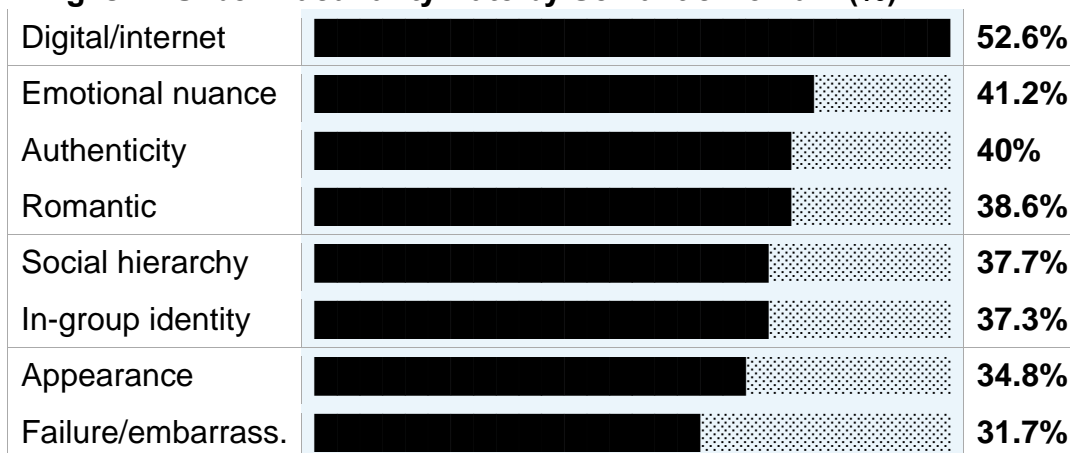


Figure 1. Bar chart of English→Uzbek lacunarity by semantic domain. Filled bars (■) represent proportion of maximum observed value; unfilled bars (░) represent remaining share.

The digital/internet-culture domain shows the highest lacunarity in both directions (52.6% E→U; 46.3% U→E), reflecting the rapid, uneven spread of digital terminology across languages and the lag in lexical borrowing and nativisation. The emotional nuance domain exhibits the second-highest lacunarity in the English-to-Uzbek direction (41.2%), which can be attributed to the finer-grained emotional vocabulary of English combined with distinct cultural display rules governing emotional expression in Uzbek youth culture. Social

hierarchy lacunarity is symmetrically high (37.7% and 39.0%), reflecting differing social stratification schemas encoded in each language's PU inventory. The expert panel assigned high accuracy ratings to the lacuna classifications (mean = 4.12 / 5.0, SD = 0.67). Perceived communicative significance was rated highest for absolute lacunae (mean = 4.38) and lowest for stylistic lacunae (mean = 3.24), consistent with the observation that stylistic variants can be approximated even if imperfectly. Code-switching likelihood

was rated highest in the digital-culture domain (mean = 4.51), supporting the observation that digital-culture PUs are

frequently borrowed unchanged rather than translated (Table 5).

Lacuna Type	Mean Accuracy Rating	Communicative Significance	Code-Switching Likelihood
Absolute	4.38 (SD 0.54)	4.38 (SD 0.61)	3.92 (SD 0.78)
Partial	4.21 (SD 0.68)	3.87 (SD 0.72)	3.54 (SD 0.83)
Stylistic	3.88 (SD 0.82)	3.24 (SD 0.91)	2.98 (SD 0.96)
Pragmatic	4.14 (SD 0.71)	4.02 (SD 0.68)	3.71 (SD 0.74)

Table 5. Expert panel mean ratings (1–5 Likert scale) by lacuna type

Discussion

The four-stage methodology developed here offers several advantages over prior approaches to lacuna identification. Earlier lacunological work relied primarily on dictionary comparison and individual researcher intuition, creating risks of false positives — labelling as lacunar what is simply absent from the consulted dictionaries — and false negatives, namely overlooking lacunae where approximate equivalents exist but fail at the register or pragmatic level. The combination of corpus-driven extraction, informant elicitation, and expert panel validation addresses all three error types: corpus methods ensure that only items with documented youth-register currency are included; elicitation captures the knowledge of real language users rather than lexicographers; and expert validation provides a check against systematic annotation bias.

The inter-rater reliability coefficient ($\kappa = 0.81$) compares favourably with similar annotation tasks in phraseological research. The post-validation reclassification rate of 4.2% is low, suggesting that the four-type taxonomy is sufficiently well-defined for consistent application. The taxonomy's granularity is

its key methodological advantage: earlier frameworks treated lacunarity as a binary quality, whereas the present fourfold distinction allows researchers to differentiate gaps that require fundamentally different translator or teacher responses. Future research could explore automated classification using transformer-based multilingual models, which have shown promise in idiom-detection tasks.²⁹ The overall lacunarity rate of approximately 62% in both directions is substantially higher than previous estimates for typologically distant language pairs derived from general-language corpora. This elevation likely reflects three compounding factors operating simultaneously: the register-specific nature of youth speech, which favours novel and culturally embedded expressions over translatable standard-language equivalents; the morphosyntactic and conceptual distance between English and Uzbek; and the rapid digitally mediated evolution of youth phraseology, which creates continuous new lacunae before nativisation can stabilise in the receiving language.

The asymmetry in absolute-lacuna rates — 31.8% E→U versus 36.1% U→E — deserves particular attention. Uzbek youth speech generates a higher proportion of

²⁹Tayyar Madabushi, H., Kochmar, E., Schulte im Walde, S., & Korhonen, A. (2022). SemEval-2022 Task 2: Multilingual idiomaticity detection and sentence embedding. In Proceedings of

the 16th International Workshop on Semantic Evaluation (SemEval-2022) (pp. 46–64). ACL.

fully unmatched PUs when mapped onto English than English does when mapped onto Uzbek. This finding is counterintuitive given the international dominance of English as a source of lexical borrowing. We interpret it as reflecting the productivity of Uzbek's agglutinative morphology and the culturally specific discourse traditions that generate PUs rooted in social structures — such as age-based respect registers and extended family hierarchy — for which English-speaking youth culture has no institutionalised idiomatic equivalent. These Uzbek-specific structures are not mere vocabulary gaps; they encode entire social practices that English lacks the cultural motivation to lexicalise at phraseological level.

Conversely, English digital-culture PUs show high lacunarity in Uzbek precisely because they encode evaluative norms and interactional practices — most strikingly around authenticity, social performance, and romantic rejection — that, while increasingly familiar to Uzbek youth through social media exposure, have not yet undergone the conventionalisation process required to achieve phraseological status in Uzbek. This distinction between cultural familiarity and linguistic idiomatisation is theoretically important: a concept can be known without being lexicalised, and lacunarity should be measured at the level of conventionalised form, not mere conceptual accessibility.

The exceptionally high lacunarity of the digital/internet-culture domain (52.6% E→U; 46.3% U→E) invites a dynamic rather than static view of lacunarity. Many items classified here as absolute lacunae may, within a few years, develop established loan translations or nativised equivalents in the target language as digital communication continues to drive cross-linguistic convergence. Longitudinal follow-up studies using the same corpus methodology would allow researchers to

track the closure of these gaps over time, yielding data on the mechanisms and timescales of lacuna resolution — a dimension of phraseological change that remains almost entirely unstudied.

Several limitations constrain the generalisability of these findings. First, the study is cross-sectional, capturing a snapshot of youth phraseology that is inherently dynamic; the rapid turnover of youth slang means that some PUs identified as lacunar at the time of data collection may have acquired equivalents by the time of publication. Second, while substantial in size, the Uzbek corpus is geographically concentrated in three urban centres and is therefore likely to underrepresent rural speech varieties and regional dialect variation, which may exhibit different patterns of lacunarity. Third, the expert panel is exclusively composed of participants residing in Uzbekistan; diaspora Uzbek communities in Russia, Germany, South Korea, and elsewhere develop distinct hybrid registers that may partially fill lacunae absent from domestic varieties. Fourth, the PU extraction procedure, despite using frequency thresholds and manual review, cannot guarantee complete coverage of low-frequency but culturally significant expressions. Future work should address these limitations through longitudinal corpus expansion, regional stratification of data collection, integration of diaspora speakers, and exploration of lower-frequency PU strata.

For English-language pedagogy in Uzbekistan, the high lacunarity rates documented here underscore the risk of teaching phraseology through one-to-one equivalence mapping. Learners who internalise English PUs as having direct Uzbek counterparts are likely to encounter persistent comprehension and production errors, particularly in informal and digital communication contexts. We recommend

that language instructors explicitly foreground lacunarity as a concept from intermediate level onward, introducing learners to descriptive paraphrase strategies, metalinguistic awareness of cultural encoding, and autonomous corpus exploration.

For translation practitioners working with youth-register texts — subtitles, social-media localisation, youth literature — the four-type taxonomy offers a practical decision framework: absolute lacunae require creative equivalents or explanatory footnotes; partial lacunae require register calibration; stylistic lacunae require upward or downward style adjustment; and pragmatic lacunae require attention to the illocutionary function rather than the propositional content of the source PU. These distinctions parallel strategies recommended in general translation studies^{30,31} but provide operationally clearer guidance for the phraseological domain, where existing frameworks offer insufficient granularity for the register-sensitive decisions that youth-language material demands.

Conclusion

This study has presented a validated, four-stage methodology for identifying and classifying phraseological lacunae in English and Uzbek youth speech, applied to a corpus of 2,840 PUs collected from digital and conversational sources between 2022 and 2024. Key findings include a lacunarity rate of approximately 62% in both language directions; a distribution in which absolute lacunae predominate; the highest lacunarity in the digital-culture and emotional-nuance semantic domains; and an asymmetry in absolute-lacuna rates that reflects structurally distinct cultural encodings in the two languages.

The methodology developed here is explicitly replicable and scalable. Researchers working with other typologically distant language pairs — particularly those involving Turkic, Sino-Tibetan, or Dravidian languages paired with Indo-European languages — can adapt the four-stage protocol to their specific corpora and annotation needs. The four-type taxonomy provides sufficient granularity for both theoretical analysis and practical application without imposing excessive complexity on the annotation process.

From a broader perspective, phraseological lacunae are not merely linguistic curiosities. They are windows onto the cultural schemas, social structures, and communicative practices that languages encode differently. In the case of English and Uzbek youth speech, the patterns of lacunarity documented here reveal a complex interplay of digital globalisation, typological constraint, and cultural specificity that merits continued investigation by linguists, educators, and translation scholars working at the intersection of language, culture, and digital communication.

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Data Availability Statement - The anonymised PU inventory, annotation scheme, and expert-panel questionnaire are available from the author upon reasonable request. Raw social-media data

³⁰Venuti, L. (1995). *The translator's invisibility: A history of translation*. Routledge.

³¹Baker, M. (2011). *In other words: A coursebook on translation* (2nd ed.). Routledge.

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Алгоритм Выбора Тактики Лечение Ретенированных Третьих Моляров

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Аннотация

Ретенированные третьи моляры остаются одной из наиболее распространённых патологий челюстно-лицевой области и представляют значительную клиническую проблему современной хирургической стоматологии. По данным эпидемиологических исследований, частота встречаемости данной патологии среди взрослого населения достигает 20–30%, а необходимость определения рациональной лечебной тактики продолжает оставаться предметом научных дискуссий. Вопрос о целесообразности профилактического удаления бессимптомных ретенированных зубов до настоящего времени не имеет однозначного решения, что обуславливает актуальность разработки унифицированного алгоритма принятия клинических решений.

В статье представлен комплексный подход к выбору тактики лечения ретенированных третьих моляров, основанный на оценке клинических, анатомо-топографических и рентгенологических критериев. Рассмотрены современные классификации ретенции, факторы риска развития осложнений, показания и противопоказания к хирургическому вмешательству, а также особенности динамического наблюдения пациентов. Предложенный алгоритм позволяет дифференцированно подходить к определению показаний к хирургическому удалению либо консервативному ведению, минимизируя риск послеоперационных осложнений и необоснованных хирургических вмешательств.

Ключевые слова: ретенированные третьи моляры, зубы мудрости, хирургическая стоматология, алгоритм лечения, экстракция, коронэктомия.

Введение

Ретенция зубов представляет собой патологическое состояние, характеризующееся задержкой прорезывания полностью сформированного зуба за пределы физиологических сроков его появления в полости рта. Среди всех групп зубов наиболее часто ретенции подвержены третьи моляры, что обусловлено анатомо-функциональными и эволюционными особенностями челюстно-лицевой системы человека. В современной стоматологической практике ретенированные третьи моляры рассматриваются не только как локальная стоматологическая проблема, но и как потенциальный источник развития воспалительных, кистозных, неврологических и ортодонтических осложнений.

Высокая распространённость данной патологии объясняется филогенетической редукцией размеров челюстей при сохранении практически неизменных размеров зубов. В результате дефицита пространства в дистальных отделах зубной дуги создаются условия для атипичного прорезывания или полной задержки третьих моляров в костной ткани челюсти. По данным различных авторов, частота встречаемости ретенции третьих моляров варьирует от 18 до 32% в зависимости от возраста, пола, этнической принадлежности и особенностей строения зубочелюстной системы.

Особое клиническое значение имеет ретенция нижних третьих моляров, которые встречаются значительно чаще верхних и характеризуются более

высоким риском развития осложнений. Это связано с анатомическими особенностями нижней челюсти, плотностью костной ткани, ограниченным ретромолярным пространством и близостью нижнеальвеолярного нерва. При этом ретенированные зубы могут длительное время сохраняться в бессимптомном состоянии, что существенно затрудняет определение оптимальной тактики ведения пациента.

В современной стоматологии вопрос о необходимости удаления бессимптомных ретенированных третьих моляров остаётся дискуссионным. С одной стороны, профилактическая экстракция позволяет предотвратить развитие потенциальных осложнений, включая перикоронит, кариес дистальной поверхности второго моляра, кистозные изменения и резорбцию корней соседних зубов. С другой стороны, хирургическое вмешательство само по себе сопряжено с риском интраоперационных и послеоперационных осложнений, среди которых особое место занимают повреждение нижнеальвеолярного нерва, альвеолит, кровотечения и инфекционно-воспалительные процессы.

В связи с этим особую актуальность приобретает разработка систематизированного алгоритма выбора лечебной тактики, позволяющего объективизировать процесс принятия клинического решения и учитывать совокупность факторов, определяющих прогноз заболевания и риск осложнений. Этиологические факторы ретенции третьих моляров

Развитие ретенции третьих моляров обусловлено сочетанием локальных и системных факторов. К числу наиболее значимых местных причин относится дефицит ретромолярного пространства,

возникающий вследствие несоответствия размеров зубной дуги размерам прорезывающихся зубов. Недостаточное расстояние между дистальной поверхностью второго моляра и передним краем ветви нижней челюсти препятствует физиологическому прорезыванию третьего моляра и способствует его атипичному положению.

Существенную роль играет положение зачатка зуба. Мезиальный, дистальный, горизонтальный либо инвертированный наклон продольной оси третьего моляра создаёт механические препятствия для нормального прорезывания. В ряде случаев причиной ретенции становятся одонтогенные кисты, доброкачественные новообразования, сверхкомплектные зубы или выраженный остеосклероз альвеолярного отростка.

Отдельного внимания заслуживают изменения мягких тканей ретромолярной области. Фиброзная гиперплазия слизистой оболочки, рубцовые изменения после воспалительных процессов и хроническая травматизация десны также могут препятствовать нормальному прорезыванию зуба.

Системные факторы ретенции встречаются значительно реже, однако имеют важное значение при генерализованных нарушениях прорезывания зубов. К ним относятся эндокринные заболевания, включая гипотиреоз и гипопитуитаризм, алиментарные дефициты, нарушения минерального обмена, а также генетически детерминированные синдромы, сопровождающиеся аномалиями развития костной ткани.

Классификация ретенированных третьих моляров

Для оценки сложности клинической ситуации и определения тактики хирургического вмешательства

применяются различные классификации ретенции третьих моляров. Наиболее распространённой является классификация Pell и Gregory, основанная на оценке положения ретенированного зуба относительно ветви нижней челюсти и окклюзионной плоскости.

Согласно данной классификации, выделяют три класса по отношению к ветви нижней челюсти. При I классе коронка зуба полностью располагается впереди от переднего края ветви нижней челюсти, что обеспечивает относительно благоприятные условия для прорезывания и хирургического удаления. При II классе часть коронки перекрыта ветвью нижней челюсти, что повышает техническую сложность вмешательства. III класс характеризуется полным расположением коронки в пределах ветви нижней челюсти и считается наиболее сложным вариантом ретенции. По глубине залегания различают позиции А, В и С. Позиция А характеризуется расположением окклюзионной поверхности ретенированного зуба на уровне или выше окклюзионной плоскости второго моляра. При позиции В окклюзионная поверхность находится между окклюзионной плоскостью и шейкой второго моляра. Позиция С свидетельствует о глубоком расположении зуба ниже уровня шейки второго моляра.

Широкое распространение получила также классификация Winter, основанная на определении ангуляции продольной оси ретенированного зуба. Наиболее благоприятным считается вертикальное положение, тогда как горизонтальная и инвертированная ретенция существенно повышают риск осложнений и техническую сложность хирургического удаления.

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Алгоритм принятия клинического решения

Выбор тактики лечения ретенированных третьих моляров должен основываться на комплексной оценке клинической ситуации. На первом этапе проводится первичная диагностика, включающая сбор анамнеза, клиническое обследование и рентгенологическое исследование.

Особое внимание уделяется наличию жалоб, эпизодов перикоронита, ограничению открывания рта, болезненности при пальпации и признакам воспалительных изменений в ретромолярной области. Клиническое обследование дополняется рентгенологической диагностикой. В качестве скринингового метода наиболее широко используется ортопантомография, позволяющая оценить положение зуба, состояние окружающей костной ткани и взаимоотношение корней с нижнечелюстным каналом.

При подозрении на интимный контакт корней зуба с нижнеальвеолярным нервом показано проведение конусно-лучевой компьютерной томографии, обеспечивающей трёхмерную визуализацию анатомических структур и позволяющей более точно прогнозировать риск неврологических осложнений.

После завершения диагностического этапа проводится анализ факторов риска развития осложнений. К признакам высокого риска относятся рецидивирующий перикоронит, кариозное поражение ретенированного зуба или дистальной поверхности второго моляра, наличие кистозной трансформации фолликула, резорбция корней соседних зубов и признаки хронического воспалительного процесса.

Умеренный риск осложнений характерен для пациентов с частичной ретенцией, единичными эпизодами перикоронита и мезиоангулярным положением зуба. Низкий риск отмечается при полной костной ретенции, отсутствии клинической симптоматики и патологических изменений по данным рентгенологического исследования.

На основании полученных данных определяется тактика ведения пациента. При наличии симптомов и осложнений показано хирургическое удаление ретенированного зуба. В случаях острого воспалительного процесса первоначально проводится консервативная терапия, направленная на купирование воспаления, после чего выполняется плановая экстракция.

У пациентов с бессимптомным течением решающее значение имеет оценка вероятности развития осложнений. При высоком риске предпочтение отдается профилактическому удалению, особенно у молодых пациентов. При низком риске и отсутствии патологических изменений возможно динамическое наблюдение с регулярным клинко-рентгенологическим контролем.

Показания и противопоказания к хирургическому лечению

Абсолютными показаниями к удалению ретенированных третьих моляров являются рецидивирующий перикоронит, не поддающийся консервативному лечению, одонтогенные воспалительные заболевания, кистозная трансформация фолликула, резорбция корней второго моляра и выраженный болевой синдром, связанный с компрессией нервных структур.

Относительными показаниями считаются необходимость ортодонтического лечения, подготовка к ортогнатическим операциям, планирование имплантации и наличие

единичных эпизодов воспаления у молодых пациентов.

При определении тактики лечения необходимо учитывать наличие противопоказаний к хирургическому вмешательству. К абсолютным противопоказаниям относятся декомпенсированные соматические заболевания, острый период инфаркта миокарда или инсульта, тяжёлые нарушения системы гемостаза и злокачественные новообразования в зоне предполагаемого вмешательства. Относительными противопоказаниями являются беременность, острые инфекционные заболевания, терапия антикоагулянтами и бисфосфонат-ассоциированный остеонекроз челюстей в анамнезе. В подобных клинических ситуациях хирургическое вмешательство может быть временно отложено до стабилизации общего состояния пациента либо проведено после соответствующей медикаментозной коррекции и консультации профильных специалистов.

Особое внимание при планировании хирургического лечения должно уделяться оценке риска развития послеоперационных осложнений. Существенное значение имеют возраст пациента, наличие сопутствующих хронических заболеваний, степень ретенции зуба, характер его расположения относительно нижнечелюстного канала и состояние окружающих тканей. У пациентов старших возрастных групп хирургическое удаление ретенированных третьих моляров, как правило, сопровождается более выраженной травматичностью, замедленным течением репаративных процессов и повышенной вероятностью воспалительных осложнений.

Методы хирургического лечения

Выбор метода хирургического вмешательства определяется анатомо-топографическими особенностями расположения ретенированного зуба, степенью его прорезывания, формой и количеством корней, а также близостью к анатомически значимым структурам. В современной хирургической стоматологии применяются простая экстракция, атипичное удаление и коронэктомия.

Простая экстракция возможна при относительно благоприятных условиях: вертикальном положении зуба, полном или частичном прорезывании коронки, отсутствии выраженного искривления корней и достаточном доступе для хирургических инструментов. Данный метод характеризуется минимальной травматичностью и сравнительно коротким послеоперационным периодом. Операция включает отслаивание круговой связки, люксацию зуба с использованием элеваторов и последующее удаление щипцами.

При глубокой костной ретенции, горизонтальном или дистоангулярном положении зуба, наличии анкилоза либо тесной связи корней с нижнечелюстным каналом выполняется атипичное хирургическое удаление. Этот метод требует более сложного оперативного доступа и включает формирование слизисто-надкостничного лоскута, проведение остеотомии, секционирование зуба и поэтапное удаление его фрагментов. Использование бормашины с постоянной ирригацией позволяет уменьшить перегрев костной ткани и снизить риск послеоперационного некроза.

В последние годы всё более широкое распространение получает методика коронэктомии, которая рассматривается как органосохраняющая альтернатива традиционной экстракции при высоком

риске повреждения нижнеальвеолярного нерва. Суть метода заключается в удалении только коронковой части зуба с сохранением корней в костной ткани. Основным показанием к выполнению коронэктомии является интимное прилегание корней ретенированного зуба к нижнечелюстному каналу, подтверждённое данными конусно-лучевой компьютерной томографии.

Несмотря на преимущества метода в отношении профилактики неврологических осложнений, коронэктомия требует тщательного диспансерного наблюдения, поскольку в послеоперационном периоде возможна миграция оставленных корней, развитие воспалительных изменений или необходимость повторного хирургического вмешательства.

Осложнения хирургического лечения. Удаление ретенированных третьих моляров относится к числу наиболее сложных вмешательств в амбулаторной хирургической стоматологии и сопровождается определённым риском осложнений. Их возникновение зависит от степени сложности операции, квалификации хирурга, анатомических особенностей пациента и соблюдения рекомендаций в послеоперационном периоде.

К интраоперационным осложнениям относятся перелом коронки или корней удаляемого зуба, повреждение соседних зубов, травма мягких тканей, перелом альвеолярного отростка и вывих нижней челюсти. При удалении верхних третьих моляров возможно формирование сообщения с верхнечелюстной пазухой вследствие перфорации её дна.

Наиболее распространённым ранним послеоперационным осложнением считается альвеолит, возникающий вследствие нарушения формирования кровяного сгустка в лунке удалённого зуба. Частота развития альвеолита

значительно возрастает после травматических хирургических вмешательств и при несоблюдении пациентом послеоперационных рекомендаций. Клинически данное осложнение проявляется интенсивной болью, неприятным запахом изо рта и замедленным заживлением раны.

К другим ранним осложнениям относятся выраженный отёк мягких тканей, вторичное кровотечение, ограничение открывания рта и нагноение послеоперационной раны. В большинстве случаев указанные состояния носят временный характер и поддаются консервативной терапии.

Особое значение имеют поздние неврологические осложнения, связанные с повреждением нижнеальвеолярного или язычного нерва. Транзиторная парестезия наблюдается сравнительно часто и обычно регрессирует в течение нескольких недель или месяцев. Однако при грубом повреждении нервного ствола возможно формирование стойких нарушений чувствительности, существенно ухудшающих качество жизни пациента.

Заключение

Разработанный алгоритм выбора тактики лечения ретенированных третьих моляров базируется на принципах доказательной медицины и учитывает многофакторность клинической ситуации. Ключевыми детерминантами принятия решения являются: наличие симптоматики, оценка рисков развития осложнений, анатомо-топографические особенности расположения зуба и соматический статус пациента.

Индивидуализированный подход позволяет избежать как необоснованных хирургических вмешательств при бессимптомных ретенированных зубах с низким риском осложнений, так и

выжидательной тактики в случаях, когда отсрочка операции приведёт к усугублению патологического процесса. Перспективным направлением дальнейших исследований представляется разработка предиктивных моделей на основе машинного обучения для стратификации пациентов по группам риска с использованием данных КЛКТ.

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Innovative pedagogical foundations for preparing students of a pedagogical university for lecturing

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Abstract

This article examines innovative pedagogical foundations for preparing students at a pedagogical university for lecturing. It explores the importance of future teachers' lecturing competence in the context of modern education, the digitalization of the educational process, and increasing demands on teachers' professional communication. Particular attention is paid to pedagogical conditions, methods, and technologies that facilitate the development of students' skills to clearly, logically, convincingly, and emotionally influence their audiences. The need to use interactive, digital, project-based, and reflective teaching methods in preparing future teachers for lecturing is substantiated.

Keywords: lecturing, lecturing competence, future teachers, pedagogical university, innovative technologies, professional training, pedagogical skills, communicative competence.

Introduction. The modern system of higher pedagogical education focuses not only on imparting theoretical knowledge to students but also on developing the professional competencies necessary for successful teaching. One of these important competencies is the future teacher's readiness for lecturing.

Lecturing occupies a special place in the professional training of teachers, as it requires not only a thorough knowledge of the subject but also the ability to explain the material clearly, construct a logical presentation structure, hold the audience's attention, use expressive language, utilize digital technologies, and create conditions for active learning.

In the context of modern education, the traditional lecture is gradually changing its nature. It can no longer be simply a monologue presentation of material. Today, lectures must be interactive, problem-solving, dialogic, visually rich, and focused on the active participation of students. Therefore, preparing students at pedagogical universities for lecturing requires updating pedagogical foundations, content, methods, and teaching

technologies. The main problem is that many students possess theoretical knowledge but struggle with public speaking, explaining course material, working with an audience, managing listeners' attention, and overcoming communicative hesitancy. This highlights the need for targeted training of future teachers for lecturing based on innovative pedagogical approaches.

The purpose of this article is to uncover innovative pedagogical foundations for preparing students at a pedagogical university for lecturing and to identify effective conditions for developing the lecturer's competence in future teachers.

Literature Review. Issues of pedagogical excellence, the professional training of future teachers, the culture of pedagogical communication, and the development of teachers' communicative skills have been examined in the works of many Russian and international scholars.

In pedagogical science, the research of V.A. Kan-Kalik, who considered pedagogical communication as the most important condition for the effectiveness of the educational process, is of particular

importance. I.A. Zimnyaya linked the professional competence of a teacher with the development of speech, communication, and personal qualities. N.V. Kuzmina emphasized the importance of a teacher's professional and pedagogical abilities, including the ability to organize educational information and interact with students.

In the works of A.K. Mikhalskaya, considerable attention is paid to the rhetorical culture of the individual, the ability to structure a public speech, influence an audience, and utilize the expressive potential of speech. V.I. Andreev viewed pedagogical creativity as the foundation of a teacher's professional development.

Research by Uzbek educators also emphasizes the need to improve the training of future specialists, taking into account modern educational requirements. The works of N.N. Azizkhodzhaeva, R. Juraev, K. Khashimov, and other scholars explore issues of pedagogical technology, the professional development of teachers, the development of pedagogical skills, and improving the quality of education.

An analysis of the scientific literature shows that preparing future teachers for lecturing should be considered a holistic pedagogical process, including the development of professional knowledge, speech culture, communication skills, methodological literacy, digital competence, and reflective thinking.

Research Methodology. The article's methodological framework is based on competency-based, activity-based, student-centered, communicative, and innovative approaches. The competency-based approach allows students to consider preparing for lectures as a process of developing specific professional competencies: the ability to design a lecture, select educational material, explain complex concepts, use visual aids, and evaluate the effectiveness of their

presentations. The activity-based approach involves students actively participating in practical lectures through mini-lectures, mock speeches, presentations, modeling pedagogical situations, and analyzing their own mistakes. The student-centered approach aims to develop the individual style of future lecturers, their confidence, expressiveness, pedagogical tact, and the ability to establish rapport with the audience. The communicative approach helps develop the ability to engage in dialogue with listeners, ask questions, respond to feedback, explain material in accessible language, and use various speech strategies. The innovative approach utilizes modern educational technologies: interactive methods, digital platforms, multimedia presentations, video recordings of speeches, artificial intelligence, online resources, and reflective tools.

Main Part. A future teacher's lecturing competence represents an integrated personal quality, encompassing the knowledge, skills, abilities, and personal qualities necessary for successfully delivering a lecture.

The structure of lecturing competence can include the following components:

1. Substantive Component. This relates to a thorough knowledge of the educational material, the ability to highlight key points, logically structure information, and adapt it to the audience's level.
2. Methodological Component. This includes the ability to choose a lecture format, use problematic questions, examples, diagrams, tables, assignments, and student engagement techniques.
3. Communicative Component. This requires mastery of speech culture, the ability to speak clearly, correctly, and expressively, maintain contact with the audience, and consider their reactions.
4. Technological component. This involves the use of multimedia, digital platforms,

interactive whiteboards, presentations, videos, and online tools.

5. Reflective component. This involves the ability to analyze one's own performance, identify strengths and weaknesses, accept feedback, and improve professional skills. Innovative pedagogical foundations for preparing students for lecturing include several important areas.

The first area is the transition from passive acquisition of knowledge to active professional practice. Students must not only study the theory of lecturing but also regularly speak in front of audiences. For this purpose, it is advisable to use mini-lectures, educational presentations, fragments of open classes, business games, and pedagogical training.

The second area is the development of speech and rhetorical culture. Future teachers must be able to structure their speech correctly, avoid unnecessary words, use a scientific style, give examples, make logical transitions, and conclude with conclusions. Particular attention should be paid to diction, speech tempo, intonation, pauses, and nonverbal communication.

The third area is developing audience interaction skills. Lecturing is impossible without contact with the audience. Therefore, students must be taught techniques for attracting attention, posing challenging questions, organizing discussions, maintaining discipline, and creating a welcoming educational atmosphere. The fourth area is the use of digital and multimedia technologies. A modern lecturer must be able to create high-quality presentations, using visual materials, video clips, interactive assignments, online tests, and digital resources. However, it's important that technology not replace the lecture content, but rather help to better explain the topic.

The fifth area is developing reflection. An effective method is videotaping students' presentations and subsequent analysis.

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Students can observe their speech errors, gestures, speech tempo, level of engagement with the audience, and the quality of their explanations. This approach helps develop a conscious attitude toward their own professional development.

Pedagogical Conditions for Effective Preparation. To successfully prepare students for lecturing at a pedagogical university, the following pedagogical conditions must be created:

1. Systematic preparation. Developing lecture skills should be done sequentially, not sporadically: from simple oral responses to mini-lectures, then to full-fledged academic presentations.

2. Practical focus of training.

Students should regularly complete assignments related to real-life teaching: preparing a lecture plan, writing notes, creating a presentation, delivering a section of the lesson, and answering questions from the audience.

3. Integration of theory and practice.

Theoretical knowledge about lectures, pedagogical communication, and rhetoric should be immediately reinforced with practical exercises.

4. Use of interactive methods.

Effective methods include brainstorming, discussion, case studies, role-playing, microteaching, peer assessment, and small group work.

5. Developing communicative confidence.

Many students experience fear of public speaking. Therefore, it's important to create a psychologically comfortable environment where students can speak, make mistakes, improve, and gradually develop confidence. Feedback and self-analysis.

After each presentation, students should receive constructive feedback from the

instructor and classmates, as well as independently analyze their performance.

Results and discussion. Experience shows that the use of innovative methods in preparing students for lectures contributes to increased professional activity, confidence, and speech culture.

The following methods are the most effective:

- 5-7 minute mini-lectures;
- preparing multimedia presentations;
- analyzing video recordings of presentations;
- working with problematic issues;
- conducting lesson segments;
- peer assessment of student presentations;
- using artificial intelligence to create a plan, abstract, and questions for the lecture;
- using interactive tasks to engage the audience.

It is especially important that students gradually transition from the role of listener to that of active organizer of educational communication. They learn not only to retell material, but also to explain, persuade, engage, ask questions, and manage the audience's attention.

Innovative preparation for lectures helps develop the following qualities in future teachers:

- professional confidence;
- pedagogical speech;
- logical thinking;
- public speaking ability;
- audience engagement skills;
- digital literacy;
- a creative approach to explaining material;
- a reflective culture.

Thus, lecturing competence is developed not only through theoretical study, but above all through systematic practice, analysis, and improvement of one's own teaching activities.

Conclusion. Preparing students at pedagogical universities for lecturing is an

important aspect of the professional education of future teachers. In today's world, a lecturer must be not only a knowledge provider but also an organizer of cognitive activity, a communicator, a motivator, and a moderator of the educational process.

Innovative pedagogical foundations for preparing students for lecturing include competency-based, activity-based, communicative, student-centered, and digital approaches. Their application allows students to develop not only theoretical knowledge of lecturing but also practical skills in public speaking, explaining material, using modern technologies, and analyzing their own work.

Effective preparation of future teachers for lecturing should be systematic, practice-oriented, interactive, and reflective. Only then can lecturing competence be developed as an essential component of professional teaching excellence.

Practical Recommendations

1. Pedagogical universities should incorporate special assignments to develop lecturing skills into their curriculum.
2. Mini-lectures, presentations, business games, and micro-teaching should be used more frequently in classes.
3. Students should be taught not only lecture content but also public speaking techniques.
4. Video recordings of presentations should be used for subsequent analysis and self-assessment.
5. Students' skills in using digital tools and interactive educational platforms should be developed.
6. It is important to develop individual lecturing styles in future teachers.

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The Problem Of Quasi-Dialogue And Inner Speech In Children's Speech

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ANNOTATION

This article studies the emergence, development of quasi-dialogue and inner speech in children's speech, as well as their relationship with speech innovations, based on ontolinguistic, pragmalinguistic and psycholinguistic approaches. The object of the study was the speech activity of 1-5-year-old children speaking Uzbek and English. Observation and questionnaire methods were used. In particular, the phenomenon of word formation using the morpheme "ni" identified in the speech of a 3-year-old child named Huzaifa - as a vivid example of speech innovation - is analyzed. The article also discusses the main studies on quasi-speech in world and Uzbek linguistics.

Keywords: Quasi-speech, inner speech, ontolinguistics, speech innovation, egocentric speech, child speech, word formation, speech creativity.

ANNOTATSIYA

Ushbu maqolada bola nutqida kvazi muloqot va ichki nutqning paydo bo'lishi, rivojlanishi hamda nutqiy innovatsiyalar bilan o'zaro bog'liqligi ontolingvistik, pragmalingvistik va psixolingvistik yondashuv asosida tadqiq etiladi. Tadqiqot ob'ekti sifatida o'zbek va ingliz tillarida so'zlashuvchi 1-5 yoshli bolalarning nutqiy faoliyati tanlangan. Kuzatuv va so'rovnom metodlari qo'llangan. Xususan, 3 yoshli Xuzayfa ismli bolaning nutqida aniqlangan "ni" morfemasi orqali so'z yasash hodisasi - nutqiy innovatsiyaning yorqin namunasi sifatida - tahlil qilinadi. Maqolada shuningdek kvazi nutq bo'yicha jahon va o'zbek tilshunosligidagi asosiy tadqiqotlarga ham to'xtaliladi.

Kalit so'zlar: Kvazi muloqot, ichki nutq, ontolingvistika, nutqiy innovatsiya, egotsentrik nutq, bola nutqi, so'z yasash, nutqiy kreativlik

I. KIRISH

Bola tug'ilganidan boshlab til o'zlashtirishi va nutqiy rivojlanishi bugungi kunda dunyo tilshunosligining eng faol o'rganilayotgan yo'nalishlaridan biridir. Ontolingvistika - bolaning nutqiy qobiliyatini uning kelib chiqishi, shakllanishi va rivojlanishi nuqtayi nazaridan o'rganuvchi fan sifatida XX asr o'rtalaridan boshlab mustaqil fan sohasi sifatida tan olindi. A.N.Gvozdev, A.R.Luriya¹ kabi olimlarning asarlarida

bolalar nutqining lingvistik tahlili chuqur amalga oshirilgan.

Jahon tilshunosligida bolalar nutqining pragmatik xususiyatlari atroflicha o'rganilgan. Jumladan, S.N.Seytlin, J.Piaje, V.V.Bogdanov, Y.V.Beloglazova, N.I.Lepskaya, O.L.Strogonova, M.B.Yeliseyeva, E.Y.Moiseyenkolar² bolalar nutqi tilshunosligini yangi nazariy g'oyalar bilan boyitishdi. O'zbek tilshunosligida ham bolalar nutqini lingvistik nuqtayi nazardan o'rganishga dastlabki

¹ Лурия А.Р. Язык и сознание / Под ред. Е.Д. Хомской. - М.: Изд-во МГУ, 1979. - 320 с.

² Цейтлин С.Н. Детская речь: инновации формообразования и словообразования (на материале современного

русского языка): автореф. дис... докт. филол. наук. – СПб., 1989. – 72 с.; Цейтлин С.Н. Язык и ребенок: Лингвистика детской речи: Учеб. пособ. для студ. вузов. – М.: Гуманит. изд. центр «Владос», 2000. – 240 с.;

qadamlar qo'yilgan. Jumladan, N.Sayidrahimova o'zbek bolalar nutqining umumiy lingvistik xususiyatlarini, M.Qurbonova³ o'zbek bolalar nutqining leksik sathini sotsiopsixolingvistik jihatdan, N.Ahmedova bolalar nutqining obrazli tafakkur bilan aloqadorligini, N.Yarashova esa bolalar adabiyoti tilini lingvokognitiv, lingvopsixologik, G.Iskandarova lingvokulturologik hamda genderologik jihatdan tadqiq etishgan⁴.

Kvazialogik nutq jahon tilshunosligida qisman o'rganilgan. Jumladan, T.I. Petrova tomonidan sahnalashtirilgan kvazialog bolalar nutqining alohida janri sifatida psixolingvistik jihatdan, kattalar nutqida kvazialog masalasi esa S.P.Potseluyev⁵ tomonidan siyosiy nutq misolida monografik aspektda tadqiq etilgan.

Kvazi muloqot va ichki nutq tushunchalari tilshunoslikda alohida e'tibor talab etadi. Kvazi nutq - lotincha "quasi" (o'xshash, kabi) so'zidan kelib chiqqan bo'lib, haqiqiy muloqot vaziyatisiz amalga oshiriladigan, so'zlovchi ayni vaqtda ham adresant, ham adresat rolini bajaradigan nutq turini bildiradi. Bolalar nutqida bu hodisa ayniqsa yaqqol namoyon bo'ladi: bola o'yinchoqlari bilan gaplashganda, o'yin davomida turli rollarni ijro etganda yoki xayoliy suhbatdoshi bilan muloqot qurishda kvazi muloqotdan foydalanadi.

Ichki nutq - nutqni vokalizatsiyasiz, ya'ni ovoz chiqarmasdan, tafakkur jarayonida amalga oshirishdir. L.S.Vygotskiy ichki nutqni "tafakkur uchun nutq" deb ta'riflagan va uni egotsentrik nutqdan shakllanuvchi murakkab psixologik hodisa sifatida talqin

etgan. J.Piaje⁶ "egotsentrik nutq" atamasini fanga kiritib, bolalar ko'pincha o'z o'yinlari va harakatlari jarayonida o'zlari uchun gapirganini kuzatadi. Piajega ko'ra, bu nutq turi kommunikativ maqsad ko'zlamaydigan, sotsial yo'naltirilmagan nutqdir deb hisoblasa, Vygotskiy⁷ bu talqinga qarshi chiqib, egotsentrik nutqni ijtimoiy nutqdan ichki nutqqa o'tish bosqichi sifatida baholadi. Vygotskiy nuqtai nazaridan egotsentrik nutq bolada ijtimoiy nutqning rivojlanishini taqozo etadi va u keyinchalik ichki nutqqa aylanadi.

Ushbu maqolaning maqsadi bola nutqida kvazi muloqot va ichki nutqning namoyon bo'lish shakllari, nutqiy innovatsiyalar bilan bog'liqligi va kognitiv rivojlanishdagi o'rnini empirik material asosida ko'rsatishdan iborat. Tadqiqotning dolzarbligi shundaki, o'zbek tilida so'zlashuvchi bolalar nutqida kvazi muloqot va ichki nutq masalasi yetarli darajada o'rganilmagan. Qolaversa zamonaviy jamiyatda raqamli kommunikatsiyaning kengayishi bilan jonli muloqot kamaymoqda va bu bolalarda kvazi muloqot shakllarining ortishiga olib kelmoqda.

II. METODOLOGIYA (METHODS)

Tadqiqotda uch asosiy metod qo'llandi: kuzatuv, so'rovnoma va diskursiv tahlil. Bu metodlar birgalikda empirik materiallarni yig'ish, tahlil qilish va umumlashtirishga imkon berdi.

Kuzatuv metodi: Ushbu metod asosida 3 yoshli Xuzayfa ismli bolaning kundalik nutqi tabiiy sharoitda, ya'ni uning oilaviy muhitida 3 oy davomida muntazam kuzatildi va yozib olindi. Kuzatuv davomida bolaning nutqida o'ziga xos nutqiy innovatsiya hodisasi

³ Qurbonova M. O'zbek bolalar nutqi leksikasining sotsiopsixolingvistik tadqiqi: Filol. fan. nomz. ... diss. – Toshkent, 2009. – 154 b.

⁴ Сайидирахимова Н.С. Мактабгача ёшдаги ўзбек болалар нутқининг лингвистик хусусиятлари. Филол.фан.номз... дисс. – Фарғона, 2004. – 124 б. Аҳмедова Н. Образли тафаккур ва ўзбек болалар нутқи. Филол.фан.б.фалс.док. ...дисс.автореф. – Тошкент, 2021. – 54 б.; Yarashova N.J. Bolalar adabiyoti tilining lingvokognitiv, lingvopsixologik tadqiqi: Filol.fan.d-ri... diss.avtoref. – Samarqand, 2023. – 73 b.; Iskandarova G.

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⁵ Поцелуев С.П. Диалог и квазидиалог в коммуникативных теориях демократии: Монография. – Ростов н/Д: СКАГС, 2010. – 496 с.

⁶ Пиаже Ж. Речь и мышление ребёнка / Пер. с франц. – М.: Педагогика-Пресс, 1994. – 526 с

⁷ Вygotskiy Л.С. Мышление и речь. – М.: Лабиринт, 1999. – 352 с

aniqlandi: Xuzayfa “nini” (ya’ni chaqaloq ma’nosidagi so’z) so’zidagi “ni” bo’g’inini kichkinalik ifodalovchi mustaqil morfema sifatida ajratib, uni oila a’zolarini bildiruvchi so’zlarga old qo’shimcha sifatida qo’shib yangi so’zlar yaratgan.

Kuzatilgan misollar:

“Ni tog’a” - kichkina tog’a ma’nosida

“Ni bobo” - kichkina bobo ma’nosida

“Ni aka” - kichkina aka ma’nosida

“Ni opa” - kichkina opa ma’nosida

Bu morfemani bola faqat odamlarga nisbatan qo’llaydi, jonsiz predmetlarga nisbatan esa ishlatmaydi. Bu esa bolaning yangi morfemaning semantik chegarasini intuitiv tarzda to’g’ri belgilaganidan dalolat beradi.

Bundan tashqari bola nutqida so’z yaratuvchanligi bor. Masalan “**shto**” yangi so’zi o’rnida qo’llanadi. Har bir yangi olingan narsalar nomini aytishdan oldin “shto” so’zini ishlatadi. Masalan: “*Dadam menga shto moshina oberadi*”, “*Aya shto lalo olek*”

So’rovnoma metodi: So’rovnoma metodi asosida 100 nafar ota-ona ishtirokida tadqiqot o’tkazildi.

Diskursiv tahlil

N.Musayeva⁸ tomonidan yig’ilgan empirik materiallar – ya’ni maktabgacha yoshdagi o’zbek bolalarining kvazidialogik nutqi namunalari, Z.Isakova va B.Vaxobova⁹ tadqiqotidagi ma’lumotlar, shuningdek badiiy adabiyotdan olingan parchalar - diskursiv tahlil usulida o’rganildi. Tahlil davomida bola nutqidagi adresant-adresat munosabati, illoktiv aktlar va deysisning ifodalanishi kuzatildi.

III. NATIJALAR

Ichki nutq - bu tafakkur bilan bevosita bog’liq, ovoz chiqarilmasdan amalga oshiriladigan nutq shaklidir. Vygotskiy ichki nutqning ontogenezini uch bosqichda

ko’rsatdi: tashqi ijtimoiy nutq (external social speech); egotsentrik nutq (egocentric speech) - bolaning o’z-o’zi bilan ovoz chiqarib gaplashishi; ichki nutq (inner speech) - tafakkurning lisoniy shakli. Bu bosqichlar taxminan 2-7 yosh orasida bir-birini almashtiradi.

Piajening egotsentrik nutq tushunchasi Vygotskiynikidan farq qiladi: Piaje bu hodisani bolaning hali ijtimoiylashmagan holatining ko’rsatkichi deb bilsa, Vygotskiy uni tafakkur rivojlanishining zaruriy bosqichi sifatida baholagan. Zamonaviy psixolingvistika Vygotskiy qarashini ko’proq qo’llab-quvvatlaydi: bolaning o’z-o’zi bilan gaplashishi - bu uning tafakkur qilish jarayonini tashqi nutq orqali “ko’rinadigan” qilishidir.

Kvazi muloqot (kvazidialog) - dialogning shartli ko’rinishi bo’lib, unda to’laqonli kommunikativ vaziyat mavjud emas. Kvazi muloqotning asosiy belgisi shundaki, nutqdagi adresant va adresat rollari bitta shaxs tomonidan bajariladi. N.Musayeva (2024) bu hodisani quyidagicha ta’riflaydi: “Kvazidialogik nutqning asosiy belgisi to’laqonli kommunikativ vaziyatning mavjud emasligi bilan tavsiflanadi. Bunday nutqiy vaziyatning o’ziga xosligi shundaki, egotsentrik nutq va tasavvuriy adresatga qaratilgan nutq kesishadi.

- Bolalar nutqida Kvazi muloqot quyidagi shakllarda namoyon bo’ladi: O’yinchoqlar bilan muloqot: bola qo’g’irchoqqa onasiga murojaat qilgandek gaplashadi, ikki rol ni o’zi ijro etadi
- Rolli sahnalashtirish: bola tarbiyachi, shifokor, ota-ona rollarini o’ynab, har bir rol uchun alohida nutq shakllantiradi
- Xayoliy suhbatdosh bilan muloqot: bola o’z tasavvuridagi personaj bilan dialog quradi

⁸ Musayeva N.K. Bolalar kvazidialogik nutqining pragmatik xususiyatlari: Filologiya fanlari bo’yicha falsafa doktori (PhD) dissertatsiyasi avtoreferati. – Qarshi, 2024. – 53 b.

⁹ Isakova Z.Z., Vaxobova B.M. Ingliz va o’zbek bolalar nutqining psixolingvistik tadqiqi // "Til va tafakkur: lingvistik va metodik tadqiqotlar" resp. ilmiy-amaliy anjumani materiallari. – Denov: DTPI, 2025. – B. 227–236

- O‘z-o‘zi bilan pichirlab gaplashish: ichki nutqqa yaqin, bola stressli yoki shaxsiy vaziyatda tovushsiz yoki pichirlagan holda kvazi muloqot qiladi

N.Musayeva¹⁰ tahlili shuni ko‘rsatadiki, kvazi muloqotning yuzaga chiqishida bir qancha psixologik va ijtimoiy omillar rol o‘ynaydi: tengdoshlar bilan muloqotning yetishmasligi, tortinchoqlik, boy tasavvur dunyosi, oiladagi yolg‘iz farzand ulg‘ayishi va boshqalar. Bu omillar bolaning kvazi muloqotga moyilligini belgilaydi. O‘zbek bolalar nutqida kvazi muloqotning milliy-madaniy xususiyatlari ham alohida o‘rin tutadi. O‘zbek oilalarida bolalar ko‘p sonli oila a‘zolari bilan muloqotda bo‘lganligi uchun, ularning kvazi muloqotida oilaviy rollar - ona, bobo, buvi, tarbiyachi - ko‘proq namoyon bo‘ladi. Buni Musayeva keltirgan quyidagi misol tasdiqlaydi: 5,5 yoshli Soliha “qo‘g‘irchoqlari bilan “Tarbiyachi va bolalar” ko‘rinishini sahnalashtirib, bir o‘zi tarbiyachi, Ali va Feruza rollarini ijro etgan: “Bolalar, ovqatlanayotganda qanday o‘tiramiz? Feruza, qo‘llar qayerda bo‘lishi kerak? Ali, chapillatmay ye, deb nechchi marta aytdim!”

Ingliz tilidagi bolalar nutqida ham kvazi muloqot keng tarqalgan. Eliseyeva (2015) tadqiqotida bolaning kvazi muloqotida adresatning “kvazisuhbatdosh” timsolini kattalarning nutqidan, ertak qahramonlaridan va telereklamalardan olingan parchalar asosida shakllantirishini ko‘rsatgan. Isakova va Vaxobova (2025) tadqiqotida esa o‘zbek va ingliz bolalar nutqining psixolingvistik taqqosi shuni ko‘rsatdiki: ingliz bolalar nutqida individual ifoda va kreativlik ko‘proq namoyon bo‘lsa, o‘zbek bolalari oilaviy va jamoaviy rollarga ko‘proq murojaat qiladi.

Nutqiy innovatsiyalarning bolalar nutqining paydo bo‘lishidagi o‘rni:

Nutqiy innovatsiya (detskaya innovatsiya / speech innovation) - bola nutqida mavjud til qoidalari asosida yangi, ammo adabiy me‘yorda bo‘lmagan shakllarning ijodiy paydo bo‘lishi hodisasidir. S.N.Seytlin ushbu hodisani ikki turga ajratadi: shakllanish innovatsiyalari (bolaning mavjud grammatik paradigmani yangi so‘zlarga qo‘llashi) va so‘z yasash innovatsiyalari (bolaning yangi so‘z yaratishi). Nutqiy innovatsiyalar bolaning til qoidalarini intuitiv tarzda o‘zlashtirganligini, lekin ularni hali to‘liq bilmasligini ko‘rsatuvchi hodisadir.

Nutqiy innovatsiyaning asosiy mexanizmi - giperregulyatsiya (overextension / overgeneralization): bola biror qoidani o‘rgangach, uni barcha holatga qo‘llashga harakat qiladi. Masalan, ingliz tilidagi “go - went” o‘rniga “go - goed” deyish; o‘zbek tilida “yuguruvchi” o‘rniga “yugurgich” deyish. O‘zbek tilining agglutinativ tabiatga egaligi - ya‘ni so‘z yasashda qo‘shimchalarning muhim rol o‘ynashi - o‘zbek bolalar nutqidagi morfologik innovatsiyalarni ingliz tiliga nisbatan yanada yorqinroq namoyon etadi.

Tadqiqotimizda kuzatilgan 3 yoshli Xuzayfaning “ni-” morfemasi hodisasi nutqiy innovatsiyaning noyob namunasi. Ushbu hodisani tahlil qilganda quyidagi xulosalar kelib chiqadi: Xuzayfa “nini” so‘zining “ni-” qismini kichkinalik bildiruvchi morfema sifatida mustaqil ravishda ajratib olgan. Bu jarayon psixolingvistikada “morfologik tahlil” (morphological parsing) deb ataladi - bola so‘zning ichki tuzilishini tahlil qilib, uning qismlarini anglab oladi, bola ushbu morfemani produktiv ravishda yangi so‘z yasash uchun qo‘llagan: “ni toga”, “ni bobo”, “ni aka”, “ni opa”. Bu so‘z yasash faolligining namunasi, bola “ni-” morfemini faqat odamlarga nisbatan qo‘llab, jonsiz narsalarga nisbatan qo‘llamaganligi uning

¹⁰ Musayeva N.K. Bolalar kvazidialogik nutqining pragmatik xususiyatlari: Filologiya fanlari bo‘ yicha falsafa doktori (PhD) dissertatsiyasi avtoreferati. – Qarshi, 2024. – 53 b.

semantik kategoriyalarni to'g'ri anglab olganidan dalolat beradi. Bu dastlabki kognitiv kategoriyalashtirishning muhim belgisidir. Shuningdek, ushbu hodisa bevosita kvazi muloqot bilan bog'liq: Xuzayfa ushbu innovatsion morfemani ko'pincha oila a'zolari bilan muloqotda, shuningdek o'yinchoqlari bilan Kvazi muloqot jarayonida qo'llagan. Bu esa kvazi muloqotning bolada nutqiy innovatsiyani sinab ko'rish uchun qulay maydon ekanligini tasdiqlaydi.

Nutqiy innovatsiyalar va kognitiv rivojlanish o'rtasidagi bog'liqlik ham muhim. Bola yangi morfema yaratish orqali nafaqat til qoidasini o'rganadi, balki atrofdagi dunyoni kategoriyalashtiradi, munosabatlarni belgilaydi va o'z fikrlarini ifodalash uchun til vositalarini ijodiy ishlatadi. Seytlinning takidlashicha, nutqiy innovatsiyalar bolaning til yaratuvchanligining eng yorqin ko'rsatkichidir.

Kvazi nutq bo'yicha tilshunoslikdagi tadqiqot ishlari

Psixolingvistik yo'nalish. T.I.Petrova¹¹ (2000) sahnalashtirilgan kvazidialogni bolalar nutqining alohida janri sifatida 6-8 yoshli bolalar nutqi materiallari asosida tahlil qilgan va uning kompozitsion tuzilishi, nutqiy vaziyat xususiyatlarini batafsil ko'rsatgan. Bu tadqiqot kvazidialogning psixolingvistik tavsifida dastlabki monografik asar sanaladi.

Siyosiy nutq va kattalar nutqidagi kvazidialog. S.P.Potseluyev (2010) kvazidialogni faqat bolalar nutqiga xos hodisa emas, balki kattalar - xususan siyosatchilar - nutqida ham kuzatish mumkinligini ko'rsatgan. Demokratik

kommunikatsiya nazariyasidagi "dialog" va "kvazidialog" o'rtasidagi farqni tahlil qilgan. Egotsentrik nutq va ichki nutq nazariyasi. J.Piaje (1923) va L.S.Vygotskiy (1934) qarashlari bolalar nutqidagi Kvazi muloqotni tushunishning asosiy nazariy zaminini tashkil etadi. Zamonaviy tadqiqotlar Vygotskiy pozitsiyasini kuchliroq qo'llab-quvvatlaydi: egotsentrik nutq - o'ta sog'lom kognitiv rivojlanishning belgisi.

M.V.Yeliseyeva¹² bolaning individual til tizimining shakllanishini keng ko'lamda o'rganib, 2-5 yoshdagi bolalar nutqida "o'ziga atalgan nutq" va "boshqalarga atalgan nutq" o'rtasidagi chegarani tahlil qilgan. U kvazi muloqotdagi "kvazi suhbatdosh" tushunchasini lingvistik tushuncha sifatida ishlab chiqqan.

O'zbek tilshunosligida N.Musayeva (2024) dissertatsiyasi bu sohada burilish nuqtasi bo'ldi. U o'zbek bolalar kvazidialogik nutqining pragmatik xususiyatlarini uch yo'nalishda o'rgandi: (1) nutqiy akt ifodasi - lokutiv, illokutiv va perlokutiv aktlarning kvazidialogdagi o'ziga xos namoyon bo'lishi; (2) deysisning ikkilamchi ifodalanishi - "so'zlovchi - hozir - shu yerda" tushunchalarining "soyasi" yaratilishi; (3) lisoniy yaratuvchanlik va pragmatik to'siq. Musayeva tadqiqotida ayniqsa 5-7 yoshli bolalar materiallari boy empirik baza hosil qilgan.

Psixolingvistik taqqosiy tadqiqotlar yo'nalishida Z.Akbarova va D.Yuldasheva¹³ (2021) maktabgacha yoshdagi bolalar nutqining psixolingvistik xususiyatlarini xalqaro jurnal darajasida tahlil qilgan. Isakova va Vaxobova (2025) tadqiqotida o'zbek va ingliz bolalar nutqini psixolingvistik jihatdan taqqoslab, ikkala

¹¹ Петрова Т.И. Инсценированный квазидialog как особый жанр детской речи (на материале речи детей 6-8 лет). Дисс.кандидата филол. наук. – Владивосток, 2000. – 174 с.

⁵ Поцелуев С.П. Dialog и квазидialog в коммуникативных теориях демократии: Монография. – Ростов н/Д: СКАГС, 2010. – 496 с.

¹² Елисеева М.В. От 2 до 5: речь «для других» и речь «для себя» (к вопросу об эгоцентрической речи ребенка) //

Ребенок как партнер в диалоге: труды постоянно действующего семинара по онтолингвистике. – СПб., 2001. Вып. 2.

¹³ Yuldasheva D. Bolalarga xos yozma matnlarning transakt tahlili // Namangan davlat universiteti ilmiy axborotnomasi. — 2021. — № 3. — B. 89–97.

tilda nutqiy rivojlanishning bosqichlari va o'ziga xos milliy tomonlari ko'rsatilgan.

IV. MUHOKAMA (DISCUSSION)

Tadqiqot natijalari bir necha muhim jihatdan oldingi nazariy va empirik ishlarga yangi ma'lumot qo'shadi.

Xuzayfaning "ni-" morfemasi hodisasi S.N.Seytlinning nutqiy innovatsiyalar nazariyasini o'zbek tili materiallari asosida tasdiqlaydi. Seytlin rus tilidagi bolalar nutqida shunga o'xshash giperregulyatsiya hodisalarini batafsil tavsiflab bergan edi. O'zbek tilining agglyutinativ tabiatga ega ekanligi - qo'shimchalar vositasida so'z yasash imkoniyatlarining kengligi - o'zbek bolalar nutqida morfologik innovatsiyalarning yanada ko'proq va xilmaxil namoyon bo'lishiga zamin yaratadi. Bu esa o'zbek ontolingvistikasi uchun katta ilmiy qiziqish uyg'otuvchi sohadir.

Kuzatilgan hodisa Vygotskiyning egotsentrik nutq va ichki nutq nazariyasini qo'llab-quvvatlaydi. Xuzayfa ushbu morfemani kvazi muloqot - ya'ni o'yinchoqlari bilan suhbat - jarayonida ko'proq qo'llagan. Bu esa ichki nutqning tashqi kvazi muloqot orqali namoyon bo'lishi sifatida talqin qilish mumkin: bola yangi morfologik kashfiyotini kvazi muloqot jarayonida "sinab ko'radi" va ijtimoiy nutqda qayta ishlatadi.

So'rovnomalar natijalari shuni ko'rsatdiki, ko'pchilik bolalar 10-14 oylikda birinchi so'zni aytishni boshlaydi va birinchi so'zlar orasida "ona", "ota", "bobo", "buvi" kabi munosabat bildiruvchi so'zlar ustunlik qiladi. Bu Lepskaya (1997) ning bolalar nutqiy kommunikatsiyasi ontogenezi bo'yicha kuzatishlari bilan mos keladi: bola eng avval o'ziga eng yaqin bo'lgan munosabatlarni til vositasida nomlashga kirishadi. So'rovnomadan xulosa qilish mumkin 90% bolalarda muloqotga intiluvchanlik va ularda ijobiy fikrlash yuqori ekanligi ma'lum bo'ladi. Kvazi muloqot va nutqiy innovatsiyalar o'rtasidagi bog'liqlik tadqiqotimizning muhim topilmalaridan biri bo'ldi. Bola kvazi

muloqot jarayonida - real suhbatdosh yo'qligi tufayli nutqini to'g'rilovchi kimsasiz qolganda - til vositalarini erkin ishlatadi, yangi shakllarni sinab ko'radi va yangi morfemalar yaratadi. Bu esa kvazi muloqotni nafaqat psixologik, balki lingvistik rivojlanishning ham muhim vositasi deb qarashga asos beradi.

Tadqiqotning cheklovlari haqida ham to'xtalish zarur. Kuzatuv ob'ekti bitta bola bo'lganligi uchun umumlashtirishlar chegaralangan. Kelajakda turli yosh va ijtimoiy guruhlardan ko'proq bolalarni qamrab oluvchi keng ko'lamlil tadqiqot olib borish zarur. Bundan tashqari, video yozuvlar va bolaning nutqini bevosita akustik tahlil qilish vositasida olingan ma'lumotlar yanada ishonchli natijalar berishi mumkin. So'rovnomalar natijalari esa ota-onalarning sub'ektiv bahosiga asoslanganligi sababli, ayrim ko'rsatkichlar aniq bo'lmasligi mumkin.

V. XULOSA (CONCLUSION)

Ushbu tadqiqot bolalar nutqida kvazi muloqot va ichki nutqning o'rni, nutqiy innovatsiyalarning bola nutqini shakllantirishdagi ahamiyati va o'zbek bolalar nutqidagi so'z yasash hodisalarini empirik material asosida tahlil qildi. Asosiy xulosalar quyidagilardan iborat:

- Kvazi muloqot bolalar nutqiy rivojlanishining tabiiy va zaruriy bosqichi bo'lib, u bolaning kognitiv va lingvistik rivojlanishiga muhim hissa qo'shadi. O'zbek bolalar nutqida Kvazi muloqot milliy madaniy xususiyatlar - oilaviy rollar va jamoaviy muloqot an'analari - bilan chambarchas bog'liq holda namoyon bo'ladi.

- Ichki nutq Vygotskiy nazariyasiga muvofiq egotsentrik nutqdan shakllanadi va bola tafakkuri bilan tilning uzviy bog'liqligini ta'minlaydi. Bolalar taxminan 3-7 yosh orasida tashqi egotsentrik nutqdan ichki nutqqa o'tish bosqichlarini bosib o'tadi. Bu jarayon Kvazi muloqot bilan parallel ravishda rivojlanadi.

- Nutqiy innovatsiyalar bolaning tilni passiv qabul qiluvchi emas, balki faol yaratuvchi ekanligining dalilidir. 3 yoshli Xuzayfaning nutqida kuzatilgan “ni-” morfemasi - ya’ni “ni toga”, “ni bobo”, “ni aka”, “ni opa” shakllari - o‘zbek tili materiallaridagi morfologik yaratuvchanlikning noyob namunasi va bolalar ontolingvistikasiga yangi empirik ma’lumot qo‘shadi.

- Kvazi muloqot va nutqiy innovatsiyalar o‘rtasida bevosita aloqa mavjud: bola kvazi muloqot jarayonida nutqiy innovatsiyalarni ko‘proq qo‘llaydi, chunki bu vaziyat nutqni to‘g‘rilovchi haqiqiy suhbatdoshsiz tilni erkin sinab ko‘rish imkonini beradi.

- Tilshunoslikda kvazi nutq bo‘yicha olib borilgan tadqiqotlar - Petrova (2000), Yeliseyeva (2015), Musayeva (2024) - bu sohaning nazariy asoslarini mustahkamlagan. O‘zbek tilshunosligida esa bu yo‘nalishda yanada chuqur empirik tadqiqotlar olib borish zarur.

Tadqiqot natijalari ontolingvistika, pragmatologiya va psixolingvistika sohasidagi darslik va o‘quv qo‘llanmalar yaratishda, maktabgacha ta’lim metodikasini takomillashtirishda, shuningdek bolalar nutqini rivojlantirishga yo‘naltirilgan amaliy ishlar uchun foydalanilishi mumkin.

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Коммуникативный Подход В Преподавании Русского Языка Студентам Профессиональных Школ

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Аннотация

В данной статье рассматриваются особенности применения коммуникативного подхода в преподавании русского языка студентам профессиональных школ. Раскрывается сущность коммуникативного подхода как одного из современных направлений методики обучения, ориентированного на развитие речевой компетенции обучающихся и формирование умений использовать язык в реальных и профессионально значимых ситуациях. Особое внимание уделяется методам реализации данного подхода, таким как диалогический метод и работа с профессионально ориентированными текстами. Подчеркивается значимость практикоориентированного обучения, способствующего повышению мотивации студентов, развитию их коммуникативных навыков и подготовке к будущей профессиональной деятельности.

Ключевые слова: коммуникативный подход, речевая компетенция, профессионально ориентированное обучение, диалогический метод, профессиональные тексты, речевая деятельность.

Современная система профессионального образования направлена не только на подготовку квалифицированных специалистов, но и на развитие личности, способной эффективно общаться в профессиональной и социальной среде. В этом контексте особенно важно преподавание русского языка как средства коммуникации, профессионального взаимодействия и развития устной культуры учащихся. Одним из наиболее эффективных подходов к современному обучению является коммуникативный подход. Его основная цель – развитие у учащихся умения использовать русский язык в реальных и профессиональных ситуациях. Этот подход способствует развитию практических устных навыков, повышает мотивацию к обучению и поощряет активное участие в учебном процессе.

Коммуникативный подход представляет собой метод обучения, ориентированный на практическое

использование языка в процессе общения. Основная цель обучения заключается не только в усвоении грамматических правил, но и в формировании коммуникативной компетенции обучающихся [4].

При коммуникативном подходе большое внимание уделяется развитию:

- устной речи;
- навыков диалога;
- письменной коммуникации;
- понимания речи собеседника;
- способности использовать язык в профессиональной деятельности.

Основные принципы коммуникативного подхода [5]:

- практическая направленность обучения;
- активное участие учащихся в коммуникативном процессе;
- моделирование реальных речевых ситуаций;
- развитие всех видов речевой деятельности;
- индивидуальный подход к учащимся.

Этот подход рассматривает русский язык как средство коммуникации, а не просто набор правил и норм.

Реализация коммуникативного подхода в преподавании русского языка предполагает использование таких методов обучения, которые способствуют активному развитию речевых навыков учащихся и формированию способности применять язык в реальных ситуациях общения. Особое значение в профессиональных школах имеют методы, связанные с практической деятельностью студентов, поскольку они помогают подготовить обучающихся к будущей профессиональной среде.

Диалогический метод. Одним из наиболее эффективных методов коммуникативного обучения является диалогический метод. Его основная цель заключается в развитии у студентов навыков устного общения, умения выражать свои мысли, задавать вопросы, поддерживать разговор и аргументировать собственную точку зрения.

Диалогический метод занимает важное место в преподавании русского языка в профессиональных школах, поскольку будущая профессиональная деятельность студентов напрямую связана с общением в коллективе, взаимодействием с клиентами, работодателями и коллегами. В процессе диалогического общения учащиеся учатся использовать русский язык как средство практической коммуникации в различных жизненных и профессиональных ситуациях [4].

На занятиях преподаватель организует различные виды диалогов:

- диалог-знакомство;
- деловая беседа;
- интервью;
- обсуждение профессиональной проблемы;

- вопросно-ответная работа;
- диалог-обсуждение;
- проблемный диалог.

Особое значение имеет моделирование ситуаций, приближенных к реальным условиям профессиональной деятельности. Например, студентам технических специальностей можно предложить ситуацию общения между мастером и заказчиком, где один студент объясняет причины неисправности оборудования, а другой задает уточняющие вопросы о ремонте и сроках выполнения работы. В ходе подобного задания обучающиеся осваивают профессиональную лексику и совершенствуют навыки устной речи [5]. Для студентов сферы обслуживания эффективными являются диалоги «продавец — покупатель», «администратор — клиент» или «официант — посетитель». Например, один студент играет роль администратора гостиницы, который консультирует клиента по вопросам бронирования номера, а другой выступает в роли посетителя. Такие задания помогают формировать навыки делового общения, речевого этикета и культуры профессиональной коммуникации.

Студентам медицинских специальностей можно предложить диалог «врач — пациент», в котором один обучающийся задает вопросы о состоянии здоровья, а другой описывает симптомы заболевания. Подобные упражнения способствуют развитию профессиональной речи и умению вести корректное общение с пациентами.

Эффективной формой работы является также проведение интервью. Например, преподаватель организует ситуацию собеседования при приеме на работу, где один студент выступает в роли работодателя, а другой — кандидата на вакансию. В процессе общения студенты

учатся грамотно представлять себя, отвечать на вопросы и соблюдать нормы официально-делового стиля речи.

Важным элементом диалогического метода является развитие спонтанной речи. Преподаватель может создавать проблемные ситуации, требующие быстрого речевого реагирования. Например, студентам предлагается обсудить конфликтную ситуацию на рабочем месте и найти пути ее решения. Такая деятельность способствует развитию коммуникативной активности, критического мышления и умения аргументировать свою позицию⁴.

Таким образом, использование диалогического метода способствует развитию речевой самостоятельности студентов, преодолению языкового барьера, формированию уверенности в процессе общения и подготовке обучающихся к реальным профессиональным ситуациям. Кроме того, данный метод повышает интерес студентов к изучению русского языка, поскольку обучение приобретает практический и профессионально ориентированный характер.

Метод работы с профессионально ориентированными текстами. Одним из важных методов реализации коммуникативного подхода в преподавании русского языка является работа с профессионально ориентированными текстами. Данный метод направлен на развитие навыков чтения и анализа информации, расширение словарного запаса обучающихся, формирование культуры профессиональной речи и умения использовать язык в будущей профессиональной деятельности [5].

Использование профессионально ориентированных текстов позволяет связать процесс изучения русского языка со специальностью студентов. Благодаря этому обучение становится

более практическим, а учащиеся осознают значимость русского языка для своей будущей профессии. Работа с текстами помогает студентам овладевать профессиональной терминологией, понимать особенности официально-делового и научного стилей речи, а также развивать навыки устного и письменного общения.

Преподаватель подбирает тексты с учетом будущей специальности обучающихся. Это могут быть:

- технические инструкции;
- деловые документы;
- статьи профессиональной тематики;
- объявления;
- производственные диалоги;
- служебные письма;
- отчеты;
- резюме;
- технологические карты;
- профессиональные рекомендации и памятки

Например, студентам экономических специальностей можно предложить анализ делового письма, составление резюме или изучение образцов договоров. В ходе такой работы обучающиеся знакомятся с особенностями официально-делового стиля, учатся правильно оформлять документы и использовать профессиональную лексику.

Для будущих поваров эффективной является работа с технологическими картами и рецептами блюд. Студенты читают инструкции по приготовлению пищи, анализируют последовательность действий, объясняют технологический процесс и составляют устные сообщения по теме. Например, преподаватель может предложить задание описать процесс приготовления национального блюда с использованием профессиональных терминов.

Студентам технических направлений можно предложить тексты, связанные с устройством оборудования, правилами эксплуатации техники или техникой безопасности. После чтения инструкции обучающиеся выполняют практические задания: объясняют принцип работы устройства, отвечают на вопросы, составляют краткий пересказ текста или обсуждают возможные причины неисправностей оборудования.

После чтения профессионально ориентированных текстов преподаватель организует различные коммуникативные задания:

- обсуждение содержания текста;
- ответы на вопросы;
- составление плана;
- выделение основной информации;
- подготовка устных сообщений;
- пересказ текста;
- составление диалогов по теме;
- выполнение ролевых заданий;
- написание деловых документов.

Например, после изучения текста о правилах обслуживания клиентов студентам сферы сервиса можно предложить разыграть ситуацию общения с посетителем. Один студент выполняет роль сотрудника, а другой — клиента. В процессе работы обучающиеся учатся правильно использовать профессиональные выражения, соблюдать нормы речевого этикета и грамотно строить диалог.

Особое значение имеет развитие навыков анализа текста. Преподаватель может предложить студентам определить основную мысль текста, выделить профессиональные термины, составить словарь новых слов или подготовить краткое сообщение по теме. Такие задания способствуют развитию критического мышления, речевой самостоятельности и способности

работать с профессиональной информацией [2].

Таким образом, коммуникативный подход в преподавании русского языка студентам профессиональных школ является одним из наиболее эффективных направлений современной методики обучения. Его основная цель заключается в формировании у обучающихся устойчивой коммуникативной компетенции, позволяющей свободно и грамотно использовать русский язык в различных жизненных и профессиональных ситуациях.

Реализация данного подхода осуществляется через использование разнообразных методов обучения: диалогического метода, работы с профессионально ориентированными текстами и других видов коммуникативной деятельности. Эти методы обеспечивают активное участие студентов в учебном процессе, развивают навыки устной и письменной речи, способствуют расширению словарного запаса и формированию профессиональной речевой культуры. Следовательно, коммуникативный подход не только совершенствует процесс преподавания русского языка, но и играет важную роль в подготовке квалифицированных специалистов, способных успешно реализовывать себя в профессиональной деятельности и обществе.

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Хасанова Г. Х. СОВЕРШЕНСТВОВАНИЕ ПРОФЕССИОНАЛЬНОГО ОБРАЗОВАНИЯ В УЗБЕКИСТАНЕ НА ОСНОВЕ ОПЫТА ЯПОНИИ.

Enhancing Students' Creativity through Writing-Based Activities in English Lessons

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Abstract

This article examines the role of writing-based activities in enhancing students' creativity during English lessons. Modern educational approaches emphasize the importance of creative thinking, communicative competence, and student-centered learning in foreign language education. The study analyzes innovative writing tasks such as storytelling, reflective journals, collaborative writing, descriptive essays, and digital storytelling activities. Research findings indicate that creative writing practices improve students' motivation, imagination, vocabulary development, and critical thinking skills. The article also highlights the positive impact of technology-enhanced writing instruction on learners' engagement and independent learning abilities. Furthermore, the study discusses the importance of supportive classroom environments and effective teacher feedback in promoting creativity through English writing activities. The findings confirm that integrating writing-based methodologies into English lessons significantly contributes to students' linguistic, cognitive, and creative development.

Keywords: creativity, English language teaching, writing-based activities, creative writing, communicative competence, critical thinking, digital storytelling, student-centered learning.

Introduction

Creativity has become one of the most valuable competencies required for academic success and professional development. Educational systems worldwide increasingly emphasize the importance of fostering creative thinking, problem-solving abilities, and communicative competence among learners. In this regard, English language teaching plays a crucial role because language itself serves as a medium for expressing ideas, emotions, and innovative thoughts. Among the various instructional approaches used in English classes, writing-based activities are particularly effective in promoting students' creativity and independent thinking.

Writing is not merely a linguistic exercise; it is also a cognitive and imaginative process through which learners organize ideas, reflect on experiences, and construct meaning. Modern pedagogical theories suggest that creative writing activities encourage students to move beyond memorization and engage in deeper

intellectual exploration. Through writing tasks, learners gain opportunities to experiment with vocabulary, sentence structures, and stylistic expressions while simultaneously developing their imaginative abilities. Recent educational reforms have shifted from teacher-centered methodologies toward student-centered approaches that prioritize active participation and collaboration. Writing-based activities such as storytelling, opinion essays, reflective journals, role-play scripts, and collaborative projects enable students to become active creators of knowledge rather than passive recipients of information. Researchers emphasize that such activities increase students' engagement and motivation in English lessons, particularly among secondary school and university learners. Technological advancements have transformed the teaching of writing in modern classrooms. Digital storytelling platforms, online collaborative writing tools, and artificial intelligence-based educational applications provide students with

innovative environments for creative expression. As a result, contemporary English instruction increasingly integrates technology-enhanced writing practices to stimulate learners' curiosity and originality. The purpose of this article is to explore how writing-based activities contribute to enhancing students' creativity in English lessons and to identify effective strategies for implementing these activities in educational practice.

Literature Review

The relationship between creativity and language learning has attracted considerable attention in contemporary educational research. According to constructivist learning theory, students learn more effectively when they actively participate in creating knowledge through meaningful interaction and self-expression. Writing-based activities align with this theoretical framework because they encourage learners to generate original ideas and communicate them in written form. Researchers such as Graham and Perin argue that writing instruction improves not only literacy skills but also analytical and creative thinking abilities. Similarly, studies conducted in European and Asian educational contexts demonstrate that creative writing tasks increase students' confidence and motivation in foreign language learning. Modern scholars also emphasize the importance of collaborative writing, where learners exchange ideas and develop communication skills through teamwork. Another significant aspect highlighted in recent literature is the role of reflective writing in cognitive development. Reflective journals and personal essays allow students to analyze their learning experiences and express personal perspectives. Such practices support metacognitive awareness and foster intellectual independence.

Methodology

This study employed a qualitative research design to investigate the role of writing-based activities in enhancing students' creativity during English lessons. Recent scientific articles, pedagogical reports, and educational studies published between 2020 and 2025 were analyzed to identify modern approaches to creative writing instruction. The research focused on several instructional methods, including storytelling, reflective journals, collaborative writing, descriptive essays, and digital narrative activities used in English classrooms. Comparative analysis was conducted to examine differences between traditional grammar-oriented instruction and creativity-based writing practices. Classroom observations and theoretical findings demonstrated that student-centered writing tasks positively influence learners' imagination, motivation, and communicative competence. Special attention was given to the impact of digital technologies such as online writing platforms and multimedia storytelling tools on students' creative development. The study also explored psychological factors affecting learners' participation, including self-confidence, language anxiety, and teacher feedback during writing activities. The collected data were systematically analyzed and interpreted to determine the educational effectiveness of writing-based methodologies in modern English language teaching.

Discussion

The findings of the study indicate that writing-based activities play a significant role in developing students' creativity and communicative competence in English lessons. Creative tasks such as storytelling, reflective writing, and collaborative projects increased learners' motivation and encouraged them to express original ideas more confidently. The integration of digital technologies into writing instruction also created more interactive and engaging

learning environments that supported independent thinking and imagination. However, some students experienced difficulties due to limited vocabulary knowledge and fear of making grammatical mistakes during creative tasks. Overall, the discussion confirms that student-centered writing activities are more effective than traditional memorization-based approaches in promoting creativity and active participation in English language learning.

Conclusion

Writing-based activities are highly effective in enhancing students' creativity and improving their English language skills. Creative writing tasks encourage learners to think independently, express personal ideas, and participate actively in classroom activities. The use of storytelling, reflective journals, and collaborative writing strengthens students' motivation, imagination, and communicative competence. Technology-enhanced writing practices also provide innovative opportunities for interactive and student-centered learning. Therefore, integrating creative writing activities into English lessons is essential for developing modern learners' cognitive, linguistic, and creative abilities.

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Структурные Модели Наименований Кулинарных Изделий

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Аннотация

В статье рассматриваются структурные модели наименований кулинарных изделий в современном русском языке. Проводится комплексный анализ словообразовательных и синтаксических типов номинации, выявляются наиболее продуктивные модели образования гастрономической лексики. Особое внимание уделяется антропонимическим, топонимическим и заимствованным единицам. Доказывается, что структура кулинарных наименований отражает национально-культурную специфику и особенности языковой картины мира.

Ключевые слова: кулинарная номинация, структурная модель, словообразование, гастрономическая лексика, языковая картина мира.

Introduction

Кулинарная лексика представляет собой значимый фрагмент словарного состава языка. Наименования блюд формируются в результате исторического развития общества, межкультурных контактов и внутренней эволюции языка. Современная гастрономическая культура активно пополняется новыми реалиями, что способствует расширению номинативных средств. Структурный анализ позволяет определить продуктивные модели построения кулинарных наименований. В данной статье анализируются основные типы структурных моделей, характерные для русской гастрономической лексики.

Однословные наименования могут быть производными (*хлеб, суп, плов*) и производными (*печенье, варенье, запеканка, сырник*). Суффиксальные модели (-енье, -ка, -ник, -ица) активно используются для обозначения результата действия или вида блюда. Производные единицы обладают высокой степенью семантической

прозрачности и мотивации, что облегчает их понимание и усвоение носителями языка. Как показывает анализ, подобная словообразовательная модель является одной из наиболее древних и устойчивых в языке.

Простые и производные наименования составляют базовый пласт кулинарной лексики. Суффиксальные модели обеспечивают семантическую прозрачность и регулярность номинации. Непроизводные единицы фиксируют базовые концепты гастрономической культуры, тогда как производные отражают процессы приготовления и результат действия.

В кулинарной номинации широко используются сложные слова и дефисные образования: *суп-пюре, пирог-полуфабрикат, торт-мороженое*. Такие модели позволяют кратко передать способ приготовления или состав блюда. Композитные структуры отражают тенденцию к экономии языковых средств, характерную для современной

коммуникации. Переход от простых номинаций к сложным демонстрирует эволюцию языкового мышления в сторону большей информационной плотности.

Композиты и дефисные образования представляют собой продуктивный способ номинации, позволяющий в одном слове объединить два понятия. Данные модели особенно востребованы в рецептурной литературе и меню, где требуется лаконичность при сохранении информативности.

Наиболее продуктивной в русском языке является модель «существительное + прилагательное»: *овощной салат, куриный бульон, шоколадный торт*. Также широко используется модель с родительным падежом: *суп из грибов, котлеты из говядины*. Конструкции с предлогами (*мясо по-французски, рыба в соусе*) указывают на способ приготовления или национальную принадлежность блюда. Указанные модели демонстрируют высокую частотность и регулярность в гастрономическом дискурсе.

Словосочетательные модели являются доминирующими в кулинарной номинации современного русского языка. Модель «прилагательное + существительное» наиболее экономно передаёт признак объекта. Конструкции с родительным падежом и предлогами позволяют детализировать ингредиентный состав или технологию приготовления.

Кулинарная лексика включает значительное количество названий, образованных от имён собственных: *салат «Оливье», торт «Наполеон», бефстроганов*.

Топонимические модели (*плов по-узбекски, борщ украинский, котлета по-киевски*) отражают национально-культурную специфику и свидетельствуют о межкультурных

контактах в области гастрономии. Подобные наименования фиксируют связь блюда с определённой географической территорией или исторической личностью. Эти модели сближают гастрономическую номинацию с ономастикой и лингвокультурологией. Антропонимические и топонимические модели играют важную роль в отражении культурной памяти народа. Они фиксируют исторические личности, события и географические объекты в повседневной языковой практике. Данные модели демонстрируют тесную связь между кулинарией и национальной идентичностью.

В условиях глобализации активно функционируют заимствования: *пицца, бургер, суши, круассан*. Часть единиц сохраняет оригинальную форму, другие адаптируются к нормам русского языка (грамматическим, фонетическим и словообразовательным).

Заимствованные модели демонстрируют открытость гастрономической лексики к межкультурному взаимодействию и позволяют проследить динамику языковых процессов в современном обществе. Процессы заимствования в гастрономической сфере интенсифицируются в последние десятилетия в связи с развитием туризма и международного обмена.

Заимствованные наименования являются важным источником пополнения кулинарной лексики. Они отражают глобализационные процессы и культурную диффузию. Степень адаптации заимствований варьируется от полного сохранения исходной формы до глубокой интеграции в языковую систему русского языка.

Заключение

Таким образом, структурные модели наименований кулинарных изделий в современном русском языке отличаются разнообразием и продуктивностью.

Простые и производные наименования (суффиксальные модели) составляют базовое ядро гастрономической лексики, обеспечивая регулярность и семантическую прозрачность. Композиты и дефисные образования позволяют лаконично передавать сложные понятия и активно используются в профессиональной и бытовой коммуникации. Словосочетательные конструкции, особенно модель «прилагательное + существительное», являются наиболее распространённым типом номинации, обеспечивая баланс между информативностью и экономией языковых средств. Антропонимические и топонимические модели фиксируют культурную память и национальную идентичность, связывая блюда с историческими личностями и географическими объектами. Заимствованные наименования демонстрируют открытость кулинарной лексики к глобализационным процессам и межкультурному взаимодействию. Кулинарная номинация отражает тесную связь языка и культуры, демонстрируя влияние исторических традиций, межнациональных контактов и современных процессов глобализации. Перспективным направлением дальнейших исследований представляется сопоставительный анализ структурных моделей наименований блюд в разноструктурных языках (русском, узбекском, английском).

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Terminological Decisions And Translation: The Role Of Historical And Cultural Context In The Formation Of Military Terminology

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Abstract

This article examines the role of historical and cultural context in the formation of military terminology across Russian, English, and Uzbek. Based on a corpus of terminological units, the study identifies syntactic models, abbreviations, and simple terms as the main structural layers. The article explores several channels of terminological formation, including the basic national layer, long-term borrowing, standardization, and legal codification. Special attention is paid to differences between the Russian and English segments, revealing distinct models of terminological organization.

Keywords: military terminology, terminological decisions, translation, historical context, cultural context, Russian, English, Uzbek, comparative analysis.

The transition from a theoretical characterization of the term to the movement of specific units within multilingual systems requires a preliminary clarification of the composition of the material and the methods used to process it. The general boundaries of military terminology have been established, its semantic and structural properties described, and the principles of comparison outlined. In the present study, the focus shifts from the theoretical characterization of a term to the movement of a specific unit within three languages: Russian, English, and Uzbek.

The starting point is not the definition of the term but a specially compiled corpus for multilevel comparison. A working corpus of Russian, English, and Uzbek terminological units was selected across thematic groups using a comprehensive sampling method. The sample included only units that relate to the military subject area, possess a stable professional function, and allow comparison across the three languages. Excluded were one-off metaphors, colloquial terms, and usages not established in professional practice.

When processing the material, the author combined several analytical procedures. The basic one is comparative interpretation, which allows for establishing correspondences and discrepancies between Russian, English, and Uzbek units. Alongside this, a component analysis of meanings was used, since military terminology often coincides in terms of subject matter but differs in institutional scope. For historically marked terms, diachronic commentary was employed, while for doctrinally and normatively established terms, a contextual-functional examination of their place within the relevant military-administrative system was conducted.

The composition of the material itself already sets the direction of the analysis. Syntactic models form the largest structural layer within the corpus. The abbreviation layer also constitutes a significant portion. Simple single-word terms account for a smaller but still substantial part of the material. This distribution suggests that the focus of the comparison should be on analytical phrases, abbreviation compression, and those forms of borrowing

that are not limited to the simple transfer of a single word from one language system to another.

A distinct picture emerges in those sections of the Russian material where the military system historically developed in close contact with European military-administrative and technical traditions.

This phenomenon is particularly noticeable where a borrowed word becomes a central node for secondary term formation. From the unit *missile*, combinations such as *guided missile*, *ballistic missile*, *cruise missile*, *anti-ship missile*, and *anti-aircraft missile* are derived. Series such as *aviation* — *army aviation* — *attack aviation* — *military transport aviation*, and *command* — *operational command* — *strategic command* — *joint staff* follow a similar pattern.

From the perspective of terminological description, what is important here is not the fact of the earlier borrowing itself, but that the external origin no longer hinders internal productivity. The source turns out to be historical, while the function is entirely systemic and modern.

Borrowed terms in Russian military terminology, once fully assimilated, become productive centers for secondary term formation. Their external origin does not impede their ability to generate derivative series and integrate fully into the systemic organization of the language. This demonstrates that terminological systems can absorb external elements without losing internal coherence and productivity.

The English-language material is organized according to a different logic. Its specificity is determined not so much by the prominence of the borrowed layer as by the system's high capacity to rapidly form analytically and procedurally rich phrases. The distribution of terms alone shows that English readily embeds a new concept into a syntactic structure rather than waiting for

a separate, single-word name to become established for it.

Hence, several terms such as:

- *command and control*;
- *battle management system*;
- *concept of operations*;
- *line of effort*;
- *decision support template*.

In English, the preference for syntactic expansion over lexical compression is not a marginal feature but a core structural tendency. Where Russian might borrow a term and then derive new units from it, English typically constructs multi-word phrases that specify the concept through syntactic modification. This difference has direct consequences for translation. A single English phrase often requires either an equivalent multi-word construction in Uzbek or Russian, or, where such a construction is absent, a descriptive or functional analogue.

English military terminology demonstrates a high capacity for analytic phrase formation. Rather than relying on lexical compression or borrowing as primary mechanisms, English preferentially encodes new concepts through syntactic structures. This tendency shapes the overall profile of the terminological system and imposes specific demands on translation into languages with different structural preferences.

It is precisely here that historical and cultural context ceases to be merely an external reference. In military terminology, the origin of a term often coincides with the origin of the institution itself, the branch of service, the form of command, or the type of weaponry. For this reason, the history of the word and the history of the military institution it denotes often go hand in hand. If this background is not taken into account, the comparison quickly loses its accuracy. Formally similar units begin to appear as complete equivalents, although in reality they belong to different historical and administrative traditions.

Historical and cultural context is not an optional addition to terminological analysis but a necessary condition for accurate comparison. Without considering the institutional and historical background, formally similar terms may be mistakenly treated as full equivalents, leading to translation errors and conceptual confusion. Several main channels for the formation of military terminology are clearly discernible in the research material.

The basic national layer. This channel is linked to the basic national layer, where the most general concepts of armed struggle, defense, mobilization, training, and command are established. Terms such as *war*, *defense*, *mobilization*, and *combat readiness* belong to a general military layer that does not require a special intermediary for inclusion in professional usage. Their semantic scope across the three languages is similar, and their historical depth is such that the question of the source of borrowing takes a back seat here.

Long-term borrowing. This channel involves long-term borrowing, where a word enters the system alongside a new military institution, type of weapon, or branch of service. Borrowings often retain traces of their origin while gradually integrating into the receiving language's structural and semantic systems. The Russian material provides abundant examples of this channel, particularly in weaponry, ranks, and naval terminology.

Ongoing standardization. The third channel is driven by ongoing standardization — most often English-language — in which not individual words but entire procedural and doctrinal packages are translated into the language. This channel reflects the dominance of English as a global language of military and security cooperation.

Legal codification. Finally, legal codification occupies a special place: where a term is enshrined in law, a charter, or an

official glossary, it acquires a different degree of stability and begins to limit translation choices. Codified terms resist synonymy and variation, imposing strict constraints on terminological decisions.

The four identified channels operate simultaneously and interact with each other. The basic national layer provides continuity and stability, while borrowing and standardization introduce innovation and international alignment. Legal codification serves as a stabilizing mechanism, fixing terminological choices within normative frameworks.

Conclusion

Thus, the analysis of terminological decisions and translation in military terminology reveals the crucial role of historical and cultural context. Based on Russian, English, and Uzbek corpus data, the study demonstrates that syntactic models form the largest structural layer; in Russian, borrowed terms become productive centers for secondary term formation; in English, analytic phrase formation predominates over lexical compression; historical and cultural context is essential for accurate comparison; and four channels of terminological formation operate simultaneously: the basic national layer, long-term borrowing, ongoing standardization, and legal codification.

The study confirms that a term cannot be considered in isolation but must be analyzed in relation to the set of practices, documents, and organizational structures within which it operates. This approach provides a more accurate basis for translation decisions and terminological standardization in multilingual military contexts.

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Message from the Editor-in-Chief

Prof. Chinedu M. Ogundele

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With sincere thanks and best regards,

Prof. Chinedu M. Ogundele

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