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EAR INFECTIONS: CAUSES, SYMPTOMS, AND EFFECTIVE TREATMENT METHODS

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Abstract: This article provides detailed information about ear infections, their types, causes, and treatments. Ear infections are one of the most common ailments in children and adults, and their main causes include bacterial and viral infections, allergies, and cold weather conditions. The article also covers the symptoms, diagnosis and preventive measures of the disease. Useful tips for patients are given based on research results and medical recommendations. This article is intended for doctors, medical professionals, and the general public who want to learn more about ear infections.

Keywords: ear infections, otitis, ear infection, bacterial infection, viral infection, ear pain, hearing impairment, inflammation, treatment methods, prevention, antibiotics, doctor's recommendations, ear infection in children, inner ear diseases, otitis externa, otitis media.

What is an ear infection? An ear infection is an inflammation of the middle ear, usually caused by bacteria, that occurs when fluid builds up behind the eardrum. Anyone can get an ear infection, but children get them more often than adults. Five out of six children will have at least one ear infection by their third birthday. In fact, ear infections are the most common reason parents bring their child to a doctor. The scientific name for an ear infection is otitis media (OM).

What are the symptoms of an ear infection?

There are three main types of ear infections. Each has a different combination of symptoms.

- **Acute otitis media (AOM)** is the most common ear infection. Parts of the middle ear are infected and swollen and fluid is trapped behind the eardrum. This causes pain in the ear—commonly called an earache. Your child might also have a fever.
- **Otitis media with effusion (OME)** sometimes happens after an ear infection has run its course and fluid stays trapped behind the eardrum. A child with OME may have no symptoms, but a doctor will be able to see the fluid behind the eardrum with a special instrument.
- **Chronic otitis media with effusion (COME)** happens when fluid remains in the middle ear for a long time or returns over and over again, even though there is no

infection. COME makes it harder for children to fight new infections and also can affect their hearing.

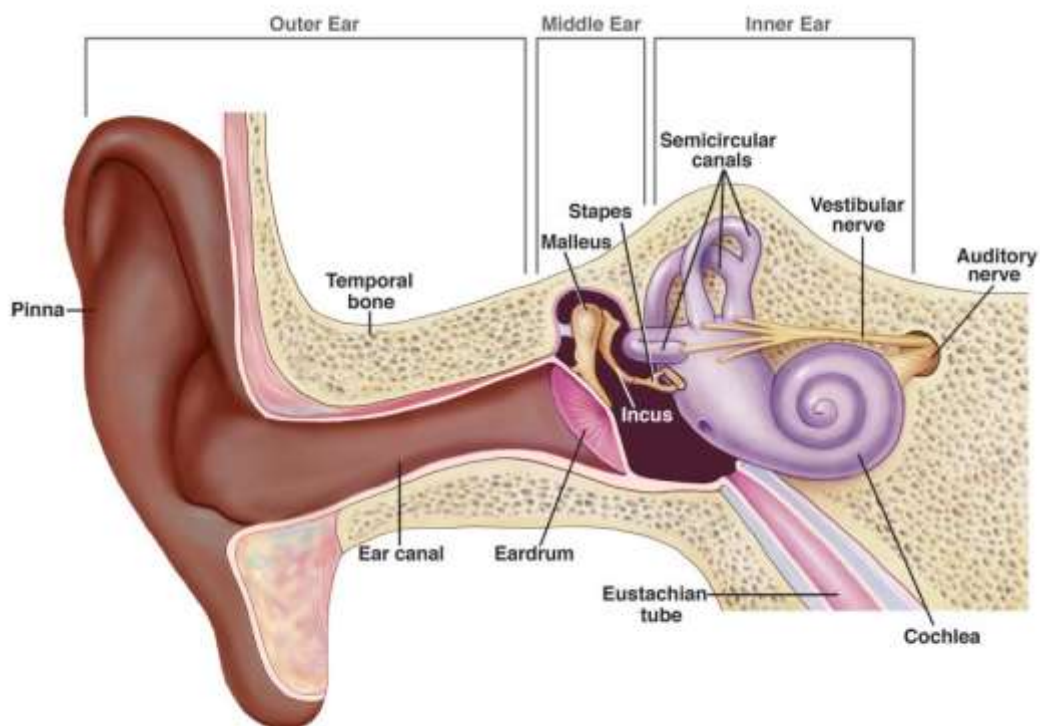
How can I tell if my child has an ear infection?

Most ear infections happen to children before they've learned how to talk. If your child isn't old enough to say "My ear hurts," here are a few things to look for:

- Tugging or pulling at the ear(s)
- Fussiness and crying
- Trouble sleeping
- Fever (especially in infants and younger children)
- Fluid draining from the ear
- Clumsiness or problems with balance
- Trouble hearing or responding to quiet sounds

What causes an ear infection?

An ear infection usually is caused by bacteria and often begins after a child has a sore throat, cold, or other upper respiratory infection. If the upper respiratory infection is bacterial, these same bacteria may spread to the middle ear; if the upper respiratory infection is caused by a virus, such as a cold, bacteria may be drawn to the microbe-friendly environment and move into the middle ear as a secondary infection. Because of the infection, fluid builds up behind the eardrum.



Source: NIH/NIDCD

The ear has three major parts: the outer ear, the middle ear, and the inner ear. The outer ear, also called the pinna, includes everything we see on the outside—the curved flap of the ear leading down to the earlobe—but it also includes the ear canal, which begins at the opening to the ear and extends to the eardrum. The eardrum is a membrane that separates the outer ear from the middle ear.

The middle ear—which is where ear infections occur—is located between the eardrum and the inner ear. Within the middle ear are three tiny bones called the malleus, incus, and stapes that transmit sound vibrations from the eardrum to the inner ear. The bones of the middle ear are surrounded by air.

The inner ear contains the labyrinth, which help us keep our balance. The cochlea, a part of the labyrinth, is a snail-shaped organ that converts sound vibrations from the middle ear into electrical signals. The auditory nerve carries these signals from the cochlea to the brain.

Other nearby parts of the ear also can be involved in ear infections. The eustachian tube is a small passageway that connects the upper part of the throat to the middle ear. Its job is to supply fresh air to the middle ear, drain fluid, and keep air pressure at a steady level between the nose and the ear.

Adenoids are small pads of tissue located behind the back of the nose, above the throat, and near the eustachian tubes. Adenoids are mostly made up of immune system cells. They fight off infection by trapping bacteria that enter through the mouth.

Why are children more likely than adults to get ear infections?

There are several reasons why children are more likely than adults to get ear infections. Eustachian tubes are smaller and more level in children than they are in adults. This makes it difficult for fluid to drain out of the ear, even under normal conditions. If the eustachian tubes are swollen or blocked with mucus due to a cold or other respiratory illness, fluid may not be able to drain.

A child's immune system isn't as effective as an adult's because it's still developing. This makes it harder for children to fight infections.

As part of the immune system, the adenoids respond to bacteria passing through the nose and mouth. Sometimes bacteria get trapped in the adenoids, causing a chronic infection that can then pass on to the eustachian tubes and the middle ear.

How does a doctor diagnose a middle ear infection?

The first thing a doctor will do is ask you about your child's health. Has your child had a head cold or sore throat recently? Is he having trouble sleeping? Is she pulling at her ears? If an ear infection seems likely, the simplest way for a doctor to tell is to use a lighted instrument, called an otoscope, to look at the eardrum. A red, bulging eardrum indicates an infection.

A doctor also may use a pneumatic otoscope, which blows a puff of air into the ear canal, to check for fluid behind the eardrum. A normal eardrum will move back and forth more easily than an eardrum with fluid behind it.

Tympanometry, which uses sound tones and air pressure, is a diagnostic test a doctor might use if the diagnosis still isn't clear. A tympanometer is a small, soft plug that contains a tiny microphone and speaker as well as a device that varies air pressure in the ear. It measures how flexible the eardrum is at different pressures.

How is an acute middle ear infection treated?

Many doctors will prescribe an antibiotic, such as amoxicillin, to be taken over seven to 10 days. Your doctor also may recommend over-the-counter pain relievers such as acetaminophen or ibuprofen, or eardrops, to help with fever and pain. (Because aspirin is considered a major preventable risk factor for Reye's syndrome, a child who has a fever or other flu-like symptoms should not be given aspirin unless instructed to by your doctor.)



If your doctor isn't able to make a definite diagnosis of OM and your child doesn't have severe ear pain or a fever, your doctor might ask you to wait a day or two to see if the earache goes away. [The American Academy of Pediatrics issued guidelines in 2013](#) that encourage doctors to observe and closely follow these children with ear infections that can't be definitively diagnosed, especially those between the ages of 6 months to 2 years. If there's no improvement within 48 to 72 hours from when symptoms began, the guidelines recommend doctors start antibiotic therapy. Sometimes ear pain isn't caused by infection, and some ear infections may get better without antibiotics. Using antibiotics cautiously and with good reason helps prevent the development of bacteria that become resistant to antibiotics.

If your doctor prescribes an antibiotic, it's important to make sure your child takes it exactly as prescribed and for the full amount of time. Even though your child may seem better in a few days, the infection still hasn't completely cleared from the ear. Stopping

the medicine too soon could allow the infection to come back. It's also important to return for your child's follow-up visit, so that the doctor can check if the infection is gone.

How long will it take my child to get better?

Your child should start feeling better within a few days after visiting the doctor. If it's been several days and your child still seems sick, call your doctor. Your child might need a different antibiotic. Once the infection clears, fluid may still remain in the middle ear but usually disappears within three to six weeks.

What happens if my child keeps getting ear infections?

To keep a middle ear infection from coming back, it helps to limit some of the factors that might put your child at risk, such as not being around people who smoke and not going to bed with a bottle. In spite of these precautions, some children may continue to have middle ear infections, sometimes as many as five or six a year. Your doctor may want to wait for several months to see if things get better on their own but, if the infections keep coming back and antibiotics aren't helping, many doctors will recommend a surgical procedure that places a small ventilation tube in the eardrum to improve air flow and prevent fluid backup in the middle ear. The most commonly used tubes stay in place for six to nine months and require follow-up visits until they fall out.

If placement of the tubes still doesn't prevent infections, a doctor may consider removing the adenoids to prevent infection from spreading to the eustachian tubes.

Can ear infections be prevented?

Currently, the best way to prevent ear infections is to reduce the risk factors associated with them. Here are some things you might want to do to lower your child's risk for ear infections.

- Vaccinate your child against the flu. Make sure your child gets the influenza, or flu, vaccine every year.
- It is recommended that you vaccinate your child with the 13-valent pneumococcal conjugate vaccine (PCV13). The PCV13 protects against more types of infection-causing bacteria than the previous vaccine, the PCV7. If your child already has begun PCV7 vaccination, consult your physician about how to transition to PCV13. The Centers for Disease Control and Prevention (CDC) recommends that children under age 2 be vaccinated, starting at 2 months of age. Studies have shown that vaccinated children get far fewer ear infections than children who aren't vaccinated. The vaccine is strongly recommended for children in daycare.
- Wash hands frequently. Washing hands prevents the spread of germs and can help keep your child from catching a cold or the flu.

- Avoid exposing your baby to cigarette smoke. Studies have shown that babies who are around smokers have more ear infections.
 - Never put your baby down for a nap, or for the night, with a bottle.
 - Don't allow sick children to spend time together. As much as possible, limit your child's exposure to other children when your child or your child's playmates are sick.
- What research is being done on middle ear infections?



Researchers sponsored by the National Institute on Deafness and Other Communication Disorders (NIDCD) are exploring many areas to improve the prevention, diagnosis, and treatment of middle ear infections. For example, finding better ways to predict which children are at higher risk of developing an ear infection could lead to successful prevention tactics.

Another area that needs exploration is why some children have more ear infections than others. For example, Native American and Hispanic children have more infections than do children in other ethnic groups. What kinds of preventive measures could be taken to lower the risks?

Doctors also are beginning to learn more about what happens in the ears of children who have recurring ear infections. They have identified colonies of antibiotic-resistant bacteria, called biofilms, that are present in the middle ears of most children with chronic ear infections. Understanding how to attack and kill these biofilms would be one way to successfully treat chronic ear infections and avoid surgery.

Understanding the impact that ear infections have on a child's speech and language development is another important area of study. Creating more accurate methods to diagnose middle ear infections would help doctors prescribe more targeted treatments. Researchers also are evaluating drugs currently being used to treat ear infections, and developing new, more effective and easier ways to administer medicines.

NIDCD-supported investigators continue to explore vaccines against some of the most common bacteria and viruses that cause middle ear infections, such as nontypeable *Haemophilus influenzae* (NTHi) and *Moraxella catarrhalis*. One team is conducting studies on a method for delivering a possible vaccine without a needle.

Used literature

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OIV/OITS KASALLIGINING PROFILAKTIKA CHORA TADBIRLARINI BAHOLASH

Ashurova Aziza Shuxratovna

Toshkent tibbiyot akademiyasi Termiz filiali o'qituvchisi Bolalar shifokori

Muammoning dolzarbligi: Bugungi kunda OIV infeksiyasi butun dunyo bo'yicha dolzarb muammolardan biriga aylangan kasallik hisoblanadi. Jahon Sog'liqni Saqlash Tashkiloti (JSST) va Birlashgan Millatlar Tashkiloti (BMT) tomonidan OIV/OITS kasalligi bo'yicha tayyorlagan Qo'shma Dasturiga (YuNEYDS) asosan va unda keltirilgan ma'lumotlarga ko'ra hozirgi kunga qadar dunyoda 34,2 mln kishiga OIV infeksiyasini yuqtirgan shaxslar ro'yxatga olingan. Ushbu kasallikni har yili 2,5 mln kishi yuqtirib, 1,7 mln kishi vafot etmoqda. Dunyo bo'yicha har kuni 7 ming, har soatda 300 nafar shaxs OIV infeksiyasini o'ziga yuqtirib olmoqda.

O'sish va rivojlanishning kechikishi ko'pincha OIV bilan kasallangan bolalarda (20-80%), ayniqsa OIV infeksiyasining keyingi bosqichlarida kuzatiladi. OIV infeksiyasi rivojlanib borishi bilan o'sishning sustlashishiga olib kelishi mumkin. OIV infeksiyasi aniqlangandan buyon yo'qotilgan tana vazni (tana vaznining 5% dan ko'prog'ini yo'qotish yoki BMI <20,5 kg / m² yo'qotish sifatida tavsiflanadi) asosiy klinik muammo bo'lib kelgan, chunki u kasallik va o'limni aniqlaydi.

Respublikamizda 2014 yil yanvar oyi ma'lumotlari bo'yicha OIV infeksiyasi aniqlangan insonlarning soni 28 250 nafarni tashkil qilmoqda. Shulardan erkaklar - 53,6%, ayollar- 46,3% ni tashkil etmoqda. Ularning 65,2% ni 25-49 yoshdagilar tashkil etadi.

OIV infeksiyasi bilan aniqlangan kasallar sonini Respublikamiz xududlari bo'yicha eng yuqori ko'rsatkichlarni Toshkent shaxri, Toshkent, Andijon, Samarqand va Farg'ona viloyatlari tashkil etmoqda.

Tadqiqot maqsadi: OIV/OITS kasalligining tarqalganligini va profilaktika chora tadbirlarini baholashdan iborat.

Tekshirish usullari va materiallari: Tadqiqot ishi 2020-2024 yillar mobaynida Toshkent shahridagi Respublika OITSga qarshi kurash markaziga retrospektiv tahlillaridan, Toshkent shahar OITSga qarshi kurash markazi va Termiz shahar OITS qarshi kurash markazi malumotlari asosida olib borildi.

Tadqiqot natijalari: Respublikamizdagi kasallanish ko'rsatkichlarini jinslar bo'yicha tarqalganligi oldingi yillarda kasallik asosan erkaklar o'rtasida ko'p uchragan, oxirgi yillarda esa ayollar o'rtasida ortib bormoqda va bu kasallikning bolalar orasida ko'payishiga olib kelmoqda. Pandemiyaning to'xtatishga imkon bermayotgan omillar,

bular - OIV infeksiyali bemorlar umrining oxirigacha virusni yuqtirish xavfini saqlab qolishi, virusning genetik o'zgaruvchanligi (mutatsiya) tufayli dunyo miqyosida kasallikning oldini olishga qodir samarali vaksinaning yo'qligi, kasallikni chaqiruvchi virusga samarali ta'sir etuvchi davolash vositalarining hozircha topilmaganligi, kasallik asosan xulq-atvori buzuvchi xavfli guruhlar orasida (giyohvand moddalarni tomir orqali qabul qiluvchi, moddiy rag'batlantirish evaziga intim xizmat ko'rsatuvchilar) tarqalishiga moyilligi va ular bilan samarali ishlash imkoni qiyinligi, mehnat migrantlarining tobora ko'payib borayotganligi va aholining bu kasallik haqida yetarlicha bilimga ega emasligi ko'rsatilmoqda.

Xulosa: OIV/OITS kasalligini oldini olishda quyidagilarga qat'iy amal qilish kerak:

1. Parenteral muolajalar olganda faqat bir marta ishlatiladigan shprislar va ignalardan foydalanish;
2. Qon va qon maxsulotlarini OIVga tekshirilgandan keyingina ishlatish tavsiya etiladi;
3. Operativ - rejimli tadbirlar chog'ida rezina qo'lqoplardan foydalanish kerak;
4. Shaxsiy gigiena qoidalariga qat'iy rioya qilish (birovning soqol olish asbobidan, tish cho'tkasidan foydalanilmaslik);
5. Nikoxdan o'tuvchilarga OIVga to'liq tekshirilganidan keyin ruxsat etish;
6. Oliy va o'rta maxsus ta'lim muassasalari o'qituvchilariga OIV infeksiyasi bo'yicha seminar-treninglar tashkil qilish;
7. Aholining barcha qatlamlarida xususan 18-45 yoshli aholi orasida OIV infeksiyasini oldini olishga qartilgan profilaktik chora-tadbirlar sanitariyatarg'ibot ishlarini yanada kuchaytirish maqsadga muvofiqdir.

Periodontitis - A Hidden Danger: Causes, Symptoms and Prevention

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Abstract: This article provides detailed information about periodontitis, its causes, symptoms and complications. Also, special attention is paid to early detection of the disease, methods of treatment and preventive measures. The article covers recommendations of dentists and important aspects of maintaining oral hygiene. The effect of periodontitis on general health is also considered, and useful tips for patients are given. This article may be useful for medical professionals, dentists and the general public.

Keywords: Periodontitis, dental diseases, gingivitis, gum disease, tooth damage, oral hygiene, dentistry, periodontitis symptoms, periodontitis causes, periodontitis treatment, dental care, bleeding gums, oral health, tooth brushing, dental advice.

Periodontal disease, also known as **gum disease**, is a set of inflammatory conditions affecting the [tissues surrounding the teeth](#). In its early stage, called [gingivitis](#), the gums become swollen and red and may bleed. It is considered the main cause of tooth loss for adults worldwide. In its more serious form, called **periodontitis**, the gums can pull away from the [tooth](#), bone can be lost, and the teeth may loosen or [fall out](#). [Halitosis \(bad breath\)](#) may also occur.

Periodontal disease typically arises from the development of plaque biofilm, which harbors harmful bacteria such as *Porphyromonas gingivalis* and *Treponema denticola*. These bacteria infect the gum tissue surrounding the teeth, leading to inflammation and, if left untreated, progressive damage to the teeth and gum tissue. Recent meta-analysis have shown that the composition of the [oral microbiota](#) and its response to periodontal disease differ between [men](#) and [women](#). These differences are particularly notable in the advanced stages of periodontitis, suggesting that sex-specific factors may influence susceptibility and progression. Factors that increase the risk of disease include [smoking](#), [diabetes](#), [HIV/AIDS](#), family history, high levels of [homocysteine](#) in the blood and certain medications. Diagnosis is by inspecting the [gum tissue](#) around the teeth both visually and with a [probe](#) and [X-rays](#) looking for bone loss around the teeth.

Treatment involves good [oral hygiene](#) and regular professional [teeth cleaning](#). Recommended oral hygiene include daily [brushing](#) and [flossing](#). In certain cases [antibiotics](#) or [dental surgery](#) may be recommended. Clinical investigations demonstrate that quitting smoking and making dietary changes enhance periodontal health. Globally, 538 million people were estimated to be affected in 2015 and has been known to affect 10–15% of the population generally. In the United States, nearly half of those over the age of 30 are affected to some degree and about 70% of those over 65 have the condition. Males are affected more often than females.

Systemic implications

Periodontal disease (PD) can be described as an inflammatory condition affecting the supporting structures of the teeth. Studies have shown that PD is associated with higher levels of systemic inflammatory markers such as Interleukin-6 (IL-6), C-Reactive Protein (CRP) and Tumor Necrosis Factor (TNF). To compare, elevated levels of these inflammatory markers are also associated with cardiovascular disease and cerebrovascular events such as ischemic strokes.

The presence of a wide spectrum inflammatory oral diseases can increase the risk of an episode of stroke in an acute or chronic phase. Inflammatory markers, CRP, IL-6 are known risk factors of stroke. Both inflammatory markers are also biomarkers of PD and found to be an increased level after daily activities, such as mastication or toothbrushing, are performed. Bacteria from the periodontal pockets will enter the bloodstream during these activities and the current literature suggests that this may be a possible triggering of the aggravation of the stroke process.

Other mechanisms have been suggested, PD is a known chronic infection. It can aid in the promotion of atherosclerosis by the deposition of cholesterol, cholesterol esters and calcium within the subendothelial layer of vessel walls. Atherosclerotic plaque that is unstable may rupture and release debris and thrombi that may travel to different parts of the circulatory system causing embolization and therefore, an ischemic stroke. Therefore, PD has been suggested as an independent risk factor for stroke.

A variety of cardiovascular diseases can also be associated with periodontal disease. Patients with higher levels of inflammatory markers such as TNF, IL-1, IL-6 and IL-8 can lead to progression of atherosclerosis and the development and perpetuation of atrial fibrillation, as it is associated with platelet and coagulation cascade activations, leading to thrombosis and thrombotic complications.

Experimental animal studies have shown a link between periodontal disease, oxidative stress and cardiac stress. Oxidative stress favours the development and progression of heart failure as it causes cellular dysfunction, oxidation of proteins and lipids, and

damage to the deoxyribonucleic acid (DNA), stimulating fibroblast proliferation and metalloproteinases activation favouring cardiac remodelling.

During SARS Covid 19 pandemic, Periodontitis was significantly associated with a higher risk of complications from COVID-19, including ICU admission, need for assisted ventilation and death and increased blood levels of markers such as D-dimer, WBC and CRP which are linked with worse disease outcome.

Causes

Periodontitis is an inflammation of the [periodontium](#), i.e., the tissues that support the teeth. The periodontium consists of four tissues:

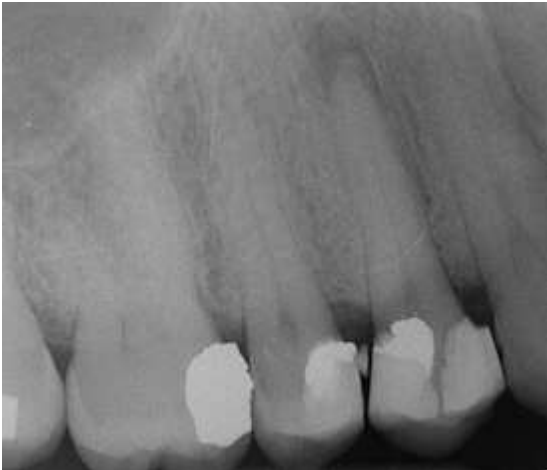
- [gingiva](#), or gum tissue,
- [cementum](#), or outer layer of the roots of teeth,
- [alveolar bone](#), or the bony sockets into which the teeth are anchored, and
- [periodontal ligaments](#) (PDLs), which are the [connective tissue](#) fibers that run between the cementum and the alveolar bone.



This [X-ray film](#) displays two lone-standing [mandibular](#) teeth, the lower left first premolar and canine, exhibiting severe bone loss of 30–50%. Widening of the [periodontal ligament](#) surrounding the [premolar](#) is due to [secondary occlusal trauma](#).

The primary cause of gingivitis is poor or ineffective [oral hygiene](#), which leads to the accumulation of a [mycotic](#) and bacterial matrix at the gum line, called [dental plaque](#). Other contributors are poor nutrition and underlying medical issues such as [diabetes](#). Diabetics must be meticulous with their homecare to control periodontal disease. New finger prick tests have been approved by the [Food and Drug Administration](#) in the US, and are being used in dental offices to identify and screen people for possible contributory causes of gum disease, such as diabetes.

In some people, gingivitis progresses to periodontitis — with the destruction of the [gingival fibers](#), the gum tissues separate from the tooth and deepened sulcus, called a [periodontal pocket](#). Subgingival microorganisms (those that exist under the gum line) colonize the periodontal pockets and cause further inflammation in the gum tissues and progressive bone loss. Examples of secondary causes are those things that, by definition, cause microbial plaque accumulation, such as restoration overhangs and root proximity.



The excess restorative material that exceeds the natural contours of restored teeth, such as these, are termed "overhangs", and serve to trap microbial plaque, potentially leading to localized periodontitis.

[Smoking](#) is another factor that increases the occurrence of periodontitis, directly or indirectly, and may interfere with or adversely affect its treatment. It is arguably the most important environmental risk factor for periodontitis. Research has shown that smokers have more bone loss, attachment loss and tooth loss compared to non-smokers. This is likely due to several effects of smoking on the immune response including decreased wound healing, suppression of [antibody](#) production, and the reduction of [phagocytosis](#) by [neutrophils](#)

[Ehlers–Danlos syndrome](#) and [Papillon–Lefèvre syndrome](#) (also known as palmoplantar keratoderma) are also risk factors for periodontitis.

If left undisturbed, microbial plaque calcifies to form [calculus](#), which is commonly called tartar. Calculus above and below the gum line must be removed completely by the dental hygienist or dentist to treat gingivitis and periodontitis. Although the primary cause of both gingivitis and periodontitis is the microbial plaque that adheres to the tooth surfaces, there are many other modifying factors. A very strong risk factor is one's genetic susceptibility. Several conditions and diseases, including [Down syndrome](#), diabetes, and other diseases that affect one's resistance to infection, also increase susceptibility to periodontitis.

Periodontitis may be associated with higher stress. Periodontitis occurs more often in people in the lower classes than people in the upper classes.

[Genetics](#) appear to play a role in determining the risk for periodontitis. It is believed genetics could explain why some people with good plaque control have advanced periodontitis, whilst some others with poor oral hygiene are free from the disease. Genetic factors which could modify the risk of a person developing periodontitis include:

- Defects of [phagocytosis](#): person may have hypo-responsive [phagocytes](#).
- Hyper-production of [interleukins](#), [prostaglandins](#) and [cytokines](#), resulting in an exaggerated [immune response](#).
- [Interleukin 1](#) (IL-1) gene polymorphism: people with this polymorphism produce more IL-1, and subsequently are more at risk of developing chronic periodontitis.

Diabetes appears to exacerbate the onset, progression, and severity of periodontitis. Although the majority of research has focused on [type 2 diabetes](#), [type 1 diabetes](#) appears to have an identical effect on the risk for periodontitis. The extent of the increased risk of periodontitis is dependent on the level of [glycaemic control](#). Therefore, in well managed diabetes there seems to be a small effect of diabetes on the risk for periodontitis. However, the risk increases exponentially as glycaemic control worsens. Overall, the increased risk of periodontitis in diabetics is estimated to be between two and three times higher. So far, the mechanisms underlying the link are not fully understood, but it is known to involve aspects of inflammation, immune functioning, neutrophil activity, and cytokine biology.

Hormonal fluctuations can also play a significant role in the development and progression of gingivitis and periodontitis. Changes in hormone levels, particularly during puberty, menstruation, pregnancy, and menopause, can lead to increased sensitivity and inflammatory responses in the gums. For example, elevated oestrogen and progesterone during pregnancy can heighten the inflammatory response to dental plaque, making pregnant individuals more susceptible to gingival disease.

Prevention

Daily [oral hygiene](#) measures to prevent periodontal disease include:

- [Brushing](#) properly on a regular basis (at least twice daily), with the person attempting to direct the toothbrush bristles underneath the gumline, helps disrupt the bacterial-mycotic growth and formation of subgingival plaque.
- [Flossing](#) daily and using interdental brushes (if the space between teeth is large enough), as well as cleaning behind the last tooth, the third molar, in each quarter.

- Using an antiseptic [mouthwash: Chlorhexidine gluconate](#)-based mouthwash in combination with careful oral hygiene may cure gingivitis, although they cannot reverse any attachment loss due to periodontitis.
- Regular dental check-ups and professional teeth cleaning as required: Dental check-ups serve to monitor the person's oral hygiene methods and levels of attachment around teeth, identify any early signs of periodontitis, and monitor response to treatment.

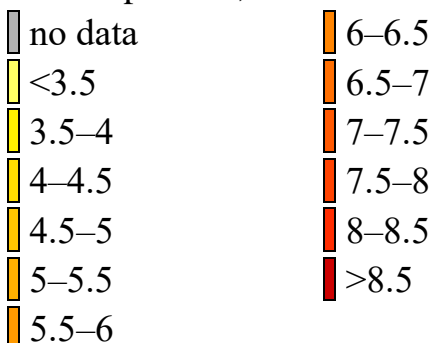
Typically, dental hygienists (or dentists) use special instruments to clean (debride) teeth below the gumline and disrupt any plaque growing below the gumline. This is a standard treatment to prevent any further progress of established periodontitis. Studies show that after such a professional cleaning (periodontal debridement), microbial plaque tends to grow back to precleaning levels after about three to four months. Nonetheless, the continued stabilization of a person's periodontal state depends largely, if not primarily, on the person's oral hygiene at home, as well as on the go. Without daily [oral hygiene](#), periodontal disease will not be overcome, especially if the person has a history of extensive periodontal disease.

Epidemiology



[Disability-adjusted life year](#) for periodontal

disease per 100,000 inhabitants in 2004:



Periodontitis is very common, and is widely regarded as the second most common dental disease worldwide, after [dental decay](#), and in the United States has a [prevalence](#) of 30–50% of the population, but only about 10% have severe forms.

Chronic periodontitis affects about 750 million people or about 10.8% of the world population as of 2010.

Like other conditions intimately related to access to hygiene and basic medical monitoring and care, periodontitis tends to be more common in economically disadvantaged populations or regions. Its occurrence decreases with a higher standard of living. In Israeli populations, individuals of Yemenite, North-African, South Asian, or Mediterranean origin have higher prevalence of periodontal disease than individuals from European descent. Periodontitis is frequently reported to be socially patterned, i.e. people from the lower end of the socioeconomic scale are affected more often than people from the upper end of the socioeconomic scale.

Summary: Periodontitis is a serious oral health problem that can lead to tooth loss if left untreated. This article details the causes, symptoms and treatment of periodontitis. To prevent the disease, it is important to observe regular oral hygiene, regular visits to the dentist and follow a healthy lifestyle. If periodontitis is detected in time and treated correctly, it is possible to preserve the health of teeth and gums. Therefore, everyone should pay attention to oral care.

PREVALENCE OF HYPERTENSION IN DIFFERENT AGE GROUPS.

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Annotation

Metabolic syndrome (MS), which is based on insulin resistance. This syndrome includes a number of risk factors (FR): arterial hypertension (AH), HTH, dyslipoproteidemia (DLP), obesity, hyperurekemia and other risk factors. It should be noted that in some studies, the number of components included in MS varies. However, hypertension, BMI, hyperlipidemia and hyperinsulinemia remain the main components of MS.

Распространённость АГ в различных возрастных группах.

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Аннотация

Метаболическому синдрому (МС) в основе которого лежит инсулинорезистентность. Этот синдром включает ряд факторов риска (ФР): артериальную гипертензию (АГ), НТГ, дислипопропротеидемию (ДЛП), ожирение, гиперурекемию и другие факторы риска. Следует отметить, что в отдельных исследованиях количество компонентов, включаемых в МС различается. Вместе с тем, АГ, ИМТ, гиперлипидемия и гиперинсулинемия остаются основными компонентами МС.

Актуальность и востребованность темы диссертации.Одной из наиболее важных проблем современной медицинской науки и практики является «метаболический синдром (МС), в основе которого лежит резистентность к инсулину. Резистентность к инсулину - это нарушение тканевого ответа со стороны различных органов на несостоятельность гипогликемического действия инсулина, возникающее вследствие ухудшения метаболизма глюкозы, компенсаторному увеличению выработки инсулина бета-клетками и развитием гиперинсулинемии. Следует отметить также и то, что «метаболические

последствия инсулинорезистентности могут привести к гипергликемии, гипертонии, дислипидемии, висцеральному ожирению, гиперурикемии, повышенным маркерам воспаления, эндотелиальной дисфункции и тромботическому состоянию. Причём, по данным зарубежных исследователей «прогрессирование инсулинорезистентности может привести к метаболическому синдрому, неалкогольной жировой болезни печени (НАЖБП) и сахарному диабету (СД) 2 типа.

Цель исследования: Изучить в сравнительном аспекте значимость структуры МС и динамики развития его основных компонентов в различные возрастные периоды.

Основные задачи исследования

1. Провести анализ структуры метаболического синдрома у лиц различного возраста.
2. Исследовать связь различных категорий основных компонентов МС с ассоциированными заболеваниями в различные возрастные периоды.

Результат исследования:Общей распространённости АГ в каждой возрастной группе относительно предыдущей было статистически значимо. С возрастом частота случаев оптимального АД снижается (с 59,7% в возрасте 20-29 лет до 24,16% в возрасте 60-69 лет), а частота АГ значительно увеличивается (с 3,88% среди лиц 20-29 лет до 35,96% среди 60-69 летних мужчин). При этом, распространённость случаев нормального АД с возрастом практически не меняется. Следует отметить, что в обследованной популяции более половины случаев АГ относятся к 1 степени (11,36%) и только 1,98% составляют случаи 3 степени АГ. Полученные данные свидетельствуют о том, что АГ 1 и 2 степени имеет место уже в возрасте 20-29 лет, а случаи АГ 3 степени встречаются только после 30 лет. Причём, 2 случая АГ 3 степени, выявленные в возрастной группе 30-39 лет, отмечались у одного мужчины в возрасте 37, у другого в возрасте 39 лет т.е. ближе к пятому десятилетию.

Распространённость АГ в различных возрастных группах (в⁰)

/ по классификации ВОЗ,1999/

Возраст (лет)	20-29 n=335	30-39 n=322	40-49 n=361	50-59 n=618	60-69 n=178	20-69 n=1814
Оптимальное АД	59,70	50,31	42,38	35,44	24,16	42,83
Нормальное АД	29,25	30,43	29,92	27,18	29,78	28,94

Высокое нормальное АД	7,16	9,01	8,86	11,17	10,11	9,48
Артериальная гипертензия	3,88	10,25 *	18,84 *	26,21 *	35,96 *	18,74
В том числе						
Степень 1	3,58	9,01 *	13,57	13,11	19,66	11,36
Степень 2	0,30	0,62	3,88	10,03	10,67	5,40
Степень 3	0,00	0,62	1,39	3,07	5,62	1,98
Всего	100,00	100,00	100,00	100,00	100,00	100,00

Примечание: * - означает достоверность различия частоты АГ относительно предыдущей возрастной группы.

Вывод: В исследованиях, выполненных до введения современной классификации при выявлении повышенного АД, в качестве критериев АГ используются несколько иные, чем приведенные выше критерии ВОЗ. В целях достижения сопоставимости данных настоящего исследования с результатами других, ранее выполненных популяционных работ, была осуществлена оценка показателей АД по эпидемиологическим критериям, предложенным Rose G.A., Blackburn H. в 1968 году.

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ОЦЕНКА ЗНАЧИМОСТИ ПОЛИМОРФИЗМА ГЕНА ЦИТОКИНА В РАЗВИТИИ АЛЛЕРГИЧЕСКОГО РИНИТА И БРОНХИАЛЬНОЙ АСТМЫ

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Бронхиальная астма - это заболевание, характеризующееся рядом физических изменений и повышенной реактивностью дыхательных путей к химическим и фармакологическим веществам. Воспаление слизистой оболочки бронхов, вызванное этими факторами, приводит к формированию обструкции дыхательных путей различной степени. Обструкция дыхательных путей и клинические признаки, такие как кашель, хрипы, одышка, требуют достижения значительного уменьшения или полного исчезновения под воздействием бронходилататоров и противовоспалительных препаратов.

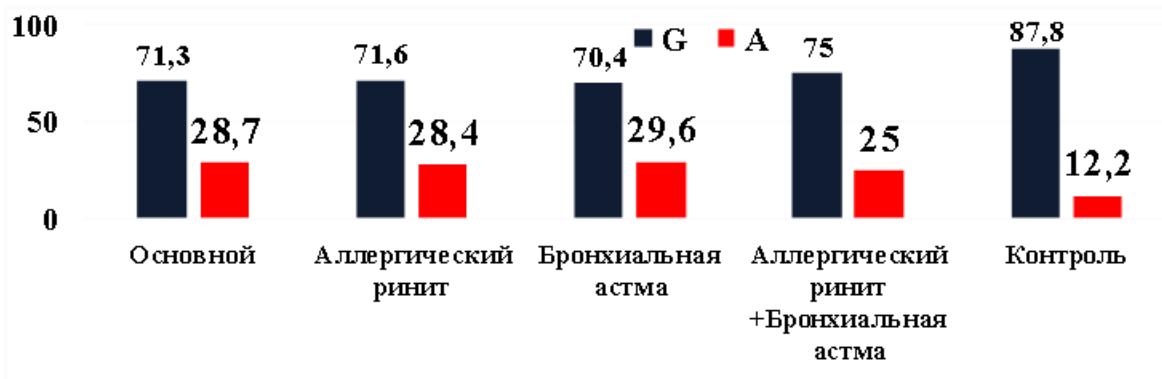
Аллергический ринит (АР) - это IgE-опосредованная воспалительная реакция, которая клинически проявляется в результате проникновения аллергенов в слизистую оболочку полости носа. Клиническая картина АР характеризуется ринореей, заложенностью носа, зудом в полости носа, повторяющимся чиханием и часто потерей обоняния. Эти симптомы полностью исчезают при прекращении воздействия аллергена или в результате лечения. АР является широко распространенным заболеванием, отрицательно влияющим на качество жизни, и представляет собой одну из наиболее актуальных проблем современной оториноларингологии и аллергологии.

Цель исследования. Значение полиморфизма гена IL17A при аллергическом рините и бронхиальной астме.

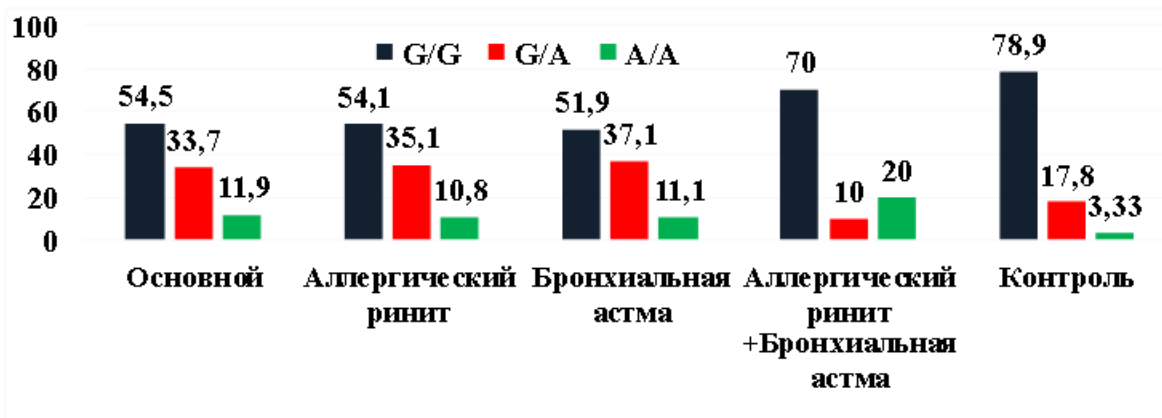
Материалы и методы. Материал для исследования был отобран из 101 пациента с аллергическим ринитом и бронхиальной астмой в амбулаторной поликлинике Сурхандарьинского областного многопрофильного медицинского центра. Из них 37 пациентов с аллергическим ринитом, 54 с бронхиальной астмой и 10 с сочетанием аллергического ринита и бронхиальной астмы.

Результаты исследования. Распределение аллелей и генотипов полиморфизма G197A гена IL-17A было проанализировано в общей группе и отдельно в каждой исследуемой подгруппе (АР, БА и сочетание БА+АР). Выявлены различия в

распределении аллелей G и A между группами.



Как видно из рисунка, в основной группе, группе пациентов и контрольной группе G-аллель встречался чаще, чем A-аллель в популяции, при этом в контрольной группе его частота была статистически значимо выше, чем у больных ($P < 0,05$). Частота A-аллеля была выше в группе пациентов по сравнению с контрольной группой, при этом преобладание наблюдалось при аллергическом рините и бронхиальной астме, а также при сочетании аллергического ринита и бронхиальной астмы.



Было выявлено, что генотип G/G статистически чаще встречается среди населения по сравнению с другими генотипами ($P < 0,05$; $P < 0,01$), генотип G/A встречался относительно реже, чем генотип G/G, а генотип A/A встречался очень редко. При этом, по сравнению с контрольной группой, мы обнаружили, что при генотипе G/A аллергический ринит в сочетании с бронхиальной астмой встречается в 1 раз реже, но в 2 раза чаще по сравнению с изолированным аллергическим ринитом, и в 2,2 раза чаще при бронхиальной астме. При генотипе A/A аллергический ринит в сочетании с бронхиальной астмой встречался в 6 раз чаще по сравнению с контрольной группой, в 3 раза чаще по сравнению с изолированным аллергическим ринитом и в 3,3 раза чаще при бронхиальной астме.

Заключение. В заключение следует отметить, что при анализе распределения аллелей и генотипов полиморфизма G197A гена IL-17A как в общей группе, так и в каждой исследуемой группе отдельно (АР, БА и сочетание БА+АР), аллель G оказалась более значимой в контрольной группе по сравнению с группой заболевания. Аллель А, напротив, чаще встречается при заболевании, чем в контрольной группе. Генотип АА имеет некоторую значимость при аллергическом рините и бронхиальной астме, однако при сочетании аллергического ринита и бронхиальной астмы генотип АА приводит к очень тяжелому состоянию. Оказалось возможным определить степень легкости или тяжести фенотипа пациентов в зависимости от их генотипа.

MAQSUD SHAYKHZODA IS A VERSATILE TALENT

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Boyxurozov Diyorbek Sherzod ugli

Annotation: The work is politically charged that the past is idealized. The confiscated items included a manuscript of the drama. After the author was acquitted and returned, certain organizations did not return the manuscript on the pretext that it was “lost”. This article spoke about the importance of the work of Maqsd Shaykhzoda in the education of young people, such qualities as courage, fairness, thoughtful thinking, popularism, expressed in the image of the heroes of the work in Uzbek literature.

Keywords: creativity, courage, fairness, thoughtful thought, popularism, literary critic

The work is politically charged that the past is idealized. The confiscated items included a manuscript of the drama. After the author was acquitted and returned, certain organizations did not return the manuscript on the pretext that it was “lost”. The sheikhzoda was forced to search for him for several years, and finally manages to find a copy of him from the former soufflés of the theater. But even then the text of the work will not be published. Look at the play of fate, the author turned a blind eye from the universe, not seeing that this work was published.

The work of Maqsd Shaykhzoda is so interesting that he was a versatile talent in Shaykhzoda, who had a very interesting activity not only in one direction, but in different directions. Along with poems and epics, he also creates dramas with a very high artistic capacity. Not counting the drama “Beruniy”, which Shaykhzoda entered into writing at the end of his life, but did not finish, his dramas “Jaloliddin Mangubardi” and “Mirzo Ulugbek” have already become the artistic property of our people. Shaykhzoda's tragedy “Jaloliddin Manguberdi” (1944), written during the years of World War II, historically accurately and insults the martial courage of the last Khwarezmian King, who fought against the Mongol conquerors for the freedom and independence of his land. Oybek and Ghafur Ghulam gave the work a high assessment at the time, saying: “the true meaning of the historical process, its inner meaning” was revealed. Until 1946, some excerpts from the drama” Jaloliddin Manguberdi “had been printed in the” Armughan ” collection. For 43 years after that, the work was not mentioned and did not see the face of the world. The work was imprisoned in the sheikhdom shortly after it was taken from the stage.

The full text of "Jaloliddin Manguberdi" was first printed and released in Baku in the two-volume election of Shaykhzoda in Azerbaijani. It was not until 1988 that Jaloliddin

Manguberdi was” first published in full print by an Uzbek-language writer in his book “The Immortal World”. The sharpness of shaykhzoda's mind of writing and creativity is once again proven. Another great contribution of Maqsud Shaikhzoda to Uzbek literature is the tragedy “Mirzo Ulugbek”. The tragedy is written in 1964, the same year the work is put on the stage of the Hamza Theater, on the basis of which a motion picture is later created. As a literary critic and critic, shaikhzade also shook an effective pen, became a famous poet of Uzbek folk oral creativity, works such as" Alpomish", "sugar with sugar", Babur, Muqimiy, Furqat, Oybek, Ghafur Ghulam, Hamid Olimjon, Nizami Ganjaviy of world literature, Sh.Rustaveli, A.S.Pushkin, N.A.Nekrasov, A.N.Ostrovsky, T.G.Shevchenko, A.P.Like Chekhov, he eats works dedicated to his manifestations. And as an pedagogical scientist and poet, talaygina makes a worthy contribution to the maturation of the generation of poets, literary scholars and critics. Because he had no few genuine, loyal friends either. These included Oybek, Ghafur Ghulam, Hamid Olimjan, Komil Yashin, Mirtemir, Shukur Burkhan. Translation Mukhim played a role in the expansion of the sphere of literary knowledge of the sheikhzoda, the enrichment of his work with the artistic experience of classical world writers. It Is Located A. Rustaveli's epic" The paxlavon with the tiger skin covered", U.Shakespeare's sonnets, A.S.Poems by Pushkin, epic" The Copper rider", tragedy" Mozart and Salieri", M.Yu.Lermontov's poems and the epic "prisoner of the Caucasus" also translated with great skill into Uzbek The Works of Nizami, Fuzuli, Mirza Fatali Okhundov, Ezop, Aeschylus, Goethe, Byron, Mayakovsky, Nozim Hikmat and some other writers.

Maqsud Shaykhzadeh as the owner of high knowledge, his entire creation was filled with a deep political publicistic spirit. His poetic, dramatic works are in harmony with the times, no matter what theme they are devoted to. That is why it is not accidental that the creator serves in the direct publicistic genre of this type. His publicistic articles and speeches, which have an excellent artistic genre, are a bright badge from the content and variety of this talented adib creativity. The talented poet was also a skilled translator. He serves greatly in translating the works of classical poets of world literature into Uzbek. In particular, Shakespeare's” Hamlet “and” Romeo and Juliet " are staged on the stage of Uzbek drama theaters in the translation of the Sheikhzoda. The growth of the poet's skill was also due to the fact that he studied the classical works of World Literature in great love, masterfully mastering their rich artistic experience. He had also thoroughly studied his fatherland literature - the heritage of Oriental poetry-with an excellent knowledge of Western European and Russian literature. Maqsud Shaykhzoda is imprisoned completely unreasonably at the beginning of the 50s and exiled for 25 years. After Stalin's death, the case of those who were unjustly

imprisoned with slander was re-seen. Thus, in 1955, Shaykhzoda, among many of our dedicated intellectuals, was acquitted. But as a result of 5 years of prison suffering, the poet's health had deteriorated greatly. Nevertheless, he was forced to live on the top floor of a tall house for 10 years until the end of his life. Even in such harsh conditions and illness, sira nolimay from her life did not stop creating for the rest of her life. No matter how many sorrowful days have passed from the beginning, it has not been oppressed at all. His faith, his view of the world, Theran is described in the above verses. He never lived in alamzada. On the contrary, he did not say anything, nowhere about those who betrayed him, subjected him to suffering, serious illnesses. True to his human qualities, shaykhzoda always lived on a rise with benevolence and high qualities.

The Hall of study named after writer, literary playwright, master of translation, great educator, linguist and literary critic Maqsud Shaykhzadeh and the exposition was organized in an incredibly delicate taste and in essence in harmony with the great art of Dargasiyu, great historical figures such as Jalaliddin Manguberd. The decision of the Cabinet of Ministers of the Republic of Uzbekistan dated September 24, 1998 “on the celebration of the 800th anniversary of the birth of Jalaliddin Manguberdi”, announced by the signature of our President Islam Karimov, which adequately addressed the history of our people, including the fate and struggle of Jalaliddin Manguberdi, defended the truth, also reaffirms. The poet dies of illness on February 19, 1967. After his death, a six-volume "works" will be published. During the years of independence, the work of the late Maqsud Shaikhzoda and his services found real value.

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ERECTILE DYSFUNCTION: CAUSES, TREATMENT, AND PREVENTION

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Introduction

Erectile dysfunction (ED), commonly referred to as impotence, is the inability to achieve or maintain an erection sufficient for satisfactory sexual performance. It is a prevalent condition affecting millions of men worldwide, particularly those over the age of 40. However, younger men can also experience ED due to various psychological and physiological factors. This article explores the causes, treatments, and preventive measures for erectile dysfunction.

Causes of Erectile Dysfunction

ED can result from a combination of physical, psychological, and lifestyle factors.

1. Physical Causes

Several medical conditions can contribute to ED, including:

Cardiovascular diseases: Atherosclerosis (hardening of arteries) reduces blood flow to the penis.

Diabetes: High blood sugar levels damage nerves and blood vessels, leading to ED.

Hormonal imbalances: Low testosterone levels can impair sexual function.

Neurological disorders: Conditions like Parkinson's disease and multiple sclerosis affect nerve signals.

Chronic kidney disease and liver disease: These conditions impact overall body function, including sexual health.

2. Psychological Causes

Mental health plays a significant role in erectile function. Common psychological causes include:

Stress and anxiety: Work-related stress or performance anxiety can hinder sexual performance.

Depression: Low mood and lack of interest in sex can contribute to ED.

Relationship issues: Emotional distance, unresolved conflicts, or lack of intimacy affect sexual health.

3. Lifestyle Factors

Certain habits increase the risk of developing ED, such as:

Smoking: Damages blood vessels and reduces blood flow.

Excessive alcohol consumption: Impairs nerve function and lowers testosterone levels.

Obesity: Leads to hormonal imbalances and cardiovascular problems.

Lack of physical activity: Poor circulation and increased risk of diabetes contribute to ED.

Diagnosis of Erectile Dysfunction

A doctor may perform several tests to determine the cause of ED, including:

Medical history evaluation: Reviewing symptoms and underlying health conditions.

Physical examination: Checking for signs of hormonal imbalance or nerve damage.

Blood tests: Assessing cholesterol, blood sugar, and hormone levels.

Nocturnal penile tumescence (NPT) test: Evaluating erections during sleep.

Ultrasound: Examining blood flow to the penis.

Treatment Options for Erectile Dysfunction

1. Medications

Several drugs are commonly prescribed to treat ED, including:

Phosphodiesterase type 5 (PDE5) inhibitors: Sildenafil (Viagra), Tadalafil (Cialis), Vardenafil (Levitra). These medications enhance blood flow to the penis.

Testosterone replacement therapy (TRT): For men with low testosterone levels.

2. Psychological Counseling

If ED is linked to stress, anxiety, or depression, therapy with a psychologist or sex therapist may help. Cognitive-behavioral therapy (CBT) can be particularly effective.

3. Lifestyle Changes

Adopting a healthier lifestyle can significantly improve erectile function:

Regular exercise: Improves cardiovascular health and circulation.

Healthy diet: Consuming fruits, vegetables, and lean proteins supports overall well-being.

Weight management: Maintaining a healthy weight reduces the risk of diabetes and heart disease.

Quitting smoking and reducing alcohol intake: Enhances vascular health and testosterone levels.

4. Medical Procedures

If medications and lifestyle changes are ineffective, doctors may recommend:

Vacuum erection devices: A pump that increases blood flow to the penis.

Penile implants: Surgically implanted devices that help achieve an erection.

Vascular surgery: Rarely performed but may help restore blood flow in severe cases.

Prevention of Erectile Dysfunction

While ED is not always preventable, certain habits can reduce the risk:

Maintaining a balanced diet and active lifestyle

Managing stress through relaxation techniques like meditation

Getting regular health check-ups to monitor blood pressure and cholesterol

Avoiding recreational drugs and excessive alcohol consumption

Conclusion:

Erectile dysfunction is a common but treatable condition that affects men of all ages. Understanding its causes, seeking appropriate treatment, and making necessary lifestyle changes can significantly improve sexual health. If you experience persistent ED, consult a healthcare professional for diagnosis and tailored treatment options.

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FOREIGN EXPERIENCE IN DEVELOPING THE PROFESSIONAL AND PERSONAL SKILLS OF FUTURE ENGINEERS-TECHNOLOGISTS

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Abstract: This article analyzes the best practices of foreign educational systems in developing the professional and personal skills of future engineering technologists. The article considers ways to improve the technical and personal skills of students through innovative teaching methods, practice-based education and international cooperation. Based on foreign experience, the importance of developing professional skills, improving personal and social skills in the training of future engineering technologists is emphasized. It also discusses how these experiences can be implemented in the education system of Uzbekistan, and foreign experience is shown as an important factor in training specialists ready for professional activity.

Keywords: Future engineering technologist, professional skills, personal development, foreign education, innovative methods, practice, international cooperation, professional skills, personal skills, education system.

Аннотация: В данной статье анализируются передовые зарубежные практики по развитию профессиональных и личностных качеств будущих инженеров-технологов. Рассматриваются инновационные методы обучения, практика, основанная на реальной деятельности, а также международное сотрудничество для улучшения технических и личностных навыков студентов. Особое внимание уделяется важности развития профессиональных и социальных навыков в процессе подготовки специалистов. Также в статье рассматриваются пути внедрения зарубежного опыта в систему образования Узбекистана, что способствует подготовке высококвалифицированных специалистов для профессиональной деятельности.

Ключевые слова: Будущие инженеры-технологи, профессиональные качества, личностное развитие, зарубежное образование, инновационные методы, практика, международное сотрудничество, профессиональная квалификация, личностные навыки, образовательная система.

INTRODUCTION

In modern society, the fields of technology and engineering remain key sectors that ensure global economic growth, innovation, and competitiveness. To lead in these areas, not only technical knowledge is required, but also high-level professional and

personal abilities. Students must not only possess deep knowledge in their respective fields but also be prepared to work in teams, think creatively, develop leadership skills, and quickly adapt to new technologies [1, 2]. These factors are crucial for their future professional activities.

Foreign education systems are supporting the application of advanced methods to provide high-quality education and to develop the professional and personal abilities of future engineers-technologists. The effectiveness of the education system depends not only on the theoretical aspects of teaching but also on preparing students for practical work, learning creative approaches, and becoming capable of working on a global scale. Therefore, the experience of foreign education systems not only allows students but also educators to learn and apply innovative approaches [3, 4]. This, in turn, helps future specialists become competitive not only in their fields but also in social and economic terms.

Countries located in various parts of the world are trying to adapt their education systems to changing technological and economic conditions for preparing future engineers-technologists. Abroad, numerous innovative approaches are applied to develop both the professional and personal abilities of future engineers-technologists [5]. These approaches focus not only on developing technical knowledge and skills but also on preparing students for practical work, solving real problems, and succeeding in the international arena.

Additionally, special attention is paid to personal development in the training of future engineers-technologists abroad. Curricula focus on developing personal and social skills, teamwork, leadership, and problem-solving abilities through special training and activities. This method not only prepares students to effectively solve problems during their studies but also in their future professional careers.

Studying foreign experience is crucial for further improvement of national education systems. Uzbekistan can also strengthen its position by adopting the best practices of foreign education systems in preparing future engineers-technologists as highly qualified specialists. This, in turn, serves the technological development of the country and the formation of specialists ready for international cooperation [6].

In this regard, learning from foreign experience in developing the professional and personal abilities of future engineers-technologists significantly helps improve their readiness for practical work. This article analyzes the advanced methods and practices used in foreign education systems for preparing future engineers-technologists. Through this analysis, suggestions on how to implement and develop these practices in the national education system are provided.

In foreign education systems, significant attention is given to project-based learning methodologies for developing the professional and personal abilities of future engineers-technologists. This method ensures that students gain knowledge through practical projects based on real-world problems. For instance, in many universities in the USA and Europe, including prestigious educational institutions such as the Massachusetts Institute of Technology and Stanford University, students work on projects. In project-based learning, students work on practical tasks related to issues they choose, which enhances their creativity, problem-solving, and teamwork abilities. This experience plays a vital role in enhancing the professional capabilities of future engineers-technologists [7].

Practical training and cooperative education: Foreign education systems widely use practices and cooperative education systems to enhance students' professional skills. In this system, students undergo practical training in production or scientific laboratories during their studies. For example, in countries like Canada, Germany, and Japan, students are given the opportunity to work in companies and research centers related to their specialties. This system not only helps students develop practical skills but also creates opportunities for them to build professional networks. During these practical sessions, students learn to work in real-world environments, strengthening their professional qualifications.

Personal development and leadership skills: In foreign education systems, personal development and leadership skills are given considerable importance in the educational process. For future engineers-technologists, developing not only technical knowledge but also personal and social skills is crucial. For instance, prestigious universities such as Harvard University and the University of California, Berkeley, offer special training and seminars to teach students leadership, problem-solving, and self-management skills. In this process, students not only enhance their personal capabilities but also adopt the necessary approaches to succeed on a global scale [8, 9].

Integration of modern technologies in education: The integration of modern technologies in education is a widespread practice in foreign universities. Technologies such as virtual reality (VR), augmented reality (AR), 3D modeling, and simulations provide students with the opportunity to test their skills in practice. For example, at prestigious institutions such as the Technical University of Munich in Germany and the University of Tokyo in Japan, students use virtual reality technologies to create engineering projects. These technologies not only make the educational process more engaging but also bring students closer to real-world working conditions, enhancing their creativity.

Foreign experience also places great emphasis on improving education through international cooperation. Many universities offer students opportunities to study or undergo practical training in other countries. As a result, students gain the chance to learn about other cultures, participate in solving global issues, and acquire new scientific and technological approaches. For example, through the Erasmus+ program, students are provided with extensive opportunities to study and gain practical experience in European Union countries. This, in turn, prepares future engineers-technologists for the global market.

Conclusion: The advanced practices in foreign education systems are extremely important in developing the professional and personal abilities of future engineers-technologists. Project-based learning, practice-oriented education, personal development, the application of modern technologies, and international cooperation are the main directions of foreign experience. By studying and implementing these practices in Uzbekistan, the country can improve the professional qualifications of future engineers-technologists and prepare specialists who are competitive in the global labor market.

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FEATURES OF BILIOPANCREATIC BYPASS IN THE TREATMENT OF OBESITY

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Abstract. SADI operation, being simpler in technical execution and quite safe in terms of development of early and remote postoperative complications, can be more often used as a primary operation in the presence of MO, and also performed on patients with super obesity.

Key words: bariatrics, mini gastroshunting, gastroshunting.

Relevance. Obesity is associated with reduced economic and social opportunities, quality of life (QOL) and, most importantly, with an increased incidence of associated diseases that affect life expectancy. In young individuals with an extremely high body mass index ($>45 \text{ kg/m}^2$), life expectancy is reduced by 13 years for men and by 8 years for women (1,2,3,9). The growing prevalence of morbid obesity (MO) leads to an increased role of bariatric surgery: after both restrictive, malabsorptive and mixed surgeries, there is a decrease in the incidence of concomitant metabolic disorders, the risk of cardiovascular diseases and overall mortality. Bariatric surgeries are highly likely to promote remission of type 2 diabetes mellitus (T2DM), affect the main components of the metabolic syndrome, often regardless of the degree of body weight (BW) loss [2, 4,5,6,7,8,10], which allows us to refer to them as "metabolic surgeries" (1,11,12,13). It is well known that metabolic surgeries lead to more significant improvement of lipid profile and blood glucose control compared to traditional treatment (2,14,15,16,17,18). Currently, bariatric surgery has become the gold standard in the treatment of MO. Despite the fact that recent meta-analyses have demonstrated similar long-term results in sleeve gastropasty and gastric bypass with Roux-en-Y gastrojejunostomy (RYGB Roux-en-Y gastric bypass) [2,3], as well as mini gastric bypass (MGS) [1,19], the existing probability of repeated weight gain and relapse of obesity-associated diseases when using these techniques leaves room for the use of more effective surgical technologies (1), including biliopancreatic diversion (BPSH). Based on the experience gained with jejunioileal bypass, in 1979 N. Scopinaro proposed his version of bypass bariatric surgery - BPSH [1,20], which served as the beginning of the development of a new type (section) of bariatric surgeries in the world. Since 1988, the Hess-Marceau modified BPSH technique (BPD-DS, Hess-Marceau) [1] has

been known, consisting of longitudinal gastrectomy (LGR) in combination with bypass of most of the small intestine, in order to reduce absorption primarily of fats and complex carbohydrates (starches). At the same time, the technical complexity of the operation combined with a certain risk of developing undesirable effects limit the spread of this type of surgery (2). In 2007, A. Sanchez-Pernaute and A. Torres performed the first sleeve gastrectomy with duodenoileal bypass (SADI), simplifying the Hess-Marceau modification by imposing one duodenoileal anastomosis (DIA), excluding the interintestinal anastomosis according to Roux (2). Due to the simpler technique of intervention due to the reduction in the number of anastomoses, SADI has the potential for wide application in bariatric surgery, primarily performed by laparoscopic access (3). We did not find any data in the literature on the comparative evaluation of the remote results of SADI and BPD-DS in the Hess-Marceau modification in the long-term (more than 2 years) perspective, performed in one surgical center. Both the advantages of SADI and possible disadvantages, compared with the previous modification of BPD/DS, remain insufficiently studied.

Objective of the study. To improve the results of surgical treatment of patients with morbid obesity based on predictive analysis of the effectiveness and safety of bariatric surgeries.

Material and method. A total of 152 patients who were examined and treated in the clinic of the Tashkent Medical Academy in Tashkent from 2018 to 2024 were included in the clinical retrospective study. To achieve the goal and objectives of the study, we developed and introduced into clinical practice a database including 67 parameters (anthropometric, anamnestic data, examination and observation results, treatment options, etc.) intended for statistical processing.

Results and discussion. Against the background of the development of excess protein malabsorption (EPM), diarrhea syndrome, one patient underwent 12 months after the operation, the DEA was moved to a higher level and abdominoplasty was performed. Another patient showed a sharp decrease in BW by 20 kg after 4.5 years (during the 4th year after the operation), as a result of which he underwent DEA at a higher level using a technique similar to the Carbajo operation, which was proposed in 2015 as a reconstructive surgery after MGS [1]. In relation to SADI, a similar technique was first used by Yashkov Yu.I. in 2021 [3], noting its advantages - preserving the integrity of the pylorus and the previously applied DEA. Unlike SADI, the conversion of MGS to RYGB requires shortening the gastric stump to prevent the development of a peptic ulcer of the anastomosis and the formation of a new GEA [1,2]. With the development of adhesive disease of the abdominal cavity in 1 patient, 1 year and 3 months after the operation, an interintestinal anastomosis according to Brown was applied between the

BPP and the OP in combination with hernioplasty with the installation of a mesh implant. Another patient with acute adhesive intestinal obstruction (AAIO) underwent resection of 200 cm of the BPA, after which a decrease in BM to normal values and development of diarrhea syndrome, effectively responding to conservative therapy, were noted. The following reconstructive interventions were performed in 8 patients with recurrent weight gain after surgery. 5 patients who, along with recurrent weight gain, had clinically significant pronounced bile reflux, underwent reconstruction in BPD/DS in combination with abdominoplasty, pubic plastic surgery (n=1) and reconstruction in BPD/DS in combination with abdominoplasty, hernioplasty and installation of a mesh implant (n=3), reconstruction in BPD/DS (n=1).

Accordingly, a fundamentally important point in reconstructive surgeries is the enhancement of the malabsorptive component or, conversely, the reduction of the manifestations of the malabsorptive component in the event of the development of side effects and complications of the primary operation. Strengthening only the restrictive component for the purpose of correcting the relapse of the MT set did not give any effect.

CONCLUSION

. Biliopancreatic diversion modified by SADI with a total loop length of 250 cm (SADI-250) and BPD/DS by 5 years of observation lead to significant stable and comparable loss of excess body weight (%EWL) at the level of 78.4% and 77.7%, respectively, with an average period of body weight stabilization at 18 months after both surgeries. The dynamics of postoperative weight loss are generally identical in patients who underwent SADI and BPD/DS, regardless of the initial BMI values.

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SURUNKALI INFEKSION VA NOINFEKSION ETIOLOGIYALI GEPATITLARDA KLINIK-LABORATOR O'ZGARISHLARNI BAHOLASH

Qurbonov Bunyod Shavkatovich

Turon universiteti Tibbiyot kafedrası katta o'qituvchisi

Muammoning dolzarbligi: Jigarning surunkali yallig'lanish kasalliklari turli omillar ta'sirida yuzaga kelishi mumkin, ularning eng keng tarqalganlari alkogol va gepatotrop viruslar hisoblanadi.

Noqulay ijtimoiy vaziyat, infeksiyalarning keng tarqalganligi, shuningdek, aholining tibbiy bilimlarining va ma'lumot darajasi pastligi ushbu omillarning tarqalishi uchun qulay sharoit yaratadi va natijada virusli kasalliklar ko'payishiga olib keladi.

Surunkali virusli gepatit C (SVG C) - gepatit C virusi tomonidan keltirib chiqariladigan, 6 oydan ortiq davom etuvchi yuqumli kasallik bo'lib, u turli darajadagi nekrotik yallig'lanish va fibrotik jarayonlarni yuzaga keltiradi.

Surunkali gepatit jigar parenximasi va stromasining yallig'lanish bilan zararlanishi bilan namoyon bo'ladigan kasallikdir. U turli sabablarga ko'ra rivojlanadi va 6 oydan ortiq davom etadi.

Virusli gepatit C ning xavfi uning simptomsiz kechishida namoyon bo'ladi. Fibroz uzoq vaqt davomida belgilarisiz rivojlanadi va ko'pincha bemorlar faqat jigar sirrozi va uning asoratlari paydo bo'lgandagina tibbiy yordamga murojaat qilishadi. SVG C o'linga olib kelishi mumkin bo'lgan kasallik hisoblanadi. Jigarning tobora zo'rayib boradigan zararlanishi ko'pincha belgilarisiz kechadi va klinik jihatdan faqat sirroz yoki gepatotsellyulyar karsinoma bosqichida namoyon bo'ladi. Yallig'lanish jarayonlari fibrozga rivojlanib, vaqt o'tishi bilan jigar sirroziga olib keladi. Jigar zararlanishining sababidan qat'i nazar, patologik jarayon boshlanadi va hujayradan tashqari matriksning to'planishi kuchayib boradi.

Tadqiqot maqsadi: Surunkali infeksiyon va noinfeksiyon etiologiyali gepatitlarda klinik-laborator o'zgarishlarni baholashdan iborat.

Tekshirish usullari va materiallari: Tadqiqot ishi Qashqadaryo viloyat yuqumli kasalliklar despanserida surunkali gepatit tashhisi bilan davolangan 59 nafar bemorlarning klinik tekshiruv natijalari taxlili o'tkazildi va biokimyoviy, serologik (IFA, PSR) va satatistik tadqiqot usullari ishlatilgan. Serologik tekshiruv natijalariga ko'ra, kuzatuvdagi 59 nafar bemorlar quyidagi guruhlariga ajratildi: birinchi guruhni - 25 (42,4±6,5%) nafar noinfeksiyon etiologiyali surunkali gepatit tashhisi qo'yilgan bemorlar, ikkinchi guruhni 16 (27,1±5,8%) ta surunkali virusli gepatit B, 17

(28,8±5,9%) tasi surunkali virusli gepatit C va bitta (1,7±1,7%) bemor surunkali virusli gepatit B+C superinfeksiyasi tashxisi qo'yilgan (SVG) bemorlar tashkil qildi.

Tadqiqot natijalari: Bemorlar biokimyoviy qon ko'rsatkichlari taxlilida SNIG guruxidagi 25 nafar bemorlardan 9 tasida jigardagi surunkali jarayon sitolitik sindrom ustunligi bilan kechdi, ularda o'rtacha ALT miqdori 2,68±0,6 mkmol/l, AST – 1,36±0,4 mkmol/l ni tashkil qildi. Ushbu guruhdagi qolgan 16 nafar bemorlarda jigarning spesifik fermentlari qiymatlarida siljishlar kuzatilmadi. 7 nafar bemorlarda umumiy bilirubin miqdori o'rtacha 75,0±4,2 mkmol/l ga, 14 nafarida esa o'rtacha 23,2±0,5 mkmol/l va 1 ta bemorda surunkali jarayon xolestatik sindrom ustunligi bilan kechib, umumiy bilirubin miqdori 224,5 mkmol/l ni tashkil qildi. Ushbu guruhdagi 3 ta bemorda biokimyoviy ko'rsatkichlar qiymati me'yor chegarasida bo'lgan, faqatgina umumiy oqsil 59,0±2,0 g/l gacha kamaygan, ushbu ko'rsatkich SNIG li 25 nafar bemorlarning 88,0±6,6% da pasaygan bo'lib, o'rtacha 56,5±0,7 g/l ni tashkil qilgan. Protrombin indeksi 25 nafar bemorlardan 19 tasida pasayishi kuzatilib, o'rtacha 74,8±0,6% bo'lgan. Kuzatuvdagi SNIG li bemorlarning 6 nafarida yuqoridagi biokimyoviy ko'rsatkichlarning siljishi bilan bir qatorda mochevina qiymatini ham o'rtacha 10,4±0,9 mkmol/l oshishi aniqlangan. Keltirilgan ma'lumotlarga asoslanib aytish mumkinki, SNIG guruhidagi 88,0±6,6% bemorlarda jigarning asosiy vazifalari buzilishi kuzatilgan bo'lsa, 24,0±8,7% nafarida surunkali jarayon davomiyligi uzoq bo'lmasada organ yetishmovchiligi rivojlanganligi aniqlandi.

SVGC tashxisi bo'lgan bemorlar biokimyoviy qon taxlilida yaqqol siljishlar kuzatilmadi, umumiy bilirubin o'rtacha 22,1±0,42 mkmol/l oshgan bo'lsa, umumiy oqsil 57,3±0,5 g/l ga pasayishi kuzatildi, qolgan qiymatlarda siljishlar aniqlanmadi.

Mikst gepatitli (B+C) bemorda esa aksincha jigardagi surunkali jarayonning biokimyoviy qiymatlarning yaqqol siljishi bilan kechishi aniqlandi, bunda umumiy bilirubin 52,0 mkmol/l bog'langan fraksiya ustunligi bilan oshishi, jigar spesifik fermentlaridan ALT-2,3 mkmol/l, AST – 1,15 mkmol/l, mochevina miqdorini 10,1±0,6 mkmol/l gacha ko'tarilishi, protrombin indeksini 76,0% ga va umumiy oqsil miqdorini 58,0 g/l ga pasayishi kuzatildi. SVGB tashxisi qo'yilgan bemorlarda ham biokimyoviy ko'rsatkichlarni mikst gepatitlar kabi oshishi kuzatildi, bunda umumiy bilirubin – 37,3±3,3 mkmol/l; ALT – 2,9±0,25 mkmol/l; AST-1,6±0,4 mkmol/l oshishi va PTI – 77,4±0,6%; umumiy oqsil qiymatini 57,7±1,0 g/l gacha pasayishi aniqlandi. Ushbu guruhidagi 2 (12,5±8,5%) nafar bemorlarda mochevina miqdorini 9,8±0,9 mkmol/l gacha ko'tarildi.

Xulosa: SNIG guruhida jigardagi surunkali jarayon 88,0±6,6% holatlarda jigarning asosiy vazifalari buzilishi bilan kechsa, 24,0±8,7% holatlarda esa surunkali jarayon davomiyligi uzoq bo'lmasada organ yetishmovchiligi rivojlanishi qo'shilishi aniqlandi. SVG bemorlarda esa jigar vazifalarini buzilishi jarayon davomiyligi bilan bir qatorda, surunkali gepatitni keltirib chiqargan virus turiga ham bog'liq, ya'ni VGC da B ga nisbatan jarayon sekin va uzoq davom etib, jigar vazifalari yetishmovchiligi ham asta sekin rivojlanadi, mikst gepatitlarda esa B ga nisbatan kuchli jarayon rivojlanishi kuzatiladi.

TARIX FANINI O‘QITISHDA O‘QITUVCHINING INNOVATSION FAOLIYATINI RIVOJLANTIRISH

Sattorova Go‘zal Tugalovna

Samarqand viloyati Tayloq tumani 34-umumta’lim maktabining Tarix fani
o‘qituvchisi

Annotatsiya: Bugungi kunda ta’lim tizimida innovatsion yondashuvlar muhim ahamiyat kasb etmoqda. Ayniqsa, tarix fanini o‘qitishda o‘qituvchining innovatsion faoliyati o‘quvchilarning tanqidiy fikrlashini rivojlantirish, tarixiy voqealarni tahlil qilish va ularni hozirgi zamon bilan bog‘lash imkoniyatini yaratadi. Innovatsion metodlar, jumladan, interfaol texnologiyalar, raqamli resurslar va muammoli ta’lim usullari o‘quv jarayonini samarali tashkil etishga yordam beradi. Ushbu maqolada tarix fanini o‘qitishda innovatsion faoliyatning ahamiyati, uning asosiy yo‘nalishlari va o‘qituvchilarning kasbiy rivojlanishiga ta’siri tahlil qilinadi. Shuningdek, zamonaviy pedagogik texnologiyalardan foydalanishning afzalliklari va ularni amaliyotga tatbiq etish usullari muhokama qilinadi. Innovatsion faoliyatni rivojlantirish orqali o‘quvchilarning tarix fani bo‘yicha bilimlarini mustahkamlash va ularni faollikka undash mumkin.

Kalit so‘zlar: Tarix ta’limi, innovatsion faoliyat, interfaol metodlar, raqamli resurslar, pedagogik texnologiyalar, muammoli ta’lim, o‘qituvchi roli, tanqidiy fikrlash, kasbiy rivojlanish, o‘quv motivatsiyasi, tarixiy tahlil, ta’lim samaradorligi.

Kirish

Zamonaviy ta’lim tizimida innovatsion yondashuvlarning qo‘llanilishi o‘quv jarayonining samaradorligini oshirishda muhim omil bo‘lib xizmat qiladi. Xususan, tarix fanini o‘qitishda o‘qituvchining innovatsion faoliyati o‘quvchilarning bilim olish jarayonini yanada qiziqarli va samarali qilishga yordam beradi. Bugungi kunda an’anaviy usullar bilan bir qatorda interfaol metodlar, raqamli texnologiyalar va muammoli ta’lim usullaridan foydalanish ta’lim sifatini oshirishga xizmat qilmoqda.

Ko‘pgina tadqiqotchilar innovatsion faoliyatning o‘qitish jarayonidagi o‘rni va ahamiyatiga to‘xtalgan. Masalan, Brown (2014) o‘zining Teaching by Principles kitobida ta’limda interfaol metodlarni qo‘llash muhimligini ta’kidlagan bo‘lsa, Richards va Rodgers (2014) Approaches and Methods in Language Teaching asarida innovatsion pedagogik yondashuvlarning turli xususiyatlarini tahlil qilgan. Shuningdek, Harmer (2015) o‘qituvchi innovatsion faoliyatining ta’lim jarayoniga ijobiy ta’sirini o‘z tadqiqotlarida ko‘rsatib o‘tgan.

Ushbu maqolada tarix fanini o'qitishda o'qituvchining innovatsion faoliyatini rivojlantirish masalalari, zamonaviy pedagogik texnologiyalarning samaradorligi va ularni amaliyotga tatbiq etish yo'llari tahlil qilinadi. Innovatsion yondashuvlarning o'quvchilar bilim darajasiga ta'siri ham ilmiy adabiyotlar asosida ko'rib chiqiladi.

Asosiy qism

Tarix fanini o'qitishda innovatsion faoliyatning ahamiyati. Bugungi ta'lim tizimida innovatsion yondashuvlar muhim o'rin tutadi, chunki ular o'quvchilarning bilim olish jarayonini qiziqarli, samarali va interfaol holga keltiradi. Tarix fani o'tmishdagi voqealarni, jarayonlarni o'rganish bilan birga, ulardan saboq chiqarish va zamonaviy dunyo bilan bog'lash imkoniyatini ham taqdim etadi. Shu sababli tarixni o'qitishda an'anaviy yondashuvlar bilan bir qatorda innovatsion metodlar ham keng qo'llanilishi zarur. O'qituvchining innovatsion faoliyati nafaqat dars jarayonining sifatini oshiradi, balki o'quvchilarning mustaqil fikrlash, tanqidiy tahlil qilish va muammolarni hal etish ko'nikmalarini rivojlantiradi.

Innovatsion metodlarning turlari. Innovatsion faoliyatni rivojlantirish jarayonida turli xil zamonaviy usullardan foydalanish mumkin. Bular orasida interfaol texnologiyalar, muammoli ta'lim, loyiha metodikasi, raqamli resurslardan foydalanish va o'quvchilarning faolligini oshirishga qaratilgan boshqa metodlar mavjud.

1. Interfaol texnologiyalar. Interfaol o'qitish texnologiyalari o'quvchilar-ning dars jarayonida faol ishtirok etishini ta'minlaydi. Masalan, munozaralar, guruhli ishlar, rolli o'yinlar va tarixiy hodisalarni tahlil qilish singari metodlar orqali o'quvchilar o'rgangan mavzularini yaxshiroq anglab yetadilar. Larsen-Freeman va Anderson (2013) interfaol metodlarning o'quv jarayoniga ta'siri haqida so'z yuritib, o'quvchilarning faol ishtiroki o'quv materialining samarali o'zlashtirilishiga yordam berishini ta'kidlaydi.

2. Muammoli ta'lim. Muammoli ta'lim metodikasida o'quvchilarga tarixiy voqealar bilan bog'liq savollar berilib, ularning mustaqil tahlil qilish qobiliyatlari shakllantiriladi. Masalan, "Buyuk Ipak yo'li savdo aloqalariga qanday ta'sir ko'rsatgan?" yoki "O'rta asrlardagi davlat tuzumlari zamonaviy jamiyatga qanday ta'sir qilgan?" kabi savollar o'quvchilarning mustaqil fikrlashini rivojlantiradi.

3. Loyiha metodikasi. Loyiha metodikasi tarix fanini chuqurroq o'rganish va mavzularni amaliyotga tatbiq etish imkonini beradi. Masalan, o'quvchilar tarixiy shaxslar haqida tadqiqot olib borib, ularning hayoti va faoliyatini batafsil o'rganishlari mumkin. Ushbu metod orqali o'quvchilar tarixiy manbalarni mustaqil o'rganishga va o'z fikrlarini ifodalashga o'rganadilar.

4. Raqamli resurslar va texnologiyalar. Zamonaviy ta'lim jarayonida raqamli texnologiyalardan foydalanish muhim ahamiyatga ega. Masalan, interfaol taqdimotlar,

videodarslar, virtual muzey ekskursiyalari, onlayn tarixiy hujjatlar va boshqa raqamli resurslar orqali o'quvchilarga dars mazmunini yanada jonli va ta'sirchan yetkazish mumkin. Brown (2014) ta'limda texnologiyalardan foydalanish o'quv jarayonining samaradorligini oshirishini ta'kidlaydi.

O'qituvchining innovatsion faoliyatini rivojlantirish yo'llari. Innovatsion yondashuvlarni samarali qo'llash uchun o'qituvchi doimiy ravishda o'z kasbiy malakasini oshirib borishi lozim. Quyidagi yo'nalishlar bu borada muhim ahamiyatga ega:

1. Doimiy o'qitish va tajriba almashish – Seminarlar, konferensiyalar va malaka oshirish kurslarida ishtirok etish orqali o'qituvchilar innovatsion metodlar bilan tanishishlari mumkin.
2. Zamonaviy texnologiyalardan foydalanish – Dars jarayonida interfaol doskalar, raqamli darsliklar va onlayn platformalardan foydalanish o'quv jarayonini takomillashtiradi.
3. Ilmiy-tadqiqot faoliyati bilan shug'ullanish – O'qituvchilar o'z sohasida ilmiy izlanish olib borib, yangi yondashuvlarni ishlab chiqishlari mumkin.
4. Mualliflik metodikasini ishlab chiqish – Tarix fanini o'qitish bo'yicha o'ziga xos uslub va metodlarni yaratish o'qituvchining pedagogik faoliyatini samarali qilishga yordam beradi.

Innovatsion faoliyatning natijalari. Innovatsion metodlar tarix fanini o'qitishda bir qancha ijobiy natijalarga olib keladi. Eng muhim natijalardan biri – o'quvchilarning mustaqil fikrlash va tahlil qilish qobiliyatining rivojlanishidir. An'anaviy yodlashga asoslangan metodlardan farqli o'laroq, zamonaviy yondashuvlar o'quvchilarga tarixiy jarayonlarni kengroq tushunish va ularni zamonaviy hodisalar bilan bog'lash imkoniyatini yaratadi.

Bundan tashqari, innovatsion metodlarning qo'llanilishi o'quvchilarning ta'lim jarayoniga qiziqishini oshiradi. Masalan, interfaol o'yinlar, guruhli loyihalar va zamonaviy texnologiyalardan foydalanish o'quvchilarning motivatsiyasini kuchaytiradi. Harmer (2015) innovatsion yondashuvlarning samaradorligini ta'kidlab, o'quvchilarning faolligi oshishi ta'lim jarayonining sifatini yaxshilashga xizmat qilishini qayd etgan. Yana bir muhim jihat – innovatsion metodlar orqali tarix fani bo'yicha bilimlarni amaliyotda qo'llash imkoniyati. Masalan, tarixiy tadqiqotlar, muammoli vaziyatlarni hal qilish va tarixiy jarayonlar bo'yicha tahlillar o'quvchilarning nafaqat akademik, balki hayotiy bilimlarini ham rivojlantiradi.

Umuman olganda, tarix fanini o'qitishda o'qituvchining innovatsion faoliyati muhim ahamiyat kasb etadi. Innovatsion yondashuvlar ta'lim jarayonining samaradorligini oshiradi, o'quvchilarning mustaqil fikrlash qobiliyatini rivojlantiradi

va ta'lim sifatini yaxshilaydi. Zamonaviy pedagogik texnologiyalar, interfaol metodlar va raqamli resurslardan foydalanish orqali o'qituvchilar o'quvchilarga tarix fanini yanada qiziqarli va samarali o'rgatishlari mumkin. Innovatsion faoliyatning doimiy rivojlanishi esa ta'lim tizimining umumiy sifatini oshirishga xizmat qiladi.

Xulosa

Tarix fanini o'qitishda o'qituvchining innovatsion faoliyatini rivojlantirish zamonaviy ta'lim tizimida muhim ahamiyat kasb etadi. Innovatsion yondashuvlar ta'lim jarayonini yanada samarali, interfaol va qiziqarli qilishga xizmat qiladi. An'anaviy dars usullariga qaraganda, interfaol texnologiyalar, muammoli ta'lim, loyiha metodikasi va raqamli resurslardan foydalanish o'quvchilarning tarixiy bilimlarni chuqur o'zlashtirishiga, mustaqil fikrlash va tanqidiy tahlil qilish qobiliyatlarini rivojlantirishga yordam beradi.

O'qituvchilarning innovatsion faoliyatini rivojlantirish uchun ularning malaka oshirishlari, zamonaviy texnologiyalarni o'zlashtirishlari va ilmiy-tadqiqot faoliyatini olib borishlari talab etiladi. Shu bilan birga, o'quvchilarning qiziqishini oshirish va dars jarayonida faol ishtirokini ta'minlash muhimdir. Innovatsion metodlarning qo'llanilishi o'quvchilarning motivatsiyasini kuchaytiradi, tarix faniga bo'lgan qiziqishini oshiradi va bilimlarni amaliy qo'llash imkoniyatini yaratadi. Tarix fanini o'qitishda innovatsion yondashuvlar nafaqat ta'lim jarayonining sifatini oshiradi, balki o'quvchilarning intellektual rivojlanishiga ham katta hissa qo'shadi. Shunday ekan, zamonaviy o'qituvchilar ta'lim jarayoniga doimiy ravishda yangi usullarni joriy etib, innovatsion faoliyatni rivojlantirishga intilishlari lozim. Bu esa ta'lim samaradorligini oshirish va kelajak avlod uchun mustahkam bilim poydevorini yaratishda muhim ahamiyat kasb etadi.

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ON THE NATIONAL FREEDOM STRUGGLE OF 1916 IN TURKESTAN (ON THE EXAMPLE OF SYRDARYA REGION)

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Abstract: This scientific article studies the national liberation struggle in Turkestan in 1916, in particular the events that took place in the Syrdarya region. The article analyzes the social, economic and political factors of this period, their impact on the national movements among the local population. It also highlights the strategies of the population of the region to resist the pressure of the Russian Empire, the historical significance of the main characters and events in the struggle. The article, analyzing various archival documents, personal memoirs and historical literature, assesses the role of the Syrdarya region in the liberation struggle and its place in the context of the broader national movement.

Key words: Turkestan, national liberation struggle, Syrdarya region, Russian Empire, social movements

The colonial aggression and subjugation of Central Asia by the Russian Empire in the middle of the 19th century brought great hardships and trials to the peoples of Turkestan. The Uzbeks, Tajiks, Kazakhs, Kyrgyz, Turkmens, Karakalpaks and other peoples, who fell into the clutches of colonialism and national oppression, were subjected to unprecedented oppression and suffering, and their national culture, values, customs and national pride were trampled on. The oppressive position of the imperial government aroused deep hatred in the hearts of the peoples of Turkestan, and this feeling was passed down from generation to generation. Therefore, our free-spirited people waged a relentless struggle against the colonial oppression of tsarist Russia. The uprisings that broke out in our country in 1892, 1898 and 1916 were written in golden letters on the pages of history. These uprisings were linked to each other in every way based on historical logic and took place under the banner of independence and freedom. The uprisings that took place in the Syrdarya region in 1916 occupy an important place in the history of our Motherland. The most powerful and intense of the uprisings that took place in this year, the mass wave that shook the empire, occurred in this region. Because this region was considered the most significant socio-economic region of the Turkestan Governorate, its borders stretched from Orenburg and Alma-Ata on the one hand, and from the Amu Darya and Jizzakh on the other. The region included Tashkent, Shymkent, Avliyata, Perovsk, Kazalinsk and the Amu Darya department. The city of

Tashkent alone included a significant part of the industrial enterprises, trade and commerce sectors, and railway services in the region. If we take into account that Tashkent was the political and cultural center of the entire Governorate-General, the Emirate of Bukhara and the Khanate of Khiva, then there is no doubt how high the status of the Syrdarya region was at that time. It should be said that the prosperous and abundant part of present-day Kazakhstan, Kyrgyzstan and Turkestan was part of the Syrdarya region of the governorate [1:134].

The popular movements that took place in the Syrdarya region are an integral part of the history of the national liberation struggle in Turkestan, and it is appropriate to reinterpret all the uprisings in the region related to this problem. Many books have been written about this, widely publicized, and the popular movements against the oppression of imperial colonialism are also reflected in them to a certain extent. In particular, the first work on the 1916 uprising was published by T. Riskulov in 1924. In his scientific article entitled "From the History of the Struggle for the Liberation of the East," the author assessed this uprising as a national movement and a revolutionary struggle [2]. This approach to the issue is also reflected in T. Riskulov's second article written in 1927 [3:124].

A number of works on the freedom struggle were published in the 30s and 40s, in particular, the works of A.V. Shestakov, Yu. Felix, Z.D. Kastelskaya, I.K. Dodonov, A.G. Zima, P.P. Mironov, E. Mavloni and others should be noted [4:8]. It is also clear from this that in the 20s and 40s of the last century, many scientific articles were published mainly on the national freedom struggle of 1916. Although the works of such authors as N. Khalfin, A.F. Yakunin, O.K. Kuliev, T.E. Yeleuov have a certain importance in our study of the history of the 1916 uprising, they incorrectly assessed the content and direction of the freedom struggle. That is, this uprising was one-sidedly characterized as an integral part of the all-Russian revolutionary movements, and the fact that the freedom struggle was aimed at restoring the unity of Turkestan was denied. In studying the history of the national liberation uprising, the doctoral dissertations of Kh. Sodikov and N. Abdurakhimova are of great importance [5]. The authors' works objectively reveal the political and socio-economic landscape of the colonial period, the various conditions necessary for the maturation of the national liberation uprising, and the measures taken by the imperial authorities to prevent it.

When extremely difficult conditions prevailed in the Turkestan region, on June 25, 1916, the tsar's decree on the involvement of the indigenous population living in Turkestan and other parts of the empire in rear-line work was published [6:1747]. It also mentioned the Syrdarya, Fergana, Samarkand, Trans-Caspian, Akmola, Ettisuv, Semipalatinsk, Ural and Turgai regions of the region. However, it was planned to

recruit representatives of the poor who were not suitable for daily labor. Although the decree did not officially state that the wealthy should not be mobilized, in practice their children were not included in the list.

Finally, the people's hatred and anger at the hard life and the imperial decree turned into open rebellion on the morning of July 11, 1916. Poverty, high prices, and humiliation even inspired women to fight. The fact that thousands of men were being forced into forced labor and the worries about making ends meet shook women. In particular, women and men from various neighborhoods of Tashkent gathered in front of the Ministry of Culture on what is now A. Navoi Street. In front of them, women, filled with rage, walked briskly. They were armed with clubs, stones, iron bars, knives, hoes, and similar simple objects. The rebels entered Almazar Street with shouts and shouts and surrounded the police station. They stormed the police station courtyard with shouts of "...we may die here, but we will not send our children anywhere!", "...we are exhausted from suffering. May the tsarist government that oppressed us be destroyed!" [6:121].

The crowd, led by the rebels Mahmudkhodja Mirzakhodjaev, Yakub Murodzhabbarov, Faiziali Rakhimboev, Pulatkhodja Inogomkhodjaev, Gulom Kamolov, Murodkhodja Mukhammadkomilkhodjaev, Abdurakhmon Kayum Sofiev and Nizomkhodja Zainutdinkhodjaev, raised their voices and stormed the courtyard of the police department building, injuring four of the police officers[7]. At the same time, they severely beat the secretary of the police department and threw iron rods and stones at the bailiffs and the police officers [8:121,122]. In short, the uprising that took place in Tashkent is a vivid example of the struggle for freedom, with its extreme severity and intensity. Its most important feature is that it was first initiated by women, and then men followed.

In response to the popular movements in Tashkent and its districts, uprisings broke out in a number of places in the Syrdarya region. Uzbeks, Kazakhs, Kyrgyz, and Karakalpaks participated in them. The uprisings were especially sharp in the Avliyota district of the region. Although the difficult political and socio-economic conditions and the emperor's decree on the recruitment of laborers gave rise to the uprisings, there were other reasons for their seriousness.

There were several Russian settlements in the Avliyota district that were engaged in farming and other activities. According to sources, the Russians living in the settlements were extremely rude to the local population, treated them with contempt, disregarded them, and were violent. Colonel Kastalsky, the head of the Avliyata district, writes: "The Russian population of the district consisted of "scoundrels" who were brought from the interior provinces of Russia and carried out field work like

savages. Before the war, they were involved in drinking and entered the indigenous population not with their culture, but with their bad behavior. They had a derogatory attitude towards the Kazakhs, exploited and oppressed them with flattery. It is clear that with such an attitude, the Russians could not win the trust of the Muslims” [9:5]. On September 1, crowds gathered around the villages of Podgor and Lugov, which belong to the Avliyata district of the region, and rebelled against the emperor’s decree on labor. At that time, Kazakh rebels occupied a 10-kilometer stretch starting from Chaldavar, and in many places they cut off telephone wires. They clashed with Russian armed volunteers [10:18]. On September 3, the rebels attacked a railway station being built near Lugov. A military force of 100 people was sent against them. They were defeated, and some fled to the mountains, while the rest fled to the Chu River. As a result of the uprising, the construction of the Pishpek-Avliyota railway was stopped. Postal communication with Tashkent was also cut off [10:79]. And thus the uprising was suppressed at the cost of many people being killed. In short, the First World War made the political and socio-economic life of the country unbearable and brought the masses of the people to the brink of destruction. In such difficult conditions, the proclamation of the imperial decree, the colonial and nationalist policies of the empire led to the uprising of the Uzbeks, Kazakhs, Kyrgyz and Karakalpaks. The participation of not only men, but also women in these freedom struggles was of great importance, and this process shows us how high their political consciousness and loyalty to the Motherland were.

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PRECURSORS OF THE DEVELOPMENT OF TROPHOBLASTIC DISEASE AMONG WOMEN OF REPRODUCTIVE AGE

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According to literature data, trophoblastic disease is characteristic only of pregnant women of reproductive age and occurs in 0.1-0.25% of all pregnancies. Cystic fibrosis is most often diagnosed among this pathology.

The purpose of the study: to study the risk factors for the development of cystic fibrosis among women of reproductive age.

Research materials and methods: the study was conducted among 53 women of reproductive age who were treated at the Khorezm branch of the Republican Specialized Scientific and Practical Medical Center for Oncology and Radiology. The diagnosis of cystic drift was established morphologically. The studies included general clinical and gynecological studies, laboratory studies.

The results of the study: depending on the morphological data, the patients were divided into the following groups: Group I - a simple form of cystic fibrosis - 35 patients (67.2%), group II - patients with a proliferating form of cystic fibrosis - 14 patients (26.6%), group III - invasive cystic fibrosis - 4 patients (6.2%).

The age of the women ranged from 21 to 43 years (on average, 31.0 ± 0.6 years). In group I, women aged 21-40 years significantly prevailed, women with proliferating cystic fibrosis were aged 31 to 40 years.

When studying the reproductive history of the examined women, it was found that there were 13 (24.8%) first-time pregnant women, 40 (75.2%) second-time pregnant women. In group I, women with simple and proliferating cystic fibrosis were significantly more likely to be pregnant again.

When studying menstrual function in women with cystic fibrosis, it was found that late menarche (60%) is a prognostically unfavorable sign, since such women are more likely to develop proliferating and invasive forms of cystic fibrosis.

Gynecological diseases were in the anamnesis in 55.7% of women: inflammatory diseases of the uterus and appendages - in 42.9%, cervical erosion - in 12.8%.

Simple cystic fibrosis most often developed after spontaneous miscarriage (42.8%), with a frozen pregnancy (16.2%), against the background of the first pregnancy (37.8%), after an ectopic pregnancy (1.8%). The proliferating form of cystic fibrosis developed after spontaneous miscarriage in 41.6% of cases, frozen pregnancy in 35%

of cases, childbirth in 8.6%, after ectopic pregnancy in 8.4%, and during the first pregnancy in 37.8%.

The analysis of complaints showed that mostly women were concerned about spotting from the genital tract (75.4% of cases), pain in the lower abdomen and toxicosis (19.2%), the discrepancy between the size of the uterus and the gestation period occurred in 49.1% of cases. There were no significant differences in the clinical symptoms of the disease.

All patients with cystic fibrosis underwent manual vacuum aspiration, while the effectiveness and sensitivity of this treatment method were 98.6%.

Thus, all pregnant women in the first trimester of pregnancy need comprehensive dynamic monitoring for early diagnosis, which allows timely detection of complications of the gestational process, which, in turn, is the key to effective treatment.

O‘ZBEKISTONDA MAKTAB VA MAKTABGACHA TA’LIM TIZIMIDAGI MUAMMOLAR VA ULARNING YECHIMLARI

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Annotatsiya Mazkur maqolada O‘zbekistonda maktab va maktabgacha ta’lim tizimining dolzarb muammolari tahlil qilinadi. Jumladan, bog‘chalarning yetishmovchiligi, pedagog kadrlar malakasining pastligi, ta’lim sifatining talab darajasida emasligi hamda moddiy-texnik bazaning zaifligi kabi muammolar ko‘rib chiqiladi. Ushbu muammolarni bartaraf etish bo‘yicha takliflar ilgari surilib, ta’lim sifatini oshirish uchun zarur chora-tadbirlar muhokama qilinadi.

Kalit so‘zlar: ta’lim tizimi, maktabgacha ta’lim, umumiy o‘rta ta’lim, pedagogika, ta’lim sifati, ta’lim islohotlari.

Аннотация В данной статье анализируются актуальные проблемы системы школьного и дошкольного образования в Узбекистане. В частности, рассматриваются такие вопросы, как нехватка детских садов, низкий уровень квалификации педагогических кадров, несоответствие качества образования современным требованиям и слабая материально-техническая база. Предлагаются пути решения данных проблем и обсуждаются меры по повышению качества образования.

Ключевые слова: система образования, дошкольное образование, общее среднее образование, педагогика, качество образования, образовательные реформы.

Annotation This article analyzes the current issues in the school and preschool education system in Uzbekistan. In particular, it examines problems such as the shortage of kindergartens, the low qualifications of pedagogical staff, the insufficient quality of education, and the weak material and technical base. Solutions to these problems are proposed, and measures to improve the quality of education are discussed.

Keywords: education system, preschool education, general secondary education, pedagogy, education quality, educational reforms.

Kirish

O‘zbekiston ta’lim tizimi mustaqillik yillaridan boshlab bir qancha islohotlar bosqichidan o‘tdi. Xususan, maktabgacha ta’lim va umumiy o‘rta ta’lim sohalarida davlat tomonidan qator dasturlar amalga oshirilmoqda. Shunga qaramay, ushbu tizimda hanuzgacha dolzarb muammolar mavjud bo‘lib, ularni hal qilish bo‘yicha samarali strategiyalar ishlab chiqish muhim ahamiyatga ega.

Mavzuga oid adabiyotlarning tahlili (Literature Review)

Maktab va maktabgacha ta’lim tizimi bo‘yicha ilmiy adabiyotlar va tadqiqotlar tahlili ushbu sohada mavjud muammolarni anglash hamda ularni hal etish bo‘yicha ilg‘or tajribalarni o‘rganishga imkon beradi.

O‘zbekistonda ta’lim tizimi bo‘yicha tadqiqotlar O‘zbekistonda maktab va maktabgacha ta’lim tizimi bo‘yicha bir qator ilmiy maqolalar, hukumat qarorlari va xalqaro tashkilotlar hisobotlari mavjud. Xususan, O‘zbekiston Respublikasi Vazirlar Mahkamasi tomonidan qabul qilingan “Maktabgacha ta’lim tizimini rivojlantirish to‘g‘risida”gi qarorlar ta’lim sifatini oshirishga qaratilgan islohotlarni belgilaydi.

Tadqiqotlarda O‘zbekistonda maktabgacha ta’lim muassasalarining yetishmovchiligi muhim muammo sifatida qayd etilgan (Karimova, 2021). Shuningdek, pedagogik kadrlarning malaka oshirish tizimini takomillashtirish lozimligi ta’kidlangan (Rasulov, 2020). Ta’lim sifatini oshirish uchun zamonaviy pedagogik yondashuvlar, shu jumladan STEAM ta’limi va interaktiv metodlardan foydalanish tavsiya etilgan (Tursunov, 2022).

Xalqaro tajribalar va taqqoslash Xalqaro tadqiqotlar shuni ko‘rsatadiki, maktab va maktabgacha ta’lim tizimining samaradorligi mamlakatning iqtisodiy rivojlanishi va innovatsion salohiyati bilan bevosita bog‘liqdir.

Masalan, Finlandiya maktabgacha ta’limni davlat tomonidan to‘liq qo‘llab-quvvatlash orqali yuqori natijalarga erishgan (OECD, 2021). Shu bilan birga, Singapurda pedagogik kadrlarni tayyorlash va ularning malakasini muntazam oshirish bo‘yicha ilg‘or tajribalar mavjud bo‘lib, ushbu yondashuv ta’lim sifatining sezilarli darajada yaxshilanishiga olib kelgan (Lee, 2020).

Jahon banki tomonidan olib borilgan tadqiqotlarda (World Bank, 2022) ta’lim tizimini rivojlantirish uchun quyidagi yo‘nalishlar muhimligi ta’kidlangan:

- Davlat va xususiy sektor hamkorligini kuchaytirish.
- O‘qituvchilarning malakasini oshirish dasturlarini takomillashtirish.
- Ta’lim muassasalarining moddiy-texnik bazasini mustahkamlash.
- Innovatsion ta’lim texnologiyalaridan foydalanish.

Mavjud muammolar va ularni bartaraf etish bo'yicha ilg'or yondashuvlar

Mavjud ilmiy tadqiqotlar asosida O'zbekistondagi maktab va maktabgacha ta'lim tizimidagi asosiy muammolar quyidagicha tasniflanadi:

- Bolalar bog'chalari sonining yetishmovchiligi (Karimova, 2021).
- Pedagogik kadrlarning malakasi pastligi va ularni zamonaviy metodlarga mos tayyorlash zarurligi (Rasulov, 2020).
- Moliyaviy ta'minot va moddiy-texnik bazaning zaifligi (Tursunov, 2022).

Ilg'or tajribalar va xalqaro amaliyotlarga tayangan holda, ushbu muammolarni hal etish uchun quyidagi strategiyalar tavsiya etiladi:

- Maktabgacha ta'lim muassasalarining sonini oshirish va ularga davlat investitsiyalarini jalb qilish.
- Pedagoglarni doimiy ravishda qayta tayyorlash va malaka oshirish dasturlarini ishlab chiqish.
- Ta'lim dasturlarini modernizatsiya qilish va zamonaviy innovatsion texnologiyalarni joriy etish.
- Davlat-xususiy sheriklik tamoyillaridan keng foydalanish.

Tadqiqot metodologiyasi (Research Methodology) **

Ushbu tadqiqotda sifat va miqdoriy tadqiqot usullari qo'llanilgan. Ma'lumotlar yig'ish jarayonida intervyular, so'rovnomalar va mavjud statistik ma'lumotlar tahlil qilindi. Tadqiqotning asosiy maqsadi O'zbekistondagi maktab va maktabgacha ta'lim tizimidagi asosiy muammolarni aniqlash va ularni hal qilish bo'yicha samarali strategiyalarni ishlab chiqishdan iborat.

Tadqiqot usullari Tadqiqotda quyidagi usullar qo'llanildi:

- **Miqdoriy tahlil** – mavjud statistik ma'lumotlar, ta'lim muassasalarining rasmiy hisobotlari va xalqaro tashkilotlarning tadqiqotlari tahlil qilindi.
- **Sifat tahlili** – ta'lim sohasi mutaxassislari, pedagoglar va ota-onalar bilan intervyular o'tkazildi.
- **Taqqoslash metodi** – O'zbekistonning ta'lim tizimi boshqa davlatlar tajribasi bilan taqqoslandi.

Ma'lumotlar yig'ish jarayoni Tadqiqotda foydalanilgan ma'lumotlar turli manbalardan yig'ilgan:

- Hukumat va xalqaro tashkilotlarning rasmiy hisobotlari.
- Universitet va ilmiy markazlarning tadqiqot maqolalari.
- Ta'lim sohasi bo'yicha ekspert va mutaxassislarning fikrlari.
- O'quvchilar va ularning ota-onalaridan olingan so'rovnomalar natijalari.

Tadqiqotning ishonchliligi va cheklovlari Tadqiqotning natijalari ishonchliligini oshirish uchun bir nechta metodlardan foydalangan holda ma'lumotlar tahlil qilindi. Biroq, tadqiqot ma'lum cheklovlarga ega:

- Respondentlarning subyektiv fikrlari natijalarga ta'sir qilishi mumkin.
- Statistika ma'lumotlari barcha ta'lim muassasalarini to'liq qamrab olmasligi ehtimoli mavjud.

Tadqiqot natijalari O'zbekistondagi ta'lim tizimini takomillashtirish bo'yicha aniq tavsiyalar ishlab chiqishga xizmat qiladi.

Tahlil va natijalar (Analysis and Results)

Ushbu bo'limda O'zbekistondagi maktab va maktabgacha ta'lim tizimidagi asosiy muammolar hamda ularning sabablari tahlil qilinadi. Tadqiqot natijalari empirik ma'lumotlarga asoslanib, muammolarni hal qilish bo'yicha takliflar ishlab chiqilgan.

Maktabgacha ta'lim tizimidagi asosiy muammolar Tadqiqot natijalari shuni ko'rsatadiki, O'zbekistonda maktabgacha ta'lim muassasalari soni yetarli emas, ayniqsa qishloq hududlarida bog'chalarga ehtiyoj yuqori. So'rovnomalar natijalariga ko'ra, ota-onalarning aksariyati sifatli maktabgacha ta'lim xizmatlariga to'liq kirish imkoniyatiga ega emas. Shuningdek, pedagogik kadrlarning malaka darajasi ham muhim masala sifatida qayd etilgan. O'tkazilgan intervyular asosida ko'pchilik bog'cha tarbiyachilarining zamonaviy ta'lim metodikalaridan yetarli darajada foydalanmayotgani aniqlandi.

Umumiy o'rta ta'lim tizimidagi muammolar Tahlillar shuni ko'rsatadiki, umumiy o'rta ta'lim tizimida o'qituvchilarning malaka darajasi va ta'lim sifatiga ta'sir qiluvchi omillar mavjud. O'qituvchilar orasida kasbiy rivojlanish imkoniyatlarining yetarli emasligi ta'kidlangan.

Bundan tashqari, ta'lim muassasalarining moddiy-texnik bazasi ham dolzarb muammo bo'lib, ayrim maktablarda zamonaviy o'quv jihozlari va laboratoriyalar yetishmovchiligi kuzatilmoqda.

Xalqaro tajriba bilan solishtirish Tadqiqot natijalari xalqaro tajriba bilan solishtirilganda, ta'lim tizimidagi mavjud muammolarni hal qilish uchun xorijiy davlatlarda qo'llanilayotgan samarali yondashuvlar o'rganildi. Masalan, Finlandiya va Singapur ta'lim tizimlarida pedagogik kadrlarning malakasini oshirishga katta e'tibor qaratilgan.

Umumiy natijalar va xulosa Tahlillar natijalariga ko'ra, O'zbekistondagi maktab va maktabgacha ta'lim tizimini rivojlantirish uchun quyidagi chora-tadbirlar muhim hisoblanadi:

- Maktabgacha ta'lim muassasalarining sonini oshirish va ularning sifati bo'yicha standartlarni joriy etish;

- Pedagogik kadrlar malakasini oshirish uchun muntazam trening va o'quv dasturlarini ishlab chiqish;
- Maktab va bog'chalarning moddiy-texnik bazasini mustahkamlash;
- Davlat-xususiy sheriklik asosida ta'lim tizimini qo'llab-quvvatlash.

Tahlillar shuni ko'rsatadiki, ta'lim tizimining samaradorligini oshirish uchun tizimli islohotlar talab etiladi. Shu bilan birga, xalqaro tajribalarga asoslangan holda innovatsion metodlarni joriy etish ta'lim sifatini sezilarli darajada yaxshilashi mumkin.

Xulosa Tahlil qilingan ilmiy adabiyotlar va tadqiqotlar shuni ko'rsatadiki, O'zbekistonda maktab va maktabgacha ta'lim tizimini takomillashtirish uchun xalqaro tajribalardan samarali foydalanish lozim. Xususan, pedagogik malaka oshirish dasturlarini takomillashtirish, infratuzilmani rivojlantirish va innovatsion yondashuvlarni joriy qilish asosiy vazifalardan biri hisoblanadi. Ushbu yondashuvlar amalga oshirilsa, ta'lim sifatining oshishiga erishish mumkin.

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“Farhod va Shirin” Maqsud Shayxzoda tomonidan yozilgan mashhur dramatik asardir

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Annotatsiya. Maqsud Shayxzoda jahon adabiyotining ko‘plab noyob asarlarini o‘zbek tiliga tarjima qilgan. Uning tarjimalari orqali o‘zbek kitobxonlari jahon klassiklarining ijodi bilan tanishish imkoniga ega bo‘lgan. “Farhod va Shirin” Maqsud Shayxzoda tomonidan yozilgan mashhur dramatik asarlardan biri bo‘lib, u buyuk oshiqlar Farhod va Shirin haqidagi afsonaviy hikoya asosida yaratilgan. Bu pesada muhabbat, jasorat va fidokorlik mavzulari yorqin aks ettirilgan.

Kalit so‘zlar: Madsud Shayxzoda, O‘zbekiston adabiy maydonida o‘z ovozi topgan shoir, umrlar bo‘ladiki, tiriklik va o‘liklik, inson qadr-qimmatini, falsafiy tafakkur.

O‘zbek adabiyotining atoqli namoyandalaridan biri, zabardast dramaturg, adabiy faylasuf Maqsud Ma’sum o‘g‘li Shayxzoda 1908 yili Ozarbayjonning Oqdosh shahrida tavallud topdi. Boshlang‘ich ma’lumotni Oqdoshda olgach, yangi sovet maktabida o‘qishni davom ettirdi. 1925 yildan muallimlik qilgan Shayxzoda Boku Oliy pedagogika institutini sirdan o‘qib bitirdi.

U 1928 yilda Toshkentga kelib, turli ro‘znoma va oynomalar muharririyatlarida, 1935—1938 yillarda esa O‘zbekiston SSR Fanlar Komiteti qoshidagi Til va adabiyot institutida ilmiy xodim, 1938 yildan Nizomiy nomli Toshkent Davlat pedagogika instituti o‘zbek klassik adabiyoti kafedrasiga rahbarlik qildi, yuqori malakali kadrlar tayyorladi. Shoirning adabiy faoliyati 1929 yildan boshlandi. Uning «O‘n she’r» (1932), «Undoshlarim» (1933), «Uchinchi kitob» (1934), «Jumhuriyat» (1935) to‘plamlarining nashr etilishi adabiyotga o‘ziga xos ovozli shoir kirib kelayotganidan darak berdi.

Ulug‘ Vatan urushi yillarida shoir butun ijodiy quvvatini, qalb haroratini dushman ustidan g‘alaba qozonishga safarbar etdi. Urushning birinchi kunlaridanoq jang qahramonlarini ulug‘lovchi, front orqasidagi kishilarining fidokorona mehnatini ifodalovchi «Kurash nechun» (1941). «Jang va qo‘shiq» (1942), «Kapitan Gastello» (1941), «Ko‘ngil deydiki» kabi she’riy to‘plamlari, «Jaloliddin Manguberdi» (1944) tarixiy drama va boshqa qator publitsistik asarlarini yaratdi.

Urushdan keynigi tinch qurilish yillarida Vatanimiz bo‘ylab keng quloq yozgan zafarli mehnat, tinchlik uchun kurash shoirning «O‘n besh yilning daftari»,

«Olqishlarim», «Zamon torlari», «Shu'la», «Chorak devoni» kabi she'riy to'plamlari uchun asosiy mavzu bo'ldi.

1958 yili adibning ko'hna va ayni chog'da navqiron Toshkent shahriga bag'ishlangan, uning tarixi, o'tmishidagi madaniyat va xalqaro aloqalarini tasvirlovchi «Toshkentnoma» lirik dostoni yaratildi. Xassos shoir 1960 yilda yozgan «Mirzo Ulug'bek» tragediyasi bilan iste'dodli dramaturg sifatida tanildi. U buyuk inson — Ulug'bek obrazi orqali o'zbek dramaturgiyasida fojea janrining klassik namunasini yaratdi.

Shayxzoda Pushkinning «Mis chavandoz», Lermontovning «Kavkaz asiri», Mayakovskiyning «Juda soz» poemalari va ko'plab she'rlarini, Shekspirning «Hamlet» va «Romeo va Juletta» tragediyalarini va sonetlarini, Nozim Hikmatning she'rlarini, ozarbayjon shoirlari asarlarini o'zbek tiliga ag'dardi. Shayxzodaning o'zbek adabiyoti tarixi, o'zbek xalq og'zaki ijodiyoti, xususan Alisher Navoiy ijodini tadqiq etish borasida yaratgan ilmiy ishlari ham tahsinga sazovordir. U filologiya fanlari nomzodi, dotsent ham edi.

Shayxzoda asarlari qardosh xalqlar va xorijiy tillarga tarjima qilingan. Shoir tarjima jarayonida qardosh xalqlar va jahon adabiyoti klassiklarining mahorat maktabidan ta'lim oldi, ilg'or an'analarini o'zida mujassamlashtirgan she'rlar yozdi. Shoirning adabiyot sohasidagi xizmatlari sho'ro hukumati tomonidan taqdirlangan. O'zbek adabiyotining tribun shoirlaridan Maqsud Shayxzoda falsafiy fikrlarga boy hikmatomuz asarlari bilan xalqimiz qalbida abadiy yashaydi. U bir kam oltmish yil umr ko'rdi. 1967 yilda olamdan o'tdi.

Maqsud Shayxzoda (1908–1967) o'zbek adabiyotining yirik vakillaridan biri bo'lib, u shoir, dramaturg va tarjimon sifatida xalq muhabbatiga sazovor bo'lgan. Uning ijodi insonparvarlik, vatanparvarlik va millatga sadoqat g'oyalari bilan yo'g'rilgan. Uning asarlari hanuzgacha o'zbek adabiyoti va madaniyatida muhim o'rin tutadi.

Maqsud Shayxzoda 1908 yilda tug'ilgan. U adabiy faoliyatini she'r yozishdan boshlab, keyinchalik dramaturgiya va tarjima sohasida ham ijod qilgan. Uning asarlarida milliy ruh, Vatanga muhabbat va inson qadr-qimmatini tarannum etilgan. Shayxzoda o'z asarlarida o'zbek xalqining tarixi, madaniyati va milliy qahramonlik ruhini ulug'lagan. «Jonkuyar» – Vatan va Millatga Sadoqat Tarannumi. Maqsud Shayxzodaning eng mashhur asarlaridan biri «Jonkuyar» bo'lib, u Vatanga muhabbat, jasorat va xalqparvarlik ruhida yozilgan. Bu to'plamdagi she'rlar inson qalbidagi yuksak tuyg'ularni uyg'otadi va Vatan uchun fidoyilikni targ'ib qiladi.

Shayxzoda o'zbek dramaturgiyasiga ham katta hissa qo'shgan. Uning «Farhod va Shirin», «Taxir va Zuhra» kabi pesalari teatr sahnalarida katta muvaffaqiyat qozongan. Bu asarlar milliy an'analar, sevgi va jasoratni madh etadi.

“Farhod va Shirin” Maqsud Shayxzoda tomonidan yozilgan mashhur dramatik asarlardan biri bo‘lib, u buyuk oshiqlar Farhod va Shirin haqidagi afsonaviy hikoya asosida yaratilgan. Bu pesada muhabbat, jasorat va fidokorlik mavzulari yorqin aks ettirilgan. Asar qahramonlari o‘z baxti va Vatan ravnaqi yo‘lida kurashadi, bu esa Shayxzodaning ijodidagi Vatanparvarlik g‘oyalarini yanada kuchaytiradi.

Pesada Farhod sevgi va xalq baxti uchun o‘zini qurbon qiladi, bu esa uning obrazini jasorat va sadoqat ramzi sifatida ko‘rsatadi. Shirin esa o‘z qalbidagi muhabbat va sadoqat bilan sevgilisi uchun intilishda davom etadi. Asar o‘z mazmuni va badiiy uslubi bilan o‘zbek teatr san’atida muhim o‘rin tutadi.

Maqsud Shayxzoda jahon adabiyotining ko‘plab noyob asarlarini o‘zbek tiliga tarjima qilgan. Uning tarjimalari orqali o‘zbek kitobxonlari jahon klassiklarining ijodi bilan tanishish imkoniga ega bo‘lgan.

Maqsud Shayxzoda o‘z ijodi bilan o‘zbek adabiyoti tarixida o‘chmas iz qoldirgan. Uning asarlari hozir ham adabiy muhitda o‘rganilmoqda va o‘quvchilarni Vatanga muhabbat, millatga sadoqat va insonparvarlik g‘oyalariga yo‘naltirmoqda. Uning merosi yangi avlod uchun ilhom manbai bo‘lib qolmoqda.

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ШЕЙХЗАДА-МНОГОГРАННЫЙ ТАЛАНТ, ЛЮБИМЫЙ ПОЭТ УЗБЕКСКОГО И АЗЕРБАЙДЖАНСКОГО НАРОДА

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Аннотация: Шейхзада обладал разносторонним талантом. Наряду со стихами и былинами он создавал драмы, обладавшие очень высокой художественной силой. Не считая драмы “Беруни”, которую шейхзада начал писать в конце жизни, но не успел закончить, его драмы “Джалалиддин Мангуберди” и “Мирза Улугбек” уже стали достоянием нашего народа. Шейхзаде не только писал произведения во всех видах и жанрах художественного творчества, но и плодотворно работал как литературовед и критик.

Ключевые слова: Джалалиддин Мангуберди критик, произведения, драматург, литературовед, талант, стихи, “Ташкентнома”, похоронен на Фарабейском кладбище.

Шейхзада был разносторонне одаренным человеком. Наряду со стихами и былинами он создавал драмы, обладавшие очень высокой художественной силой. Не считая драмы “Беруни”, которую шейхзада начал писать в конце жизни, но не успел закончить, его драмы “Джалалиддин Мангуберди” и “Мирза Улугбек” уже стали достоянием нашего народа.

В 1908 году в городе Актобе, относящемся к Гянджинской области Азербайджана, родился Максуд Шейхзаде, который на самом деле был азербайджанцем по крови и впоследствии прославился как поистине любимый узбекский поэт, писатель, драматург, ученый-забардаш. Его отец Масумбек был врачом с большой репутацией в Элу-юрте.

В своем поэтическом творчестве шейхзада в основном писал на современные темы, в то время как в своей драматургии он глубоко погрузился в историческое прошлое и вдохнул новую художественную жизнь в фигур и событий, которые помогли осветить в нем современные проблемы. В последние годы жизни он написал последнюю пьесу о Беруни.

За статьей „о лирическом герое Навои“ (1948), написанной им к 500-летию Навои, последовали такие произведения, как „о некоторых поэтических приемах лирики Навои“ (1959), „в искусстве мастера“ (статья в 3 частях, 1965-66), „султан газальского имения“ (1966), „из истории Тазирача“ (1968) создав крупные научные исследования, он вывел науку о навигации на новый уровень развития.

Такие представители узбекского устного народного творчества, как добрый поэт, такие произведения, как „Алпомиш“, „Ширин Билан Шакар“, произведения узбекской классической и современной литературы Бабур, Муками, Фуркат, Ойбек, Гафур Гулам, Хамид Олимджон, мировой литературы Низами Гянджеви, Ш. Руставели, А.С. Пушкина, Н.А. Некрасов, А.Н. Островский, Т.Г. Шевченко, А.Р. Писал произведения, посвященные таким деятелям, как Чехов. А как педагог и поэт он внес достойный вклад в воспитание целого поколения поэтов, литературоведов и критиков.

В 1929 году на страницах газеты “Шарк правды” выходит первое стихотворение молодого поэта на узбекском языке. Вскоре после этого выходит первый сборник Шейхзаде” десять стихотворений“, а позже такие сборники, как” согласные мои “(1933),” третья книга “(1934),” Республика " (1935).

Максуд шайхзада отметил, что” трудовой героизм нашего народа, борьба и борьба, свобода и дружба, счастье и боль, прекрасные пейзажи страны и духовная общность человека пришли ко мне на перо, на мой язык”.

Эти качества поэта проявились прежде всего в его новых, неповторимых образах, способных выразить изменения, состояния жизни, действительности и духовного мира наших людей. Это образы истории – пути – путешествия – корабля-каравана, карты (Земли и Родины), адреса, числа, темпа и времени. Они неразрывно связаны между собой, история человечества целостна и всегда движется вперед, этот человеческий караван – корабль невозможно остановить, он движется к месту назначения мечты человечества – счастья.

Это также можно узнать по тому факту, что Шейхзада назвал свои книги” пятнадцатилетней записной книжкой “или” девизом четверти века”. Сам поэт говорит, что это” тетрадь – отсрочка, в которой жизнь человека ограничена“, а значит, эту тетрадь нужно наполнять полезными, добрыми делами - ” записками”. А в стихотворении” числа “есть такие строки:”я не астролог и не расчетлив, а вижу в сущности чисел небесные смыслы, облагораживающие землю”...

В стихотворении” руки " он видит в руках присутствие человека, печать его внутреннего мира. По его мнению, есть и “необыкновенно милосердные, жизнерадостные руки”, и “жесткие, злые, холодные, ленивые, как кровь”, короче говоря, каждая рука - “навар сердца”, рука выполняет то, что приказывает сердце.

Шейхзаде не только писал произведения во всех видах и жанрах художественного творчества, но и плодотворно работал как литературовед и

критик. Опубликовав еще в 1941 году монографию „гениальный поэт“, шейхзада до последних дней жизни постоянно занимался жизнью и творчеством Навои.

Одним из произведений, свидетельствующих о творческой зрелости Максуда Шайхзады, является эпос “Ташкентнома”. Литературная общественность в свое время оценила этот эпос как большой творческий успех поэта в нашей литературе. Действительно, “Ташкентнома” - самый совершенный из эпосов Шайхзады, в котором гораздо ярче проявились характерные грани личности поэта. Особенность эпоса в том, что произведение не построено на основе целостного рассказа.

Произведения Шейхзаде переведены на родственные народы и иностранные языки. Поэт в процессе перевода получал образование у школы мастерства братских народов и деятелей мировой литературы, писал стихи, вобравшие в себя передовые традиции.

Шейхзада умер 19 февраля 1967 года. Похоронен на Фарабейском кладбище Ташкента.

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REGENERATSIYA VA TO‘QIMALARNING QAYTA TIKLANISH JARAYONLARI: GISTOLOGIK ASPEKTLAR

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Ilmiy rahbar :Toshkent Tibbiyot Akademiyasi Gistologiya va tibbiy biologiya kafedrası katta o'qituvchisi

Annotasiya: Ushbu maqolada organizmdagi regeneratsiya jarayonlari va to‘qimalarning qayta tiklanish xususiyatlari gistologik nuqtayi nazardan tahlil qilinadi. Organizmning turli to‘qimalari har xil darajada qayta tiklanish qobiliyatiga ega bo‘lib, epiteliy to‘qimalari eng yuqori regenerativ salohiyatga ega. Tadqiqotda regeneratsiya turlari, hujayraviy va molekulyar mexanizmlari, hamda klinik ahamiyati yoritilgan.

Kalit so‘zlar: regeneratsiya, to‘qimalarning tiklanishi, hujayraviy yangilanish, gistologiya, hujayra proliferatsiyasi.

Annotation: This article analyzes the processes of regeneration and tissue repair from a histological perspective. Different tissues in the body have varying capacities for regeneration, with epithelial tissues having the highest regenerative potential. The study explores types of regeneration, cellular and molecular mechanisms, and clinical significance.

Keywords: regeneration, tissue repair, cellular renewal, histology, cell proliferation.

Аннотация : В данной статье анализируются процессы регенерации и восстановления тканей с гистологической точки зрения. Различные ткани организма обладают разной способностью к восстановлению, причем эпителиальные ткани имеют наибольший регенеративный потенциал. В исследовании рассматриваются типы регенерации, ее клеточные и молекулярные механизмы, а также клиническое значение.

Ключевые слова: регенерация, восстановление тканей, клеточное обновление, гистология, пролиферация клеток.

KIRISH. Regeneratsiya – organizmdagi to‘qimalarning shikastlangandan so‘ng qayta tiklanish jarayoni bo‘lib, bu jarayon hujayraviy proliferatsiya va differensiallanish orqali amalga oshadi. Gistologik nuqtayi nazardan, turli to‘qimalarning tiklanish

qobiliyati har xil bo‘lib, epiteliy, suyak va jigar to‘qimalari eng yuqori regeneratsiya qobiliyatiga ega. Biroq, markaziy nerv tizimi va yurak mushak to‘qimasi past qayta tiklanish qobiliyatiga ega. Tadqiqotlarning ko‘rsatishicha, regeneratsiya jarayonlari turli biologik faktorlar, jumladan, o‘sish faktorlar, sitokinlar va genetik mexanizmlar tomonidan boshqariladi. Ushbu maqolada regeneratsiyaning turlari, hujayraviy va molekulyar mexanizmlari, hamda klinik ahamiyati o‘rganiladi.

To‘qimalarning yaxlitligini har qanday buzilishi yallig‘lanish bilan birga keladi. Yallig‘lanishga qarshi sitokinlar, trombotsitlar va neytrofillar tomonidan ajralib chiqadigan, yaraga immunitet hujayralarini jalb qiladi va shuningdek uchun mezenximal stroma hujayralari yarani davolashda ishtirok etadi. Bu hujayralar angiogen va neyrotrofik omillarni ajratib turadi, buning natijasida qon ta‘minoti va innervatsiya tiklanadi, yara yopiladi. Agar regeneratsiya tugallanmagan bo‘lsa, to‘qima fibrozi paydo bo‘lishi mumkin, natijada chandiq paydo bo‘ladi. Ammo ba‘zida yara yopilmaydi va ochiq qoladi. Bu yaraning chetlarida epiteliya hujayralari bor, bir-biri bilan hujayralararo bog‘langan kontaktlarni yo‘qotib, epiteliy mezenximal hujayralarga aylanadi. Ular chandiq toqimqni ishlab chiqaradi va, mexanik tarzda yarani yopadi.

Regenerativ tibbiyot haqida nimalarni bilamiz? Albatta, ko‘pchilik buni ko‘proq kosmetologik narsa deb o‘ylaydi. Lekin yo‘q bugungi kunda regenerativ tibbiyot usullari kasallik va jarohatlarda, ayniqsa, nafaqat tiklanish, balki omon qolish ehtimoli past bo‘lganida, davolashning boshqa usullari allaqachon tugagan bo‘lsa, faol qo‘llaniladi. Bu zararlangan yoki kasal to‘qimalarni tiklashga imkon beruvchi maxsus terapevtik yondashuvlar, masalan, inson va hayvonlarning o‘zak hujayralari yordamida. Ushbu yo‘nalish zamonaviy bo‘lsa-da, u tibbiyotda deyarli 25 yil davomida mavjud bo‘lib, ko‘plab mamlakatlarda faol rivojlanishda davom etmoqda.

MATERIAL VA METODLAR

Ushbu tadqiqot davomida quyidagi metodlardan foydalanildi: Mikroskopik tadqiqotlar: turli to‘qimalarning regenerativ qobiliyatini baholash. Immunogistokimyoviy tahlillar: regeneratsiya jarayonlarida ishtirok etuvchi oqsillarni aniqlash. Eksperimental modellar: hayvonlarda regeneratsiya jarayonlarini kuzatish va tahlil qilish. Genetik tahlillar: regeneratsiyani boshqaruvchi genlarning faoliyatini o‘rganish.

ADABIYOTLAR TAHLILI

Ilmiy adabiyotlarda regeneratsiya jarayonlari hujayra sikli va o‘sish omillari bilan bog‘liq ekani ta‘kidlanadi. Oxirgi tadqiqotlar shuni ko‘rsatadiki, epitelial regeneratsiya

asosan stam hujayralar va o'sish faktorlari orqali boshqariladi. Fibroblast o'sish faktori (FGF), epidermal o'sish faktori (EGF) kabi omillar regeneratsiya jarayonlarini faollashtiradi. Nerv va suyak regeneratsiyasi esa ancha murakkab bo'lib, u sitokinlar, matritsa oqsillari va hujayra differensiallanish mexanizmlari orqali amalga oshadi. Bugungi kunda neyron hujayralarini olish usullari masalan, Parkinson kasalligini davolash uchun - o'ziga xos dopaminerjik neyronlar - faol ishlab chiqilmoqda. Ularni maxsus turdagi o'zak hujayralaridan olishni o'rgandilar. Ammo ularni differensialanish qobiliyati embrion hujayralarga qaraganda ancha past. Bu dori vositalarini ishlab chiqish imkoniyatlarini sezilarli darajada cheklaydigan muammo.

TADQIQOT NATIJALARI

Epiteliy to'qimalari yuqori regenerativ qobiliyatga ega bo'lib, doimiy ravishda yangilanadi. Mushak va nerv to'qimalari past regeneratsiya qobiliyatiga ega bo'lib, asosan fibroz jarayonlar orqali tiklanadi. Suyak regeneratsiyasi osteoblastlar va osteoklastlar faolligi bilan bog'liq bo'lib, kalsiy metabolizmi muhim rol o'ynaydi. Jigar regeneratsiyasi hepatotsitlarning proliferatsiyasi va o'sish faktorlarining faollashuvi orqali amalga oshadi. Vaqt o'tishi bilan hujayralarning mezenximal fenotipi yo'qoladi va epiteliya tiklanadi. Agar yara yana bitmasa, epiteliy-mezenximal o'zgarish jarayoni takrorlanadi. Bir nechta qayta dasturlashtirish o'simta hujayralari va ularning ozak hujayralarining paydo bo'lishiga olib keladi. Ko'pgina onkologlarning fikriga ko'ra, saraton o'simtasi regeneratsiya jarayonining muvaffaqiyatli o'tmaganining natijasidir.

XULOSA

Regeneratsiya jarayonlari organizmning shikastlangan to'qimalarini tiklash qobiliyatini belgilovchi muhim biologik mexanizmlardan biridir. Epiteliy va jigar to'qimalari yuqori regeneratsiya qobiliyatiga ega bo'lsa, mushak va nerv to'qimalari ancha cheklangan qayta tiklanish xususiyatiga ega. Ilmiy tadqiqotlar regeneratsiyani rag'batlantirish uchun biomateriallar, o'sish omillari va regenerativ tibbiyot usullarini taklif etmoqda. Kelajakda regeneratsiya mexanizmlarini chuqur o'rganish, shikastlangan organlarni tiklashda yangi terapiya usullarini ishlab chiqish imkonini beradi.

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YURAK-QON TOMIR KASALLIKLARI BO‘LGAN BEMORLARDA QANDLI DIABET FONIDA LIPID ALMASHINUVI BUZILISHLARINI DAVOLASH STRATEGIYALARI

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Yurak-qon tomir kasalliklari (YQTK) va qandli diabet (QD) dunyo bo‘yicha o‘lim va nogironlikning yetakchi sabablaridan biri hisoblanadi. Ushbu ikki patologiyaning birgalikda uchrashi bemorlarning holatini murakkablashtirib, davolash strategiyalariga jiddiy o‘zgartirishlar kiritishni talab etadi. Ayniqsa, lipid almashinuvini buzilishlari ateroskleroz jarayonini jadallashtirib, koronar yurak kasalliklari xavfini oshiradi. Shu sababli, QD fonida YQTK bo‘lgan bemorlarda gipolipidemik terapiyaning samaradorligi muhim ilmiy va amaliy ahamiyat kasb etadi.

Materiallar va usullar

Ushbu tadqiqotda Toshkent tibbiyot akademiyasining klinikasida davolangan 60 nafar yurak ishemik kasalligi va qandli diabeti bor bemorlar kuzatildi. Bemorlar ikki guruhga bo‘lingan:

1. Statinlar bilan davolangan bemorlar (30 nafar).
2. Statin va ezetimib kombinatsiyasi bilan davolangan bemorlar (30 nafar).

Barcha bemorlarda lipidlar spektri, glyukoza miqdori va yurakning funksional ko‘rsatkichlari baholandi.

Natijalar va muhokama

Tadqiqot natijalariga ko‘ra, statin va ezetimib kombinatsiyasi qabul qilgan bemorlarda past zichlikdagi lipoproteidlar (PZLP) miqdori 35% ga kamaygan bo‘lsa, faqat statin olgan bemorlarda bu ko‘rsatkich 20% ni tashkil etdi. Shu bilan birga, glyukoza miqdori o‘rtacha darajasi kombinatsiyalangan terapiyada sezilarli darajada barqarorlashgani kuzatildi. Bu esa YQTK fonida QD bo‘lgan bemorlar uchun qo‘shimcha dori vositalarining zaruriyatini tasdiqlaydi.

Xulosa

YQTK va QD birgalikda uchragan bemorlarda lipid almashinuvining buzilishi ateroskleroz va yurak ishemik kasalliklarining rivojlanishiga olib keladi. Tadqiqot natijalari shuni ko‘rsatdiki, statin va ezetimib kombinatsiyasi bilan davolash past zichlikdagi lipoproteidlarni samarali kamaytirib, glyukoza miqdori barqarorlashtiradi va yurak-qon tomir asoratlari xavfini kamaytiradi. Bu esa ushbu bemorlarni davolashda individual yondashuvning ahamiyatini yana bir bor tasdiqlaydi.

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INDICATORS OF TOTAL IMMUNOGLOBULINS IN PATIENTS WITH ARTHROTIC ARTHRITIS

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Abstract: *The work included a comprehensive laboratory examination of patients with different stages of knee osteoarthritis. The patterns of metabolic disorders in patients with osteoarthritis in the form of activation of the prooxidant system and inhibition of the enzymatic link of antioxidant protection were revealed. It was shown that the degree of oxidative stress clearly correlates with the severity of clinical manifestations of osteoarthritis. The most clinically significant blood parameters for laboratory diagnostics of this pathology were identified, such as aliphatic aldehyde groups of oxidized proteins and paraoxanase activity.*

Key words: *osteoarthritis, prooxidant system, antioxidant system, oxidative modification of proteins, free radical oxidation of lipids, superoxide dismutase, catalase, myeloperoxidase, paraoxanase.*

Relevance. Although the development of arthrotic arthritis (AA) does not affect life prognosis, this disease is one of the main causes of premature disability and disability, second only to coronary heart disease in this regard, and the most common indication for joint replacement. However, the impact of the state of local immunity on the course and outcome of AA remains undisclosed.

The human antioxidant system (AOS) is a system that blocks the formation of highly active free radicals, i.e. reactive oxygen species. Under normal physiological conditions, small amounts of oxygen are constantly converted into superoxide anions, hydrogen peroxide and hydroxyl radicals. Excessive production of these radicals is a factor in damage, the compensatory mechanism of which is the antioxidant system. Determining the general antioxidant status helps the clinician to more deeply assess the condition of the body, observed and its potential protective reserves in certain physiological and pathological conditions (1,2,3,4,5,6,7). The importance of studying the pathogenesis of osteoarthritis (OA) is due to the prevalence of the disease - epidemiological studies show that 10-12% of the population of all ages suffers from it,

including 50% of people over 60 years old (1,8,9,10,11,12,13,14,15). According to WHO forecasts, OA will become the fourth leading cause of disability in women and the eighth in men in the next 10-15 years [1,16,17,18,19]. It is believed that the universal mechanism of OA pathogenesis is the imbalance between the processes of synthesis and degradation of cartilage components. The key role in this is given, firstly, to the disruption of the functioning of chondrocytes, which begin to produce "inferior" low-molecular matrix proteins, and, secondly, to biochemical disorders, changes in the activity of enzymes in the articular tissue.

The mechanism of formation and development of these leading links in the pathogenesis of OA is still not fully understood. At the same time, specific OA processes have been studied much better than non-specific reactions, and it is the latter that are primarily protective, formed by evolution. The development of OA is based on such typical pathological processes as tissue degeneration, inflammation and stress, the body's systemic response to which includes the activation of free radical destabilization of cells, both in the area of local damage and far beyond it. At the same time, the balance of the prooxidant (POS) and antioxidant (AOS) systems is a prerequisite for health, an indicator of the adaptive and protective capabilities of the body.

The aim was to study the systemic and local (in synovial fluid) status of immunoglobulins in patients with arthrotic arthritis.

Materials and methods 96 patients with arthrotic arthritis who underwent inpatient treatment at the clinic of the National Center for Rehabilitation and Prosthetics of Persons with Disabilities under the National Agency for Social Protection under the President of the Republic of Uzbekistan were examined.

Results and conclusion. Analysis of the obtained indicators showed that the level of total immunoglobulins A, M, G in the blood serum of AA patients did not have significant differences from the indicators of the control group and even tended to decrease slightly.

It is noteworthy that the level of total immunoglobulins A, M, G in the synovial fluid of AA patients was higher compared to the control group. And if the indicators of total immunoglobulins A, M, G in the synovial fluid of young AA patients had only an unreliable tendency to increase relatively the indicators of the control group, in the group of middle-aged patients, these differences were significant and the level of total IgA was higher than the control indicators in 1,36 times, total IgM 1.97 times, and total IgG 2.41 times.

Conclusions: Thus, the results of our studies showed that humoral immunoreactivity is more pronounced at the local level, especially in patients with arthrotic arthritis of middle age, apparently causing a more protracted and recurrent course of the disease.

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