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# HISTORICAL SCIENCES

## HEALTH CARE IN THE CITY OF KOSTANAY FROM THE END OF THE 19TH CENTURY TO 1936

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### Abstract

The article deals with the formation and development of medical institutions in the Kustanai district. Construction of medical facilities, provision of qualified personnel, medical equipment, and medicine. The medicine of the Kustanai district started with one doctor, and now it has grown to the Kustanai zemstvo (regional) hospital. This article will be useful to scientists, teachers, and students of humanitarian educational institutions studying the historical direction.

**Keywords:** Kustanai zemstvo hospital, medical institutions, the first Kazakh doctor Mukhammedzhana Karabayeva, medical personnel, sanitary situation, diseases among the population.

The history of the city of Kustanay originates in the pre-revolutionary period. Because of the administrative-territorial changes, the issue of creating a county and a city, the administration of the Russian Empire proceeded from the expediency of the functioning of an administrative unit, starting from observing the precise work of the local administrative staff, mail, telegraph, education, and medicine. The remoteness of the administrative centre made it difficult to fulfil these issues.

"On October 21, 1868, the government of Emperor Alexander II issued the "Temporary Regulation on the Administration in the Steppe Regions of the Orenburg and West Siberian Governor General." By this document, the Orenburg Governor-Generalship was divided into two regions - the Urals and the Turgai. The process of administrative arrangement of Kazakhstan was developed in the 60s of the XIX century. It was initiated by the order of the Orenburg Governor-General N.A. Kryzhanovsky dated November 27, 1868, on the creation of Ilets (Aktobe), Irgiz, Turgai, and Nikolaev (Kostanay) counties on the territory of the Turgai region. The area of the Turgai region was 418.138 sq. versts, more than half of which were in the Turgai and Nikolaev counties (241, 338 sq. versts). The Nicholas County was finally formalised in March 1869. Its population consisted exclusively of indigenous people and lived in eight volosts. However, the county did not have a single settled point where it would be possible to establish a county administration, so it was placed outside not only the county, but also the Turgai region in the Cossack village of Nikolaevskaya " [1].

The presence of the county administration outside the controlled territory soon became clear, as it introduced a number of inconveniences into its activities. Because the Nikolaevskaya village was located more than 100 miles from the postal route, this made it difficult not only to communicate with the regional authorities with the county administration, but also delayed the collection and transfer of the wagon tax to the cashier's office (located in Troitsk). Governor-General N.A. Kryzhanovsky, understanding the complexity of the sit-

uation, took it into account and, on October 3, 1869 allowed the transfer of the Nikolaev district administration to the city of Troitsk " [2].

The eyes of specialist scientists and officials fall on the Kustanai tract, which compares favourably with the proximity of running water and the absence of marsh lakes. The previously proposed Urdabai tract did not meet the sanitary and hygienic standards for the location of settlements. In December 1879, Governor-General N.A. Kryzhanovsky agreed to the construction of the settlement of Kustanai. Kustanai has led its history as the regional centre of the Kustanai district and region since that time.

The issue of the location of the city has been resolved, and its construction has begun. The bulk of its inhabitants were the indigenous population, as well as peasant migrants from various provinces of the Russian Empire, mainly from Samara, Voronezh, Saratov, Oryol, and Kharkov. Fertile land drew people to the territory of Kustanay and the county [3]. With difficulty, but gradually, the development of Kustanai took place, and with it other everyday needs began to arise in parallel (in the purchase of various household items, clothing, equipment for agriculture and animal husbandry, the need for building materials, as well as to teach children and treat the population, with the latter as things were not so good).

At first, "district paramedic Podolsky" worked in Kustanai, supplying the district with the necessary medicines, and since 1882, the examination of all patients in the district was carried out by the doctor Flerov, who was in the city of Troitsk. The problem in medical care was acute [4]. In the city and county, there were diseases of a different nature, the population was treated with "folk remedies," healers, povetukhs, shamans, and other representatives of alternative medicine flourished. The residents themselves were also backward in terms of medical competence.

Medical workers constantly sent reports to officials to resolve the issue with medical personnel, specially assigned and equipped buildings, and medicines. So the Nikolaev (Kostanay) county doctor P. Lapshin sent a report to the Turgai regional doctor Neymar on

the state of medical care in the county in 1886, which had about 112 thousand people in the county and one doctor and one assistant, with such a state of rapid response and high-quality provision of medical services being out of the question. They worked for wear and tear; they had to leave on their own since the peasants themselves could not get there or did not attach great danger to diseases. Approximately 612 people, of whom 271 were of the Kyrgyz class and 341 were settlers, constantly turned to the county doctor, who was subordinate to only one felder, for help. According to the types of disease, diseases of the motor organs were in the first place, followed by diseases of the gastrointestinal tract, cough, fever, and rheumatic suffering.

On March 18, 1888, their own national medical personnel appeared, and the military governor of the Turgai region, Ya. Barabash, appointed "the county doctor in the settlement of Kustanai with the rights of public service and the title of doctor, a graduate of Kazan University, Mukhammedzhan Karabaev [5]." In the face of M. Karabaev, we have a man of extraordinary destiny. He comes from a poor family that lived in village No. 4 of the Ken-Aral volost of the Nikolaev district. He was lucky; the smart boy was noticed by I. Altynsarin, who during this period of time began to actively promote education. He helped me enter the Trinity Men's Gymnasium and then the Medical Faculty of the University of Kazakhstan. A difficult time of study, constantly on the verge of a poor existence, the scholarship was small, and "the parents ... are so poor that there is not the slightest possibility of helping this student from them,[6]" and no matter how difficult it was, he graduated from the university successfully. Karabaev M. travels around the villages, provides medical care, and knows the problems of ordinary people firsthand. He practised medicine not only in the Kustanai district, but also in the Yakutsk region, where he treated leprosy patients. He worked hard, did not grumble, and gave his all to the people.

At that time, the hospital consisted of four beds, and the state of medical care for the young physician had him very worried. This issue was constantly raised, and he wrote letters and reports. The increase in population required a different position in medicine.

In 1891, the Turgai region, which included four counties (Irgiz, Iletsk, Turgai, and Nikolaev (Kostanay)), 10 people, 13 paramedics, and 4 midwives. On the eve of World War I, Kustanai had four doctors (men), five felders (four men and one woman), one midwife, and five pharmacists (pharmacies): Schiffner, Vdovin, Tabakov, and Kazimirov. It became possible to use the services of the dentist Trachtenberg[7]."

There was no civil hospital in the region, so the zemstvo, after conferring, decided to build a hospital with 15 beds in the Kustanai district and applied to the Ministry of Internal Affairs with a petition. The construction style of the zemstvo hospital building corresponded to the then-characteristic eclectic style with modern elements of the early twentieth century, made of red brick. The building, according to architectural theory, was supposed to be "two-story, rectangular, made of bricks on a strip foundation of rubble stone.

There is an entrance in the form of a portal on the northern facade, which has asymmetrical risalits. Between the windows of the first and second floors, there is a two-row fastening that encircles the entire building along the perimeter. The asymmetry in the layout, the broken forms of the parapet indicate the partial use of Art Nouveau elements [8]."

When the hospital was built in December 1912, the interior was unfinished. Due to a lack of funds from the government loan for public works, the construction was temporarily suspended. They were waiting for the allocation of additional funds from the Turgai governor in the amount of 19536 rubles for the completion of the outpatient clinic, hospital building, and services. By the beginning of 1913, the construction of the zemstvo hospital was completed, and on the facade of the building, the builders laid out a brick cottage to complete the construction.

According to the budget, one patient was fed at the rate of 4 rubles 65 kopecks. For that period, it was a sufficient amount of maintenance, since the main products (meat, vegetables, and milk) were replenished at the expense of subsidiary farming. However, there were supply interruptions in sugar, bread, fats, and other food supplies. From the side of the citizens, there were criticisms about the lack of dietary nutrition, a nurse who monitored dietary nutrition, and a qualified cook. In addition to medical buildings and outbuildings (garage, carpentry workshop, glacier, livestock base and several cold barns). In the future, the medical complex grew, living quarters for the head doctor, 3 doctors, and a groom were added. A park was laid out on the territory for the patients to rest. The presence of a pharmacy helped fully provide the hospital and citizens with the necessary medicines. The laundry fully served the needs of the hospital, maintaining sanitary and hygienic standards. New buildings were added, a new kitchen, a pantry for food with a well-equipped vegetable store, and an office. Interruptions with electricity began to be provided by the power plant, from which all the buildings were powered, including the X-ray room, the physio room, and the water supply from the well. The presence of a subsidiary farm on 1400 hectares of land 20 kilometres from the city, with all outbuildings, inventory, and machinery, livestock (37 horses, 91 cattle, 137 small cattle, 103 pigs). A 12-hectare irrigated garden provided year-round fresh vegetables and herbs.

In the Turgai region, there were 4 military infirmaries that, in addition to serving soldiers and officers of the military garrison, private individuals could use for a fixed fee. The place of reception of outpatients was the emergency room in Kustanai, which was under the "management of the city doctor." It also housed inpatients. In addition, the reception was conducted by doctors in their apartments. The financial issue for the peasants was very acute, the lack of the necessary amount for a doctor's appointment could be fatal. Therefore, civilian medical facilities were important for the common population. At the end of the 19th and 20th centuries, cases of the progression of an acutely infec-

tious disease became more frequent: smallpox, measles, scarlet fever, whooping cough, influenza, diphtheria, and typhoid fever.

"By the beginning of the 20th century, the county health department, located on Bolshoi Street (now Al-Farabi Avenue), house 53 (this is the house of the former merchant Davydov), was actively operating in Kustanai and the district. All the private pharmacies available at that time were municipalized, and medicines were transferred under the auspices of the pharmaceutical department. During the establishment of Soviet power and the period of the civil war, they suffered from a constant change of power, especially the "whites" from the Lvov and Valeryanov hospitals. Kolchak took out everything he could. Meanwhile, there was a typhus epidemic in the county; the sick lay on the floor, schools were closed due to a lack of hospital beds; teachers, older students were mobilised to collect linen for hospitals, food, beds, and everything that residents could share with the sick. For example, already in 1919-1920, high school students and teachers of the gymnasium of the city of Kustanay continued to help hospitals by working as nurses" [9].

"In 1920, the Kustanai district included the 1st Soviet, 2nd Soviet, epidemic, children's, Semiozernaya, Borovsky, Valeryanovsky, Lvov hospitals, and 37 paramedical stations. On February 10, 1920, the first disinfection chamber arrived in Kustanai. The military commissar announced to the population - residents, "who had patients with typhus (recovered and died), to bring their clothes and accessories in bags and bundles to the disinfection chamber for treatment with flowing steam. Things won't get damaged." With the acquisition of disinfection chambers, there has been a decline in the epidemic" [10].

On July 2, 1921, an Extraordinary Sanitary Commission for the Fight against Cholera was established under the Kustanai Gubernia Executive Committee, under the leadership of the Chairman of the Gubernia Executive Committee, Miroshnik. And the Kustanai city district administration issued a decree requiring citizens to report all those who became ill, or the discovery of a sick person in a house that was not reported, or they would be held liable under wartime laws. Doctors did a lot of educational work, explaining the basics of hygiene and cleanliness. In the ups and downs of political changes, no one particularly followed the cleanliness of the city. Going into any courtyard, walking along the streets, one could see heaps of garbage, manure, some rubbish, and garbage. This clearly increased the appearance of various forms of contagious diseases, or epidemics. The authorities appeal to the population to start fighting garbage on their own, by virtue of preventing an outbreak of diseases. Not all residents of the city had access to drinking water, so the construction of a water supply system was very important for the city.

In 1922-1923, there were 13 medical institutions in Kustanai Uyezd. In Kustanai, the 1st Soviet surgical hospital, designed for 30 beds, and the 2nd Soviet children's, epidemic, and prison hospitals in the districts Denisovskaya, Adamovskaya, Lvovskaya, Valeryanovskaya, Fedorovskaya, Uritskaya, Borovskaya,

Semiozernaya hospitals. Surgical operations were performed 4 times a week in the 1st Soviet and 2 times a week in the 2nd Soviet. The head of the 2nd Soviet hospital was Koltsov V.V., Gorsky Valentin Dmitrievich, who headed the 1st Soviet hospital (in 1925-26 he simultaneously headed the district health department and was in charge of the 1st Soviet hospital, being an intern surgeon of the same hospital, On July 2, 1945, he was awarded the Order of Lenin for fulfilling the government's task for the treatment of Red Army soldiers), head of the epidemic hospital Girsh A. L., head of the children's hospital Preobrazhensky V. M., Pizhanchikov I. G., Shurupov A. I., Baranov N. V., Bakhtiyarova F. A., Uspenskaya E. V. People of that period were well-known, with extensive experience working in different conditions.

Of course, in comparison with how the medical business in the county began and how it was at the beginning of 1925, there was a big difference, but still, not all types of diseases were covered and, accordingly, services for citizens. There was a need for vision specialists, gynecologists, and surgeons, so on January 15, 1923, the Eye Detachment arrived from the People's Commissariat of Health and began work. It operated a separate outpatient clinic and an inpatient department. Attendance at the eye outpatient clinic is up to 60 people initially and 300 people repeatedly per day. On April 5, 1923, a new maternity hospital with 20 beds was opened. It was well equipped with everything necessary for that period in difficult financial conditions.

In 1924, after the death of Lenin, the 2nd Soviet Hospital was named after the leader of the revolution. On February 2, 1924, archival documents for the first time mentioned the hospital. Lenin. On March 1, 1924, by a resolution of the city council, this hospital was transferred to the budget of the city council with the renaming "city hospital named after. Lenin. Its staff consisted of six people: the head, who is also a therapist, a gynecologist, an eye specialist, a surgeon, an assistant, and a trainee doctor. Heating was carried out on 50 stoves, and there were 2 horses on the farm. Meals were provided for 35 kopecks per bedday. The doctor's salary was 125 rubles a month.

Personnel changes were common; advanced training or other planned tasks were assigned to doctors; the need to replenish with new specialists, for example, in connection with the departure of the head of the 1st Soviet hospital, Gorsky, for advanced training in Leningrad on April 1, 1924, instead of him being the head of the hospital and consulting at the hospital. Lenin appointed Dr. A. Preobrazhensky. On January 23, 1924, he became the head of the 2nd Soviet hospital named after him. Lenin appointed Dr. Matusevich. Since August 1, 1925, he has simultaneously served as a traveling doctor for the insurance fund. On January 19, 1926, Gorsky transferred the affairs of the head of the district health department to Mishin. At the same time, the head of the medical department of the hospital. Lenin Preobrazhensky was appointed head of the entire hospital. Lenin. This hospital, in essence, was of regional significance, since a large contingent of patients came from the regions [11]."

On February 2, 1926, due to the old age of the doctor of the Borovsk hospital, Karabaev, the doctor Rys was sent to check the physical condition of Karabaev with the provision of a report on the fact. As is known from the documents, Karabaev healed his countrymen until 1927; he died in 1928.

With the formation of the Kustanai region in July 1936, the functions of the body controlling medical institutions were taken over by the regional department of health, headed by Ryabitsky. Radchenko was appointed chief physician of the regional hospital named after Lenin. The Lenin Hospital served as a city and regional hospital until 1958.

By the beginning of the next administrative-territorial transformation (1936, when the Kustanai district became a region), Kustanai medicine had made good achievements; the presence of a number of hospitals in the region, diverse medical specialists, and funding from the centre allowed medicine to function normally in the region. Further tests of medical personnel will come during the Great Patriotic War, which will again allow doctors and medical personnel to show their knowledge, courage, and heroism in rescuing soldiers and civilians. The Kustanai region will become a deep rear, which will predetermine the fate of this region.

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# MEDICAL SCIENCES

## ANATOMICAL FEATURES OF THE SPHENOID SINUS

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### Abstract

The sphenoid sinus is in a particularly close topographic relationship with the pituitary gland, cavernous sinus, optic nerve, and other cranial nerves. The article discusses the current state of the study of the morphological features of the sphenoid sinus, the degree of pneumatization, and the relationship with closely spaced anatomical structures. The sphenoid sinus is formed as a result of pneumatization of the sphenoid bone, located in the center of the base of the skull. Being a self-developing cavity, it is formed in a 3-month-old fetus as a result of a weak protrusion of the epithelium and mesenchyme of the nasal cavity. The anatomical formations surrounding this sinus include parts of the brain, nerves, and blood vessels. Therefore, in cases of purulent-inflammatory processes in the sinus, as well as during surgical interventions performed through the sphenoid sinus (transsphenoidal transition), it is necessary to have a complete picture of its clinical and anatomical variants. A close acquaintance with the literature proves once again that the development of pathologies of the respiratory system, especially viral etiologies, every year, the possibility of their transition to epidemics and pandemics with a fatal outcome, encourage morphologists to more in-depth study structural options, their frequency of occurrence, and relationships with neighboring anatomical formations of the nasal cavity and its additional air cavities, which are considered the natural gates of this system.

**Keywords:** sphenoid sinus, degree of pneumatization, pterygoid canal, anterior clinoid process.

In recent years, a sufficient number of facts have been collected proving the important role of the pathology of the sphenoid sinus in causing damage to adjacent organs. The sphenoid sinus is in a particularly close topographic relationship with the pituitary gland, cavernous sinus, optic nerve, and other cranial nerves [1, p. 2613-2618; 2, p. 669-74; 3, p.951-5]. Given the above, it is important to study the anatomical variants of the sphenoid sinus [4, p. 195-201; 5, p. 627-632]. The authors consider endoscopic endonasal interventions in the area of the sella turcica with passage through the sphenoid sinus as an alternative to the classical microsurgical operations used so far and discuss their prospects. In general, the sphenoid sinus, like other paranasal sinuses, tends to have wide anatomical variability, and therefore all its variants must be investigated in great detail.

The sphenoid sinus is formed as a result of pneumatization of the sphenoid bone, located in the center of the base of the skull. Being a self-developing cavity, it is formed in a 3-month-old fetus as a result of a weak

protrusion of the epithelium and mesenchyme of the nasal cavity. As rightly indicated in the literature, the age-related morphology of the sphenoid sinus has not been fully studied. This is especially true for the first years of the postnatal period. A variety of data has been obtained for this age period.

[6, 364 p.] noted that in newborns, the rudiment of the sphenoid sinus is a part of the mucous membrane of the nasal cavity that develops posteriorly and is 1.6-4 mm long, 1-4 mm high, and 2 mm wide. Naturally, the topography of the sphenoid sinus is of great importance. The anatomical formations surrounding this sinus include parts of the brain, nerves, and blood vessels. Therefore, in cases of purulent-inflammatory processes in the sinus, as well as during surgical interventions performed through the sphenoid sinus (transsphenoidal transition), it is necessary to have a complete picture of its clinical and anatomical variants. It is important to take into account the contact of the neurovascular structures mentioned above with the walls of the sinus. The anterior wall of the sphenoid sinus is very important from a practical point of view. It has a very

important role in the passage of inflammatory processes from the nasal cavity to the sphenoid sinus. It is customary to divide the area of the anterior wall topographically into two parts. These are the nasal and ethmoid parts. The ethmoid part is located laterally, and the nasal part is medially. The ethmoid part is occupied by ethmoid cells in contact with the anterior side of the sphenoid sinus. The nasal part opens into the nasal cavity; if the middle nasal meatus is wide enough, then this part is visible with anterior rhinoscopy. The parametric possibilities of interventions performed on the sphenoid sinuses largely depend on the width of this part. On skulls, the ratio of the ethmoid part of the anterior wall of the sphenoid sinus to its nasal part was studied [7, p. 29-39]. This ratio was determined by the author to be 5:2. At the same time, only 4 mm belongs to the nasal part. In a living person, during rhinoscopy, this bone strip is even narrower. Even if pathological changes are not observed (for example, deviation of the nasal septum or hypertrophy of the middle turbinate), in this case, the nasal part of the anterior wall is occupied by the mucous membrane covering these formations.

It should be borne in mind that the cells of the ethmoid labyrinth penetrate into the body of the sphenoid bone and displace its sinus posteriorly. Along with this, the sphenoid sinus can also descend downward. In such cases, the border between the posterior cells of the ethmoid labyrinth and the sphenoid sinus is very difficult to determine. The upper edge of the anterior wall of the sphenoid sinus borders on the cribriform plate and the upper posterior cells of the cribriform labyrinth. The optic nerve passes through the superior lateral angle of the anterior wall. It is known that the superior orbital fissure is located in the lower part along with the ophthalmic vein and nerves passing through it (the III, IV, and VI cranial nerves and the 1<sup>st</sup> branch of the V cranial nerve).

The lateral-lower angle of the anterior wall of the sphenoid sinus is connected to the sphenoid and orbital processes of the palatine bone; a spheno-palatine notch is formed between these processes. The lower edge of the anterior wall forms an angle with the lower wall of the body of the sphenoid bone. During surgical interventions in this area, it is this angle that is taken as the border between the nasal cavity and the nasal part of the pharynx. The superior wall of the sphenoid sinus, its topography, and its shape are also of great importance. According to the most recent literature, endo-nasal pituitary surgery has increased interest in the superior wall of the sphenoid sinus; clarification of morphological knowledge concerning this wall is directly in the interests of the clinic. The pituitary gland can be accessed through the sphenoid sinus. In principle, this applies to all types of surgical interventions [8, p. 291-307]. That is why the topographic relationship between the sphenoid sinus and the sella turcica is of great importance. The diameter of the sella turcica, or in other words, the distance between the tubercle and dorsum of the saddle, fluctuates in a very small range, which is 10–12 mm. The flexure of the sella turcica often approaches a semicircle [9, p. 291-7]. The authors argue that the direction of the diameter depends more on the position of the tubercle of the saddle, or its flexure. We

can assume that the nature of the pathology and its intensity are the leading factors in the development of the pathological process. The thickness of the walls of the sinus is a factor only in cases where the walls are subjected to direct pressure. These may include, first of all, injuries and the results of surgical interventions. With thin walls of the sphenoid sinus, injuries have a more severe outcome; also, a surgeon working in similar conditions (with thin walls of the sphenoid sinus) requires special care. When diagnosing pathological processes of the paranasal sinuses, in particular, the sphenoid sinus, the X-ray method is quite widely used. Along with the correct diagnosis, this method allows you to acquire important information about the anatomical structure of the sinuses. As we noted, the anterior wall of the sphenoid sinuses is very important from a practical point of view. The study of x-ray images of the skull revealed three forms of the anterior wall [10, p. 43-47]. The first group includes sinuses with an obliquely placed anterior wall. It should be noted that statistically, the sinuses belonging to this group make up the majority. So, they occur in 73.4% of all cases. The anterior wall of the sinuses in the second group is rounded and convex anteriorly (23.3%). Sphenoid sinuses with vertically located anterior walls on x-rays are a minority (3.3%).

A correct understanding of the degree of pneumatization of the sphenoid sinuses can help determine their volume. From this point of view, small, medium, and large sinuses are identified by the type of pneumatization. Small sinuses have a volume of 0.5–10 cm<sup>3</sup>, while medium sinuses have a volume of 11–20 cm<sup>3</sup>. Large sinuses include sphenoid sinuses with a volume greater than 20 cm<sup>3</sup> [10, p. 43-47]. According to the author, small sinuses occur in 21% of cases, medium in 44%, and large in 35% of cases. With dolichocranial and brachycranial forms of the skull, there is a direct relationship between the length of the face and the volume of the sphenoid sinus. In the mesocranial form, this dependence is absent. With all three forms of the skull, there is a direct relationship or correlation between the width of the face and the volume of the sphenoid sinus; an increase in the width of the face is accompanied by an increase in the volume of the sphenoid sinus and vice versa. The volume of the sphenoid sinus compared to other forms of the skull is greater in dolichocranial skulls. In other words, the large sinuses that we described above are most often found in them. The smallest sinuses are found in brachycranial skulls [11, p. 33-34]. The possibility of development of the sphenoid sinuses in the direction of the surrounding anatomical structures depends on the shape of the skull. Among all the deviations from the normal pneumatization of the sphenoid sinus, its spread towards the basilar part of the occipital bone is the most common. In this case, the sinus reaches its largest size [7, p. 29-39]. This is more common in brachycranial, somewhat less common in mesocranial, and, finally, rare in dolichocranial skulls. When spreading toward other anatomical elements, the shape of the skull does not play a special role. So, with all forms of the skull (dolichocranial, mesocranial, and brachycranial), the sphenoid sinus, with the same frequency, can develop toward the pterygoid process of

the sphenoid bone to varying degrees. Another important clinical point is that the sphenoid sinus can develop toward the optic canal on its own or on the opposite side as the degree of pneumatization increases; at the same time, the skull's belonging to the dolicho-, meso-, and brachycranial regions has no bearing. The sphenoid sinus, as a result of its development, can also reach the foramen rotundum and foramen ovale.

Quite interesting data have been obtained regarding the anatomical variants of the sphenoid sinus using the method of computed tomography. The authors noted that in 267 people (534 sphenoid sinuses), the pterygoid process and the anterior clinoid process were pneumatized, respectively, in 39.7% and 17.2% of all cases. The pterygoid canal protrudes into the cavity of the 158 sphenoid sinuses, of which 60 are bilateral [12, p. 109-14]. The study emphasizes that there is a relationship (correlation) between the protrusion of the pterygoid canal into the sphenoid sinus and the pneumatization of the pterygoid process. An association has also been reported between protrusion of the optic canal into the sphenoid sinus and pneumatization of the anterior clinoid process.

Thus, the dynamic increase in the number of diseases of the nasal cavity and paranasal sinuses requires and causes the intensification of research work devoted to the study of these cavities. A close acquaintance with the literature proves once again that the development of pathologies of the respiratory system, especially viral etiologies, every year, the possibility of their transition to epidemics and pandemics with a fatal outcome, encourage morphologists to more in-depth study structural options, their frequency of occurrence, and relationships with neighboring anatomical formations of the nasal cavity and its additional air cavities, which are considered the natural gates of this system. Of course, the normal functioning of the nasal cavity and paranasal sinuses largely depends on the characteristics of their air supply and disorders in this supply process.

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**MANDIBULAR THIRD AND SECOND MOLARS HORIZONTALLY IMPACTED: A CASE REPORT****Antoine Berberi,***BDS, MSc, PhD, HDR. Professor, Head Department of Oral and Maxillofacial Surgery,  
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<https://doi.org/10.5281/zenodo.7584071>***Abstract**

Impacted permanent mandibular second molars do not occur frequently. However, when they do, they can present a serious treatment problem, particularly when associated with an impacted third molar, especially in a horizontal position. Various explanations of the anomaly have been proposed. This paper aims to report a case and describe the reasons of disturbed eruption of the permanent lower second molar.

**Keywords:** Second molar, third molar, impacted, mandible, extraction.

**Introduction:**

The impaction of the mandibular third molar is very frequent and represents a particular pathology. However, impaction of the mandibular second molar is very rare [1], with an incidence of 2/1000 [2] and 1.36 / 1000 [3] and higher rates of unilateral than bilateral impaction. Its advent poses problems of variable severity, most often benign, but sometimes serious [4]. The therapeutic means are [5-8]:

- Abstention: rarely justified for general or local reasons; it is most often a postponement of the intervention;

- Repositioning on the arch, its indications are developing with the extension of dento-maxillofacial orthopedics but remain limited by the need for very specific conditions (position, place, motivation, hygiene, age and cost of the treatment).

- Reimplantation, the indications of which are very limited and the success is unpredictable.

- Surgical extraction.

Before presenting our clinical case, it seems interesting to review the etiopathogenesis of the inclusions of these mandibular molars.

*Etiopathogenesis:*

The inclusion of a tooth is above all linked to a disorder whose consequence is the rupture of the usual and normal phenomena of the eruption [3,9]. This may involve one or more of the following factors: the germ, the alveolar bone, the gingival mucosa and maxillo-mandibular facial growth.

- The germ may be "unfit" for the eruption. It may have a coronary or radicular anomaly, the cause of which is often an early trauma. It may also be abnormal. Moreover, the evolution of the germ can be disrupted by the presence and increase of tumoral or pseudo-tumoral phenomena [3,9,10].

- The alveolar bone: the vertical growth of the alveolar processes, associated with an abolition of the osteogenic function of the periodontium is a factor of inclusion. The rearrangements of the lateral walls of the alveolus are constant as long as the tooth has not encountered an impassable obstacle or is not functional [2,3,10].

- The gingival mucosa plays an important role at the terminal period of the eruption and can be considered as responsible for the fibro-mucosal inclusion [2,10].

- Maxillary and facial growth: dento-maxillary disharmonies represent an important cause of dental inclusions. In molar regions, posterior growth insufficiency or posterior crowding syndrome is a significant factor in second and third molar impaction [11].

This factor is therefore the consequence of a lack of space which may be temporary or permanent.

There are also general inclusion factors. Hereditary factors seem to play an important role.

Multiple inclusions seem to come from these causes where the genetic disorder affects both the dental lamina and the alveolar bone independently of any mechanical obstacle [11-13].

**Case Report:**

Mr. R., aged 29, was oriented to our clinic by his dentist, for inclusion of the mandibular wisdom teeth. The questionnaire evokes repeated infectious accidents linked to the eruption of his molars.

Facial examination shows mandibular retrognathia and maxillary prognathism.

The clinical examination reveals that the two mandibular wisdom teeth are wedged, the 48 in horizontal position, the 38 in vertical position, those of the maxilla (18,28) are on the arch and in good position. We also note the absence of the two second mandibular premolars (45 and 35) and of the right mandibular molar (47) associated with the presence of the deciduous molar on the right side (Fig. 1).

Note an accentuated dental overlap at the level of the maxilla.

The panoramic X-ray reveals (Fig. 2) that the second right mandibular molar (47) is included in a horizontal position apparently pushing back the lower dental canal towards the basilar rim and is superimposed on the third molar. The latter is also enclosed in a horizontal position. It also shows the agenesis of the two second mandibular premolars (45.35). The patient showed no signs of labio-mental paresthesia.

A CT scan is requested, with axial and coronal sections spaced 2 mm apart, real size, with panoramic reconstructions.

Axial sections revealed the presence of a cystic radiolucent image, suggestive of a peri coronal cyst, which encompassed the crown of the impacted right second molar and the apex of the distal root of the first molar (Fig. 3).

The para-axial sections of the scanner highlight, on the right side, an intimate relationship between the impacted second molar and the lower dental canal. One of the cuts shows a rupture of the roof of the lower dental canal. The third and second molar are separated by a thin layer of bone.

On the left side, the sections show that the apices of the third molar and the inferior dental canal are separated by a thick framework of bone (Fig. 4).

A sagittal reconstruction of the CT scan showed the ultimate position of the impacted molar with the mandibular canal (Fig. 5).

After an in-depth analysis of the radiographic assessment, we decided to extract the mandibular second and third right molars and the third left molar.

**Surgical Procedure**

Faced with the patient's anxiety and the deep position of the impacted second molar, we decided to operate under general anesthesia.

The incision was of angular type, performed with a n°15 blade. The horizontal segment of this incision extends from the retromolar region to the mesial aspect of the first molar on the right side. The discharge line frankly extends the incision to the bottom of the vestibule.

After lifting the flap, it is loaded in a complete, safe and atraumatic way, on a retractor.

With a round surgical bur, on a handpiece with abundant irrigation in sterile saline solution, we released the third molar which is easily extracted with a

rocking movement from bottom to top and from front to back with an elevator.

At this moment we discovered the bone frame that separates the two molars. With the same bur, the impacted second molar is fractioned (Fig. 6 and 7). Once cleared, with a fissure bur, we partially separate the crown from the root. This separation is completed by fracturing the tooth using an angled elevator. Then, the crown and the roots are extracted separately.

A part of the inferior dental nerve is visible for a few millimeters in length (Fig. 8). A very meticulous curettage of the region as well as the apex of the distal root of the first molar is performed. The regularization of the bone with a bone rasp is completed as well as washing with saline solution. Finally, the suture was made using a black 00 silk thread (Fig. 9).

Post-operative care is prescribed, including applications of ice packs, an antibiotic (amoxicillin 500 mg 4 times a day), an analgesic (ibuprofen 400mg 3 times a day) and mouthwash starting the next day.

The patient is seen again 24 hours later for washing with hexetidine, ten days later for removal of the sutures, one month later for a check-up, then one year later with a panoramic radiograph which shows bone filling and reappearance of the roof of the canal. broken tooth (Fig. 10).

The immediate clinical examination and that at one month revealed no sign of labio-mental paresthesia.

**Discussion:**

What are the causes of such a complex inclusion? Before analyzing the different causes and explanations of our case, it seems necessary to mention the histology and the embryology of mandibular molars.

*Histology-Embryology:*

The third molar arises from the same oral epithelial layer as the first and second molars and the wisdom tooth forms from the primitive dental lamina [12,13]. This lamina, formed from mesenchymal cells around the sixteenth week in utero, will continue its cell multiplication at the distal end to successively form the germs of the first, second and then third permanent molars. It is only around the ninth month that the germ of the second molar appears but that of the third appears around 4 or 5 years [4,12,13]. The germ of the third molar therefore derives from the dental lamina of the second, itself derived from that of the first (Fig. 11).

Thus, the wisdom tooth, whose adamantine bud is located behind the second molar, is presented as a replacement tooth for the latter. These buds have a gubernaculum dentis which attaches them not to the gum, like the other teeth, but to the gubernaculum of the first molar. This may explain the most frequent orientation of lower wisdom teeth, oblique in mesial version. Its evolution follows a posterior concavity curve: This is the Capdepon recovery curve [4].

The eruption of the mandibular molars will simply and schematically follow two movements:

first one the germ moving by its own development and following of course the mandibular bone growth, the second one begins with the formation of the root which bears the already formed crown. The tooth gradually straightens its axis and moves towards the

retromolar space, the size of which depends on the posterior growth of the mandible [4,7].

So, by referring to the histology and embryology we can suppose in the observed case that the germ of the second molar underwent during its evolution a movement in mesial version, while continuing its evolution, taking the germ to a horizontal position. However, the germ of the third molar derives from the same dental lamina of the second molar continue his evolution.

The twisting movement of the germ of the second molar carried with it the germ of the third molar which also evolved in a horizontal position; this may explain the position of the two mandibular molars. The origin of the movement can be traumatic or other.

This assumption remains hypothetical and requires further embryological studies to be confirmed.

Our therapeutic attitude is justified by the irrecoverable position of the second molar, and by the frequency of infectious accidents. The CT scan allowed us to better understand the relationship between the tooth and the mandibular canal. It allowed us to carry out a complete and precise pre-operative assessment which guided our surgical procedure. This was an indication for this kind of radiological examination [14].

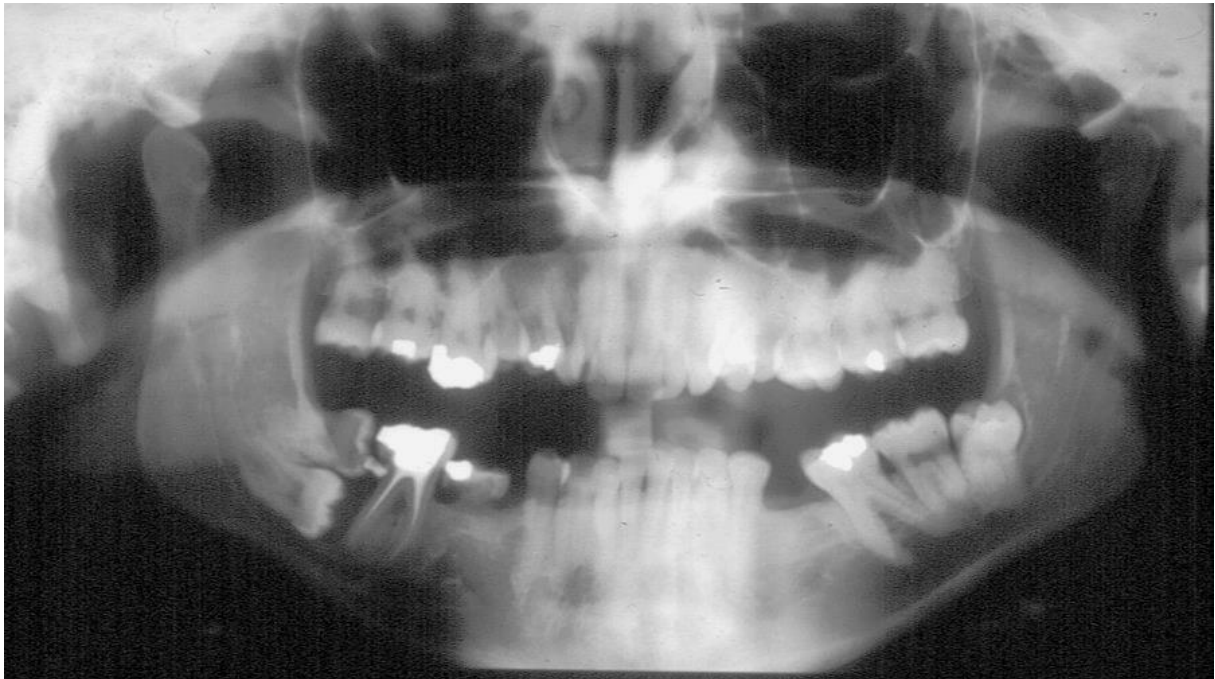
#### **Conclusion:**

Lack of space or posterior crowding syndrome is the most common cause of impacted mandibular molars. The diagnosis should be made as soon as possible. It is based on the clinical examination and especially on the radiological assessment; an early diagnosis makes it possible to avoid this kind of inclusion and if not to reduce the complexity of the cases.

Pictures:



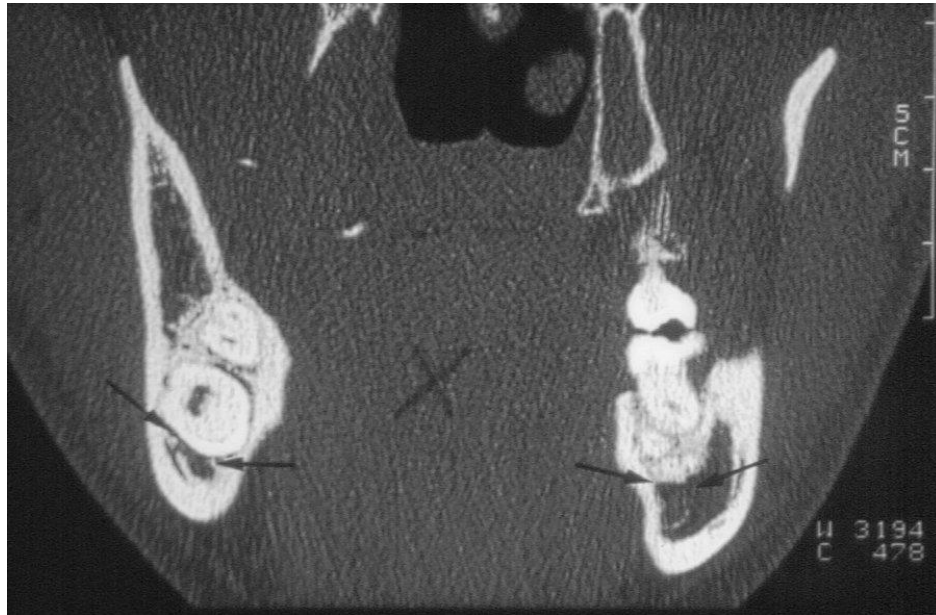
*Figure 1: Clinical view of the right molar region.*



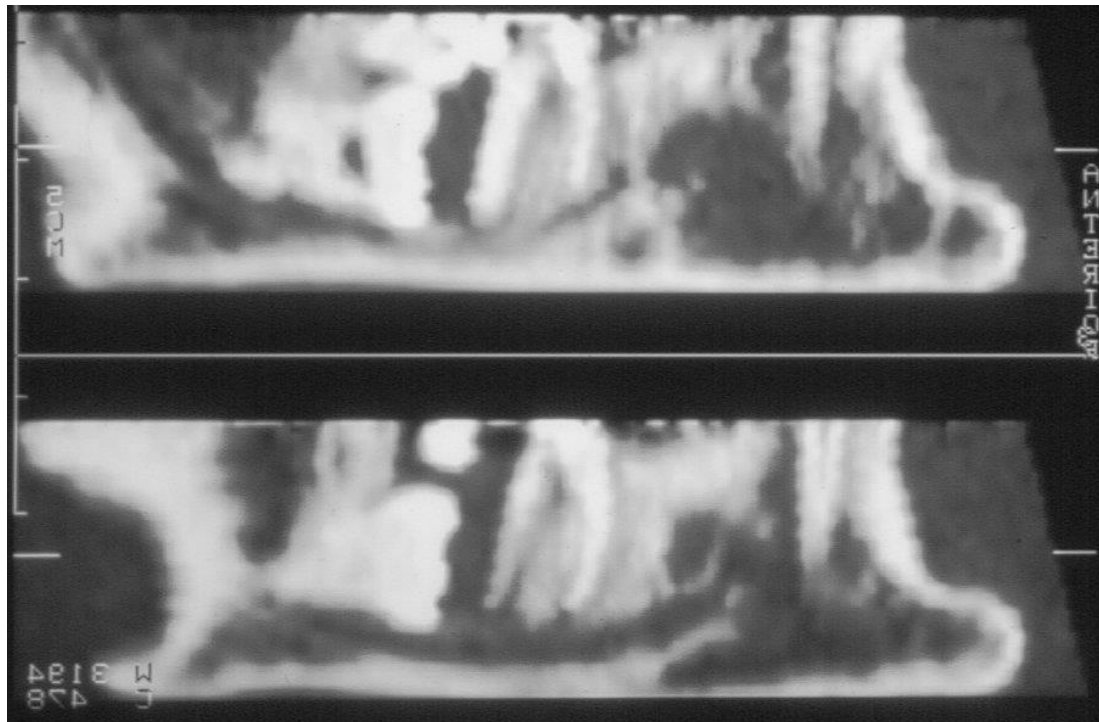
*Figure 2: Panoramic X-ray: agenesis of the 2nd mandibular premolars and the presence of the deciduous molar on the right side.*



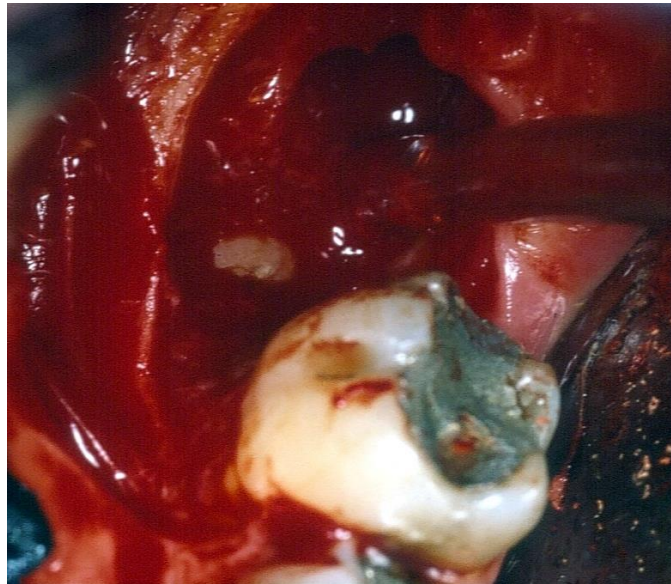
*Figure 3: Horizontal section individualizing the radiolucent image encompassing the second molar and the distal apex of the 1st molar.*



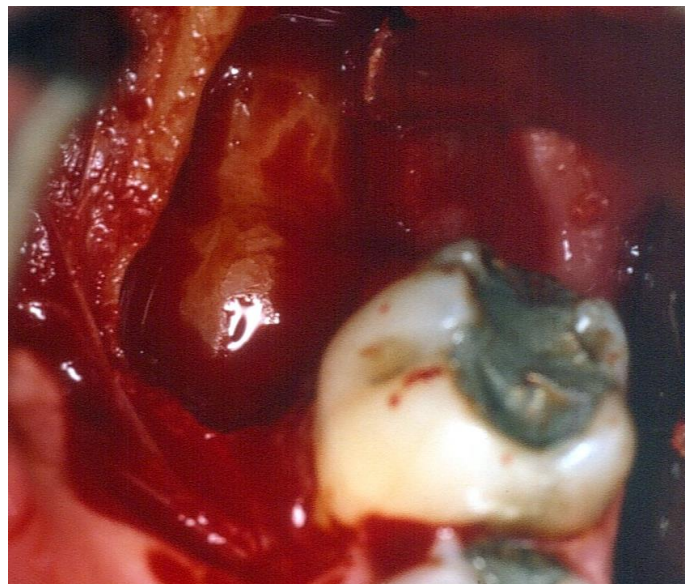
*Figure 4: Axial section showing the collapse of the roof of the dental canal on the right side and the bone framework that separates the two impacted molars.  
On the left side, the apices of the molar are distant from the lower dental canal.*



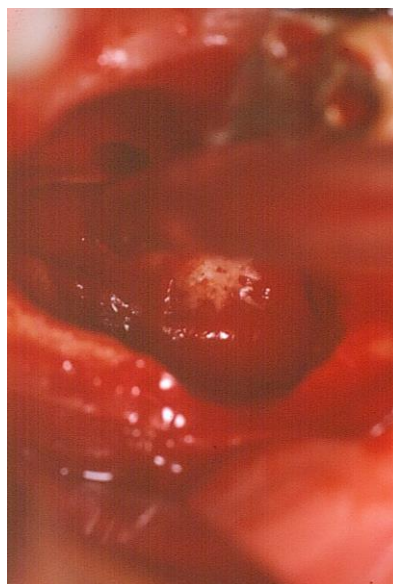
*Figure 5: A panoramic reconstruction of the CT scan showing the position of the impacted molar with the lower dental canal in profile.*



*Figure 6: Clinical view of the right side after wisdom tooth extraction. Note the appearance of the crown of the molar only which proves the accuracy of the scan.*



*Figure 7:  
After release of the bone framework that separates the two molars, appearance of the impacted 2nd molar.*



*Figure 8: After extraction of impacted molar. Note the appearance of the inferior dental nerve.*



Figure 9: Separate stitch sutures in black 00 silk thread.



Figure 10: Panoramic X-ray one year postoperative.<sup>4</sup>

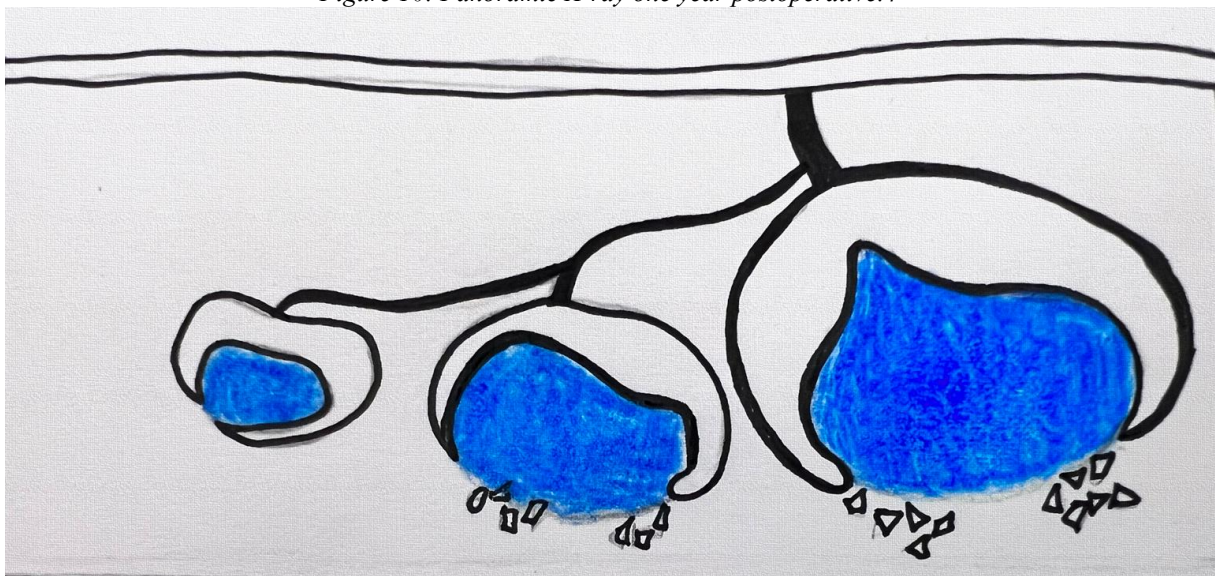


Figure 11: Position of the dental germs at the cap stage (from Cantaloube D and Fusari J.P 1991). 1: oral epithelium, 2: dental lamina, 3: follicular sac, 4: dental papilla, 5: enamel organ.

**Running Title:** Second mandibular Impacted molar.

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**Competing interests:** None

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**ANALYSIS OF DATA ON COVID-19 IN ALBANIA FOR THE FIRST QUARTER OF 2020 AND 2021**

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**Coronavirus disease 2019 (COVID-19)** is a contagious disease caused by a virus, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first known case was identified in Wuhan, China, in December 2019.<sup>[5]</sup> The disease quickly spread worldwide, resulting in the COVID-19 pandemic.

The symptoms of COVID-19 are variable but often include fever,<sup>[6]</sup> cough, headache,<sup>[7]</sup> fatigue, breathing difficulties, loss of smell, and loss of taste.<sup>[8][9][10]</sup> Symptoms may begin one to fourteen days after exposure to the virus. At least a third of people who are infected do not develop noticeable symptoms.<sup>[11]</sup> Of those who develop symptoms noticeable enough to be classified as patients, most (81%) develop mild to moderate symptoms (up to mild pneumonia), while 14% develop severe symptoms (dyspnea, hypoxia, or more than 50% lung involvement on imaging), and 5% develop critical symptoms (respiratory failure, shock, or multiorgan dysfunction).<sup>[12]</sup> Older people are at a higher risk of developing severe symptoms. Some people continue to experience a range of effects (long COVID) for months after recovery, and damage to organs has been observed.<sup>[13]</sup> Multi-year studies are underway to further investigate the long-term effects of the disease.<sup>[13]</sup>

COVID-19 transmits when people breathe air contaminated by droplets and small airborne particles containing the virus. The risk of breathing these is highest when people are in close proximity, but they can be inhaled over longer distances, particularly indoors. Transmission can also occur if contaminated fluids are splashed or sprayed in the eyes, nose, or mouth, or, more rarely, via contaminated surfaces. People remain contagious for up to 20 days and can spread the virus even if they do not develop symptoms.<sup>[14][15]</sup>

Testing methods for COVID-19 to detect the virus's nucleic acid include real-time reverse transcription polymerase chain reaction (rRT-PCR),<sup>[16][17]</sup> transcription-mediated amplification,<sup>[16][17][18]</sup> and reverse transcription loop-mediated isothermal amplification (RT-LAMP)<sup>[16][17]</sup> from a nasopharyngeal swab.<sup>[19]</sup>

Several COVID-19 vaccines have been approved and distributed in various countries, which have initiated mass vaccination campaigns. Other preventive measures include physical or social distancing, quarantining, ventilation of indoor spaces, use of face masks or coverings in public, covering coughs and sneezes, hand washing, and keeping unwashed hands away from the face. While work is underway to develop drugs that

inhibit the virus, the primary treatment is symptomatic. Management involves the treatment of symptoms through supportive care, isolation, and experimental measures.

This project consists of analyzing data about the Coronavirus as a global phenomenon. We will develop the analysis based on the databases updated from the beginning of this pandemic until the moment we are here. Indicators presented in the selected database are:

- ❖ The number of confirmed cases of Covid-19
- ❖ Number of deaths
- ❖ Number of recovered.

The analysis that we will present below consists of these points:

1. A general study to see which countries are most affected in relation to the mentioned high indicators (Graphic representation of them in %)
2. A presentation of the total data for Albania. (Their graphic presentation)
3. Comparison of the data of the 1st QUARTER of 2020 with the 1st QUARTER of 2021 for Albania. (Their graphic representation)
4. Comparison of Albania with another country in the region such as Slovenia. (Their graphic presentation)
5. Comparison of Albania with a developed country like Germany to see the reactions to the policies followed. (Their graphic presentation)

COVID-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease has spread globally since 2019, resulting in the 2019-2020 COVID pandemic. The World Health Organization (WHO) has declared the 2019-2020 coronavirus outbreak a pandemic and a Public Health Emergency of International Concern (PHEIC). Since the beginning of this pandemic, the world has been involved in a situation where all countries are in a state with a high number of affected and high death tolls in reference to the period when it appeared in the world. This is the reason why the curiosity to analyze what happened during this pandemic year is high.

We have chosen to analyze our country as the interest is high to really know, based on the data we have available, what has happened during this period in Albania with Covid-19, in this way we can understand how the country's reaction has been to measures taken.

The database on which we worked and analyzed is that of times.series.19.covid.cvse, which presents the

figures for confirmations, deaths and recoveries for the period January 22, 2020 - March 01, 2022

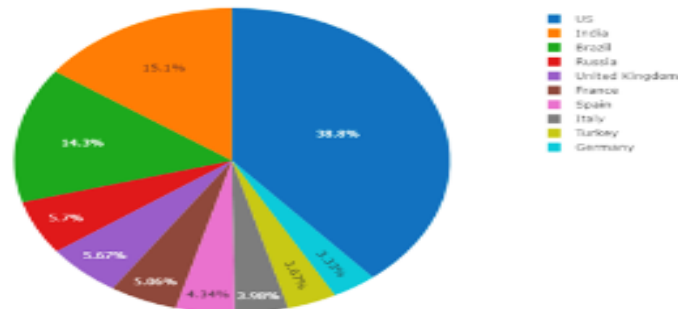
The packages used during this analysis are:

- dply,
- tidyverse,
- lubricants,
- ggplot2,
- coronavirus,
- totally

Precisely to see these figures and these results, we will look at the graphs below, first referring to all the

countries, in order to clearly distinguish where the highest impact of this pandemic has been.

The number of cases for the whole world continues to increase as well as the number of recoveries despite the fact that the growth may be slower recently. Below we can see concretely that each state has had the highest number of infected, illustrated through a graph which shows the percentage of these states in the total cases.

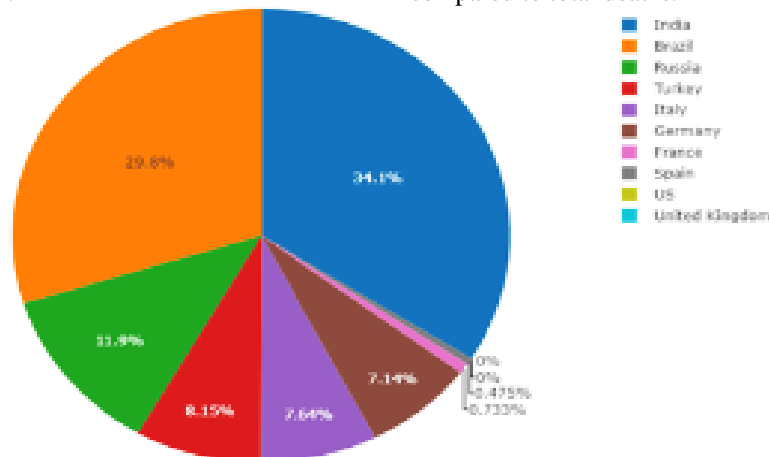


*Confirmations for Top10*

From the graph we get a complete picture of the situation of the countries with the highest number of infected and we notice that the United States of America is at the top of the list with about 38.8% of the number of infected compared to the total or 28,663,108 confirmed cases in total .

India ranks second with about 15.1% of the number of infected or 11,112,241 confirmed cases in total.

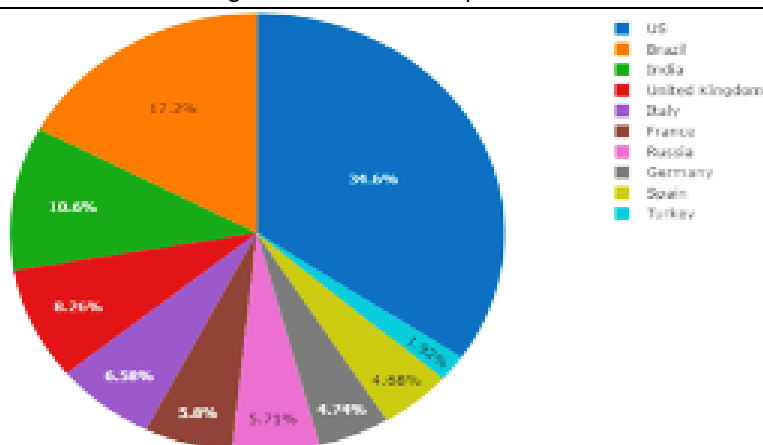
Meanwhile, below we give a situation of these same states with the excess number of recoveries compared to total recoveries and over the number of deaths compared to total deaths.



*Top 10 Recoveries*

In terms of the number of recovered among these 10 countries, India holds the first place with approx 34.1% over the total number of recoveries or 10,786,452 total recoveries.

In second place is Brazil with 29.8% of the total number of recoveries or 10,587,001.



*Number of deaths Top10*

If we look at the ranking according to the number of deaths of the Top10, we see that the United States of America has the highest number with about 34.6% of the total number of deaths or 514,522 in total. In second place is Brazil with about 17.2% of the total number of

deaths or 255,720 in total. The high number of infections in these countries also refers to the high number of population they have compared to other countries. Cases in relation to the population

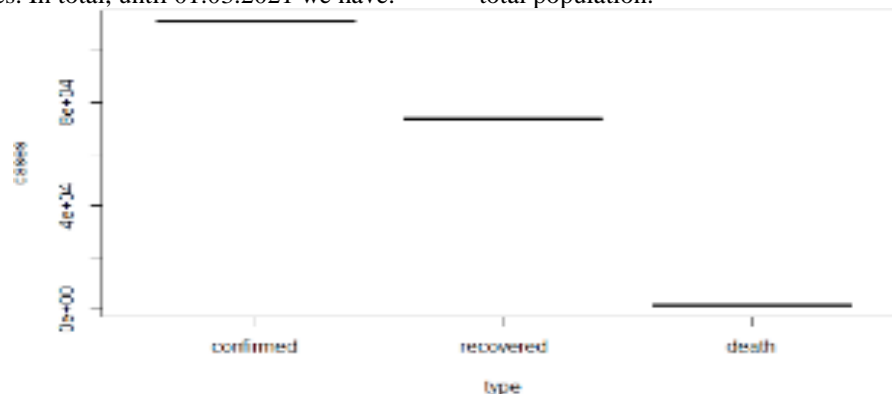
	Confirmuar	Death	Recovered
USA	8.98%	0.16%	6.21%
India	0.81%	0.01%	0.79%
Brazil	5.25%	0.13%	4.64%

*A presentation of the total data for Albania. (Their graphic presentation)*

From the graph above, where the situation in Albania is presented for the entire period 2020-2021, referring to all three indicators, we notice that the number of confirmed cases was initially low, it seems that the tests were less based on the lack of conditions and the creation of suitable ground for condition management. With the addition of tests, the number of confirmed cases increases. In total, until 01.03.2021 we have:

- 111,301 confirmed
- 1'897 died,
- 73,610 completed.

The graph shows a high number of recoveries and in relation to confirmed cases, mortality, although presented in the graph with low values, still continues to be high, based on the number of confirmations and the total population.



*Comparison of the data of the 1st QUARTER of 2020 with the 1st QUARTER of 2021 for Albania. (Their graphic representation)*

Analyzing the figures for Albania based on quarters, it is easier to identify the reaction that our country has had in relation to Covid-19 from the appearance of this pandemic until today. The division consists of the first quarter of 2020 when the quarantine began and the appearance of the first cases in Albania with the first quarter of 2021 where we are still in order to compare the situation then with today.

Quarter 1/2020 - Albania (22.01.2021 - 22.04.2021)

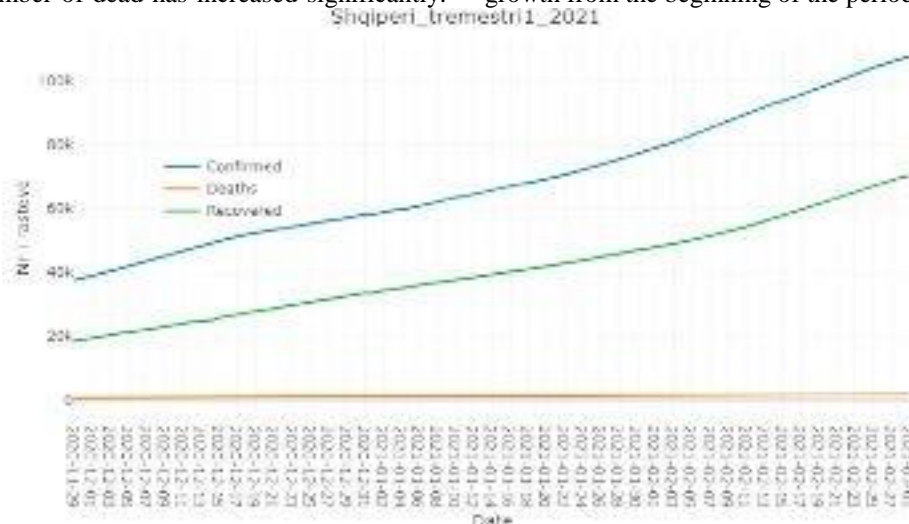
From the graph we made, we noticed that the curves of the three indicators are at very low values and

very close to each other until March 9, 2020, since until those moments there were also the first tracked manifestations of the virus in our country, at least confirmed from the tests done. From the database with the figures presented, Albania up to this date results in 0 confirmed cases, 0 deaths and 0 recoveries. On March 9, the confirmation of the first infected persons begins, whereupon the Health Supervisory Committee gave the alarm and the government quarantined the whole country. At the climax of this quarter, Albania has 638 confirmed cases and 27 deaths, which shows that in a very short time the numbers increased.

Quarter 1 /2021-Albania (29.11.2020-01.03.2021)

In the first quarter of 2021, we notice a graph different from that of the first quarter of 2020. The graphical presentation shows that the curves of the indicators taken in the study are already far from each other, although the trend continues to be upward. With the increase in tests, the number of confirmed cases has also increased, as can be seen from the curve presented in the graph.

It looks like the country is experiencing the second wave of the pandemic. In terms of deaths, the curve is an increasing curve, but not at a very fast rate within the quarter itself, but compared to the first months of 2020, the number of dead has increased significantly.



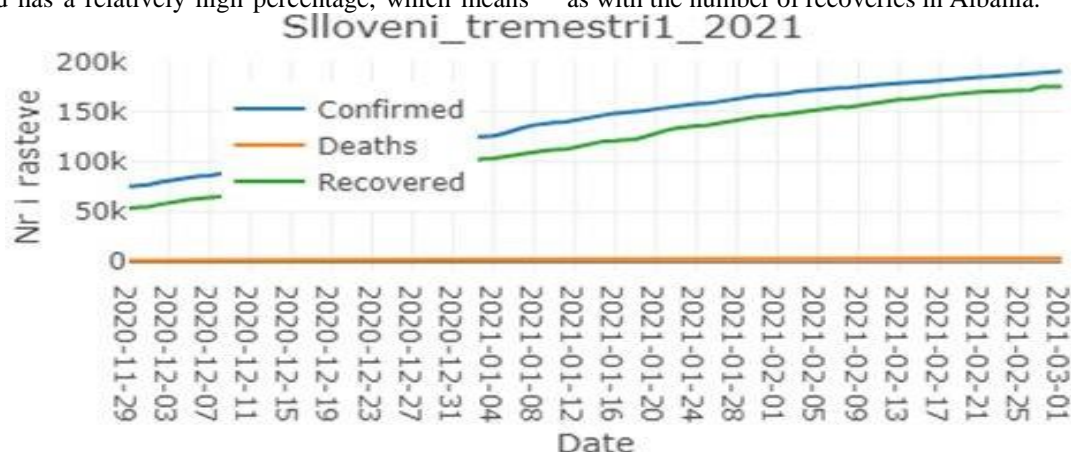
*Comparison of Albania with another country in the region such as Slovenia. (Their graphic representation)*

Quarter 1 /2020-Slovenia (22.01.2021-22.04.2021)

If we do the same analysis for Slovenia, we notice that the first confirmed case in this country was on 22.01.2020, a few days later than in Albania. From the graph, we understand that even though the beginning of the cases happened a little later, the curve of the infected has a relatively high percentage, which means

that the number of cases has increased at a faster rate compared to our country.

At the end of the quarter, the number of infected people was specifically 1,334 out of 604, which was a difference of 730 in Albania. What we noticed in this chart is the number of recoveries, which is very low compared to the total number of confirmations as well as with the number of recoveries in Albania.



*Quarter 1/2021-Slovenia (29.11.2020-01.03.2021)*

During the first semester for 2021, we see that the number of confirmed cases increases as well as the number of recoveries, but for both this increase is moderate and both lines run parallel to each other and we see that in the end the number of infections is 190,324

while that of 175,210 recoveries, a significant number of those affected have recovered.

We have an improvement in terms of the number of recovered persons. The number of deaths follows the same line throughout the three semesters where it is clear that it is at low levels with around 3,854 at the end

of the period. This is because at the very beginning of this period, Slovenia declared a state of emergency with the possibility of further strengthening the epidemiological measures.

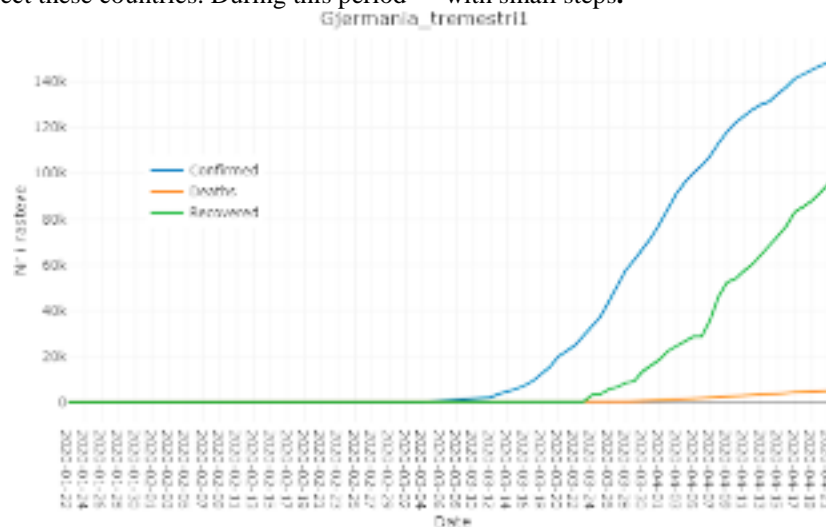
**Comparison of Albania with a developed country like Germany to see the reactions to the policies followed. (Their graphic presentation)**

**Quarter 1/2021-Germany**

Another approach in this analysis is related to the comparison of Albania with a developed country with a high number of population to see how the indicator curve is presented. Germany is one of the most developed countries in the world and in Europe with a number of population relatively high to the approach with this country would make us understand how the policies followed affect these countries. During this period

of the pandemic, Germany has had quite high numbers of affected and deaths. Looking at the graph of the first quarter of 2020 for Germany, we notice that the curves start to increase significantly in March 2020, this is common with Albania and almost throughout the world the emergence of the pandemic occurred in this period. Compared to Albania, the number of confirmed cases starts earlier than March, although not very high values.

In this first quarter, the total number of confirmed cases for Germany is 24,873 and the number of deaths is 94, which shows that the response to the policies followed by Germany has been good, unlike Albania which, although it had a higher number small number of confirmations, deaths are high in the report. The curve of the recovered also appears to be increasing, but with small steps.

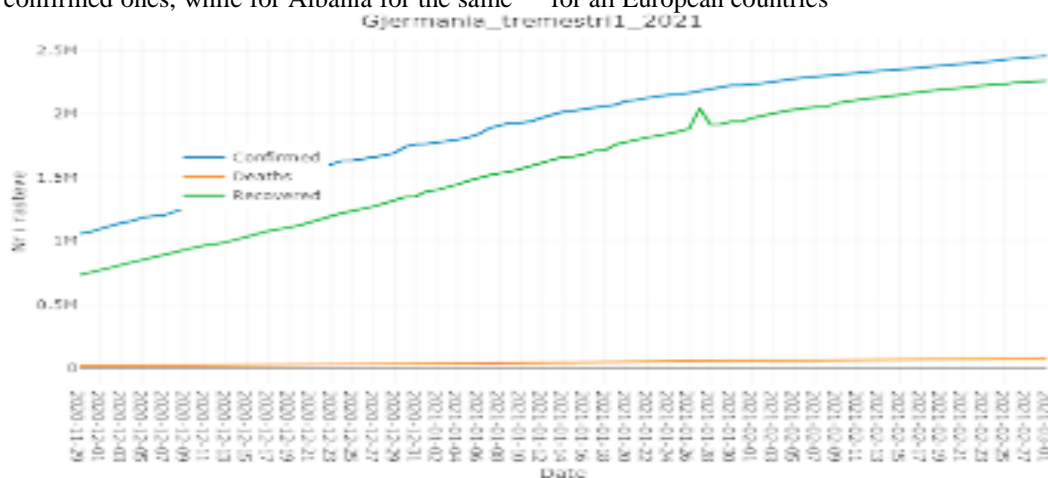


*Quarter 1/2021-Germany*

The graph for this period for Germany shows a linear growth and quite close to each other of the curve of confirmed and recovered. The curves move parallel to each other, so the number of people cured has increased significantly. Germany in the first months of 2021 has a percentage of cured cases of about 92% cured in relation to confirmed ones, while for Albania for the same

period there is a percentage of about 65% cured in relation to confirmed ones with Covid 19. This shows that the management of the situation by Germany is fruitful and if.

As for the number of deaths, the curve is increasing since the second wave has brought high numbers for all European countries



*Conclusions for point 5*

Looking at the analysis made and based on the general interpretations that can be given to the constructed graphs, we can say that many factors, but mainly medicine and quarantine policies have had a

great impact on the approach to the Covid-19 pandemic. Germany is a very powerful country in terms of development in medicine and we can clearly see from the number of recoveries or deaths in relation to the

confirmed ones, the impact this key sector has had on the numbers. Contrary to the number of confirmed cases, Albania has a low number of recoveries, brought about by several influencing factors, as well as a relatively high number compared to the number of infected in the country.

The presentation of the analysis in the quarters of 2020 and 2021 gives us a clearer picture of the impact of the pandemic on the figures from the beginning of this pandemic and today.

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UDC:616.36-053.8:616-022:615.8

**ASSESSMENT OF THE EFFECTIVENESS OF THE INDIVIDUAL REHABILITATION PROGRAM  
IN PATIENTS WITH POSTKOVID SYNDROME****Karimov M.,***Head of gastroenterology department of Republican Specialized Scientific and Practical Center  
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DSc, professor***Bafoeva Z.***Assistant of Rehabilitation, folk medicine and physical education department Tashkent Medical Academy  
<https://doi.org/10.5281/zenodo.7584201>***Abstract**

The article presents the results of studies of 79 patients with postcovid syndrome. It was shown that 59 patients of the main group who underwent the rehabilitation program had significantly more pronounced improvement in clinical indicators compared to the control group. The results obtained were confirmed by the tests of Stange and Genche.

**Keywords:** postcovid syndrome, rehabilitation, tests of Stange and Genche

The pandemic of the disease caused by the new coronavirus SARS-CoV-2 has been going on for several years [1]. According to statistics from Johns Hopkins University, by the beginning of March in 2021, more than 114 million people around the world had COVID-19 cases, which caused the death of more than 2.5 million people. These shocking numbers indicate the importance of the pandemic's problems with modern health and civilisation in general. Without a doubt, it has become a priority in medical science to fight the new disease, that is, to treat it effectively and prevent it[2].

No doubt that tissue damage in COVID-19, even after the disease is mild, will not be without a trace, since it is natural that there are degenerative and dystrophic changes. The complex occurrence of symptoms, the preservation of which after passing the disease, was called postcovid syndrome. In English literature, the term "long COVID" or persistent covid can be found[3].

After 60 days, 12.6% did not express complaints when patients' complaints were evaluated, 32% had 1-2 symptoms and 55% had more than two complaints. Deterioration in quality of life was observed at 44.1%. Most symptoms were observed 6 months after passing the disease: fatigue (63%), insomnia (26%), fear and depression (23%), hair loss (22%), anosmia (11%), joint pain (9%), Heart play (9%), decreased appetite (8%), taste disorders (7%), dizziness (6%), diarrhea and

vomiting (5%), chest pain and feeling of tightness (5%), pain in the, headache (2%), myalgia (2%) [4].

The consequences of the pandemic have affected all areas of medicine and specialists of both primary care and specialized centers continue to struggle with their complications. Rehabilitation of such patients remains relevant to this day. In this regard, the search for effective methods of restorative medicine, leading to the early return of the lost abilities of such patients, is the subject of numerous discussions [5-8].

**Purpose.** Evaluation of the effectiveness of rehabilitation measures in patients with poskovidny syndrome.

**Material and methods.** 78 patients were selected who were treated at the Republican Clinical Hospital Zangiota 2, underwent medicamentous rehabilitation, after 3 months there were postcovid syndromes, they were divided into two groups, the first group was in the main group and consisted of 58 patients, the rehabilitation complex was transferred, an individual approach was taken based on patient complaints, these were measures aimed at eliminating respiratory failure, joint pain, depression, , rehabilitation was not carried out in them. After 3 months, re-complaints from both groups of patients were collected and evaluated.

**Results.** To assess the effectiveness of rehabilitation in our patients, we divided patients into the main (n= 58) and Control (n=20) groups. We asked for complaints in them and put them on the diagram.

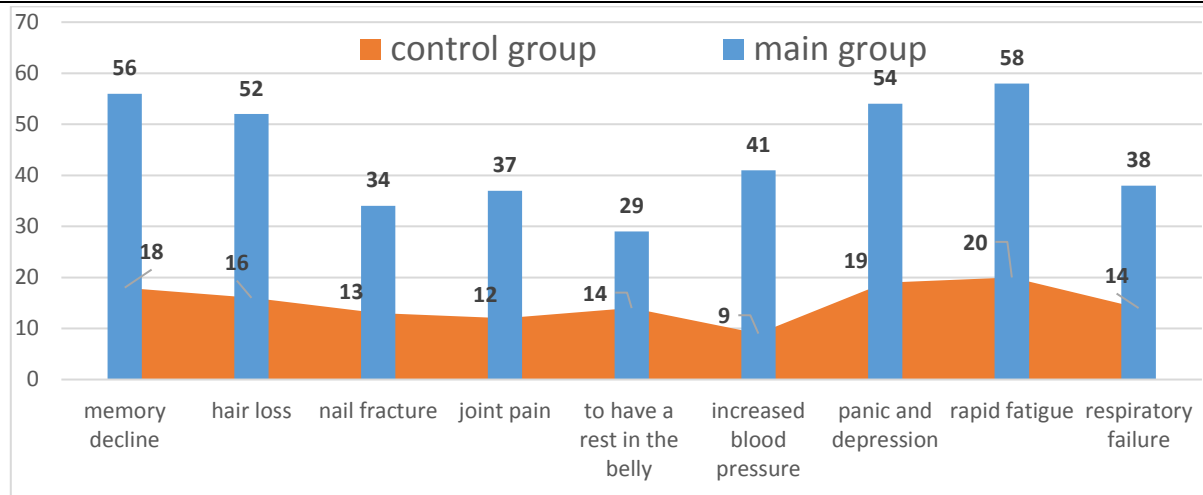


Figure 1. Primary complaints of examined patients

As you can see well from the diagram, the most common ones, which are between 100 and 90%, are rapid fatigue and memory loss, hair loss and fear, and those around 60 to 50% were joint pain, signs of nutritive deficiency and discomfort condition in the abdomen. From these, we assigned rehabilitation to the

main group of patients. Respiratory failure was observed in 65.5% of the sick, and we recommended them walking, cycling, swimming and DJT exercises. They repeated these exercises 3 times a week for 3 months. In assessing the changes in our patients, we used the Genche and Shtange tests (Figure 2).

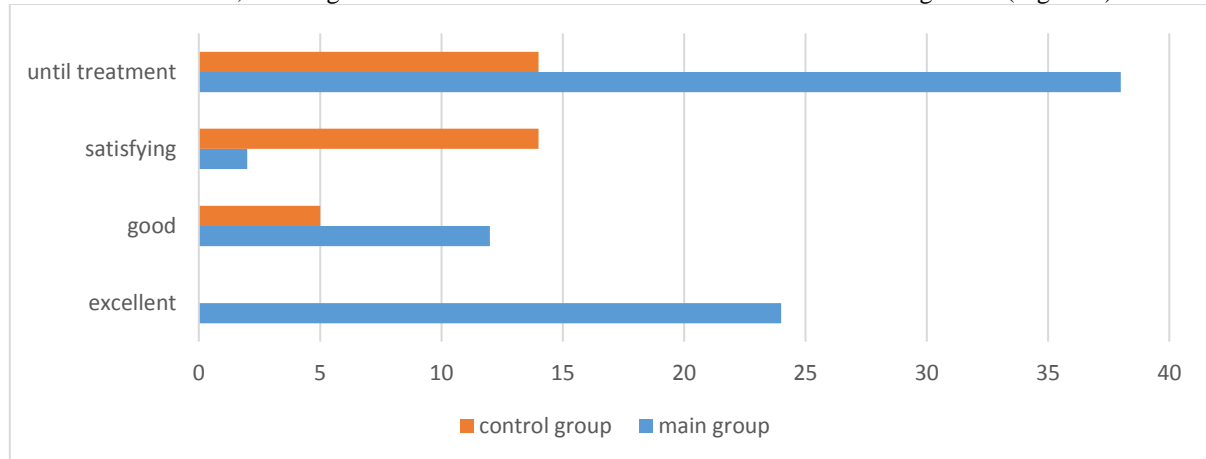


Figure 2. Evaluation of the Genche and Shtange tests.

Positive results were more observed in our patients who followed our recommendations in the diagram and performed DJT exercises. Among our patients, changes in 2 (5.3%) were found satisfactory, the reason for which was the failure to follow the recommendations and do them on time. Our patients in the control group had very few good results, among which a lot of breathing problems were identified.

In 63.7% of patients noted pain in the joints of the legs, hindering their movement, affecting the quality of life. We developed a patient-care, low-intensity DJT complex and spent 3 Months, 3 times a week, each exercise with 6-8 repetitions. We used a visual pain scale to assess the intensity of pain in the joint (Figure 3).

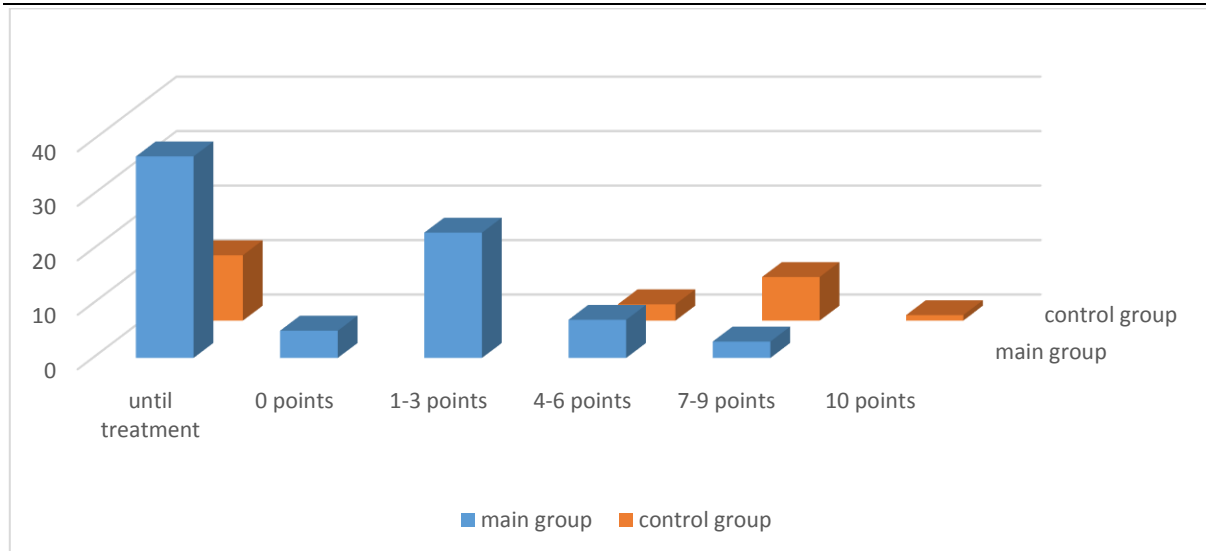


Figure 3. Distribution of patients on the visual pain scale.

So in our patients, that is, we observed the effectiveness of physical rehabilitation carried out in the main group, 13.5% of patients rated themselves with 0 points, 62.2% of our patients rated with 1-3 points, which is considered very good indicators. In our 3 patients, 7-9 points were observed, they said that they did not perform DJT exercises due to pain. We observed that those in the control group who scored satisfactory i.e. 7-9 points were 66.7%. Among our patients, there was a feeling of rest in the abdomen, a

feeling of heaviness in the right side head, for which we recommended and conducted a diet, mineral waters, as well as special exercises that improve the function of the liver and biliary tract.

We relied on their subjective data to find out the results in our patients, and good results were observed in patients who followed the recommendations. In patients who did not carry out rehabilitation, discomfort remained in the abdomen (Figure 4).

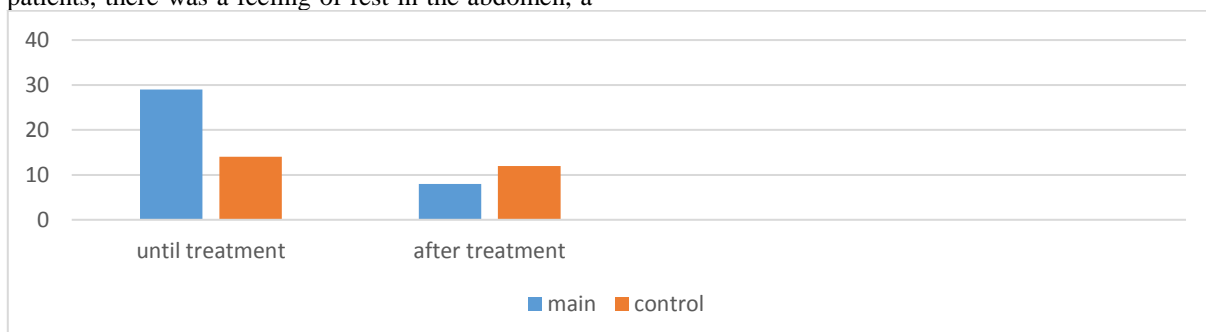


Figure 4. Unpleasant situations in the abdomen

Patients who performed regular DJT exercises, complaints decreased by 50% to 13%, while 13% of patients noted that the discomfort had decreased or had gone away altogether. They associate this with the fact that they themselves did not follow the recommendations. 70% of patients in the control group had problems with digestion, and after 3 months 60% remained in the patient. One of the common complaints among our patients was the observation of fear and

panic. To such our patients, we recommended and conducted Autotraining and yoga exercises. Yoga exercises themselves also have the property of calming, improving breathing and improving the performance of the whole organism along with blood circulation.

We evaluated the rehabilitation measures we carried out in our patients on the hospital anxiety and depression detection scale (Hospital Anxiety and Depression Scale, HADS).

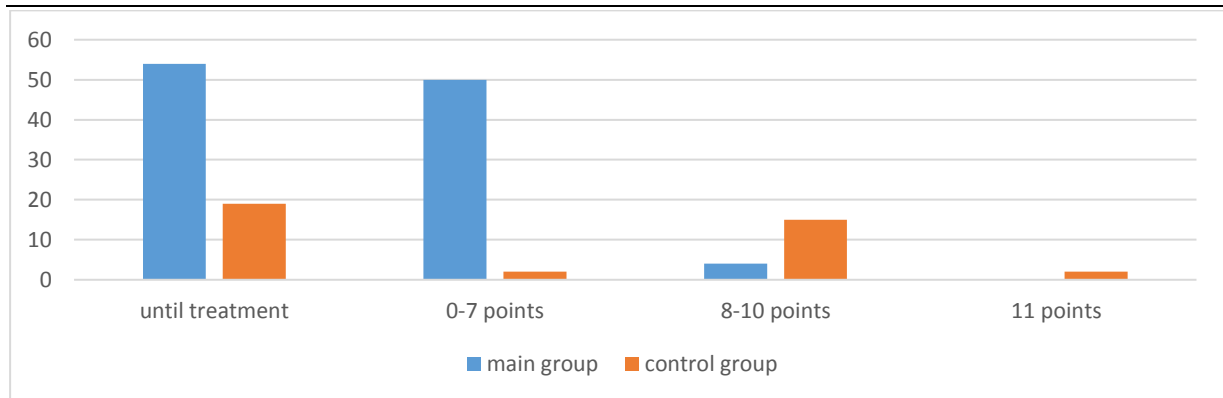


Figure 5. Hospital Anxiety and Depression Scale, HADS

The rehabilitation measures taken in our patients showed a good effect and said that the anxiety and panic in them had passed. Our patients, assessed by 8-10 points, were 7.4%, and they were patients who did not follow the recommendations. To assess the

effectiveness of rehabilitation in our patients, we evaluated the condition before and after rehabilitation by taking a scale of Borg (subjective sign) and 6 min walking test (Figure 6, 7).

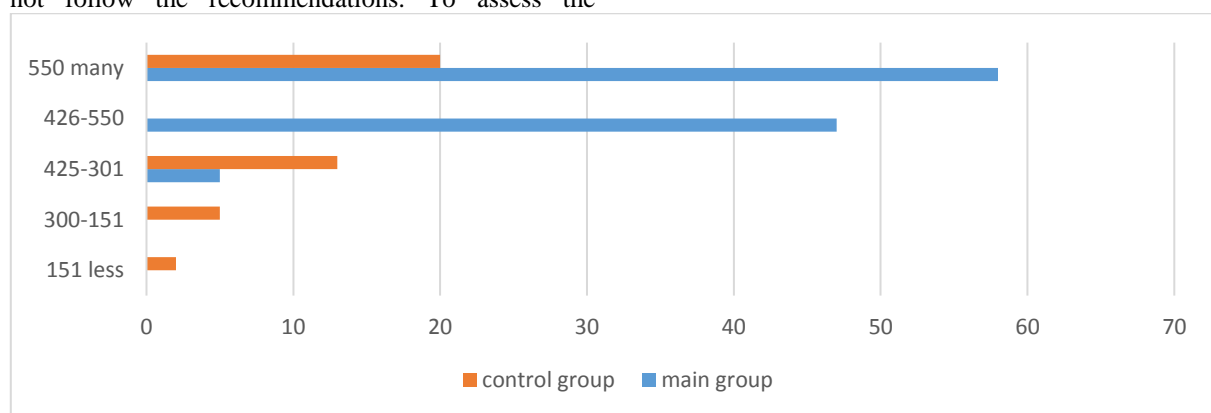


Figure 6. 6 minute walk test results

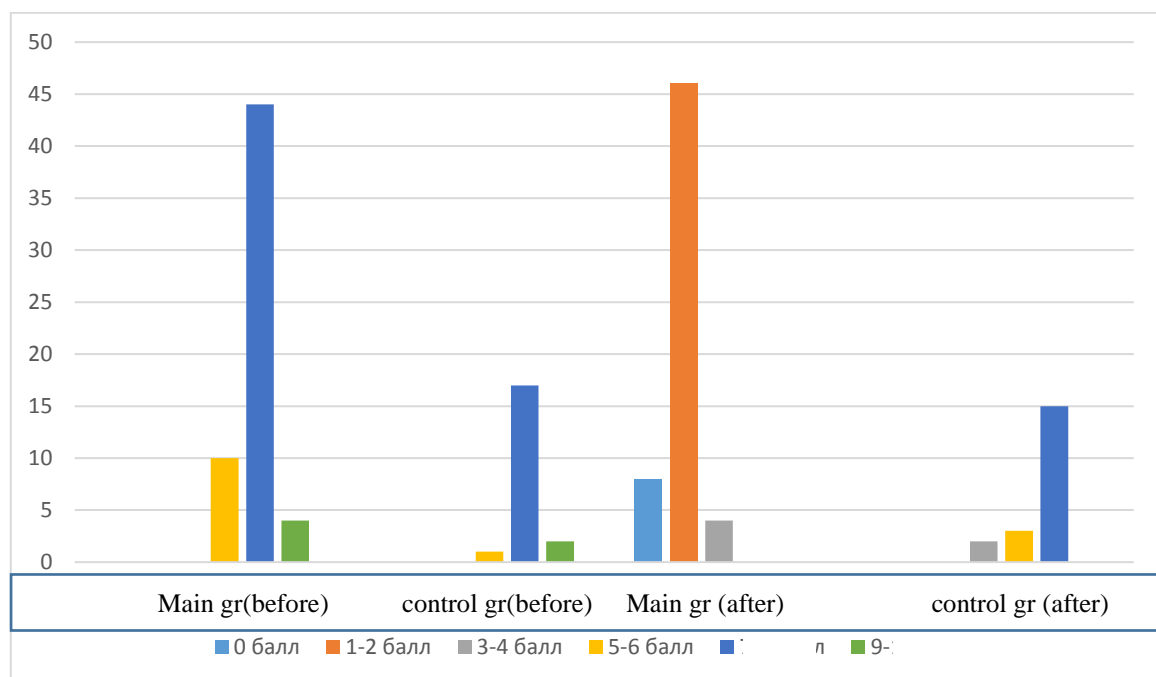


Figure 7. Borg test results

The best method for assessing the effectiveness of rehabilitation is a 6-minute walking test and a borga scale, depending on the picture, we can observe an

increase in tolerance to physical load in our patients. This in turn indicates the effectiveness of rehabilitation.

**Conclusion.**

1. All patients with postcovid syndrome need rehabilitation.
2. In patients who have undergone rehabilitation, reliably pronounced positive clinical results are determined, compared with patients who have not undergone rehabilitation.
3. A differentiated, individual approach to rehabilitation further increases the effect of rehabilitation.

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# PEDAGOGICAL SCIENCES

## INTERACTIVE FORMS OF WORK OF THE PRE-SCHOOL EDUCATION INSTITUTION WITH FAMILIES, WHICH EDUCATE CHILDREN WITH DISORDERS OF SPEECH

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## ІНТЕРАКТИВНІ ФОРМИ РОБОТИ ЗАКЛАДУ ДОШКІЛЬНОЇ ОСВІТИ З РОДИНАМИ, ЯКІ ВИХОВУЮТЬ ДІТЕЙ ІЗ ПОРУШЕННЯМИ МОВЛЕННЯ

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### Abstract

The article highlights the issues concerning the organization of work of the pedagogical staff of the pre-school education institution with families, which educate children of preschool age with disorders of speech. The use of interactive forms of work with parents by teachers and specialists of the educational institution is justified. The experience of one pre-school education institution in Kyiv regarding the introduction of interactive forms of work in pedagogical interaction with families was highlighted and the success of such forms of joint activity was analyzed.

### Анотація

У статті висвітлені питання щодо організації роботи педагогічного колективу закладу дошкільної освіти із родинами, які виховують дітей дошкільного віку із порушеннями мовлення. Обґрунтовано використання педагогами та фахівцями закладу освіти інтерактивних форм роботи з батьками. Висвітлено досвід одного закладу дошкільної освіти міста Києва щодо впровадження інтерактивних форм роботи в педагогічну взаємодію із родинами та проаналізовано успішність використання таких форм спільної діяльності.

**Keywords:** interactive forms of work, pedagogical staff, pre-school education, language activities, speech support, families that bring up children with speech disorders.

**Ключові слова:** інтерактивні форми роботи, педагогічний колектив, заклад дошкільної освіти, мовленнєва діяльність, логопедичний супровід, родини, які виховують дітей із порушеннями мовлення.

**Вступ.** Опанування диною мовленням розпочинається з раннього віку в сім'ї, а продовжується в закладах дошкільної освіти, де вона удосконалює свої мовленнєві навички. Найвагомішим досягненням дошкільного дитинства виступає процес оволодіння мовленням як засобом пізнання та головним способом виключно людського спілкування.

Правильне розвинене мовлення, що відповідає загальноприйнятим критеріям, виступає базовим показником готовності дитини до успішного оволодіння процесом навчання в школі. Порушення мовлення можуть навпаки стати причиною неуспішності під час навчання та низької самооцінки, що буде виражатись у невпевненості, труднощами в оволодінні новими знаннями та десоціалізації.

Родини, які виховують дітей із порушеннями мовлення, потребують підтримки й допомоги, яку насамперед отримують в закладах дошкільної

освіти. Питання організації та здійснення логопедичного супроводу у своїх наукових працях розкривали О. Боряк, В. Кисличенко, С. Конопляста, І. Мартиненко, О. Обухова, Н. Пахоменко, К. Тицина, А. Чобанян та ін. Науковці зазначають, що форми роботи з батьками в межах супроводу дітей із мовленнєвими дисфункціями переважно обмежується їхнім залученням до логокорекційної роботи, однак актуальним є використання інтерактивних форм роботи з батьками в закладах дошкільної освіти, що дозволить підвищити рівень логопедичної обізнаності батьків щодо особливостей розвитку їхньої дитини.

Отже, метою статті є обґрунтування ефективних форм роботи закладу дошкільної освіти з батьками, які виховують дітей із порушеннями мовлення, та аналіз досвіду використання інтерактивних форм роботи з ними в сучасних умовах на

прикладі роботи закладу дошкільної освіти №323 міста Києва.

**Методи дослідження:** теоретичний аналіз психолого-педагогічної та методичної літератури щодо особливостей використання різних форм роботи з батьками в умовах закладу дошкільної освіти; опис досвіду використання інтерактивних форм роботи на прикладі дошкільного навчального закладу (дитячого садка) компенсуючого типу (спеціального) №323 міста Києва.

**Аналіз публікацій.** Вимоги сьогодення привертають увагу науковців і педагогів-практиків до вивчення різних аспектів проблеми співробітництва закладів дошкільної освіти з родинами, які виховують дітей дошкільного віку. Цим питанням присвячені праці Н. Виноградової, Т. Кулікової, Я. Ковальчук, Ю. Лагутіної, О. Семіної та інших.

Взаємодія сім'ї та закладу дошкільної освіти – це тривалий процес, довга і кропітка праця, що вимагає від педагогів і батьків терпіння, творчості та взаєморозуміння. Сучасний світ, який базується на використанні інформаційних технологій, спонукає використовувати інтерактивні форми взаємодії з родинами, які виховують дітей дошкільного віку, що має відбуватися відповідно до принципів партнерства та діалогу. Такий підхід значно поліпшує відносини із сім'ями, підвищує педагогічну культуру батьків, розширює знання дітей у різних освітніх сферах. У процесі такої взаємодії відбувається обмін досвідом, вироблення спільної думки, формування умінь, навичок, створення умов для діалогу, групове згуртування, зміна психологічної атмосфери [7].

Особливо гостро це питання постає щодо взаємодії із родинами, які виховують дітей із порушеннями розвитку, зокрема, із мовленнєвими дисфункціями. Адже сім'я виступає першим і основним середовищем, де формується комунікативний досвід дитини.

О. Боряк та А. Чобанян досліджували питання, які стосуються роботи з родинами, які виховують немовленнєвих дітей. Науковці в своєму дослідженні вивчали рівень сформованості логопедичної освіченості батьків означеної категорії дітей. Констатовано, що 40% батьків, які брали участь в експериментальному дослідженні, мали середній рівень сформованості знань, які стосуються особливостей мовленнєвого розвитку їхніх дітей. Переважна більшість батьків схильні очікувати, що мовленнєвий розвиток відбуватиметься природним чином, і впевнені, що діти не потребують додаткового корекційного (логопедичного) втручання [2, с. 83]. Отже, актуальним виступає активна робота з батьками, які виховують дітей із порушеннями мовлення, адже саме родина є основним плацдармом, де дитина тренує мовленнєві навички і формує досвід комунікації, а за умови дизонтогенезу потребує спеціальної допомоги як від фахівців, так і від батьків.

Проблема співпраці з батьками дітей із мовленнєвими порушеннями є полем дослідження багатьох науковців, зокрема: В. Кисличенко, С. Конопляста, А. Король, Р. Кравченко, С. Миронова,

І. Мартиненко, О. Мастюкова, К. Оленич, Ю. Рібун, В. Селіванова, К. Тичина та ін. В своїх працях вони констатують, що батьки залучені до корекційно-розвиткового процесу шляхом використання традиційних форм роботи логопеда та педагогів. Найбільш широко теоретичні й практичні аспекти саме логопедичного супроводу сім'ї, у якій виховується дитина з порушеннями мовлення, відображені в дослідженнях В. Кисличенко. Вона розглядає логопедичний супровід як цілеспрямовану, послідовну, неперервну дію, найбільш важливою складовою якої є системна, узгоджена робота логопеда та сім'ї дитини. Основним фактором інтенсифікації логопедичної допомоги дитині з порушеннями мовлення вважається взаємодія в логокорекційній роботі батьків та логопеда із застосуванням як традиційно сталих форм роботи з батьками в системі дошкільної освіти, так і розробленої автором програми логопедичного супроводу сім'ї, яка охоплює такі форми роботи, як-от: логошколи та логопрактикум для батьків, інтерактивні заняття, логодискусії, ігрові тренінги, логолекції, консультування тощо [3]. Однак традиційні форми діалогу із сучасними батьками в умовах онлайн взаємодії вимагають осучаснення, зокрема, використання ІКТ.

Питання інформатизації освітньої галузі розкрито в роботах вітчизняних дослідників: В. Бикова, Р. Гуревича, А. Гуржія, Л. Карташової, Т. Коваль, В. Лапінського, О. Ляшенка, Н. Морзе, С. Ракова, О. Співаковського, О. Спіріна та інших. Використання ІКТ у спеціальній педагогіці, а саме практичних прийомів застосування цих засобів, відображено в працях О. Качуровської, Т. Королевської, О. Кукушкіної, О. Легкого, С. Миронової, М. Шеремет та ін. Досвід використання інформаційно-комунікаційних та інтерактивних технологій в роботі з батьками, які виховують дітей із особливими освітніми потребами, висвітлено в працях Г. Бєленької, Л. Дерев'янка, А. Коломієць, О. Кравчиної, В. Краєвського, Н. Кудикіна, О. Свириденко, О. Стойко, О. Цимбалюк. Науковець, професіонал-практик, блогерка А. Король широко висвітлює в своїх публікаціях власний успішний досвід використання дистанційно-інтерактивних форм роботи під час організації та здійснення логопедичного супроводу сім'ї, які виховують дітей із порушеннями мовлення [4, с. 95].

В Україні активно створюються онлайн-ресурси для роботи із родинами, які виховують дітей дошкільного віку як з нормотиповим розвитком, так із порушеннями. Це дозволяє активно взаємодіяти із родинами дистанційно та надавати їм як допомогу, так й інструменти роботи з їхніми дітьми. Це сайти, онлайн курси, соціальні мережі тощо.

Наприклад, у межах співпраці кафедри спеціальної та інклюзивної освіти та Ресурсного центру підтримки інклюзивної освіти Інституту післядипломної освіти Київського університету імені Бориса Грінченка створено Телеграм-канал «Посміхнісь: для дітей та дорослих». Це унікальна співпраця досвідчених фахівців та майбутніх логопедів (студентів) із родинами та їхніми дітьми. Студенти

в межах роботи Центрів компетентностей та практики розробляють завдання, ігри та різні форми взаємодії із дітьми під керівництвом викладачів, а батьки працюють вдома із запропонованим контентом і дають зворотний зв'язок, розповідають про успіхи дитини. Така співпраця є ефективною і корисною для всіх учасників освітнього процесу.

Цікавим і корисним є практичний інструментарій, який надає National Improvement Hub. Він допомагає підтримувати партнерство з батьками та родинами в усіх аспектах навчання їхніх дітей. У наборі інструментів є заходи, які можна використовувати як відправну точку та/або інструмент для вимірювання та оцінки поточної практики залучення та участі батьків, навчання в сім'ї та вдома, в умовах раннього навчання та догляду за дітьми, школах або на місцевому рівні. Заходи також можна використовувати в партнерстві з батьківською радою або батьківськими групами. Інструментарій «Залучення батьків та сімей» складається з різних розділів, у кожному з яких є спільні теми: побудова міцних, позитивних стосунків із батьками, родинами та громадами; рівність та різноманітність; права дитини тощо [11].

Отже, у сучасному закладі дошкільної освіти мають використовуватися інтерактивні форми співпраці з батьками, що дають змогу активно залучити їх до процесу навчання, розвитку та пізнання власної дитини [6; 8]. М. Bordalba під «інтерактивними формами взаємодії» розуміє активну комунікацію в процесі спільної діяльності. Серед основних характеристик означеного поняття автор виокремлює такі:

- спеціальна форма організації з комфортними умовами взаємодії, коли дитина і її родина відчуває свою успішність, інтелектуальну спроможність;
- процес взаємодії організовується в такий спосіб, що всі учасники виявляються залученими до процесу пізнання, обговорення;
- спілкування веде до взаємодії, взаєморозуміння, до спільного прийняття загальних, однак значущих для кожного учасника завдань;
- кожен учасник робить свій особливий індивідуальний внесок, має можливість обмінятися знаннями, власними ідеями, способами діяльності, почути думку інших;
- відсутність домінування окремої особи чи окремої думки;
- формується вміння критично мислити, міркувати, вирішувати суперечливі проблеми на основі аналізу почутої інформації та обставин;
- формується повага до чужої думки, вміння вислуховувати, робити обґрунтовані висновки;
- учасник може не тільки висловити свою думку, погляд, дати оцінку, а й, почувши доказові аргументи інших учасників, відмовитися від своєї точки зору або істотно змінити її;
- учасники розглядають альтернативні думки, вчать приймати продумані рішення, правильно висловлювати свої думки, брати участь у дискусіях, професійно спілкуватися тощо [9].

Як показує практика, інтерактивні форми роботи можуть виконувати діагностичну функцію,

унаслідок чого проявляються батьківські очікування та страхи щодо розвитку власної дитини. Використання таких форм роботи допомагає педагогам більш ефективно не тільки взаємодіяти із батьками, але й впливати на їхню позицію щодо розвитку дитини [12]. Інтерактивна взаємодія із батьками базується на принципах партнерства – це діалог, під час якого відбувається вирішення актуальних питань та розробка планів щодо розвитку мовлення їхніх дітей. Важливо зазначити, що батькам не нав'язується готова точка зору, їх змушують думати, шукати власний вихід із ситуації, що склалася. Саме на батьківських зборах, де використовуються різні інтерактивні форми роботи, члени родини виступають не пасивними слухачами, а активними учасниками інтерактивної взаємодії [10]. Саме на таких зібраннях підіймаються найцікавіші, найбільш актуальні питання і приймаються рішення всіма учасниками освітнього процесу щодо актуальних віх розвитку їхніх дітей, зокрема, розвитку мовлення [13].

Отже, підсумовуючи все вище зазначене констатуємо, що важливо підвищувати обізнаність батьків у питаннях виховання та розвитку дитини за допомогою інтерактивних форм роботи з ними. Це дозволить враховувати запити батьків, сприятиме формуванню активної батьківської позиції, забезпечить визнання їхнього досвіду у вихованні власних дітей та підтримку у пошуку шляхів побудови позитивної взаємодії. Поєднання професійної компетентності педагогів закладу дошкільної освіти з досвідом батьків щодо індивідуальних особливостей і запитів їхніх дітей є втіленням позитивної взаємодії та ефективної комунікації задля розвитку і формування успішної особистості.

**Результати дослідження та дискусія.** У межах окресленої теми було проаналізовано досвід роботи дошкільного навчального закладу (дитячого садка) компенсуючого типу (спеціального) №323 міста Києва (ЗДО №323) щодо впровадження інтерактивних форм роботи з батьками, які виховують дітей дошкільного віку із порушеннями мовлення.

У межах роботи команди педагогів та фахівців цього закладу розробляється програма логопедичного супроводу сім'ї, що є інструментом роботи з родиною, яка виховує дитину із мовленнєвими дисфункціями.

Найважливішим фактором логопедичного супроводу таких сімей є систематична, багатогранна, злагоджена робота педагогів та логопедів закладу дошкільної освіти із сім'єю дитини. Ефективність роботи забезпечується обов'язковою активною участю батьків у системі роботи логопедичного корекційного процесу. Завдяки використанню інтерактивних форм роботи вони мають змогу отримати інформацію про всі знання, навички, вміння, яких набувають їхні діти під час логопедичних корекційних занять. Адже батьки, як активні учасники освітнього процесу, можуть закріплювати набуті дитиною знання під час повсякденного життя, застосовуючи їх в умовах побуту. Для цього використовуються різні щоденні ситуації, режимні моменти, дитину включають в процес догляду за

хатніми рослинами та тваринами, навчають допомагати дорослим, виділяють час на щоденні тематичні прогулянки на свіжому повітрі, їздять на екскурсії в цікаві місця, відвідують театр тощо. Це послідовно організований процес протягом усього періоду роботи над розвитком мовлення дитини дошкільного віку в усіх видах її життєдіяльності як в закладі освіти, так і вдома. Цей підхід є запорукою можливості корегування програми логопедичного супроводу, що спрямована не тільки на розвиток дитини, але й на виправлення відхилень в мовленнєвому розвитку на кожному етапі становлення функціональних систем мови й мовлення.

Протягом багаторічного досвіду роботи в ЗДО №323 сформувалася злагоджена система співпраці навчального закладу з батьками. Вона поєднує такі форми роботи: батьківські збори; інформаційні виставки; консультації, відкриті групові та індивідуальні заняття; семінари, практикуми, майстер-класи; спілкування в групах із використанням месенджерів; лекторії тощо. Це дозволяє охопити значну кількість батьків. Насамперед, це стосується батьків, що відкриті до співпраці й мають активну позицію в процесі формування та розвитку власної дитини.

Під час такої роботи протягом року за затвердженим планом закладу освіти проводиться декілька батьківських зборів. Тематика їх планується завчасно, залежно від особливостей мовленнєвого розвитку дитини та її вікових особливостей. Педагогами та логопедами в доступній формі для батьків роз'яснюється сутність механізмів мовленнєвих порушень дитини. Також батьків ознайомлюють з актуальною літературою, що описує вказану проблему, надається інформація щодо індивідуальних особливостей і можливостей дітей, розробляється програма корекційних заходів.

Однак, констатуємо, що велика кількість батьків, не дивлячись на досить високий рівень отриманої загальної інформації, недостатньо звертає увагу на присутність порушень мовлення у їхньої дитини, а також не робить спроб для пошуку допомоги спеціалістів. Батьки не знають причин, що можуть призвести до порушень мовлення, норм вікового мовленнєвого розвитку. Аналізи опитування батьків свідчить, що близько 27% вважають, що стежать за процесом розвитку мовлення, починаючи з перших місяців життя дитини. Близько 25% починають приділяти увагу мовленню дитини з 3-х років. Майже 6% батьків розуміють необхідність спеціальної допомоги дитині в логопедичній групі корекції мовлення. Тобто рівень участі батьків недостатній. До того ж 50% не беруть участь у заходах закладу освіти.

Тому педагогічним колективом ЗДО №323 було розроблено програму логопедичного супроводу із використанням інтерактивних форм роботи з батьками.

Відповідно до базових напрямів і провідних завдань програми логопедичного супроводу, що реалізовується протягом року, обсяг роботи, щодо кожного вікового періоду поділено на блоки, що відповідають змісту: інформаційний, діагностичний, консультативний, теоретичний, практичний.

I період називається «Очікування». На цьому етапі основним є інформаційний блок. Його завданням є інформування на лекціях батьків щодо закономірностей домовленнєвого періоду в житті кожної дитини, а також особливостей типового й нетипового психофізичного й мовленнєвого розвитку. Для цього використовується наукова теоретична база, подана в доступній для батьків формі. У процесі лекцій приводяться приклади, статистичні дані. Теорія підкріплюється наочністю та інформаційними технологіями.

Під час проходження II періоду «Спостереження» відбувається інформування батьків щодо норм мовленнєвого розвитку, а також причин і наслідків мовленнєвих порушень. Розповідається про процедури діагностування відповідності індивідуального мовленнєвого розвитку дитини мовленнєвим нормам, відповідно до кожного вікового періоду. Роз'яснюється процедура призначення консультацій інших фахівців. Консультування сімей проходить шляхом роз'яснення можливих альтернатив, щодо ймовірних шляхів для розв'язання проблеми.

У III блоці «Діагностика», керуючись межами інформаційного блоку батьків знайомлять зі станом мовленнєвого розвитку дитини дошкільного віку, причинами й наслідками наявних мовленнєвих порушень. Окреслюються пріоритетні напрями й методи роботи із розвитку мовлення.

Консультативний блок входить до складу кожного з вікових періодів. У віковому періоді до 3-х років і від 3-х до 7-ми років для сім'ї дитини без ураження ЦНС консультування є основною формою логопедичної допомоги [1]. Батькам потрібна допомога у визначенні рівня мовленнєвого розвитку дитини й обговорення можливих форм роботи з метою його корекції.

Робота, яка проводиться в перші три періоди більше превентивно-консультативного характеру та є передумовою для забезпечення підґрунтя щодо ефективного подолання проблем під час мовленнєвого розвитку дитини. У дошкільному віці подібні консультації забезпечують батькам можливість осмислення необхідності можливих видів педагогічної допомоги й дають можливість зрозуміти зміст та форми корекційного впливу.

На період старшого дошкільного віку припадає процес становлення і формування психічних функцій та адаптивних можливостей дитячого організму. Також йому характерний високий рівень загальної і мовленнєвої сенситивності. Основним змістом роботи IV періоду супроводу сім'ї характеризується логопедичним корекційним впливом.

Робота з батьками під час IV періоду: діагностика мовленнєвих порушень; інформування батьків щодо ознак наявних мовленнєвих порушень; консультація сімей щодо шляхів розв'язання проблеми; розробка індивідуальних програм логопедичної корекційної роботи; залучення батьків до участі в логопедичному корекційному процесі, використовуючи активну теоретично-практичну й ігрову діяльність, що має форму семінарських занять.

Актуальним виступає онлайн-формат роботи з батьками, з огляду на безпекову ситуацію в країні, що передбачає наступні форми роботи: тематичні онлайн лекції, індивідуальне та групове консультування, індивідуальні й групові заняття з батьками, інтерактивні заняття, ігрові тренінги, школа для батьків, спілкування онлайн, практикум для всіх членів родини тощо.

Для активного спілкування та повідомлень, ЗДО №323 використовує батьківський чат у Viber. За планом, затвердженим на початку року, пропонуються заходи, на які запрошуються батьки. Цей месенджер є дуже зручним і природним, адже є в кожному смартфоні. Також батьки мають можливість написати індивідуальні запитання в приватні повідомлення.

Для лекцій та окремих занять, індивідуальних та групових консультацій використовується платформа Google Meet. Батьки заходять на ці заходи за спеціальними посиланнями, що створюється фахівцями ЗДО. Усі учасники можуть бачити один-одного, що створює дружню атмосферу та допомагає налаштувати батьків на співпрацю. Під час спілкування батьки можуть ставити питання, використовуючи чат зустрічі, а також, функцію піднятої руки. Також відбуваються презентації, демонструється навчальне відео, таблиці, схеми та інша інформація, проводяться всі масові заходи та індивідуальні форми роботи від батьківських зборів до корекційних занять. Відбуваються різноманітні анкетування, опитування, тести, що дає змогу вивчити запити, рівень обізнаності та інші показники під час роботи з батьками.

Цікавою і корисною для батьків стала програма теоретично-практичних семінарів «Логошкола для тата й мами». Вона складається із практичного й теоретичного блоків, що об'єднані в єдиний семінар-практикум для батьків. Така форма занять дає батькам можливість в активній формі здобувати потрібні знання щодо технологій розвитку мовлення, а також набути навичок практичного їх використання. Розроблений семінар-практикум включає шість занять тривалістю 1 година 20 хвилин кожне. Такі заняття проводяться окремо для батьків кожної логопедичної групи. Періодичність проведення занять два рази на місяць. Заняття проводяться у вечірні години, адже більшість людей має більше вільного часу в цей проміжок доби. Вони складаються з двох частин: теоретична і практична. Під час проведення теоретичної частини беруть участь тільки батьки, діти яких потребують корекційного логопедичного впливу. З ними розглядаються педагогічні й логопедичні питання, а також проводяться мовленнєві ігри, рекомендовані для занять із дітьми. Це дозволяє навчити батьків основним прийомам роботи з ними. На практичній частині батьки разом із дітьми апробують набуті навички.

Додатково лекційний та теоретичний матеріал у вигляді покликань розміщується в групових чатах у Viber, а також безпосередньо повна інформація розміщена на сайті ЗДО №323.

Лекційно-консультативна форма, яка застосовується в ЗДО, спрямована на знайомство батьків із механізмами мовленнєвих порушень у дітей, а також основними нормами мовленнєвої готовності до навчання в школі. Під час лекції в батьків є можливість ставити питання логопеду або вихователю як у загальному чаті, так і по ходу лекції. Також батьки пишуть у приватні повідомлення після відвідування такої лекції, адже нерідко виникають питання приватного характеру. Перед проведенням лекцій застосовується реєстрація із заповненням спеціальної форми, де батьки можуть вказати запитання, які їх цікавлять. Це дозволяє корегувати тематику лекцій і озвучувати найбільш актуальні питання.

Також для обговорення хвилюючих проблем і педагогічних ситуацій використовується «скринька запитань». Це дозволяє активно реагувати на запити батьків, робити огляд найактуальніших питань, висвітлювати ці проблеми на сайті ЗДО.

Освіта батьків і їхня обізнаність є пріоритетом у роботі закладу, тому батьків активно знайомлять із логопедичною літературою, дидактичними матеріалами, переліком педагогічної літератури: науково-популярного та загальнорозвиваючого профілю. Це дає змогу підвищити загальний рівень знань батьків, покращує процес співпраці, адже вони, ставши більш обізнаними з даного питання, з більшим бажанням йдуть на співпрацю.

Отже, впровадження таких інтерактивних форм роботи з батьками дозволило активізувати батьків та більше залучати до спільної діяльності з дитиною. Зацікавленість батьків зросла, адже вони можуть отримувати кваліфіковану підтримку постійно й безбар'єрно. Впровадження відповідних форм роботи з батьками, дозволило суттєво підвищити ефективність корекційного процесу. Зміна власних позицій дозволила батькам перейти на новий рівень співпраці з логопедом і вихователем. Наявність ініціативи в стосунках із логопедом з'явилась у більшій кількості батьків. Зросла кількість родин, які вважають роботу педагогічного колективу ЗДО ефективною і необхідною для їхньої дитини. Більш відповідальним стало ставлення батьків до завдань, які дає педагог або логопед ЗДО. Унаслідок впровадження інтерактивних форм роботи підвищився рівень розуміння батьками потенційних можливостей їхньої дитини і важливість їхньої ролі в освітньому процесі.

**Висновки.** Аналіз досвіду використання інтерактивних форм роботи з батьками в умовах закладу дошкільної освіти дозволяє констатувати наступне:

- батьки стають більш активними учасниками освітнього процесу;
- родинам пропонуються не готові рішення, а їх спонукають шукати власний вихід із ситуації під супервізійним супроводом педагогів і логопедів;
- кожен учасник є рівноправним і рівнозначним суб'єктом освітньої діяльності;

- відбувається більш тісна взаємодія між родинами, які відвідують ЗДО, створюються мікрогрупи батьків зі спільними інтересами, що дозволяє їх більш активно взаємодіяти зі спільнотою;
- створюється атмосфера співробітництва і творчої взаємодії;
- моделюються реальні життєві ситуації на запити батьків, що дозволяє шукати спільне рішення у розв'язанні проблем навчання і виховання дітей із порушеннями мовлення;
- формуються педагогічні уміння і навички батьків щодо розвитку мовлення їхніх дітей;
- батьки стають безпосередніми учасниками планування та організації освітнього процесу в ЗДО;
- такі форми роботи сприяють усвідомленню відповідального батьківства щодо ставлення до особистості дитини і її особливостей мовленнєвого розвитку.

Інтерактивні форми роботи зацікавлюють батьків до спільної праці щодо подолання мовленнєвих порушень у дітей, згуртовують педагогічний та батьківський колективи, допомагають долати бар'єри в спілкуванні. У процесі такої взаємодії в батьків та педагогів народжуються свіжі думки та нові ідеї.

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## COMMUNICATIVE TEACHING OF WORDS IN PRACTICAL ENGLISH CLASSES

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<https://doi.org/10.5281/zenodo.7584315>**Abstract**

Words are the guise of our thoughts. The power of words is undeniable. Lexically, it is a speech unit, a word, which consists of a sound expression of the concept of something or an event. As the word that comes to the meaning of language and speech has been used from the past to the present, everyone will use it as much as they need in the future. As the British say, "Words are sharper than swords." ('Words cut more than swords.')

Words are the main weapon of a teacher, especially language teachers. For students learning a second language, memorizing words is a bit more difficult. How can we make our students understand the words well and use them comfortably while learning them. A student learning a foreign language must first pronounce the word in the language he is learning correctly, know its explanation, apply it to sentences, build a dialogue so that he can keep it in his memory.

Knowing a foreign language means having the ability to understand a foreign speech in that language and express one's thoughts in that language. According to these two components, which are related to each other, the tasks are carried out in a communicative way.

Using such tasks allows the teacher to introduce students to literature and art works, advise them to read the necessary works, and instill feelings of love for the Motherland and their people. Grammatical rules are mastered along with words in the given communicative tasks.

**Keywords:** English language, communicative task, teaching approach, task-based learning

**Teach** / ti:tʃ / (taught, taught / tɔ:t /)

-to give lessons to students in a school, college, university, etc.; to help sb learn sth by giving information about it.

**Examples:**

You were taught English last year. You are taught English. You are taught history. It's a pity you are not taught music." To teach is to learn twice." (James Britton)

Our teachers teach us.

Our teachers teach us to be good and clever.

Our teachers teach us to love our people, our language.

Our teachers teach us to love our country and to be useful to it.

**Practice**

1. Teach me French, please.

I cannot teach you French, I don't know French myself.

2. Look at this young teacher. Has she already taught English?

Yes, she taught us English last year.

3. I was taught to skate, but I'm a bad skater.

Well, you were taught to skate long ago and you seldom skate, that's why you are a bad skater.

**Discuss** /dɪ'skʌs/

-the process of discussing sb/sth; a conversation about sb/sth;

**Explanation:**

Discuss means talk about together, consider a problem, a question, from various points of view. You always discuss your class work with your teacher. It's useful to discuss the most interesting books you read. If some problem is important, it must be discussed and then solved.

What if we discuss some book by Jack London?

It's just the book to be discussed. Please discuss "The Gadfly" by Voynich. Please discuss "Oliver Twist" by Dickens. Please discuss "Treasure Island" by Stevenson.

**Conversation**

**T:** When I was young my favorite book was "The Gadfly" by Voynich. You have read this book, haven't you?

**S:** Some of us have read the book but others have not.

**T:** Advise your classmates to read this interesting book.

I advise you to read "The Gadfly".

It's really a wonderful book! Promise me to read it.

**S:** If you advise us to read it and say that it's really a wonderful book, we'll read it as soon as possible.

**T:** And what will you do afterwards, after all of you have read this wonderful book?

**S:** After all of us have read this wonderful book, we'll discuss it.

**T:** I'm sure you'll like Arthur, the main character in the book. He is a courageous and noble Englishman who gave his life for the freedom of Italy. You'll like him for his deep love for Father Montanelli, for his friend Gemma, and for his cause, the cause of freedom and justice.

So, what book must you borrow from the library?

**S:** We must borrow "The Gadfly" by Voynich from the library.

**Joke** / dʒɔk /; AE / dʒoʊk /

-sth that you say or do to make people laugh, for example a funny story that you tell.

**Examples:**

I often tell you jokes in English.

You like me to tell you jokes, don't you?

Listen to a joke, please.

**Teacher:** Your Azerbaijanian exercises are always better than your English ones.

**Pupil:** It is because my mummy does not know English.

You see this is a joke. You are laughing.

The joke made you laugh, didn't it?

#### Conversation

**A:** Ask your classmate to tell you the best joke he knows.

**B:** Tell me the best joke you know, please.

**C:** I'm sorry, I can't tell you the best joke I know, because I'm busy now.

**A:** What have you asked your classmate to do?

**B:** I have asked my classmate to tell me the best joke he knows.

**A:** Has he told you the best joke he knows?

**B:** No, he hasn't told me the best joke he knows.

**A:** Why hasn't he told you the best joke he knows?

**B:** He hasn't told me the best joke he knows because he's busy now.

#### A Joke by Stevenson

They walked in the lane together

The sky was covered with stars.

They reached the gate in silence

He lifted down the bars.

She neither smiled nor thanked him

Because she knew not how.

For he was just the farmer's boy

And she the farmer's cow.

**Just** / dʒʌst /

-exactly; at the same moment as; no less than; equally; by a small amount;

do sth very recently; now; simply; really; completely; only.

#### Examples

Just so! Just now! Just listen! Just one! Just this! Just think! Just feel it! It is just the thing I want! Just nine o'clock. You are just in time. He was here just now. He has just left. They have just discussed it. We have just mended the radio set. You have just listened to my example.

#### Practice

1. I've got "Othello" by Shakespeare.

It's just the book I wanted.

2. I advise them to begin the job just now.

3. Will you help me, please?

Sorry, I'm busy just now.

#### Conversation

**A:** I've just got some stories by Hemingway.

**B:** It's just the book you wanted.

**A:** I don't know when to tell you this joke.

**B:** What if you tell it just now?

**A:** Will you go for a walk with me?

**B:** But I'm busy just now.

**A:** Tell me the name of the main character in "The Gadfly" please.

**B:** Just a moment.

**Artist** / 'ɑ:tɪst; AE ɑ:rt- /

-a person who creates works of art, especially paintings or drawings.

#### Definition

Artist is a person who practices one of the fine arts, especially painting. We know many well-known artists,

such as Leonardo da Vinci, Raphael, Sattar Behlulzade, Tahir Salahov, Repin, Gainsborough.

A person who does his work with skill and taste may be called an artist. Many writers are artists in words. They write well.

Gainsborough and Turner are both of English artists.

#### Practice

1. This artist is truthful.

It means that this artist always tells the truth.

2. This artist is forgetful.

It means that this artist always forgets things.

3. The artist decided to learn to play the piano.

It's wonderful of him, I will also learn to play the piano.

So, both of you, both the artist and you, are going to learn to play the piano.

#### Conversation

#### The biography of an English artist

#### Hogarth

William Hogarth was a great English artist. He was the first to raise British pictorial art to a level of importance. He was born in 1697 in London. The family was very large and nobody took special care of the boy.

Instead of studying he used to spend his time at their neighbour's who was an artist. The artist's studio was situated in a busy part of London, and Hogarth was able to observe life of both the rich and the poor. He dreamed of his own way in painting. He remembered the scenes and events he saw in the street and then put them into his pictures. His success he attributed to hard labour. "I know of no such thing as genius", he wrote, "genius is nothing but labour and diligence."

Hogarth painted many pictures. He is known for his drawings of scenes of life in London, Spain, Greece, China etc. He is greatly respected for the peace-loving motives in his art. [5, p.69]

**Author** / 'ɔ:θə(r) / noun, verb.

#### Definition and uses.

Author means a writer of books, stories. Nizami is the author of "Khamsa", Dickens is the author of "Oliver Twist", Tolstoy is the author of "War and Peace" etc.

There are so many good authors that I cannot say which of them is my favourite. Who is your favourite author?

#### Practice

1. Graham Green is the author of "The Quiet American"

2. And who is the author of "David Copperfield"?

Dickens is the author of "David Copperfield".

3. Who is the author of "The Gadfly"?

Voynich is the author of "The Gadfly"

4. Who is the author of "Hamlet"?

Shakespeare is the author of "Hamlet".

5. And who is the author of "American Tragedy"?

Dreiser is the author of "American Tragedy".

6. Is Walter Scott an English or an American author?

Walter Scott is an English author.

7. Is Henry Fielding an English or an American author?

Henry Fielding is an English author.

### Conversation

**T:** Can you say which among the nineteenth century authors are greatest?

**S:** It's a pity, but I cannot say which among the nineteenth century authors are the greatest.

**T:** One must read a lot and be very good at English literature to say which among the nineteenth century English authors are the greatest.

What do great authors describe in their works?

**S:** Great authors describe the life of their people truthfully.

**T:** Do great authors want to see their people happy?

**S:** It goes without saying, great authors want to see their people happy.

**Poem** /'pəʊɪm; AE 'pəʊəm / - a piece of writing

**Poet** /'pəʊɪt; AE 'pəʊət / - a person who writes poems

### Examples

Byron wrote poems. Byron is a famous English poet. We like to read poems. What poets do you like to read? Whose poems do you like to read?

### Practice

1. He is reading this poem in English for the first time.

If he reads the poem for the second time, he will like it better, I think.

2. My son is reading the poem in French for the first time.

If he reads the poem for the second time, he will like it better, I think.

### Conversation

Byron and Shelly are very famous in England. Everybody knows these two famous poets in Azerbaijan. I have known English since I was seven, so I can read both these poets in English. I have read and reread their poems.

**T:** What English poets did I speak about just now?

**S:** You spoke just now about Byron and Shelly.

**T:** They are famous in England, aren't they?

**S:** Yes, they are very famous in England.

**Polite** / pə'laɪt / adj. (politer, politest); adv. politely

(more polite and most polite are also common)

syn. courteous /'kɜːtiəs; AE 'kɜːrt /; opp. impolite.

### Definition

A polite person is one who has good manners and respect for the feelings of others. Tarlan is polite. He always greets people, he says "Good morning", he always says "Thank you", and "Please". He offers his seat when he sees an older person standing. He never remains sitting when others are standing. He does not answer rudely. He is a polite boy. We should all be polite. Speak politely with your classmates. His politeness is well known. I like his politeness. We were all too polite to object.

### Practice

1. This young is polite.

I am sure that he is a polite young.

2. Ann is not very polite when she speaks with her parents.

You must be more polite when you speak with your parents.

### Conversation

"Will you be so kind as to tell me some news?" little Tom said to his elder sister.

**A:** In what way did little Tom ask his elder sister to tell him some news?

**B:** Little Tom asked his elder sister in a very polite way to tell him some news.

**A:** Is Tom always so polite when he speaks with his elder sister?

**B:** I think little Tom is always so polite when he speaks with his elder sister.

**A:** Does Tom's sister speak politely with Tom?

**B:** I am sure that Tom's sister speaks politely with Tom.

**A:** That's why Tom is always so polite when he speaks with his elder sister.

Both of them are very polite, aren't they?

**B:** Yes, both of them are very polite.

**A:** Should we be polite?

**B:** We should always be polite.

**Freedom** /'friːdəm / noun.

- the right to do or say what you want without anyone stopping you.

### Definition and uses.

Freedom means the state of being free. The African people are fighting for their freedom. They want to be free.

Freedom of speech. Freedom of the press. Freedom of the action.

### Practice

1. People must not fight for their freedom.

Sorry, you are not right saying that people must not fight for their freedom.

2. Films never show how a man loves freedom.

Sorry, you are not right saying that films never show how a man loves freedom.

### Conversation

A story

Once a woman was working. She was working hard at a report. The report was very important. She had little time. The report was to be ready in two days. The children were noisy. They wanted to play and to sing. They didn't understand that their mother was busy, that her report was important and was to be ready in two days. The woman asked the children not to be noisy. She promised to give them freedom to do what they liked in thirty minutes. [5, p.87]

Words, which are the main material of language, play an important role in conveying our ideas and thoughts during communication. In the words of the famous British linguist (Wilkins), people can describe few things without grammar, but they cannot express anything without words.

Completing these types of tasks requires constant help from the teacher. Giving the words with numerous examples, proverbs, dialogues increase the communicativeness during the lesson and creates revival in the students.

Currently, the communicative method is considered the most effective method in teaching English. The communicative method is focused on the creation of communication and the development of speaking skills on various topics. Learning a foreign language begins with learning words. Without words, there would be no language skills such as listening, speaking, reading, writing and translating. Grammatical rules are mastered along with words in the given communicative tasks.

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### EDUCATION OF AESTHETIC AND COGNITIVE ACTIVITY OF SCHOOLCHILDREN IN EXTRACURRICULAR TIME

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### ВОСПИТАНИЕ ЭСТЕТИЧЕСКОЙ И ПОЗНАВАТЕЛЬНОЙ АКТИВНОСТИ ШКОЛЬНИКОВ ВО ВНЕУРОЧНОЕ ВРЕМЯ

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#### Abstract

This article discusses the education of aesthetic and cognitive activity of schoolchildren in extracurricular time

#### Аннотация

В данной статье рассматривается воспитание эстетической и познавательной активности школьников во внеурочное время

**Keywords:** aesthetics, education, cognition, activity, schoolboy, activities, extracurricular time

**Ключевые слова:** эстетика, воспитание, познание, активность, школьник, мероприятия, внеурочное время

Развитие воспитательной силы художественных произведений учащихся – немалая задача, выполняемая педагогами. Вместе с учениками они участвуют внеучебной деятельности и занимаются творчеством во взаимоотношениях. Он предназначен для развития художественной деятельности и творчества учащихся, их широкого участия в нем, повышения художественного мастерства групп учащихся. В этом отношении на него будут оказы-

вать влияние их глубокая связь с профессиональными искусствоведами, творческими союзниками, регулярные творческие встречи, советы, обмен опытом.

«Организовать воспитательную внеурочную деятельность можно различными способами. Их количество и вариативность очень разнообразно: всевозможные экскурсии, кружки, секции, круглые столы, конференции, диспуты, КВН-ы, школьные научные общества, олимпиады, школьные театры,

соревнования, поисковые и научные исследования. Содержательным ориентиром при организации работы с детьми вне уроков можно считать все основные направления внеурочной деятельности: научно-познавательное, художественно-эстетическое, проектную деятельность» [1].

Необходимость, своеобразие и большое значение внеурочной работы не раз подчеркивалось в работе известных педагогов: Н. К. Крупской, А. С. Макаренко, В. А. Сухомлинского и др.:

Н. К. Крупская отмечала, что: «Внешкольная работа, конечно, должна быть тесно связана со школьной, но это своеобразная работа, которая должна организационно воспитывать ребят».

«Школа становится очагом духовной жизни, если учителя дают интересные и по содержанию, и по форме уроки... Но замечательные, блестящие уроки есть там, где имеется еще что-то замечательное, кроме уроков, где имеются и успешно применяются самые разнообразные формы развития учащихся вне уроков» писал В. А. Сухомлинский [2, с.96].

«Большой практический вклад в решение проблемы организации внеурочной деятельности с учащимися по эстетическому воспитанию внесли А.С. Макаренко и С.Т. Шацкий. В организованных ими учреждениях ребята принимали широкое участие в подготовке самостоятельных спектаклей, творческих драматических импровизаций, в хоровом пении. Воспитанники часто слушали художественные произведения и музыку, посещали и обсуждали театральные постановки и кинофильмы, работали в изобразительных кружках и студиях, проявляли себя в различных видах литературного творчества. Все это служило действенным стимулом развития лучших черт и качеств личности. Основные виды внеурочной деятельности с детьми по эстетическому воспитанию это: проведение факультативных занятий, сеть литературно-творческих кружков, посещение театров и музеев, а также организация лекций и натуральных занятий по живописи, скульптуре, рисунку» [3, с.13].

Понятие «познание» можно рассматривать с точки зрения педагогики, философии и психологии. В философии познание – это процесс получения человеком нового знания, открытие неизвестного. Философский словарь А.А. Грицанова дает трактовку термину познание как «творческой деятельности субъекта, ориентированной на получение достоверных знаний о мире» [4, с 7].

Р.С. Немов: в своем «Психологическом словаре» пишет о познании как о «различных видах познавательной активности или активности, направленной на получение и обработку знаний (информации)» [5, с 24].

Педагогическая энциклопедия под редакцией Н.Н. Тулькибаевой и Л.В. Трубайчук дает определение познанию как «образовательной деятельности ученика, понимаемой как процесс творческой деятельности, которая формирует их знания» [6, с. 15].

Нужно отметить, что все рассмотренные понятия объединяет одно основное: понятие – это процесс, развитие, деятельность. Педагоги прошлого целостно рассматривали развитие ребёнка. Я.А. Коменский, К.Д. Ушинский, Д.Локк, Ж.Ж. Руссо определяли познавательное развитие как «естественное стремление детей к познанию» [5, с 124].

Исследования познавательного развития, проводившиеся группой психологов под руководством А. Н. Леонтьева и А. В. Запорожца, привели к выводу, что у нормально развивающихся детей младшего школьного возраста «начинает формироваться познавательная деятельность, как таковая, т.е. деятельность, направляемая и побуждаемая познавательной за дачей» [7, с.35].

Е. П. Ильин считал, «что в самом феномене познавательного развития лежит источник-противоречие между потребностями в познании и теми его физическими, психологическими и интеллектуальными способностями, которые он имеет на настоящий момент» [8,с.59].

С.Л. Рубинштейн представляет в своей работе это понятие так: «Умственные способности – сложное синтетическое образование личности. В основе способностей лежат наследственные закрепленные предпосылки для их развития в виде задатков, под которыми подразумеваются анатомо-физиологические особенности нервно-мозгового аппарата человека» [9, с. 123].

Существует множество традиционных форм внеклассной и внеурочной деятельности. В связи с этим В.А. Сухомлинский говорит: «Дети должны жить в мире красоты, игры, сказки, музыки, рисования, фантазии и творчества». Его выбор производится главным образом в зависимости от общих или индивидуальных целей и задач обучения, воспитательной значимости деятельности и реальных условий жизни учащихся, достижений и недостатков выполнения учебных задач классом или отдельными учащимися. Поэтому его довольно сложно классифицировать. То есть рекомендуется классифицировать по воздействию на цель (индивидуальные, групповые, массовые формы) и в зависимости от направления и задач воспитания (умственное, нравственное, эстетическое, физическое, трудовое, экологическое, экономическое, юридическое). Это будет следующим образом:

Проведение тематических классных часов и организация к нему подготовительной работы: издание стенгазеты, создание альбома, разработка плакатов, лозунгов, написание пословиц, обучение учащихся чтению стихов, исполнению песен, танцев;

Проведение интересных встреч, вечеров, утреников (с поэтами-писателями, художниками, трудовыми деятелями, народными героями, ветеранами войны и интернационалистами);

Организация политического сообщения на уроке: тематические и обзорные сообщения.

1. Организация конкурсов пения, танцев, чтения стихов, рисунков на различные темы;

2. Проведение выставок творческих работ студентов;

3. Провести работу конкурсов клуба веселых и находчивых;

4. Организация воспитательной работы с учащимися в форме ток-шоу, круглых столов, диспутов, бесед;

5. Проведение спортивных соревнований: шахматы, шашки, волейбол, баскетбол, футбол и др.;

6. Организация чтения учениками интересных книг, газет и журналов вне учебы, взаимное обсуждение и обмен мнениями;

7. Проведение читательской конференции совместно с литературоведом и школьным библиотекарем;

8. Организация участия учащихся в школьных кружках по их потребностям и способностям: предметный, художественный, спортивный, краеведческий, юный техник и др.;

9. Проведение конкурсов, олимпиад, соревнований по результатам работы клуба;

10. Празднование праздников, известных праздников Республики;

11. Проведение классных собраний;

12. Организация общественных работ, таких как дежурство учащихся по классу, школе, участие в генеральной уборке, обустройство кабинета, сбор металлолома, ремонт учебной и производственной площадки, уборка и украшение школьной территории, участие в творческих отпусках, анализ их результаты;

13. Посещение музеев, выставки, места отдыха и культуры, кино, театры, производства;

14. Организация помощи ветеранам войны и труда, пожилым людям;

15. Организация культурно-познавательных поездок школьников в период зимних и летних каникул;

В работе, проводимой вне аудитории, учитываются особенности, склонности и потребности каждого ученика.

Поскольку во внеучебной образовательной деятельности учащихся преобладает над теоретической стороной, необходимо особое внимание уделяется на значение деятельности в приобретении ребенком социального опыта при определении его содержания. Различают несколько его видов: познавательный, развлекательный, спортивно-оздоровительный, трудовой, творческий.

**Развлекательная деятельность.** Он эффективен для создания теплого настроения в коллективе, установления дружеских и совместных условий, профилактики нервного напряжения. Однако познавательная и занимательная деятельность внеурочной воспитательной работы часто взаимосвязаны. Например: можно проводить различные конкурсы, викторины.

**Спортивно-развлекательная деятельность.** Такая активность внеурочной воспитательной работы с детьми необходима для их полноценного здоровья и гармоничного развития организма. Физкультурно-оздоровительная деятельность осуществляется через выезды на природу, занятия спортом, подвижные игры, занятия спортом, туризм, походы.

**Трудовая деятельность.** Он выражается через содержание труда: общественно полезного, самообслуживания. Однако его усилия направлены на результат воспитательной работы в организации разнообразной систематической деятельности. У школьника развивается потребность в труде и стремление познать себя.

Творческая деятельность направлена на развитие творческих сил и интереса учащихся которая выражается в форме конкурса художников, художественного чтения, конкурса мастеров народных промыслов и художественной выставки. В ходе таких действий решаются задачи воспитания у учащихся нравственных, аффективных и волевых качеств.

О различных формах организации рекомендуется создать картотеку формы организации. Особенно:

- Организация познавательной деятельности: конкурс знаний, искусства (песня, танец и др.), викторина «Кто умнее», «Подумай и найди», «Семь чудес света», научный, литературный, музыкальный еженедельник, психолого-педагогический практикум и др.

- Ценностно-ориентированная деятельность: интересные встречи (с деятелями литературы и искусства), конкурсы различных направлений, творческие вечера, воспитательные часы (по морали и нравственности), интеллектуальные шоу, дебаты и т.д.

- Трудовая деятельность: дежурство в школе, выставка технического творчества, работы по благоустройству, уборка, ремонт классных комнат, работа на территории школы.

- Общественно-полезная работа: сбор лекарственных трав, макулатуры, металлолома, благотворительность, организация совместных акций, (детский сад и детский дом) и т.д.

- Художественно-творческая деятельность: новогодние, осенние и весенние балы, литературно-музыкальная композиция, посещение театра, музея, выставок и т.д.

- Физкультурно-спортивные мероприятия: День здоровья, туристические сани, туристический поход, «День бегуна», «Веселый старт», «Маленькие олимпийские игры», устный журнал «Спортивная семья», Традиция «Здоровый образ жизни» и др.

- Добровольная коммуникативная деятельность: авторская песня, вечер поэзии, выезд на природу или по городу, концерт, конкурс «Здравствуйте, мы ищем таланты», вечер поэзии, песенный вечер, психологический тренинг, школьный бал.

Требования, к внеурочной воспитательной работе:

1. В процессе подготовки и проведения внеурочной воспитательной работы прежде всего необходимо определить ее цель. В силу конкретной ситуации вызывает халатность, лживость, растерянность в отношениях педагогов и детей и приводит к отрицательным результатам;

2. Прогнозирование результата, который должен быть достигнут на начальном этапе организации внеурочной работы. Это помогает эффективно решать задачи усвоения социального опыта в достижении общей цели;

Во внеурочной воспитательной работе необходим оптимистический настрой;

1. Учитель или классный руководитель, организующий внеклассную работу, должен обладать высокими личностными качествами. Он начинается с установления прямых отношений сотрудничества с учеником;

2. При организации внеурочной воспитательной работы необходимо постоянно думать о новых формах и методах и постоянный творческий поиск, направленный на их использование. Только тогда творческая деятельность учителя может быть необходимым условием эффективной организации воспитательной работы;

3. К организации воспитательной работы внеклассной работы необходимо постоянно обучать совершенствованию своих способностей. Это реализуется через систематическую и планомерную творческую работу;

4. Во всех видах воспитательной работы воспитывать у учащихся активное участие в общественно полезных делах, их интерес к общественной деятельности и самостоятельному труду;

5. Эффективная организация внеучебного времени школьников, формирование личности каждого из них возможна, прежде всего, при правильной организации педагогического руководства и достижении незыблемого сотрудничества педагогов и учащихся.

Они требуют от классного руководителя внимательности, систематичности, заранее определять и знать знания, психологические особенности учащегося, с которым он взаимодействует, насколько эффективно каждый учащийся использует свое время.

Организация воспитательной внеклассной работы младших школьников требует соблюдения следующих принципов:

1. Соответствие возрастным особенностям учащихся;

2. Ориентиры по ценностям системы школьного воспитания;

3. Свободный выбор интересов ребенка с учетом склонностей и таланта воспитателя.

4. Обогащение разнообразными новыми вещами и стимулами по улучшению познавательных возможностей ученика;

5. Поощряйте ребенка к выражению собственных мыслей;

6. Используйте личный пример творческого подхода к решению проблем.

Условия реализации интеграции воспитательного процесса во внеучебной деятельности:

- учет национальных и местных традиций, обеспечение связи воспитательной деятельности школы с сельской жизнью

(совместное празднование школьных и сельских праздников, охрана и забота об окружающей среде);

- Организация творческих объединений, кружков, секций по интересам и запросам учащихся;

- школьные каникулы в школе (включены творческие конкурсы, конкурсы мнений, тематические вечера, кружки веселья и находчивости, спортивные соревнования и др.) организация;

- привлечение местных специалистов и преподавателей к организации школьных и клубных объединений, творческих коллективов взрослых и детей;

- Подготовка школьников к осознанному выбору профессии, овладению экономическими знаниями и производственными технологиями на селе;

- Развитие самоуправления в коллективе учащихся: выявление среди учащихся лучших, способных влиять на организацию деятельности разновозрастных групп на основе отношений сотрудничества старших и младших школьников;

12- Расширение связи школы с окружающей средой, исключение необходимости общения сельских школьников.

Развивая проблему способностей, Б.Г. Аняньев подчеркивает не только роль активной деятельности индивида в усвоении общественного опыта, но и связь способностей с личностью как психическим образованием. «Способность - есть проявление творческого развития ума, а не простого накопления знаний, следовательно, проявление творческого применения этих знаний, авторской позиции самого человека в отношении знаний, которые он усваивает самостоятельно и сознательно. Таким образом, предполагается, что способность не есть простое накопление знаний...» - пишет он [10, с. 14].

В заключении, формирование элементарных знаний об эстетическом воспитании и вывод накопленного опыта из-под его влияния. Без него учащиеся не будут интересоваться предметами и явлениями, имеющими эстетическую ценность.

В целях подготовки подрастающего поколения к жизни и труду, опираясь на исторический опыт нашего народа, педагог старается сформировать у учащихся предприимчивость, умения, качества: доброту, честность, скромность, внимательность, работоспособность, ответственность и др.

Эстетическое воспитание не только развивает навыки и умения эстетического восприятия, но и формирует социально значимые качества, такие как переживание и оценка эстетически значимых явлений, наслаждение ими. Затрагивает всю душу человека и полностью его покоряет. Всестороннее и богатое эстетическое знание человека о природе и самом себе, о художественных ценностях влияет на развитие его способностей и приводит к ощущению себя полноправным членом социальной среды, овладению своей специальностью, углублению профессионального мироощущения.

В целом внеклассная деятельность расширяет знания учащихся и дает возможность всестороннего исследования, делаются выводы из привычной

деятельности, посредством внеурочной деятельности дети постигают различные тайны мистического мира.

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## CREATION AND USE OF VIDEO MATERIALS IN THE EDUCATIONAL PROCESS

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## СОЗДАНИЕ И ИСПОЛЬЗОВАНИЕ ВИДЕОМАТЕРИАЛОВ В ОБРАЗОВАТЕЛЬНОМ ПРОЦЕССЕ

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### Abstract

In the article, the author reveals the effectiveness of the use of digital technologies in the educational process on the example of creating and using video lessons.

### Аннотация

В статье автор раскрывает эффективность использования цифровых технологий в образовательном процессе на примере создания и использования видеоуроков.

**Keywords:** digital technologies, digital educational technologies, video lesson, media, efficiency.

**Ключевые слова:** цифровые технологии, цифровые образовательные технологии, видеоурок, медиа, эффективность.

В нашей стране проводятся масштабные реформы информационно-коммуникационных технологий. На основе этих реформ определен ряд задач, связанных с подготовкой зрелых специалистов для отрасли. В соответствии с Указом Президента Республики Узбекистан от 28 января 2022 года «О СТРАТЕГИИ РАЗВИТИЯ НОВОГО УЗБЕКИСТАНА НА 2022 — 2026 ГОДЫ» №60 в целях реализации первоочередных задач в области

цифровых технологий поставлена задача налаживание обучения более 6,5 тыс. молодых людей в области информационных технологий в год за счет развития деятельности по подготовке кадров в форме дистанционного обучения <sup>1</sup>. При этом необходимо будет уделить внимание вопросу конкурентоспособности обучаемых кадров с учетом стремительных изменений в отрасли в мировом масштабе. Такие резкие изменения заставляют мировую систему образования быстро меняться и адаптироваться. Во

<sup>1</sup> <https://lex.uz/uz/docs/6166539> - Указ Президента Республики Узбекистан от 22 августа 2022 года № ПП-357

«О мерах по выводу сферы информационно-коммуникационных технологий на новый уровень в 2022-2023 гг.» решением

всем мире во всех сферах происходят процессы перехода в цифровую эпоху, что проявляется в том, что в повседневную жизнь сегодняшних школьников прочно вошли планшеты, мобильные телефоны, смарт-часы, очки виртуальной реальности. Цифровые технологии стремительно входят и в систему образования. Демонстрация презентаций, видеороликов, аудио приложений с целью повышения эффективности учебного процесса наряду с организацией и управлением обучением уже не в новинку. При этом использование новых, эффективных и интересных методов цифровых технологий является одним из главных требований образования 21 века. В связи с этим перед педагогами стоит очень ответственная и непростая задача, в которой в нынешних информационных условиях необходимо уметь привлекать обучающихся, формируя необходимый образовательный контент в среде цифровых технологий. И реализация этого процесса с молодежью, растущей в среде цифровых технологий, требует намного больше работы, потому что их будет сложнее заинтересовать простыми традиционными ресурсами и возможностями. С другой стороны, каждый современный педагог в системе подготовки педагогических кадров сегодня понимает необходимость ведения образования по-новому с использованием инновационных компьютерных технологий. Это требует от каждого педагога неустанной работы над собой, поиска, разработки собственных цифровых образовательных ресурсов.

Цифровые образовательные ресурсы – это фотографии, видеоклипы, модели, анимации, ролевые игры, представленные в цифровом виде, «связанные» с планированием урока, которые необходимы для организации учебного процесса и выбираются в соответствии с содержанием учебного материала, определенный учебник, снабженный играми, картографическими материалами и необходимыми методическими рекомендациями. Цифровые образовательные ресурсы (электронные учебники, репетиторы, тренажеры, интерактивные наборы, словари, справочники) помогают учителю сделать урок интересным, а ученики успешно усваивают материал. Цифровые образовательные ресурсы можно использовать на всех уровнях образования:

- при объяснении нового материала;

- в укреплении;
- в повторении;
- в мониторинге знаний, навыков и компетенций.

На занятиях по информатике и информационным технологиям они позволяют расширить, обновить, активизировать внимание, повысить творческий потенциал личности, формы использования цифровых образовательных ресурсов. Построение схем, таблиц, презентаций позволяет сэкономить время и более эстетично оформить материал. Использование кроссвордов, иллюстраций, рисунков, ребусов, различных интересных заданий, тестов повышает интерес к уроку, делает его более интересным. Занятия по информатике и информационным технологиям требуют особого подхода. Они должны быть яркими, эмоциональными, увлекательными, с обширным визуальным материалом, с использованием видеосопровождения. Все это может обеспечить компьютерная техника с мультимедийными возможностями. Информатика и информационные технологии можно использовать для объяснения нового материала на занятиях, для закрепления знаний и для выполнения творческих заданий. Вы можете включить в презентацию все, что только можно: рисунки, диаграммы, тесты, видео и ссылки на другие цифровые учебные ресурсы. По сравнению с другими источниками изложение можно считать универсальным. Например, для объяснения нового материала можно использовать анимации и иллюстрации: эти ресурсы наглядно демонстрируют учебный материал, позволяют наблюдать за различными природными явлениями. Эти ресурсы также можно использовать для организации работы цифровых средств обучения на уроке в зависимости от цели урока. Мы показали виды цифровых образовательных ресурсов и задачи их практического применения на разных этапах урока на следующей схеме (рис. 1).

Существуют различные виды цифровых технологий в образовании, которые при правильном использовании в организации и управлении образовательным процессом обеспечивают достижение высокой эффективности. В частности, видеоматериалы являются наиболее интересным видом образовательного контента, представленного в образовательном процессе.

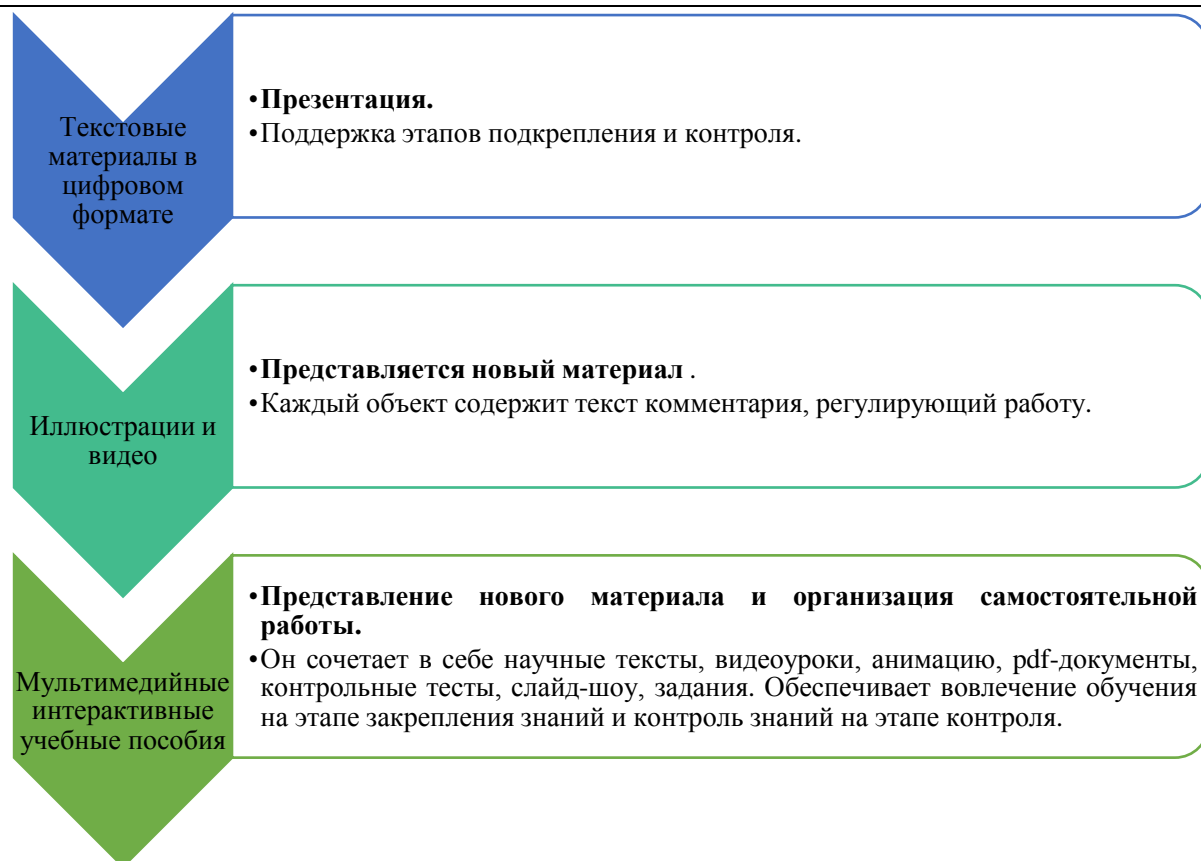


Рис. 1. Виды цифровых образовательных ресурсов и их функции.

Видеоуроки — это особый вид организации учебного процесса, заключающийся в использовании на занятиях различной видеотехники: экрана, проектора и др. Видеоуроки становятся все более популярными благодаря их высокой эффективности.

Что такое видеоурок? Видеоуроки представляют собой систему обучения в виде видео. Это одна из самых эффективных и удобных систем в современной жизни. Видеоурок — это формат дистанционного обучения, который предполагает передачу учебного материала посредством видеозаписи.

Д.А.Гатовская – «смотреть видео намного интереснее, чем сидеть с учебником и читать текст, поэтому его можно посмотреть в любое время, даже занимаясь делами, не связанными с уроком» [1].

Российские ученые Вячеслав Юрченков и Юлия Шустрова в своих исследованиях, опираясь на аналитические отчеты ATD, Harvard Business Publishing Education, Digital Information World и Kaltura, приводят эффективность видео следующим образом (рис. 2) :



Рис. 2. Эффективность видеоматериалов.

Он предлагает более широкий спектр возможностей, чем другие предметы, особенно для использования на уроках информатики и информационных технологий. Ярким примером этого является запись и использование последовательностей экранов компьютеров в качестве видеоматериала. Последовательность действий, которые должен освоить ученик, представлена на большом экране. Это требуется, чтобы студент только запоминал последовательности и повторял их при необходимости. На первый взгляд кажется, что это очень простой и легкий процесс. Однако это всего лишь использование готового видеоматериала. Но главная проблема

для преподавателя заключается в том, что он должен сначала уметь создать видеоматериал, исходя из всех требований. Создание требует хорошего программного обеспечения и компьютера, способного его использовать. Для этого существует множество разнообразных программных инструментов. В качестве нашей рекомендации можно указать программу Wondershare Filmora.

Ознакомимся с возможностями создания видеоматериалов в программе.

После запуска Filmora щелкните левой кнопкой мыши «новый проект», чтобы получить доступ

к интерфейсу редактирования и начать новый проект. Какие бы параметры вы ни выбрали в «Приступая к работе», программа откроет интерфейс редактирования:

Меню Медиа. Здесь вы найдете все свои медиафайлы, включая видеоклипы, фотографии и музыку. Оно также включает в себя текст, эффекты и многие другие ресурсы, которые вы можете использовать в своих проектах. Выбор клипов в медиатеке. Щелкните миниатюру одного медиафайла, чтобы выбрать его. Чтобы выбрать последовательность медиафайлов, щелкните первую (начальную) миниатюру, нажмите и удерживайте клавишу Shift, затем щелкните последнюю миниатюру. Добавьте видео и другие медиафайлы на свою временную шкалу:

Способ 1. Нажмите на эскиз проекта, затем перетащите его на временную шкалу с помощью мыши.

Способ 2. Щелкните правой кнопкой мыши миниатюру нужного медиафайла и выберите один из следующих вариантов:

- Вставить — добавить медиа в выбранную дорожку в рабочей области. Любой медиафайл на дорожке справа от вставленного медиафайла перемещается вправо на длину вставленного клипа.
- Перезаписать — добавьте свои медиафайлы на выбранную полосу в области воспроизведения и замените все имеющиеся здесь эффекты.
- Добавить (добавить в конец) — добавить медиа в качестве последнего фрагмента выбранного пути.
- Добавит к новой дорожке — добавить только что созданный медиа коридор без других медиа.

Применение эффектов. Возможность прикреплять фильтры и наложения еще больше расширяет ваши творческие возможности. Вы можете полностью изменить внешний вид вашего видеоматериала всего за несколько кликов. Wondershare Filmora позволяет добавлять эффекты и наложения по своему усмотрению. Есть три способа сделать это:

1. «Эффекты» в библиотеке мультимедиа, а затем выберите фильтры или наложения, которые вы хотите добавить в свой проект.
2. Наведите указатель мыши на миниатюру эффекта, который хотите использовать. Когда вы увидите значок посередине, нажмите на него, и эффект будет добавлен на временную шкалу.
3. Фильтр/наложение непосредственно на видеоклип на временной шкале с помощью мыши. Эффекты применяются ко всему видеоклипу.

Сортировать фильтры. Все фильтры и наложения отсортированы по тематическим категориям (например, Faux film или Bokeh blurs), чтобы их было легко найти. Перейдите в меню "эффекты" и посмотрите в левую часть экрана, чтобы начать их просмотр. Wondershare Filmora позволяет изменять продолжительность или прозрачность эффектов фильтра:

\* Длина по умолчанию составляет пять секунд, но вы можете переместить эффект на временной

шкале с помощью мыши, чтобы изменить его продолжительность.

\* Альфа-прозрачность может иметь значение 0-100. Более низкое значение делает фильтр более прозрачным. Дважды щелкните фильтр на шкале времени, чтобы настроить его прозрачность.

\* Щелкните правой кнопкой мыши эффект/фильтр в меню «эффект» и выберите "Добавить в избранное". Затем снова перейдите в «Избранное», чтобы быстро найти эффект.

Элементы. Элементы — это движущаяся графика, которую вы можете использовать для украшения видео. Они могут быть добавлены между вашими видеоклипами для улучшения потокового видео или повышения качества. Filmora включает более 20 бесплатных звуков. Чтобы добавить элемент в ваш проект:

- Elements и выберите элемент, который хотите добавить в свой проект.
- Приведите его к временной шкале.

Перейдите в раздел «Переходы», найдите свой любимый переход и перетащите его на временную шкалу между двумя клипами. Чтобы применить переход к отдельному видеоклипу или изображению:

\* Перетащите видеоклип или изображение на временную шкалу.

\* Откройте меню прокрутки.

\* Выберите тип перехода и перетащите его в начало или конец видеоклипа или изображения на временной шкале.

Чтобы изменить продолжительность перехода, дважды щелкните его на временной шкале, а затем введите новый термин. Вы также можете щелкнуть и перетащить вперед или назад начальную или конечную точку перехода в видеоклипе или изображении.

Экспорт видео на компьютер. Когда видео будет готово, нажмите кнопку "Экспорт" и выберите вкладку "локальный", чтобы экспортировать его на свой компьютер. Затем выберите формат экспорта. В настоящее время Filmora поддерживает следующие форматы: wmv, mp4, avi, mov, f4v, MKV, TS, 3gp, MPEG-2, webm, gif и MP3.

Цифровизация становится неотъемлемым элементом развития всех сторон жизни общества, включая систему образования. В настоящее время в условиях бурного развития информационных технологий, цифровизации технологий и всех аспектов народного хозяйства, в процессе обучения в высших учебных заведениях, независимо от их целей, возникает необходимость использования различных интерактивных средств и онлайн-ресурсов для прямого и эффективного взаимодействия существующего преподавателя и слушателей. При создании видеоуроков в этом плане правильный выбор аппаратно-программного средства, грамотное формирование учебного ресурса только при правильном его использовании на месте повысит мотивацию к учебному процессу и эффективность обучения.

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# PHILOLOGICAL SCIENCES

## TENSE SHIFTING AND NON-CONTINUOUS VERBS

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### Abstract

The article elaborates the verbs which have restrictions while being used in Continuous Form. While analyzing the topic, it turned out that the verbs that cannot be used in Progressive form undergo Tense Shifting. As-ing disappears in the verbs divided into 5 categories, tense forms shift from Continuous to Indefinite or from Perfect Continuous to Perfect. The verbs denoting the beginning of the action, the verbs denoting the continuation of the action, the verbs denoting the conclusion of the action, the verbs happening momentarily or for an instance, the verbs not depending on us mentally or physiologically don't take -ing suffix. It has been noted that the action has 3 points: beginning, continuation and conclusion. If one of these points is lacking, that verb will not take -ing. Moreover, the study revealed that the verbs should have an aim and a target in terms of being used in Progressive Tense Form. If there is a purpose or target the verb will take-ing, if there is not, it won't.

**Keywords:** tense shifting, absolute verbs, relative verbs, conclusion, continuation, beginning

We encounter some constraints while using the verbs with-ing within the tense forms. It is obvious that every verb accepts -ing as a non-finite form namely, as a Gerund and Participle I. The verbs which do not accept -ing as a finite form undergo "Tense Shifting" For example, as some verbs cannot be used in Present Continuous or Progressive tense form the form changes into Present Simple tense form. E.g

I know you now but not I am knowing you now.

There are 5 categories of verbs that are restricted to be used in Continuous forms within tense forms. These verbs have been categorized as follows [1, p.18];

1. The verbs denoting the beginning of the action: begin, start, commence, break out

2. The verbs denoting the continuation of the action: continue, last, dure

Note: go on, keep on, carry on are used in Progressive Tense forms since their roots can accept-ing.

3. The verbs denoting the conclusion of the action: end, finish, stop, terminate, stanch (blood), cease (fire), conclude

4. The verbs happening momentarily or for an instance: fall, kick, hit, break

5. The verbs not depending on us mentally or physiologically: see, hear, understand, comprehend, depend, remember, forget, notice, know, adore, abhor, detest, hate, want, prefer, suppose, hope, etc.

Note: the verbs depending on us physiologically accept -ing. It means that we can start, continue and finish the process of action at any time we want. In other words, when we can control the process of action, the verb takes -ing, when we cannot control, it does not take -ing.

These verbs are sometimes categorized as follows:

**Abstract verbs:** be, want, cost, need, care, contain, owe, exist etc

**Possession verbs:** own, belong, possess, etc.

**Emotion verbs:** like, love, hate, dislike, fear, envy, etc. [2]

Following table shows the verbs which undergo restrictions while being used with-ing.

Table I

Verbs	Present Continuous form	Past Continuous form	Present Perfect (Continuous)
I hear	restricted (I hear)	restricted (I heard)	restricted (I have heard)
I listen	I am listening	I was listening	I have been listening
I see	restricted (I see)	restricted (I saw)	restricted (I have seen)
I look at	I am looking at	I am looking at	I have been looking at

There should be target and aim in doing any action. If we don't have any purpose and target while doing an action, the verb will not accept -ing. When we say 'hear', we cannot control the process of the action here. Because we cannot start, continue or stop the process of "hear", if we are not deaf, asleep and dead. If our ears are not deaf or if we are not dead, we shall hear the voices or sounds and we cannot start, continue and conclude the process of hearing. We don't have any aim or target in hearing something. Sounds and voices may

come from anywhere. For example, we absolutely don't have any aim or target to hear the sound of car or chirrup of the sparrow.

However, in listening, we have aim and target. For example, the teacher is listening to the student. The teacher has some interests, aims in listening to the student. Since she/he is willing to ascertain whether the student is ready for the lesson. Since the teacher is going to evaluate the student for his/her answer. It means that the teacher has an aim. Moreover, the teacher is

listening to the student because the sounds or voices around are not interesting for him/her. The teacher might hear the voices and sounds around, but he/she is not listening to them. The target is only the student. So the teacher is both listening and hears the student. Two processes "listen" and "hear" are occurring simultaneously. Therefore, 'listen' accepts -ing, but 'hear' does not.

Generalizing all information given above, we can claim that "The sheep is listening to me" is logically incorrect. Since the sheep does not have the ability to listen and understand what you are saying. Besides, the sheep can not have any target or aim in listening to you. So we can only say "The sheep hears me" as the sheep does not have any consciousness.

The verbs which have some constraints in terms of being used in Continuous tense forms are divided into two groups.

1. Absolute verbs
2. Relative verbs.

Absolute verbs within the sentence as a finite form of the verb never accept-ing: want, prefer, know, notice, hear, see, etc. For instance,

I hear you know (possible)

The action has 3 points. The following table describes it:

Verb	Beginning	Continuation	Conclusion
start	+	-	-
continue	-	+	-
finish	-	-	+
break	+	-	+
know	+	+	-
write	+	+	+

If one point of the verb is absent or minus, that verb will not take -ing. If all points of the action are positive, that verb will accept-ing,

The verbs which are restricted to accept -ing undergo the following Tense Shifting:

Present Continuous → Present Simple

We are knowing you now (impossible) → We know you now (possible)

Past Continuous → Past Simple

He was hearing a sound (impossible) → He heard a sound (possible)

Present Perfect Continuous → Present Perfect

I have been wanting (impossible) → I have wanted (possible)

Past Perfect Continuous → Past Perfect

I am hearing you now (impossible)

He still prefers coffee (possible)

He is still preferring coffee (impossible)

Relative verbs may take -ing in two cases:

- a) when the verb changes its lexical meaning
- b) according to the situation

I am starting tomorrow=I am departing.

The dentist is stopping his fang=The dentist is filling his fang.

I am liking you=I come to like you gradually.

The film is ending=The film comes to an end gradually.

Think, feel, like, begin, be and others are relative verbs and they may or may not take -ing depending on the situation. For example,

Nothing is OK. What do you think? (generally)

You look sad. What are you thinking? (now)

In Raymond Murphy's book, he describes the usage of the verb "be" in Continuous form. For example,

I can't understand why he is being so selfish. (He is not usually like that.)

He never thinks about other people. He is very selfish (He is selfish generally not only now) [3, p.8].

He had been seeing (impossible) → He had seen (possible)

Future Continuous → Future Simple

He will be noticing → He will notice

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# POLITICAL SCIENCES

## PROVING THE BENEFITS OF EURO AREA MEMBERSHIP FOR THE COUNTRIES IN CENTRAL AND EASTERN EUROPE

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### Abstract

Membership in the euro area should presumably bring benefits to member countries. But these can only be proven in a comparison between countries on either side of the "currency frontier". The "Visegrad countries" - Poland, the Czech Republic, Hungary, Slovakia and Slovenia - are selected as comparable countries with similar cultural, social and economic characteristics. The combination of sociological and economic indicators should overcome the limitations of the technocratic approach. However, tracking these indicators over the period from 2009 to 2021 does not prove the advantages of euro area membership.

**Keywords:** euro area, advantages, indicators, comparison

**JEL:** F15

### Introduction

The euro area has existed since 1999. Bulgaria is obliged to join it under the EU Accession Treaty. This, however, depends on meeting pre-set requirements for financial sustainability, and government policy in this respect can, given the political will, delay the process indefinitely. Indeed, eurozone entry is a goal for most political forces in Bulgaria and hence for official policy. Support from the population, however, is hesitant. There is currently a debate about the advantages and disadvantages of Bulgaria's possible membership in the euro area. The arguments are mainly fought at the political level and there are devoid of a thorough scientific analysis. According to the official position expressed on the European Union's website, the euro area should ensure better functioning of the European economy, as well as create more jobs and greater prosperity for EU citizens. The specific benefits alternate as follows:

- Easy price comparisons between countries, which increases competition between businesses, thereby benefiting consumers;
- Price stability;
- The euro makes it easier, cheaper and safer for businesses to buy and sell in the euro area and to trade with the rest of the world;
- Increased economic stability and growth;
- Better integrated and therefore more efficient financial markets;
- Greater influence in the global economy;
- A tangible symbol of European identity<sup>2</sup>

For Bulgaria, which has been under a monetary council since 1997, some of these advantages are in place. In contrast, the debate also highlights other benefits: lower interest rates on government borrowing, increased investment, higher economic growth, lower transaction fees on imports and exports, and a better credit rating for the country.

But the objections to Bulgaria's entry into the eurozone overlook one particular risk: there is no mechanism for its exit if it turns out that the expected favourable consequences occur. While the expected benefits may be felt, the opposite is also possible. However, there is no way to revise the decision if it turns out to be wrong.

To overcome this quandary, I propose a simple and straightforward method for checking whether and to what extent the expected benefits of euro area membership actually occur. The method is based on a simple comparative analysis. It is made possible by the fact that there are EU member states that are not part of the euro area and show no intention of joining it in the foreseeable future. This suggests that the benefits are not indisputable. A comparison with similar eurozone member states over a sufficiently long period can prove or challenge the advantages that membership brings with it. More appropriate for Bulgaria is the example of the former socialist countries in Central and Eastern Europe, which had to reform to capitalism and liberal democracy on the way to joining the European Union. By the way, the result of the study may be of interest to some other EU member states, which for now remain outside the eurozone.

Another limitation: the analysis covers data up to and including 2021. Data for 2022 show a sharp change in many indicators. The consequences of the crisis events of the summer of 2021 (e.g. inflation) and the whole of 2022 (e.g. war and immigrant flow) are yet to be clarified, it remains to be seen how lasting they will be. The findings of the current study should be attributed to a relatively quiet period of development. An abrupt and sustained change in framework conditions requires another application of the method proposed here over a subsequent long period of at least ten years.

<sup>2</sup> [https://european-union.europa.eu/institutions-law-budget/euro/benefits\\_bg](https://european-union.europa.eu/institutions-law-budget/euro/benefits_bg)

## 1. Methodology

The method proposed here for assessing the implications of a country's participation/ non-participation in the euro area involves comparing key societal development indicators for a group of countries on both sides of the "currency frontier". Since, according to the theory of optimal currency areas (Mundell, 1961), positive effects occur primarily when individual economies with similar degrees of development are brought together. This implies purposive selection. To obtain more accurate results, however, comparative indicators must go beyond purely economic ones, otherwise the limitations of the technocratic approach would prevail. It is assumed that the economy serves societal development objectives and not the other way around. So the broadest social indicators have to be studied in order to fix the impact of euro area membership on overall societal progress. Each indicator has its own limitations, so combining more indicators into a common group should reduce unavoidable distortions and inaccuracies to an acceptable level.

### 1.1. Selection of indicators

The social indicators selected here are interrelated:

1. **Quality of life**, including health, education, demography, economic conditions, environmental conditions, hygienic living conditions, employment, security and the exercise of constitutional rights. This is a fairly comprehensive indicator that includes quantifiable, objective data. (The problem in the present case has been the difficulty in finding sufficient data for individual countries over the entire 12-year period.) A derivative of this indicator is the **Human Development Index** measured by the United Nations, which focuses mainly on life expectancy, educational attainment, and GDP per capita.

2. **Human Happiness Index**, measured by the World Population Review. This is a purely subjective perception that sometimes produces surprisingly high scores in societies that do not put material consumption first. Societies in the highly developed EU countries are at the top of Maslow's (1954) pyramid, in the area of 'development needs'. However, a decrease in the indicator in these countries may also indicate a decrease at the bottom of the pyramid, i.e. an increase in material hardship during economic stagnation.

3. **Demographic picture** - derived independently, this indicator alone is not sufficient for general conclusions. In general, an increase in population is associated with an increased quality of life, but a reduction can also be a positive sign - e.g. reduced demand for unskilled labour at the expense of highly skilled labour in the transition to intensive economic growth, including mechanisation of agriculture, robotization in industry, etc.

4. **Unemployment** - this is not primarily (much less solely) an economic indicator. It is a general social indicator that enters into the determination of the quality of life, it also has a direct relationship with the demographic picture. Since employment not only provides material consumption but also satisfies developmental needs (according to Maslow), its indicators fit

in several places in the overall picture, e.g. it is present in the happiness indicator.

5. **Inequality coefficient, Gini** - it is also directly related to the first two indicators and especially important in egalitarian societies with a long socialist tradition, which turn out to be the countries considered below.

**Economic indicators** - here they come, interrelated:

1. **GDP per capita** is a more important indicator, filled with more content on actual production and consumption;

2. **Government debt** is among the main indicators of financial stability. A healthy upper limit of 60% of GDP has been set for the euro area since its planning. (Let's note, by the way, that since the financial crisis the euro area has averaged about 50% above this indicator.)

3. **Inflation** is another key indicator of financial stability. Low inflation is, in fact, the sine qua non that Germany, the economic centre of the EU, set during the planning of the euro area.

4. **Trade balance**: the possibility of exchange rate changes has a direct link to it and it is important to track to what extent (non-)participation in a currency area affects foreign trade, including the redirection of trade flows;

5. For a more complete picture on the development of external economic linkages I add the **balance of payments**, with the inclusion of capital flows. It should complete the picture of overall economic development.

The idea in tracking the two sets of indicators for the period from 2009 (Slovakia's entry into the euro area) to 2021 is simple: if euro area membership brings benefits, it should be evident in the aggregate. The period covers an economic cycle that includes the acute financial crisis of 2009-2012 and the subsequent recovery period. It is sufficiently long to allow for the identification of lasting trends and gives sufficient weight to the conclusions - the effect of (not) using the common currency is traceable under both favourable and unfavourable conditions.

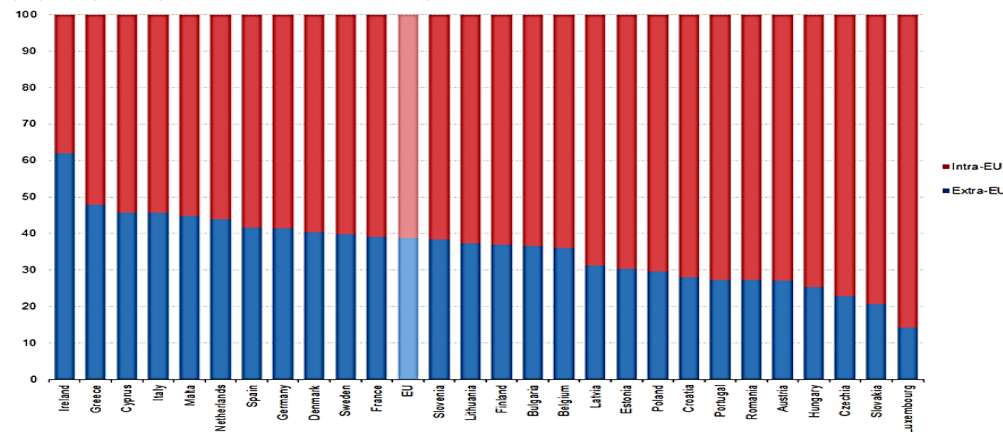
### 1.2. Selection of countries

For the purposes of this publication, five countries are included - Poland, the Czech Republic, Slovakia, Hungary ("Visegrad Group") and Slovenia. They are quite close geographically (they all border each other), culturally, with a common historical past in many respects, and with a similar degree of economic development and similar indicators at the beginning of the period under study. This allows a fair comparison having in mind justified criticism that twenty years after the introduction of the euro no real convergence has been achieved between the member states. (Carlo Klein, 2022) This includes countries entered simultaneously the European Union after a similar period of transition to capitalism and liberal democracy. According to the accession treaty, all five countries are obliged to adopt the common currency, but they have the freedom to choose when and how to meet the ex-ante requirements for financial discipline and when to apply for eurozone membership, taking into account their national interests. Slovenia has been in the euro area since 2007, Slovakia since 2009, and Hungary, the Czech Republic and

Poland do not intend to join for the time being, postponing the issue indefinitely. In early 2021, support for the euro in Polish public opinion exceeded 55% for the first time. At the same time, approval for the common currency in Hungary was 69%, but in the Czech Republic it was only 33%. The countries listed are relatively small, with populations between 2.8 and 10.7 million (Poland is an exception with 37.8 million). The size is only relevant for a very limited range of goods and services for local use, giving a small advantage in the case

of the Czech Republic and Hungary and a larger one for Poland. Their economies are therefore open: most of their external trade is in the EU's Single market. The share of this trade is between 63% for Slovenia and 80% for Slovakia. For all the selected countries, Germany is the main trading partner, with geographical proximity further facilitating trade. (The Czech Republic and Poland share a border with Germany.)

**Extra and Intra EU trade in goods, 2021**  
(imports plus exports, % share of total trade)



Source: Eurostat (Easy Comext : DS-018995)

*Figure 1: Share of merchandise trade in the EU Internal Market by country*

Source: Eurostat

All of them seek to occupy the advantageous position of semi-peripheral member states in order to maximise the benefits of their EU membership. Culturally, they are very close - they are predominantly Catholic countries, parts of the Habsburg Empire for different lengths of time, which puts its mark on the political and work ethic. Slovaks and Czechs are ethnically and linguistically very close, there is a kinship with Slovenes and Poles within the larger Slavic community. According to Minkov and Hofstede's (2007) observations, these societies are 'tribal', i.e. susceptible to corruption. They are 'egalitarian', which, among other things, precludes a willingness to submit to 'imperial institutions' in Brussels. These societies are also not described as 'compassionate', which explains the negative attitude towards cultural alien immigrants, which has been a constant problem in the EU since 2015. The socialist past retains among the majority of citizens an attachment to the welfare state model. These common

features also explain a lot of common political positions.

Attitudes towards European integration for these countries are a matter of civilisational belonging and EU membership is invariably highly supported. However, the Visegrad countries have shown signs of Euroscepticism. These are linked to the protection of national interests and a reluctance to fully surrender sovereignty to the supranational institutions of the Union. In conservative Catholic societies, there is a cultural resistance to the markedly extreme liberal ideology in Western Europe. This resistance is most pronounced and enduring, including at the political level, in Poland and Hungary. They do not accept integration in its entirety and rule out the its development of unification towards a federal superstate. However, their position as net beneficiaries of the common budget of the Union does not allow for the consideration of exit options.



Figure 2: Net financial contribution to the EU by country

Source: European Commission, <https://www.statista.com/chart/18794/net-contributors-to-eu-budget/>

The economic positions and respective interests of the five countries are similar, especially in the case of the Visegrad Four, but the expectations for it to take shape institutionally and to consistently defend common positions within the EU are not yet coming true. There is an idea that Slovenia should be invited into the Group, but so far this is not happening either. In any case, the commonalities between the selected five countries are too many and make them a suitable subject for comparative analysis.

## 2. Results and reading

The results for the period 2009-2021 shown in the following tables establish the following:

The populations of all 5 countries considered show stagnation - slight growth in Slovakia and Slovenia or slight decline in Poland and Hungary. In 12 years of membership, emigration to more developed EU countries has been successfully curbed, while immigration, especially from non-EU countries, is not encouraged in any way. Net migration is highest in 2021 in the Czech

Republic at 0.5%, followed by Slovenia at 0.3. For the remaining countries, the indicators are even closer to 0. Immigration has a direct relationship with quality of life, which is relatively high in the Czech Republic and Slovenia and sufficiently high in the others, with the differences not significant. The "happiness" indicators are close, with an overall slight improvement. There is not much difference in the Gini coefficient, with slight fluctuations in both directions. The coefficient for all is relatively low and guarantees social stability. Overall, fluctuations are within a narrow range. For the period under review, unemployment shows a positive trend, with only Slovakia remaining above the accepted healthy ceiling of 6%. In the Human Development Index, all countries deteriorated, with the exception of Poland, but remained in the group of highly developed countries. The most serious regression is in Hungary and Slovakia. From the overall review of the indicators, no conclusion can be drawn about a noticeable advantage of the euro area member states over the others.

Table 1

**Comparative social indicators 2000-2020**

	Population, million	HDI, place	Unemployment	Coefficient Gini	Happiness, 2013-2021	Quality of life by 2022, №
Poland	38,2 – 37,8*	36 - 34	8,2 - 3,4	31,4 – 26,8	5,8 – 6,1	40
Czech Republic	10,5 - 10,5	28 - 32	6,7 – 2,9	26,2 - 24,8	6,3 - 7	21
Hungary	10 - 9,7	36 - 47	10 – 4,1	24,7 – 27,6	4,8 – 6,1	39
Slovakia	5,38 - 5,4	40 - 45	12 - 6,7	24,8 - 21	6 – 6,4	32
Slovenia	2 – 2,1	22 - 23	5,9 – 4,4	22,7 - 23	6 – 6,6	18

\* Red colour indicates improvement of the indicator, blue - deterioration. In grey are the euro area countries.

Source: own development, data from <https://www.macrotrends.net/countries/>, <https://fred.stlouisfed.org/series/SIPOVGINIDNK>, <https://worldpopulationreview.com/country-rankings/happiest-countries-in-the-world>, World Population Review, <https://countryeconomy.com/hdi?year=2009>, <https://www.statista.com/statistics/263705/>, <https://countryeconomy.com/demography/gini-index/>, <https://countryeconomy.com/demography/world-happiness-index/poland>

In the economic indicators, the movement of GDP over the period shows almost complete synchrony. The fluctuations since the onset of the 2008 global economic crisis have been very similar.

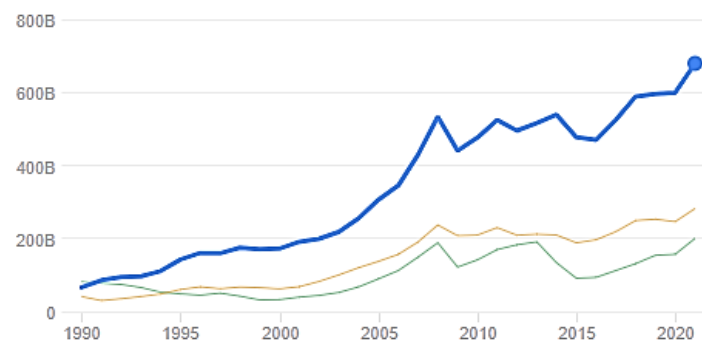
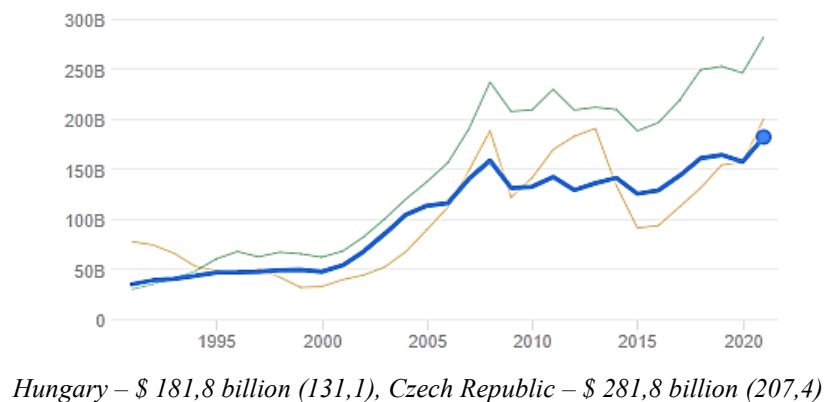
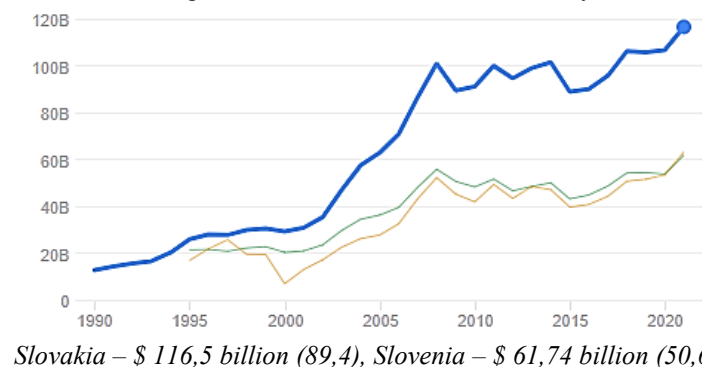


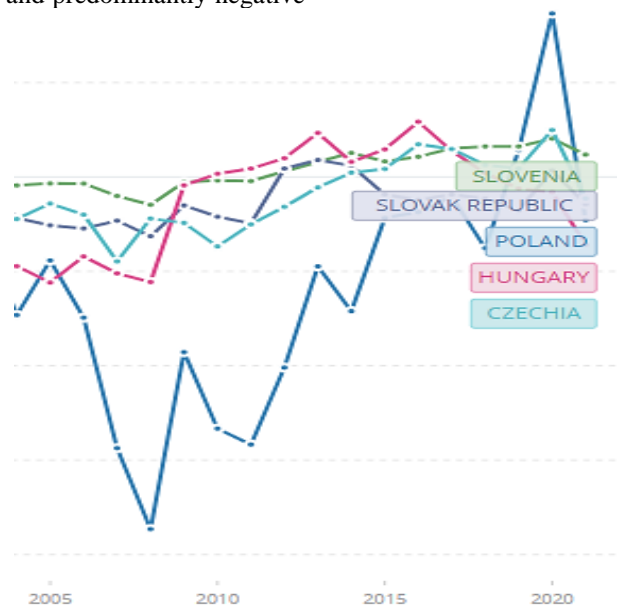
Figure 3: GDP growth of the selected countries

Poland – 679,4 млрд.\$ (439,7), Czech Republic

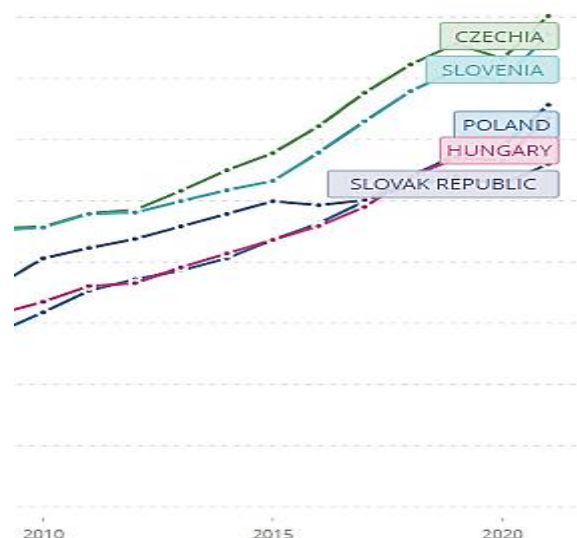
Source: <https://www.google.com/search>, data from World Bank

The increase in GDP per capita (purchasing power parity) is between 1.5 and 2 times, with the Czech Republic performing best and Slovakia performing worst. Adjusting for inflation does not change the picture - the inflation rate for the whole group of countries is low, averaging between 2% and 3.3% per year, highest in Hungary. The trade balance for the period is generally positive - strong growth for Poland, persistently high for the Czech Republic, positive with a maximum towards 2015-2016 and weak indicators at the beginning and end of the period for the other countries. Slovakia has the worst performance, including negative indicators at the beginning and end of the period. In combination, the balance of payments favours Slovenia with the best indicators over the period. In the overall similar picture, Poland stands out with its sharp fluctuations and predominantly negative

values. Data on government external debt as a share of GDP give an advantage to Poland and the Czech Republic, which remain below the 60% ceiling allowed by the Maastricht criteria for financial discipline. For Hungary, debt is persistently higher, at around 70-74%, but lower compared with the Eurozone average. At the end of the period under review, Slovakia exceeds this indicator by a small margin, while for Slovenia the indicator deteriorates sharply towards the middle of the period and remains above 74% at the end. Euro area membership does not promote financial discipline in this case, rather the opposite. The case of Slovakia confirms the observation (albeit weaker) that sovereign countries in the euro area tend to issue debt in a currency (euro) over which they have no control (De Grauwe, 2021).



Source: Figure 4: Balance of payments, [https://data.worldbank.org/indicator/BN.CAB.XOKA.CD?locations=PL-SI-SK-HU-CZ&name\\_desc=true](https://data.worldbank.org/indicator/BN.CAB.XOKA.CD?locations=PL-SI-SK-HU-CZ&name_desc=true)



[https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?locations=PL-CZ-SK-HU-SI&name\\_desc=true](https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?locations=PL-CZ-SK-HU-SI&name_desc=true)  
Source: Figure 5: GDP growth, per capita, PPP,

Table 2

## Comparative economic indicators 2000-2021

	GDP growth, per capita, PPP, \$	Inflation	Trade balance, \$ billion	Balance of payments, \$ billion	Sovereign debt, % of GDP
Poland	19 239 – 37 836 (x 1,96)	5 – -1 – 5, average 2,5	-4,3 – 28,3	- 18,56 – 17,3 – -4,6	50 – 45,6 – 57
Czech Republic	27 761 – 59 324 (x 2,13)	0 – 5, average 2,5	8,1 – 16,8 – 8,6 (...)	-4,9 – 3,46 – -2,3	33,4 – 42 – 30
Hungary	20 729 – 36 752 (x 1,77)	3 – -1 – 5, average 3,3	4,5 – 10,8 – 1,4 (...)	-0,9 – 5,85 – -7,2	75 – 65,5 – 76,8
Slovakia	23 080 – 33 010 (x 1,43)	2 – -1 – 5, average 2,5	-0,15 – 5,5 – -0,74	-3 – 1,8 – -2,9	36,4 – 55 – 63
Slovenia	27 537 – 43 602 (x 1,58)	-1 – 3 – -1, average 2	0,7 – 4,9 – 3,3	-0,5 – 4,6 – 2,37	34,5 – 82,6 – 74,7

Source: own development, data from IMF, <https://www.macrotrends.net/countries/BEL/poland/trade-balance-deficit>, <https://tradingeconomics.com/hungary/inflation-cpi>\*, <https://tradingeconomics.com/hungary/government-debt-to-gdp>, <https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?locations=BE>

### Conclusion

Summing up the results of the social and economic indicators, we find the following: for the whole period under study, the overall progress of the Czech Republic and Slovenia is the most remarkable. Poland has better macroeconomic indicators than Slovakia and Hungary, but this does not give it a perceptible advantage in overall human development indicators. Hungary is slightly behind compared to the whole top five. Overall, the performance of the countries under consideration remains similar throughout the period under review, and the group as a whole shows a loss of ground compared to the more developed countries, both in the EU and in the world as a whole.

The important conclusion is: **euro area membership does NOT affect development in the period 2009-2021**. Non-participation does not prevent the successful development of the Czech Republic and Poland. Participation in the euro area does not help Slovakia to perform better in the period studied, while Slovenia simply maintains an initial higher level. There is no evidence that the single currency helps any of the countries under study to gain a distinct advantage over their

close neighbours, which hold on to their national currencies. Clearly, the factors for successful development are different. The eurozone shows no measurable impact on increasing economic stability and growth - the important advantages to be measured and highlighted by the official position expressed on the European Union's website.

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# VETERINARY SCIENCES

## CLINICAL AND LABORATORY EVALUATIONS IN CRYPTOSPORIDIOSIS IN CALVES

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### Abstract

This study took place from March to May 2019 and was conducted in the Farm 1 of Research and Development Institute for Cattle Balotești , Ilfov County. The aim was to establish guide values about incidence of cryptosporidiosis using speed tests (Rainbow Calf Scour 4) and parasitological exams : Ziehl – Nielsen staining, Anderson flotation method, zinc sulphate flotation associate with clinical signs.

From 10 calves, on coproparasitological exams using Ziehl – Nielsen staining from feces , was tested positive 2 calves by *Cryptosporidium* oocyst identification. On coproparasitological exams using zinc sulphate flotation was identificate *Eimeria unsporulate* oocyst and by speed tests (Rainbow Calf Scour 4) was detected one infection with coronavirus. Clinical signs was: diaorhea with yellow- green feces, tenesmus, cramps, loss of appetite, fever.

**Keywords:** cryptosporidiosis, calves, imunocromatography test Ziehl – Nielsen staining

Cryptosporidiosis, neonatal opportunistic sporozoonosis, extends across the globe either under clinically , inapparent or sporadic forms or epidemic episodes in both human and animals. Following epidemiological investigations, cryptosporidiosis have been identified in sick animals and in the the clinically healthy ones from Scandinavia to Australia, the US and Europe to Japan, which shows the worldwide evolving character (Dărăbuș,,1996,2001). The various morphological , biological and genetic features differentiating species of *Cryptosporidium* from others is a major problem for practicing veterinarians and physicians in human medicine directly involved in the control of this morbid entity, in understanding the way in which the *Cryptosporidium* infection is transmitted . Also, a lot of studies reveal that, by means of routine clinical or microscopic examination, *Cryptosporidium* species involved in the infection cannot be exactly defined (Dărăbuș,,1997) . A study conducted in Romania upon 2802 cattle indicated that the most responsive age to Cryptosporidiosis is between 8-14 days. Significant differences were observed ( $p < 0.001$ ) between infection at this age and other categories taken into account (Dărăbuș ., 2001) . The incidence of infection decreases with age , so positive calves were not detected between the ages of six and twelve months. This decrease in infection extensity can be explained partly on account of age resistance and partly by the immunity gained from repeated contact with the parasite . The presence of a relatively high extensity (8.6%) of infection in cattle over the age of 3 years is probably due to the fact that this category was made up of newly calved cows exclusively (Akam, Dand colab.2001)

### MATERIALS AND METHODS

The study took place from March 10 to May 4, 2019 and was conducted within Farm 1 at Research and Development Institute for Cattle in Balotești village , county of Ilfov , Romania on a total of 42 cattle aged 0-6 months . 10 calves were part of the study (6 males and 4 females), aged between 5 days to 4 weeks, 3 being raised in maternity and 7 in berth breeding system

#### Clinical examination

Serological by immunochromatography lateral flow - Quick Test Rainbow Calf Scour 4

#### Coproparasitological exams

#### Quick Test Rainbow Calf Scour 4

This test is composed of five devices each of them containing four strips (red -rotavirus, yellow-coronavirus , blue-e. Coli F5 (K99) and green- *Cryptosporidium parvum*) and five tubes with reagent and faeces sampling device. (Peeters, J., Villarcota, 2008)

#### PROCEDURE

1 - Take feces directly from the anus (if the feces are liquid will take a spatula full, (**Fig.1**).

2 – Homogenize feces and reagent in the tube and after homogenizing slightly flick the tube against a hard surface so that the liquid is collected at the bottom (**Fig. 2**)

3 – Remove the device from drying tube strips and the reagent tube is inserted therein (**Fig.3**).

4- Screw the cap with strips until you hear two clicks, which indicates piercing the septa of the reagent tube; then leave the device on a flat surface and wait for 10 minutes. The liquid in the tube will migrate to reactive strips (**Fig. 4**)

5 -After 10 minutes read results (Fig.5,6).



Fig.1 Sampling faeces



Fig.2 Reagent homogenization



Fig.3 Strip contact



Fig.4 Strip contact II



Fig.5 Reading results

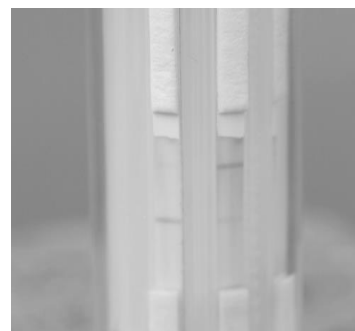


Fig.6 Interpretation of results

#### Ziehl Neelsen method

Feces smears are fixed with methanol or ethanol for 5 minutes. After removal of the alcohol and air drying, staining with Fuxin fennel (Fuxin Ziehl) for one hour. Stained preparations will be washed in tap water and then differentiated into a 2% solution of sulfuric acid for 20 seconds, stirring the slides continuously. After washing in tap water the slides will be stained for 5 minutes with 5% solution of malachite green. Rinse again in water, dried in air and examine x40 or x100 objective with immersion.

Cryptosporidiosis appear as spherical or ovoid formation of 4-6 microns, in vivid red color on a green bluish background. Their cytoplasm is granular, with a center often clearer and containing 0-6 sporozoites. By this technique, other non-acid-fast elements from feces are stained by passing through sulfuric acid and then colored green due to counterstaining. Cells, bacteria and yeasts thus appear green, easily differentiating from Cryptosporidiosis. However, sometimes parasitic elements that do not stain or appear pink may occur, having the same shape and size with bright coloured oocysts. Other coccidia are also stained in vivid red colour, but they are larger. Moreover, there are also traces that appear to be round where oocysts have been placed (Kehl KS, 1995).

#### Flotation methods

##### Sheather's sucrose method

Faeces are homogenized with 2 ml formalin, filtered through cheesecloth and put it in a conical centrifuge. Sheather solution is added (500 g of sucrose were dissolved in 320 ml of distilled water containing 6.5 g phenol melted in water bath) until the centrifuge cup is full. Centrifugation is performed at 500 revolutions / min., for 15 minutes. It is a fast, sensitive method and it is recommended for screening.

##### Anderson's sucrose method

1-5 g feces are mixed by 10-15 ml of water. Mix well and filtered through six layers of cheesecloth. The

filtrate is centrifuged 10 min at 500 rev / min. The deposit obtained is stirred with 10 ml of saturated sucrose solution after the formulations given below. Centrifuge again at 500 rev / min., for 10 minutes. The liquid from the surface of the centrifuged tube will be taken with a platinum loop, 4-7 micrometers in diameter and examined between microscope slides with x40 and x100 objectives immersion. Sucrose solution density is between 1.27 and 1.29. You can use two types of solutions of sucrose Sheather: -1500 G sucrose + 320 ml distilled water + 6.5 g of phenol;

Cryptosporidiosis oocysts appear as round microorganisms with a diameter of 5-6 micrometres fine-grained, with a prominent black spot (residual body). Intrinsic color ranging from pink to blue gray in light microscopy. Reading the slides should be made so as not to take more than one hour from execution as it destroys oocysts. Sucrose flotation, before staining methods, has the advantage that by concentrating parasitic elements makes it possible diagnosis of cryptosporidiosis, even in cases of poor infection. Cryptosporidiosis is recognized based on size, shape, colour and the presence of internal structures. Due to its complexity this method lends itself especially to confirm the diagnosis in doubtful evidence. It is not recommended for routine diagnosis. The effectiveness of the method has proven to be 100% in the diagnosis of cryptosporidiosis in fecal samples obtained from calves.

## RESULTS AND DISCUSSIONS

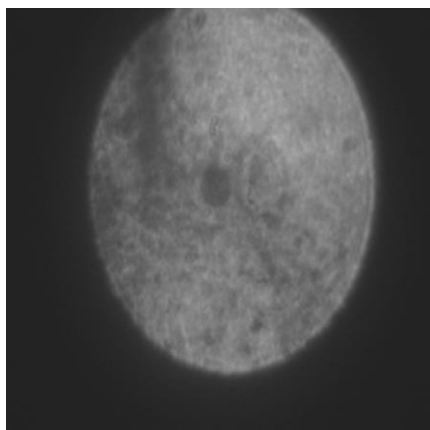
Of the total of 10 calves in the study, a number of 2 heads (20%) were identified with Cryptosporidiosis, by coprological examination. The 10 samples collected were examined by two sucrose flotation techniques (Sheather and Anderson) and by staining Ziehl-Neelsen method. In a single sample *Cryptosporidium* oocysts were revealed by all the three methods, in the other one the method Sheather being negative. (Table 1)

Coproparasitological methods used in examination

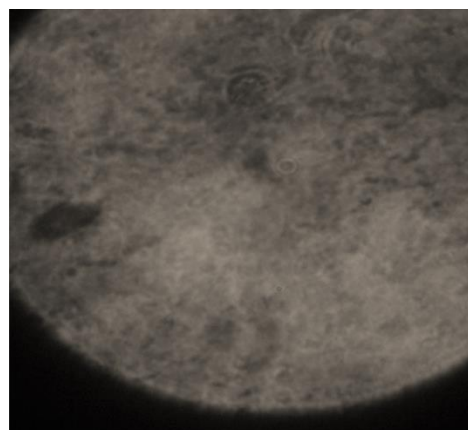
Metode	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>4</sub>	P <sub>5</sub>	P <sub>6</sub>	P <sub>7</sub>	P <sub>8</sub>	P <sub>9</sub>	P <sub>10</sub>
Feces smear Ziehl-Neelsen stain	negativ	pozitiv	negativ	negativ	pozitiv	negativ	negativ	negativ	negativ	negativ
Sheather flotation	negativ	negativ	negativ	negativ	pozitiv	negativ	negativ	negativ	negativ	negativ
Anderson flotation	negativ	pozitiv	negativ	negativ	pozitiv	negativ	negativ	negativ	negativ	negativ

In Ziehl-Neelsen staining oocysts appear red, with various intensities, with the property of being acid-resistant which means they retain Fuxin Ziehl and after contact with the acid-alcohol solution they appear evident as compared to the blue or green background (Figure 7). Their size is 4-6 micrometres, egg-shaped, in

which there constantly can be distinguished sporozoites, six in number arranged semicircular. In the samples examined their presence was not significant (Figure 8



**Fig.7** *Cryptosporidium*- oocyst  
(Ziehl-Neelsen staine)



**Fig.8** *Cryptosporidium*- oocyst  
(Sheather method )

Serological quick test "Rainbow Calf Scour 4" positively identified one case, a calf aged 7 days, in maternity, that also presented positive reaction to Coronavirus infection. *Cryptosporidium* oocysts were detected by all three coproparasitological methods.

The usual flotation tests and McMaster method also identified *Eimeria* infections but only in individuals negative for *Cryptosporidium* tests

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**DIETARY SUPPLEMENTS MADE FROM MIXTURE OF MICROORGANISMS****Boranbayeva G.,***PhD student***Abzhalelov A.,***Doctor of Biological Sciences***Temirkhanov A.,***Candidate of Agricultural Sciences***Tekebayeva Zh.***PhD student**Eurasian National University, Astana, Kazakhstan*<https://doi.org/10.5281/zenodo.7584591>**Abstract**

Live bacteria known as probiotics can help the host's health when given in sufficient doses. The use of probiotics in chicken has expanded gradually over the years due to higher demand for antibiotic-free poultry. This systematic study aims to summarize and assess the effects of probiotics on the digestion, immunology, and growth and laying performance, gut histomorphology, and gut microbiota of chicken. An electronic search was conducted using relevant keywords to include literature pertaining to the topic. Under the current commercial production conditions, the performance and gut health of chicken were critically evaluated for 17 regularly used probiotic species. According to the findings, probiotic supplementation may have the following effects: 1. Altering the gut microbiota, 2. Promoting.

**Keywords:** probiotics, microorganisms, poultry, dietary supplements, bacteria, microbiota, strain.

**Introduction**

Since more than 50 years ago, antibiotics have been used to preserve animal health, foster growth, and increase productivity. However, experts began to express alarm about the emergence of bacteria resistant to the medicines streptomycin and tetracycline, which were used in turkeys and broilers, respectively, as early as the 1950s. These results paved the way for agricultural authorities to enact stronger regulatory restrictions on the use of antibiotics in chicken feeds. Live microorganisms called probiotics are added to animal feed as supplements or as feed additives. Probiotics, also referred to as direct-fed microorganisms, are beneficial to the host and work primarily via influencing the animal's gastrointestinal tract (GIT). Through improvements to gut health and nutrient utilization, probiotic supplementation in the food can enhance animal health and performance. Probiotic supplementation, for instance, has been shown to help farm animals by improving their immune systems, altering their structural makeup, and producing more cytokines, which protect the intestinal mucosa from pathogens. Popular in the business, *Bacillus subtilis* has been demonstrated to increase intestinal villus height [1]. The digestion and absorption of nutrients can be improved by raising the villus height and crypt structure in the GIT. Important defenses against harmful microorganisms and cellular homeostasis are maintained by tight junctions. In the chicken sector, heat stress can be a significant environmental concern. The bird's internal core temperature fluctuates beyond what is comfortable under heat stress. Through behavioral and physiological adaption processes, poultry will try to balance its heat production and dissipation in order to overcome such obstacles.

The purpose of the work: **to show the importance of increasing the quality of poultry meat, to reach the peak of meat productivity in a short time, and to cause a decrease in poultry waste by actively feeding probiotic biological products in poultry farming.**

Due to their wide range of positive effects, such as fostering growth and production, enhancing immunity, and protecting health, feed additives and nutritional supplements are becoming more and more important in the poultry industry as well as in healthcare systems. Moreover, non-nutritional variables such as sanitation, processing of feed components, ambient temperature, animal health and genetic composition have an influence on animal performance. Nowadays, it is of great importance to develop sets of veterinary measures aimed at increasing the life span and productivity of birds through the targeted use of pharmacological, environmentally friendly drugs and biologically active substances.

**Main body**

Probiotics are live microorganisms introduced into animal diets as feed additives. Adding probiotics to the diet improves bird health and performance by contributing to gut health and nutrient utilization. For example, it has been proven that probiotic supplements are beneficial to farm animals in terms of immunomodulation, structural modulation, and have a positive effect on the intestinal mucosa against pathogens [2].

Traditionally, dry food without microorganisms is used for feeding. The use of microorganisms with the necessary properties in obtaining live bio-food is of great practical importance. Introducing new types of biofeeds into production using microorganisms

(probiotics) is currently important for the development of poultry farming in Kazakhstan.

In the course of comparative work with chickens of the control group, it was found that vitamin E affects the immune organs of birds, increases the mass and size of internal organs, increases the strength of cells in the blood body [3].

Administration of succinic acid to the organism in poultry farming helps to increase the resistance of the organism, the bactericidal and lysozyme activity of blood serum by 10.4% and 18.2%, stimulates embryonic and postembryonic development, and increases the incubation capacity of chickens by 10% [3].

Preparations of succinic acid are commercially available and available on sale - "Yantavit", "Yantarin", "Yantarin Formula 2", "Vitar-S" preparations are vitamin complexes considered as biologically active supplements (BAS) for poultry.

Minerals are part of complex organic compounds that perform various physiological and metabolic functions in the body. Animals take them with food and partly with water. Deficiency or excess of some elements in feed leads to a decrease in productivity and fertility, worsens feed utilization, causes various diseases [4-7].

Feed additives for birds can be purchased at any specialized store. However, most chicken and chicken producers use them cautiously to feed poultry. But experts conclude that it is possible and necessary to introduce them into the diet of birds. In addition, food should be balanced in terms of proteins, fats, and carbohydrates. It should also contain a sufficient amount of vitamins and trace elements, because their lack, unfortunately, leads to a number of serious diseases of birds.

The daily ration of chickens should include grain, bran, dry grass, juicy feed, bone meal, and dry protein feed. All components should be given in a certain proportion in the diet. Even when the required level of balance is reached, it is very difficult to provide chickens with all the necessary amino acids, vitamins, and minerals. This applies especially to the spring-winter period. In addition, the introduction of expensive products into the diet significantly increases the cost of chicken meat and eggs. It is for these reasons that poultry farmers now prefer to actively introduce feed additives into the daily menu of birds [8-11].

Early feed availability in starter diets for chickens was studied by us during 30 days after they were born. We discovered that broilers' growth performance can be improved by early feeding. Concepts for hatching, such on-farm hatching, offer a chance to give freshly hatched birds the best nourishment possible, supporting their growth and the formation of a healthy gut.

The projected results from adding brown algae to one of the diets to improve growth performance, organ development, gut microbiome, and vaccine-induced antibody responses were not achieved [12].

#### Materials and methodology.

The experiment was held in Astana, in the Laboratory of "Republican Collection of Microorganisms".

There were used several methods such as microbiology, molecular-biology and biotechnology.

Screening of cultures of micro-organisms, which are of the greatest industrial value as a probiotic supplement to feed, was carried out.

To accomplish this task, lactic acid bacteria (LAB) with a confirmed genetic identification based on the analysis of the 16S RNA gene were requested from the collection of the Biobank of Industrial Microorganisms of "the Republican Collection of Microorganisms". Biobank provided 27 LAB cultures.

For the primary screening, viability values (VVS) of LAB cultures were assessed using the Miles&Misra method. This indicator is important, since one of the requirements for probiotics is stable growth in sufficient cell titers. An estimate of the maximum GSP for selection among crops was given. The optimal figures for the selection of probiotic microorganisms is the GSP index of 107 CFU/ml or more.

As a result of the primary screening, 7 collection strains of bacteria of the genus *Lactobacillus*, *Pediococcus*, *Lactococcus* and yeast of the genus *Saccharomyces* were taken for further work with a preliminary assessment of the GSP numbers, which amounted to 106-107.

Studies have been carried out, including the study of the cultural, biochemical and physiological properties of selected strains of microorganisms as probiotics:

**The study of morphology and tinctorial properties of cultures.** Light immersion microscopy of LSD was performed at x100 magnification (Micros, Austria). Gram staining showed the presence of Gram-positive short and long rods, as well as non-spore-forming coccoid bacteria with negative growth on meat-peptone agar. The microscopic picture of the smears is shown in Table 1. Testing of isolated LAB isolates for catalase and oxidase activity showed a negative reaction.

**Study of the cultural properties of the strain.** The cultural properties of microorganisms are determined by inoculation on liquid, semi-liquid and solid media. On liquid media, the degree and nature of turbidity of the broth, the size, shape and consistency of the precipitate, the presence or absence of a film on the surface of the medium are taken into account.

For the cultivation of cultures of lactobacilli used enriched media MPC-1 broth manufactured by HiMedia Laboratories Pvt. Ltd. (India) and MPC-4 dense media manufactured by HiMedia Laboratories Pvt. Ltd. (India). The cultural characteristics of LAB were exactly homogeneous colonies of white or whitish-milky color, with smooth edges and a convex surface, with a sour-milk smell and are presented in Table 1.

Bacteria showed growth both on liquid and solid nutrient media. The grown colonies were sifted into test tubes with MPC-agar nutrient medium and incubated at optimal temperatures for 48 hours for storage.

All LAB cultures were cryopreserved at -80°C in a protective medium containing 70% nutrient medium, 20% glycerol, and 10% sucrose.

**Study of the physiological and biochemical properties of the strain.** The study of the ability of

bacteria to ferment carbohydrates is used for the identification and differential diagnosis of microorganisms. The *saccharolytic* activity of the strains was studied using carbohydrate disks manufactured by HiMedia Laboratories Pvt. Ltd. (India) DD013-1VL Sucrose, DD002-1VL Glucose, DD005-1VL Maltose, DD007-1VL Mannose, DD010-1VL Rhamnose, DD001-1VL Arabinose, DD014-1VL Xylose, DD029-1VL Raffinose, DD030-1VL Melibiose Lact, DD004 designed to differentiate microorganisms, according to their ability to ferment carbohydrates.

The proposed production strain must fully comply with the properties of the type strains of the species according to the modern classification of the Bergey Bacteria Key.

One of the important factors in screening for probiotic preparations is antagonism to various pathogenic and opportunistic microorganisms [13-14].

In our studies, antagonistic activity was studied against such test strains as *Staphylococcus aureus* ATCC 6538 B-RKM 0470, *Escherichia coli* ATCC 25922B-RKM 0447, *Enterococcus faecium*, *Salmonella enteritidis* B-RKM 0680 from the collection of the Biobank of Industrial Microorganisms of the Republican Collection microorganisms.

The study of antagonistic activity was perforated by the method of diffusion into agar [15]; for this, a suspension of cells of daily cultures of LAB is prepared in an amount of 1 mld / 1 ml (according to the standard of bacterial turbidity) and applied to the surface of the dish with the medium. Next, wells with a top diameter of 10 mm are cut out and filled with cultures of test strains (0.1 ml). A day later, the diameter of the zone of absence of bacterial growth is measured.

The results of the antagonistic activity of the studied objects are presented in Table 1, low activity - 1.0-4.9 mm, medium - 5.0-8.9, high - more than 9 mm. The inactive group included cultures that did not suppress test strains.

Most of the cultures showed a high value of antagonistic activity to the pathogens *Enterococcus faecium* and *Salmonella enteritidis*: the width of the zones of growth inhibition exceeded 9 mm. Only *Pediococcus pentosaceus* F-1 B-RKM showed a high degree of antagonism to all test strains. The strain *Saccharomyces cerevisiae* 6A-K25 B-RKM 0098 was the weakest antagonist.

Studies have been carried out, including the study of the cultural, biochemical and physiological properties of selected strains of microorganisms as probiotics.

### **Study of morphology and tinctorial properties of cultures.**

Light immersion microscopy of LSD was performed at x100 magnification (Micros, Austria). Gram staining showed the presence of Gram-positive short and long rods, as well as non-spore forming *coccoid* bacteria with negative growth on meat-peptone agar. The microscopic picture of the smears is shown in Table 2. Testing of isolated LAB isolates for catalase and oxidase activity showed a negative reaction.

### **Study of the cultural properties of the strain.**

The cultural properties of microorganisms are determined by sowing them on liquid, semi-liquid and solid media. On liquid media, the degree and nature of turbidity of the broth, the size, shape and consistency of the precipitate, the presence or absence of a film on the surface of the medium are taken into account.

For the cultivation of cultures of *Lactobacilli* used enriched media MPC-1 broth manufactured by HiMedia Laboratories Pvt. Ltd. (India) and MPC-4 dense media manufactured by HiMedia Laboratories Pvt. Ltd. (India). The cultural characteristics of LAB were exactly homogeneous colonies of white or whitish-milky color, with smooth edges and a convex surface, with a sour-milk smell and are presented in Table 3.

Bacteria showed growth both on liquid and solid nutrient media. The grown colonies were sifted into test tubes with MPC-agar nutrient medium and incubated at optimal temperatures for 48 hours for storage.

All LAB cultures were cryopreserved at -80°C in a protective medium containing 70% nutrient medium, 20% glycerol, and 10% sucrose.

### **Study of the physiological and biochemical properties of the strain.**

The study of the ability of bacteria to ferment carbohydrates is used for the identification and differential diagnosis of microorganisms. The *saccharolytic* activity of the strains was studied using carbohydrate disks manufactured by HiMedia Laboratories Pvt. Ltd. (India) DD013-1VL Sucrose, DD002-1VL Glucose, DD005-1VL Maltose, DD007-1VL Mannose, DD010-1VL Rhamnose, DD001-1VL Arabinose, DD014-1VL Xylose, DD029-1VL Raffinose, DD030-1VL Melibiose Lact, DD004 intended for the differentiation of microorganisms, according to their ability to ferment carbohydrates (Table 2).

The proposed production strain must fully correspond in these properties to the type strains of the species according to the modern classification of Bergey's Bacterial Key [16]. Strains with unclear characteristics cannot be recommended as probiotics.

Table 1.

## Cultural-morphological and physiological properties of selected strains

№	Name of strain	Cultural-morphological properties		Physiological properties
		On a liquid medium	On a solid medium	
1.	B-RKM 0357 <i>Lactococcus lactis</i> L 18	strong, whitish-milky color	Gram+ cocci are grouped in pairs and short chains, forming white, convex colonies with smooth edges.	pH 6.3 - 6.9 Optimum growth temperature 30 °C;
2.	B-RKM 0358 <i>Lactococcus lactis</i> L 6	Strong, whitish-milky color	Gram + cocci are grouped in pairs and short chains, convex colonies with smooth edges.	pH 6.3 - 6.9 Optimum growth temperature 30 °C;
3.	B-RKM 0042 <i>Lactococcus lactis</i> subsp. <i>lactis</i> TG-1/TMa/	Strong, whitish-milky color	Gram-positive rods arranged in chains and clusters The colonies are superficial, smooth, round in shape, white in color, the consistency is soft, the edges are even, the borders are clear, some merge, small sizes.	pH6.3 - 6.9, Optimum growth temperature 30 °C;
4.	B-RKM 0044 <i>Lactococcus delbrueckii</i> subsp. <i>lactis</i> CT-1/KRMa/	Strong, whitish-milky color	Gram-positive rods arranged in chains and clusters The colonies are superficial, smooth, round in shape, white in color, the consistency is soft, the edges are even, the borders are clear, some merge, small sizes	pH.4–4.6 Optimum growth temperature 40-44 °C
5.	B-RKM 0348 <i>Lactobacillus brevis</i> L 9	Strong, whitish-milky color	Gram-positive rods arranged in chains and clusters. The colonies are superficial, smooth, round in shape, white in color, the consistency is soft, the edges are even, the borders are clear, some merge, small sizes.	pH 4.5 Optimum growth temperature 30°C
6.	B-RKM 0098 <i>Saccharomyces cerevisiae</i> 6A-K25	Strong, whitish-milky color	Gram+, uniform oval individual cells, 5-9 µm in size, with a thick cell wall. Colonies are white-cream in color, round, shiny, convex, dome-shaped, diameter 1-3 mm, smooth edges, smooth surface, dense consistency	pH 5.0 Optimum growth temperature 29°C
7.	B-RKM 0935 <i>Pediococcus pentosaceus</i> F-1	Strong, whitish-milky color	Gram + cocci, milky colonies, shiny, round, opaque, smooth edges, diameter 0.5-1.5 mm.	pH 6.0–6.5 Optimum growth temperature 37°C

Table 2.

## Saccharolytic activity of strains

Name os strain	Glucose	Lactose	Galose	Fructose	Arabinose	Ribose	Melibiose	Raffinose	Maltose	Sucrose	Xylose	Rhamnoza	Mannose	Catalase	oxidase
B-RKM 0348	+	-	-	+	+	+	+	+	+	+	+	+	+	-	-
B-RKM 0357	+	+	-	+	+	+	+	+	+	+	-	-	+	-	-
B-RKM 0358	+	+	-	+	+	+	+	+	+	+	-	-	+	-	-
B-RKM 0042	+	+	+	+	+	+	+	-	+	+	-	-	+	-	-
B-RKM 0044	+	+	+	+	+	+	+	-	+	+	-	-	+	-	-
B-RKM 0098	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-
B-RKM 0935	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-

One of the important factors in screening for probiotic preparations is antagonism to various pathogenic and opportunistic microorganisms.

In our studies, antagonistic activity was studied against such test strains as *Staphylococcus aureus* ATCC 6538 B-RKM 0470, *Escherichia coli* ATCC 25922 B-RKM 0447, *Enterococcus faecium*, *Salmonella enteritidis* B-RKM 0680 from the collection of

the Biobank of Industrial Microorganisms of the Republican Collection of Microorganisms.

The study of antagonistic activity was performed by the agar diffusion method; for this, a cell suspension of daily LAB cultures is prepared in an amount of 1 ml / 1 ml (according to the standard of bacterial turbidity) and applied to the surface of the dish with the medium. Next, wells with a top diameter of 10 mm are cut out and filled with cultures of test strains (0.1 ml). A day

later, the diameter of the zone of absence of bacterial growth is measured.

The results of the antagonistic activity of the studied objects are presented, low activity - 1.0-4.9 mm, medium - 5.0-8.9, high - more than 9 mm. The inactive group included cultures that did not suppress test strains.

Most of the cultures showed a high value of antagonistic activity to the pathogens *Enterococcus faecium* and *Salmonella enteritidis*: the width of the zones of growth inhibition exceeded 9 mm. Only *Pediococcus pentosaceus* F-1 B-RKM showed a high degree of antagonism to all test strains. The strain *Saccharomyces cerevisiae* 6A-K25 B-RKM 0098 was the weakest antagonist. The results are shown in Table 3.

Name of strains	Antagonistic activity (mm)			
	<i>Salm.ent.</i>	<i>St.aur.</i>	<i>Ent.faec.</i>	<i>E.coli</i>
B-RKM 0044 <i>Lactococcus delbrueckii</i> subsp. <i>lactis</i> CF-1/KRMa	12,0±1	0	15±1.2	16±2.1
B-RKM 0358 <i>Lactococcus lactis</i> L 6	13±1	0	18.0±2.0	14±1
B-RKM 0357 <i>Lactococcus lactis</i> L 18	11±0,3	0	16±2.1	26±1
B-RKM 0042 <i>Lactococcus lactis</i> subsp. <i>lactis</i> TF-1/TMa/	12,33±0,58	19±1.0	21±1.5	0
B-RKM 0348 <i>Lactobacillus brevis</i> L 9	14,6±0,4	19±1.0	21±1.5	0
B-RKM 0935 <i>Pediococcus pentosaceus</i> F-1	11±0,3	20.0±3.6	19±1.0	13±1
B-RKM 0098 <i>Saccharomyces cerevisiae</i> 6A-K25	0	0	0	14±1

### Conclusion

The screening of microbial cultures, which are of the greatest industrial value as a probiotic feed additive, helped to select 7 types of strain.

These strains provide a natural route for the production of feed additives in the poultry industry. In the next 10 years, the population will face a lack of meat, which will cause dissonance among the population including Kazakhstan. Biological active supplements are also increased in price and have antibiotic mixture indeed. Probiotics are regarded as an enticing feed supplement due to its numerous empirical advantages, which include improved gut microbiological equilibrium, immunological response, growth, and laying performance. As probiotics might partially replace the use of some subtherapeutic antibiotics, the use of probiotics in chicken production may partially solve the public health concerns about the emergence of antimicrobial resistance. Studies revealed a wide range of diversity in the advantages experienced due to the variations in the experimentation procedures. With the help of tested strains there could be more than 10 types of BAS oriented for specific country in poultry leading to other types of stock raising.

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