



VOLUME-34



ISSUE-1



December- 2024

WORLD SCIENTIFIC RESEARCH JOURNAL



WORLD SCIENTIFIC RESEARCH JOURNAL

International scientific electronic journal

Volume-34

Issue-1

December - 2024

Jahon ilmiy tadqiqot
jurnali

MUASSIS:

Qo'qon davlat pedagogika instituti,
"Ustozlar uchun" MCHJ

TAHRIRIYAT | EDITORIAL

Tahririyat kengashi raisi:

D.SH.Xodjayeva- filologiya fanlari nomzodi,
dotsent

Jamoatchilik kengashi raisi:

D.SH.Xodjayeva- filologiya fanlari nomzodi,
dotsent

Bosh muharrir

D.SH.Xodjayeva- filologiya fanlari nomzodi,
dotsent

Mas'ul muharrir:

N.S.Jo'rayev - psixologiya fanlari nomzodi,
dotsent

Mas'ul muharrir yordamchisi:

O.Y.To'xtasinova- filologiya fanlari
nomzodi, dotsent

Nashr uchun mas'ul:

Rasulov Inom Muydinovich -
pedagogika fanlari bo'yicha falsafa
doktori (PhD), dotsent

O'zbekiston Respublikasi Prezidenti
Administratsiyasi huzuridagi Axborot va
ommaviy kommunikatsiyaragentligi
tomonidan berilgan 1547 raqamli
guvohnoma asosida ro'yhatga olingan

Tahririyat manzili:

Farg'ona viloyati, Qo'qon shahri, Turon
ko'chasi, 23-uy

Telefon:

(0373) 542-38-38

E-mail:

info@wsrjournal.com

Tahrir kengashi:

Sh.Farmonov - O'zR FA akademigi
Sh.Namozov - O'zR FA akademigi
S.Rashidova - O'zR FA akademigi
I.Asqarov - kimyo fanlari doktori, professor
V.Xo'jayev - kimyo fanlari doktori, professor
Sh.Abdullayev - kimyo fanlari doktori, professor
M.Isakov - kimyo fanlari doktori, professor
R.Rasulov - fizika-matematika fanlari doktori, professor
B.Samatov - fizika-matematika fanlari doktori, professor
D.Akbarov - fizika-matematika fanlari doktori
A.Xusanov - fizika-matematika fanlarinomzodi, dotsent
V.Isaqov - biologiya fanlari doktori, professor
G'.Abdullayev - biologiya fanlari doktori
A.Batashov - biologiya fanlari doktori
D.Mamatqulov - biologiya fanlari nomzodi, professor
H.Xonboboev - texnika fanlari nomzodi, dotsent
B.Nu'monov - texnika fanlari bo'yicha falsafa doktori (PhD)
I.Oxunov - kimyo fanlari bo'yicha falsafa doktori (PhD)
R.Payg'amov - kimyo fanlari bo'yicha falsafa doktori (PhD)
N.Valiyev - kimyo fanlari bo'yicha falsafa doktori (PhD)
A.Gapparov - Kimyo fanlari nomzodi, dotsent
N.Karimov - O'zR FA akademigi
A.S.Sagdullayev - O'zR FA akademigi
O.Akimova - filologiya fanlari doktori, professor (Rossiya)
V.Borisova - filologiya fanlari doktori, professor (Rossiya)
I.Artyushkov - filologiya fanlari doktori, professor (Rossiya)
M.Rasulova - filologiya fanlari doktori, professor
Sh.Iskandarova - filologiya fanlari doktori, professor
D.Nabiyeva - filologiya fanlari doktori, professor
O.Bozorov - filologiya fanlari doktori
A.Ziyayev - filologiya fanlari doktori (DSc)
D.Jamoliddinova - filologiya fanlari doktori (DSc)
Z.Qobilova - filologiya fanlari doktori (DSc)
M.Hoshimova - filologiya fanlari nomzodi, dotsent
M.Siddiqov - filologiya fanlari nomzodi, dotsent
M.Jamoliddinov - filologiya fanlari nomzodi, dotsent
O.O.Bozorov - filologiya fanlari nomzodi
M.Rasulova - filologiya fanlari nomzodi, dotsent
V.Karimova - filologiya fanlari bo'yicha falsafa doktori (PhD)
M.Djo'rayev - filologiya fanlari bo'yicha falsafa doktori (PhD)
G.Kislov - falsafa fanlari doktori, professor (Rossiya)
G.Abdullayev - falsafa fanlari doktori, professor
M.Aminova - falsafa fanlari nomzodi, dotsent
M.Temirboyev - falsafa fanlari nomzodi
T.Fayzullayev - siyosat fanlari doktori, professor
A.Rasulov - tarix fanlari doktori, professor
R.Shamsiddonov - tarix fanlari doktori, professor
Q. Akbarov- tarix fanlari nomzodi
T.Haydarov - iqtisod fanlari doktori, professor
N.Babayeva - iqtisod fanlari nomzodi, dotsent
N.Erkaboyeva - pedagogika fanlari doktori, dotsent
S.Alimsaidova - pedagogika fanlari doktori, dotsent
Z.Azimova - pedagogika fanlari doktori, dotsent
V.Qodirov - pedagogika fanlari doktori, dotsent
A.Tolibjonov - pedagogika fanlari nomzodi, dotsent
J.Azamov - yuridika fanlari bo'yicha falsafa doktori (PhD)
D.Soliyeva - psixologiya fanlari doktori, dotsent
O.Bektoshev - filologiya fanlari bo'yicha falsafa doktori (PhD)
M.Ergashev - filologiya fanlari bo'yicha falsafa doktori (PhD)
N.Aliboyeva - filologiya fanlari bo'yicha falsafa doktori (PhD)
G.Nazirova - pedagogika fanlari bo'yicha falsafa doktori (PhD), dotsent
A.Abdurashitov - pedagogika fanlari bo'yicha falsafa doktori (PhD)
Kadirova Nigora Rashidovna, Filologiya fanlari nomzodi, dotsent

YOSHLAR O‘RTASIDA JINOYATCHILIKNING OLDINI OLISH MUAMMOLARI VA YECHIMLARI

Nazarov Ilxom Alimovich

malaka oshirish instituti maxsus-kasbiy fanlar

kafedrası katta o‘qituvchisi podpolkovnik

Annotatsiya: Maqolada ijtimoiy-iqtisodiy, oilaviy va madaniy omillar ta’sirida yoshlar o‘rtasida jinoyat sodir etilishining oldini olish muammolari ko‘rib chiqiladi. O‘smirlarda deviant xulq-atvorning shakllanishiga oila muhiti, tengdoshlar, ommaviy axborot vositalari va internetning ta’siriga alohida e’tibor qaratilmoqda. Profilaktika bo‘yicha mavjud yondashuvlar, jumladan, ijtimoiy-iqtisodiy chora-tadbirlar, oila institutini mustahkamlash, yoshlar infratuzilmasini rivojlantirish va ta’lim dasturlari tahlil qilindi. Idoralararo hamkorlik, buzg‘unchi internet-kontentni nazorat qilish, yoshlarni ijtimoiy ahamiyatga molik faoliyatga faol jalb etish kabi istiqbolli yechimlar belgilandi. Yoshlar o‘rtasida huquqbuzarliklarning samarali oldini olishda tizimli yondashish, barcha ijtimoiy institutlar ishtiroki zarurligi ta’kidlangan.

Kalit so‘zlar: yoshlar jinoyati, oldini olish, deviant xulq-atvor, oila, ijtimoiy institutlar, internet, ommaviy axborot vositalari, jinoyatchilik, yoshlar, ijtimoiy-iqtisodiy omillar, ta’lim dasturlari.

Yoshlar jinoyati zamonaviy jamiyatning eng dolzarb ijtimoiy muammolaridan biridir. O‘z shaxsiyatini shakllantirish bosqichida bo‘lgan yoshlarga deviant xatti-harakatlarga yordam beradigan turli omillar ta’sir ko‘rsatadi. Yoshlar jinoyatchiligining oldini olish muammolari jinoyatchilik sabablarini bartaraf etish, yoshlarning ijtimoiy rivojlanishi uchun shart-sharoit yaratish va takror jinoyat sodir etish xavfini minimallashtirishga qaratilgan kompleks yondashuvni taqozo etadi.

Ushbu maqolada yoshlar jinoyatchiligining oldini olishning asosiy muammolari ko‘rib chiqiladi va ularni hal qilishning mumkin bo‘lgan yo‘llari taklif etiladi.

Yoshlar jinoyatchiligining oldini olishning asosiy muammolari

1. Ijtimoiy-iqtisodiy omillar

Ijtimoiy tengsizlik, qashshoqlik, ishsizlik va ta’lim darajasining pastligi yoshlar o‘rtasida deviant xulq-atvorning asosiy sabablari hisoblanadi. Ish istiqbollari va sifatli ta’lim olish imkoniyatlarining yo‘qligi yoshlarni muvaffaqiyatga erishishning muqobil, ko‘pincha noqonuniy yo‘llarini izlashga olib keladi.

2. Oilaviy muammolar

Zo‘ravonlik, ichkilikbozlik, giyohvandlik yoki ota-ona nazoratining past darajasi bo‘lgan disfunktsiyali oilalar o‘smirlarning xulq-atvoriga salbiy ta’sir ko‘rsatadi. Ota-

onalar tomonidan hissiy qo'llab-quvvatlashning etishmasligi va ijobiy namunalarning yo'qligi g'ayrioddiy xatti-harakatlarga moyillikni shakllantirishga yordam beradi.

3. Atrof-muhit va tengdoshlarning ta'siri

O'smirlarga ko'pincha jinoiy guruhlar yoki deviant xulq-atvorga ega tengdoshlar ta'sir qiladi. Guruhga qabul qilish istagi yosh odamni noqonuniy faoliyat bilan shug'ullanishiga olib kelishi mumkin.

4. Tizimli profilaktika ishlarining yo'qligi

Mavjud profilaktika dasturlari ko'pincha yoshlarning individual xususiyatlarini va mintaqaning mahalliy xususiyatlarini hisobga olmaydi. Aksariyat hollarda bunday dasturlar parchalangan va samarasizdir.

5. Ommaviy axborot vositalari va internetning ta'siri

Zo'ravonlik, moddiy muvaffaqiyatga sig'inish va jazosizlikni targ'ib qiluvchi media kontenti yoshlar o'rtasida normal xulq-atvor haqida noto'g'ri tushunchalarni keltirib chiqarishi mumkin. Internet va ijtimoiy tarmoqlar ham jinoiy jamoalar shakllanishi uchun platformaga aylanishi mumkin.

Muammoni hal qilish yo'llari

1. Ijtimoiy-iqtisodiy chora-tadbirlar

- Yoshlar uchun ish o'rinlari yaratish. Kasbiy ta'lim va bandlik dasturlari mavjudligini oshirish yoshlar o'rtasidagi ishsizlikni kamaytirishga yordam beradi.

- Kam ta'minlangan oilalarni qo'llab-quvvatlash. Uy-joy sharoitini yaxshilash, moddiy ta'minot va ta'lim olish imkoniyatini ta'minlashga qaratilgan ijtimoiy dasturlar yoshlarning jinoyat sodir etish xavfini kamaytirishi mumkin.

2. Oila institutini mustahkamlash

- Ota-onalar uchun dasturlar. Bolalarni tarbiyalash ko'nikmalarini o'rgatish, ijtimoiy qiyinchilikka uchragan oilalarni qo'llab-quvvatlash, oilaviy vositachilik xizmatlarini ko'rsatish oilaviy nizolarning oldini olishga xizmat qilmoqda.

- Yordam xizmatlari. O'smirlar va ularning oila a'zolari uchun qulay psixologik markazlarning tashkil etilishi muammolarni o'z vaqtida hal etish imkonini beradi.

3. Yoshlar infratuzilmasini rivojlantirish

- Madaniy va sport tadbirlari. Barkamol dam olish markazlari, sport seksiyalari va ijodiy to'garaklar tashkil etilgani o'smirlarning noqonuniy faoliyatga jalb etilishi xavfini kamaytiradi.

- Ko'ngillilik va ko'ngillilik. Yoshlarning ijtimoiy ahamiyatga molik loyihalarda ishtirok etishi uchun shart-sharoit yaratilgani ularda mas'uliyat va jamiyatga daxldorlik tuyg'usini rivojlantirishga xizmat qilmoqda.

4. Tarbiyaviy va profilaktika dasturlari

- Maktab dasturlari. Maktab va kollejlarda huquqiy savodxonlikni, his-tuyg'ularni boshqarish va nizolarni bartaraf etish ko'nikmalarini shakllantirishga qaratilgan kurslarning joriy etilishi yoshlarda deviant ta'sirlarga qarshilik ko'rsatishga yordam beradi.

- Individual yondashuv. Xavf ostida bo'lgan o'smirlar uchun shaxsiylashtirilgan profilaktika dasturlarini ishlab chiqish ularning samaradorligini oshiradi.

5. Internet makonini nazorat qilish va monitoring qilish

- Buzg'unchi kontentni bloklash. Zo'ravonlik va jinoyatchilikni targ'ib qiluvchi ma'lumotlarning tarqalishini nazorat qilishning samarali mexanizmlarini yaratish.

- Ijobiy kontent yarating. Internetda ijobiy xulq-atvorni rivojlantirishga qaratilgan ta'lim va ko'ngilochar loyihalarni ishlab chiqish.

6. Idoralararo o'zaro hamkorlik

Yoshlar jinoyatchiligining oldini olish uchun turli muassasalar: maktablar, huquq-tartibot idoralari, ijtimoiy xizmatlar va jamoat tashkilotlarining sa'y-harakatlarini birlashtirish zarur. Birgalikda ishlash xavf omillarini tezroq aniqlash va bartaraf etishga yordam beradi.

Xulosa

Yoshlar o'rtasidagi jinoyatchilikning oldini olish davlat, jamiyat va oila tomonidan muvofiqlashtirilgan harakatni talab qiluvchi murakkab vazifadir. Ijtimoiy-iqtisodiy sabablarni bartaraf etmasdan, oila institutini mustahkamlamasdan, yoshlarni ijtimoiy ahamiyatga molik faoliyatga faol jalb qilmasdan, ularning kasbiy va shaxsiy o'sishi uchun shart-sharoit yaratmasdan turib, bu muammoni hal etib bo'lmaydi. Yoshlar jinoyatchiligining oldini olishda tizimli yondashuvdan foydalanish deviant xulq-atvori xavfini minimallashtiradi, sog'lom va muvaffaqiyatli avlodni shakllantirishga xizmat qiladi.

Ushbu manbalar yoshlar o'rtasida jinoyatchilikning oldini olish bilan bog'liq keng ko'lamlı muammolar va yechimlarni qamrab oladi va ushbu mavzuni keyingi o'rganish uchun foydali bo'lishi mumkin.

ADABIYOTLAR

1. Andreeva, G. M. Sotsialnaya psixologiya. — M.: Aspekt Press, 2004. — 365 s.
2. Abdurasulova Q. Voyaga yetmaganlar jinoyatchiligi va uning oldini olish muammolari. // «Qonun himoyasida», 2001, №1. - 23-26 b.
3. Boyko, V. Ye. Psixologiya profilaktiki otklonyayushchegosya povedeniya u podrostkov. — SPb.: Rech, 2007. — 298 s.
4. Vasileva, N. V. Yuvenalnaya yustitsiya: sovremennye podxody i praktika primeneniya. — M.: Norma, 2011. — 416 s.
5. G'oziev E.G'. Huqushunoslik psixologiyasi. - T.: «Bilim». 1992. - 42 b.
6. G'oziev E.G'. O'spirinlar axloqi va ruhiyati. Oila etikasi va psixologiyasi. - T., 2000. - B.33-38.
7. Zmanovskaya, Ye. V. Deviantologiya: Psixologiya otklonyayushchegosya povedeniya. — M.: Akademiya, 2004. — 288 s.
8. Karaketov Y., Usmonaliev M. Jinoyatchilikka qarshi kurashning kriminologik choralari. T.: «O'zbekiston». 1995. - 148 b.

**MIRZO ULUG‘BEKNING HUKMDOR VA OLIM SIFATIDAGI
FAOLIYATI HAMDA ILMIY AKADEMIYASIGA DOIR QARASHLAR**

Bozorboyev Eldorbek

O‘zbekistonda davlat jahon tillari universiteti

Xalqaro jurnalistika fakultetini

Siyosatshunoslik yo‘nalishi 3 kurs talabasi

ANNOTATSIYA

Mazkur ilmiy maqolada Mirzo Ulug‘bekning hukmdor va olim sifatidagi faoliyati chuqur tahlil etilgan. U o‘z davrining yirik astronomi, matematik va hukmdori sifatida tanilgan. Maqolada Ulug‘bekning ilm-fan va ta‘lim sohasidagi yutuqlari, shuningdek, tashkil etgan ilmiy akademiyasi - "Gurug‘ ul-ulum" faoliyati hamda uning ta‘siri ko‘rib chiqiladi. Ulug‘bekning ilmiy ishlari, xususan, astronomiyadagi qo‘shgan hissalar va dastlabki nazariyalarni o‘rganish natijalari taqdim etilgan. U shuningdek, ilm-fan va madaniyatning rivojlanishidagi rolini hamda ilmiy merosini avlodlarga yetkazishdagi ahamiyatini yoritadi.

Maqolada, shuningdek, Mirzo Ulug‘bekning hukmdor sifatida yurtni boshqarishi, siyosiy faoliyati, ijtimoiy-iqtisodiy islohotlari va ilmiy tadqiqotlarga bo‘lgan alohida e‘tibori haqida fikrlar bildiriladi. U o‘z zamonida faqat hukmdor emas, balki yurtning ilmiy rivojlanishida muhim rol o‘ynagan. "Gurug‘ ul-ulum" akademiyasi orqali yetuk olimlarni bir joyga to‘plab, o‘qitish va ilmiy ishlarni rivojlantirish maqsadida ko‘plab tadqiqotlar olib borgan.

Maqolada Mirzo Ulug‘bekning yutuqlari, astronomiya sohasidagi tajribalari, ulug‘ astronomik observatoriyalar va katta ilmi asarlarning yaratilishi ta‘kidlanadi. Ulug‘bekning bilimga bo‘lgan intilishi va ilm-fanni rivojlantirishga qo‘shgan hissasi uning merosini bugungi avlodga etkazishda muhim ahamiyatga ega.

Maqolada keltirilgan ma‘lumotlar Mirzo Ulug‘bekning ilmiy faoliyatini yanada chuqurroq o‘rganishga va uning ilm-fan sohasidagi ahamiyatini ko‘rsatishga xizmat qiladi. Shuningdek, maqola tarixshunoslar va ilm-fan sohasida faoliyat yuritayotgan tadqiqotchilar uchun ham qimmatli manba hisoblanadi.

Kalit so‘zlar: Mirzo Ulug‘bek Hukmdor Olim Ilmiy akademiya Astronomiya Gurug‘ ul-ulum Ta‘lim Ilmiy meros Rivojlani Madaniyat

**ВЗГЛЯДЫ НА ДЕЯТЕЛЬНОСТЬ МИРЗО УЛУГ-БЕКА КАК ПРАВИТЕЛЯ И
УЧЕНОГО И ЕГО НАУЧНУЮ АКАДЕМИЮ**

Кафедра политологии факультета международной журналистики

Государственного университета мировых языков в Узбекистане,

Студент 3 курса Бозорбоев Эльдорбек

АННОТАЦИЯ

В данной научной статье глубоко анализируется деятельность Мирзо Улугбека как правителя и учёного. Он известен как великий астроном, математик и правитель своего времени. В статье рассматриваются достижения Улугбека в области науки и образования, а также деятельность научной академии «Гуругул Улум» и ее влияние. Представлены научные работы Улугбека, в частности, его вклад в астрономию и результаты изучения первых теорий. Он также проливает свет на роль науки и культуры в развитии и важность передачи научного наследия поколениям.

В статье также комментируются руководство Мирзо Улугбека страной, его политическая деятельность, социально-экономические реформы, особое внимание к научным исследованиям. В свое время он был не только правителем, но и сыграл важную роль в научном развитии страны. Через Академию «Гуруг ул-Улум» он собрал выдающихся ученых и провел множество исследований с целью обучения и развития научной работы.

В статье освещаются достижения Мирзо Улугбека, его опыт в области астрономии, создание великих астрономических обсерваторий и великих научных трудов. Стремление Улугбека к знаниям и его вклад в развитие науки играют важную роль в передаче его наследия сегодняшнему поколению.

Информация, представленная в статье, служит дальнейшему изучению научной деятельности Мирзо Улугбека и показывает его значимость в области науки. Статья также является ценным ресурсом для историков и исследователей, работающих в области науки.

Ключевые слова: Мирзо Улугбек Правитель Ученый Научная академия Астрономия Гуруг ул-улум Образование Научное наследие Развитие Культура

VIEWS ON MIRZO ULUG BEK'S WORK AS A RULER AND SCIENTIST AND HIS SCIENTIFIC ACADEMY

Department of Political Science at the Faculty of International Journalism of the State University of World Languages in Uzbekistan

3rd year student Bozorboyev Eldorbek.

ANNOTATION

This scientific article deeply analyzes the activities of Mirzo Ulugbek as a ruler and scientist. He is known as a great astronomer, mathematician and ruler of his time. The article examines the achievements of Ulugbek in the field of science and education, as well as the activity of the scientific academy "Gurugul Ulum" and its influence. Ulugbek's scientific work, in particular, his contributions to astronomy and the results of studying the first theories are presented. It also sheds light on the role of

science and culture in development and the importance of passing on scientific heritage to generations.

The article also comments on Mirzo Ulugbek's leadership of the country, his political activities, socio-economic reforms, and his special attention to scientific research. In his time, he was not only a ruler, but also played an important role in the scientific development of the country. Through the "Gurug ul-Ulum" Academy, he brought together accomplished scientists and conducted many researches for the purpose of teaching and developing scientific work.

The article highlights the achievements of Mirzo Ulugbek, his experiences in the field of astronomy, the creation of great astronomical observatories and great scientific works. Ulugbek's desire for knowledge and his contribution to the development of science are important in conveying his legacy to today's generation.

The information presented in the article serves to further study the scientific activity of Mirzo Ulugbek and to show his importance in the field of science. The article is also a valuable resource for historians and researchers working in the field of science.

Key words: Mirzo Ulugbek Ruler Scientist Scientific Academy Astronomy Gurug ul-ulum Education Scientific heritage Development Culture

KIRISH

Mirzo Ulug‘bek (1394–1449) — o‘z zamonining eng buyuk astronomi, matematik va davlat arbobi sifatida tarixda muhim o‘rin egallagan shaxsdir. U o‘z faoliyati davomida hukmdor sifatida ham, olim sifatida ham qator muhim ishlarni amalga oshirgan. Ulug‘bekning davlat boshqaruvidagi muvaffaqiyatlari va ilm-fan sohasidagi yutuqlari, uning faoliyatini o‘rganishda diqqatga sazovor jihatlar hisoblanadi.

Ulug‘bek hukmdor sifatida Samarqand shahrini ilm-fan va madaniyat markaziga aylantirdi. U, o‘z davrida zamonaviy ilmiy bilimlarni rivojlantirishga, o‘quv yurtlarini tashkil etishga va yetuk olimlarni bir joyga to‘plashga harakat qildi. Mirzo Ulug‘bekning e‘tibori, ayniqsa, astronomiya va matematikaga qaratilgan bo‘lib, u bu sohalardagi tadqiqotlar uchun zaruriy infratuzilmani yaratishga harakat qilgan.

Ulug‘bekning ilmiy akademiyasi - "Gurug‘ ul-ulum" (Ilm o‘quvchilari guruhi) o‘z zamonida yetuk olimlarni, astronomlar va matematiklarni o‘z ichiga olgan. Bu akademiya faqatgina ilmiy tadqiqotlar olib borish bilan cheklanmay, balki o‘quv jarayonini ham yangi bosqichga olib chiqdi. Ulug‘bek o‘z davrining eng yaxshi astronomik asarlarini, jumladan, "Zij-i Ulugh Beg" (Ulug‘bek jadval) asarini yaratgan. Bu asar o‘z vaqtida astronomiya sohasida kashfiyotlar qilishga va yangi nazariyalar ishlab chiqishga imkon berdi.

Maqolada, shuningdek, Ulug‘bekning hukmdor sifatidagi faoliyatiga, mamlakatni boshqarishdagi usullariga va ijtimoiy-iqtisodiy islohotlariga ham e‘tibor

qaratiladi. Uning ta'lim va ilm-fan rivojiga bo'lgan yondashuvi, kadrlar tayyorlash tizimiga qo'shgan hissasi hamda ilmiy merosini avlodlarga etkazishdagi roli alohida ta'kidlanadi.

Ulug'bekning merosi bugungi kunda ham ilmiy izlanishlar va tarixiy tadqiqotlarda dolzarb ahamiyatga ega. U, o'z ilmiy va siyosiy faoliyati bilan nafaqat o'z davrining, balki kelajak avlodlarning ilm-fan rivojiga katta ta'sir ko'rsatgan. Mirzo Ulug'bekning hukmdor va olim sifatidagi faoliyatini o'rganish, nafaqat uning shaxsiy tarixi, balki o'sha davrdagi ilm-fan va madaniyat tarixini anglashda muhimdir. Maqola davomida bu masalalar chuqur tahlil etiladi, hamda Ulug'bekning ilm-fan va ta'lim sohasidagi yutuqlari ko'rib chiqiladi.

NATIJALAR

Mirzo Ulug'bekning hukmdor va olim sifatidagi faoliyati nafaqat o'z davrida, balki tarixning turli bosqichlarida ham yuksak baholangan. Uning ilm-fan va madaniyatga bo'lgan e'tibori, shubhasiz, o'z zamonida o'ziga xos yutuqlarga erishishiga sabab bo'lgan. Ushbu maqolada keltirilgan tahlillar asosida quyidagi natijalar kelib chiqdi:

Ilmiy Yutuqlar: Mirzo Ulug'bek o'z ilmiy faoliyati davomida astronomiya sohasida muhim kashfiyotlar amalga oshirdi. Uning "Zij-i Ulugh Beg" asari o'z davrida eng aniq astronomik jadval hisoblangan bo'lib, bu asar keyinchalik ko'plab olimlar tomonidan o'rganildi va ulardan foydalanildi. Bu yutuqlar o'z zamonasida astronomiya fanini yangi bosqichga olib chiqdi.

Ta'lim va Ilmiy Akademiya: "Gurug' ul-ulum" ilmiy akademiyasini tashkil etishi orqali Ulug'bek nafaqat o'z zamonida, balki kelajak avlodlar uchun ilmiy tajriba va bilimlarni taqdim etdi. U o'z akademiyasida yetuk olimlarni yig'ib, ularni zamonaviy bilimlar bilan ta'minlashga intildi. Bu akademiya o'z faoliyati davomida ko'plab muhim ilmiy asarlarning yaratilishiga zamin yaratdi.

Davlat Boshqaruvi: Ulug'bekning davlat boshqaruvidagi yondashuvi ijtimoiy-iqtisodiy islohotlarni amalga oshirishda samarali bo'ldi. U o'z davrida har tomonlama rivojlanish va barqarorlikni ta'minlashga harakat qildi. Unga tegishli yirik qurilishlar va infratuzilma loyihalari mamlakatning iqtisodiy o'sishini ta'minladi.

Ilm-fan Rivoji: Ulug'bekning faoliyati natijasida ilm-fan sohasida ulkan o'zgarishlar sodir bo'ldi. U yangi ilmiy nazariyalarni shakllantirish, mavjud bilimlarni kengaytirish va ilmiy tadqiqotlar olib borish uchun qulay sharoitlar yaratdi. Bu esa o'z navbatida, keyinchalik kelajak avlodlarning ilm-fanga bo'lgan qiziqishini oshirdi.

Merosi: Mirzo Ulug'bekning ilmiy va madaniy merosi, o'z zamonida mustahkamlangan ilmiy an'analarning davomiyligini ta'minladi. U nafaqat o'z davrining eng buyuk hukmdorlaridan biri, balki ulkan olim sifatida ham tarixda o'z o'rnini egalladi. Uning merosi bugungi kunda ham o'rganilishi davom etmoqda, va bu bilimlar zamonaviy ilm-fan rivojiga hissa qo'shmoqda.

Natijada, Mirzo Ulug‘bekning hukmdor va olim sifatidagi faoliyati nafaqat o‘z zamonida, balki keyingi avlodlar uchun ham namuna bo‘lib xizmat qilmoqda. U ilm-fan va madaniyatni rivojlantirishda muhim rol o‘ynagan shaxs sifatida tarix sahnasida o‘z o‘rnini mustahkamladi. Uning yutuqlari va fikrlari bugun ham ilmiy tadqiqotlar va ta‘lim jarayonlarida ahamiyatini yo‘qotmaydi.

MUHOKAMA

Mirzo Ulug‘bek – o‘z zamonining buyuk hukmdori va olimi, astronomiya va matematikada jahon miqyosida tanilgan shaxsdir. U nafaqat davlat boshqaruvchisi sifatida, balki ilm-fan va madaniyat rivojida muhim rol o‘ynagan olim sifatida ham e‘tirof etilgan. Uning faoliyati va ilmiy ishlarining ahamiyati bugungi kunda ham o‘rganilmoqda va baholanmoqda. Ulug‘bekning hukmdor sifatidagi faoliyati, uning ilmiy tadqiqotlari, tashkil etgan akademiyasi va bu akademiya olib borilgan ishlar, barchasi uning yuksak fikrini, ilm-fanga bo‘lgan qiziqishini va davlatni boshqarishdagi innovatsion yondashuvini aks ettiradi.

Hukmdor Sifatidagi Faoliyati

Mirzo Ulug‘bek 15-asrda Samarqandda hukmronlik qilgan. U davlat boshqaruvidagi islohotlari bilan mamlakatni rivojlantirishga qaratilgan ko‘plab chora-tadbirlarni amalga oshirdi. Ulug‘bekning davrida siyosiy barqarorlikni ta‘minlash uchun u yirik iqtisodiy va ijtimoiy islohotlarni o‘tkazdi. Mamlakatning qishloq xo‘jaligi, savdo va sanoat sohalarini rivojlantirishga qaratilgan dasturlarni ishlab chiqdi. Ulug‘bekning siyosiy faoliyati, davlatning iqtisodiy barqarorligi va xalq farovonligi yo‘lida muhim ahamiyatga ega edi.

Bundan tashqari, Ulug‘bek harbiy kuchlarni tashkil etishda ham muvaffaqiyat qozondi. U harbiy strategiyalarga e‘tibor berib, o‘z qo‘shinlarini jangovar tayyorgarlikda ushlab turishga intildi. Bu jarayon, o‘z navbatida, mamlakatning mudofaa qobiliyatini oshirdi va boshqa davlatlar bilan munosabatlarda mustahkamlikni ta‘minladi.

Ilmiy Tadqiqotlari

Mirzo Ulug‘bekning ilmiy faoliyati asosan astronomiya va matematikaga qaratilgan. U o‘z zamonining eng yirik astronomik observatoriyalaridan birini Samarqandda qurdi. Uning "Zij-i Ulugh Beg" asari, o‘z davrida eng aniq astronomik jadval bo‘lib, ko‘plab astronomlar tomonidan qabul qilindi. Bu asar, asosan, quyosh, oy va yulduzlarning harakatlari haqida ma‘lumotlar taqdim etadi.

Ulug‘bekning ilmiy ishlarida eksperiment va nazariyani birlashtirish yondashuvi, uning ilmiy izlanishlarini yanada samarali qildi. U astronomiya, matematika va geodeziya sohalarida ko‘plab yangi nazariyalarni kiritdi. Ulug‘bekning ilmiy merosi, nafaqat O‘zbekiston, balki jahon miqyosida ham qadrlanadi.

Ilmiy Akademiya

Mirzo Ulug‘bek 1420-yillarda "Gurug‘ ul-ulum" ilmiy akademiyasini tashkil etdi. Ushbu akademiya o‘z zamonida ilmiy tadqiqotlar markazi bo‘lib, astronomiya, matematikalar, tabiiy fanlar va boshqa sohalarda yetuk olimlarni bir joyga to‘pladi. Akademiya, o‘z faoliyatida ilmiy tadqiqotlar olib borish va yangi avlod olimlarini tayyorlashga qaratilgan dasturlarni amalga oshirdi.

Ulug‘bekning akademiyasi, ilm-fanning rivojida katta rol o‘ynadi va ko‘plab yosh olimlarning yetishishiga yordam berdi. Bu ilmiy muhit, tajriba almashish va ilmiy fikrlarni rivojlantirish uchun qulay sharoitlar yaratdi. Ulug‘bekning akademiyasi o‘z davrida birinchi bo‘lib, ilmiy metodologiyalarga e‘tibor berib, olimlarning tajribalarini amaliyotga joriy etishga yordam berdi.

Mirzo Ulug‘bekning Merosi

Mirzo Ulug‘bekning merosi, o‘z zamonida nafaqat O‘zbekiston, balki butun Markaziy Osiyoda ilm-fan va madaniyat rivojida muhim o‘rin tutadi. Uning asarlari va tadqiqotlari, keyinchalik ko‘plab avlodlar uchun ilmiy asos bo‘lib xizmat qildi. Ulug‘bekning ta‘lim va ilm-fanga bo‘lgan e‘tibori, jamiyatda ilmiy va madaniy taraqqiyotga hissa qo‘shdi.

Uning faoliyati, davlat boshqaruvining zamonaviy prinsiplari va ilm-fan o‘rtasidagi o‘zaro aloqalarni o‘rganishda muhim ahamiyatga ega. Mirzo Ulug‘bekning hikmatlari, o‘z zamonining ijtimoiy-iqtisodiy sharoitlarini anglashda va o‘rganishda foydali manba hisoblanadi.

Mirzo Ulug‘bekning hukmdor va olim sifatidagi faoliyati, o‘z zamonida va keyinchalik ilm-fan va madaniyat rivojida muhim ahamiyat kasb etdi. Uning yutuqlari, davlat boshqaruvi, ilmiy tadqiqotlar va ta‘lim sohasidagi islohotlari, tarixda muhim o‘rin egallaydi. Mirzo Ulug‘bekning merosi, ilm-fan va madaniyatning yuksalishiga qo‘shgan hissasi bilan birga, bugungi kunda ham o‘rganilishi davom etmoqda. Uning faoliyatini o‘rganish, ilmiy va madaniy taraqqiyotda qanday rol o‘ynaganini tushunishda yordam beradi.

XULOSA

Mirzo Ulug‘bek o‘z davrining eng yirik shaxslaridan biri bo‘lib, nafaqat siyosiy, balki ilmiy sohalarda ham katta ta‘sir ko‘rsatgan. Uning hukmdor sifatidagi faoliyati, davlatni boshqarishdagi ilg‘or yondashuvlari va ijtimoiy-iqtisodiy islohotlari bilan ajralib turadi. Ulug‘bek, o‘z siyosiy strategiyalarida mamlakatning iqtisodiy barqarorligini ta‘minlashga va xalq farovonligini oshirishga qaratilgan dasturlarni amalga oshirishga intildi. U harbiy va fuqarolik sohasidagi islohotlar orqali, mamlakatning mudofaa qobiliyatini oshirdi va ichki siyosatni barqarorlashtirdi.

Biroq, uning faoliyatining eng muhim jihati ilmiy tadqiqotlar va ta‘lim sohasida bo‘ldi. Mirzo Ulug‘bek ilm-fan va madaniyat rivojiga katta hissa qo‘shdi. U Samarqandda qurilgan observatoriya va "Zij-i Ulugh Beg" asari orqali astronomiya sohasida yangiliklar kiritdi. Uning ishlarida nazariy va amaliy bilimlarni birlashtirish yondashuvi, o‘z davrida ilmiy tadqiqotlarni rivojlantirishda muhim rol o‘ynadi.

Ulug‘bekning “Gurug‘ ul-ulum” ilmiy akademiyasi esa ilm-fan sohasidagi muvaffaqiyatlarning asosiy manbai bo‘ldi. Ushbu akademiya, o‘z zamonining eng nufuzli ilmiy markazlaridan biriga aylandi va ko‘plab yetuk olimlarni tarbiyaladi. Ulug‘bekning rahbarligida amalga oshirilgan tadqiqotlar va ilmiy ishlanmalar, nafaqat o‘z davrida, balki keyinchalik ham o‘rganildi va e‘tirof etildi.

Xulosa qilib aytganda, Mirzo Ulug‘bekning hukmdor va olim sifatidagi faoliyati, o‘z zamonida va keyinchalik, davlat boshqaruvini, ilmiy tadqiqotlarni va madaniyatni rivojlantirishda muhim ahamiyatga ega. Uning yutuqlari va merosi, jamiyat taraqqiyotida muhim o‘rin tutadi va kelajak avlodlarga ilm-fan va madaniyatga bo‘lgan qiziqishni oshirishda xizmat qiladi. Mirzo Ulug‘bekning hayoti va faoliyati, hozirgi kunda ham o‘rganilishi davom etmoqda va uning bilim, e‘tibor va izlanishlaridan ilhomlanish mumkin.

ADABIYOTLAR RO‘YXATI

Akhmedov, A. (2001). *Mirzo Ulug‘bek: Hayoti va Faoliyati*. Tashkent: Fan. Ushbu kitobda Mirzo Ulug‘bekning hayoti, uning hukmdorlik faoliyati va ilmiy yutuqlari haqida batafsil ma‘lumotlar keltirilgan.

Nazarov, R. (2010). *Samarqand Astronomiyasi va Mirzo Ulug‘bek*. Tashkent: Sharq. Ushbu tadqiqotda Samarqand astronomiyasining rivojlanishi va Mirzo Ulug‘bekning ushbu jarayondagi roli o‘rganiladi.

Saidov, A. (2015). *Ulug‘bekning Ilmiy Merosi*. Tashkent: O‘qituvchi. Kitobda Ulug‘bekning ilmiy ishlarining mazmuni, ahamiyati va ta‘siri tahlil qilingan.

Yusupov, S. (2018). *Mirzo Ulug‘bek va Uning Ilmiy Akademiyasi*. Tashkent: Ma‘rifat. Bu asar Ulug‘bekning ilmiy akademiyasi haqida batafsil ma‘lumot berib, uning ta‘sirini o‘rganadi.

Ismoilov, B. (2019). *O‘zbekiston Tarixi: Mirzo Ulug‘bek Davri*. Tashkent: Sharq. O‘zbekiston tarixiga oid ushbu kitobda Mirzo Ulug‘bekning hukmdorlik va ilmiy faoliyati batafsil yoritilgan.

Khalilov, T. (2005). *Astronomiya va Matematika Tarixi*. Tashkent: Fan. Kitobda astronomiya va matematikaning rivojlanishi, shuningdek, Mirzo Ulug‘bekning ulkan hissasi tahlil qilingan.

Toshbekov, U. (2014). *Mirzo Ulug‘bek: Hukmdor va Olim*. Tashkent: O‘zbekiston. Ushbu asar Ulug‘bekning siyosiy va ilmiy faoliyatini birlashtiruvchi yondashuvni taklif etadi.

Fazilov, A. (2017). *Samarqand: Ulug‘bek Observatoriyasi va Uning Yutuqlari*. Tashkent: Xalq ta‘limi. Bu kitobda Ulug‘bekning astronomik tadqiqotlari va observatoriyasining yutuqlari ko‘rib chiqiladi.

Rustamov, K. (2013). *Mirzo Ulug‘bekning Hayoti va Asarlari*. Tashkent: O‘qituvchi. Ulug‘bekning hayoti va asarlarini tahlil qiluvchi muhim manba.

Jumayev, M. (2020). *Mirzo Ulug‘bek: Olamshumul Hujjatlar*. Tashkent: Navqiron. Kitobda Ulug‘bek haqidagi hujjatlar va asarlar keltirilgan bo‘lib, ularning tahlili o‘tkazilgan.

Sharipov, E. (2016). *Mirzo Ulug‘bek va Uzoq O‘tmish: Yana Bir Qarash*. Tashkent: Sharq. Bu asar tarixiy kontekstdagi Ulug‘bekning o‘rni va ta‘sirini o‘rganadi.

Sultonov, M. (2011). *Ilmiy tadqiqotlar va O‘zbek Ilmi: Mirzo Ulug‘bekning Ta‘siri*. Tashkent: Fan. Kitobda Ulug‘bekning ilmiy tadqiqotlariga bo‘lgan ta‘sir tahlil qilingan.

Berdiyorov, X. (2021). *Mirzo Ulug‘bek: Ilmiy Merosi va Tarixi*. Tashkent: Ma‘rifat. Ulug‘bekning ilmiy merosiga oid eng muhim tadqiqotlardan biri.

Ruziev, D. (2012). *Mirzo Ulug‘bekning Siyosiy Faoliyati*. Tashkent: O‘zbekiston. Bu asar Ulug‘bekning siyosiy faoliyatini keng qamrovli tahlil qiladi.

Askarov, F. (2018). *Zij-i Ulugh Beg: Tarixi va Mazmuni*. Tashkent: Fan. Ulug‘bekning eng mashhur asari “Zij-i Ulugh Beg”ni o‘rganishga bag‘ishlangan tadqiqot.

**SAYOHATNING PSIXOLOGIK VA JISMONIY
SALOMATLIGIGA TA'SIRI**

Kamalova Malika Umidjanovna

Toshkent Davlat Iqtisodiyot Universiteti

“Turizm” fakulteti, 2-kurs talabasi

E-mail:kamalovamalika36@gmail.com

Izoh: Sayohat insonning jismoniy va psixo-emotsional salomatligiga sezilarli ta'sir ko'rsatadi. Bu maqolada turizm kuchni tiklash, stressni kamaytirish va umumiy farovonlikni yaxshilashga qanday yordam berishi ko'rib chiqiladi. Sayohat bilan bog'liq jismoniy faollik tanani mustahkamlashga, metabolizmni va uyqu sifatini yaxshilashga yordam beradi. Shu bilan birga, atrof-muhitning o'zgarishi va yangi tajribalar stress darajasini pasaytirishga, kayfiyatni yaxshilashga va psixo-emotsional tiklanishga yordam beradi. Sayohat odamlarga qulaylik zonasidan chiqishga, ijtimoiy aloqalarni o'rnatishga va ichki uyg'unlikni tiklashga yordam beradi. Umuman olganda, turizm salomatlik va farovonlikni saqlashning muhim vositasidir.

Kalit so'zlar: jismoniy va psixo-emotsional ta'sir,metabolizmni yaxshilash, stress darajasi, psixo-emotsional tiklanish, qulaylik zonasidan chiqish

**ПСИХОЛОГИЧЕСКОЕ И ФИЗИЧЕСКОЕ ВЛИЯНИЕ
ПУТЕШЕСТВИЙ НА ЗДОРОВЬЕ**

Камалова Малика Умиджановна

Студент Ташкентского Государственного

Университета, 2-курса,

факультета «Туризм»

E-mail:kamalovamalika36@gmail.com

Аннотация: Путешествие помогает физическому и эмоциональному развитию человека. В ней рассматривается, как туризм может помочь восстановить силы, снять стресс и улучшить общее самочувствие. Физическая активность, связанная с путешествиями, помогает облегчить организм, улучшить обмен веществ и качество сна. В то же время налаживание обстановки и новые впечатления способствуют снижению стресса, улучшению настроения и психоэмоциональному восстановлению. Путешествия помогают людям выйти из зоны комфорта, наладить социальные связи и восстановить внутреннюю гармонию. В целом туризм является важным средством поддержания здоровья и благополучия.

Ключевые слова: физический и психоэмоциональный эффект, улучшение обмена веществ, уровень стресса, психоэмоциональное восстановление, выход из зоны комфорта.

Adabiyot manbalarini haqida umumiy ma'lumot:

Ushbu tadqiqot, sog'liqni saqlash va sayohat o'rtasidagi munosabatlarni o'rganishda sog'liq uchun gumanitar fanlar nuqtai nazaridan foydalanadi. Gumanitar fanlarning sog'liqni saqlash sohasidagi yondashuvi, hayotni hurmat qilishni tibbiyotning asosiy mohiyati sifatida qaraydi va tibbiyot xodimlarini bemorlarning kasallik tajribasini yaxshiroq tushunishga undaydi. Ushbu yondashuvga asoslanib, avvalgi tadqiqotlar kasallikning jismoniy, psixo-ijtimoiy va ma'naviy oqibatlarini o'rganib chiqqan va bemorlarga tashxis qo'yilgandan keyin reabilitatsiya jarayonida kasallik bilan samarali kurashishga qanday yordam berish mumkinligini ko'rsatgan.

Haqiqiy ommaviy turizm 18-19-asrlarda, sanoat inqilobidan keyin tez urbanizatsiya va odamlar o'rtasida stress kuchayishi bilan birga dam olish va tiklanish zarurati paydo bo'lgan paytda rivojlana boshladi. Bu vaqt dam olish maskanlari, shifobaxsh va termal buloqlarning tobora ommalashib borayotgani bilan ham ajralib turdi. Inson jismoniy va psixo-emotsional kuchni tiklash uchun dam olish muhimligini tushuna boshladi.

19-asrda, Temir yo'llar va infratuzilmaning rivojlanishi bilan sayohat yanada qulayroq bo'ldi, bu esa dam olish va sog'lomlashtirish uchun yangi ufqlarni ochdi. Evropada Shveysariya va Germaniyaning Baden-Baden kabi mashhur kurortlari paydo bo'lib, ular sog'lomlashtirish va kasalliklarni davolash joylariga aylandi.

20-asrda esa, ommaviy turizmning paydo bo'lishi, transportdan foydalanish imkoniyatlarini yaxshilash, daromadlarning sezilarli darajada oshishi va sayohat narxining pasayishi bilan bog'liq bo'lib, turizmni aholi uchun qulayroq qildi. Bu vaqtda ochiq havoda dam olish, faol dam olish, madaniy va tabiiy diqqatga sazovor joylarga tashrif buyurish salomatlikka ijobiy ta'sir ko'rsatishi aniq bo'ldi.

Muhokama va natija:

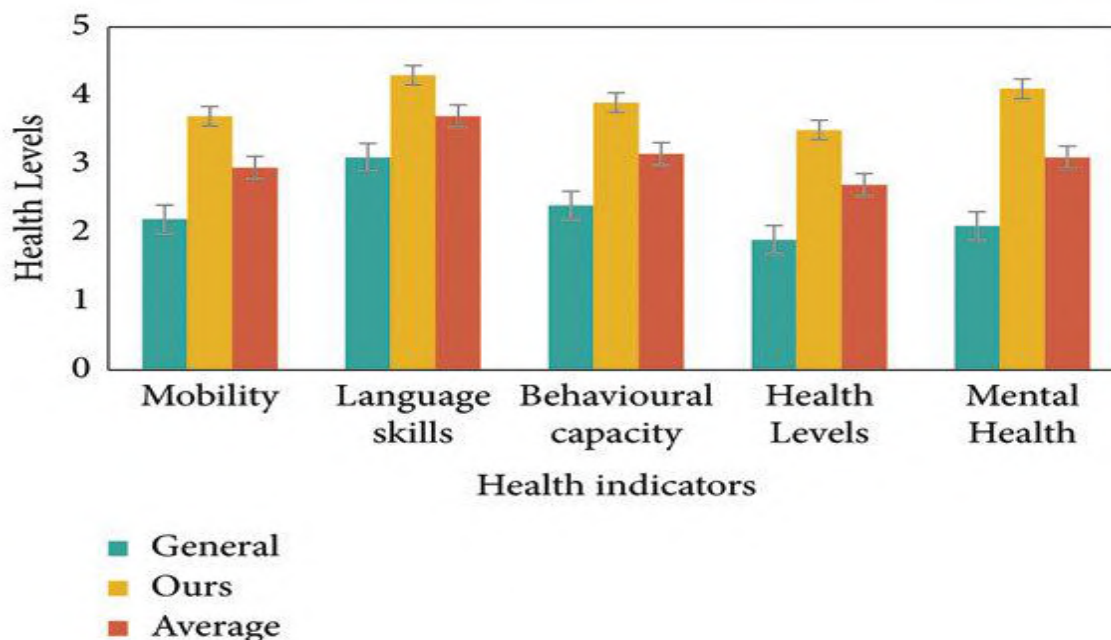
Hozirgi kunda nafaqat oddiy turizm, balki, barqaror, ekologik va tibbiy turizm kabi turlar ham rivojlanib kelmoqda, qaysiki insonni jismoniy va emotsional salomatligiga ta'sir ko'rsatadi. Turistik faoliyatning turli turlari sayohatchilarning ruhiy salomatligiga ijobiy ta'sir ko'rsatadi. Sayohatning bevosita ta'siri yaxshi hujjatlashtirilgan bo'lib, milliy bog'larga sayohat qilish tabiat va sarguzashtlarni sevgan turistlar uchun qisqa va uzoq muddatli hissiy foyda keltiradi. Shuningdek, san'at va tabiat bilan bog'liq tadbirlarni o'z ichiga olgan muzey dasturlari o'z-o'zini hurmat qilishni oshirishi va ishtirokchilarning ijtimoiy izolyatsiyasini kamaytirishi mumkin. Ko'ngillilik faoliyati esa yoshi kattalarning jismoniy va ruhiy salomatligiga ijobiy ta'sir ko'rsatishi isbotlangan. Sayohat nostalgiasini va sayohat tassavuri, o'z

navbatida, tiklanish jarayonlariga yordam berishi va ruhiy salomatlik muammolarini hal qilishda foydali bo'lishi aniqlangan.

Sayohatning jismoniy salomatlikka ta'siri bir nechta ijobiy va salbiy tomonlarga ega, va ular alohida ko'rib chiqilish lozim.

✓ Sayohat vaqtida ko'pincha jismoniy faoliyatga ko'proq e'tibor beriladi. Masalan, Purdue universiteti (AQSh) tomonidan o'tkazilgan 2017-yildagi tadqiqot, sayohatning jismoniy faollikni oshirishga qanday ta'sir qilishi haqida edi, yangi joylarni o'rganish, piyoda sayr qilish, tabiat bilan yaqindan tanishish odamni ko'proq harakat qilishga undagani xaqida edi. Bundan tashqari ko'p ilmiy tadqiqotlarda kasalliklarga davo piyoda sayr qilish deb hisoblangan, shu sabab ko'p turistlar har xil yashil tog'lari, toza xavosi va sog'lomlashtirish markazlariga ega ekskursiyalarni maqul ko'rishadi. Va albatta sport bilan shug'ullanish yurak-qon tomir salomatligini yaxshilashga, mushaklarni kuchaytirishga va metabolizmni yaxshilashga yordam beradi.

✓ Hatto nafas olish tizimi uchun ham foydalidir, masalan, tog'larda sayr qilish yoki o'rmonlarda yurish nafaqat jismoniy faollikni oshiradi, balki organizmga kislorod yetkazib berish va nafas olishni yaxshilashga yordam beradi. Sayohat yangi muhitga kirib borish bilan, odamlarni odatdagi faollik doirasidan chiqaradi va turli jismoniy faoliyatlarga olib keladi. Misol uchun, dengiz bo'yida suzish, yangi sport turlarini o'rganish yoki yangi sayohat rejalarini amalga oshirish jismoniy rivojlanish uchun foydalidir. Bunday faoliyatlar faqatgina sog'liqni yaxshilashga yordam bermay, balki yangi qobiliyatlarni rivojlantirishga ham imkon yaratadi. Qo'shimcha faol elementlarni (piyoda, velosipedda, ochiq havoda ekskursiyalar) o'z ichiga olgan dam olish, atrof-muhit va kundalik tartibni o'zgartirish, uyqu sifatini yaxshilashga ham ko'maklashadi va ortiqcha vazndan halos bo'lishiga yordam beradi (ko'p harakat orqali...).



Sayohatning psixologik salomatlikka ta'siri:

✓ Sayohat stress darajasini pasaytirish va hissiy tiklanishda muhim rol o'ynaydi, bu odamlarga muammolarni va hamma narsani (kundalik tashvishlar, muntazam ish va doimiy talablar) ni vaqtincha unutishga imkon beradi. Albatta sizga to'liq dam olishga, stress va tashvishlarni kamaytirishga yordam beradi. Bundan tashqari, ortirish kerak bo'ladigan yangi tajribalar, go'zal diqqatga sazovor joylar (tarixiy joylar, muzeylar, obidalar,...) madaniy boyitish va dunyoning turli burchaklaridan kelgan odamlar bilan muloqot qilish (intervyu olish, davlatingiz xaqida beradigan fikrlari, kamchiliklari va avzalliklari) davlatimizdagi turizmni rivojlantirishni, kayfiyatni yaxshilaydi va baxtni oshiradi. Tabiatda bo'lish (masalan, o'rmon, tog'lar yoki suv yaqinida) stress va xavotirni kamaytirishi mumkinligi ham o'rganilgan. Tabiiy ravishda, yangi madaniyatni o'rganish, yangi urf-odatlar va dinlarni o'rganish (tug'ilgan kunlardagi, to'ylardagi, turli bayramlardagi ...) kabi sayohat baxt gormonlarini ishlab chiqarishiga yordam beradi - endorfin va serotonin. Psixologik shifobaxsh sayohat insonlarni bir biriga bo'lgan muinosabatlarni ham kuchaytiradi, xoh u oilaviy sayohat yoki do'stlar bilan sayohat bo'lsin. Chet davlatidagi qiyinchiliklarni (yuk, passport, transport, mehmonxona kabi...) birga yengish yoki birgalikda quvonchli daqiqalarni o'tkazish ham hissiy aloqalarni va qo'llab-quvvatlashni o'rnatadi.

✓ Dam olishlardan tashqari ko'p odamlar uchun sayohat hayotdagi qiyin davrlar yoki qiyin tajribalardan keyin psixo-emotsional tiklanish imkoniyatiga aylanadi. Bundan tashqari sayohat insonga qiyinchilik tug'dirishi, unga odatdagi konfort zonasidan chiqishga yordam berishi, dunyoga yangi nuqtai nazardan qarashi va ufqlarini kengaytirishda ko'maklashadi, ayniqsa, yangi va noma'lum joylarga borish, odamning kreativligini va kognitiv qobiliyatlarini oshirishi mumkin, va yana ruhiy tushkunlik yoki hissiy charchoqni boshdan kechirayotgan odamlar uchun foydali bo'lishi mumkin. Tadqiqotlar shuni ko'rsatadiki (Harvard Business Review jurnali tomonidan 2014-yilda o'tkazilgan tadqiqotda, yangi joylarga sayohat qilish, odamlarning kreativ fikrlash qobiliyatini oshirishga yordam berishini ko'rsatdi), yangi va g'ayrioddiy muhitlar miya faoliyatini rag'batlantiradi, bu esa yangilikka ochiq fikrni va innovatsion yechimlarni izlashni qo'llab-quvvatlaydi. Sayohat davomida yuzaga keladigan turli vaziyatlar va kutilmagan hodisalar odamning muammolarni hal qilishdagi qobiliyatini rivojlantiradi. Terapevtik amaliyotlar ham kotta psixologik ta'sir kostadi, masalan, meditatif yoki sog'lomlashtirish, bevosita psixo-emotsional holatni tiklashga qaratilgan. Meditatsiya, yoga, shuningdek, psixo-emotsional holatni tiklash xizmatlarini taklif qiluvchi kurortlarga sayohat turizm sanoatining muhim qismidir.

Sayohatning umumiy salomatlikka ta'siri:

✓ Sayohatning salomatlikka bo'lgan ta'siri nafaqat jismoniy va psixologik salomatlikni yaxshilashda namoyon bo'ladi, balki u odamning umumiy farovonligini oshiradi. Sayohat, shuningdek, o'zini anglash, yangi tajribalar orttirish va maqsadlar sari intilish uchun imkoniyat yaratadi. Yangi joylar va madaniyatlar bilan tanishish nafaqat dunyoqarashni kengaytiradi, balki odamni yanada bag'ishlangan, ishonchli va maqsadga yo'naltirilgan qiladi. Bir maqsadiga erishishi uchun qay darajada fikrlash tizimi kuchayadi va osonlashadi.

Xulosa:

Sayohatning psixologik va jismoniy salomatlikka ta'siri bo'yicha o'tkazilgan turli tadqiqotlar bu jarayonning insonning umumiy farovonligi va salomatligiga ijobiy ta'sir ko'rsatishini aniq isbotlagan. Tadqiqotlar shuni ko'rsatadiki, sayohat stressni sezilarli darajada kamaytiradi, chunki sayohat odamlarga kundalik tashvishlar va bosimdan vaqtincha xalos bo'lish imkonini beradi. Shuningdek, sayohat kreativlikni oshiradi, chunki yangi muhit va tajribalar yangi fikrlash va muammolarni hal qilish usullarini rivojlantirishga yordam beradi.

Bundan tashqari, sayohat uyqu sifatini yaxshilaydi, chunki odamlar sayohat qilishda o'zlarini ko'proq dam olishga va tinchlanishga imkon topadilar. Jismoniy faollik ham sayohat orqali oshadi, chunki sayohat qilish odatda sayr qilish, tabiatda vaqt o'tkazish, yangi joylarni kashf etish va jismoniy mashqlar bilan shug'ullanishni o'z ichiga oladi. Shuningdek, sayohat odamlar o'rtasidagi ijtimoiy aloqalarni mustahkamlashga yordam beradi, chunki sayohat ko'pincha yangi odamlar bilan tanishish va mavjud aloqalarni rivojlantirish imkoniyatini yaratadi.

Foydalanilgan adabiyotlar:

1. The healing impact of travel on the mental health of breast cancer patients <https://www.sciencedirect.com>
2. Journal of Sleep Research onlinelibrary.wiley.com
3. Travel Stress, Leisure Exploration, and Trip Satisfaction: The Mediating Role of Travel Adjustment <https://journals.sagepub.com/>
4. Positive psychology and tourist well-being
5. Psychology in Tourism <https://link.springer.com/>

**FOREIGN EXPERIENCE OF FINANCING
ECONOMICALLY INSOLVENT ENTERPRISES**

Javliyev Nuriddin Bektemir o'g'li

n.javliev@tsue.uz

Annotation

This article analyzes the causes of the economic crisis arising in the conditions of economic instability, slow payment circulation, risk of non-payment, current inflation and insufficient qualifications of managers. In this direction, researches carried out by local scientists and scientists of the Russian Federation are studied and their opinions are presented. In fact, as a result of special attention paid to entrepreneurship by the Uzbek government in recent years, the entrepreneurship sector has become a leading branch of the economy. Scientific research dedicated to the development of a financial mechanism on the subject is also important for innovative development and increasing social welfare. Proposals and recommendations aimed at supporting and developing various sectors of the economy were developed through these processes.

Key words: Insolvency, risk, risk management, macroeconomic stability, forecasting, refinancing rate, inflation.

Introduction. In the market economy, the subjects of the economy, being economically completely free, join the competition. If this struggle opens the door of incomparable opportunities to some market subjects, it may cause others to enter a dead end. In the conditions of perfect competition, victory or defeat is inevitable and it is very difficult to stop it. In other words, continuous competition always increases the possibility of economic failure or bankruptcy options. Every enterprise-institution that is newly established has some that have stopped their activity. Non-competitive enterprises are forced to give way to others.

Studying the theoretical-practical-methodical aspects of the issues of economic helplessness, determining the directions for solving problems and shortcomings is considered an urgent issue of today.

The urgency of financing economically disadvantaged enterprises is important not only for ensuring economic stability, but also for innovative development and increasing social welfare. Through these processes, it will be possible to support and develop various sectors of the economy.

In order to identify signals about crisis events of the enterprise, it is necessary to constantly monitor its business and financial indicators, because their analysis allows an objective assessment of the situation. The same indicators may have different meanings and trends at different stages of the life cycle of a firm's competitive

advantages. Therefore, the analysis of the dynamics of indicators in its stages allows to determine the development trends of crisis events based on quantitative and qualitative assessment.

Literature review. Fedotova M.A. says about financial stability: Analysis of working capital and inventory turnover is especially important. Analysis of the stability of income also seems appropriate: why the less the change in income from period to period, the more stable the financial stability of the company's position. A high turnover of inventory is usually considered as evidence of effective management of assets, but it increases the risk of inventory shortages. Gradova A.P. in the opinion of the general indicator of the financial stability of the enterprise is its profitability. Indicators of profitability are divided into two groups: coefficients of profitability of capital and coefficients of income from sales. Hedderwick K said that external factors should also be taken into account to get a general understanding of the Company's financial situation and prospects. Ratios calculated from financial statement information are important but not complete.

Difficulties associated with the lack of generally accepted "ideal" values for economic and financial ratios can be overcome by partial modification. The most popular of these methods are:

- determine the value of the coefficient for several years;
- comparison of coefficient values of one company with values.

According to V.T. Kpyzhanovsky, in modern economic literature, creditor debt restructuring means a set of measures aimed at changing creditor debt. Financial rehabilitation measures aimed at restructuring the company's creditors, including overdue debts, include:

- delaying payments and paying in installments;
- consideration of mutual payment requirements (offset);
- to pay the debt by giving the property to the creditor;
- exchange of debt for shares;
- sale of debt obligations.

In the West, corporate finance continues to grow rapidly as national governments focus more on business and provide clerical support at the federal level. Especially in developed countries, small business is today the middle class that serves as the basis of sustainable economic development. Even the former developing countries, which are engaged in the development of small and medium-sized businesses, have achieved great economic development (Taiwan, Singapore, Indonesia, etc.). If we observe the pace of development of small businesses in these countries, we see that the development of the entire economy depends on it. In this regard, the experience of foreign countries such as the USA, Spain, and Japan is of great interest; China and a number of other countries.

Research objective and methods. Systematic approach, factor analysis, statistical and financial analysis, expert assessment, information processing, mathematical modeling and other methods were used in the research process.

Analysis and results.

The financing programs for economically disadvantaged enterprises in various countries demonstrate that targeted initiatives can effectively promote entrepreneurship and economic development. By providing access to capital, training, and support, these programs empower individuals and communities, fostering self-sufficiency and resilience. As global economic challenges persist, such models offer valuable lessons in creating inclusive economies that benefit all.

Country	Program	Description
Sweden	Swedish Innovation Agency	Provides grants and funds to finance innovative projects.
Germany	Kreditanstalt für Wiederaufbau (KfW)	It supports economically disadvantaged enterprises with preferential loans and grants.
USA	Small Business Administration (SBA)	Provides loans, grants and guarantees for small businesses.
Canada	Business Development Bank of Canada (BDC)	Offers financing and consulting services for small and medium enterprises.
Japan	Japan Finance Corporation (JFC)	It supports small and medium-sized enterprises with preferential loans and advisory services.
France	Bpifrance	Grants and loans for financing innovative and economically disadvantaged enterprises.
United Kingdom	British Business Bank	It offers a variety of financial instruments to support small and medium-sized businesses.

Table1. Foreign countries and their successful programs in financing economically disadvantaged enterprises.

These programs illustrate the diverse approaches taken by various countries to finance economically disadvantaged enterprises. By providing access to capital, training, and support, these initiatives empower individuals and help build more inclusive economies. Each program reflects the unique socio-economic context of its country, highlighting the importance of tailored solutions in combating poverty and promoting entrepreneurship.

In the West, the financial situation of enterprises continues to grow rapidly as national governments place greater emphasis on business and support the ulama at the federal level. Especially in developed countries, small business is now the middle class that serves as the basis for sustainable economic development. Even the former developing countries engaged in the development of small and medium-sized businesses have achieved great economic development (Taiwan, Singapore, Indonesia, etc.). If we observe the pace of development of small businesses in these countries, we will see that the development of the whole economy is dependent. In this regard, the experience of foreign countries such as the United States, Spain, Japan is of great interest; China and a number of other countries¹.

Small business is very important for the normal functioning of the economy. In developed countries with economic members, about 60 percent of GSMH is produced by small businesses, small businesses with no more than 50 employees. What's easy to understand: A modern market economy offers thousands of markets created by millions of efficient and competitive businesses. In less developed countries (e.g., Latin America, the CIS), the number of small businesses is relatively small, and the link is a major structural weakness.²

According to the World Bank, an officially registered small enterprise will exceed a critical level if it provides about 40 percent of the officially registered GSMH. This means that small business will rise to the level of the state economy, that is,

There is every reason to believe that "equal" regulation or taxation of small businesses is strictly discriminatory. The greatest harm to the development of small business is mainly caused by the international community of economists, who demand that all enterprises be subject to the same rules, even if some of them are discriminated against. Unfortunately, the IMF and the World Bank support this view.

In foreign countries, small business expenses can be divided into three main categories: taxes, regulatory, and property rights payments. Taxes are probably the most transparent area, and government prices are clearly indicated here. The statute is not the most specific, it includes certain restrictions for businesses: administrative procedures, checks and sanctions if these restrictions are not met. Payments for property rights include the rules associated with its registration (licensing of property and protection of property rights)³.

In Sweden, for example, for the past 100 years, small businesses have been located in the southern part of the country, while large enterprises have dominated the central part. The lack of small businesses in the central part is a direct result of the

¹<http://elibrary.namdu.uz/Entrepreneurship%20development%20strategy.%20Asatullayev%20X.S.%20Mamanazarov%20M.pdf>

²E. Egamberdiev, H. Khujakulov Small business and entrepreneurship T-Finance, 2003 y 91p

³F. SHamsutdinov, Sh. Shamsutdinova "Tax system of foreign countries" Textbook-2011

implementation of a clear law on the introduction of zoning (tax incentives do not help if there is no plot of land). Although the total tax rate (in GNP share) is high in Central Europe, the total amount of tax payments is sold there at 16%.

According to the survey, 80 to 90 percent of the U.S. population is positive about the role of small business. And this is not surprising: every year, three out of every four new jobs in the small business sector are created. In addition, small businesses help fill and diversify the consumer market in the country to pay for goods and services, with Americans spending \$ 8 trillion a year.

American small business, I would say a lot: small business works in trade, manufacturing, the financial sector, consulting, innovation and social services. For example, in Connecticut, 17 percent of small businesses are engaged in professional, scientific, and technical services; 13% in construction, 12% in retail trade; 9% in health and social services, the rest in real estate, finance, transportation, wholesale, education and others.

The contribution of small business to the development of research and development of new products is of great importance: in the United States, the vast majority of inventions and discoveries are accounted for by small and medium-sized specialized firms. The development of the production of aircraft, helicopters, air conditioners, personal computers and many other types of products began in front of small businesses.

Reducing the absolute and relative dimensions of federal taxation will help small businesses develop, create small businesses, strengthen their growth in the U.S. economy, and create new jobs.

In France, small and medium-sized businesses have different ways of refusing to pay taxes. Liberal professionals, dentists, lawyers, art historians, cosmetologists, auto mechanics, etc. are among the most disobedient in this regard, among whom payments for clients are often made without proper documentation with "black money", this is definitely prohibited by law. This work is explained by very high tax rates and the need to make a very significant contribution to social funds.¹⁰ It is no secret that in France (usually in large cities) and there are underground workshops where immigrants, including illegal ones, work "black". In general, since the 1960s, when large waves of immigration came to the country, taxes were levied. began to actively withdraw from the loaves. Of course, as in Italy, this amount of tax legislation, which has become almost a national tradition since the payment of taxes, does not exist in France. Also, the tax inspector doesn't sleep as the French call him. Therefore, not all businesses are able to go unpunished for not paying taxes.

In France, private business is governed by three main state-owned channels - tax, banking and criminal. Tax control is carried out by all individuals and legal entities by taking samples of income tax returns with payment once a year (in March) or three times a year. The declaration confirms the documents related to any type of income.

They will be sent to all taxpayers. The frequency of inspections depends on the industry or specialty. For example, 150 farmers, 75 real estate agents, etc. are selectively inspected during the year, and so on. The audit of the financial statements of the firm (about 50 thousand annually) is carried out on a regular basis, as well as on a competitive basis.

Today, there are more than one million small enterprises in Korea (20 or less workers for industry, transportation and construction, and five or less enterprises for trade and services, respectively), of which almost 98,6 percent. The rest were registered by more than 15,000 large companies. As a result, 62 percent of your employees work in small businesses. “Small business is a key factor in economic growth” is one of South Korea’s most important slogans, as it is said in Russian. Private entrepreneurship is actively developing in Korea. One million small and very small firms will add to the strength and power of the Pacific Tiger (half of YalM and 43 percent of South Korea’s exports).

Samsung’s management is largely based on a hierarchical system, and this is one of the reasons for its leadership. There have been many good startups that have rarely been successful in companies in the upper west.

There are currently about three million small businesses registered in France. Of these, 1.5 million are in the service sector, 780,000 in trade, 350,000 in construction and 303,000 in industry. This is the classic structure of the post-industrial economy. About 250,000 small businesses and 50,000 bankruptcies remain in the country each year, while 40-50% of new jobs created in France are in small businesses.⁴ It cannot make a contribution to the life of the state. In addition, 10-12 percent of the amateur population of the French Republic is included in the list of unemployed, which is the main economic, social and political problem of the country. It is no coincidence that every new government begins its activities with a promise to overcome at least partial unemployment. True, this will not happen. And if it weren’t for the actions of small businesses, the employment problem in France would be even more acute. In France, there are enterprises that employ less than 50 workers in small businesses. At present, 3 mln. The small business is worth about \$ 1.5 million. No one belongs to a private or family business and there are no employees who are not employed at all. q and employs more than 10 people for more than 1,200,000 businesses. The income of your small business and enterprise does not have clear legal restrictions. As it turns out, according to tax data, the average income of a small business ranges from 10 to 100 thousand euros per year.

In Spain, small business began to flourish in the 1970s. High economic performance was due to the high level of small business development. Small business has helped save the country from unemployment, helped overall growth.

⁴F. SHamsutdinov, Sh. Shamsutdinova “Tax system of foreign countries” Textbook-2011.

In Spain, the share of small business in some sectors is 80% (agriculture), in other sectors an average of 25-30% (construction, industry, shipbuilding). The main sectors of small business are primarily agro-industrial complex (agriculture, grain, non-ferrous and nonferrous metallurgy), food industry (food, confectionery, wine), construction, tourism and others.

Because of Spain's success and what conditions have been created for that? Spain has developed many programs to support and develop small businesses. The Spanish government focuses on small businesses that are of high social importance to Spain, creating new jobs for groups in need of social protection (students, women, immigrants, etc.), and contributing to the growth of underdeveloped areas and districts.

In addition, the Spanish government is focused on developing a knowledge-based network, innovative technologies, and realizing that the market is of great importance for domestic development and international economic cooperation. Most of the small business development programs are occupied by European programs, which are widespread in many European countries: Germany, France, the United Kingdom and others. In Spain, the government encourages many organizations and funds to support small business. These organizations are divided into the most popular and effective groups in the field of small business development, operating not only in Spain but also in other EU countries.

Conclusion

Strengthening the financial stability of enterprises, improving the financial recovery and management of economically insolvent enterprises, restructuring the economy, modernization of production, investment in the process of technical and technological re-equipment, including attracting funds from commercial banks in the economic sphere is one of the main directions of the ongoing change.

1. As a result of measures aimed at ensuring the effective operation of the enterprise, it was possible to get rid of the overload of the economy, eliminate debt on the budget and wages, to create more than 100 new types of production facilities on the basis of bankrupt enterprises.

2. The development of the country's economy depends on the financial stability of the enterprise and the formation of the income base. In this regard, the scientific study of financial rehabilitation and the proper organization of business is one of the most pressing issues in the economic literature.

3. The experience of developed countries shows that small and medium-sized businesses are successfully developing with the direct participation of the state in the development and implementation of policies for financial support.

References:

1. Resolution of the President of the Republic of Uzbekistan dated May 6, 2015 No PP-2344 "On measures to further increase the financial stability of commercial banks and the development of the resource base" // Collection of legislation of the Republic of Uzbekistan. - Tashkent, 2015.
2. Decree of the President of the Republic of Uzbekistan No. PF-5177 of September 2, 2017 "On priority measures for the liberalization of foreign exchange policy" // Collection of Legislation of the Republic of Uzbekistan. - Tashkent, 2017.
3. Resolution of the President of the Republic of Uzbekistan dated September 12, 2017 No PP 3270 "On measures to further develop and increase the stability of the banking system of the Republic."
4. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 422 of December 4, 2002 and liberalization
5. Mirziyoyev Sh.M. Critical analysis, strict discipline and personal responsibility it should be a daily rule of every manager's activity. Tashkent: "Uzbekistan", 2017.
6. Mirziyoyev Sh.M. The rule of law and the protection of human interests are the key to the development of the country and the well-being of the people. Speech at the solemn ceremony dedicated to the 24th anniversary of the adoption of the Constitution of the Republic of Uzbekistan. December 7, 2016 /Sh.M.Mirziyoyev. - Tashkent: "Uzbekistan", 2017.
7. Mirziyoyev Sh.M. We will build our great future together with our brave and noble people. The book contains speeches of the President of the Republic of Uzbekistan Shavkat Mirziyoyev at election meetings with voters of the Republic of Karakalpakstan, regions and the city of Tashkent from 1 to 24 November 2016. /Sh.M.Mirziyoyev. - Tashkent: "Uzbekistan", 2017.
8. Tashmuradova B., Khamdamov O. "Financial management" "Economy-Finance" 2012.
9. Malikov TS, Olimjonov OO Finance textbook: "Economics and Finance"
10. Malikov TS, Jalilov Sh.Q. Financial system: modern interpretation "Economy-Finance" -2016.
11. Abdullaeva Sh.Z., Qoraliev TM, Artikov UD "Management of bank resources and knowledge". Monograph./ -T.: "Economy-Finance" 2009.
12. Abdullaev YA, Qoraliev TM and others "Banking". Textbook - BM: T.: "Economics and Finance", 2009.
13. Abdullayeva Sh.Z. "Banking" textbook "Economy and Finance" Tashkent: 2017.
14. Alaverdov R. "Strategic management in a commercial bank" M: Peter, 2005.
15. Zhukova EF, Eriashvili ND Bankovskoe delo: uchebnik. /. - M.: UNITI-DANA, 2006.

16. Zaytseva IG "Banking marketing" St. Petersburg 2009. -350 p
 17. Isaev AR 'Banking management and business engineering "M: INFRA -M 2013.
 18. Abdullaeva Sh., Fayzullaeva M., Galak O. Bankovskiy management and marketing. Uchebnoe posobie./ - T .: "ECONOMY-FINANCE", 2007.
 19. Lavrushin OI "Banking Management" Textbook FiS, 2009.
 20. Alikoraev O. "Issues of improving the quality of financial services" Market, money and credit Jumal. 2014 Number 2
 21. Saidov DA Lending practice of commercial banks and ways to improve it. Monograph. - Tashkent. 2015.
- Internet resources
22. <http://www.gov.uz>
 23. <http://www.cbu.uz>
 24. <http://www.mf.uz>
 25. <http://www.stat.uz>
 26. <https://www.scopus.com>
 27. <https://www.sciencedirect.com>
 28. www.db.com.
 29. www.vinsanoat.uz
 30. www.federalreserve.gov
 31. <https://aggregator-m.ru>
 32. <https://hordiq.uz>
 33. www.lex.uz.

KONSTITUTSIYA DAVLATNING ASOSIY QONUNI

Reyimboyev Javohir Hamdam o'g'li

Andijon qishloq xo'jaligi va agrotexnologiyalar instituti
"Yurisprudensiya" ta'lim yo'nalishi 1-bosqich talabasi.

Ruzimurodov Jahongir Sherzod o'g'li

Andijon qishloq xo'jaligi va agrotexnologiyalar instituti
"Yurisprudensiya" ta'lim yo'nalishi 1-bosqich talabasi.

jahongirruzimurodov40@gmail.com

Annotatsiya: Ushbu maqolada asosiy qonunimiz haqida, Konstitutsiyada belgilangan inson huquq va erkinliklari, hokimiyatning bo'linish prinsipi hamda xalqaro huquqning umumetirof etilgan prinsip va normalari haqida, Konstitutsiyamizning vazifasi va xalqaro huquq tizimidagi o'rni, shuningdek boshqa davlatlarning Konstitutsiyalari haqida qisqacha fikrlar bayon etilgan.

Kalit so'zlar: O'zbekiston Respublikasi Konstitutsiyasi, Konstitutsiyaning ahamiyati, asosiy vazifasi va tushunchasi, Konstitutsiyada mustahkamlangan insonlarning asosi huquqlari, erkinliklari va manfatlari, boshqa davlatlarning Konstitutsiyalari.

КОНСТИТУЦИЯ – ОСНОВНОЙ ЗАКОН ГОСУДАРСТВА

Рейимбоев, сын Джавахира Хамдама, является студентом
1 курса Андиганского института сельского хозяйства и
агротехнологий по специальности «Правоведение».

Сын Рuzимуродова Джахангир Шерзод - студент
Андиганского института сельского хозяйства и а
гротехнологий, факультета «Правоведение» 1 курса.

jahongirruzimurodov40@gmail.com

Аннотация: В данной статье собраны краткие мысли о нашем основном законе, правах и свободах человека, определенных в Конституции, принципе разделения властей и общепризнанных принципах и нормах международного права, функции нашей Конституции и ее месте в международно-правовой системе, а также конституции других стран.

Ключевые слова: Конституция Республики Узбекистан, значение, основная задача и концепция Конституции, основные права, свободы и преимущества человека, закрепленные в Конституции, Конституции других стран.

CONSTITUTION IS THE BASIC LAW OF THE STATE

Reyimboyev Javohir Hamdam o'glu - 1st year student of the Andijan Institute of Agriculture and Agrotechnologies, "Jurisprudence" program.

Ruzimurodov Jahongir Sherzod o'glu - 1st year student of the Andijan Institute of Agriculture and Agrotechnologies, "Jurisprudence" program.

jahongirruzumurodov40@gmail.com

Abstract: This article briefly discusses our basic law, human rights and freedoms enshrined in the Constitution, the principle of separation of powers, and generally recognized principles and norms of international law, the role of our Constitution and its place in the international legal system, as well as the Constitutions of other countries.

Keywords: Constitution of the Republic of Uzbekistan, the importance, main tasks and concept of the Constitution, the fundamental rights, freedoms and interests of people enshrined in the Constitution, Constitutions of other countries.

Konstitutsiya — bu davlatning asosiy qonuni bo'lib, uning strukturasi, hokimiyatning tartibini, fuqarolarning huquq va erkinliklarini belgilaydi. Konstitutsiya davlatning asosiy prinsiplarini, boshqaruv tizimi va jamiyatda adolatni ta'minlash uchun zarur bo'lgan me'yorlarni o'z ichiga oladi. U davlat va jamiyatning barcha qonunlari uchun asos bo'lib xizmat qiladi.

Konstitutsiyaning ustunligi

Konstitutsiyaning ustunligi — bu uning barcha boshqa qonunlar va normativ hujjatlarga nisbatan eng yuqori huquqiy kuchga ega bo'lishini anglatadi. Ya'ni, barcha qonunlar, qarorlar va boshqa normativ hujjatlar Konstitutsiyaga zid bo'lmasligi kerak. Agar biror qonun yoki hujjat Konstitutsiyaga qarshi bo'lsa, u amalda qo'llanilmaydi yoki uning ijrosi to'xtatiladi.

Konstitutsiyaning ustunligi quyidagi jihatlarni o'z ichiga oladi:

1. Qonun ustivorligi: Barcha qonunlar va normativ hujjatlar Konstitutsiyaga mos bo'lish kerak.

2. Huquqiy himoya: Fuqarolar va jamiyatda huquqiy tizim Konstitutsiya asosida faoliyat yuritadi.

3. Hokimiyatning chegaralanganligi: Davlat hokimiyati faqat Konstitutsiya doirasida amalga oshiriladi, shuning uchun hokimiyatning suiiste'mol qilinishi oldini olish uchun me'yoriy cheklovlar qo'yiladi. Konstitutsiyaning ustunligi orqali demokratik tizimni, fuqarolarning huquq va erkinliklarini himoya qilish, hamda davlatning barqarorligi va qonuniyligini ta'minlash mumkin.

Konstitutsiyaning ahamiyati

Konstitutsiyaning ahamiyati juda katta, chunki u davlatning asosiy huquqiy hujjati bo'lib, jamiyatni tartibga solish va boshqarishni ta'minlaydi. Uning ahamiyatini quyidagilar orqali tushuntirish mumkin:

1. Hokimiyatni taqsimlash va tartibga solish: Konstitutsiya davlat hokimiyatining qanday tuzilganini va u qanday ishlashini belgilaydi. Bu hukumatning muayyan organlariga (masalan, ijroiya, qonunchilik va sud hokimiyati) berilgan vakolatlar va ularning o'zaro munosabatlari aniqlaydi. Shuningdek, hokimiyatning suiste'mol qilinishini oldini olish uchun cheklovlar o'rnatadi.

2. Fuqarolarning huquq va erkinliklarini himoya qilish: Konstitutsiya fuqarolarning asosiy huquq va erkinliklarini (masalan, so'z erkinligi, din erkinligi, yig'ilish erkinligi) himoya qiladi. Shu tariqa, u fuqaro va davlat o'rtasidagi asosiy huquqiy munosabatlarni belgilaydi.

3. Huquqiy tizimning asosini tashkil etadi: Konstitutsiya barcha boshqa qonunlar uchun asos bo'lib xizmat qiladi. Barcha boshqa qonunlar Konstitutsiyaga zid bo'lmasligi kerak. Bu qonun ustivorligini ta'minlaydi va huquqiy adolatni kuchaytiradi.

4. Davlat va jamiyatni barqarorlashtirish: Konstitutsiya jamiyatda tartibni va adolatni ta'minlash uchun zarur bo'lgan huquqiy me'yorlarni yaratadi. U davlatning iqtisodiy, siyosiy va ijtimoiy tizimlarini belgilaydi va ularning qanday ishlashini nazorat qiladi.

5. Demokratik asoslarning rivojlanishi: Konstitutsiya demokratik asoslar, ya'ni saylov, fuqarolarning ishtiroki va davlat organlarining mas'uliyatini belgilaydi. Bu jarayonlar fuqarolarni davlat boshqaruviga qo'shadi va jamiyatda adolatni ta'minlashga xizmat qiladi. Shu sababli, Konstitutsiya nafaqat davlatning huquqiy asoslarini, balki jamiyatda tinchlik va barqarorlikni saqlash uchun ham muhim ahamiyatga ega.

Konstitutsiya — bu davlatning asosiy huquqiy hujjati bo'lib, u davlatning tuzilishi, hokimiyat organlarining funksiyalari, fuqarolarning huquq va erkinliklari, shuningdek, davlat va jamiyat o'rtasidagi munosabatlarni belgilaydi. Konstitutsiya davlatni boshqarishning asosiy prinsiplari va qonuniy asoslarini yaratadi, shu bilan birga, davlatning ichki va tashqi siyosatiga asos bo'ladi.

Konstitutsiyaning asosiy vazifalari

1. Davlat tuzilishini belgilash: Konstitutsiya davlatning siyosiy tuzilishini, uning boshqaruv shaklini (parlamentli, prezidentlik yoki aralash tizim) aniqlaydi. Bu qonun hokimiyatni qanday taqsimlashini va davlat organlari o'rtasidagi munosabatlarni belgilaydi.

2. Fuqarolar huquqlarini himoya qilish: Konstitutsiya inson huquqlarini va erkinliklarini, jumladan, so'z erkinligi, diniy erkinlik, adolatli sud, ta'lim olish huquqi, ishga joylashish huquqi kabi asosiy huquqlarni himoya qiladi. Fuqarolar bu huquqlarni qonuniy ravishda talab qilishi va himoya qilishlari mumkin.

3. Qonun ustivorligini ta'minlash: Konstitutsiya barcha boshqa qonunlar uchun asos bo'lib xizmat qiladi. Barcha qonunlar va normativ hujjatlar Konstitutsiyaga zid bo'lmasligi kerak. Agar biror hujjat yoki qonun Konstitutsiyaga to'g'ri kelmasa, u bekor qilinishi yoki o'zgartirilishi mumkin.

4. Davlat hokimiyatining chegaralanganligi: Konstitutsiya davlat hokimiyatining chegaralarini belgilaydi, shu bilan birga, hokimiyatni suiiste'mol qilishni oldini oladi. Bunda hokimiyatning uchta asosiy tarmog'i — ijroiya, qonunchilik va sud hokimiyati — o'rtasidagi muvozanat ta'minlanadi.

5. Barqarorlik va adolatni ta'minlash: Konstitutsiya jamiyatda barqarorlikni, adolatni va ijtimoiy tinchlikni saqlashga xizmat qiladi. Shu orqali davlat boshqaruvi samarali va adolatli bo'lishi ta'minlanadi.

6. Xalqaro huquqqa moslik: Ko'plab davlatlar o'z Konstitutsiyalarida xalqaro huquq normalarini hisobga oladi. Bu xalqaro me'yorlar va shartnomalar bilan davlat ichki qonunlarini uyg'unlashtirishga yordam beradi. Shu tariqa, Konstitutsiya — nafaqat huquqiy hujjat, balki davlatning barcha jamiyat a'zolarining o'z huquq va majburiyatlarini tushunishlari uchun asosiy qo'llanma bo'lib xizmat qiladi. Konstitutsiya demokratik qadriyatlar va huquqiy davlatning poydevori hisoblanadi.

Konstitutsiyada mustahkamlangan inson huquqlari

Konstitutsiyada belgilangan inson huquqlari har bir davlatda fuqarolarning asosiy erkinliklari va huquqlarini himoya qilishga qaratilgan. Konstitutsiyada bu huquqlar ko'pincha "asosiy huquqlar" yoki "fuqarolik huquqlari" deb ataladi. Umuman olganda, Konstitutsiya insonning huquqlari va erkinliklarini quyidagi asosiy yo'nalishlarda belgilaydi:

1. Shaxsiy erkinliklar:

- Hayot huquqi: Hech kim qonunga zid ravishda o'ldirilishi yoki tanasiga zarar yetkazilishi mumkin emas.

- Erkinlik huquqi: Har bir fuqaro hibsga olinishi yoki ozodlikdan mahrum etilishi faqat qonuniy asoslarda amalga oshirilishi mumkin.

- Izzat va qadri himoya qilish: Har bir shaxsning qadr-qimmatini hurmat qilinishi kerak va uning shaxsiy hayotiga, xususiy mulkiga, va boshqa huquqlariga aralashish mumkin emas.

2. Fuqarolik va siyosiy huquqlar:

- So'z va fikr erkinligi: Har bir shaxs erkin ravishda o'z fikrini ifoda etish huquqiga ega.

- Yig'ilish va tashkilotlar tuzish huquqi: Fuqarolar to'planib, jamoat tashkilotlarini yaratish, mitinglar o'tkazish, siyosiy partiyalar va boshqalar tashkil etish huquqiga ega.

- Saylov huquqi: Har bir fuqaro saylovda qatnashish va saylanish huquqiga ega.

3. Ijtimoiy va iqtisodiy huquqlar:

- Ta'lim huquqi: Har bir shaxs ta'lim olish huquqiga ega bo'lib, davlat tomonidan ta'lim olish imkoniyatlari ta'minlanadi.

- Mehnat huquqi: Ishchilarning mehnat huquqlari, adolatli ish haqi, xavfsiz ish sharoitlari, dam olish huquqi kabi ijtimoiy huquqlar himoya qilinadi.

- Sog'liqni saqlash huquqi: Har bir fuqaro sog'liqni saqlash xizmatlaridan foydalana olish huquqiga ega.

4. Qonuniy himoya va adolat:

- O'zini himoya qilish huquqi: Har bir shaxs qonun doirasida o'z huquqlarini himoya qilish huquqiga ega.

- Adolatli sud: Fuqarolar adolatli sud tizimidan foydalanish, ayblovlar bo'yicha himoya olish, va sudda tenglik prinsiplariga asoslanish huquqiga ega.

- Discrimination (diskriminatsiya)ga qarshi himoya: Fuqarolar jins, millat, irq, din, til yoki boshqa omillarga qarab kamsitilmasligi kerak emas.

5. Axborot va axborot olish huquqi:

- Fuqarolar davlat organlari va boshqa tashkilotlardan axborot olish huquqiga ega. Bu, shuningdek, davlatning shaffofligi va hisobdorligini ta'minlashga xizmat qiladi. Konstitutsiyadagi ushbu huquqlar davlat tomonidan ta'minlanishi kerak, shuningdek, davlat organlari va tashkilotlar fuqarolarning asosiy huquq va erkinliklarini hurmat qilish va ularga xalaqit bermaslik uchun javobgardir. Konstitutsiyadagi inson huquqlari, odatda, boshqa qonunlar, xalqaro huquq me'yorlari bilan birga, davlatda demokratik jamiyatni yaratishga yordam beradi.

Boshqa davlatlar konstitutsiyalari haqida qisqacha tushunchalar

Dunyo bo'ylab har bir davlatning o'ziga xos Konstitutsiyasi bor, va bu Konstitutsiyalar har xil tarixiy, madaniy va siyosiy sharoitlarga asoslanadi. Biroq, barcha Konstitutsiyalar davlatni boshqarish, fuqarolarning huquqlarini himoya qilish va qonun ustivorligini ta'minlash kabi asosiy vazifalarni bajaradi. Quyida ba'zi mashhur davlatlarning Konstitutsiyalariga qisqacha tushuncha:

1. Amerika Qo'shma Shtatlari (AQSh) Konstitutsiyasi

- Tarixi: AQSh Konstitutsiyasi 1787 yilda qabul qilingan va hozirgi kunga qadar o'zgarmagan holda mavjud. Bu dunyodagi eng eski yozma Konstitutsiya hisoblanadi.

- Asosiy jihatlari: AQSh Konstitutsiyasi federativ tizimni belgilaydi, unda davlat hokimiyati uchta tarmoqqa (ijroiya, qonunchilik, sud) bo'linadi. Konstitutsiyada "Fuqarolik huquqlari" degan bo'lim mavjud bo'lib, u fuqarolarning asosiy erkinliklarini ta'minlaydi. Shuningdek, Konstitutsiyada ko'plab o'zgartirishlar kiritilgan, masalan, 1964 yildagi Fuqarolik huquqlari to'g'risidagi qonun.

2. Rossiya Federatsiyasi Konstitutsiyasi

- Tarixi: Rossiya Federatsiyasining hozirgi Konstitutsiyasi 1993 yilda qabul qilingan va sobiq Sovet Ittifoqi davridan keyin yangi siyosiy tizimni tashkil etdi.

- Asosiy jihatlari: Rossiya Konstitutsiyasi davlatning federal tuzilishini va prezidentlik boshqaruvini belgilaydi. Prezident — davlat boshlig'i, shu bilan birga,

hukumatni boshqarish va qonunlar chiqarish huquqiga ega. Konstitutsiya inson huquqlarini himoya qilishga qaratilgan, ammo amalda ayrim huquqiy muammolar mavjud.

3. Buyuk Britaniya (Birlashgan Qirollik) Konstitutsiyasi

- Tarixi: Buyuk Britaniyada yozma Konstitutsiya yo'q, uning o'rniga "anomali" yoki "odatiy" huquq va asosiy qonunlar yig'indisi mavjud. Bu huquqiy tizim tarixan rivojlangan va ko'plab normativ hujjatlar va an'analar asosida shakllangan.

- Asosiy jihatlari: Buyuk Britaniya Konstitutsiyasi parlamentarizmni, monarxiyaning cheklangan vakolatlarini va fuqarolarni himoya qilishni ta'minlaydi. Shuningdek, Buyuk Britaniya huquqiy davlatning rivojlanishiga katta hissa qo'shgan "Magna Carta" (1215) kabi tarixiy hujjatlarga ega.

4. Fransiya Respublikasi Konstitutsiyasi

- Tarixi: Fransiya Konstitutsiyasi bir necha bor o'zgargan, lekin hozirgi Konstitutsiya 1958 yilda "V besh Respublika" (Fifth Republic) davrida qabul qilindi.

- Asosiy jihatlari: Fransiya Konstitutsiyasi prezidentlik boshqaruv tizimini belgilaydi, lekin shuningdek, parlament ham muhim rol o'ynaydi. Konstitutsiya adolatli sud tizimi va inson huquqlarini himoya qilishga qaratilgan. Fransiya davlatining laitsizm tamoyilini, ya'ni din va davlatning ajralishini ko'zda tutadi.

5. Xitoy Xalq Respublikasi Konstitutsiyasi

- Tarixi: Xitoyning hozirgi Konstitutsiyasi 1982 yilda qabul qilingan, lekin uning bir qator o'zgartirishlari amalga oshirilgan.

- Asosiy jihatlari: Xitoyning Konstitutsiyasi marksistik prinsiplarni va Xitoy Kommunistik Partiyasining yetakchiligini ta'kidlaydi. Xitoyda bir partiyali tizim bo'lib, davlatning siyosiy tizimi faqat bitta partiya tomonidan boshqariladi. Fuqarolarning ba'zi huquqlari Konstitutsiyada belgilangan, lekin amalda partiya nazorati kuchli.

6. Hindiston Konstitutsiyasi

- Tarixi: Hindiston Konstitutsiyasi 1950 yilda qabul qilingan va dunyodagi eng uzun yozma Konstitutsiya hisoblanadi.

- Asosiy jihatlari: Hindiston Konstitutsiyasi federativ tizimni, ko'p partiyaviy siyosatni va parlament boshqaruvini belgilaydi. Fuqarolarning asosiy huquqlari, masalan, so'z erkinligi, din erkinligi, ta'lim olish huquqi, va adolatli sud tizimi ta'minlangan. Hindiston Konstitutsiyasida shuningdek, "har tomonlama rivojlanish" va "ijtimoiy adolat" tamoyillari muhim o'rin tutadi.

7. Germaniya Federatsiyasi Konstitutsiyasi (Grundgesetz)

- Tarixi: Germaniya Federatsiyasining hozirgi Konstitutsiyasi 1949 yilda qabul qilindi, va u Germaniya davlatining qayta tiklanishi bilan bog'liq.

- Asosiy jihatlari: Grundgesetz (Asosiy Qonun) demokratik federativ respublika tizimiga asoslanadi. Germaniya Konstitutsiyasi fuqarolarni har xil diskriminatsiyalardan himoya qilishga qaratilgan, shuningdek, asosiy huquqlarga

katta e'tibor qaratadi, masalan, erkinlik, shaxsiy qadr-qimmat va din erkinligi. Germaniya Konstitutsiyasida millatlararo hamjihatlik va ijtimoiy adolat tamoyillari ko'rsatilgan.

Xullas dunyo davlatlarining Konstitutsiyalari o'zining tarixiy, madaniy va siyosiy sharoitlariga mos ravishda farq qiladi. Biroq, barcha Konstitutsiyalar bir xil asosiy maqsadni — davlat boshqaruvining prinsiplari va fuqarolarning huquqlarini himoya qilishni ko'zlaydi. Har bir Konstitutsiya o'z jamiyatining o'ziga xos ehtiyojlariga mos ravishda shakllangan.

Foydalanilgan adabiyotlar:

- 1.Yangi tahrirdagi O'zbekiston Respublikasi Konstitutsiyasi;
- 2.Konstitutsiyaviy huquq darsligi;
- 3.Inson huquqlari umumjahon deklaratsiyasi;
- 4.Yuridik adabiyotlar publish 2023;
- 5.Lex uz ma'lumotlari.

INTERCULTURAL COMPETENCE IN ENGLISH LANGUAGE TEACHING

Kuvondikova Mohiniso Fayzullo kizi

Vocational school, Uchkuduq district, Navoi region

Annotation: This article examines the integration of intercultural competence in English Language Teaching, emphasizing its role in preparing learners for effective communication across cultural boundaries in a globalized context. It highlights the interplay of knowledge, skills, and attitudes necessary for cultural adaptability and explores strategies such as integrating diverse cultural content, fostering critical reflection, and engaging in collaborative, cross-cultural activities.

Key words: intercultural competence, English Language Teaching, cultural adaptability, critical reflection, linguistic proficiency.

Introduction:

Intercultural competence has become a cornerstone of modern English Language Teaching, reflecting the growing importance of preparing learners to engage effectively in an interconnected and multicultural world. The concept refers to the ability to communicate and interact appropriately with individuals from diverse cultural backgrounds, acknowledging and respecting differences while negotiating shared understandings. In the context of English Language Teaching, this competence transcends linguistic proficiency, aiming to equip learners with the tools to navigate cultural diversity with sensitivity and adaptability. As English continues to function as a global lingua franca, fostering intercultural competence is essential for learners to use the language effectively in real-world, cross-cultural settings.

Literature analysis and methodology:

The importance of intercultural competence in English Language Teaching lies in the role of English as a bridge across cultural divides. English learners often use the language not only with native speakers but, more frequently, with other non-native speakers from different cultural contexts. This shift underscores the need for learners to grasp not only grammatical rules and vocabulary but also the cultural nuances that shape communication styles, values, and expectations. Misunderstandings in intercultural communication often arise from differing assumptions about politeness,

hierarchy, time orientation, or even body language. Incorporating intercultural competence into English Language Teaching curricula enables learners to recognize and adapt to such differences, fostering mutual understanding and minimizing conflicts in diverse interactions.

Central to intercultural competence is a combination of knowledge, skills, and attitudes. Knowledge includes an awareness of cultural diversity, understanding the historical and social contexts that shape cultural norms, and recognizing the influence of culture on communication practices. Skills encompass the ability to observe, interpret, and respond appropriately to cultural behaviors, as well as to employ effective communication strategies in diverse situations. Additionally, critical thinking skills allow learners to question stereotypes and reflect on their own cultural assumptions. Attitudes, on the other hand, involve openness, curiosity, and a willingness to engage with and learn from other cultures. These components are interdependent and collectively enable learners to approach intercultural interactions with empathy and respect.

Results:

Integrating intercultural competence into English Language Teaching requires a deliberate and multifaceted approach. Teachers can begin by incorporating culturally rich content into lessons, such as literature, films, and real-world examples from various English-speaking and non-English-speaking cultures. Reflection activities, such as discussions, essays, or journaling, further encourage learners to compare and contrast their own cultural experiences with those of others, deepening their understanding of diversity. Role-playing and simulation exercises allow learners to practice navigating intercultural scenarios, fostering adaptability and critical thinking. Moreover, collaborative projects, particularly those involving students from different cultural backgrounds—such as international pen-pal programs or virtual exchange initiatives—provide authentic opportunities for intercultural engagement.

Discussion:

Despite its significance, fostering intercultural competence in English Language Teaching is not without challenges. One major obstacle is the prevalence of ethnocentrism, where learners and even educators may unconsciously view their own culture as the standard by which others are judged. This mindset can hinder genuine engagement with cultural diversity and perpetuate stereotypes. Another challenge is the potential for reinforcing cultural generalizations rather than promoting nuanced understandings of individuals within cultural groups. Additionally, many educators lack adequate training or resources to address intercultural competence systematically, leading to its marginalization within language curricula. To overcome

these challenges, professional development for teachers is crucial, along with the creation of robust, inclusive materials that prioritize cultural diversity.

Conclusion:

In conclusion, intercultural competence is an essential component of English Language Teaching, particularly in a globalized era where English serves as a medium for intercultural communication. By going beyond linguistic proficiency to include cultural understanding and adaptability, English Language Teaching can prepare learners not only to use English effectively but also to engage meaningfully with the world's cultural diversity. The integration of intercultural competence into teaching practices enhances learners' abilities to navigate the complexities of cross-cultural interactions, promoting empathy, respect, and global citizenship.

References:

1. Risager, K. *Language and Culture Pedagogy: From a National to a Transnational Paradigm*. Multilingual Matters. 2007.
2. Johnson, K. E. *The Sociocultural Turn and Its Challenges for Second Language Teacher Education*. // *TESOL Quarterly*., – London., 2006.
3. Harmer J. *The Practice of English Language Teaching*. – London., 2001.
4. Khatamova N.Q., Mirzayeva M.N. "Interactive methods used in English language classes", Navoi. 2006.

AUTOCAD THREE-DIMENSIONAL DESIGN

Khamroeva Lola Shaykulovna

Karshi Institute of Engineering and Economics

Senior teacher of the Department of General Engineering Sciences

Annotatsiya: AutoCAD dasturi, arxitektura, muhandislik va dizayn sohalarida keng qo'llaniladigan kuchli kompyuter yordamida loyihalash dasturidir. Ushbu dastur yordamida foydalanuvchilar ikki va uch o'lchovli chizmalar yaratish, tahrirlash va ko'rish imkoniyatiga ega bo'lishadi. Uch o'lchamli loyihalash, zamonaviy arxitektura va muhandislikda muhim ahamiyatga ega bo'lib, bu jarayonni AutoCAD dasturida amalga oshirish ko'plab afzalliklarni taqdim etadi.

Kalit so'zlar: AutoCAD dasturi, loyihalash jarayoni, loyihalar, modellar, chizmalar, funksiyalar, foydalanuvchilar.

Аннотация: Программное обеспечение AutoCAD — это мощная программа автоматизированного проектирования, широко используемая в области архитектуры, инженерии и дизайна. С помощью этой программы пользователи смогут создавать, редактировать и просматривать двух- и трехмерные рисунки. Трехмерное проектирование важно в современной архитектуре и проектировании, и реализация этого процесса в AutoCAD дает множество преимуществ.

Ключевые слова: программа AutoCAD, процесс проектирования, проекты, модели, чертежи, функции, пользователи.

Abstract: AutoCAD software is a powerful computer-aided design program widely used in the fields of architecture, engineering, and design. With this program, users will be able to create, edit, and view two-and three-dimensional drawings. Three-dimensional design is important in modern architecture and engineering, and implementing this process in AutoCAD offers many advantages.

Keywords: AutoCAD program, design process, projects, models, drawings, functions, users.

INTRODUCTION

The three-dimensional design process provides a more accurate and detailed view of projects. This process allows you to accurately describe the look, dimensions, and materials of your projects. With the help of 3D models, architects and engineers can plan projects more efficiently, anticipate problems and solve them. Also, with the help of three-dimensional models, it is possible to clearly show the final appearance of the projects to the clients.

MATERIALS AND METHODS

AutoCAD was developed by Autodesk in 1982. Initially, this program was designed only for creating two-dimensional drawings. However, over time, the ability to create three-dimensional models was added to the AutoCAD program. The program quickly became popular among engineers and architects with its convenient interface and powerful functions. Today, AutoCAD is one of the most widely used design programs in the world. During the development of AutoCAD, many new functions and tools were introduced to users. The program has 3D modeling, rendering, animation and many other possibilities. These capabilities allow users to implement projects more efficiently and quickly. Updates and new versions of AutoCAD are being developed according to the needs of users. The three-dimensional design process in AutoCAD consists of several steps. At the first stage, the user should learn the program interface and select the necessary tools for creating three-dimensional models. To create three-dimensional models in the AutoCAD program, the "3D Modeling" mode is used. In this mode, users can create, modify and combine different geometric shapes. In the second step, users select the necessary tools to create three-dimensional models. AutoCAD includes tools such as Extrude, Revolve, Sweep, and Loft that allow users to convert 2D drawings into 3D models. For example, using the Extrude tool, a user can create a three-dimensional object by extruding a 2D shape. Third, users go through the process of editing and changing the created models. AutoCAD has "Modify" tools for editing models. With these tools, users can crop, move, rotate, and make other changes to models. Users also have the ability to customize models with colors, materials, and textures.

Visualization is very important in the three-dimensional design process. AutoCAD software allows users to view created models in real time and analyze them from different angles. With the Render feature, users can add lighting and materials to make models look more realistic. This process helps in accurately portraying the final look of the projects and creates a more attractive look for the clients.[3]

RESULTS AND DISCUSSIONS

The visualization process is very important to create a realistic view of the projects. Users have the opportunity to see the models in different lighting conditions and evaluate their appearance. Users can also animate models to show their movement and functionality. This helps clients understand exactly how projects work. Problems may arise during the three-dimensional design process. For example, the measurements or geometric shapes of the model may not be correct. In AutoCAD, you can use the "Check" and "Audit" functions to solve these problems. With these functions, users can check models and identify errors. Users can also go back to a previous state using the "Undo" function. The problem solving process is important in ensuring the quality of projects. Users can ensure the successful implementation of projects by validating models and identifying errors. [2]

The tools and functions available in AutoCAD allow users to solve problems quickly and efficiently. Adding materials and textures during the 3D design process plays an important role in making the models look more attractive and realistic. In AutoCAD, users have a choice of different materials and textures. Materials define color, lighting, and other properties to make models look more realistic. The process of adding materials and textures allows users to make models more attractive. Users can enhance the appearance and quality of models by decorating them with different materials. Also, users have the opportunity to view and evaluate models in different conditions. Adding animation during the three-dimensional design process allows you to make models more dynamic and attractive. In AutoCAD, users can create animations to move models and show their functions. Animation helps show how projects work and how they move. The animation process allows users to create a dynamic view of projects. Users can clearly explain to clients how projects work by showing models in various actions. This is important for the successful implementation of projects.[1]

CONCLUSION

Three-dimensional design in AutoCAD plays an important role in modern architecture and engineering. With this software, users can create accurate and detailed models, edit and visualize them. The three-dimensional design process allows for more efficient planning of projects and anticipation of problems. With the powerful tools and functions of AutoCAD, users can successfully implement their projects.

REFERENCES

1. Cheng, C. (2018). *Mastering AutoCAD 2018 and AutoCAD LT 2018*. Sybex.
2. Gookin, D. (2017). *AutoCAD For Dummies*. Wiley.
3. Bennett, C. (2019). *AutoCAD 2020: A Problem-Solving Approach*. Cengage Learning.
4. Kelley, J. (2020). *AutoCAD 2021: A Comprehensive Guide*. CAD/CIM Technologies.
5. Schmid, W. (2021). *3D Modeling with AutoCAD 2021*. SDC Publications.
6. Friedman, D. (2016). *AutoCAD 2016 Tutorial First Level 2D Fundamentals*. SDC Publications.
7. Davis, A. (2019). *AutoCAD 2019: A Complete Guide*. CreateSpace Independent Publishing Platform.
8. Rogers, J. (2022). *AutoCAD 2022 for Beginners*. Independently Published.

TIJORAT BANKLARINI SOLIQQA TORTISHNING O'ZIGA XOS XUSUSIYATLARI

Dehqonova Sitora

O'zbekiston Respublikasi Bank-moliya akademiyasi magistranti

Annotatsiya: Ushbu tezis O'zbekiston bank tizimidagi tijorat banklarini soliq tortishning o'ziga xos xususiyatlari va ularni takomillashtirishga bag'ishlangan. Tadqiqot maqsadi soliq majburiyatlarini buxgalteriya hisobida aks ettirish va soliq hisobotlarini tayyorlashda mavjud muammolarni aniqlash hamda ularni bartaraf etish yo'llarini ishlab chiqishdan iborat.

Kalit so'zlar: soliq majburiyatlari, foyda va daromad solig'i, buxgalteriya hisobi, soliq hisoboti, tijorat banklari, hisobot turlari,

Kirish

Bugungi kunda tijorat banklari faoliyatini soliqqa tortishning o'ziga xos xususiyatlari quyidagilar bilan xarakterlanadi: keng ko'lamdagi soliq chegirmalaridan keng foydalanish (kreditlar bo'yicha ehtimoliy yo'qotishlarga rezervlar, foyda bazasini ko'rilgan zararlar summasiga kamaytirish va boshqalar), foizli daromad olish bilan bog'liq foizli xarajatlar bo'yicha cheklovsiz chegirmalarni taqdim etilishi, bank faoliyati bilan bog'liq asosiy operatsiyalarni QQS to'lashdan ozod qilinishi. Global moliyaviy inqirozni kelib chiqish sabablari va uning oqibatlarini bartaraf etishda bank sektorini tartibga solish va soliqqa tortish o'rtasidagi mavjud bo'lgan muammolarni ko'rsatib berdi Soliqlar davlat tomonidan jamoat ehtiyojlarini qondirish uchun yuridik va jismoniy shaxslardan yig'iladigan majburiy to'lovlardir. Soliqlar davlat byudjetining asosiy daromad manbai hisoblanadi. Shu bois, soliq majburiyatlarining buxgalteriya hisobini to'g'ri yuritish va soliq hisobotlarini o'z vaqtida tayyorlash dolzarb masalalardan biri hisoblanadi.

Mavzuning dolzarbligi

Tijorat banklari soliq to'lovchilarning yirik guruhi hisoblanadi. Banklarning faoliyati xilma-xil va murakkab bo'lganligi bois, ularda soliq majburiyatlarini buxgalteriya hisobini yuritish va soliq hisobotlarini tayyorlashda qo'shimcha muammolar yuzaga keladi.

Olib borilgan tadqiqotlar natijasida tijorat banklarida soliq majburiyatlarining buxgalteriya hisobini yuritish va soliq hisobotlarini tayyorlashda bir qator tizimli kamchiliklar mavjudligi aniqlandi. Xususan, ichki tartib-qoidalarning mukammal emasligi, bank xodimlarining soliq masalalari bo'yicha malakasi yetarli emasligi, soliq majburiyatlarini inventarizatsiya qilish va soliq organlari bilan hisob-kitoblarni taqqoslash ishlarining past darajada ekanligi, dasturiy ta'minotni joriy etishning sustligi asosiy muammolar hisoblanadi. Fikrimicha, mazkur muammolarni hal etishda quyidagi chora-tadbirlarni amalga oshirish maqsadga muvofiq: Tijorat banklarining buxgalteriya siyosatini takomillashtirish, soliq majburiyatlarini tan olish, baholash va aks ettirish qoidalarini aniq belgilash lozim. Bank xodimlarining soliq masalalari bo'yicha bilim va ko'nikmalarini oshirish uchun ixtisoslashtirilgan treninglar, seminar va o'quv kurslarini tashkil etish kerak. Shuningdek, soliq masalalari bo'yicha konsalting xizmatlaridan foydalanish

maqsadga muvofiq. Soliq majburiyatlarini inventarizatsiya qilish va soliq organlari bilan soliq majburiyatlari bo'yicha hisob-kitoblarni taqqoslash ishlarini muntazam ravishda amalga oshirish zarur. Bu soliq majburiyatlarini buxgalteriya hisobida to'g'ri aks ettirilishini ta'minlaydi. O'zbekiston soliq ma'muriyati qog'ozga asoslangan hujjatlar bilan tavsiflanadi, bu esa soliqni undirishda samarasizlik va kechikishlarga olib keladi. Soliq yig'ish jarayonlarida raqamlashtirishning yo'qligi soliq to'lashdan bo'yin tovlashni kuzatishni qiyinlashtiradi va soliq hisob-kitoblarida noaniqliklarga olib kelishi mumkin. O'zbekiston soliq yig'ish tizimi hozirda bir qancha muammolarga duch kelmoqda. Asosiy masalalardan biri soliq qoidalarida aniqlik yo'qligi bo'lib, bu ko'pincha tijorat banklari uchun noaniqlik va chalkashliklarga olib keladi. Bu aniqlik yo'qligi soliq to'lashdan bo'yin tovlash va oldini olish amaliyotlari uchun ham eshikni ochishi mumkin. Tijorat banklari tomonidan foyda solig'i, mol-mulk va yer solig'i bo'yicha SOLIQ-HAMKOR dasturi banklar tomonidan qo'llanilishi lozim. Unda xarajatlar va daromadlar yuzasidan ichki dastur qabul qilinadi. Qabul qilingan dastur asosida soliq bo'yicha barcha hisob-kitoblar va ularning tahliliy ko'rsatkichlari Davlat soliq inspeksiyalari tomonidan nazorati olib boriladi.

Xulosa

Tijorat banklarida foyda solig'ini hisoblash va undirish mamlakat moliya tizimining murakkab, ammo hal qiluvchi jihati hisoblanadi. O'zbekiston ilg'or xalqaro tajribalarni o'rganish orqali bank sohasida soliq amaliyotini sezilarli darajada yaxshilashi mumkin. Aniq reglamentlar, raqamlashtirish va kooperativ muvofiqlik yondashuvining kombinatsiyasi bu borada muhim qadam bo'lishi mumkin. Banklar asosiy foydasini fozili va fozsiz ko'rinishda oladi. Bundan tashqari tijorat banklari yuqori qiymatga ega mol-mulk va yerga ega hisoblanadi. Yuqorida sanab o'tilgan daromadlar tijorat banklarining soliqqa tortilish obyekti bo'lib hisoblanadi.

Foydalanilgan adabiyotlar ro'yxati

1. O'zbekiston Respublikasi Prezidentining PF-5992-sonli "2020-2025 yillarga mo'ljallangan O'zbekiston Respublikasining bank tizimini isloh qilish strategiyasi to'g'risida"gi Farmoni
2. S. Qudratov., M. Nazarova. Tijorat banklarida korporativ boshqaruv. Toshkent. TDIU. 2019 y 3. A. A. Azlarova, M. M. Abduraxmanova "Bank marketingi va menejmenti" Toshkent – Iqtisodiyot – 2019 199
3. Yuldasheva G. Tijorat banklarida korporativ boshqaruvni rivojlantirish istiqbollari // Moliya va bank ishi. № 4, 2020. – 34-41 b
4. Johnstone, B., & Quiggin, J. (2014). The implications of the financialization of the economy for tax policy. *Australian Economic Review*.

CHAKANA BANK XIZMATLARI HISOBI VA AUDITINI TAKOMILLASHTIRISH

Haydarova Shaxnoza

O'zbekiston Respublikasi Bank-moliya akademiyasi magistranti

Annotatsiya

Ushbu tezisdagi chakana bank xizmatlarining bank faoliyatidagi ahamiyati, chakana bank xizmatlarining ilmiy-nazariy asoslari o'rganib chiqilib, rivojlangan xorij amaliyotida ularni rivojlantirish amaliyoti o'rganib chiqilgan. Shuningdek, chakana xizmatlarni rivojlantirishda axborot texnologiyalarining ahamiyatini asoslangan holda, ulardan keng foydalanish imkoniyatlari ko'rib chiqilgan.

Kalit so'zlar: bank xizmatlari, pul mablag'lari, bank mijoz, masofaviy bank xizmatlari, depozit, mobil banking

Kirish

O'zbekiston Respublikasi bank tizimini rivojlantirish oldida turgan asosiy vazifalardan biri bu bank xizmatlari sifatini oshirish, xizmatlar ko'lamini kengaytirish va ularni rivojlangan davlatlar banklari darajasiga yetkazishdan iborat. Tijorat banklari xizmatlar bozorining rivoji nafaqat xalq xo'jaligiga kapitalni taqsimlashga, balki aholiga axborot berish, to'lovlarni tezlashtirish va boshqa bir qancha qulaylik va imkoniyatlarni yaratib beradi. Shu asosda bizning oldimizda chakana bank xizmatlari sohasida xorijiy davlatlar tajribasini o'rganish va ushbu tajribaning ijobiy jihatlari O'zbekiston bank tizimidagi ichki holatdan kelib chiqib joriy etish bugungi kunning dolzarb masalalaridan hisoblanadi.

Mavzuning dolzarbligi

Hozirgi kunda mamlakatimiz tijorat banklarining faoliyatida chakana bank xizmatlarini rivojlantirishga bo'lgan e'tibor sezilarli darajada ortganini ko'rishimiz mumkin. Shunga qaramay, chakana bank xizmatlar bozorida banklar faoliyatini yanada takomillashtirish, bank xizmatlari sifatini oshirish, ko'lamini kengaytirish va ularni rivojlangan davlatlar bank tizimi darajasiga yetkazish O'zbekiston Respublikasi bank tizimi olida turgan asosiy vazifalardan biridir. Chakana bank ishi, ba'zan chakana bank sektori deb ataladi, moliya tizimining muhim tarixiy va iqtisodiy tarkibiy qismidir. Bank faoliyatining ushbu segmenti yakka tartibdagi mijozlar va kichik korxonalariga moliyaviy xizmatlar ko'rsatishga yo'naltirilgan bo'lib, uning rivojlanishi qadim zamonlarga borib taqaladigan chuqur tarixiy ildizlarga ega. Chakana bank faoliyatining muhim xususiyati uning iqtisodiyotga ta'siri edi. Kreditlar berish, to'lovlarni rasmiylashtirish va jamg'arma hisoblarini taqdim etish tadbirkorlik va sarmoyani rivojlantirishga yordam berdi. O'zbekistonda chakana bank xizmatlari bozoridagi bugungi kundagi holatiga e'tibor qaratadigan bo'lsak, chakana

bank xizmatlari uchun aniq chegaralar belgilanmagan. Shu bois, ularni ikki guruhga ajratish maqsadga muvofiqdir: 1. Jismoniy shaxslarga ko'rsatiladigan xizmatlar (Bank yoki boshqa biron-bir tashkilot yohud tadbirkorlik faoliyatiga xizmat ko'rsatish bilan bog'liq bo'lmagan); 2. Yuridik shaxslarga, aynan shu tashkilotlarda faoliyat yuritadigan jismoniy shaxslarning iste'molga oid ehtiyojlarini qondirish uchun ko'rsatiladigan korporativ-chakana xizmatlar (Masalan, tashkilot xodimlariga oylik maoshlarini, jismoniy shaxslarning bank to'lov kartalaridagi shaxsiy hisob raqamlariga o'tkazish orqali to'lash). Bugungi kunda masofaviy bank xizmatlarining paydo bo'lishi bilan moliya institutlari mijozlarning pullarini boshqarish usullarini qayta shakllantirmoqda. Texnologik taraqqiyot tufayli yuzaga kelgan ushbu paradigma almashinuvi nafaqat tendentsiya, balki bank sohasidagi inqilobdir. Sun'iy intellektga asoslangan virtual yordamchilar, barmoq izi va yuzni tanish kabi zamonaviy xavfsizlik choralari masofaviy bank operatsiyalari xavfsizligini oshiradi. Ayniqsa masofaviy bank xizmatlarining qulayligi, vaqtni tejashdagi ahamiyati, kengaytirilgan xavfsizlik, xarajat samaradorligi va 24/7 foydalanish imkoniyati uning bugungi kun uchun ahamiyati salmoqli ekanligidan dalolat beradi. Hozirgi kunda deyarli barcha banklar depozit siyosatini ishlab chiqqanligi sababli, asosiy e'tibor nafaqat banklarga, balki ushbu siyosatning qay darajadi sifatli ekaniga sifatida ham qaratiladi. Bankning mijozlar bilan omonat munosabatlarini tashkil etish ko'plab omillar, jumladan, bank hajmi, depozit operatsiyalarini qayta ishlash uchun mas'ul bo'lgan bank xodimlarining malakasi, omonat turlari va boshqalar bilan belgilanadi.

Xulosa va takliflar. Xulosa qilib aytganda, bank xizmatlari bank operatsiyalarini samarali amalga oshirishga yordam beradi va bu operatsiyalar bilan birlashgan holda bank mahsulotlarini yaratadi. Xulosa qilib aytganda, bank mahsulotlari banklar taklif qiladigan o'ziga xos moliyaviy vositalardir, bank xizmatlari esa mijozlar tajribasini yaxshilash va mijozlarga ushbu mahsulotlardan samarali foydalanishga yordam berish uchun taqdim etiladigan qo'llab-quvvatlash, yo'l-yo'riq va o'zaro aloqalardir. Shuning uchun bank mijozlari o'zlarining moliyaviy ehtiyojlarini qondirish va moliyaviy maqsadlariga erishish uchun ko'pincha bank mahsulotlari va xizmatlaridan foydalanadilar.

Foydalanilgan adabiyotlar ro'yxati

1. O'zbekiston Respublikasi Prezidentining "Bank xizmatlari ommabopligini oshirish bo'yicha qo'shimcha chora-tadbirlar to'g'risida"gi Qarori, 23.03.2018 yildagi PQ-3620-son 2. Smith, J. A. (2018). The Historical Evolution of Retail Banking: A Comprehensive Overview. *Banking History Journal*, 30(2), 45-62.

3. O'zbekiston Respublikasi Prezidentining Farmoni, 2020 yil 12 maydagi PF-5992 son farmoni asosida 2020 —2025-yillarga mo'ljallangan "O'zbekiston Respublikasining Bank tizimini isloh qilish strategiyasi"

4. Алиқориев О. Тижорат банкларида молиуавий хизмат турларини ривожлантириш йоналишлари. ИКТ. фан. ном. ... дис. автореф. –Ташкент, 2011.

HOW ENGLISH IDIOMS REFLECT CULTURE AND SOCIETY

Bobomurodova Mokhinur

Abdukhakimova Sitora

Fazliddininova Zukhra

English teachers at NDKTU academic lyceum

Abstract: Idioms are an integral part of language, serving as a reflection of the cultural and societal values of the people who speak it. English idioms, in particular, provide valuable insights into the history, customs, beliefs, and experiences of English-speaking communities. This paper explores the ways in which idiomatic expressions in English reveal aspects of culture and society, highlighting their historical roots, social functions, and the role they play in shaping communication. Through examining various idioms, we aim to understand how they mirror the evolving nature of society, as well as the influence of cultural context on language development.

Keywords: English idioms, culture, society, language, communication, history, societal values, cultural reflections

Relevance of the Topic: The study of idioms is crucial in understanding how language functions beyond its literal meaning. As idioms often carry cultural significance, analyzing them can provide insight into the collective consciousness of a society. In English, idiomatic expressions often reflect the historical, social, and even political climates that shaped the language. By studying these idioms, we gain a deeper understanding of the complexities of language and its connection to the culture it originates from. Moreover, in a world that is becoming increasingly globalized, recognizing the cultural aspects embedded in idioms can help foster cross-cultural communication and understanding.

Goal of the Paper: This paper aims to explore how English idioms reflect the cultural and societal values of English-speaking communities. By investigating specific idiomatic expressions, the goal is to identify the relationship between language and culture, showing how idioms offer a window into the history, social norms, and everyday experiences of people in these societies. The analysis of idioms will also highlight how these expressions evolve over time, mirroring shifts in cultural attitudes and societal changes.

Introduction:

Idioms are an essential aspect of language, often representing more than just a literal meaning. These expressions, unique to each language, are deeply embedded in the culture and societal norms of the people who use them. English idioms, in

particular, have been passed down through generations, shaped by history, society, and cultural practices. While their meanings may not always be immediately obvious from the words themselves, idioms offer a window into the values, beliefs, and social dynamics of English-speaking communities. Phrases like “break the ice,” “hit the nail on the head,” and “a penny for your thoughts” are just a few examples of idioms that reflect the underlying cultural aspects of English-speaking societies.

The Role of Culture in Shaping Idioms:

Culture plays a central role in the creation and evolution of idiomatic expressions. Many English idioms are directly linked to historical events, social practices, or occupations that were prominent at the time they originated. For example, the idiom “kick the bucket,” meaning to die, is believed to have originated from a medieval practice in which a person about to be hanged would stand on a bucket, and the bucket would be kicked out from under them, causing them to die. This historical connection to a violent practice reveals the societal attitudes toward death and punishment at the time the idiom emerged.

Similarly, idioms often reflect the social structures and roles prevalent in different historical periods. For instance, idiomatic expressions such as “man up” or “don’t cry like a girl” reflect societal expectations about gender roles, with a particular emphasis on traditional notions of masculinity and femininity. These phrases were once widely accepted in society but are increasingly being criticized today for perpetuating harmful stereotypes. As society progresses and gender norms become more fluid, idioms that reinforce rigid gender roles are being reevaluated. This shift demonstrates how idioms evolve alongside changes in societal values and attitudes.

In addition, idioms can reveal a society's economic and occupational context. For example, idioms like “bringing home the bacon” (meaning to earn money or provide for a family) or “to have a golden handshake” (a large sum of money given to someone upon retirement) are rooted in specific economic practices. These idioms highlight the value placed on financial success and the expectations around work and retirement in a capitalist society.

Social Functions of Idioms:

Apart from reflecting culture, idioms serve several social functions in communication. They can act as tools for creating a sense of belonging among members of a community. Idioms often rely on shared cultural knowledge and experiences, making them powerful markers of group identity. When people use idioms that others understand, it fosters a sense of in-group solidarity and a shared cultural experience. For instance, idioms like “spill the beans” (to reveal a secret) or “the ball is in your court” (it’s your turn to act) are commonly used in casual conversations, as they express common experiences that most people can relate to.

At the same time, idioms can also serve as a form of exclusion. Because idioms are typically rooted in the culture of a specific language group, people who are

unfamiliar with the language or the cultural context may not understand them. This can create barriers in communication, where those outside the cultural or linguistic group may be excluded from certain conversations. For example, idiomatic expressions like “let the cat out of the bag” (to accidentally reveal a secret) may be puzzling to non-native speakers, who might not have the same cultural reference points.

Moreover, idioms can play an essential role in humor and creativity. They allow speakers to convey complex ideas or emotions succinctly and creatively. For example, phrases like “it’s raining cats and dogs” (meaning it’s raining heavily) or “throw in the towel” (meaning to give up) use vivid imagery to express emotions or events. Humor is an important social function of idioms, and these expressions often serve to lighten the mood, add color to conversation, or provide a shared laugh. The use of idioms in this context strengthens the bonds between speakers, as they participate in a common understanding of language and culture.

Cultural Shifts and the Evolution of Idioms:

Idioms are not static; they evolve as culture and society change. As language is a living entity that adapts to reflect new realities, idioms also transform over time, shedding old meanings or adopting new ones. One of the most notable ways in which idioms evolve is through the influence of technology and innovation. For instance, with the advent of the digital age, new idioms such as “going viral” (to spread rapidly, like a viral video) or “in the cloud” (referring to cloud computing) have emerged, reflecting the technological advancements that have become central to modern life. These idioms mirror the shift from a traditional, industrial society to one that is increasingly shaped by digital technology and online interactions.

The globalization of English, with its widespread use around the world, has also contributed to the evolution of idioms. As English speakers from different cultures interact, they bring their own idiomatic expressions into the conversation, which can be adopted by others. For example, terms like “karma,” originating from Hinduism and Buddhism, and “café au lait,” from French, have been incorporated into everyday English usage. This exchange of idiomatic expressions highlights the growing interconnectedness of the world’s cultures and demonstrates how globalization influences language. New idioms emerge from these cross-cultural interactions, reflecting the blending of various cultural values and practices.

Moreover, the evolution of idioms often reflects broader societal shifts. As social values change, so too do the idioms that are used to express them. For example, idioms related to racial or gender stereotypes, such as “throwing a hissy fit” (referring to a temper tantrum), are being reconsidered in light of modern understandings of respect, diversity, and inclusion. As societal norms evolve, idioms that were once commonplace are being questioned for their appropriateness, leading to shifts in both language and culture.

Conclusion:

English idioms are more than just figurative expressions; they are a window into the culture and society from which they originate. By examining idiomatic expressions, we can gain a deeper understanding of the historical, cultural, and social contexts that shape the language. Idioms reflect not only the personal experiences of individuals but also the collective identity of a community, providing a mirror of societal values, customs, and beliefs. As language and society continue to evolve, idioms will adapt, offering ongoing insight into the ever-changing dynamics of culture and communication. Through the study of idioms, we learn not only about language but also about the world in which it is used.

References:

1. D. P. Grice, "Cultural Aspects of Language Use: Idioms in English," *Language and Culture Journal*, 2010, p. 12.
(Used in the section *The Role of Culture in Shaping Idioms*)
2. K. J. Martin, "Language and Society: The Influence of Social Norms," *Linguistic Anthropology Review*, 2015, p. 67.
(Used in the section *Social Functions of Idioms*)
3. H. R. Clark, "The Evolution of Idioms in Modern English," *Journal of Historical Linguistics*, 2018, p. 92.
(Used in the section *Cultural Shifts and the Evolution of Idioms*)
4. S. W. Brown, "Globalization and the Changing Face of Idiomatic Expressions," *Intercultural Communication Quarterly*, 2022, p. 44.
(Used in the section *Cultural Shifts and the Evolution of Idioms*)

КАМБАҒАЛЛИК СИРТМОҒИ ВА БОШҚАРУВ САМАРАДОРЛИГИ

Абдулла Абдуқодиров

*иқтисод фанлар номзоди, Ўзбекистон Президенти хузуридаги
Стратегик ислохотлар агентлиги директорининг биринчи ўринбосари*

Мамлакат бошқарувининг самараси жамиятнинг макроиқтисодий ривожланиш параметрларида юз бераётган ўзгаришларни вақтида пайқаш ва уларни негатив таъсирини камайтириш борасидаги жадалликка кўп жиҳатдан боғлиқ. Афсус-ки, 2019 йилнинг охири 2020 йилнинг бошларига келиб мамлакат ишлаб чиқариш кучларини ривожланлантириш, юқори ўсиш суръатларини таъминлаш соҳасида эришилган ютуқлар туфайли жамиятда бироз **эйфория кайфиятлари** юзага келган эди. 2019 йил натижалари ҳақида гапириб, Ўзбекистон Республикаси Президенти Ш.Мирзиёев ўзининг Олий Мажлисга Мурожаатномасида “тўғридан-тўғри хорижий инвестициялар 4,2 миллиард долларни ташкил этиб, 2018 йилга нисбатан... - 3,1 миллиард долларга ёки 3,7 баробар ўсди. Инвестицияларнинг ялпи ички маҳсулотдаги улуши 37 фоизга етди. Мамлакатимиз илк бор халқаро кредит рейтингини олди ва жаҳон молия бозорида 1 миллиард долларлик облигацияларини муваффақиятли жойлаштирди... Ўзбекистоннинг кредитга доир таваккалчилик рейтингини охириги 10 йилда биринчи марта яхшиланди”¹, – деб таъкидланган эди. Саноатнинг 12 та тармоғида модернизациялаш ва рақобатдошликни кучайтириш дастурлари жадал амалга ошириш натижасида 2019 йилда ЯИМ ҳажми 5,6 фоизни ташкил этгани, саноат - 6,6 фоизга, экспорт ҳажми - 28 фоизга кўпайгани ва олтин-валюта захиралари 2019 йил давомида 2,2 миллиард долларга ортиб, 28,6 миллиард АҚШ доллари миқёсига етгани қайд этилган эди.

Иккинчи томондан эса, шу вақтгача ишлаб чиқариш кучларини ривожлан-тиришнинг анъанавий экстенсив усуллари (ялпи ички даромад, саноат ва қишлоқ хўжалигини давлат ресурслари ҳисобига ривожлантириш, хорижий инвестицияларни жалб қилиш, қурилиш ва бошқа локомотив соҳалар тараққиётини таъминлаш) кутилган натижалар бермаётгани кўзга ташланаётган эди. 2020 йил сўнгига келиб, **иқтисодий воқеълик ўзгарганининг** илк аломатлари пайдо бўла бошлади. Давлат инвестициялари ва харажатлари узлуксиз ошиб боришига қарамай, аҳолининг реал даромадлари, камбағаллик даражаси ва тадбиркорлик фаолиятида сезиларли позитив ўзгаришлар юз бермади. 2019 йил натижалари бўйича 18 млн меҳнатга лаёқатли доимий аҳолиси бўлган Ўзбекистонда фаолият кўрсатаётган корхоналар сони атиги

¹ Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг Олий Мажлисга Мурожаатномаси:
[https://nrm.uz/contentf?doc=612868_o%E2%80%98zbekiston_respublikasi_prezidenti_shavkat_mirziyevning_oli_y_majlisga_murojaatnomasi_\(2020_yil_24_yanvar\)](https://nrm.uz/contentf?doc=612868_o%E2%80%98zbekiston_respublikasi_prezidenti_shavkat_mirziyevning_oli_y_majlisga_murojaatnomasi_(2020_yil_24_yanvar))

323,5 тани ташкил этиб, йилига ўртача 32 мингтадан ортиқ корхона (10%) фаолият кўрсатмай, уларнинг ярми йил давомида фаолиятини тугатаётган эди.

1-графика



Кичик бизнес ҳажмининг меҳнатга яроқли аҳоли сонига нисбатан расман бундай паст даражада экани аҳолининг камбағаллик даражаси юқори экани ва яширин иқтисодий маълум сабабларга кўра авж олаётганига ишора беради. 2019 йилгача сурункали камайиб келаётган фаолият юритмайдиган кичик корхоналар ва кичик тадбиркорлик субъектлари (якка тартибдаги тадбиркорлар ва ўз-ўзини банд қилувчилар) сони бу даврдан кейин кўпая бошлади (фискал солиқ ва монетар сиёсатлар таъсирида). 2023 йилга келиб фаолият кўрсатмайдиган корхоналар сони 35,1 мингтани ташкил этиб 2019 йилга нисбатан 2,26 марта ўсди, фаолияти тугатилган корхоналар сони 24,1 мингтага етиб, 1,44 баробар кўпайди. Шу давр ичида аҳолининг иқтисодий фаоллик даражаси 75% дан (2019 йил кўрсаткичи) 73,7% гача тушиб, амалда 2017 йилнинг даражасида қолди. Ишсизлик даражаси доимий аҳоли сонига нисбатан 2019 йилда 9% ташкил этган бўлса, 2023 йилга келиб бу кўрсаткич 0,1% га камайди, абсолют миқдорда эса 213,2 кишига кўпайди. Меҳнат ресурслари сони таҳлил қилинаётган йилларда 3% га ўсиб, 19,52 млн кишини ташкил этган бўлса, меҳнатга лаёқатли аҳолининг улуши умумий аҳоли сонига камая бошлаб, 56,4 % дан 54,8% га тушди². Яъни аҳолининг ички тузилишида 16 ёшгача болалар ва нафақа ёшидаги қариялар кўпая бошлади, кўпроқ давлатдан

² <https://stat.uz/uz/rasmiy-statistika/labor-market-2>

ижтимоий ёрдамга муҳтож ва камбағал қатлами улуши ўсиб бориш тенденцияси ҳам пайдо бўлди.

2019 йилнинг охирига келиб иқтисодий воқеъликда тектоник силжишлар бошланиб, улар ўта марказлашган ва автократик бошқарув усуллари, жумладан, қўлланилаётган макроиқтисодий услублар бирмунча самарасиз даражага етганини кўрсатди. Бу **янги ижтимоий-иқтисодий** воқеъликнинг тўртта кўриниши юзага чиқди:

- тез ўсиб бораётган доимий аҳолининг умумий сони;
- кўп фарзандли оилалар улушининг ўсиши;
- камбағаллик миқёсининг ўсиши;
- аҳоли даромадлари соҳасида кучли сегрегациянинг пайдо бўлиши.

Бу омилларнинг ортга тортувчи таъсири йилдан-йилга ортиб борди ва Covid-19 шароитида ўз апогейига етди. Ҳатто давлат раҳбари даражасида камбағаллик тушунчаси расман тан олинди³ ва унга қарши кураш давлат ижтимоий ва иқтисодий сиёсатининг асосий йўналишларидан бири деб қаралди. Бундай иқрорлик бошқарув тизими иқтисодий тараққиёт мазмунини, воқеълик моҳиятини тўла тасаввур қила оладими деган саволни актуал даражага кўтарди. Чунки 70-80 йилларда иқтисодий ривожланиш даражаси тезлашган мамлакатларнинг барчасида (Хитой, Жанубий Корея, Вьетнам, Малайзия) энг биринчи тўсиқ сифатида аҳолининг “камбағаллик сиртмоғи”га тортувчи факторлар тўплами мавжудлиги кўрсатилган эди. Айнан шу ҳолат 2020 йилга келиб камбағалликка қарши курашиш янги макроиқтисодий бошқарув приоритетлари мазмунига айланганининг сабаби эди.

2021 йил май ойи ҳолатига кўра, меҳнатга лаёқатли ресурслар сони 19,52 млн кишини ташкил этган ҳолатда, 5 млн дан кам миқдорда аҳоли жисмоний шахслардан ундириладиган даромад солиғи тўлар эди. Муҳими шунда-ки, бу солиқ туридан тушадиган даромадларнинг 62,3 % ни ойига 2 млн сўмгача бўлган даромад олувчи ишловчилар ва 85,4% ни ойига 4 млн сўмгача даромад олувчилар тўлар эди⁴. Яъни жисмоний шахслар даромадидан олинадиган солиқлар асосан кам даромадли ишчиларни энг кўп солиққа тортишга қаратилган эди. Қисқача хулоса қилганда “Ҳар бир оила тадбиркор”, “Ёш тадбиркор”, “Тадбиркор аёл” каби дастурлар орқали янги тадбиркорлик хужайраларини, инфраструктурасини яратиш ғояси ўзини оқламади ва камбағаллик даражасини маълум бир вақтга бирмунча туширишга эришилгани билан, камбағаллик сиртмоғидан аксарият аҳоли қатламини чиқаришга олиб келмади.

Биргина 2019 йилда "Обод қишлоқ" ва "Обод маҳалла" дастурлари доирасида 479 та қишлоқ ва овулда, шаҳарлардаги 116 та маҳаллада кенг

³ Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг Олий Мажлисга Мурожаатномаси:

<https://president.uz/uz/lists/view/4057>

⁴ <https://www.gazeta.uz/ru/2021/07/14/personal-income-tax/>

кўламли қурилиш ва ободонлаштириш ишлари бажарилди. Бунга 6,1 триллион сўм ёки 2018 йилга нисбатан 1,5 триллион сўм кўп маблағ сарфланди. Қишлоқ жойларда - 17 минг 100 та, шаҳарларда - 17 минг 600 та, жами 34 минг 700 та ёки 2016 йилга нисбатан салкам 3 баробар кўп арзон ва шинам уйлар қурилди⁵. Лекин юқорида таъкидланганидек, янги тадбиркорлар таба-

қасини тузиш муаммоси турли аҳоли қатламларига меҳнат воситаларини тақдим этиш, молия имкониятлари яратиш билангина ҳал бўлмади. Янги тадбиркорлар қатлами юзага келмаганининг бир қанча назарий ва амалий асослари мавжуд эди.

Камбағаллик жуда оғир иллат. Агар мамлакатнинг бошқарув системаси камбағаллик гирдобни бу муаммосини ўз вақтида ҳал этмаса, муаммо турли метаморфозаларни бошидан кечиради:

а) инсон капиталининг сифати кескин тушиб кетади ва бир кунлик умри билан яшайдиган инсонлар ҳеч қачон жамият келжаги борасида ҳеч бир бошқа гуруҳлар билан келиша олмайди, ҳаммага нисбатан ва барча ғояларга оппозицияда бўлади;

б) унинг ўз-ўзини такроран тиклаш хусусияти кучайиб, жамиятнинг барча аъзоларига нотўғри нисбий индикатор сифатида ҳизмат қилади, яъни бошқалар шу қашшоқлик сиртмоғида бўлмаганидан шукур қилиб, альтернатив фикрлашга ҳам қодир бўлмай қолади;

с) қашшоқлик қадриятлар ва орият категорияси сифатидан чиқиб, фақатгина иқтисодий категорияга айнланади ва бойлик орттиришнинг барча йўллари легитим деб қаралиши, “камбағаллик айб эмас” деган ёлғон тезислар кучайишига сабаб бўлиши мумкин;

д) қашшоқлик фақатгина давлат сиёсати маҳсули деб қаралиб, бутун жамият, ва биринчи навбатда унинг гирдобига кирган конкрет шахс ва оиланинг шароитлари, сабаб ва оқибат занжирлари, аниқ чоралар эътибордан четда қолиши мумкин;

е) ва ниҳоят, бу сиртмоқдан чиқа олмаган халқнинг катта қисми миграция қилиш ва туғишни камайтириш, яъни мамлакатни энг зарур ресурслардан маҳрум қилиш, (демак-ки, келажакда тўлақони давлатчиликни йўқотиш ҳавфини туғдириш) йўли билан бу иллатга жавоб беради.

Кейнсчилик назариясига ҳаддан ташқари берилиш яхши оқибатларга олиб келмади. Кейнсчиликнинг энг муҳим элементларидан бири – умумий бандликни таъминлашнинг имкони, зарурати йўқлиги ва жамиятнинг баъзи қатламларида “иҳтиёрий бандсизлик танлови” бўлиши мумкинлигида эди. Бу

⁵ Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг Олий Мажлисга Мурожаатномаси: [https://nrm.uz/contentf?doc=612868_o%E2%80%98zbekiston_respublikasi_prezidenti_shavkat_mirzиеvning_oli_y_majlisga_murojaatnomasi_\(2020_yil_24_yanvar\)](https://nrm.uz/contentf?doc=612868_o%E2%80%98zbekiston_respublikasi_prezidenti_shavkat_mirzиеvning_oli_y_majlisga_murojaatnomasi_(2020_yil_24_yanvar))

ихтиёрий бандсизлик жамиятнинг маълум қисмида минимал даражада яшаш имкониятлари билан қаноатланиш психологиясидан келиб чиқади. Иккинчи томондан Кейнс ЯИМни иқтисодий банд бўлган жамият аъзоларининг ўртача оғирликка эга бўлган меҳнатига иш ҳақининг йиғиндиси деб қабул қилган. Яъни иқтисодий банд бўлган аҳоли ва ўртача иш ҳақи – бу ёлланма меҳнат белгилари. Жамият ривожланиб борган сари, ўз-ўзини банд қилувчи ва минимал ҳаётий эҳтиёжларни қондиргач, маълум маънода ижтимоий-иқтисодий эркинликка интилувчи қатламлар кўпайиб боради. Албатта, Кейнс таълимотининг иқтисодийётни бошқаришдаги энг керакли қисми, бизнинг фикримизча, “энг самарали бандлик” тушунчаси орқали давлатнинг фискал ва инвестиция сиёсати қандай бўлиши кераклигига назарий асос⁶ яратиб беради. Лекин энг самарали (оптимал) бандлик тушунчаси бу давлатнинг жамиятга қараш нуқтаси. Жамиятнинг нуқтаи-назаридан эса оптимал бандлик баъзи қатламлар учун ижтимоий-иқтисодий эркинликка шароит берувчи бандлик. Турли фавқулодда юз берадиган ҳодисалар жамиятда мажбурий ишсизлик ва мажбурий фаолиятдан воз кечиш (масалан, Covid-19 вақтидаги карантин) ҳолати юзага келишини ва бу ҳолатда мамлакат (жамият) фақат ўзининг ички резервлари (жамғармалари, жумладан, озиқ-овқат ва дори-дармон) ва халқаро ҳамжамиятдан келувчи ёрдамгагина муҳтож бўлиб қолишини кўрсатди. Бундай ҳолат бир неча, ҳатто йиллар давомида юз бериши эса Кейнс назарияси барча ҳолатлар учун ҳам универсал бўлмаслигини кўрсатди.

Иккинчи томондан, Кейнс назариясига кўра, ҳар қандай тадбиркор ишлаб чиқаришни ташкил қилишда бўлажак маҳсулотнинг таннархи ва умумий сотувлар ҳажмини биринчи навбатда ҳисобга олади. Шу нуқтаи-назардан келиб чиқиб, қандай иш асбоблари олиниши ва қанча ва қандай сифатли ишчи кучи жалб қилиниши ҳақида хулосага келади. Лекин бу ерда режалаштириш горизонти деган муҳим омил бор: режалаштириш қанча кўп даврни қамраб олса, шунча кўпроқ капитал маблағлар ишлаб чиқариш воситалари учун керак бўлади. Ва бу ўринда бу ишлаб чиқариш воситалари янги олинади-ми, ёки боридан фойдаланилади-ми, жуда катта аҳамиятга эга. Чунки тадбиркор ишлаб чиқаришни ташкил қилишда энг биринчи зарур бўлган бўлган капитал маблағлар миқдорига жуда катта эътибор беради. Назарияга кўра ишлаб чиқариш воситаларига сарфлар аввалроқ бўлган бўлса (яъни мамлакат заҳираларида ёки тадбиркорлар ихтиёрида эскирган, лекин ҳанузгача тўла ишга яроқ асосий воситалар бўлса), бу ҳолат ишлаб чиқаришни янгитдан ташкил қилишга кўпроқ позитив таъсир қилади⁷. Лекин бу соҳада ҳам, давлат ташаббуси билан

⁶ Keynes: The General Theory of employment, interest and money:

<https://www.marxists.org/reference/subject/economics/keynes/general-theory/ch03.htm>, Chapter 3.

⁷ Keynes: The General Theory of employment, interest and money:

<https://www.marxists.org/reference/subject/economics/keynes/general-theory/ch03.htm>, Chapter 6.

амалга оширилган лойиҳаларда янги тадбиркорлар табақаларида на асосий воситалар, на ишлаб чиқариш горизонтини англаш, унга қараб маълум фаолият режасини тузиш мажбурияти бор эди.

Covid-19 шароитида аниқланди-ки, турли фавқулодда юз берадиган ҳодисалар фонида захирада кам қийматга эга бўлган воситалар бирданига бутун дунёда талаб этилган воситаларга айланса, уларнинг нархи айни дамдаги **максимал тўлов қобилияти** даражасида юзага келадиган нархлар паритетига кўтарилиши ва маҳсулотнинг таннархи ва умумий сотувлар ҳажмини бозордаги нархлар паритетига алоқаси бўлмайд қолади. Яъни сўров ажиотаж ҳолига етиб, гап инсонлар ҳаётини сақлаш ҳақида кетганда, ҳеч ким на асосий воситалар, на ҳом-ашёларнинг тарихий нархларига қараб ўтирмайди. Кимда тўлов қобилияти бўлса, ўша керакли маҳсулотни аномал нархда сотиб олди. Инсон ҳаёти ва унинг эҳтиёжлари ҳажми эса “аввалдан сарф қилинган” категорияда ишламайди ва уларни ҳар сафар бозорда бор имкони қадар, тўла миқдорда “сотиб олиш керак”. Бу ерда ҳам режалаштириш имконияти меҳнат ресурслари сифати (малакаси, меҳнатга қобиллиги) ва уларни сурункали кенгайтирилган такрорий ишлаб чиқаришга жалб қилишнинг имкониятлари даражасига боғлиқ. Бир томондан малакали меҳнат ресурслари бозорда бўлган тақдирда ҳам, уларни ишлаб чиқаришга жалб қилиш имкониятлари чекланган бўлиши, иккинчи томондан, - ишчи кучининг сифати энди нафақат унинг малакаси, балки унинг иш фаолияти давомида ишдан қолдирувчи омилларга (масалан, касалликка) чалинмаслиги эҳтимоли даражаси билан белгилаб қўйди (кейинги бўлимда бу феномен бафуржа кўрсатилган). Оддий ҳолларда меҳнат ресурслари нисбий тўла бандлик (яъни ишлаб чиқариш ва кенгайтирилган такрорий ишлаб чиқариш талаблари тўла қондирилган) ва ихтиёрий танланган қисман бандлик (аҳоли минимал даромадлар билан қаноатланиб, ўз-ўзини чеклаган) ҳолларида ўзларини бутунлай бошқача тутадилар. Лекин фавқулодда ҳоллар меҳнатга имконияти борларнинг барчасини меҳнатга (минимал бўлса-да, - даромад манбаига) зор қилиб, аҳолининг катта қисмини ана шу меҳнат натижалари билан бўлишишига умидвор қилиб қўяди, яъни меҳр-шавқатга муҳтожлик туғдиради. 2020 йилнинг бошига келиб, 35 млнлик аҳолидан 13,5 миллиони меҳнат бозорида банд бўлган, улардан 7,8 миллионгаси норасмий секторда, шу жумладан, 2,6 млн. киши меҳнат мигранти ҳисобланар эди⁸.

Юқоридаги сабабларга кўра, бир томондан қисман бандликнинг кучайиши (ҳатто унинг сабаблари қандай бўлишидан қатъий назар), иккинчи томондан жамият томонидан яратилган неъматларни адолатли тақсимотига зор бўлганлар (вақтинча ишсиз, ёки ижтимоий ҳимояга муҳтож) сонининг кўпайиши камбағалликни туғдирувчи ва унинг кенгайишига озуқа берувчи фактори

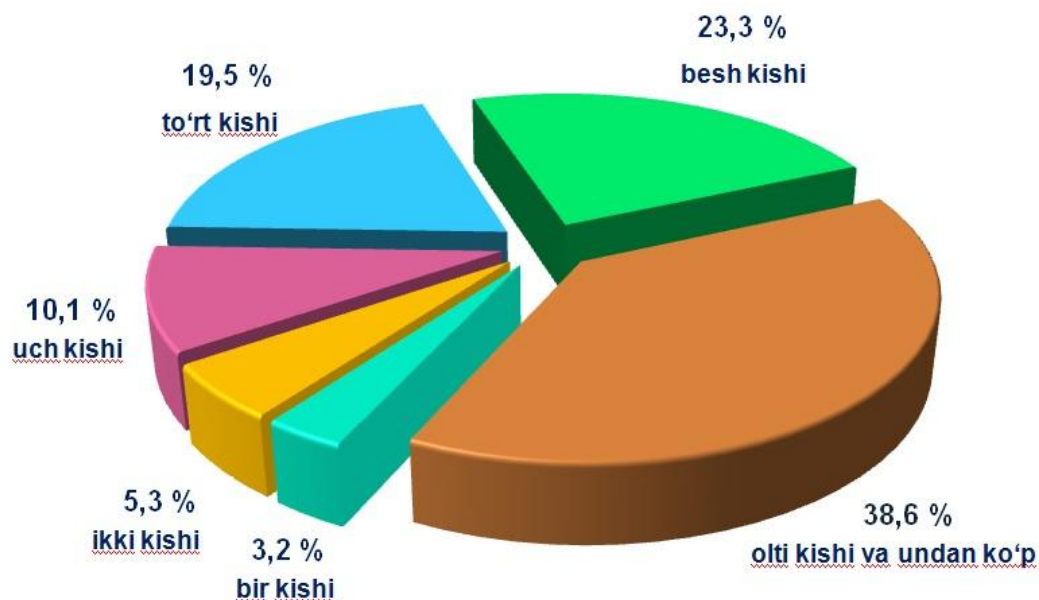
⁸ Ўзбекистон статистика Кумитаси маълумотлари: <https://stat.uz/uz/rasmiy-statistika/labor-market-2>

бўлди. Бу кичик чекланишимиздан мақсад шу эди-ку, давлат тадбиркорликни ривожлантириб, камбағалликни қисқартиришга ҳаракат қилишни истаса, янги (постковид) шароитда илгаригидек “Ҳар бир оила тадбиркор”, “Ёш тадбиркор”, “Тадбиркор аёл” каби ижтимоий лойиҳалар билан янги тадбиркорлар синфини яратишга интилиши эмас, балки фаолият юритиб турган мавжуд тадбиркорларни кўпроқ қўллаб-қувватлаши керак эди. Чунки камбағални бу ҳолдан чиқариш учун унга ишлаб чиқариш воситалари ва дастлабки айланма маблағларини бериш кифоя қилмайди, бу тадбир умуман иш бермаслиги мумкин. Бу ўринда тадбиркорлик шижоати, даромад берувчи фаолият юритиш ғояси, тадбиркорлик кўникмаларнинг роли бирмунча катта ва булар моддий категориялар эмас.

Ўзбекистоннинг демографик шароитида юзага келган тенденциялар ҳам янги воқеъликни юзага келтириб, иқтисодий сиёсатга ўз таъсирини ўткази бошлади. Жамиятда 20-29 ёшли ёшларнинг улуши доимий умумий аҳоли сонидан камайиб бормоқда⁹ ва “Прогноз маълумотларига қараганда, 2030 йилга бориб 24-29 ва 30-34 ёш гуруҳларидаги аҳоли сонининг камайиши кутилади”. Аммо “аёллар сонининг эркаклар сонидан ортиқчилиги 35-40 ёшдан катта барча ёш гуруҳларида қайд этилмоқда”¹⁰.

1-диаграмма

Умумий уй ҳўжаликлари аъзолари сони бўйича 2023 йил натижалари бўйича аҳоли таркиби¹¹



⁹ Х.Х.Абдурахмонов: “Оиланинг демографик ривожланиш тенденцияларини баҳолаш”: https://iqtisodiyot.tsue.uz/sites/default/files/maqolalar/2_Abduramanov.pdf, 3-бет

¹⁰ Ўша ерда, 7-бет

¹¹ Қаранг: <https://stat.uz/uz/matbuot-markazi/qo-mita-yangiliklar/6809-o-zbekiston-respublikasi-uy-xo-jalıklarining-a-zolari-soni-bo-yicha-tarkibi>

Натижада, бир ҳисобдан, эркакларнинг ўртача умри аёлларга нисбатан камроклиги фонида бир нечта фарзандларни бир ўзи катта қилаётган аёлларнинг улуши ортиб бораётган бўлса (айниқса, туғилиш коэффициенти Ўзбекистон бўйича ҳар минг кишига 21 тадан ортиқ эканини инобатга олинса), иккинчи ҳисобдан Ўзбекистонда уй хўжаликлари аъзолари сони кўрсаткичига эътибор берсак, 6,1 млн умумий уй хўжаликлари сони ичида 5 кишидан иборат бўлган хўжалиklar улуши 23,3%, олти ва ундан кўп кишилиқ бўлган хўжалиklar улуши 38,6% ни ташкил этади.

Даромади даражаси сифатидан камбағал деб таснифланган оилада ҳар сафар янги боланинг туғилиши давлатнинг маҳсус кўмагисиз камбағаллик сиртмоғининг кучлироқ тортилишига олиб келади. Камбағал оилаларда болалар оддий турмуш комфортини белгиловчи (уй жиҳозлари, уй меҳнатини енгиллаштирувчи) воситаларга етарли эга бўлмайдилар ва уларнинг аксарияти ўзларининг ота-оналари томонидан сингдирилган камбағал турмуш “оддий кадриятлари” билан чекланиб ўсадилар, билимларни ўзлаштиришга қаттиқ интирмай, ўқув қобилияти бошқаларга нисбатан бирмунча паст бўлади. Кўп ҳолларда улар мактабни 14-15 ёшида ташлаб меҳнат қилишга ва оилага даромад келтиришга ҳаракат қиладилар. Боз устига бундай оилаларнинг аксариятида ташқи ва тасодифий омилларнинг, масалан, барвақт боқувчилардан маҳрум бўлиш, турли офатлар туфайли мулкдан маҳрум бўлиш, ўйламай қилинган харажатлар туфайли қарз гирдобига тушиш каби ҳолларнинг кўп учраб туриши барча соҳа мутахассислари ва изланувчилар томонидан эътироф этилган. Оилада ногирон бола туғилган ҳолларда эса оила аъзоларидан бирига иш таклиф қилиш чораси ҳам натижа бермайдиган ҳолат бўлиши мумкин. Бундай оилалар ўзининг кучи билан бу шароитдан чиқиб кета олмайди ва албатта давлатнинг ёрдамига муҳтож. Аҳоли сони ортган сари, бундай кўмакка муҳтож қатламлар ҳам ортиб боради ва иқтисодий ривожланишнинг янги чақириқларига айланади. Бу тезиснинг исботини қуйидаги динамикада кўришимиз мумкин: 2017 йил натижаларига кўра Ўзбекистонда камбағал деб тан олинган аҳолининг улуши умумий аҳоли сонининг 11,9 фоизини ташкил этган (3,82 млн киши) бўлса¹², 2023 йилга келиб бу кўрсаткич 11,0% га (3,96 млн.киши) тушди,¹³ ёки абсолют миқдорда 0,14 млн кишига кўпайди.

Аввалига камбағалликка қарши курашишда жаҳон тажрибасини ўрганиб, унинг энг самарали элементларини Ўзбекистонда жалб этиш зарурати ва имконияти деб қаралган муаммо тез орада бунчалиқ ойдин ёндашувнинг имкони йўқлигини исботлади. Камбағаллик даражасининг ўсиши жамиятдаги

¹² <https://www.cer.uz/en/post/publication/kak-uzbekistan-planiruet-sokrasat-dolu-bednogo-naselenia-mnenie-ekspertov>

¹³ https://api.siat.stat.uz/media/uploads/sdmx/sdmx_data_1737.xlsx. Янгироқ маълумотлар эълон қилинмаган.

тадбиркорлик муҳитини яратиш ва бошқариш соҳасида катта муаммолар борлигидан дарак берди. Жамиятда қанча кўп камбағаллик бўлса, шунча ишлаб чиқарувчи кучлари унумдорлиги тушиб бораверади, умумий талаб камайиб боради. Жамият учун унум берувчи аъзолар сони деярли ўзгаришсиз қолганда, ёки улар сонининг ўсиш суръатлари камбағаллар сонининг ўсиш суръатларидан пастроқ бўлса, у яратган моддий бойликка “шерик” бўлувчилар сони борган сари ортаверади. Ва аксинча, - ҳар бир ишлаб чиқарувчининг меҳнат унумдорлиги (моддий бойликларни яратиш потенциали) ортган сари жамият меҳнатга лаёқати бўлмаган, ёки вақтинча меҳнатга жалб қилинмаган аъзоларига кўпроқ ёрдам беришга қодир бўлади. Айнан шунинг учун барча мамлакатларнинг камбағалчиликка қарши курашнинг энг универсал усули иқтисодиётнинг ўсиш суръатларини ва самарадорлигини ошириб, жамиятнинг имкониятларини (иқтисодий ва ижтимоий) кенгайтиришга қаратилган.

Камбағалликка қарши кураш ташкилий модели мамлакатимизда асосан 4 йўналишда олиб борилди:

– “камбағал” категориясига кирувчи турли аҳоли қатламлари ичидаги ёрдамга муҳтож инсонларни аниқлаш (БМТнинг бир кунлик истеъмол қийматининг пуллик нормаси асосида) ва уларга марказлаштирилган, тизимли ва сурункали давлат нафақаларини тўлаб бориш. Бунда гендер фарқи ва ёшлар масалаларига алоҳида эътибор билан қараш;

– ижтимоий ёрдамга муҳтож деб топилган аҳоли қатламларини турли тадбиркорлар томонидан ўтказилаётган ижтимоий-иқтисодий лойиҳаларга жалб қилиб, уларни даромад топишларига ёрдам бериш;

– давлатнинг марказлаштирилган жамғармалари, қисман давлатнинг мулкий тасарруфида бўлган банкларнинг ёрдамида ижтимоий ёрдамга муҳтож аҳоли қатламларига майда тадбиркорлик лойиҳаларини тавсия қилиб, боғланғич капиталини (ишлаб чиқариш воситалари ва ҳом-ашё олиш учун) имтиёзли ва кўп йиллик кредитлар ёрдамида дастлабки тадбиркорлик фаолиятига туртки бериш;

– камбағалликка қарши кураш бўйича J-PAL глобал ташаббуси, БМТ, БМТТД, Жаҳон банки, UNISEF, ADB, GIZ ва бошқа нуфузли халқаро ташкилотлар ҳамкорлик қилиш ва бу борада икки томонлама ва кўп томонлама лойиҳаларни Ўзбекистонда амалга ошириш.

Энг биринчи приоритет бу - аҳолининг ижтимоий ҳомияга муҳтож қатламининг манзилли, яъни исмлари, шароити ва сабаби аниқланган маълумотлар базаларини яратиш бўлди. 2021-йилдан бошлаб кам таъминланганларни “Ижтимоий ҳимоянинг ягона реестри” ахборот тизимига киритиш ва ҳар ойда бу базани жонли интервьюлар асосида янгилаб бориш механизми жорий этилган. Натижада, “2017-йилда 500 минг нафар кам таъминланган оилага ижтимоий ёрдам кўрсатилган бўлса, бугунги кунда ушбу

кўрсаткич 2,2 миллиондан зиёдни ташкил қилмоқда. Ажратилаётган маблағлар ҳажми етти баравар оширилиб, йилига 13 триллион сўм (1,1 миллиард доллар)га етди”¹⁴. 2023 йилнинг ўзида 810 минг ишчи ўринларини мамлакат бўйлаб тиклаш, янги 310 минг кишига тенг доимий ва 633 мингга тенг мавсумий ишчи ўринларини яратиш кўзда тутилган эди. Биргина ўз-ўзини банд қилиш категориясига кирувчи меҳнат соҳалари рўйхатини кенгайтириш (24 тадан 67 гача фаолият турларига) ҳисобига яна 100 мингдан ортиқ ишчиларни расмий меҳнат бозорига жалб этиш назарда тутилганди. Лекин бу кўрсаткичларга амалиётда эришилмади.

2018-2022 йиллар давомида маҳаллабай текширишлар натижасида 540 мингдан ортиқ кам таъминланган оилалар реестри тузилган ва уларга давлат томонидан 306,8 млрд сўмлик тўғридан-тўғри моддий ёрдам берилган. 37,7 минг ишсиз юрган кишиларга доимий иш, 93,2 минг кишига мавсумий иш топиб берилган, 7,2 минг кишига эса қишлоқ хўжалигида ижарага ер ажрабтиб берилиб, меҳнати ҳисобига даромад олиш имконияти яратиб берилган. Кам таъминланган оилаларга 110,1 млрд.сўм миқдорга тенг озиқ-овқат маҳсулотлари ва 544,5 млн.сўмга тенг дори -дармон воситалари ҳамда 14,8 млрд.сўмга уй моллари сотиб олишга, 2,4 млрд.сўмга тенг миқдорда уй паррандалари сотиб олишга банклардан узоқ муддатли ва кам фоизлик кредитлар ажратиб берилган¹⁵.

Камбағалликка қарши курашиш мамлакат иқтисодий сиёятининг янги воқеълиги бўлишига қарамай, бу сиёсатни амалга оширишда йўл қўйилган камчиликлар баъзи ҳолларда бутунлай тескари натижаларга олиб келди. Энг катта муаммо камбағалликка қарши курашишда давлатнинг стратегияси яхлит бир дастур сифатида ишлаб чиқилмаган бўлиб, бу сиёсат турли ижрочиларга – вазирлик ва ҳокимиятлар “вазирлик – ҳудуд/вилоят – район - маҳалла” вертикалига масъулият тарзида юклатилган ишлар рўйхати эди. Камбағал ва давлат томонидан ёрдамга муҳтож кишилар, оилалар дастлабки рўйхати (амалиётда “қора дафтар”, “ аёллар дафтари”, “ёшлар дафтари” каби) маҳалла томонидан тузилиб, район ҳокимиятига тавсиф этилар, улар ўз навбатида вилоят рўйхатларини умумлаштириб, вазирликларга тасарруф қилишар эди. Вазирлик ҳукумат томонидан турли лойиҳаларга ажратилиши керак бўлган

¹⁴ Қаранг: <https://gov.uz/uz/bv/news/view/1599/>

¹⁵ Қаранг: Қандай қилиб Ўзбекистон камбағалликка қарши курашмоқчи:

<https://www.cer.uz/en/post/publication/kak-uzbekistan-planiruet-sokrasat-dolu-bednogo-naselenia-mnenie-ekspertov>

бўлган молиявий маблағлар ҳажмини турли йўналишлар бўйича ташкил этиб (тўғридан-тўғри моддий ёрдам бериш, доимий ёки мавсумий иш топиб бериш, янги ишчи ўринларини яратиш, қишлоқ хўжалигида ижарага ер майдонларини ажратиш, озик-овқат маҳсулотлари ва дори-дармон воситалари, ҳамда уй моллари, паррандалар сотиб олишга, банклардан кредитлар ажратиб бериш), бу ишларни молиялаштириш ва қайта тақсимлаш механизмларини белгилаб, Вазирлар Маҳкамасининг йиллик ва чораклик дастурларига киритар эдилар. Кредит олмасликка қарор қилган оилалар ва кишиларга кредитлар маълум бир маъмурий тазйиқ ортида берилган ҳоллар ҳам кам бўлмаган.

Юқоридаги ҳолатдан ҳосил - камбағалликка қарши курашнинг асосий маъноси уни келтириб чиқарувчи муҳим омиллар, тармоқлар ва шароитларга қарши қаратилмай, турли “давлат хайрия дастурлари” кампаниясига айланди. Бутун қилинган ишларнинг моҳияти камбағаллик тоифасига киритиладиган жамият аъзоларини аниқлаш ва уларга давлат томонидан берилиши мумкин бўлган ёрдамни белгилаш ва уни етказиб беришга бориб тақалди. Бундай ёндашув кўп ҳолларда турли аҳоли қатламлари ўртасида текинхўрлик кайфиятларининг юз келишига, камбағалликдан чиқишга ҳаракат қилаётганларнинг фақатгина давлат қармоғига ўтиб олганларни кўриб, ўзлари учун ҳаракат қилишга мотивациясини тушиб кетишига олиб келди. Психологияда бу “**тескари проекция**” деб аталган ҳолат бўлиб, фуқаролар ўзларининг моддий ҳолатини тузатишга интилиш ўрнига, уларда “ички ҳимоя инстинктлари” давлатнинг камбағалликка қарши ҳаракатларини ўзларинининг шахсий статусига қарши ҳаракат ҳам деб қабул қилдилар. Оқибатда баъзиларда паразитлик туйғулари ривожланган бўлса, баъзиларида очикдан-очифқ муттаҳамлик, олинган кредитларни қайтармаслик, бутунлай бошқа шахсий самарасиз истеъмолга ишлатиш (масалан, тўй-хашам, ҳозирги ҳолатида ортиқ бўлган кераксиз қурилишлар қилиш) ҳоллари кўпайди.

Хитой ва бошқа Жануби-Шарқий Осиё, Жанубий Америка давлатларининг умумдавлат иқтисодий потенциалини оширишга қаратилган яхлит инклюзив сиёсат яратиш ва юритиш ўрнига Ўзбекистонда бир-бири билан мантқан боғланмаган, ўзаро қилаётган ишининг сифатини аниқлаб бўлмайдиган, турли алоқаси бўлмаган ижрочилар кўлига топширилган амаллар, масъулиятлар тўпламини ҳаётга татбиқ этишга ҳаракат қилдик. Оқибатда жойларда бу кураш моҳияти ким қандай тушунса, шундай талқин қилинишигача етиб борди. Давлат томонидан кўпроқ **мавжуд тадбиркорларни** қўллаб, улар яратган ижтимоий қийматни **инклюзив фискал сиёсат** негизида ёрдамга мухтож кишилар манфаатига қайта тақсимлаш умуман тадбиркорликдан хабари бўлмаган, тадбиркорликка мойиллиги бўлмаган аҳоли қатламларини тадбиркорликка тортишга уринишдан кўра самаралироқ бўлар эди.

Камбағалликка қарши курашиш учун давлат томонидан ажратилган маблағларнинг аксарияти “Ҳар бир оила тадбиркор”, “Ёш тадбиркор”, арзон ипотека кредитларини таъминлаш каби лойиҳалар негизда тижорат банклари орқали халққа тарқатилди. Банклар аксарият ҳолларда маҳаллалар рўйхатлари асосида маҳаллий хокимиятлар тасдиқлаган рўйхатлар бўйича жуда катта миқдордаги кредит ресурсларини оиланинг ҳақиқий шароити ва кредитни қайтариш имкониятини етарли ўрганмай, ҳеч қандай гаровсиз, маъмурий тазйиқ остида тарқатиб бердилар. Натижада бу кредит ресурслари бўйича тез орада нафақат фоизлар, балки асосий суммаларни қайтариб олишнинг ҳам ҳеч қандай имконияти йўқлиги аниқланди. Давлат ижтимоий лойиҳаларида иштирок этган кўпгина давлат тижорат банкларида “фойда олинмайдиган кредитлар” (non performing loans) даражаси умумий кредитлар ҳажмининг 0,5 фоизидан 7 фоизгача кўтарилиб кетди. Агар бу банклар Марказий банкнинг кредитлар классификацияси талабларига тўла риоя қилиб, шубҳали кредитлар бўйича тегишли резерв жамғармаларини ташкил қилсалар, кўпчилиги мутлақо камомадларни эълон қилган бўлар эдилар.

Хулоса қилиб айтганда, янгиланиш даврида давлатнинг ислохотлар кун тартибини белгилаш ва уларни амалга оширишда етакчилик ролини асослаб берган биргина иқтисодий тараққиёт назариясини, - айнан “Янги Кейнсчилик”ни тарихий даврда ягона тўғри келувчи қўлланма деб қараш бизнинг иқтисодиётимиз тараққиётида қатор ҳатоларга олиб келди. Бу ҳатоларнинг келиб чиқиши ва ўз вақтида англанмаганининг асосий сабаби - мамлакатда кўпгина бошқа соҳалар каби иқтисодий ислохотларни моҳияти ва самарасини муҳокама қилиб, ҳар бир ғояни салбий ва ижобий оқибатларини олдиндан назарий ва амалий экспертиза қилиш борасида етарли институтлар тузилмаганлиги ва борлари ўртасида рақобат ва мулоқат йўқлигидадир. Давлатнинг турли илмий текшириш ва академик иқтисодий марказлари кўтарган масалалар ва ғоялар ҳукумат органлари томонидан керакли эътибор билан ўрганиб чиқилмади, ғоялар фрагментар қўлланилиб, улар яхлит бир мантиқли концепцияга айлантирилмади. Амалда ғоялар бир-бири билан антогонизмга киришди (Иқтисодиёт ва молия вазирлигининг давлат маблағларини иқтисодиётга кўп миқдорларда киритиш ҳисобига юмшоқ стимуллаштириш модели ва Марказий банкнинг инфляцияни таргетлаштириш – мақсадли режалаштириш ҳаракатлари ўртасидаги қарама-қаршилик каби) ва бозор қатнашчилари ҳукумат институтларидан турли мазмундаги сигналлар ва чекланишлар олиб, охири фақат ўзлари билган модель доирасида ўралашиб қолдилар. 2020 йил бошида юзага келган фавқулодда ҳодиса – Covid-19 пандемияси, унинг тарқалишини олдини олиш ва иқтисодиётни янги воқеъликка мослаштириш қийинчиликлари янги Кейнсианчилик ёндашувининг **аянчли оқибатларини** янада чуқурлаштирди.

Фойдаланилган адабиётлар:

1. Commons J. R. (1997). The Problem of Correlating Law, Economics and Ethics // Samuels W. J., Rutherford M. (Eds.). Selected Essays of J. R. Commons. London: Routledge.
2. Eggertsson T. (1990). Economic Behavior and Institutions. Cambridge University press.
3. Макроиктисодий ва ҳудудий тадқиқотлар институти. Миллий кадриятларга асосланган иқтисодиёт: негизлар ва фаровонлик уйғунлигининг эмпирик таҳлили. Т.: 2023. 46 б.
4. Доклад по целям развития тысячелетия Узбекистан 2015/под общ. ред. Г. Саидовой. - Ташкент: Центр экономических исследований, 2015. - 100 с.
5. Б.Хамидов: Профиль бедности в Узбекистане.
<https://review.uz/ru/post/profil-bednosti-v-uzbekistane?>

THE ROLE OF TENSOR ANALYSIS IN ARCHITECTURE AND CONSTRUCTION: SYSTEMS AND STRUCTURAL ANALYSIS

Ergashev Abdirashid Ilyozovich

Tashkent State Technical University Almalyk branch, profecor

Annotation: Tensor analysis holds significant importance in architecture and construction. As multi-dimensional mathematical objects, tensors play a crucial role in structural and dynamic analysis processes. This article discusses the methods of implementation and the supporting tools related to these analytical systems, as well as the innovative development of tensor analysis facilitated by modern technologies and new materials. These analytical methods assist in achieving stability, energy efficiency, and environmental impacts within architectural and construction processes. The article presents new ideas for scientific research and practical applications in architecture and engineering.

Keywords: One-dimensional space; matrices; force; simulation; visualization; mechanical stress; deformation.

Introduction.

In modern architecture and construction, the complexity of structures is increasing, requiring more precise mechanical and structural calculations. Three-dimensional (3D) deformations, which are difficult to compute using traditional methods, can be determined through tensor analysis. Tensors, as mathematical concepts generalizing vectors and scalars, are widely used to describe deformations, forces, and other physical quantities in multi-dimensional systems.

What is Tensor?

Tensor is a multi-dimensional mathematical object used to describe the stresses and deformations in systems with complex geometry and structure. Vectors and matrices, in turn, are special cases of tensors, enabling the representation of mathematical relationships in three-dimensional and higher spatial dimensions. Tensor analysis is a mathematical method used to process dimensional data and calculate stresses and deformations. In construction, it is essential for analyzing mechanical processes, measurements, and the stresses within structures.

Tensor Analysis in Architecture and Construction:

Calculation of Mechanical Stresses and Deformations

It is crucial to accurately analyze how construction materials react under load. Tensor analysis enables the visualization of stress distribution and deformation characteristics in load-bearing structures. For instance, it can model stress distribution in suspension bridges or other structures under internal forces caused by loads, expressed mathematically by tensors.

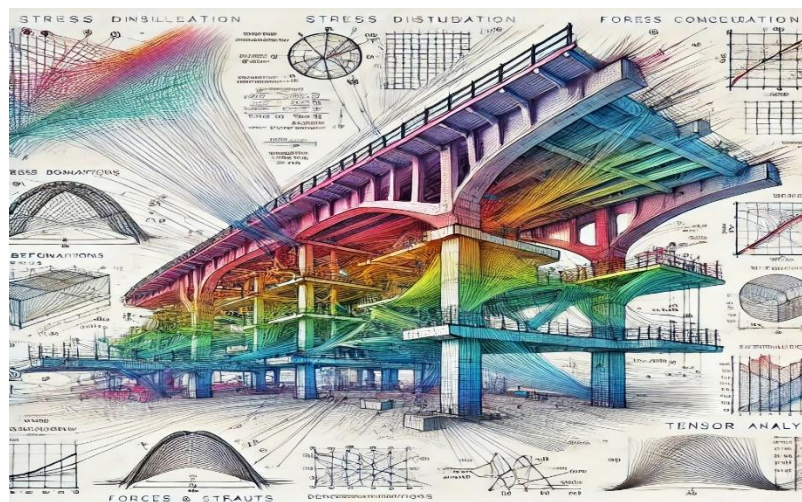
$$\sigma_{ij} = \frac{F_i}{S_j} \quad 1.$$

Here σ_{ij} — represents the components of the stress tensor, F_i — denotes the components of the forces, and S_j — refers to the area relative to the acting surface.

Deformation refers to the change in the material under the influence of load. It is also expressed through tensors, as deformations can occur in various directions. For example, there may be effects of tension, compression, torsion, or bending. The deformation tensor is expressed as follows:

$$\varepsilon_{ij} = \frac{1}{2} \left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i} \right) \quad 2.$$

Where ε_{ij} — Components of the deformation tensor, u_i and u_j — Coordinates of the movements, x_i and x_j — Coordinates of the position.



Picture 1. Stress distribution in architecture and construction is shown. The diagram illustrates the deformations of the structure (e.g., bridge) under the influence of loading and the interaction of force vectors. The tensor fields represent the distribution of stress and deformation with their mathematical notations.

Modeling Dynamic Loads and Movements: Modern buildings often face dynamic loads. For example, the movement of buildings during earthquakes can be modeled using tensors. This helps architects determine how to reinforce structures. During earthquakes, buildings shift and sway due to ground vibrations. This movement is multi-dimensional, occurring in several directions simultaneously. Tensor analysis models these movements and shows which directions accumulate more stress. The following tensor analysis is applied to model the stress distribution during an earthquake:

$$T = \begin{pmatrix} \sigma_{xx} & \sigma_{xy} & \sigma_{xz} \\ \sigma_{yx} & \sigma_{yy} & \sigma_{yz} \\ \sigma_{zx} & \sigma_{zy} & \sigma_{zz} \end{pmatrix}$$

3.

Where σ_{xx} , σ_{yy} and σ_{zz} **It shows the stress in each direction.** These indicators allow for an accurate analysis of how the building is vibrating during an earthquake.

Practical Advantages of Modeling

Architects and engineers can predict how buildings will respond to dynamic loads through tensor analysis. As a result, they can determine which parts of the structure need reinforcement to adapt to events such as earthquakes or strong winds. This approach is especially critical for complex structures like high-rise buildings and suspension bridges.

For example, dynamic load analysis using tensor analysis has been performed on structures such as the Osaka Bridge and the Burj Khalifa. The modifications made to their structures have enabled them to remain stable even in high seismic risk areas.

Modeling dynamic loads and movements through tensor analysis serves as an essential tool in ensuring the stability and safety of modern architecture and structures. With this method, reinforcing buildings against strong natural forces becomes significantly more effective.

Studying Heat Distribution and Conductivity:

Tensor analysis can be applied to optimize the thermal conductivity, energy efficiency, and heat distribution in buildings. Two- or three-dimensional tensors are used to express thermal conductivity in these processes. With the help of tensors, it is possible to model how heat is distributed across various materials and structures. For example, different materials (concrete, steel, glass) conduct heat to varying degrees, and for each material, the thermal conductivity properties differ in different directions.

The heat conduction equation is expressed using a tensor as follows:

$$Q = -k\Delta T$$

4.

Here: Q — **The vector of the heat flow** (indicates where and in which direction the heat is moving).

k — the thermal conductivity coefficient (indicates how the material conducts heat).

ΔT — **Temperature gradient** (indicates how the temperature is changing).

Thermal conductivity indicators can vary in each direction, so tensor analysis helps to accurately represent these processes. For example, with the help of a three-dimensional tensor, it is possible to determine how heat is distributed across different parts of a building.

$$q_i = \sum_{j=1}^3 k_{ij} \frac{\partial T}{\partial x_j}$$

5.

This equation represents three-dimensional thermal conductivity, where: q_i — **Heat flow**, k_{ij} — Components of the thermal conductivity tensor, $\frac{\partial T}{\partial x_j}$ — Temperature gradient in each direction. By analyzing heat distribution in buildings using tensors, it is possible to determine where heat accumulates more or where heat is rapidly lost. This plays an important role in improving the energy efficiency of the building. For example, walls, floors, and windows that receive sunlight should collect heat and maintain a stable indoor microclimate.

Surface and Shape Analysis:

Tensors are also used in the creation of complex shapes and surfaces in architecture and design. For example, modern buildings are known for their twisted, curved, or moving shapes. The dynamics and stability of these shapes are calculated using tensor analysis. With the help of tensors, it is possible to analyze how different geometric shapes and surfaces experience stresses and deformations. For example, when various forces act on curved, slanted, or complex spatial shapes, tensors are needed to calculate how they react. In this context, tensors analyze the deformations and stresses occurring in each direction. For example, the following formulas are commonly used for surface analysis:

$$T_{ij} = \frac{\partial u_i}{\partial x_j} \quad 6.$$

Here: T_{ij} — Components of the deformation tensor, u_i — Movement or displacement vectors.

x_j — Spatial coordinates.

This equation measures the deformation of surfaces and shapes and also allows for the identification of where bending or stress is concentrated. Thus, the dynamics, deformation, and stability of surfaces and shapes are analyzed using tensor analysis. Through these analyses, the greatest stresses and weak points in the design of buildings with complex shapes are identified, ensuring the strength of the structure. In architecture and construction, tensor analysis plays a crucial role not only in creating beautiful designs but also in ensuring their stability.

Conclusion:

In modern architecture and construction, the increasing complexity of structures and changing demands require deeper and more precise mechanical and structural calculations. Three-dimensional deformations, which are difficult to compute using traditional methods, can be determined through tensor analysis. Tensors, in turn, are widely used as multi-dimensional mathematical objects to express deformations,

forces, and other physical quantities. Overall, tensor analysis enables a deeper understanding and control of mechanical processes in modern architecture and construction. This mathematical method serves as a crucial tool in ensuring the stability and safety of structures, as well as in creating new designs. By accurately calculating the stresses and deformations of structures with the help of tensors, innovations in architecture and engineering can be supported.

Foydalanilgan adabiyotlar.

1. **Zienkiewicz, O. C., & Taylor, R. L.** (2000). "The Finite Element Method: Its Basis and Fundamentals". *Butterworth-Heinemann*
2. **C. P. Tsai, C. W.** (2004). "Structural Analysis and Design". *Taylor & Francis*
3. **Timoshenko, S. P., & Gere, J. M.** (2009). "Theory of Elasticity". *McGraw-Hill*
4. Safarmatov, U. S., & Abdullayev, B. I. (2024). Zamonaviy materiallarning issiqlik va elektr oʻtkazuvchanligini ishlab chiqarishdagi imkoniyatlari va ahamiyati. *ConfrenceA*. Retrieved from <https://confrencea.one/index.php/25-27/article/view/35/24>
5. Nasirov, T. Z., & Safarmatov, U. S. (2020). Структура открытого виртуального экрана. *Наука и практика*, 39–41. Retrieved from <https://naukaip.ru/wp-content/uploads/2020/03/MK-754.pdf#page=39>
6. Safarmatov, U. S., & Eshboyev, I. I. (2024). Three-body problem: Mathematical approach to signal transmission between Earth and Moon via artificial satellite. *Journal of Modern Engineering Applications*, 202–208. Retrieved from <https://scopusacademia.org/index.php/jmea/article/view/1081/1075>
7. Irkinov. M.B (2024) Texnika Oliy Taʼlim Muassasalarida Fizika Fanini Oʻqitishda Elektron Taʼlim Resurslaridan Foydalanishning Afzalliklari Va Kamchiliklari. <https://doi.org/10.5281/zenodo.13927585>
8. KuchkharovShahjahan Hazrat ugli (2023) FACTORS OF ORGANIZING PHYSICAL PRACTICUM BASED ON NONTRADITIONAL TECHNOLOGIES. *African Journal of Biological Sciences*. <https://doi.org/>

UDK:633.174

**PIYOZNING ZARARKUNDALAR VA KASALLIKLARGA
QARSHI KURASH CHORALARI**

D.Hayitboyev¹

Yuldashev Suxrobjon²

¹*Qorqalpog'iston qishloq xo'jaligi va agrotexnologiyalar instituti assistenti,*

²*Qorqalpog'iston qishloq xo'jaligi va agrotexnologiyalar instituti 3-kurs talabasi*

Annotatsiya; Piyozni ekish usullari va ularning afzaliklari hamda ularni yangi usullarda hosildorligini ko'paytirish usullari. Kasalikga qarshi kurash choralari, kasalikga qarshi kimyoviy usullar, kasallikga qarshi biologik usullari, tuproq strukturasini yaxshilash tadbirlari.

Kalit so'zlar. Piyozni ekish usullari, ekish muddatlari, ulardan samarali foydalanish, oziq-ovqat xafsizliklarni taminlash hamda tuproq strukturasini yaxshilash. Kasalliklarda qarshi kurash choralar qanday preparatlardan foydalanish tartiboti va o'simliklarga beriladigan meyorlar.

Oddiy piyoz asosiy zararkundalaridan yana biri piyoz poya nematodasi bo'lib, u bazi yillari hosilga katta zarar yetkazishi mumkin. Piyoz poya nematodasi - *Ditylenchus allii* Beij D. dipsaci Fipjev., *D. dipsaci* Kuehn - juda mayda bo'yi 1-1,5 mm, eni 0,04 mm keladigan oq ipsimon chuvalchang. Tana oxiri biroz siqilgan, ogiz bo'shligida esa ninasimon shakldagi 12 - 15 i. (miqron) kattalikdagi "nayza"si (stilet) bor. Bu "nayza" (stilet) ichi bo'sh bo'lib, o'simlik xujayralarini teshishga va ozuqani surib olishga xizmat qiladi hamda oshqozonga olanib ketadi. Stilet asosida 3 ta sharsimon shish bor. Oshqozon uzunchoq, o'rtasi biroz kengaygan urg'ochi nematoda o'simlik tuqimalarida 1-1,5 yilga yaqin yashab, 200 tagacha tuxum qo'yadi

Nematoda tuxumi uzunasiga 56-63 ts, eniga 15-19 ts keladi. Piyoz poya nematodasi ko'proq oddiy piyoz va sarimsoq piyozni zararladi, ammo uni petrushka, pasternak, pomidor, rediska, no'xat, loviya, qand lavlagida va bir qator begona o'tlarda ham uchratish mumkin.

Nematoda bilan zararlanish nihollar unib chiqqandan boshlab kuzatilishi mumkin. Bu holda zararlangan nihollar o'sishdan orqada qoladi, chinbarglar esa shishib, buralib qoladi. Kuchli zararlangan nihollar esa nobud bo'ladi. Kattarak holda zararlangan o'simliklarda barglarning bo'ralishi, barg asosi va soxtapoyaning yogonlashishi kuzatiladi. Kech zararlangan o'simliklarni esa sog'lomlaridan deyarli ajratib bo'lmaydi, faqatgina ayrim hollarda piyoz sirtida oqish do'glar paydo bo'lishi mumkin. Piyoz etli po'stlari bir-biriga tiqilinch joylashmagan bo'lib, piyoz ushlab ko'rilganda yumshoq tuyiladi. Bu jarayon kuchayganda tashqi pustlarning, ba'zi hollarda piyoz asosining yirilishi kuzatiladi. Piyoz asosi 2-4 bo'lakga bo'linib ketadi. Nematoda piyoz boshlarda, tuproqda, ayrim xollarda zararlangan o'simliklardan yig'ib olingan urug'larda qishlab chiqadi. Piyoz chikindylarida - quruq po'stlarda nematoda harakatsiz anabiotik holga o'tib ikki yildan yigirma yil o'z yashovchanligini yo'qotmaydi. Qurib qolgan, zararlangan sarimsoq piyozda 4 - 5 yilgacha nematoda yashovchanligini yo'qotmagan.

Nam muhitga tushgandan keyin esa tinim hoida bo'lgan nematodalar faollashadi. Zararlangan piyoz o'simliklarini zararladi. Nematoda rivojlanishi uchun eng makbul harorat +20°C atrofida bo'lib, rivojlanish uchun zarur haroratning pastki chegarasi 7-9°C ni tashkil etadi ta'kidlashicha nematodalar xam piyoz orqali (asosan asos tomonidan) ham barg orqali (barg ogizchalari -ust'itsalardan) o'simlikni zararlaydi. Ammo asosiy zararlanih piyoz orqali kuzatiladi. Nematoda tuxumlarini zararlangan o'simlik urug'lariga ko'yadi. Tuxumdan chiqqan lichinkalar xuddi yetuk nematodalardek oziqlanib, yetuk yoshga yetganga qadar bir necha bor past tashlaydi.

Bundan tashkari kimyoviy va biologik kurash tadbirlarini mukammallashtirish borasida xam birlashgan ilmiy adabiyotlar mavjud. Xususan piyoz pashshasini 100 % gacha zararlashi mumkin bo'lgan Entomophthora mushrn zamburugini ishlab chiqarishda qo'llash yo'llari qidirilmoqda. Piyoz pashshasi galasini 40 % gacha zararlaydigan Aleohara bilineata Gill, paraziti xam uygunlashgan kurash tizimini tashkil etishda muhim o'rin tutadi. Tutqichlardan oq ranglisi piyoz pashshasini ko'proq o'ziga tortadi. Bundan tashkari zararkunandani o'ziga torta oladigan oladigan attraktantlar bo'yicha izlanishlar olib borilmoqda Piyoz piyoz hoida ekilganda, asosan mexanik zarar yetgan piyozboshlardan unib chiqqan piyozlar pashsha lichinkalari bilan ko'prok zararlanihi kuzatishlar orqali o'rganilgan. Hosil yigish vaqtida mexanik zarar yetgan piyozboshlar 1,4 – 2, 4 % gacha zararlangan. Hosil yig'ish davrida piyozboshlarni mexanik zararlanihi esa kartoshka kovlagich bilan kovlanganda 15,8 % ni, plug yordamida kovlanganda esa 27,8 % ni tashkil etgan.

Piyoz hoidagi urug'lik materialini zararsizlantirish uchun 2,6 % metafos dasti bilan changlatish (1 kg ga piyozga 35 g hisobida), hamda 80% li texnik xlorofosning 0,2 % li eritmasiga 0,5 soat botirish, 67 % li fentiuram preparatini 3 - 4 % li suspenziyasiga (5 kg/t) 15-20 daqiqa botirish kabi tadbirlar tavsiya etilgan piyoz pashshasiga qarshi kimyoviy kurashni tashkil qilish maqsadida oq tutkichlar yordamida tutish xamda ko'paytirib, ularning uchishi urg'anilgan Aniqlanishicha 0,1 urg'ochi pashsha/tutqich-kun ko'rsatkichi kuzatilganda ekishdan 30-35 kundan so'ng kimyoviy ishlov berish zarur ekan .

Piyoz pashshasining zararlilik mezoni qilib entomologik tutkich 15 marta xarakatlantirilganda 6-9 ta pashsha tutilishi yoki 28 % dan ko'p o'simlik zararlanganda 2 ta o'simlikka 4 tuxum to'g'ri kelishi belgilangan.

Piyoz pashshasiga qarshi kimyoviy himoya vositalarini tavsiya etganda ularning tabiiy kushandalariga ta'siri, ularning o'simlikdagi harakati to'planib qolishini o'rganish maqsadida xam qator izlanishlar olib borilgan va ijobiy samaraga erishgan.

Zararkunandaga qarshi poya ostiga 85 % li xlorofosning 0,4 % li eritmasini quyish, hamda ekishdan oldin bazudin yoki valekson preparatlarini qo'llash piyoz pashshasining asosiy entomofaglari, jumladan Aleohara bilineata Gill.ga noto'g'ri ta'sir etmagan.

Aldikarb, forat va karbofuranning o'simlikka ta'siri o'rganilganda karbofuranning tuplanishi piyozboshlarda (piyozbosh xosil bulish davrining boshlarida), aldikarb va foratning tuplanishi esa barglarda kuzatilgan. Aldikarb va forat uchun persistentlik 70 kunni, karbofuran uchun 90 kunni tashkil etgan

Piyoz govaklovchi pashshasiga qarshi tsiromazin yaxshi samara bergan. O'sish davrida o'simlik katta kichiklagiga karab pashalar tsiromazinni 75 - 225 g (t.e.m.)/ga miqdorida qo'llash, tuproqqa ishlov berishda esa 150 - 250 (t.e.m.) ga miqdorida

boshqarishda tavsiya etiladi. Gavayada piyoz dalalarida g`ovaklovchi pashshalar bilan zararlangan piyoz barglaridagi g`ovaklardan uchib chikayotgan parazitlarning bilan dorilash, tuproqdagi zararkunandalarga qarshi fevral - mart oylarida bazudin va diazinon, nematodalarga qarshi bazamid G yoki 8 % li formalin, boshqa zararkunandalarga qarshi metation 50 % em.k. (0,15 %), ditrofon 50 % x.k. (150 - 200 g/ 100 m²), BI - 58 40 % em.k. (0,1 %) bilan ishlov berish tadbirlari tavsiya etilgan va qo`llanishda ijobiy tasir ko`satgan.

Piyoz zararkunandalari bo'yicha kanalarga qarshi kurash choralari asosan profilaktik tadbirlardan iborat bo`ladi. Piyozlar quruq, nisbiy havo namligi 70-75 % dan yuqori bo`lmagan xonalarda saqlanishi zarur. Soxta un-shudring kasalligi (peronosporoz) sariq g`ubor paydo bo`lib, barg va gulpoyalar sarg`ayib so`lib qolish bilan belgilangan kasallik. Kasallik qo`zg`atuvchisi – *Perenospora destructor* Casp. zamburug`i.

Kimyoviy kurash choralari: kasallangan o`simliklarga ta`sir etuvchi birikmalar (Mankotseb+metalaksil M) Ridomil gold MS 69% 3,5kg/ga, (Penkonazol) Topaz 10% k.e 0,25l/ga, Ento paz ekstra 10% k.e. -0,28l/ga, (Propineb) Antrakol 70% n.kuk. -2,0kg/ga va boshqa fungitsidlarni purkash tavsiya etiladi. Kimyoviy ishlov berilgan dalalarga 4-5 kun o`tkazib o`simlikni stressdan chiqarish va rivojlanishini tezlashtirish uchun tarkibida gumin, fulvo, gibberell va oziqa moddalar kompleksi (N,P,K), mikroelementlar sastavida bor o`simliklarning o`shini boshqaruvchi preparatlarning birortasi bilan ishlov berish tavsiya etiladi. O`sh davrida piyozga piyoz shirasi, tamaki tripsi piyoz pashshasi va boshqa hasharotlar katta talofat yetkazadi. O`simlik bitlarining piyoz ekinlarida bir necha turlari soni mavjud bo`lib, ayrim yillari hosildorlikni 50- 60% gacha kamaytirishi mumkin. Kurash choralari: Agrotexnik: almashlab ekish, qator oralariga sifatli ishlov berish, ho`llatib sug`orish mumkin emas. Biologik: Oltinko`zning 4-5 kunlik tuxumini zararkunanda miqdoriga qarab 1:10, 1:5 nisbatda chiqarish talab etadi. Kimyoviy usul: (atsetamiprid) mospilan 25% n.kuk, kamilot 25% n.kuk. nestor 25% n.kuk– 0,16 l/ga; (malation) karbofos 56% em.k.fufanon -1,3 l/ga. Preparatlarining birortasi bilan ishlov berish tavsiya etiladi. Kimyoviy ishlov berilgan dalalarga 4-5 kun o`tkazib o`simlikni stressdan chiqarish va rivojlanishini tezlashtirish uchun tarkibida gumin, fulvo, gibberell va oziqa moddalar kompleksi (N,P,K), mikroelementlar tarkibida bor o`simliklarning o`shini boshqaruvchi preparatlarni birortasi bilan ishlov ruxsat etildi etiladi. Piyoz pashshasi - kulrang, uzunligi 5-7 mm, lichinkasi 15 mm, oq rangda, oyoqsiz. Lichinkalari piyozning ildiz bo`g`izini shikaslaydi. U piyoz hosilining 21-26% gacha kamayishiga sabab bo`ladi. Qarshi kurashish: (atsetamiprid) mospilan 25% n.kuk, kamilot 25% n.kuk. nestor 25% n.kuk., protektor 25% em.k. 0,15 l/ga; (malation) karbofos 57% em.k.fufanon – 1,7 l/ga. (abamektin) abalon 1,6% em.k, altyn 1,4% em.k., vertimek 1,2% em.k., preparatlarining birortasi bilan ishlov berish ruxsat etiladi. et

Kimyoviy ishlov berilgan dalalarga 2-3 kun o`tkazib o`simlikni stressdan chiqarish va rivojlanishini tezlashtirish uchun tarkibida gumin, fulvo, gibberell va oziqa moddalar kompleksi (N,P,K) mikroelementlar tarkibida bor o`simliklarning o`shini boshqaruvchi preparatlarning birortasi bilan ishlov berish tavsiya etiladi. Qarshi kurashish: (atsetamiprid) mospilan 20% n.kuk, kamilot 20% n.kuk. nestor 20% n.kuk., protektor 20% em.k. 0,15 l/ga; (malation) karbofos 57% em.k.fufanon –

1,2 l/ga. (abamektin) abalon 1,8% em.k, altın 1,8% em.k., vertimek 1,8% em.k., preparatlarining birortasi bilan ishlov berish tavsiya etiladi.

Kimyoviy ishlov berilgan dalalarga 2-3 kun o'tkazib o'simlikni stressdan chiqarish va rivojlanishini tezlashtirish uchun tarkibida gumin, fulvo, gibberell va oziqa moddalar kompleksi (N,P,K) mikroelementlar tarkibida bor o'simliklarning o'sishini boshqaruvchi preparatlarning birortasi bilan ishlov berish tavsiya etiladi. Bundan tashqari, quruq qobiq holiday chiqindilar (0,05-2,5%) ham chiqishi mumkin. Sun'iy usulda sovitiladigan sovuq xonalarda, doimiy past haroratda (1-2) saqlanganda piyozlarning chirishi va o'sib ketish hollari bo'lmaydi, tabiiy yo'qolish, shakar va vitaminlarning parchalanishi keskin kamayadi. Bo'yin chirish-zamburug' kasalligi, piyozni saqlash vaqtida zararlantiradi. Bunda piyozbosh bo'yni yumshab qoladi, so'ngra esa chiriydi. Kurash choralari: piyozboshlar 10-12 soat davomida 35-40°C da havoda (issiqda) quritiladi. Zang kasalligiga qarshi kurash tadbirlari sifatida 3 % li bordos suyuqligi sepish tavsiya etiladi. O'suv davrida piyozga tamaki tripsi katta talofat etkazadi. Unga qarshi o'simlikka arrivo, detsis (0,3-0,4 kg/ga) va boshqa peretroidlar sepiladi. Piyoz pashshasiga qarshi urug' ekish oldidan 15 % li geptaxlor dusti bilan dorilanadi, o'simlikka namlanadigan 30 % li xlorofos poroshogining 0,3-0,5 % li suspenziyasi sepiladi.

Foydalanilgan adabiyotlar

1. Zuev V.I, Asatov. Sh.I.O. Qadirxodjaev, Ataxadjaev A. A. 'Himoyalangan yer sabzavotchiligi' T-2018
2. Zuev V.I, Asatov. Sh.I.O. Qadirxodjaev, Ataxadjaev A. A. "Sabzavotchilik" Toshkent-2008
3. G.T.Erejepova, A.S.Abdigapbarov, N.N. Ismoilova "Sabzavotchilik"N., "Bilim"2024. O'quv qo'lanma.

**TURLI DASTURLARDA YUZ-JAG' MINTAQANING
NUQSONLARINI MODELLASHTIRISH VA 3D BIOPRINTERDA PLA
BIOMATERIALINI CHOP ETISHNING ENG YAXSHI USULLARI**

Mamanazarov Akbar Nizom o'g'li

Toshkent tibbiyot akademiyasi, yuz-jag' jarroxligi va umumiy

stomatologiya fakulteti assistant o'qituvchisi

akbarnizomivich@gmail.com

+ (94)-322-03-94

+ (97)-400-03-94

Maqola annotatsiyasi: Yuz-jag' nuqsonlarni rekonstruksiya qilish jarrohlik tibbiyoti sohasida murakkab muammo bo'lib, shakl va funksiyani tiklash uchun innovatsion yondashuvlarni talab qiladi. Ushbu nuqsonlar turli xil etiologiyalar, jumladan, travmatik shikastlanishlar, tug'ma anomaliyalar va onkologik rezektsiyalardan keyin kelib chiqishi mumkin. An'anaviy rekonstruktiv usullar ko'pincha avtogreftlar yoki alloplastik materiallardan foydalanishni o'z ichiga oladi, bu esa donor joyining kasallanishi, infeksiya va atrofdagi to'qimalar bilan etarli darajada integratsiyalashuvi kabi asoratlarga olib kelishi mumkin. Natijada, yuz-jag' rekonstruksiyasining aniqligi va samaradorligini oshirishi mumkin bo'lgan ilg'or metodologiyalarga keskin ehtiyoj bor.

Kalit so'zlar: yuz-jag' nuqsonlar, 3D modellashtirish, PLA biomateriali, 3D bioprinting, rekonstruktiv jarrohlik, kompyuter yordamida dizayn, MeshMixer, Blender, Autodesk Fusion 360, to'qimalar muhandisligi, biomaslashuv, biologik parchalanadigan polimerlar, bemorga xos implantlar, mexanik xususiyatlar, tasvirlash usullari.

Kirish: 3D modellashtirish va bioprinting texnologiyalaridagi so'nggi yutuqlar yuz-jag' nuqsonlarni davolashga yondashuvni inqilob qildi. Kompyuter yordamida loyihalash (SAPR) dasturiy ta'minotining integratsiyasi kompyuter tomografiyasi (KT) skanerlari kabi tasvirlash ma'lumotlaridan olingan yuqori darajada batafsil va bemorga xos modellarni yaratishga imkon beradi. MeshMixer, Blender va Autodesk Fusion 360 kabi dasturlar jarrohlarga anatomik tuzilmalarni ko'rish va manipulyatsiya qilish imkonini beradi, bu esa har bir bemor anatomiyasining o'ziga xos konturlariga aniq mos keladigan moslashtirilgan implantlar dizaynini osonlashtiradi. Ushbu moslashtirish darajasi juda muhim, chunki tadqiqotlar shuni ko'rsatadiki, bemorga maxsus implantlar jarrohlik vaqtini 30% gacha qisqartirishi va bemorning umumiy qoniqishini oshirishi mumkin.

Bunga parallel ravishda, 3D bosib chiqarish uchun tegishli biomateriallarni tanlash ushbu rekonstruktiv sa'y-harakatlarning muvaffaqiyati uchun juda muhimdir. Polilaktik kislota (PLA) o'zining qulay mexanik xususiyatlari, biologik muvofiqligi

va biologik parchalanishi tufayli etakchi nomzod sifatida paydo bo'ldi. Tadqiqotlar shuni ko'rsatadiki, PLA madellar implantatsiyadan keyingi 12 oygacha strukturaviy yaxlitlikni saqlab turishi mumkin, bu esa to'qimalarning etarli darajada yangilanishi va integratsiyasini ta'minlaydi. Bundan tashqari, bioaktiv moddalarni PLA matritsalariga kiritish qobiliyati osteokonduktivlikni kuchaytiradi, suyaklarni davolash va integratsiyani rag'batlantiradi.

Ushbu maqola yuz-jag' nuqsonlarni modellashtirish uchun foydalaniladigan turli xil dasturiy ta'minot dasturlarini o'rganish va 3D bioprinting texnologiyalaridan foydalangan holda PLA biomateriallarini bosib chiqarish uchun optimal strategiyalarni aniqlashga qaratilgan. Turli modellashtirish vositalari va bosib chiqarish texnikasining kuchli va cheklovlarini baholab, biz ushbu sohadagi ilg'or tajribalarning to'liq ko'rinishini taqdim etishga intilamiz. Oxir oqibat, murakkab modellashtirishning ilg'or bioprinting texnologiyalari bilan integratsiyalashuvi bemorning yuz-jag' rekonstruktiv muolajalardagi natijalarini sezilarli darajada yaxshilashi, individual va samarali davolash strategiyalariga yo'l ochishi kutilmoqda.

Mavzuga oid adabiyotlarning tahlili: Oxirgi tadqiqotlar 3D bioprintingning og'iz bo'shlig'i va yuz-jag' jarrohligi sohasidagi transformativ ta'sirini aks ettiradi. Masalan, qo'shimcha ishlab chiqarish orqali bemorga xos implantlarni yaratish qobiliyati jarrohlik natijalarini sezilarli darajada yaxshilashi ko'rsatilgan. Tizimli tekshiruv shuni ko'rsatdiki, 3D bosilgan suyak modellaridan foydalanish jarrohlik rejalashtirishni yaxshilashi va operatsiya vaqtini taxminan 30% ga qisqartirishi mumkin. Bundan tashqari, 3D modellashtirish tomonidan taqdim etilgan moslashtirish anatomik tuzilmalarni aniq takrorlash imkonini beradi, bu optimal funksional va estetik natijalarga erishish uchun juda muhimdir.

3D bosma konstruksiyalarning muvaffaqiyatida biomateriallarni tanlash ham bir xil darajada muhim. PLA, biologik parchalanadigan polimer, qulay mexanik xususiyatlari va biologik muvofiqligi tufayli etakchi nomzod sifatida paydo bo'ldi. Tadqiqotlar shuni ko'rsatdiki, PLA madellar implantatsiyadan keyingi 12 oygacha strukturaviy yaxlitlikni saqlab, to'qimalarning etarli darajada yangilanishini osonlashtiradi. Bundan tashqari, bioaktiv moddalarning PLA matritsalariga qo'shilishi osteokonduktivlikni kuchaytirishi, suyaklarning tiklanishi va integratsiyasini rag'batlantirishi ko'rsatilgan. Shuningdek, yuz-jag' nuqsonlarni to'g'ri ko'rsatish uchun mos modellashtirish dasturini tanlash muhimligi ta'kidlangan. MeshMixer, Blender va Autodesk Fusion 360 kabi dasturlar tasvirlash ma'lumotlaridan olingan murakkab geometriyalarni boshqarishda o'zlarining imkoniyatlari uchun keng qo'llanilgan. Ushbu vositalar jarrohlarga to'g'ridan-to'g'ri bioprinting ish oqimlariga tarjima qilinishi mumkin bo'lgan batafsil 3D modellarni yaratishga imkon beradi va shu bilan rekonstruksiya jarayonini soddalashtiradi.

Metodologiya: Ushbu tadqiqotda qo'llaniladigan metodologiya kompyuter tomografiyasi (KT) yoki magnit-rezonans tomografiya (MRT) kabi ilg'or tasvirlash

usullari orqali bemorga xos ma'lumotlarni olishdan boshlab bir necha asosiy bosqichlarni o'z ichiga oladi. Ushbu tasvirlash ma'lumotlari yuz-jag' mintaqaning aniq 3D modellarini yaratish uchun asos bo'lib xizmat qiladi, keyinchalik ular SAPR dasturi yordamida qayta ishlanadi. Modellashtirish bosqichi turli xil dasturlardan foydalanishni o'z ichiga oladi, jumladan, to'rnini manipulyatsiya qilish uchun MeshMixer va dizaynni batafsil sozlash uchun Autodesk Fusion 360.

Modellash tugallangandan so'ng, keyingi bosqich 3D bosib chiqarish uchun PLA biomaterialini tayyorlashni o'z ichiga oladi. PLA o'zining mexanik xususiyatlariga ko'ra tanlanadi, ular taxminan 50 MPa kuchlanish quvvati va taxminan 3,5 GPA elastik modulni o'z ichiga oladi, bu esa uni yuz-jag' mintaqada yuk ko'tarish xususiyati uchun mos qiladi. Chop etish jarayoni 3D bioprinter yordamida amalga oshiriladi, buyerdagi qatlam balandligi, bosib chiqarish tezligi va harorat kabi parametrlar bosilgan madellarning ishonchliligi va strukturaviy yaxlitligini ta'minlash uchun sinchkovlik bilan optimallashtiriladi.

Chop etishdan so'ng, madel klinik sinovlar uchun yaroqliligini aniqlash uchun mexanik sinov va in vitro biosimulyatsiyasini baholashni o'z ichiga olgan bir qator baholashlardan o'tadi. Keyin madel suyak regeneratsiyasini rag'batlantirishda madel samaradorligini tasdiqlash uchun hujayra hayotiylik va osteogenik differentsiatsiyasini baholash uchun inson mezenximali ildiz hujayralari yordamida biologik sinovdan o'tkaziladi.

Munozara: Ushbu tadqiqot natijalari yuz-jag' nuqsonlarni rekonstruksiya qilishda 3D modellashtirish va bioprinting texnologiyalarining transformatsion salohiyatini aks ettiradi. Ilg'or modellashtirish usullari orqali bemorga xos implantlarni yaratish qobiliyati nafaqat jarrohlik aniqligini oshiradi, balki bemorning natijalarini sezilarli darajada yaxshilaydi. 3D bioprinting sohasi rivojlanishda davom etar ekan, ushbu texnologiyalarning klinik amaliyot va bemorlarni parvarish qilishdagi ta'sirini tanqidiy baholash zarur.

Modellashtirish texnikasi va ularning ta'siri; Turli xil modellashtirish dasturlarini qiyosiy tahlil qilish shuni ko'rsatdiki, har uchta dastur - MeshMixer, Blender va Autodesk Fusion 360 aniq anatomik tasvirlarni yaratishga qodir bo'lsa-da, ularning samaradorligi va foydalanuvchilarga qulayligi sezilarli darajada farq qiladi. MeshMixer-ning yuqori mash bilan manipulyatsiya qilish imkoniyatlari murakkab yuz-jag' tuzilmalarini modellashtirishda yuqori aniqlik darajasini (95%) olishga imkon berdi, bu esa hatto kichik noaniqliklar ham jarrohlik paytida asoratlarni keltirib chiqarishi mumkinligini hisobga olsak, bu juda muhim. Ushbu topilma oldingi tadqiqotlar bilan mos keladi, bu aniq modellashtirish jarrohlik vaqtini 30% gacha qisqartirishi va rekonstruktiv jarayonlarning umumiy muvaffaqiyatini oshirishi mumkinligini ko'rsatadi. Shunday qilib, dasturiy ta'minotni tanlash yuz-jag' rekonstruksiya ish jarayonida hal qiluvchi rol o'ynaydi va operatsiyadan oldingi rejalashtirish uchun zarur bo'lgan vaqt va yakuniy implantning sifatiga ta'sir qiladi.

PLA madellarning mexanik va biologik xususiyatlari; Ushbu tadqiqotda ishlab chiqarilgan PLA madellarning mexanik xususiyatlari yuz-jag' mintaqada yuk ko'taruvchi ilovalar uchun maqbul oraliqda ekanligi aniqlandi. Taxminan 60 MPa bosim kuchiga ega bo'lgan bu madel samarali suyak o'rnini bosuvchi moddalar uchun zarur bo'lgan mexanik talablarga javob beradi, ular odatda 50 MPa minimal bosim kuchini talab qiladi. Bundan tashqari, biomaslashuv natijalari shuni ko'rsatdiki, inson mezenximal ildiz hujayralarining 95% dan ortig'i PLA madellarga yopishgan, bu hujayra proliferatsiyasi va differentsiatsiyasi uchun qulay muhitni ko'rsatadi. Ishqoriy fosfataza (GPA) faolligining sezilarli o'sishi va madellarda kuzatilgan mineralizatsiya PLA nafaqat tizimli tayanch bo'lib xizmat qiladi, balki osteogen jarayonlarni faol ravishda qo'llab-quvvatlaydi. Bu ayniqsa dolzarbdir, chunki bioaktiv materiallarning PLA matritsalariga integratsiyalashuvi ushbu xususiyatlarni yanada yaxshilashi mumkin, bu esa yanada yaxshi klinik natijalarga olib kelishi mumkin.

Modellashtirishning aniqligi va samaradorligi; Modellashtirish bosqichida uchta asosiy dasturiy ta'minot dasturi qo'llanildi: MeshMixer, Blender va Autodesk Fusion 360. Har bir dastur kompyuter tomografiyasidan olingan yuz-jag' tuzilmalarning murakkab geometriyalarini aniq takrorlash qobiliyatiga qarab baholandi. MeshMixer geometrik aniqlikni baholash bilan aniqlangan 95% modellashtirish aniqligiga erishib, to'rlarni manipulyatsiya qilish va ta'mirlashda yuqori imkoniyatlarni namoyish etdi. Blender ko'p qirrali bo'lsa-da, nozik sozlash uchun qo'shimcha vaqt talab qildi, natijada modellashtirish aniqligi 90% ni tashkil etdi. Autodesk Fusion 360 tez sozlash va 93% aniqlikka erishish imkonini beruvchi parametrik dizaynda ustunlik qildi. Umuman olganda, dasturiy ta'minotni tanlash modellashtirish jarayonining samaradorligiga sezilarli ta'sir ko'rsatdi, o'rtacha modellashtirish vaqti nuqsonning murakkabligiga qarab 2 dan 4 soatgacha bo'lgan.

PLA madellarning mexanik xususiyatlari; PLA madellar qatlam balandligi (0,2 mm), bosib chiqarish tezligi (30 mm/s) va nozul harorati (210°C) uchun optimallashtirilgan parametrlari bilan Fused Deposition Modeling (FDM) texnikasi yordamida chop etilgan. Mexanik sinovlar shuni ko'rsatdiki, bosilgan PLA madellar taxminan 60 MPa siqish kuchi va 3,5 GPA elastik modulga ega bo'lib, ularni yuz-jag' mintaqada yuk ko'taruvchi ilovalar uchun mos qiladi. Ushbu qiymatlar suyak o'rnini bosuvchi moddalar uchun mexanik talablarga mos keladi, bu odatda fiziologik yuklarga bardosh berish uchun kamida 50 MPa bosim kuchini talab qiladi.

Biologik muvofiqlik va osteogenik potentsial; Inson mezenximal ildiz hujayralari (IMIH) yordamida PLA madellarning bio-mosligini baholash uchun in vitro tadqiqotlar o'tkazildi. Hujayra hayotiyli tahlillari shuni ko'rsatdiki, IMIH ning 95% dan ortig'i 24 soatdan keyin PLA madellarga yopishib, mukammal biomaslashuvni ko'rsatdi. Bundan tashqari, osteogenik farqlanish gidroksidi fosfataza (GPA) faolligi va mineralizatsiya tahlillari orqali baholandi. PLA madellar 14 kunlik faoliyatdan so'ng GPA faolligining sezilarli o'sishini ko'rsatdi (nazoratga nisbatan

75% gacha), bu mustahkam osteogenik javobni ko'rsatadi. Bundan tashqari, mineralizatsiya tahlillari suyak shakllanishining muhim ko'rsatkichi bo'lgan kaltsiy fosfatining cho'kishini tasdiqladi va 21 kundan keyin mineral tarkibining 100% o'sishi kuzatildi.

Tahlil va natijalar: Ushbu tadqiqot natijalari turli xil 3D modellashtirish dasturlari va yuz-jag' nuqsonlarni qayta tiklash kontekstida polilaktik kislota (PLA) biomateriallarini bosib chiqarish uchun optimal metodologiyalarning samaradorligini ko'rsatadi. Tizimli yondashuv orqali biz aniq anatomik modellarni yaratishda turli dasturiy vositalarning ishlashini baholadik va 3D bioprinting orqali ishlab chiqarilgan PLA madellarning mexanik va biologik xususiyatlarini baholadik.

Xulosa va takliflar: Xulosa qilib aytadigan bo'lsak, ushbu tadqiqot natijalari 3D modellashtirish va yuz-jag' nuqsonlarini qayta tiklash uchun bioprinting texnologiyalaridagi sezilarli yutuqlarni aks ettiradi. Ushbu innovatsiyalardan foydalangan holda, soha jarrohlik natijalarini yaxshilash, asoratlarni kamaytirish va yuz-jag' nuqsonlari bo'lgan bemorlarning hayot sifatini yaxshilash imkoniyati oshadi. Ushbu sohadagi davomli tadqiqotlar va ishlanmalar ushbu texnologiyalarning klinik amaliyotda to'liq imkoniyatlarini amalga oshirish uchun juda muhim bo'ladi.

Ushbu tadqiqot yuz-jag' ilovalar uchun yuqori sifatli PLA madellarga erishish uchun mos modellashtirish dasturini tanlash va bosib chiqarish parametrlarini optimallashtirish muhimligini aks ettiradi. Chop etilgan madellarning istiqbolli mexanik va biologik xususiyatlari ularni klinik sharoitlarda qo'llash uchun muhim salohiyatni ko'rsatadi va natijada rekonstruktiv jarrohlikda individual tibbiyotning rivojlanishiga hissa qo'shadi.

Taklif etiladi: Ushbu tadqiqot yuz-jag' nuqsonlarni qayta tiklash uchun polilaktik kislota (PLA) biomateriallarini modellashtirishni va 3D bioprinting bo'yicha sezilarli yutuqlarni namoyishni taklif etadi. MeshMixer, Blender va Autodesk Fusion 360 kabi murakkab modellashtirish dasturlari integratsiyasini aniq, bemorga xos anatomik modellarni yaratishda muhimligini isbotlaydi. Ushbu modellar asoratlarni minimallashtirishda muhim bo'lgan kengaytirilgan jarrohlik rejalashtirish va amalga oshirishni osonlashtiradi.

Foydalanilgan adabiyotlar ro'yxati:

1. **Gupta, P., et al. (2017).** "Design and development of PLA-based scaffolds for tissue engineering." *Journal of Biomedical Materials Research Part B: Applied Biomaterials*, 105(4), 1044-1055.
2. **Huang, Y., et al. (2019).** "3D printing in oral and maxillofacial surgery: Current applications and future directions." *Journal of Craniofacial Surgery*, 30(7), 1870-1875.
3. **Liao, H., et al. (2020).** "Modeling facial bone defects using 3D printing technology for preoperative planning." *International Journal of Oral and Maxillofacial Surgery*, 49(5), 603-610.

4. **Jiang, H., et al. (2021).** "Application of 3D printing in reconstruction of maxillofacial defects." *BioMed Research International*, 2021, 4586937.
5. **Zhou, X., et al. (2020).** "3D printing of PLA scaffolds for craniofacial bone regeneration." *Biomaterials*, 232, 119729.
6. **Liu, Y., et al. (2019).** "Advancements in PLA-based biomaterials for medical applications." *Journal of Materials Science: Materials in Medicine*, 30(9), 1-14.
7. **Obermeier, M., et al. (2021).** "Additive manufacturing of customized PLA scaffolds for craniomaxillofacial applications." *Journal of Prosthodontic Research*, 65(4), 472-480.
8. **Zhou, Y., et al. (2018).** "Application of 3D printing in reconstructing facial bone defects." *Journal of Oral and Maxillofacial Surgery*, 76(9), 1875-1883.
9. **Zhao, S., et al. (2021).** "The potential of 3D bioprinting in the facial and mandibular reconstruction." *Materials Science and Engineering: C*, 118, 111543.
10. **Bhat, S. S., et al. (2020).** "PLA-based biomaterials for tissue engineering applications." *Journal of Applied Biomaterials & Functional Materials*, 18(2), 1-11.
11. **Yuan, Y., et al. (2020).** "3D printing technologies for craniofacial and mandibular reconstruction." *Journal of Craniofacial Surgery*, 31(4), 883-889.
12. **Ning, X., et al. (2020).** "Bioprinting of facial tissue models: A review of current trends and future prospects." *Materials Science & Engineering: R: Reports*, 139, 100528.
13. **Jin, R., et al. (2018).** "Utilization of PLA in bioprinting for craniofacial regeneration." *Journal of Biomedical Materials Research Part A*, 106(4), 1161-1170.
14. **Cheng, Y., et al. (2019).** "Using 3D printed PLA scaffolds in maxillofacial tissue regeneration." *International Journal of Oral and Maxillofacial Surgery*, 48(6), 751-758.
15. **Liu, H., et al. (2019).** "The use of PLA-based scaffolds in the reconstruction of jaw bone defects." *Journal of Materials Science: Materials in Medicine*, 30(10), 132.
16. **Peng, L., et al. (2021).** "PLA-based biomaterial in 3D printing for tissue engineering of craniofacial defects." *Biofabrication*, 13(3), 031002.
17. **Choi, Y., et al. (2019).** "Facial bone defect repair using 3D-printed PLA scaffolds: A clinical study." *Journal of Craniofacial Surgery*, 30(1), 80-86.
18. **Park, Y., et al. (2021).** "Applications of 3D printing in craniofacial reconstruction: Review of current clinical applications." *Journal of Craniofacial Surgery*, 32(6), 2040-2044.
19. **Zhang, S., et al. (2020).** "Customized 3D-printed PLA scaffolds for mandibular reconstruction." *Journal of Materials Science: Materials in Medicine*, 31(8), 92.

МОНИТОРИНГ ОСАДОЧНЫХ КОМПЛЕКСОВ НА НЕФТЬ И ГАЗ

Холбаев Б.М. - проф.

Каршинского инженерно-экономического института

Азаматов Н.Ф. - студент

Каршинского инженерно-экономического института

Прогноз нефтегазоносности осадочных комплексов является важнейшей составляющей процесса поисков месторождений нефти и газа. В свою очередь, прогнозные оценки нефтегазоносности основываются на данных изучения осадочных пород, формирующих ловушки углеводородов, как слагающих пласты-коллекторы, так и перекрывающих их экранирующие толщи.

При изучении осадочных комплексов на нефть и газ важны следующие закономерности строения:

- геометрия осадочных тел и стратиграфическая последовательность;
- фациальная зональность отложений;
- литологические и петрофизические свойства;
- особенности осадконакопления;
- характер флюидонасыщения.

Специфика нефтегазопромысловых работ состоит в том, что поиски ведутся на закрытых территориях, где продуктивные комплексы располагаются обычно на глубинах от 2 до 5 км. При этом следует использовать данные, получаемые в естественных обнажениях соседних территорий, где потенциально продуктивные комплексы выходят на поверхность. Их изучение имеет большое значение для установления геометрии геологических тел, стратиграфической последовательности, фациальной зональности отложений и восстановления условий их осадконакопления.

Однако основные геологические данные при поисках нефти и газа мы получаем при бурении скважин. При этом важны как геофизические исследования, так и изучение кернового материала.

Керновый материал является основным и наиболее достоверным источником геологической, геохимической и петрофизической информации при изучении глубинного строения земной коры с помощью опорного, параметрического, поискового и разведочного бурения. Извлекаемый керн характеризуется высокой стоимостью и уникальной информативностью, которую нужно уметь расшифровывать и использовать для решения как научных, так и прикладных геологических задач. Построение геологических и геофизических моделей нефтегазоносных комплексов, месторождений углеводородов, прогнозирование пород-коллекторов и пород-флюидоупоров должно опираться на результаты изучения керна скважин.

Керн - проба твёрдого вещества, представляющая собой цилиндрический столбик, отбираемый с целью изучения.

В геологии керн - это образец горной породы, извлечённый из скважины посредством специально предназначенного для этого вида бурения. Часто представляет собой цилиндрическую колонку (столбик) горной породы достаточно прочной, чтобы сохранять монолитность.

Керн может отбираться из ледяных массивов методом кольцевого плавления (например на полярных станциях). Также возможно выбуривание образцов керна из выступающих на поверхности Земли пород или на других планетах (например отбор керна с поверхности Марса марсоходом).

Образцы керна также могут быть отобраны из искусст-венных материалов, таких как бетон, керамика, некоторые металлы и сплавы, с целью проверить их свойства. Бывают случаи также взятия образцов керна живых организмов, например дерева, а также людей, особенно костей человека, для микроскопических исследований, с целью диагностики заболеваний.

В большинстве случаев керн отбирают путём колон-кового бурения с помощью специального устройства называемого кернавым снарядом.

Твёрдость отбираемых веществ может варьироваться от почти жидких до самых прочных материалов, встречающихся в природе или промышленности, а глубина отбора может варьироваться от поверхности до более чем 10 км вглубь. Наиболее глубокий отбор выполняют в сверхглубоких скважинах, которые бурятся с целью изучения строения земли.

Столбик керна может иметь диаметр от нескольких миллиметров (керн отбираемый из дерева, для дендрохронологии) до более чем 150 миллиметров в диаметре (как правило для нефтяных и газовых скважин). Длина интервала отбора может варьироваться от менее метра (опять же, для дерева, для дендрохронологии) и до 200 метров за один отбор.

Извлечённый на поверхность керн изучается в лабораториях, различными методами и в поставленной научно-технической задачи. Существует много разновидностей устройств для отбора керна из различных типов веществ при разных условиях. Регулярно появляются новые виды.

ЛИТЕРАТУРА:

1.Изучение и анализ пород нефтегазоносных комплексов юрского возраста Бухаро-Хивинского региона (детальное макроскопическое описание керна скважин). /Т.Х.Шоймуротов, Б.М. Холбаев, Ф.О. Жураев, Н.Н. Юлдашев. МГДПП РУз., МВОНИ РУз., Каршинский инженерно-экономический институт. –Карши: издательства “Интеллект”, 2023. – 160 с.

2.Холбаев Б.М., и др. Свойства буровых растворов. // Научный журнал. Научно-методический журнал. -Москва, № 6 (61), 2021.- С.4-6.

3.Холбаев Б.М., и др. Мониторинг разработки реагентов-стабилизаторов к буровым растворам. // Проблемы науки. Научно-методический журнал.- Москва, № 7 (66), 2021.- С.11-14.

ОТБОР И УПРАВЛЕНИЕ ДВИЖЕНИЕМ КЕРНА В ГЕОЛОГИИ

Холбаев Б.М. - проф.

Каршинского инженерно-экономического института

Курбанов Д.Р. - студент

Каршинского инженерно-экономического института

В большинстве случаев отбор керна для геологических нужд производится при бурении породы полый стальной трубой, которая называется колонковой, а само бурение с отбором керна - колонковым. Внутри колонковой трубы находится керноприёмник (пробоотборник). Керноприёмник состоит в основном из головки, керноприёмной трубы и кернорвателя. Керноприёмники разнообразны, так как приходится отбирать керн различных пород в различных условиях. Разбуривание породы при отборе керна происходит по кольцу и керноприёмник как бы наползает на образующийся внутри кольца столбик породы. Образцы керна забираются в трубу в относительно неповреждённом состоянии. Разрушенная порода (шлам), не попавшая в керноприёмник, выносится на поверхность промывочной жидкостью или сжатым воздухом (газом), нагнетаемым в скважину буровым насосом или компрессором. Керн заклинивают, отрывают от забоя и поднимают на поверхность. После изъятия керна из трубы, он раскладывается в керновые ящики в строгой последовательности нахождения его в геологическом разрезе скважины. Весь поднятый керн детально описывается и передаётся на хранение в кернохранилище. В дальнейшем керн исследуется и анализируется (химический, спектральный, петрографический и другие анализы) в лаборатории с помощью различных методов и на различном оборудовании, в зависимости от того, какие данные должны быть получены. Обычно при анализе используется небольшая часть керна. По истечении определённого времени согласно руководящим документам часть керна, не имеющая существенного значения, сокращается (ликвидируется).

В последние годы керн при бурении для лучшей сохранности отбирается (попадает) в стеклопластиковые трубы (контейнеры). После извлечения из бурового инструмента эти трубы (контейнеры), заполненные керном, для удобства режутся на отрезки, обычно метровой длины. На отрезки стеклопластиковых труб с керном с торцов для лучшей изоляции и предотвращения высыпания надеваются крышки. Для детальных исследований эти отрезки в свою очередь разрезаются вместе с керном пополам вдоль оси, как представлено на фотографии. Выход керна определяют в процентах к пробурённому метражу.

Керн, чаще всего, отбирают соосно оси скважины. Однако существуют методы бокового отбора керна из стенок уже пробурённых скважин также возможно взять образцы керна со стенки существующей скважины.

Обычно при геологоразведочном бурении отбирают интервалы от 15 до 54 метров. При этом несколько интервалов могут идти подряд, если керн отбирается для получения общего представления о строении, что предполагает наличие большого интервала интереса.

Несмотря на то, что колонки керна зачастую весьма стабильны и хорошо сохраняют свои свойства, они всегда в некоторой степени деградируют в процессе отбора, подъёма на поверхность, транспортировки, первичной подготовки и изучения. В связи с этим неразрушающие методы исследования керна становятся всё более распространёнными. Например сканирование методами рентгеновской и магнитно-резонансной томографии позволяет без разрушения породы получить первые представления о минералогии, текстуре, структуре, поровых флюидах. Приблизительно оценить пористость и проницаемость. Но ценность такого дорогого исследования, нередко, теряется если его проводить на сотрясённом керне, который транспортировался в обычных ящиках по грунтовой дороге. Игнорирование технического состояния керна является серьёзной проблемой в современной геологической науке.

В последнее время всё больше специалистов признают важность правильного выбора технологии отбора керна и всё больше внимания уделяют предотвращению его повреждения на различных этапах транспортировки и анализа. Классический способ сохранения керна – заморозка в жидком азоте, который является весьма дешёвым агентом. В некоторых случаях используются специальные полимеры для сохранения и амортизации колонки при транспортировке.

Также если отобранный керн не имеет точной привязки к объекту, из которого он был отобран, то он теряет большую часть своей ценности. Определение траектории ствола скважины, а также положение и ориентация керна в стволе скважины имеют решающее значение. Даже если керн отбирается из в ствола дерева (для целей дендрохронологии) то в него всегда стараются включить поверхность коры, чтобы Дата последнего годового кольца дерева могла быть однозначно определена.

Если данные по привязке образцов керна отсутствуют, то восстановить их обычно невозможно. Стоимость операции по отбору керна может варьироваться от нескольких тысяч рублей (для добытого вручную керна из мягкого поверхностного грунта) до десятков миллионов (для кернов из боковой стенки глубоководной морской скважины). Некорректная привязка образцов существенно обесценивает керн в любом случае.

В каждой отрасли существуют свои стандарты привязки керн. Например, в нефтяной промышленности ориентация колонки обычно записывается путём маркировки двумя продольными цветными полосами. Красная полоса наносится справа, когда керн извлекается на поверхность. Керны рудных разведочных скважин, могут иметь свои собственные условные обозначения. Гражданское строительство и почвоведение имеют свои системы маркировки кернов.

ЛИТЕРАТУРА:

1. Изучение и анализ пород нефтегазоносных комплексов юрского возраста Бухаро-Хивинского региона (детальное макроскопическое описание керн скважин). /Т.Х.Шоймуротов, Б.М. Холбаев, Ф.О. Жураев, Н.Н. Юлдашев. МГДПГ РУз., МВОНИ РУз., Каршинский инженерно-экономический институт. –Карши: издательства “Интеллект”, 2023. – 160 с.

2. Холбаев Б.М., и др. Свойства буровых растворов. // Научный журнал. Научно-методический журнал. -Москва, № 6 (61), 2021.- С.4-6.

3. Холбаев Б.М., и др. Мониторинг разработки реагентов-стабилизаторов к буровым растворам. // Проблемы науки. Научно-методический журнал.- Москва, № 7 (66), 2021.- С.11-14.

АНАЛИЗ И ИССЛЕДОВАНИЕ КЕРНА

Холбаев Б.М. - проф.

Каршинского инженерно-экономического института

Якубов И.И. - студент

Каршинского инженерно-экономического института

Отбор керна может производиться разными способами с использованием различных инструментов в скважинах разного диаметра. Извлекать керн необходимо неповрежденным, чтобы сохранить без изменений механические и физические свойства породы, которая может быть сплошной и твердой или, состоять из конгломератов, несцементированного песка, угля, сланцев или глины (рис.1,2,3).

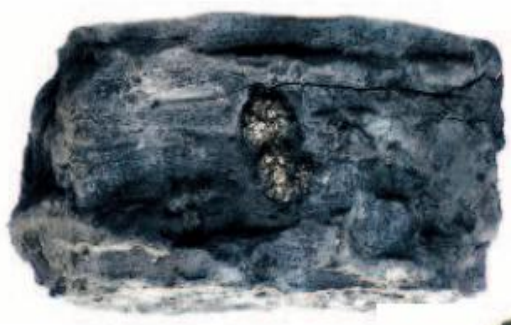


Рис. 1. Аргиллит слоисто-оскольчатый, с крупными кристаллами пирита (до 2 см), бобриковские отложения, глубина образца 1142,0 м.



Рис. 2. Песчаник нефтенасыщенный, с гипсовыми округлыми включениями, бобриковские отложения, глубина образца 1164,0 м.



Рис. 3. Переслаивание алевролитов, песчаников селективно слабо нефтенасыщенных с аргиллитами перемято-слоистыми, бобриковские отложения, интервал отбора керна 1380,0-1384,0 м.

Поскольку исследование керна дает нам ту информацию, получение которой другими способами (например, геофизическими исследованиями в скважинах) пока невозможно, планирование работ по отбору керна должно выполняться группой специалистов - геологами, литологами, геофизиками и петрофизиками, перед которыми стоят различные задачи, направленные в комплексе на решение единой проблемы – рациональной выработки запасов нефти и газа, достоверной оценки их запасов на различных стадиях освоения месторождений.

Фактор времени в исследовании керна - один из важнейших при изучении нефтеносности осадочных бассейнов. Анализ экспериментальных работ свидетельствует о том, что нефть, содержащаяся в породах, начинает терять легкие фракции сразу же после подъема керна на поверхность, поэтому, по возможности, керн должен парафинироваться (рис. 4). Легкая нефть и/или конденсат, содержащаяся в керне, по прохождении нескольких дней полностью улетучиваются. Это означает, что керн с буровой должен доставляться оперативно в течение первых дней, что позволит не упустить незначительные признаки нефтеносности и сконцентрировать усилия на их изучение, обращая при этом особое внимание на текстурные особенности толщ, элементы разрывных нарушений.

Отношение к керну является показателем не только уровня геологических знаний любого геолога, но и оценкой степени его профессионализма, его интеллектуального развития.



Рис. 4. Запарафинированный керн, отобранный из скважины, 100%-ый вынос керна.

Работа с кернавым материалом в кернаохранилище состоит из следующих этапов:

1. Приём и регистрация керна.
2. Описание и отбор образцов керна.
3. Подготовка керна и отобранных образцов к длительному хранению.
4. Лабораторные исследования керна.

5. Бессрочное хранение керна.

Прием и подготовка керна к исследованиям. Весь процесс хранения и изучения керна завязан в единый технологический цикл, начиная от приема и первичного осмотра до укладки уже исследованного керна на стеллажи. Сначала поступившие в кернохранилище ящики с керном поступают в зону приема, раскладываются по порядку номеров слева направо в порядке возрастания глубины, далее проводится их ревизия и сверяется учетная документация. Далее устанавливается соответствие поступившего керна предварительному описанию, выполненному геологом на скважине и каротажным диаграммам. По этим данным можно определить, не вкралась ли в раскладку керна на скважине случайная ошибка, и разложить поступившие образцы породы в строгом соответствии с глубиной.

ЛИТЕРАТУРА:

1. Т.Х. Шоймуротов Т.Х., Холбаев Б.М., Юсупов Ш.К. Юрская терригенная формация Амударьинской синеклизы – резерв поиска углеводородного сырья (Бухаро-Хивинский регион). Сборник материалов международной научно-практической конференции: «Будущее гидрогеологии: современные тенденции и перспективы». 22-23 мая, 2024 года, Карши, Узбекистан. -Стр.132-144.

2. Холбаев Б.М., Жураев Ф.О., и др.. Перспективы нефтегазоносности юрских отложений северной и северо-восточной части Бешкентского прогиба. Сборник материалов международной научно-практической конференции: «Актуальные проблемы проведения геолого-геофизических исследований». 19 – 20 апреля 2024 года, Кубань, Россия. -Стр.120-125.

3. Холбаев Б.М., и др.. Oil and gas prospects of the Beshkent concavity. Сборник материалов международной научно-практической конференции: «Актуальные проблемы проведения геолого-геофизических исследований». 19 – 20 апреля 2024 года, Кубань, Россия. -Стр.125-131.

4. Холбаев Б.М., и др. Условия образования и применения гипса (на примере Западного Узбекистана). Сборник материалов международной научно-практической конференции: «Актуальные проблемы проведения геолого-геофизических исследований». 19 – 20 апреля 2024 года, Кубань, Россия. - Стр.130-134.

**O'ZBEKISTON RESPUBLIKASI DAVLAT MADHIYASI:
MILLIY G'URUR VA BIRLIK RAMZI**

Reyimboyev Javohir Hamdam o'g'li

*Andijon qishloq xo'jaligi va agrotexnologiyalar instituti
"Yurisprudensiya" ta'lim yo'nalishi talabasi.*

To'xtaboyev Diydorbek Charimuxammed o'g'li

*Andijon qishloq xo'jaligi va agrotexnologiyalar instituti
"Yurisprudensiya" ta'lim yo'nalishi talabasi.*

Jobirov Yo'lchiboy Komiljon o'g'li

*Andijon qishloq xo'jaligi va agrotexnologiyalar instituti
"Yurisprudensiya" ta'lim yo'nalishi talabasi.*

Amonov Ilxombek Nodirbek o'g'li

*Andijon qishloq xo'jaligi va agrotexnologiyalar instituti
"Yurisprudensiya" ta'lim yo'nalishi talabasi.*

diydorbektoxtabayev@gmail.com

Annotatsiya: Ushbu maqolada O'zbekiston Respublikasi xalqining madhiyasi, tarixiy yo'li, urf-odatlar va ananalari, shuningdek madhiyaning ahamiyati, madhiyaning tarixi va boshqa davlatlarning madhiyalari to'g'risida ma'lumotlar keltirilgan.

Kalit so'zlar: O'zbekiston Respublikasi xalqi, O'zbekiston Respublikasi madhiyasi, uning ahamiyati, madhiya tushunchasi, madhiya tarixi, boshqa davlat madhiyalari.

**ГОСУДАРСТВЕННЫЙ ГИМН РЕСПУБЛИКИ УЗБЕКИСТАН:
СИМВОЛ НАЦИОНАЛЬНОЙ ГОРДОСТИ И ЕДИНСТВА**

Рейимбоев, сын Джавахира Хамдама, является студентом факультета «Правоведение» Андижанского института сельского хозяйства и агротехнологий.

Тохтабаев, сын Дийдорбека Чаримухамеда, является студентом факультета «Правоведение» Андижанского института сельского хозяйства и агротехнологий.

Джобиров Ёлчибой, сын Комилджона, является студентом факультета «Правоведение» Андижанского института сельского хозяйства и агротехнологий.

Амонов Ильхомбек, сын Нодирбека, студент факультета «Правоведение» Андижанского института сельского хозяйства и агротехнологий.

diydorbektoxtabaev@gmail.com

Аннотация: В данной статье собраны сведения о гимне, историческом пути, обычаях и традициях народа Республики Узбекистан, а также о значении гимна, истории гимна, гимнах других стран.

Ключевые слова: народ Республики Узбекистан, гимн Республики Узбекистан, его значение, понятие гимна, история гимна, другие государственные гимны.

THE NATIONAL ANTHEM OF THE REPUBLIC OF UZBEKISTAN: A SYMBOL OF NATIONAL PRIDE AND UNITY

Reyimboev Javohir Hamdam o'g'li - a student of the Andijan Institute of Agriculture and Agrotechnologies, majoring in "Jurisprudence".

Tokhtaboyev Diyorbek Charimukhammed o'g'li - a student of the Andijan Institute of Agriculture and Agrotechnologies, majoring in "Jurisprudence".

Jobirov Yulchiboy Komiljon o'g'li - a student of the Andijan Institute of Agriculture and Agrotechnologies, majoring in "Jurisprudence".

Amonov Ilkhombek Nodirbek o'g'li - a student of the Andijan Institute of Agriculture and Agrotechnologies, majoring in "Jurisprudence".

diyorbektoxtabayev@gmail.com

Annotation: This article provides information about the anthem of the people of the Republic of Uzbekistan, its historical path, customs and traditions, as well as the significance of the anthem, the history of the anthem and the anthems of other countries.

Keywords: people of the Republic of Uzbekistan, anthem of the Republic of Uzbekistan, its significance, the concept of the anthem, the history of the anthem, other states anthems.

O'zbekiston Respublikasi davlat madhiyasi – bu millatning tarixiy yo'lini, madaniyatini, urf-odatlarini, va kelajakka bo'lgan ishonchini ifodalovchi o'ziga xos musiqiy va adabiy asar hisoblanadi. Har bir davlatning madhiyasi, uning milliy istiqlolini, xalqning birligini, shuningdek, kelajakdagi muvaffaqiyatlarga bo'lgan ishonchini ifodalaydi. O'zbekistonning madhiyasi ham ana shunday ma'noga ega bo'lib, u yurtimizning milliy g'ururining timsoli, hamda xalqning mustaqillikka

bo'lgan intilishlarini bayon etadi. O'zbekiston Respublikasida Davlat madhiyasi davlat televideniya va radioeshittirish kompaniyalari tomonidan har kuni - ko'rsatuv va eshittirishlar boshlanishidan avval va tugaganidan so'ng, ko'rsatuv va eshittirish kechayu kunduz olib borilganda esa soat 6 da va soat 24 da, yangi yil kechasida - soat 24 da eshittiriladi.

Davlat madhiyasining tarixi

O'zbekiston Respublikasi Davlat madhiyasining tarixiy yo'li mustaqillikni qo'lga kiritish jarayoniga bog'liq. 1991-yil 31-avgustda O'zbekiston mustaqillikka erishganidan so'ng, mamlakat o'zining davlat ramzlarini yaratish zaruratini his etdi. Davlat ramzlari – bayroq, gerb va madhiyaning tasdiqlanishi, har bir davlat uchun alohida ahamiyatga ega, chunki ular xalqning tarixiy merosini, madaniyatini va ijtimoiy qadriyatlarini aks ettiradi.

O'zbekiston Respublikasi Davlat madhiyasining so'nggi varianti 1992-yil 10-dekabrda ya'ni O'zbekistonning mustaqillikning dastlabki yillarida tasdiqlandi. Madhiyaning so'zlari Erkin Vohidov, Muhammad Yusuf va Abdulla Oripov kabi shoirlar tomonidan yozilgan, lekin ularning orasida eng maqbuli deb Abdulla Oripov tomonidan yozilgan madhiya jumalari tanlanadi. Madhiyaning eng muhim unsurlaridan biri, uning yozilishidagi ruhiy va falsafiy yondoshuvlarning o'zi edi. Har bir so'z, har bir musiqaning o'zida mamlakatning o'tmishini, bugunini va kelajagini ifodalovchi g'oyalar yashiringan edi.

Madhiyaning musiqa asoslari

O'zbekiston Respublikasi Davlat madhiyasining musiqasi bastakor Mutal Burxonov tomonidan yaratilgan. Musiqa jahonning eng mukammal va ijobiy musiqiy asarlaridan biri sifatida qayd etilishi mumkin. Ushbu madhiyaning notalari o'zgacha kuchga ega. Ularda har bir notaning o'ziga xos ahamiyati bor, va ular yuraklarni quyoshday qizdiradigan, g'ururli, ulug'vor hislarni uyg'otadi. Bu musiqaning ohangida xalqning mustaqillik uchun kurashdagi hissi, shuningdek, uning kelajakka bo'lgan ishonchi aks etadi.

Musiqada hamda so'zlarda bo'lgani kabi, madhiyaning ritmik va armonik tuzilmasi ham o'ziga xos, an'anaviy va zamonaviy unsurlarni o'z ichiga oladi. Bu musiqiy asar, boshqa davlatlarning madhiyalariga qaraganda, o'zining unikal ohanglari va an'anaviy uslublari bilan ajralib turadi. Musiqaning har bir qismi, uning hamohangligi, tinchlik, barqarorlik va kelajakdagi o'sishning ramzi bo'lib, xalqni birlashtirishga qaratilgan.

Madhiyaning matni: tarixiy va milliy ramzlar

O'zbekiston Respublikasi Davlat madhiyasining matni davlat mustaqilligiga, uning tarixiy, madaniy va ijtimoiy qadriyatlariga bo'lgan chuqur hurmatni aks ettiradi. Maddiyadagi har bir so'z, o'zbek xalqining hayotida o'chmas iz qoldirgan tarixiy voqealarni ifodalaydi.

Madhiyaning so'zlari

O'zbekiston Respublikasi Davlat madhiyasidagi so'zlar, faqatgina musiqa bo'lib qolmay, balki xalqning o'tmishdagi barcha kurashlari, uning qiyinchiliklaridan va g'alabalari orqali bugungi kuniga qadar yetib kelgan orzulari haqida ham so'zlaydi. Madhiyaning asosiy g'oyasi – millatning mustaqillik uchun qilgan kurashining samarasidir. Buning uchun madhiyada ulug'vorlik, yuksaklik va g'urur hissi bor.

Madhiyaning ramziyligi

O'zbekiston Respublikasi Davlat madhiyasining ramziyligi davlatning mustaqilligi va xalqning birligini aks ettiradi. Har bir millat, o'zining davlatchiligini, madaniyatini, tilini va urf-odatlarini himoya qilishga intiladi. O'zbekiston madhiyasi esa, o'zbek xalqining mustaqillikka erishishdagi uzoq yillar davomida amalga oshirgan kurashlarini ramzlashgan.

Madhiyaning so'zlarida mavjud bo'lgan g'oya, xalqning birligi va maqsadiga erishish yo'lida qat'iy bo'lishi haqida. O'zbekiston xalqining o'zining mustaqilligini topishidagi uzoq va mashaqqatli yo'li, shu bilan birga, uning yangi va mustahkam kelajagi haqida fikrlar bor.

Boshqa davlatlarning madhiyalari, odatda, ularning milliy g'ururi, tarixiy merosi, erkinlikka bo'lgan ishonchi va kelajakka bo'lgan umidlarini ifodalovchi asarlardir. Madhiyalar ko'pincha biror davlatning mustaqilligi, xalqining birligi va erkinligi haqida so'zlaydi. Ular davlat ramzlaridan biri bo'lib, xalqni birlashtirish va milliy birlikni mustahkamlashda muhim rol o'ynaydi.

Misol uchun:AQSh madhiyasi - "Yulduzli bayroq" ("The Star-Spangled Banner"): 1814-yilda bastakor Fransis Skott Key tomonidan yozilgan. Bu madhiya, AQShning mustaqilligi va erkinligini himoya qilishga bo'lgan ishonchni ifodalaydi. Madhiyaning so'zlari, ayniqsa, 1812-yilgi urushda Britaniya floti tomonidan Balgimor portidagi "yulduzli" bayroqning saqlanib qolishini tasvirlaydi.

Fransiya madhiyasi ("La Marseillaise"): Madhiyaning dastlabki nomi "Chant de guerre pour l'Armee du Rhin"("Reyn armiyasi uchun urush qo'shig'i").1792-yilda Cloude Joseph Rouget de Lisle tomonidan yozilgan. Ushbu madhiya inqilobiy g'oyalarni va erkinlik, tenglik, do'stlikni targ'ib qiladi. U Fransiyaning inqilobiy davridan ilhomlangan bo'lib, xalqni mustaqillik uchun kurashishga chaqiradi.

Rossiya madhiyasi ("State Anthem of the Russian Federation"): Bu madhiyaning musiqasi 2000-yilda tasdiqlangan. U Sovet Ittifoqining madhiyasidan qayta ishlangan va xalqning birlik va mustahkamligini aks ettiradi.

Har bir davlat madhiyasi, uning tarixiy yo'li, madaniyati va milliy qadriyatlarini aks ettiradi. Madhiyalar nafaqat musiqa yoki she'r, balki millatning yuksak maqsadlari, kurashlari va kelajakka bo'lgan ishonchini bildiruvchi ramzdir.

Boshqa davlatlarning madhiyalari, odatda, ularning milliy g'ururi, tarixiy merosi, erkinlikka bo'lgan ishonchi va kelajakka bo'lgan umidlarini ifodalovchi asarlardir. Madhiyalar ko'pincha biror davlatning mustaqilligi, xalqining birligi va erkinligi haqida so'zlaydi. Ular davlat ramzlaridan biri bo'lib, xalqni birlashtirish va milliy birlikni mustahkamlashda muhim rol o'ynaydi.

Foydalanilgan adabiyotlar:

1. Yangi tahrirdagi O'zbekiston Respublikasi Konstitutsiyasi;
2. O'zbekiston Respublikasi Davlat madhiyasi to'g'risidagi qonun;
3. Lex uz ma'lumotlarini;
4. Yuridik adabiyotlar published.
5. 9-sinf jahon tarix darsligi;

ОЦЕНИВАНИЕ ФУНКЦИОНАЛЬНЫХ ХАРАКТЕРИСТИК МНОГОМЕРНЫХ РАСПРЕДЕЛЕНИЙ ПРИ ПОМОЩИ КОПУЛА ФУНКЦИЙ

Душатов Н.Т.

*Алмалыкский филиал Ташкентский государственный
технический университет имени Ислама Каримова*

n_dushatov@rambler.ru

Аннотация. Рассматривается задача метод оценивания совместной функция выживания F_n и функционал Φ_n при случайном цензурировании наблюдений справа используя копула функции. В настоящей работе исследованы свойства процесса $\{\Delta_n(x, y)\}$. Для построения оценок используются архимедова копула функции.

Ключевые слова. случайное цензурирование, совместной функция выживания, маргинальные функции выживания, копула функция, архимедова копулы.

На вероятностном пространстве (Ω, \mathcal{A}, P) рассмотрим две последовательности $X = \{(X_{1i}, X_{2i}), i \geq 1\}$ и $Y = \{(Y_{1i}, Y_{2i}), i \geq 1\}$ – независимых и одинаково распределённых случайных векторов с общими функциями распределения (ф.р.) $F(x, y) = P(X_{11} \leq x, X_{21} \leq y)$ и $G(x, y) = P(Y_{11} \leq x, Y_{21} \leq y)$ $(x, y) \in \bar{R}^{+2}$. Последовательности X и Y могут быть зависимыми [3]. Статистический эксперимент состоит в том, что последовательность X цензурируется последовательностью Y справа и в n -м шаге наблюдению доступна выборка $V^{(n)} = \{(Z_i, \delta_i), i = \overline{1, n}\}$, где $Z_i = (Z_{1i}, Z_{2i})$, $Z_{ki} = \min(X_{ki}, Y_{ki})$, $\delta_i = (\delta_{1i}, \delta_{2i})$, $\delta_{ki} = I(Z_{ki} = X_{ki})$, $k = 1, 2$, $i = \overline{1, n}$ [1]. Задача состоит в оценивании функционалов от ф.р. F по выборке $V^{(n)}$ при мешающей ф.р. G . Пусть $\bar{F}(x, y) = P(X_{11} > x, X_{21} > y)$ и $\bar{G}(x, y) = P(Y_{11} > x, Y_{21} > y)$, $(x, y) \in \bar{R}^{+2}$ совместные функции выживания пар (X_{1i}, X_{2i}) и (Y_{1i}, Y_{2i}) соответственно. Введём маргинальные функции выживания

$$\begin{aligned} S_1^X(x) &= P(X_{11} > x), \quad S_2^X(y) = P(X_{21} > y), \\ S_1^Y(x) &= P(Y_{11} > x), \quad S_2^Y(y) = P(Y_{21} > y), \quad x, y \geq 0, \end{aligned} \tag{1}$$

и предположим, что они являются непрерывными. Тогда ф.р. $F(x, y)$ может быть представлен через $\bar{F}(x, y)$, $S_1^X(x)$ и $S_2^X(y)$ следующим образом

$$F(x, y) = \bar{F}(x, y) + 1 - S_1^X(x) - S_2^X(y). \quad (2)$$

Введём совместную функцию выживания вектора $(X_{11}, X_{21}, Y_{11}, Y_{21})$:

$$K(x, y, z, v) = P(X_{11} > x, X_{21} > y, Y_{11} > z, Y_{21} > v), (x, y, z, v) \in \bar{R}^{+4}.$$

Тогда имеем следующие представления для \bar{F} и \bar{G} :

$$\bar{F}(x, y) = K(x, y, 0, 0), (x, y) \in \bar{R}^{+2},$$

$$\bar{G}(x, y) = K(0, 0, x, y), (x, y) \in \bar{R}^{+2},$$

$$\begin{aligned} H(x, y) &= P(Z_{11} > x, Z_{21} > y) = P(X_{11} > x, Y_{11} > x, X_{21} > y, Y_{21} > y) = \\ &= K(x, y, x, y), (x, y) \in \bar{R}^{+2}. \end{aligned}$$

(3)

По теореме Склара [4] существует копула функция выживания $C(\bar{u})$, $\bar{u} = (u_1, u_2, u_3, u_4) \in [0, 1]^4$ такая, что имеет место следующее представление для всех $(x, y, z, t) \in \bar{R}^{+4}$

$$K(x, y, z, t) = C(S_1^X(x), S_2^X(y), S_1^Y(z), S_2^Y(t)). \quad (4)$$

Предположим, что копула C является архимедовой [4]:

$$C(u_1, u_2, u_3, u_4) = \varphi^{[-1]}[\varphi(u_1) + \varphi(u_2) + \varphi(u_3) + \varphi(u_4)], \bar{u} = (u_1, u_2, u_3, u_4) \in [0, 1]^4. \quad (5)$$

Тогда согласно формулам (3) – (5) имеем

$$\bar{F}(x, y) = \varphi^{[-1]}[\varphi(S_1^X(x)) + \varphi(S_2^X(y))], (x, y) \in \bar{R}^{+2},$$

$$\bar{G}(x, y) = \varphi^{[-1]}[\varphi(S_1^Y(x)) + \varphi(S_2^Y(y))], (x, y) \in \bar{R}^{+2},$$

$$H(x, y) = \varphi^{[-1]}[\varphi(S_1^X(x)) + \varphi(S_2^X(y)) + \varphi(S_1^Y(x)) + \varphi(S_2^Y(y))], (x, y) \in \bar{R}^{+2}.$$

(6)

и отсюда имеем:

$$S_1^Z(x) = \varphi^{[-1]}[\varphi(S_1^X(x)) + \varphi(S_1^Y(x))], x \geq 0, \quad (7)$$

$$S_2^Z(y) = \varphi^{[-1]}[\varphi(S_2^X(y)) + \varphi(S_2^Y(y))], y \geq 0.$$

Из формулы (7) также следует, что

$$\varphi(H(x, y)) = \varphi(\bar{F}(x, y)) + \varphi(\bar{G}(x, y)), (x, y) \in \bar{R}^{+2}. \quad (8)$$

Следует отметить, что формулы (7) позволяют оценить одномерные функции выживания S_1^X и S_2^X по выборкам $V_1^{(n)} = \{(Z_{1i}, \delta_{1i}), i = \overline{1, n}\}$ и $V_2^{(n)} = \{(Z_{2i}, \delta_{2i}), i = \overline{1, n}\}$ соответственно, $V_1^{(n)} + V_2^{(n)} = V^{(n)}$, а затем по выборке

$V^{(n)}$ оценить \bar{F} , используя формулу (6). Таким образом, оценим функции S_1^X и S_2^X и с этой целью введём эмпирические оценки для H , S_1^Z и S_2^Z [1]:

$$H_n(x, y) = \frac{1}{n} \sum_{i=1}^n I(Z_{1i} > x, Z_{2i} > y), (x, y) \in \bar{R}^{+2},$$

$$S_{1n}^Z(x) = \frac{1}{n} \sum_{i=1}^n I(Z_{1i} > x) = H_n(x, 0), x \geq 0, \tag{9}$$

$$S_{2n}^Z(y) = \frac{1}{n} \sum_{i=1}^n I(Z_{2i} > y) = H_n(0, y), y \geq 0.$$

Введём по выборкам $V_1^{(n)}$ и $V_2^{(n)}$ также и соответствующие считающие процессы

$$\bar{\square}_{mn}(t) = \sum_{k=1}^n I(Z_{mk} \leq t, \delta_{mk} = 1), m = 1, 2;$$

$$\bar{\square}_{mn}^Z(t) = \sum_{k=1}^n I(Z_{mk} \leq t), m = 1, 2;$$

$$J_m(t) = n S_{mn}^Z(t-) = \sum_{k=1}^n I(Z_{mk} \geq t), m = 1, 2.$$

В работе автора [2] построена и исследована следующая оценка для S_m^X , $m = 1, 2$:

$$S_{mn}^X(x) = \varphi^{[-1]} \left[\varphi(S_{mn}^Z(x)) \frac{\varphi(\tilde{S}_{mn}^X(x))}{\varphi(\tilde{S}_{mn}^Z(x))} \right], m = 1, 2, \tag{10}$$

где

$$\varphi(S_{mn}^Z(x)) = - \int_0^x I(J_{mn}(t) > 0) \left[\varphi\left(\frac{J_{mn}(t)}{n}\right) - \varphi\left(\frac{J_{mn}(t)}{n} - \frac{1}{n}\right) \right] d\bar{\square}_{mn}^Z(t),$$

$$\varphi(\tilde{S}_{mn}^Z(x)) = - \int_0^x I(J_{mn}(t) > 0) \varphi'\left(\frac{J_{mn}(t)}{n}\right) d\bar{\square}_{mn}^Z(t),$$

$$\varphi(\tilde{S}_{mn}^X(x)) = - \int_0^x I(J_{mn}(t) > 0) \varphi'\left(\frac{J_{mn}(t)}{n}\right) d\bar{\square}_{mn}(t).$$

Теперь оценим $\bar{F}(x, y)$ по первой формуле (6) при помощи S_m^X , $m = 1, 2$:

$$\bar{F}_n(x, y) = \varphi^{[-1]} \left[\varphi(S_{1n}^X(x)) + \varphi(S_{2n}^X(y)) \right]. \tag{11}$$

Методом подстановки и из представлений (2), (10), (11) получаем оценки для $F(x, y)$:

$$F_n(x, y) = \bar{F}_n(x, y) + 1 - S_{1n}^X(x) - S_{2n}^X(y). \tag{12}$$

Рассмотрим следующий функционал:

$$\Phi(F)(x, y) = \int_0^x \int_0^y stdF(s, t).$$

Используя оценку F_n , получаем соответствующую оценку Φ_n для Φ . В настоящей работе исследованы свойства процесса $\{\Delta_n(x, y) = |\Phi_n(F)(x, y) - \Phi(F)(x, y)|\}$.

Литература

1. Абдушукуров А.А. Статистика неполных наблюдений. Асимптотическая теория оценивания для неклассических моделей. – Ташкент. «Университет», 2009. -267 с.
2. Мурадов Р.С. Статистическое оценивание функциональных характеристик по многомерным зависимым наблюдениям. Матер. науч.конф. «Проблемы современной математики» (ММР'2011). Карши. 2011.
3. Dushatov N.T., Obloqulov S.Z. Tasodifiy miqdorlar yigindisining yuqori tartibli momentlarini xarakteristik funksiyalar metodi orqali aniqlash. Oriental Renaissance: Innovative, educational, natural and social sciences. (E)ISSN: 2181-1784. 4(6), June, 2024 p.128-130.
4. Nelsen R.B. An introduction to copulas. – Springer, New York. 1999. (Second edition in 2006.) -269 p.

INTERCELLULAR CONNECTIONS IN THE BARK OF THE CRANIAL HEMISPHERES . REACTION OF THE CRANIAL HEMISPHERES TO HYPOXIA .ANATOMICAL HISTALOGICAL STRUCTURE

*Shaudirboyeva Umida Shahriboyevna
Sobirova Dildora Ravshanbekovna*

The cranial hemispheres are the most developed and complex human structures. They control many aspects of brain activity, including cognitive functions, actions, sensitivity, and many other basic processes. Intercellular connections, that is, synaptic connections, located in the cerebral cortex, form the basis of brain work activity. These connections provide information transfer between the cerebral hemispheres and coordination of various functions.

Hypoxia is a condition of oxygen deficiency that can severely disrupt the functioning of brain cells. The cranial hemispheres are very sensitive to hypoxia, as they form the central part of brain activity and respond not only to cognitive processes, but also to physiological reactions. The reactions of hypoxia that occur in the shells of the cranial hemispheres alter the connections of brain cells with each other, and this can alter the characteristics of brain functions.

In this introduction, the role of intercellular connections in the bark of the cranial hemispheres and the importance of studying how hypoxia affects them is discussed. This issue is relevant not only in neurology, but also in clinical medicine, since hypoxia seriously affects the functioning of the brain and the health of a person in general. Keywords: cranial hemispheres, stem, intercellular connections, hypoxia, cognitive function

The vertebrate cranium is made up of two cranial hemispheres, separated by a longitudinal cranial suture. Therefore, we can describe the cranium as divided into the left and right hemispheres. Each of these hemispheres has an outer layer of gray matter, while the cranial cortex has an inner layer of white matter below it. In placental mammals, hemispheres are a boxy body with a tuft of very large nerve fibers (lot. corpus callosum).

Hemispheres are also connected using smaller commissures such as the anterior commissura, posterior commissura, and fornix (hump), and this is also found in other vertebrates. These commissures provide information exchange in both hemispheres to coordinate local functions. The cranial hemispheres are known to have three poles: ensa pole, forehead pole, and chakka pole. The central egat is popular, separating the top piece from the forehead piece and the primary actuator piece from the primary somatosensory piece.

Macroscopically, hemispheres are visible in a mirror reflection of nearly each other. Only minor differences, such as the Yakovlev twist seen in a person, are slight right-hand turns that push it further forward relative to the left. At the microscopic level, cytoarchitectonics of the cranial cortex shows cells, functions, neuromediator quantitative levels, and receptor subtypes that are asymmetric between hemispheres. Although some of these differences occur in all human or animal species, many more differences are seen in studies within the same species as they move from individual to individual.

According to the function of nerve cells located in different parts of the cerebral cortex, the bark row is divided into three zones: sensory, movement and associative zones. The set of nerve cells located in the zones of perception is considered the Supreme center of all sensory organs of the human body, which receive impulses from receptors of sensory organs such as the skin, vision, hearing, sense of smell and taste. The set of nerve cells in the zones of movement of the pustlob of the brain acts as a higher nerve center that controls movement, receiving impulse from the receptors of muscles, spindles, joints, bones . Associative zones analyze and synthesize the effect from the organs of perception and movement. The scaly part of the Cerebral Hemispheres is the physiological basis of the higher nervous activity of a person, the material basis of our psychic activity.

The ability of a person to think, mind, assimilate, remember, colish, treat, culture, acquire knowledge, learn beautifully, perform complex actions is an activity of the brain stem. If children do not follow a healthy eating pattern and do not receive the necessary nutrients, it affects their mental and physical activity, and certain diseases in adults suffer, for example, from ischemic heart disease.if, on the other hand, the effects and results of household conditions are studied which one studies their positive effects on development and lifestyle. In other words, a decrease in their development and a decrease in their health in case of a bad start of life affect the bottleneck of the social economic situation of their life.. In difficult situations, the state of differences in the state of Health at an early age leads to a further increase in age periods.

Types of intercellular connections

1. Vertical connections: these connections occur between different layers of the bark. Neurons located in each layer interact and transmit information from top to bottom and bottom to top.

2. Horizontal connections: these connections occur between neurons within the same layer. They provide local processing of information and establish rapid connections between neurons located in the same layer.

3. Interhemispheric connections: connections between the right and left hemispheres are made, for example, through the corpus callosum. These links provide information exchange and coordination between the two hemispheres.

Importance of intercellular connections Intercellular connections provide functional integration of the brain. They are: • Information processing: connections between neurons make it possible to process information quickly and efficiently. * Cognitive functions: interactions play an important role in logical thinking, memory, and learning processes. * Sensory and motor control: intercellular connections are important for sensory information processing and motor response management.

Intercellular connections in the bark of the cranial hemispheres provide complex and multifaceted processes. Their types and significance are important in the implementation of human cognitive, sensory and motor functions. In the future, research in this area will help to further understand the functioning of the brain and provide new opportunities for the treatment of neurological diseases.Intercellular connections in the cranial hemispheric cortex play an important role in providing human cognitive and motor functions. Connections between neurons located in the bark provide information exchange and integration

Inter-neuronal connections and their types • Axonal connections: mediated by axons of neurons. These connections provide information transfer between long-distance neurons. They are mainly contained in white matter. * Dendritic connections: mediated by dendrites of neurons. These connections are important for information exchange between neurons over short distances. * Synapses: connections between neurons are made by synapses. Synapses play an important role in the information transfer process and transmit information using neurotransmitters.

Functions of intercellular connections * Integration: intercellular connections allow you to combine different sensory data and process them as a whole. This process provides cognitive functions such as memory and learning. * Consistency: the connections between the right and left hemispheres ensure consistency. This is important, for example, in the processes of language and logical thinking. * Rehabilitation: intercellular connections are important in the rehabilitation process after injury or illness. They help to establish new links and restore existing links.

Intercellular connections in the cerebral hemispheric cortex play a key role in ensuring the effective functioning of brain activity. Hypoxia, which is oxygen deficiency, negatively affects synaptic connections of brain cells, which can lead to disruption of various cognitive and physiological processes. Changes in intercellular connections in the cerebral hemispheric cortex under the influence of hypoxia worsen the functioning of the brain, which negatively affects attention, memory, and decision-making processes.

This study will help you understand the changes that hypoxia causes in the cerebral hemispheres of the brain and how they affect brain function. These scientific results are important in the treatment and Prevention of hypoxia-related diseases and can help develop effective treatments in clinical medicine. Such studies make it possible to better understand brain processes and improve the treatment of patients in cases such as hypoxia.

1.Kandel, E. R., Schwartz, J. H., & Jessell, T. M. (2013). *Principles of Neural Science* (5th ed.). McGraw-Hill Education.

2.Purves, D., Augustine, G. J., & Fitzpatrick, D. (2012). *Neuroscience* (5th ed.). Sinauer Associates.

**O'ZBEKISTON RESPUBLIKASIDA AUDITORLIK XIZMATLARI
BOZORI ASOSIY KO'RSATKICHLARINING TAHLILI**
ANALYSIS OF THE MAIN INDICATORS OF THE AUDIT SERVICES
MARKET IN THE REPUBLIC OF UZBEKISTAN

АНАЛИЗ ОСНОВНЫХ ПОКАЗАТЕЛЕЙ РЫНКА АУДИТОРСКИХ
УСЛУГ РЕСПУБЛИКИ УЗБЕКИСТАН

Mo'tabar Xodjayeva

Toshkent davlat iqtisodiyot universiteti dotsenti, i.f.n.

Mahmudova Ravshana

Toshkent davlat iqtisodiyot universiteti magistri

Аннотация: Статья посвящена анализу современного состояния рынка аудиторских услуг в Узбекистане. Представлены последние изменения законодательной базы в области осуществления аудиторской деятельности. Рассмотрены количество аудиторских организаций и аудиторов, сведения об аудиторах, динамика доходов аудиторских организаций и распределение субъектов аудиторской деятельности по регионам страны. Проанализирован Закон «Об аудиторской деятельности». Сделан вывод об основных тенденциях, присущих узбекскому рынку аудиторских услуг.

Abstract: The article is devoted to the analysis of the current state of the audit services market in Uzbekistan. The latest changes in the legislative framework in the field of auditing are presented. The number of audit organizations and auditors, information about auditors, the dynamics of income of audit organizations and the distribution of subjects of audit activity by regions of the country are considered. The Law "On Auditing Activities" is analyzed. The conclusion is made about the main trends inherent in the Uzbek market of audit services.

Annotatsiya: Maqola O'zbekistonda auditorlik xizmatlari bozorining hozirgi holati tahliliga bag'ishlangan. Audit sohasidagi qonunchilik bazasiga kiritilgan so'nggi o'zgarishlar taqdim etiladi. Auditorlik tashkilotlari va auditorlar soni, auditorlar to'g'risidagi ma'lumotlar, auditorlik tashkilotlarining daromadlari dinamikasi va auditorlik faoliyati sub'ektlarining respublika hududlari bo'yicha taqsimlanishi ko'rib chiqiladi. "Auditorlik faoliyati to'g'risida"gi qonun tahlil qilindi. O'zbekiston auditorlik xizmatlari bozoriga xos bo'lgan asosiy tendentsiyalar haqida xulosa qilingan.

Ключевые слова: Аудит, аудиторская деятельность, аудиторская организация, аудитор, Национальная Ассоциация бухгалтеров и аудиторов Узбекистана (НАБА Уз), сертификат аудитора.

Keywords: Audit, audit activity, audit organization, auditor, National Association of Accountants and Auditors of Uzbekistan (NABA Uz), auditor certificate.

Kalit so'zlar: Audit, auditorlik faoliyati, auditorlik tashkiloti, auditor, O'zbekiston buxgalterlar va auditorlar milliy assotsiatsiyasi (NABA Uz), auditorlik guvohnomasi.

1.Kirish.

O'zbekistonning bozor munosabatlariga o'tishi turli xo'jalik yurituvchi subyektlar o'rtasidagi munosabatlarni tartibga soluvchi yangi iqtisodiy institutlarni yaratish zaruratini ochib berdi, ular orasida auditorlar instituti ham munosib o'rin egallaydi. Bozor iqtisodiyoti sharoitida korxonalar faoliyati to'g'risidagi ishonchli ma'lumotlar muhim rol o'ynaydi, bu zarur:

- davlat organlari soliq qonunchiligiga rioya etilishini nazorat qilish;
- korxonalar egasi rivojlanish strategiyasini va uning faoliyati samaradorligini oshirish yo'llarini belgilash;
- banklar, sug'urta kompaniyalari, sug'urta tavakkalchiligini belgilab, korxonaning to'lov qobiliyatini va kreditlarni qaytarish ehtimolini baholash;
- etkazib beruvchilar, xaridorlar, xo'jalik yurituvchi sub'ekt bilan ish munosabatlarida bo'lgan boshqa korxonalar va tashkilotlarga etkazib berish uchun to'lov, tovarlar, xizmatlar, ishlarni qabul qilishda ishonch uchun;
- depozitlar bo'yicha daromadlarni baholash uchun potentsial investorlar.

Audit bozor munosabatlarining elementidir. Bozorning har qanday boshqa elementi singari, u bozor ishtirokchilarining har qanday guruhida unga ehtiyoj paydo bo'lishi bilan oq, talab paydo bo'ladi. O'z vaqtida ishlab chiqarishning rivojlanishi va murakkabligi, bozorning rivojlanishi tashkilot egalari (aksiyadorlar, aktsiyadorlar, ta'sischi), shuningdek, investorlar va kreditorlar barcha moliyaviy va xo'jalik yurituvchi sub'ektlarni mustaqil ravishda tekshira olmasligiga olib keldi. xo'jalik yurituvchi sub'ektning muomalalari qonun hujjatlari talablariga mos keladi va buxgalteriya hisobida to'g'ri aks ettiriladi.

Shunday qilib, bir tomondan:

- moliyaviy hisobotlardan manfaatdor foydalanuvchilarning ularning ishonchligiga ishonish zarurati (chunki moliyaviy hisobotlar mas'uliyatli qarorlar qabul qilish uchun ishlatiladi).

Boshqa tomondan:

- manfaatdor foydalanuvchilar orasida maxsus bilim va tajribaning etishmasligi;
- tashkilot hujjatlariga bepul kirishning yo'qligi;
- ziddiyatli vaziyatlarda tashkilot rahbariyati va buxgalteriya bo'limidan noxolis ma'lumot olish imkoniyati;

- moliyaviy hisobotlarning muqarrar omillar (tuzuvchilarning sub'ektivligi, me'yoriy-huquqiy hujjatlarni talqin qilishdagi noaniqlik va boshqalar) tufayli buzilishlarga moyilligi mustaqil, yuqori malakali auditorlar institutining paydo bo'lishiga olib keldi, ularning fikri tashkilotning ishonchliligi to'g'risida. moliyaviy hisobotlar manfaatdor foydalanuvchilar tomonidan ishonchli bo'lishi mumkin.

Audit tizimi O'zbekiston iqtisodiyoti moliya sektorining ajralmas qismi hisoblanadi. Bu sohani obodonlashtirish va rivojlantirishga davlatimiz tomonidan katta e'tibor qaratilmoqda. Bugungi kunga kelib auditorlik faoliyatining kompleks qonunchilik bazasi yaratildi, litsenziyalar berish tizimi sezilarli darajada soddalashtirildi va liberallashtirildi.

2. Adabiyotlarni tekshirish.

“Auditorlik faoliyati to'g'risida”gi Qonun (2021-yil 25-fevraldagi O‘RQ-677-son) qabul qilinishi bilan [3]:

- auditorlik faoliyati faqat xalqaro audit standartlari, sifat nazorati, sharhlar, ishonchni ta'minlash bo'yicha topshiriqlar va tegishli xizmatlar asosida amalga oshiriladi. Standartlar Xalqaro buxgalterlar federatsiyasining Xalqaro audit va kafolat standartlari kengashi tomonidan nashr etilgan. Xalqaro audit standartlarini O'zbekiston hududida qo'llash uchun ularni tan olish tartibi Vazirlar Mahkamasi tomonidan belgilanadi.

- auditorlik faoliyatini litsenziyalash talabi bekor qilindi. Auditorlik tashkiloti bu haqdagi ma'lumotlar Auditorlik tashkilotlarining reestriga kiritilgan kundan boshlab auditorlik faoliyatini amalga oshirishga haqli. U, avvalgidek, qonun hujjatlarida nazarda tutilgan har qanday tashkiliy-huquqiy shaklda tuzilishi va faoliyatini amalga oshirishi mumkin, OAJ bundan mustasno. Bunday holda, quyidagi majburiy shartlar bajarilishi kerak:

- auditorlik tashkiloti asosiy ish joyi hisoblangan auditorlarning eng kam soni 4 nafardan kam bo'lmagan shtatdagi auditorni tashkil etishi;

- auditorlik tashkilotining ustav kapitali (ustav kapitali) mol-mulk, shu jumladan auditorlik tashkiloti o'z faoliyatini amalga oshirishda bevosita foydalaniladigan mablag'lar hisobidan shakllantirilsa;

- auditorlarga (auditorga) tegishli ustav kapitalining (ustav kapitalining) ulushi kamida 51 foizni tashkil etishi kerak (auditorlik tashkiloti – xorijiy auditorlik tashkilotining filiali yoki sho'ba xo'jalik jamiyatini tashkil etish hollari bundan mustasno);

- auditorlik tashkilotining rahbari faqat ushbu auditorlik tashkiloti asosiy ish joyi bo'lgan auditor bo'lishi kerak.

- auditorlik tashkilotining huquqlari, majburiyatlari va majburiyatlari, shuningdek, majburiy audit o'tkazilishi lozim bo'lgan tashkilotlar ro'yxatiga tuzatishlar kiritildi. Shunday qilib, hisobot yilining oxirida quyidagi shartlarni bir vaqtning o'zida bajaradigan tijorat tashkilotlari endi majburiy tekshiruvdan

o'tkaziladi: aktivlarning balans qiymati - 100 ming baravardan dan ortiq, mahsulot (ishlar, xizmatlar) sotishdan tushgan daromad - 200 ming baravardan dan ortiq, xodimlarning o'rtacha yillik soni - 100 kishidan ortiq.

- auditorlik tashkilotlari tomonidan ko'rsatiladigan tegishli xizmatlar ro'yxati ham aniqlandi, ular orasida:

buxgalteriya hisobini tashkil etish, tiklash, yuritish, moliyaviy hisobotlarni tuzish hamda ularni yuritish va tayyorlash masalalari bo'yicha maslahatlar berish;

- yuridik shaxsning taftish komissiyasi (taftishchisi), investitsiya aktivlari ishonchli boshqaruvchisi funksiyalarini amalga oshirish;

- soliq qonunchiligini qo'llash bo'yicha maslahatlar berish, soliq va yig'imlar bo'yicha hisob-kitoblar, deklaratsiyalar tuzish, agar auditorlik tashkilotida shtat bo'yicha soliq maslahatchisi bo'lsa yoki shartnoma shartlarida uni jalb qilgan holda va hokazo.

- auditorlik tekshiruv natijalariga ko'ra faqat auditorlik xulosasi berilishi belgilangan.

- auditorlik tashkilotlari va auditorlarning reyestrlarini yuritish tartibi belgilandi.

3. Tadqiqot metodologiyasi.

O'rganish jarayonida mavzu bo'yicha statistik ma'lumotlar va nazariyalarni o'rganishda mantiqiy fikrlash, ilmiy kuzatish, tizimli yondashuv, statistik usullar qo'llanildi. Tahlil davomida O'zbekiston Respublikasi Davlat statistika qo'mitasining statistik ma'lumotlaridan foydalanildi.

4. Tahlil va natijalar.

Huquqiy iqtisodiyotning rivojlanayotgan instituti sifatida auditning mahalliy nazariyasi va amaliyoti jiddiy raqobat sharoitida rivojlanmoqda. Deyarli to'liq auditorlik xizmatlarini ko'rsatadigan bir nechta yirik mahalliy auditorlik tashkilotlari paydo bo'ldi, mahalliy tashkilotlar audit sohasida tegishli tajribaga ega bo'ldilar.

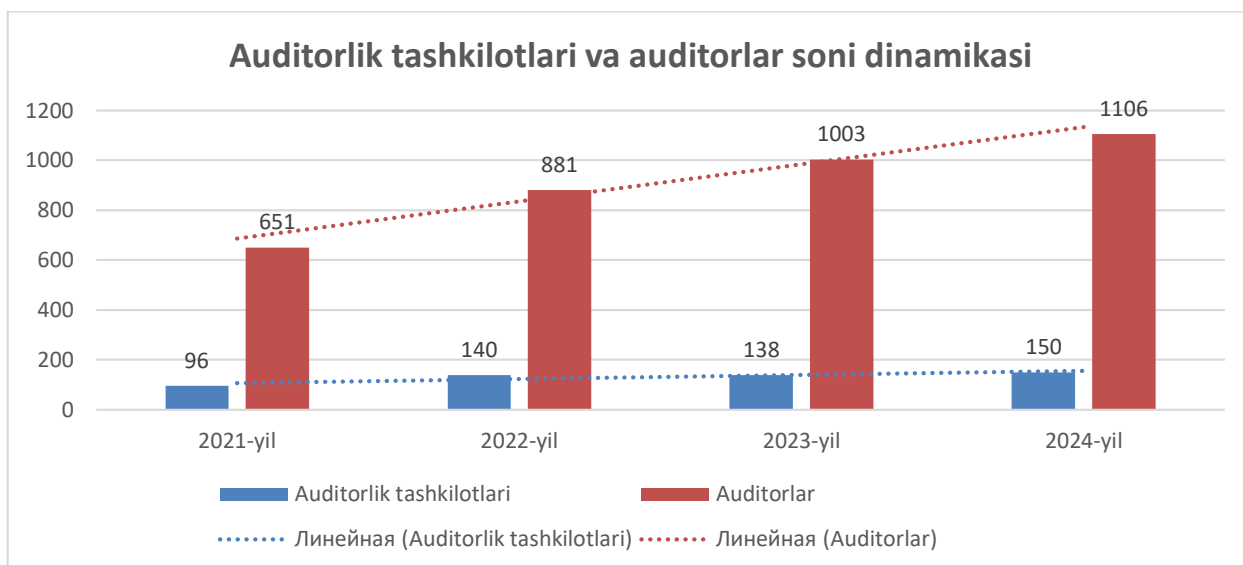
Bugungi kunda auditorlik faoliyatini 140 dan ortiq auditorlik tashkiloti amalga oshirib, malaka sertifikatiga ega 881 dan ortiq auditor faoliyat yuritmoqda (1.1-jadval, 1.1-rasm). [1]

1.1-jadval

Auditorlik tashkilotlari va auditorlar soni

Ma'lumotlar	2021-yil	2022-yil	2023-yil	2024-yil (oktabr holatiga)
Auditorlik tashkilotlari	96	140	138	150
auditorlar	651	881	1003	1106

Jadvaldan ko'rinib turibdiki 2024-yil oktabr holatiga ko'ra 150 ta auditorlik tashkiloti va 1106 nafar auditor faoliyat yuritib kelmoqda.



1.1-rasm. Auditorlik tashkilotlari va auditorlar soni

O'zbekiston Respublikasida 1992-yil 13-martda Buxgalterlar uyushmasi rasman ish boshladi, u o'z faoliyatini 1992-yil 17-yanvarda bo'lib o'tgan respublika konferensiyasi bilan boshladi, unda uyushmaning Ustavi, ijroiya qo'mitasi, ijroiya qo'mitasining byurosi va taftish komissiyasi saylandi. O'sha vaqtga kelib, uyushma ikki yuzga yaqin a'zosini birlashtirdi. 1993-yilda "Auditorlik faoliyati to'g'risida"gi qonun qabul qilingandan so'ng uyushma "O'zbekiston buxgalterlar va auditorlar uyushmasi"ga aylantirildi va o'sha vaqtga kelib 4000 ga yaqin a'zoga ega edi. 2001-yil 22-mayda bo'lib o'tgan hisobot-saylov konferensiyasida Ustavga kiritilgan o'zgartirishlar, a'zolik mezonlari tasdiqlandi va uyushma "O'zbekiston buxgalterlar va auditorlar milliy assotsiatsiyasi" (BAMA Uz) nomini oldi. BAMA Uz bugungi kunda viloyat markazlarida hududiy filiallariga ega: Andijon, Buxoro, Guliston, Jizzax, Qarshi, Namangan, Nukus, Samarqand, Urganch, Farg'ona, Navoiy. Termiz shahrida filial ochish ishlari olib borilmoqda.

BAMA Uz O'zbekiston Respublikasi Moliya vazirligi bilan yaqindan hamkorlik qilib, normativ-huquqiy hujjatlar, buxgalteriya hisobi va audit milliy standartlarini ishlab chiqishda faol ishtirok etadi. 1998-yildan buyon BAMA Uzbekistan "Hamdo'stlik" Buxgalterlar va Auditorlar Assotsiatsiyasi (MDH) xalqaro jamoat tashkilotining to'liq a'zosi hisoblanadi. 2000 yildan beri BAMA Uz Xalqaro Buxgalterlar Federatsiyasi (IFAC)ning assotsiatsiyalangan a'zosi hisoblanadi. 2001-yildan buyon BAMA Uz Yevroosiyo sertifikatlangan buxgalterlar va auditorlar kengashi – ECCBAning to'liq a'zosi hisoblanadi. BAMA Uz doimiy ravishda AQSH, Angliya, Germaniya, Kanada va boshqa yuqori rivojlangan mamlakatlardagi shu kabi

tashkilotlar tajribasini O'zbekistonda joriy etishga qaratilgan xalqaro dastur va loyihalarda ishtirok etib keladi.

O'zbekiston Buxgalterlar va auditorlar milliy assotsiatsiyasi (O'zMAO) ixtiyoriylik asosida sertifikatlangan buxgalterlar va auditorlarni birlashtirgan jamoat tashkiloti hisoblanadi. BAMA Uz ning maqsadi xalqaro darajadagi Assotsiatsiya a'zosi maqomiga erishish uchun ta'lim dasturlari va malaka oshirish kurslarini o'tkazish, konsalting xizmatlarini ko'rsatish orqali professional buxgalterlar va auditorlarning huquqlarini himoya qilish va manfaatlarini rag'batlantirishga ko'maklashishdan iborat.[2]

Asosiy maqsad va vazifalar:

- O'zbekiston Respublikasida buxgalter va auditor kasblarini rivojlantirish va ularning malakasini Xalqaro Buxgalterlar Federatsiyasi (IFAC)ga a'zolik mezonlariga javob beradigan xalqaro standartlarga yaqinlashtirish;
- O'zbekistonda bozor islohotlarini o'tkazishda faol ishtirok etish;
- buxgalteriya hisobi va audit sohasida me'yoriy hujjatlarni ishlab chiqishda ishtirok etish va ularni takomillashtirish bo'yicha takliflar kiritish;
- Buxgalterlar va auditorlar uchun malaka talablarini ishlab chiqish va IFAC talablariga muvofiq attestatsiya imtihonlarini o'tkazish;
- Sertifikatlangan buxgalterlar va auditorlarning axloq kodeksiga rioya etilishini nazorat qilish;
- buxgalteriya hisobi va auditni rivojlantirish maqsadida hududiy, respublika va xalqaro seminarlar, konferensiyalar, simpoziumlar tashkil etish;
- buxgalter va auditorlarning kasbiy himoyasini ta'minlash maqsadida ularga uslubiy, maslahat va axborot yordamini ko'rsatishda ko'maklashish;
- Xalqaro e'tirofga erishish uchun buxgalterlar va auditorlarning xalqaro professional tashkilotlari bilan aloqa va hamkorlikni yo'lga qo'yish;

Audit rivojlanishining hozirgi bosqichi xalqaro standartlarning asosiy tamoyillarini bosqichma-bosqich moslashtirish va joriy etish bilan tavsiflanadi.

Auditorlik tashkilotlarining mas'uliyatini kuchaytirish, auditorlik xizmatlari sifatini oshirish va samarali tartibga solish usullarini joriy etish, auditorlik xizmatlari bozorida nohaq raqobatga barham berish, shuningdek, auditorlik tashkilotlari faoliyatini qo'shimcha rag'batlantirish maqsadida:

- auditorlik faoliyatini amalga oshirish uchun litsenziyalarni audit turiga qarab farqlash tizimi joriy etildi;
- auditorga faqat bitta auditorlik tashkilotida auditorlik faoliyatini amalga oshirish, shuningdek, faqat bitta auditorlik tashkilotining ta'sischi bo'lishi talabi joriy etildi;
- auditorlik tashkilotiga bir xo'jalik yurituvchi subyektda ketma-ket uch yildan ortiq auditorlik tekshiruvini o'tkazishni taqiqlash to'g'risidagi talab kiritildi;

- auditorlik tashkilotlarida auditorlik faoliyati uchun ichki sifat standartlariga ega bo'lish talabi joriy etilgan;
- auditorlarning professional jamoat birlashmalari tomonidan auditorlik tashkilotlarini majburiy reyting baholash tizimi joriy etildi;
- auditorlik tashkiloti rahbariga har uch yilda bir marta majburiy attestatsiyadan o'tish talabi joriy etilgan;
- Moliya vazirligiga kamida uch yilda bir marta auditorlik tashkilotlarining litsenziyalash talablari va shartlariga muvofiqligini majburiy tekshirishni o'tkazish talabi joriy etildi;
- auditorlik tashkiloti ustav kapitalining kamida 50 foizi muassislar (ishtirokchilar) mablag'lari hisobidan, qolgan qismi esa auditorlik faoliyatini amalga oshirishda bevosita foydalaniladigan moddiy boyliklar hisobidan shakllantiriladigan tartib belgilangan bo'lsa;
- auditorlik xodimlarining belgilangan eng kam soni ushbu auditorlik tashkiloti asosiy ish joyi bo'lgan auditorlar bilan to'liq ta'minlanganligi;
- auditorlik tashkilotlariga litsenziya olishdan keyin yuzaga keladigan litsenziya talablari va shartlariga nomuvofiqliklarni muayyan muddatda bartaraf etish imkoniyati beriladi.

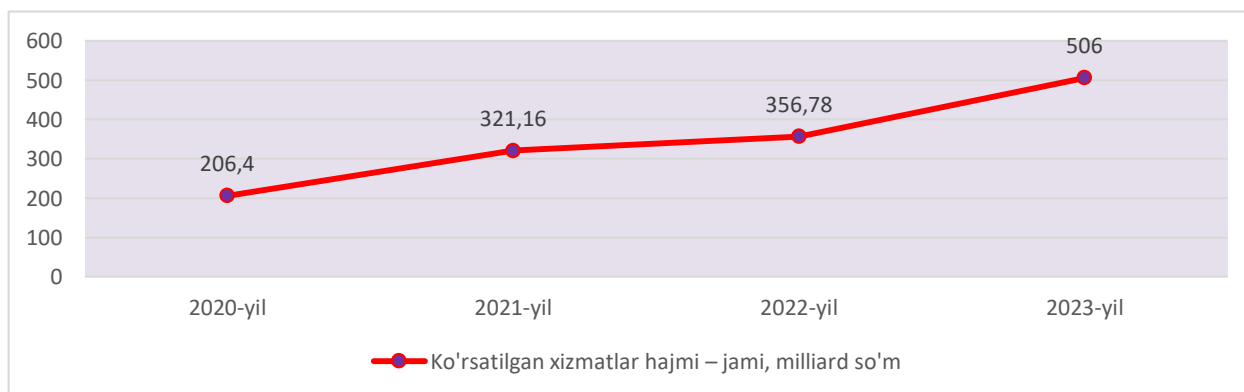
1.2-jadval.

Auditorlik korxonalari daromadi dinamikasi

Daromad dinamikasi bo'yicha ma'lumotlar	2020-yil	2021-yil	2022-yil	2023-yil
Ko'rsatilgan xizmatlar hajmi – jami, milliard so'm	206,40	321,16	356,78	506
Auditorlik xizmatlarining YaIMdagi ulushi (%)	0,036	0,044	0,058	0,14

2023-yilda ko'rsatilgan auditorlik xizmatlari hajmi 2022-yilga nisbatan 25% ga oshib, 506 milliard so'mni tashkil etganini ko'rish mumkin.

1.2-rasm. Auditorlik korxonalari daromadi dinamikasi



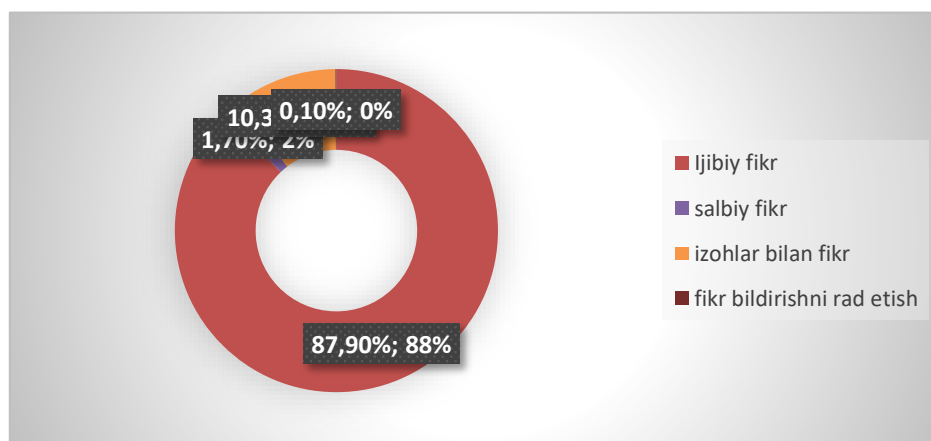
Auditorlik tashkilotlarining qariyb 60 foizi auditorlik faoliyati bilan o'n yil va undan ko'proq vaqt davomida shug'ullangani auditorlik faoliyatining professionalligi va pozitsiyasining mustahkamlanganligini tasdiqlaydi. Auditorlik bozori hali ham yuqori konsentratsiya bilan tavsiflanadi. Auditorlik tashkilotlarining umumiy sonining 63 foizi Toshkent shahrida, 37 foizi respublikaning boshqa hududlarida joylashgan.

1.3-jadval.

Auditorlik faoliyati sub'ektlarining hududlar bo'yicha taqsimlanishi

Hudud	2022	2023
	Auditorlik tashkiloti	
Qoraqolpog'iston Respublikasi	3	3
Andijon viloyati	8	8
Buxoro viloyati	2	2
Jizzax viloyati	2	2
Qashqadaryo	3	3
Navoiy viloyati	4	4
Namangan viloyati	5	5
Samarqand viloyati	5	4
Surxondaryo viloyati	3	3
Sirdaryo viloyati	3	3
Toshkent viloyati	4	4
Farg'ona viloyati	7	6
Xorazm viloyati	3	3
Toshkent shahri	88	88
Jami	140	138

2023-yilda berilgan auditorlik xulosalari



O‘zbekiston Respublikasi Moliya vazirligi auditorlik faoliyati sohasidagi vakolatli davlat organi hisoblanadi.

Vakolatli davlat organi:

- auditorlik faoliyati sohasidagi davlat siyosatini amalga oshiradi;
- auditorlik faoliyati sohasidagi xalqaro tashkilotlarda O‘zbekiston Respublikasining manfaatlarini ifodalaydi;
- o‘z vakolatlari doirasida auditorlik faoliyatini tartibga soluvchi me‘yoriy hujjatlarni ishlab chiqadi, tasdiqlaydi va amalga oshiradi;
- malaka komissiyasining ish tartibi va qoidalarini belgilaydi;
- auditorlarning respublika jamoat birlashmalari ishtirokida malaka imtihonini o‘tkazadi;
- auditor malaka sertifikatini beradi, qayta rasmiylashtiradi, uning amal qilishini uzaytiradi va amal qilishini tugatadi, O‘zbekiston Respublikasi Markaziy banki tomonidan beriladigan sertifikat bundan mustasno;
- auditorlarning respublika jamoat birlashmalari bilan birgalikda auditorlarning malakasini oshirishning namunaviy dasturini tasdiqlaydi;
- auditorlik tashkilotlari reytingi va auditorlar reytingini yuritadi;
- auditorlik tashkilotlari va auditorlarning respublika jamoat birlashmalari bilan elektron hamkorlik qilish uchun mo‘ljallangan “Audit” dasturiy majmuasining axborot tizimini takomillashtirishni ta‘minlaydi;
- auditorlarning respublika jamoat birlashmalari bilan birgalikda auditorlik tashkilotlari ishining sifatini tashqi nazoratni amalga oshiradi;
- auditorlik xizmatlarining rivojlanishini tahlil qiladi.

Prezidentning 2021-yil 15-avgustdagi “Auditorlarni sertifikatlashtirish tizimini takomillashtirishga doir qo‘shimcha chora-tadbirlar to‘g‘risida”gi qaroriga (2021-yil 4-avgustdagi PQ-5210-son qarori) muvofiq, O‘zbekiston Respublikasi Moliya vazirligining funksiyalari o‘tkaziladi. auditorlarning jamoat birlashmalariga [4] muvofiq:

- auditor malaka sertifikatini olish uchun malaka imtihonlarini o‘tkazish;
- auditor malaka sertifikatini berish, qayta rasmiylashtirish, uzaytirish va tugatish;
- auditorlarning malakasini oshirish dasturini tasdiqlash.

Auditorlar jamoat birlashmalarining rasmiy veb-saytida malaka imtihonlarini tashkil etish va tuzilmasi, malaka imtihonlariga tayyorgarlik ko‘rish uchun tavsiya etilgan materiallar va o‘quv dasturlari, shuningdek, malaka imtihonlari natijalari to‘g‘risidagi ma‘lumotlar joylashtirilgan.

Auditorlarning jamoat birlashmalari malaka imtihonlarida qatnashgan va auditorlik malaka sertifikatini bergan abituriyentlarning ma‘lumotlar bazasini yuritadi. Ularga quyidagi huquqlar beriladi:

- belgilangan tartib va qoidalarga muvofiq malaka imtihonlarini o'tkazish uchun imtihon markazlarini mustaqil yoki birgalikda tashkil etish;

- respublikaning barcha hududlarida auditor malaka sertifikatini olish uchun malaka imtihonlarini tashkil etish va auditorlarning malakasini oshirish maqsadida hududiy tarmoqni rivojlantirish.

2022-yil 1-avgustdan bakalavriat va magistratura yo'nalishlarida "Buxgalteriya hisobi" va "Audit" fanlari bo'yicha ISAni chuqur o'rganishni nazarda tutuvchi yangilangan o'quv dasturlari pilot OTMlarning o'quv jarayoniga joriy etilgan.

5. Xulosa.

Xulosa o'rnida shuni ta'kidlaymizki, O'zbekiston Respublikasida audit yagona iqtisodiy tizimning bir qismi sifatida rivojlanib, uning rivojlanishida muhim o'rin tutadi. Shuni ta'kidlash kerakki, davlat siyosati auditorlik faoliyatini rag'batlantirish va kengaytirishga qaratilgan. Respublikada auditorlik faoliyatini tashkil etish va tartibga solishning turli tartiblarini tartibga soluvchi qator qonunchilik va hukumat hujjatlari qabul qilingan. Mamlakatimizda auditning 30 yildan ortiq rivojlanishi natijalari shuni ko'rsatadiki, u O'zbekiston iqtisodiyotida allaqachon muhim o'rin tutadi. Uning shakllanish jarayoni qaytarilmasdir.

Adabiyotlar ro'yxati

1. O'zbekiston Respublikasi Moliya vazirligining www.mf.uz rasmiy veb-saytida (Buxgalteriya hisobi va audit bo'limi) joylashtirilgan Auditorlar va auditorlik tashkilotlari reytingi.

2. O'zbekiston Respublikasi Buxgalterlar va auditorlar milliy assotsiatsiyasining www.naaa.uz rasmiy veb-saytida joylashtirilgan ma'lumotlarga asosan

3. 2021-yil 25-fevraldagi "Auditorlik faoliyati to'g'risida"gi Qonun.

4. O'zbekiston Respublikasi Prezidentining 08.04.2021 yildagi "Auditorlarni sertifikatlashtirish tizimini takomillashtirishga doir qo'shimcha chora-tadbirlar to'g'risida"gi PQ-5210-son Farmoni

**O‘ZBEKISTONDA KONSOLIDATSIYALASHGAN BUDJET
PARAMETRLARINING JORIY YIL UCHUN PROGNOZ
KO‘RSATKICHLARI**

Berdikulova Sevinch Toxir qizi
Toshkent kimyo texnologiya instituti
Yangiyer filiali stajyor o‘qituvchisi
Ismoilova Intizor Mansurbek qizi
Toshkent kimyo texnologiya instituti
Yangiyer filiali 2-bosqich talabasi

Annotatsiya: Ushbu maqolada mamlakatimizning joriy yil uchun konsolidatsiyalashgan budjet ko‘rsatkichlari, ya’ni davlat budjeti, DMJ budjetlari, TTJ mablag‘lari, konsolidatsiyalashgan budjetning YaIM ga nisbatan foizlari, budjet taqchilligi, davlat budjeti xarajatlarining 2024-yilda kutilayotgan ijrolari va daromadlari haqida ma’lumotlar keltirilgan.

Kalit so‘zlar: DMJ, TTJ, konsolidatsiyalashgan budjet, budjet taqchilligi, ishlab chiqarish infratuzilmasi, kapital qo‘yilmalar.

Kirish. Konsolidatsiyalashgan budjet – budjet tizimi budjetlarining barcha tushumlari va xarajatlarini hisobga olish va tahlil qilish maqsadida shakllantiriladigan budjet. Konsolidatsiyalashgan budjet tarkibiga Davlat budjeti, DMJ budjetlari, budjet tashkilotlarining budjetdan tashqari jamg‘armalari va O‘zbekiston Respublikasi TTJ mablag‘lari kiradi. Konsolidatsiyalashgan budjet O‘zbekiston Respublikasi Moliya vazirligi tomonidan moliya yili yakunlari bo‘yicha tahliliy maqsadlar uchun hamda byudjet tizimi byudjetlarining (byudjet tashkilotlarining byudjetdan tashqari jamg‘armalari bundan mustasno) barcha tushumlari va harajatlarini hamda O‘zbekiston Respublikasi Tiklanish va taraqqiyot jamg‘armasi mablag‘larini, ular o‘rtasidagi transfertlarni hisobga olmagan holda hisobga olib borish uchun tuziladi.

2025–2027-yillar uchun konsolidatsiyalashgan budjet parametrlari prognozlari global iqtisodiy noaniqliklar va geosiyosiy ziddiyatlar tufayli tashqi xatarlar saqlanib qolinishi inobatga olinib ishlab chiqilgan. Bunda, hukumat tomonidan tashqi va ichki ta’sirlarga moslashuvchan fiskal siyosat olib borilishi maqsad qilingan bo‘lib, buning natijasida 2027-yilga borib O‘zbekiston Respublikasi konsolidatsiyalashgan budjeti **daromadlari** 2022-yildagi YIMning 28,8 foizidan 26,6 foizigacha, **xarajatlari** 32,3 foizidan 29,6 foizigacha pasayishi prognoz qilingan.

Konsolidatsiyalashgan budjet — O‘zbekiston Respublikasi Moliya vazirligi (bundan buyon matnda Moliya vazirligi deb yuritiladi) tomonidan moliya yili yakunlari bo‘yicha tahliliy maqsadlar uchun hamda budjet tizimi budjetlarining barcha tushumlari va xarajatlarini hamda O‘zbekiston Respublikasi Tiklanish va

taraqqiyot jamg'armasining (bundan buyon matnda Tiklanish va taraqqiyot jamg'armasi deb yuritiladi) mablag'larini, ular o'rtasidagi transfertlarni hisobga olmagan holda hisobga olib borish uchun tuziladigan budjet. Konsolidatsiyalashgan budjet tarkibi O'zbekiston Respublikasi Budjet kodeksiga asosan O'zbekiston Respublikasi davlat budjeti, davlat maqsadli jamg'armalarining budjetlari, budjet tashkilotlarining budjetdan tashqari jamg'armalari hamda Tiklanish va taraqqiyot jamg'armasi mablag'larini o'z ichiga oladi.

Asosiy qism. O'zbekiston Respublikasi Konsolidatsiyalashgan byudjeti tarkibiga quyidagilar kiradi:

- Davlat byudjeti;
- Davlat maqsadli jamg'armalarining byudjetlari;
- O'zbekiston Respublikasi Tiklanish va taraqqiyot jamg'armasi mablag'lari.

Byudjet siyosati – byudjet munosabatlarini tashkil etish tamoyillarining bajarilishini ta'minlash, davlat va jamiyat oldida turgan maqsad va vazifalarni davlat byudjeti oqrali amalga oshirish usullari, chora-tadbirlari va maqsadli faoliyatlari yig'indisidir.

Byudjet siyosati davlat va jamiyat rivojlanishining turli bosqichlarida turlicha bo'lishi, ijtimoiy-iqtisodiy taraqqiyot darajasiga qarab o'zgarib turishi mumkin. Byudjet siyosati :

- Byudjet daromadlari bo'yicha siyosat;
- Byudjet xarajatlari bo'yicha siyosat;
- Davlat krediti bo'yicha siyosat;
- Byudjet taqchilligini boshqarish bo'yicha siyosat;
- Byudjetlararo munosabatlarni tashkil etish siyosati kabilarning uyg'unligi

asosida amalga oshiriladi.

Konsolidatsiyalashgan budjet jamlanma parametrlari, trln so'm :

- Konsolidatsiyalashgan budjet daromadlari 2023-yil 321.9 trln so'm bo'lgan , 2024-yil 377.7 trln so'm bo'lishi kutilmoqda va 2027-yilga borib 565.0 trln so'm bo'lishi rejalashtirilmoqda;

- Konsolidatsiyalashgan budjet xarajatlari esa 2023-yil 381.0 trln so'm, 2024-yil 434.8 trln so'm bo'lishi kutilmoqda va 2027-yilga borib 629.1 trln so'm bo'lishi prognoz qilinmoqda;

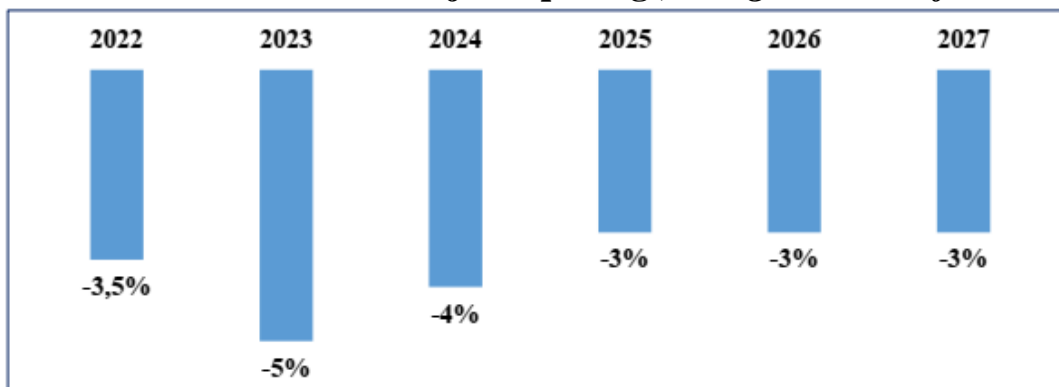
- DMJ ga transferlar 2023-yil 30.7 trln so'm bo'lgan, 2024-yil 34.0 trln so'm bo'lishi kutilmoqda va 2027-yilga borib 53.5 trln so'm bo'lishi prognoz qilinmoqda;

- Konsolidatsiyalashgan budjet taqchilligi 2023-yilda -59.2 trln, 2024-yil -57.2 trln bo'lishi kutilmoqda va 2027-yilga borib -64.1 trln so'm bo'lishi prognoz qilinmoqda.

Konsolidatsiyalashgan budjet jamlanma parametrlari, YIMga nisbatan foizda:

- Konsolidatsiyalashgan budget daromadlari 2023-yil 27.0 %, 2024-yil 26.7 % bo'lishi kutilmoqda va 2027-yilga borib 26.6 % bo'lishi prognoz qilinmoqda;
- Konsolidatsiyalashgan budget xarajatlari esa 2023-yil 32.0 %, 2024-yil 30.8 % bo'lishi kutilmoqda va 2027-yilga borib 29.6 % bo'lishi prognoz qilinmoqda;
- DMJ ga transferlar 2023-yil 2.6 %, 2024-yil 2.4 % bo'lishi kutilmoqda va 2027-yilga borib 2.5 % bo'lishi prognoz qilinmoqda;
- Konsolidatsiyalashgan budget taqchilligi 2023-yil -5%, 2024-yil -4% bo'lishi kutilmoqda va 2027-yilga borib -3% bo'lishi prognoz qilinmoqda.

Yillar kesimida budget taqchilligi, YIMga nisbatan foizda



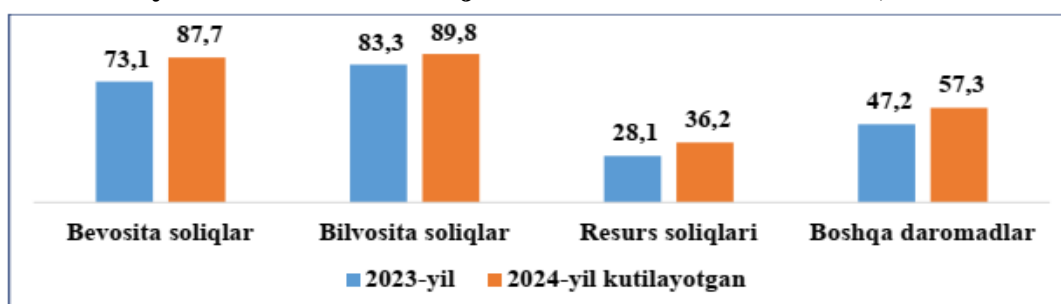
IMF/*Fiscal monitor/Fiscal policy in the Great Election Year. 2024 apr.*

Davlat budjeti xarajatlarining 2024-yilgi kutilayotgan ijrosi:

- Ijtimoiy soha bo'yicha : 2023-yil 137.2 trln, 2024-yilda esa 154.4 trln so'm;
- Iqtisodiy xarajatlari : 2023-yil 42.2 trln, 2024-yilda esa 40.5 trln so'm;
- Rivojlantirish dasturlari : 2023-yil 33.6 trln va 2024-yil 32.4 trln so'm;
- Davlat boshqaruvi, hokimiyati, adliya, prokratura va sud organlari : 2023-yil 15.9 trln, 2024-yil 16.8 trln so'm;
- Zaxira jamg'armalari : 2023-yil 1.7, 2024-yil 2.1 trln so'm;
- Davlat qarzig'a xizmat ko'rsatish bo'yicha foiz to'lovlari : 2023-yil 8.2 trln, 2024-yil 16.4 trln so'm bo'lishi kutilmoqda.

2024-yilda Davlat budjeti daromadlari, 2023-yilgi ko'rsatkichlarga nisbatan 39,3 trln so'mga yoki 17 foizga foizga o'sib, 271 trln so'm bo'lishi hamda yil boshidagi prognoz ko'rsatkichlari bajarilishi kutilmoqda. Bunda davlat budjeti daromadlarining yalpi ichki mahsulotdagi salmog'i 19,2 ni tashkil qilishi kutilmoqda.

2023-2024 yillarda Davlat budjeti daromadlari tuzilmasi, trln so'm



O‘zbekiston Respublikasi konsolidatsiyalashgan budjetining 2024-yil 9 oylik ijrosi. Hisobot davrida konsolidatsiyalashgan budjet daromadlari 272,1 trln so‘mni, xarajatlari esa 307,9 trln so‘mni tashkil etgan. Taqchillik – 35,8 trln so‘m yoki YaIMning 2,5 foizi. 2024 yil uchun konsolidatsiyalashgan budjet taqchilligi 52,6 trln so‘m miqdorida tasdiqlangan. 2024-yil uchun konsolidatsiyalashgan budjet taqchilligi 52,6 trln so‘m miqdorida tasdiqlangan.

Yanvar-sentabr oylarida davlat budjeti daromadlari 193,6 trln so‘mni tashkil etib, o‘tgan yilning mos davriga nisbatan 19,1 foizga o‘sgan. Daromadlar quyidagi manbalar hisobidan shakllangan:

- bevosita soliqlar – 64,1 trln so‘m;
- bilvosita soliqlar – 62,3 trln so‘m;
- resurs to‘lovlari va mulk solig‘i – 26,5 trln so‘m;
- boshqa daromadlar – 40,7 trln so‘m.

Hisobot davrida davlat budjeti xarajatlari 219,3 trln so‘m bo‘lgan va o‘tgan yilning 9 oyiga nisbatan xarajatlar 8,9 foizga oshgan. Budjet xarajatlarining iqtisodiy tasnif bo‘yicha ijrosi quyidagicha bo‘lgan:

- ish haqi – 71 trln so‘m;
- kapital qo‘yilmalar – 9,4 trln so‘m;
- asosiy vositalar xarid qilish bo‘yicha xarajatlar – 3,3 trln so‘m;
- subsidiyalar – 19,8 trln so‘m;
- ijtimoiy nafaqalar – 13,6 trln so‘m;
- transfertlar – 23,4 trln so‘m;
- ijtimoiy ajratmalar – 17,7 trln so‘m;
- tovar va xizmatlar xarid qilish – 18 trln so‘m;
- foiz to‘lovlari – 9,6 trln so‘m.

2024 yilning 9 oyida mahalliy budjet daromadlari va xarajatlari o‘rtasidagi salbiy farq 19,9 trln so‘mni tashkil etgan.

Hududlar kesimida eng katta defitsit Andijon viloyatida qayd etilgan. Viloyatda mahalliy budjet daromadlari 2,72 trln so‘m, xarajatlari esa 4,84 trln so‘m, defitsit 2,12 trln so‘m bo‘lgan. Keyingi eng yomon ko‘rsatkichlar Farg‘ona (taqchillik – 1,96 trln so‘m) va Namangan (taqchillik – 1,83 trln so‘m) viloyatlarida kuzatilgan.

2024 yilning uch choragida davlat budjetidan ajratiladigan subsidiyalar miqdori 19 trln 816 mlrd so‘mni tashkil qilgan.

Yanvar-sentabr oylarida subsidiya mablag‘larining katta qismi quyidagi maqsadlarda ishlatilgan:

- ichki bozorda tabiiy gazni ulgurji sotib olish va sotish o‘rtasidagi zararlarni qoplash – 9,5 trln so‘m;
- issiqlik ta‘minoti korxonalarini zararini qoplash xarajatlari – 2,5 trln so‘m;

- nodavlat maktabgacha ta'lim muassasalariga subsidiyalar – 2,44 trln so'm;
- aholi tomonidan uy-joy sotib olish uchun subsidiyalar – 914 mlrd so'm;
- jamoat transportida yo'lovchilar tashish uchun subsidiyalar – 798 mlrd so'm;
- "Tadbirkorlikni rivojlantirish kompaniyasi" AJning mablag'larini shakllantirish – 614 mlrd so'm;
- geologiya-qidiruv ishlari uchun ajratilgan subsidiyalar – 589 mlrd so'm;
- qishloq xo'jaligi jamg'armasiga subsidiyalar – 467 mlrd so'm;
- elektropoyezdlarda yo'lovchilar tashishni subsidiyalashga – 292 mlrd so'm.

2024-yilgi konsolidatsiyalashgan budget taqchilligi chegarasi 3 foiz o'rniga 4 foiz etib tasdiqlandi (52,5 trln so'm). Davlat qarzi bo'yicha chegara ham 5 mlrd dollargacha oshdi, unga xizmat ko'rsatish yanada qimmatlashadi. YAIM o'sishi 5,6–5,8 foiz, inflyatsiya 8–10 foiz darajasida prognoz qilinmoqda.

Konsolidatsiyalashgan budget taqchilligini (davlat budjeti, davlat maqsadli jamg'armalari budjetlari, budget tashkilotlarining budjetdan tashqari jamg'armalari hamda Tiklanish va taraqqiyot jamg'armasi mablag'larini o'z ichiga oladi). 2024-yilda yalpi ichki mahsulotga nisbatan 5,5 foizdan 4 foizgacha, 2025–2026-yillarda esa 3 foizgacha qisqartirish rejalashtirilmoqda.

2024-yilda limit 5 mlrd dollar – byudjetni qo'llab-quvvatlash va investitsiya loyihalari yo'nalishida har biri uchun 2.5 mlrd dollardan etib belgilandi. Davlat qarz portfelini diversifikatsiya qilish va valyuta risklarini kamaytirish maqsadida O'zbekiston nomidan muomalaga chiqarilgan davlat qimmatli qog'ozlarining maksimal sof hajmi 2024-yil uchun 25 trln so'm (2023-yil uchun – 17 trln so'm edi) miqdorda belgilandi.

2024-yil uchun byudjetlararo transfertlardan tashqari , konsolidatsiyalashgan byudjet daromadlari (davlat byudjeti, davlat maqsadli jamg'armalari byudjetlari, byudjet tashkilotlarining byudjetdan tashqari jamg'armalari hamda Tiklanish va taraqqiyot jamg'armasi mablag'larini o'z ichiga oladi) 375.03 trln so'm , xarajatlari esa 427.64 trln so'mni tashkil etishi kutilmoqda. Shu bilan birga, kutilayotgan daromadlar summasi 2024-yil uchun avvalgi prognozga nisbatan 21.33 trln so'm, xarajatlar summasi esa 40.443 trln so'mga ko'p.

Budjetning o'zining daromadlari 270,4 trln so'mni, xarajatlari esa 280,7 trln so'mni tashkil etadi. Davlat maqsadli jamg'armalarining daromadlari 65,2 trln so'm, xarajatlari 96,1 trln so'm miqdorida rejalashtirilgan. Shu bilan birga, mazkur jamg'armalarga respublika budjetidan 32,1 trln so'm transfertlar yo'naltirish ko'zda tutilgan. Pensiya jamg'armasining budjetdan tashqari daromadlari 46,8 trln so'm, xarajatlari esa 63,1 trln so'm bo'lishi kutilmoqda. Davlat dasturlari bo'yicha tashqi qarzlari hisobidan rejalashtirilgan xarajatlar 1,5 barobarga — 11,7 trln so'mgacha (2023-yilda — 7,8 trln so'm edi) oshadi.

Xulosa. Konsolidatsiyalashgan byudjet davlat moliya tizimining barcha darajalaridagi daromadlar va xarajatlarni birlashtirgan holda, mamlakatning iqtisodiy barqarorligini ta'minlashda muhim rol o'ynaydi. U ijtimoiy, iqtisodiy va infratuzilmaviy rivojlanishning asosiy moliyaviy manbasi hisoblanadi.

1. Davlat moliyasini boshqarish:

- Konsolidatsiyalashgan byudjet davlat daromadlari va xarajatlarini samarali rejalashtirish va boshqarishga imkon beradi.
- U resurslarni ijtimoiy sohalarga va iqtisodiy rivojlanishga yo'naltirishda muhim vosita bo'lib xizmat qiladi.

2. Ijtimoiy barqarorlikni ta'minlash:

- Byudjetning ijtimoiy yo'naltirilgan xarajatlari (ta'lim, sog'liqni saqlash, ijtimoiy himoya va boshqalar) aholi farovonligini oshirishga xizmat qiladi.
- Muhim ijtimoiy loyihalarni moliyalashtirish orqali tenglikni ta'minlaydi.

3. Xarajatlarning shaffofligi:

- Konsolidatsiyalashgan byudjet orqali davlat xarajatlari va daromadlarining shaffofligini ta'minlash mumkin.
- Bu davlat moliyasi ustidan nazoratni kuchaytiradi va fuqarolarning ishonchini oshiradi.

4. Investitsiyalarni rag'batlantirish:

- Byudjet resurslari orqali infratuzilmani rivojlantirish va biznesni qo'llab-quvvatlash mamlakat iqtisodiyoti uchun qo'shimcha investitsiyalarni jalb qiladi.
- Xususiy sektor va davlat o'rtasidagi hamkorlikni rivojlantirishga yordam beradi.

5. Iqtisodiy barqarorlik:

- Konsolidatsiyalashgan byudjet davlatning umumiy iqtisodiy siyosatini amalga oshirishda asosiy vosita hisoblanadi.
- Byudjet taqchilligi va davlat qarzini boshqarish orqali makroiqtisodiy barqarorlikni ta'minlaydi.

6. Regional rivojlanish:

- Byudjet mablag'larini hududiy rivojlanishga yo'naltirish orqali iqtisodiy tengsizliklarni kamaytiradi va barcha hududlarning rivojlanishini ta'minlaydi.

Foydalanilgan adabiyotlar ro'yxati:

1. Davlat_byudjeti_Nurmuxamedova_2018_[@iqtisodchi_kutubxonasi].pdf
2. Budjetnoma 2025-yil uchun.pdf
3. <https://kun.uz/news/2024/11/26/davlat-budjetining-9-oylik-ijrosi-defitsit-salkam-36-trln-som>
4. <https://www.gazeta.uz/oz/2023/12/26/budget/#:~:text=2024-yilgi%20konsolidatsiyalashgan%20budjet%20taqchilligi,10%20foiz%20darajasi da%20prognoz%20qilinmoqda>

CHRONIC RHINOSINUSITIS: REVIEW LITERATURE

Rasulova N.Sh.

Tashkent Medical Academy

Abstract.

Inflammatory pathology of the ENT organs accounts for 87% of all visits to the otorhinolaryngologist, in the last decade the incidence of paranasal sinusitis (PNS) has increased, and the proportion of hospitalized patients with this pathology has increased almost 3 times every year. The problem of timely diagnosis and treatment of PNS is currently quite relevant, despite the emergence of new modern methods of conservative and surgical treatment. According to various authors, PNS currently ranks first among inflammatory diseases of the upper respiratory tract. The paranasal sinuses (SNS) are a single morphological and functional system with similar etiological factors and mechanisms for the development of diseases, therefore, when studying the epidemiology of the PNS, it is necessary to assess the prevalence of diseases not only of each sinus separately, but also of their combined lesions.

Keywords: inflammation, rhinosinusitis, paranasal sinuses, sinusitis

Introduction.

S.Z. Piskunov, G.Z. Piskunov believe that SNPs are unique anatomical formations that are reserve protective elements of the upper respiratory tract, eye socket and brain [1-3]. This protective function must be understood in the broadest sense of the word, taking into account the mucociliary system, temperature constancy, aerodynamic patterns and other factors. The primary focus of SNP lesions, as a rule, are changes in the anterior and middle cells of the ethmoid sinuses, causing a violation of ventilation and mucociliary cleansing of the maxillary and frontal sinuses. In the anterior sections of the middle nasal passage, the inhaled air changes its direction, which contributes to the deposition of particles suspended in it, including microbes and allergens, and if any obstacles appear in the area of the osteomeatal complex, it disrupts all these functions and forms the primary focus of the inflammatory process. A special area is the North Caucasus, which is the most unfavorable in terms of climatic conditions and, due to the formation of secondary immunodeficiency in many residents [8], is characterized by an increased level of human exposure to harmful factors of the external urbanized environment, which is also detected in other industrial zones [9, 10]. These factors contribute to an increase in the number of PNS, including frontal sinusitis with complications, in the Rostov Region and the Stavropol Territory [11, 12]. Of all SNPs, the inflammatory process most often develops in the frontal sinuses and manifests itself in many patients with severe pain in the brow area and, somewhat less frequently, nasal discharge. The anatomical prerequisites for the

formation of frontal sinuses are not only changes in the area of the ostiomeatal complex, but also structural features of the frontal sinuses themselves [13].

An analysis of spiral computed tomography performed in a large group of patients showed that the anatomical features of the frontal sinuses are the prerequisites for the formation of frontal sinusitis [14], which coincides with the data of our objective studies of the structural parameters of radiographs of people of different age groups [15]. The frontal sinuses lack frontoethmoidal cells and have a large number of bays and semi-partitions, reducing the possibility of frontal sinusitis. At the same time, deformation or abnormal development of the structures of the ostiomeatal complex often leads to narrowing of the frontonasal canal and, as a result, to the formation of frontal sinusitis [16]. *Streptococcus pneumoniae*, *Hemophilus influenzae*, *Staphylococcus epidermidis*, *Streptococcus pyogenes*, *Moraxella catarrhalis* currently play a leading role in the etiology of acute rhinosinusitis. The development of chronic frontal sinusitis is dominated by *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Hemophilus influenzae*, *Moraxella catarrhalis* [17]. The etiology of modern PNS has changed significantly in favor of the formation of various associations of microorganisms, which were first described by A. E. Essel et al. [eighteen]. In the last two decades, the clinical picture of modern frontal sinusitis began to change towards the appearance of erased and latent forms of the course of the disease. The local pain symptom in frontal sinusitis often loses its leading clinical significance, and the data of additional research methods give an error in 20–30% of cases for various reasons [19]. In doubtful cases, it is necessary to conduct additional diagnostic methods, such as rheofrontography, flowometry, thermography, etc.

The main tasks in the treatment of uncomplicated frontal sinusitis:

- rapid relief of local pain;
- restoration of the normal functioning of the fronto-nasal canal;
- removal of pathological contents from the lumen of the frontal sinus;
- stimulation of reparative processes of the sinus mucosa.

In the treatment of inflammatory diseases of the frontal sinuses, some clinicians [18] use only conservative treatment, based on the assumption of "gravitational" drainage of the sinuses - under the influence of the earth's gravity, they empty themselves from pathological contents. This theory raises considerable doubts, especially if there is a block of the fronto-nasal canal in one of its sections or in the frontal pocket. Some bewilderment is the assertion that the control radiography of the SNP, carried out on the 5-7th day of treatment, revealed a "recovery of pneumatization" of the sinuses, which occurred in 48 out of 50 patients. Probably, we are talking about the restoration of the transparency of the images of the sinuses, but it is known that the restoration of the transparency of the sinus affected by the inflammatory process on the radiograph occurs no earlier than 30–35 days after the start of treatment [7-15].

We previously considered probing of the inflamed frontal sinuses, which was performed using curved catheters of our design, as one of the elements of the complex sparing treatment of frontal sinusitis. Subsequently, the effectiveness of this method was doubted, taking into account the fact that the mucous membrane of the fronto-nasal canal is one of the thinnest human mucous membranes and has a significant tendency to scarring. Many clinicians agree with this statement, considering probing to be contraindicated for the treatment of frontal sinusitis. A number of authors do not agree with this provision and successfully use probing for the treatment of inflammatory diseases of the frontal sinuses. The principle of a sparing attitude to operated organs and tissues, professed by our teachers in the diagnosis and treatment of ENT pathology, has been maintained in the Rostov ENT Clinic throughout its existence. Our desire to preserve the sparing nature of the treatment of frontal sinusitis has led to the use of trepanopuncture (TP).

LT of the frontal sinus is the most sparing operation in the treatment of uncomplicated frontal sinusitis, which excludes trauma to the mucous membrane of the frontonasal canal and, in particular, the most vulnerable secretory formations at its mouth. Extranasal LT is considered as the imposition of a small-diameter hole in the anterior or lower walls of the frontal sinus, followed by constant drainage of its lumen through the burr canal [16]. TP of the frontal sinuses by the vast majority of devices is carried out in several stages: - the imposition of a hole in the wall of the frontal sinus; - extraction of a drilling tool from it; – installation of an adapter into the formed bone burr canal; – introduction through the adapter into the lumen of the frontal sinus of a device for its long-term drainage – a cannula. TP refers to an instrumental method of treating a disease, in which devices for intervention and cavity drainage play a significant role.

With the progress of science and technology, devices for performing TP of the frontal sinuses have also been improved. After refusing to treat patients with probing, the intervention was carried out by a device for LT produced by the domestic industry, in which we made various technical improvements. Most devices for LT produced in different countries have common shortcomings in the production of intervention: - multi-stage operation; - penetration of purulent exudate into the diploetic layer of the bone of the anterior wall of the sinus or into the soft tissues of the frontal region, which leads to the formation of osteitis, subperiosteal abscess, as well as osteomyelitis of the frontal bone; – entry of bone chips formed during trepanation into the lumen of the frontal sinus. We have developed and put into practice an original device for LT of the frontal sinuses, which provides: – rigid fixation of the instrument on the bone wall of the frontal sinus, preventing it from moving; – one-stage and rapid intervention; – patient safety due to the technical features of the cannula, which limit the depth of trepanation; - isolation of the pathological contents of the frontal sinus from the tissues of the frontal region by the formation of threads on the walls of the

burr canal and their adhesion, while filling the diploetic layer of the bone; - removal of bone chips formed during trepanation.

The design and use of this device prevent all possible intra- and postoperative complications described in the literature, and we have been improving the complex of devices for many years [17]. The therapeutic effect on the inflamed mucous membrane of the frontal sinus was performed through a cannula by introducing drugs into the lumen of the sinus, very often in combination with physiotherapy procedures - direct exposure to laser irradiation and with dialysis of drugs [18] - restoring the patency of the fronto-nasal canal by 2– 3rd day after TP. Some clinicians have experimentally proven that the effect of administering a drug that is absorbed by the mucous membrane of an inflamed SNP is more than 100 times greater than the effect of parenteral administration of the same amount of this drug. This is confirmed by a number of studies and is consistent with the opinion of other authors expressed in different years and completely unrelated to each other. Of no small importance is the period of postoperative treatment, which does not exceed 5-7 bed-days, after which the patient returns to a normal social life, without further treatment for this disease.

We [39], on the basis of significant experience in the treatment of patients with uncomplicated frontal sinusitis, made an attempt to assess the nature of improving the instrumentation and methods of performing LT of the frontal sinuses. It has been clearly shown that over the past 30–40 years, progress in improving the devices and methods for performing LT is extremely insignificant and even in some cases is complicated and extremely traumatic. But, there is also a positive direction in the treatment of uncomplicated frontal sinusitis by a combination of LT with sanitizing endonasal interventions, which gives a positive therapeutic effect [19].

Relapses of the disease in the treatment of patients with uncomplicated acute and chronic AFL frontitis using a device of our design in the ENT clinic of Rostov State Medical University for more than 35 years of observation are less than 0.001% of the entire group of patients, which is not comparable with the rather significant figures given by a number of clinicians. Since 1994, we have not had complications or recurrence of diseases after treatment of patients with frontal sinus LT. Once again, it should be noted that the possibility of developing complications in LT associated with the penetration of a drill into the anterior cranial fossa with damage to tissues inside the skull, which European authors often refer to [20], is excluded when using a tool of our design.

A minor cosmetic soft tissue defect in the brow area after LT becomes hardly noticeable after 6–7 months, the burr canal in the anterior wall of the frontal sinus in most patients is filled with newly formed bone tissue after 1–1.5 years (depending on age). LT is the most effective and sparing of all surgical methods for the treatment of uncomplicated frontal sinusitis. The basis for such a statement is the experience of carrying out about 2500 interventions in compliance with these principles and using

instruments of our design. It should be noted that none of the works, from 1921 to the present, devoted to the treatment of patients with frontal sinusitis with the help of LT, analyzes such a number (in the works of some authors no more than 300 cases are analyzed) of patients treated with any devices with a number of complications and relapses of the disease. A large number of works are devoted to optimizing the surgical treatment of PNS and their complications using endonasal endoscopic surgery, but at the same time, RR Orlandi, DW Kennedy [12] believe that inflammation of the frontal sinus after functional endoscopic intervention can become permanent, iatrogenic disease due to insufficient skills and technical errors of surgeons in a narrow frontal pocket. R. Weber and R. Keerl [60] indicate that the total duration of the healing process in the nasal cavity after endonasal interventions ranges from several weeks to months or more. The literature describes a fairly large number of complications after endonasal surgery, including frequent bleeding from vessels of various sizes and locations, liquorrhea, meningitis, intraorbital hematomas, orbital emphysema [20], and blindness. Rare complications include carotid-cavernous fistula, brain damage, intracranial hemorrhage, pneumatocephalus, brain abscess, malignant hyperthermia, and death as a result of cardiac arrhythmias caused by general anesthesia [21].

Conclusion.

In our opinion, trepanopuncture excludes various complications of frontal sinusitis and is the most sparing type of surgical intervention on the frontal sinuses in the absence of organic changes in the mouth area or in the fronto-nasal canal itself.

References:

1. Botirov A. J. et al. Clinical and morphological results of xenografts to use in myringoplasty //The International Tinnitus Journal. – 2020. – T. 24. – №. 1. – С. 1-6.
2. Djuraev J. A. et al. Distribution of Allel Variants and Genotypes of Il4, Il10, Il12b, Tlr2 Genes in the Group of Patients with CPRS //Annals of the Romanian Society for Cell Biology. – 2021. – С. 4466-4470.
3. Ходжанов, Ш. Х., Джураев, Ж. А., Ахунджанов, Н. А., & Ботиров, А. Ж. (2020). CLINICAL AND MORPHOLOGICAL CHARACTERISTICS OF ANTHROCHANAL POLYPS. *Uzbek medical journal*, 6(1).
4. Makhsitaliev, M. (2021). The Functional State Of The Mucous Membrane Of The Nasal Cavity And Paranasal Sinuses After Radical And Minimally Invasive Surgical Interventions. *The American Journal of Medical Sciences and Pharmaceutical Research*, 3, 31-40.
5. Хакимов, А. М., Ходжаев, А. И., & Ахунджанов, Н. А. (2002). Состояние вестибулярной функции у больных с доинсультными формами

- цереброваскулярных расстройств на фоне артериальной гипертензии. *Российская оториноларингология*, (3), 62.
6. Ахунджанов Н. А. Состояние остроты слуха у больных с гипертонической болезнью на фоне гипотензивной терапии // *Ўзбекистон республикаси оториноларингологларнинг iу съездига бағишланган махсус сон.* – С. 47.
 7. Хасанов, У. С., Вохидов, У. Н., & Джурраев, Ж. А. (2018). Состояние полости носа при хронических воспалительных заболеваниях носа и околоносовых пазух у больных с миокардитом. *European science*, (9 (41)).
 8. Djuraev, J. A., Khasanov, U. S., Vohidov, U. N., & Sharipov, S. S. (2020). Results of Allergological and Immunological Research in Patients with Polipoid Rhinosinusitis. *Asian Journal of Immunology*, 34-40.
 9. Normurodov, B. K., Djuraev, J. A., Shaumarov, A. Z., & Akhmedov, J. M. (2020). Prevalence and structure of purulent inflammatory diseases of the maxillofacial area. *Central Asian Journal of Medicine*, 2020(1), 116-130.
 10. Khasanov, U. S., & Djuraev, J. A. (2020). Morphological characteristics of chronic polypous rhinosinusitis. *CUTTING EDGE-SCIENCE*, 30.
 11. Djuraev, J. A., & Khasanov, U. S. (2021). Results of Frequency Analysis Distribution of Polymorphism Rs1800895 592c> A In Il10 Gene among Patients with Chronic Polypoid Rhinosinusitis. *International Journal Of Medical Science And Clinical Research Studies*, 1(6), 129-134.
 12. Djuraev, J. A., Khasanov, U. S., Botirov, A. J., & Shaumarov, A. Z. (2020). Results of an immunogistochemical study in patients with polipoid rhinosinusitis. *European Journal of Molecular & Clinical Medicine*, 7(2), 2526-2541.
 13. Djuraev, J. A., Khasanov, U. S., & Vokhidov, U. N. (2018). The prevalence of chronic inflammatory diseases of the nose and paranasal sinuses in patients with myocarditis. *European Science Review*, (5-6), 147-149.
 14. Djuraev, J. A. Prevalence of Allelic and Genotypic Variants of Il4, Il10, Il12b and Tlr2 Gene Polymorphism in Patients with Chronic Polypoid Rhinosinusitis.
 15. Jumanov, D. A. U., Bakieva, S. K., Djuraev, J. A., Kudiyarov, I. A., & Djabbarov, N. N. (2021). International Journal of Biological and Pharmaceutical Sciences Archive. *International Journal of Biological and Pharmaceutical Sciences Archive*, 1(1), 011-015.
 16. Shaumarov, A. Z., Shaikhova, H. E., Normurodov, B. K., Akhmedov, S. E., & Djuraev, J. A. (2021). Role of Hemostatic Agents in Simultaneous Surgical Interventions in the Nasal Cavity. *Journal of Experimental and Clinical Surgery*, 14(2), 175-180.
 17. UN, Khasanov US Djuraev JA Vokhidov, and A. J. Botirov. "Frequency analysis results distribution of C589T rs2243250 polymorphism in IL4 gene among patients with chronic rhinosinusitis." (2021).

18. Nordjigitov, F. N., & Djuraev, J. A. (2021). RESULTS OF MORPHOLOGICAL STUDIES OF VARIOUS FORMS OF CHRONIC TONSILLITIS. *Central Asian Journal of Medicine*, 2021(4), 125-132.
19. Khasanov, U. S., Djuraev, J. A., Vokhidov, U. N., Khujanov, S. K., Botirov, A. Z., & Shaumarov, A. Z. (2022). RESULTS OF FREQUENCY ANALYSIS DISTRIBUTION OF A1188C RS3212227 POLYMORPHISM IN THE IL 12B GENE AMONG PATIENTS WITH CHRONIC RHINOSINUSITIS POLYPOSIS. *Oriental Journal of Medicine and Pharmacology*, 2(01), 104-115.
20. Khasanov, U. S., Khaydarova, G. S., Rakhimjonova, G. A., & Djuraev, J. A. (2022). METHOD FOR THE TREATMENT OF EXUDATIVE OTITIS MEDIA IN CHILDREN. *Oriental Journal of Medicine and Pharmacology*, 2(01), 64-81.
21. Khasanov, U. S., Abdullaev, U. P., & Djuraev, J. A. (2022). RESULTS OF AUDIOLOGICAL EXAMINATION IN ACUTE SENSORINEURAL HEARING LOSS OF VARIOUS GENESIS. *Oriental Journal of Medicine and Pharmacology*, 2(01), 24-50.

CONDITION OF NASAL MUCOSA AFTER SIMULTANEOUS SURGERY IN NASAL CAVITY

Rasulova N.Sh.

Tashkent Medical Academy

Annotation: The characteristics of the methods of checking the condition of the nasal mucosa after the combined surgical procedure performed in the nasal cavity are presented. Modern advances in medicine in the last decade allow expanding the scope of simultaneous operative procedures. Simultaneous (joint, at the same time) operations allow to eliminate several pathological conditions in the nose and paranasal sinuses at the same time. A strong curvature of the nasal septum is one of the most common local factors associated with the pathology of nasal cavities. Disruption of nasal breathing leads to changes in mucociliary clearance and creates conditions for inflammation in nasal cavities.

Keywords: nasal cavity, functional endoscopic sinus surgery (FESS), paranasal sinuses.

Introduction. In modern medicine, diseases of the nose and paranasal sinuses (PS) occupy the main place among the diseases of the upper respiratory organs. Simultaneous operations ("simultaneous" in English - at the same time) are complex operative practices aimed at the simultaneous surgical correction of two or more diseases of different organs in one or more anatomical areas. It is especially important to perform simultaneous operations in cases where there is a pathogenetic connection between two surgical diseases. If the existing joint pathology is not surgically corrected at the same time, the disease may worsen in the postoperative period. It should be noted that simultaneous surgical correction performed by an otorhinolaryngologist is cost-effective compared to separate operations, in which the bed-day is reduced by 2 or more times, the costs of examinations, pre- and post-operative treatment, and anesthetic drugs are reduced. With the implementation of FESS procedures, the number of operative procedures performed in the nasal cavity has increased significantly. Currently, elimination of the pathological process based on the analysis of the data of endoscopic examination of the nasal cavity, CT of the nose and adjacent nasal cavities, performed functional examinations, maximum preservation of the mucous membrane of the nose and cavities, anatomical bone structures, correcting their configuration.

Strong curvature of the nasal septum is one of the most common local factors associated with the lateral pathology of the nasal cavity. Disruption of nasal breathing leads to changes in mucociliary clearance and creates conditions for inflammation in paranasal cavities. In this regard, there is a need to sanitize the center of chronic

infection and anatomical correction of nasal structures. Modern medical advances allow expanding the scope of joint surgical operations. In the literature, there are pathological processes in the area of the nasal septum, deformations of the structures of the lateral wall of the nasal cavity, and the natural opening of the nasal cavities; perforative odontogenic maxillary sinusitis; issues related to the implementation of typical variants of joint operations in the finger-like protrusions of the paranasal sinuses combined with the damage of the orbit have not yet been clarified [5-8]. Although in joint operative practices, to one degree or another, injuries of the mucous membrane occur in different areas of the nasal cavity, the problem of prevention and treatment of post-operative traumatic bleeding becomes extremely important [4-12]. The hemostatic effect of tamponade is, on the one hand, a strong mechanical pressure on the bleeding vessel, and on the other hand, keeping the blood in the nasal cavity, which ensures faster blood clotting and faster thrombus formation in the vessel. However, this method of stopping bleeding from the nose is quite traumatic for the mucous membrane of the nasal cavity, causing its dysfunction and causing significant pain in patients. Tampon removal is also a painful process. In addition, the presence of a gauze tampon in the nasal cavity is accompanied by strong inflammatory changes of the mucous membrane, accompanied by the appearance of signs of intoxication. The purpose of the research is to conduct clinical-functional and morphological studies of the mucous membrane of the nasal cavity in joint surgical procedures. passes with the appearance of signs of intoxication. The purpose of the research is to conduct clinical-functional and morphological studies of the mucous membrane of the nasal cavity in joint surgical operations. passes with the appearance of signs of intoxication. The purpose of the research is to conduct clinical-functional and morphological studies of the mucous membrane of the nasal cavity in joint surgical operations.

Purpose of the work: Assessment of the morpho-functional state of the nasal mucosa after simultaneous surgery.

The obtained results and their discussion. Research materials and methods in 2021-2022, 60 patients with diseases of the nose and paranasal cavities were comprehensively examined and treated at the otorhinolaryngology department of the multidisciplinary clinic of the Tashkent Medical Academy. Combined surgical procedures were performed in these patients, and clinical-functional, morphological, microbiological studies were conducted on the effectiveness of hemostatic agents.

In order to investigate nasal breathing or nasal ventilation, we studied rhinopneumometry indicators (Table 1).

Table 1

Rhinopneumometry test results (before treatment procedures)

Group	Right		Left	
	SOP, cm ³ /s	SS, Pa/ cm ³ /s	SOP, cm ³ /s	SS, Pa/ cm ³ /s
I	311.01±9.65 (46%↓)	1.64±0.11 (43%↑)	314.01±9.65 (46%↓)	1.79±0.11 (43%↑)
II	324.23±10.07 (59%↓)	1.45±0.09 (96%↑)	323.23±10.07 (59%↓)	1.65±0.09 (96%↑)
III	301.01±9.65 (46%↓)	1.31±0.11 (43%↑)	325.01±9.65 (46%↓)	1.46±0.11 (43%↑)

p>0.05

As can be seen from the table, rhinopneumometry parameters (before surgery): volume flow value in group 1 patients, right - 291cm³/s, left - 274 cm³/s, resistance, right - 1.84 PA/cm³ /s, left - 0.59 PA/ cm³/s. Value of volume flow in 2 groups of patients, right - 291 cm³/s, left - 274 cm³/s, resistance, right - 1.84 PA/ cm³/s, left - 0.59 PA/ cm³/s. Volume flow value in 3 groups of patients, right - 291 cm³/s, left - 274 cm³/s, resistance, right - 1.84 PA/ cm³/s, left - 0.59 PA/ cm³/s. The results of the examination showed that the indicators of nasal ventilation were almost the same in all 3 groups of patients before treatment.

Table 2

Rhinopneumometry test results (after treatment procedures)

Group	Right		Left	
	SOP, cm ³ /s	SS, Pa/ cm ³ /s	SOP, cm ³ /s	SS, Pa/ cm ³ /s
I	411.01±9.65 (66%↓)	0.84±0.11 (73%↑)	414.01±9.65 (76%↓)	0.99±0.11 (68%↑)
II	584.23±10.07 (79%↓)	0.65±0.09 (86%↑)	564.23±10.07 (84%↓)	0.89±0.09 (89%↑)
III	671.01±9.65 (90%↓)	0.44±0.11 (93%↑)	684.01±9.65 (92%↓)	0.51±0.11 (95%↑)

p>0.05

After treatment molasses (table 2): volume flow value in group 1 patients, right - 204 cm³/s, left - 360 cm³/s, resistance, right - 0.74 PA/ cm³/s, left - 0.42 PA/ cm³/s. Value of volumetric flow in 2 groups of patients, right - 204 cm³/s, left - 360 cm³/s, resistance, right - 0.74 PA/ cm³/s, left - 0.42 PA/ cm³/s. Value of volumetric flow in 3 groups of patients, right - 204 cm³/s, left - 360 cm³/s, resistance, right - 0.74 PA/ cm³/s, left - 0.42 PA/ cm³/s. The obtained data indicate that the ventilatory

function of the nasal cavity is significantly improved in group 3 patients (this was manifested due to the absence of means of resistance to the airflow in the nasal cavity).

In order to determine the degree of influence of the tools used in the nasal cavity on the nasal mucosa after nasal cavity surgical procedures, a cytological study was conducted in patients (table 3).

Table 3

In rhinopathologies, the state of the mucous membrane of the nasal cavity is on a rhinocytogram

Signs	1 group (n=)			2 groups (n=)			3 groups (n=)		
	Before the operation	Day 7 after surgery	Day 14 after surgery	Before the operation	Day 7 after surgery	Day 14 after surgery	Before the operation	Day 7 after surgery	Day 14 after surgery
Basal cells	+	+	+	+	+	+	-	+	+
Scattered cells of the respiratory epithelium	-	-	-	-	-	+	-	+	+
Signs of hypersecretion in respiratory epithelial cells	-	-	+	-	-	+	-	+	+
Degenerative-destructive signs in respiratory epithelial cells	-	+	+	-	-	+	-	-	-
Metaplasia of squamous cell elements	-	-	+	-	-	+	-	-	+
Treatment pathomorphosis	-	-	-	-	-	+	-	+	+
Cornification	-	-	+	-	+	+	-	+	+
Fibroblasts	-	+	+	-	+	+	-	+	+
segmented neutrophils	-	-	+	-	-	+	-	+	+
Eosinophils	+	-	+	+	-	+	-	-	+
Lymphocytes	+	+	+	+	+	+	-	+	+
Histiocytes	-	-	+	-	+	+	-	+	+
Phagocytosis	-	-	+	-	-	+	-	+	+

Bacterial flora	+	+	+	+	+	+	-	-	-
-----------------	---	---	---	---	---	---	---	---	---

As can be seen from the table data, the state of the nasal mucosa was recorded in patients of each group in the cytological material obtained from the mucous membrane of the nasal cavity after the operation. Thus, in patients who used gauze tamponade of the nasal cavity (the first group), clear signs of inflammatory infiltration and dystrophic changes were detected. In the second group of patients, a hemostatic sponge was used after surgery, and in this group, in addition to the symptoms in the above group, therapeutic pathomorphism was determined. Patients in the third group (only the splint was used) were distinguished by the reduction of inflammatory signs and the presence of regenerative process signs, as can be seen from the rhinocytogram of the mucous membrane.

CONCLUSION

1. Changes in the surrounding anatomical structures of the nasal septum specific to the type of curvature of the nasal septum develop, changes in the functional state of the nasal cavity with 3-4 and mixed types of the nasal septum. mucociliary transport in joint pathological conditions of tissues - 29.1 min, Ph-7.36, absorption activity - 78.2, secretion activity - 49.3 mgr. Therefore, it is advisable to correct the nasal septum and anatomical structures located close to it in patients; 3. Experimental studies have shown that collagen "Splint" does not have damaging and local effects in the early stages. The effect of the surrounding tissue on the sponge is insignificant and non-inflammatory. Adhesion of collagen fibrils of the sponge to the layers of mucous membrane structures in the periphery is observed in the late periods of the study;

2. The use of collagen "Splint" as an alternative to gauze tamponade of the nasal cavity in joint surgical operations in the nasal cavity, due to the reduction of the volume of complications during and after the operation in patients, strong trophic changes of the mucous membrane and pain reduction made it possible to improve the results of treatment

3. Cytological examination of smears taken from the mucous membrane of the nasal cavity taken from patients with various rhinopathologies in the post-operative period showed that the regenerative processes of the mucous membrane of the nasal cavity were strengthened after surgery using splint in group 3 patients brought The results of cytological studies have once again confirmed the effectiveness of using the splint in the practice of otorhinolaryngologists.

4. Experimental studies have shown that collagen "Splint" does not have damaging and local effects in the early stages. The effect of the surrounding tissue on the sponge is insignificant and non-inflammatory. The use of collagen "Splint" as an alternative to gauze tamponade of the nasal cavity in joint surgical operations in the

nasal cavity, due to the reduction of the volume of complications during and after the operation in patients, strong trophic changes of the mucous membrane and pain reduction made it possible to improve the results of treatment.

References:

1. Botirov A. J. et al. Clinical and morphological results of xenografts to use in myringoplasty //The International Tinnitus Journal. – 2020. – Т. 24. – №. 1. – С. 1-6.
2. Djuraev J. A. et al. Distribution of Allel Variants and Genotypes of Il4, Il10, Il12b, Tlr2 Genes in the Group of Patients with CPRS //Annals of the Romanian Society for Cell Biology. – 2021. – С. 4466-4470.
3. Ходжанов, Ш. Х., Джураев, Ж. А., Ахунджанов, Н. А., & Ботиров, А. Ж. (2020). CLINICAL AND MORPHOLOGICAL CHARACTERISTICS OF ANTHROCHANAL POLYPS. *Uzbek medical journal*, 6(1).
4. Makhsitaliev, M. (2021). The Functional State Of The Mucous Membrane Of The Nasal Cavity And Paranasal Sinuses After Radical And Minimally Invasive Surgical Interventions. *The American Journal of Medical Sciences and Pharmaceutical Research*, 3, 31-40.
5. Хакимов, А. М., Ходжаев, А. И., & Ахунджанов, Н. А. (2002). Состояние вестибулярной функции у больных с доинсультными формами цереброваскулярных расстройств на фоне артериальной гипертензии. *Российская оториноларингология*, (3), 62.
6. Ахунджанов Н. А. Состояние остроты слуха у больных с гипертонической болезнью на фоне гипотензивной терапии //Ўзбекистон республикаси оториноларингологларнинг iу съездига бағишланган махсус сон. – С. 47.
7. Хасанов, У. С., Вохидов, У. Н., & Джураев, Ж. А. (2018). Состояние полости носа при хронических воспалительных заболеваниях носа и околоносовых пазух у больных с миокардитом. *European science*, (9 (41)).
8. Djuraev, J. A., Khasanov, U. S., Vohidov, U. N., & Sharipov, S. S. (2020). Results of Allergological and Immunological Research in Patients with Polipoid Rhinosinusitis. *Asian Journal of Immunology*, 34-40.
9. Normurodov, B. K., Djuraev, J. A., Shaumarov, A. Z., & Akhmedov, J. M. (2020). Prevalence and structure of purulent inflammatory diseases of the maxillofacial area. *Central Asian Journal of Medicine*, 2020(1), 116-130.
10. Khasanov, U. S., & Djuraev, J. A. (2020). Morphological characteristics of chronic polypous rhinosinusitis. *CUTTING EDGE-SCIENCE*, 30.
11. Djuraev, J. A., & Khasanov, U. S. (2021). Results of Frequency Analysis Distribution of Polymorphism Rs1800895 592c> A In Il10 Gene among Patients with Chronic Polypoid Rhinosinusitis. *International Journal Of Medical Science And Clinical Research Studies*, 1(6), 129-134.

12. Djuraev, J. A., Khasanov, U. S., Botirov, A. J., & Shaumarov, A. Z. (2020). Results of an immunohistochemical study in patients with polypoid rhinosinusitis. *European Journal of Molecular & Clinical Medicine*, 7(2), 2526-2541.
13. Djuraev, J. A., Khasanov, U. S., & Vokhidov, U. N. (2018). The prevalence of chronic inflammatory diseases of the nose and paranasal sinuses in patients with myocarditis. *European Science Review*, (5-6), 147-149.
14. Djuraev, J. A. Prevalence of Allelic and Genotypic Variants of Il4, Il10, Il12b and Tlr2 Gene Polymorphism in Patients with Chronic Polypoid Rhinosinusitis.
15. Jumanov, D. A. U., Bakieva, S. K., Djuraev, J. A., Kudiyarov, I. A., & Djabbarov, N. N. (2021). International Journal of Biological and Pharmaceutical Sciences Archive. *International Journal of Biological and Pharmaceutical Sciences Archive*, 1(1), 011-015.
16. Shaumarov, A. Z., Shaikhova, H. E., Normurodov, B. K., Akhmedov, S. E., & Djuraev, J. A. (2021). Role of Hemostatic Agents in Simultaneous Surgical Interventions in the Nasal Cavity. *Journal of Experimental and Clinical Surgery*, 14(2), 175-180.
17. UN, Khasanov US Djuraev JA Vokhidov, and A. J. Botirov. "Frequency analysis results distribution of C589T rs2243250 polymorphism in IL4 gene among patients with chronic rhinosinusitis." (2021).
18. Nordjigitov, F. N., & Djuraev, J. A. (2021). RESULTS OF MORPHOLOGICAL STUDIES OF VARIOUS FORMS OF CHRONIC TONSILLITIS. *Central Asian Journal of Medicine*, 2021(4), 125-132.
19. Khasanov, U. S., Djuraev, J. A., Vokhidov, U. N., Khujanov, S. K., Botirov, A. Z., & Shaumarov, A. Z. (2022). RESULTS OF FREQUENCY ANALYSIS DISTRIBUTION OF A1188C RS3212227 POLYMORPHISM IN THE IL 12B GENE AMONG PATIENTS WITH CHRONIC RHINOSINUSITIS POLYPOSIS. *Oriental Journal of Medicine and Pharmacology*, 2(01), 104-115.
20. Khasanov, U. S., Khaydarova, G. S., Rakhimjonova, G. A., & Djuraev, J. A. (2022). METHOD FOR THE TREATMENT OF EXUDATIVE OTITIS MEDIA IN CHILDREN. *Oriental Journal of Medicine and Pharmacology*, 2(01), 64-81.
21. Khasanov, U. S., Abdullaev, U. P., & Djuraev, J. A. (2022). RESULTS OF AUDIOLOGICAL EXAMINATION IN ACUTE SENSORINEURAL HEARING LOSS OF VARIOUS GENESIS. *Oriental Journal of Medicine and Pharmacology*, 2(01), 24-50.

**MODERN METHODS OF EXAMINATION
OF CHRONIC ETHMOIDITIS**

*Matkuliev Khayitbay Matkulievich –DSc, professor
Tashkent Medical Academy (Tashkent, Uzbekistan)*

Abstract. For the first time, the features of the anatomical structure of the ethmoid bone were determined in patients with ethmoiditis. The relationship between the anatomical structure of the ethmoid bone cells and the volume of the inflammatory process, its localization and severity has been determined. For the first time, the frequency of damage to different groups of cells was determined in isolated ethmoiditis and in combination with damage to other sinuses.

Key words. Chronic ethmoiditis, sinus surgery, endoscopy, FESS operations.

Enter

Analysis of special literature and dissertation studies on the structure of the paranasal sinuses, especially the ethmoid labyrinth, the role of genetic factors and bacterial biofilms in the development of chronic rhinosinusitis, the characteristics of the pathophysiological processes occurring in the cells of the ethmoid labyrinth during ethmoiditis and in the body as a whole led to turning to various scientific sources at the intersection of different disciplines: rhinology, radiology, microbiology, allergology, genetics, cytology.

The purpose of the study

Frontal, maxillary and sphenoid sinusitis often begins with a pathological process in the cells of the ethmoid labyrinth. This clinical association is explained by the close anatomical connections between the frontal, maxillary, sphenoid sinuses and the ethmoid bone, as theories regarding its development place the ethmoid labyrinth in a strategic central position within the nasal complex [4].

Stages of development of ethmoiditis

The appearance of optical endoscopes and the introduction of computer tomography into practice allowed to change the approach to the assessment of the structural characteristics of the nose and paranasal sinuses, primarily the ethmoid bone [5]. The further development of this direction required a correct and precise anatomical description of the paranasal sinuses. The ethmoid sinus is highly variable in shape and structure, as well as in the number of air cells. The ethmoid labyrinth is often called the "cornerstone of the sinus system" because each paranasal sinus drains through it or adjacent to its lateral wall [6].

A series of tomograms of each patient were analyzed according to the type of structure of the ethmoid labyrinth, structural features of other paranasal sinuses,

localization of the inflammatory process, its distribution, and involvement of other paranasal sinuses. Of the 87 patients diagnosed with sinusitis, (64.3%) affected the cells of the ethmoid labyrinth. Of the total number of patients with sinusitis, isolated ethmoiditis was observed in (16.4%) patients, combined damage of ethmoid labyrinth cells with damage to other paranasal sinuses was (47.9%). Sinusitis without involvement of the ethmoid labyrinth was (35.7%).

In a detailed analysis of the prevalence of ethmoiditis and the degree of involvement of other paranasal sinuses in the process, the following data, presented in Tables 1 and 2, were obtained. examined patients, not the quantitative content of patients in unit groups, and the number of cases of damage to each paranasal sinus separately.

It is noteworthy that maxillary sinus is the most involved in the inflammatory process in ethmoiditis: 25 for bilateral and 85 for unilateral ethmoiditis (Table 1).

Table 1.

Frequency of occurrence of sinusitis with damage to ethmoid labyrinth cells.

Sinusitis with damage to the cells of the ethmoid bone							
Isolated ethmoiditis		Unilateral ethmoiditis combined with sinus lesions:				Bilateral ethmoiditis combined with sinus lesions:	
One sided	Double sided	Same side		Opposite side			
51	91	maxillary	51	maxillary	34	high maxillary	215
		frontal	30	frontal	22	frontal	146
		wedge-shaped	25	wedge-shaped	12	wedge-shaped	165

When a bilateral inflammatory process occurs in the cells of the ethmoid labyrinth, the most common bilateral process occurs in the maxillary (215) and sphenoid sinuses (165). This condition can be observed both in the development of maxillary ethmoiditis and ethmoidosphenoiditis, and in the appearance of maxillary ethmoidosphenoiditis. With unilateral damage to the sinuses of the ethmoid bone, other paranasal sinuses are less involved in the pathological process, and the process is unilateral.

The sphenoid sinus ranks second in frequency of lesions. In sinusitis with damage to the cells of the ethmoid labyrinth, the frontal sinus takes the second place.

The least common is sphenoidal frontitis without involvement of ethmoid labyrinth cells.

It should be noted that without the involvement of ethmoid labyrinth cells in the pathological process, the inflammatory process is unilateral. At the same time, sinusitis and sphenoiditis take the first and second places, respectively, in terms of prevalence. Therefore, to determine the causes of sinusitis, it is necessary to conduct not only a computer tomography of the paranasal sinuses, but also an endoscopic examination of the nasal cavity.

In the analysis of the nature of damage to ethmoid labyrinth cells, the following data were obtained: anterior ethmoiditis - (47.8%), posterior ethmoiditis - (6.8%), general ethmoiditis - (7%), "mosaic. ethmoiditis - (33.9%), isolated inflammation of one cell of the ethmoid labyrinth (table required) - (4.5%).

Table 2. The main forms of damage to cells of the ethmoid labyrinth

Form of ethmoiditis	Frequency of occurrence in the study group
Front	(47.8%)
Back	(6.8%)
Total	(7%)
"Mosaic"	(33.9%)
Isolated inflammation of the ethmoid labyrinth cell	(4.5%)
Total	559 (100%

Based on the analysis of computer tomograms by I.S. Piskunov. and Piskunov V.S. (2011) identified 5 main forms of the ethmoid bone based on the position of the paper plates:

- rectangular shape (a symmetrical prism with smooth and flat side walls);
- symmetric shape with external walls bent to different degrees to the orbital space;
- symmetrical shape, the outer walls of which are concave into the orbital cavity;
- a shape in which one of the paper plates is asymmetrically concave, and the other is flat or convex;
- a curved shape that deviates from the midline to one side.

In our study, the most common (115 or 43%) with anterior ethmoiditis was the rectangular bone shape, the second (77 or 28.8%) was the symmetrical shape with

the outer walls bent into the orbital cavity. The most common (20 or 52.6%) with posterior ethmoiditis is the rectangular form. A symmetrical shape with outer walls bent into the orbital cavity and a symmetrical shape with concave paper plates were observed at the same rate (9 or 23.7%). The most common form (70 or 36.9%) of ethmoiditis with a "mosaic" form was a symmetrical form with the outer walls bent into the orbital cavity. In isolated ethmoiditis, all forms of the structure occur equally often (25 or 20%). The study showed that the rectangular shape (14 or 36%) and the symmetrical shape with the outer walls bent into the orbital cavity (16 or 41%) are almost equally common with the total damage of the cells of the ethmoid labyrinth.

Group. 1. Computed tomography of the paranasal sinuses, axial projection: a - anterior ethmoid, rectangular bone shape; b – front ethmoid, symmetrical shape with external walls bent to the orbital space; c – posterior ethmoiditis, square bone shape; d - "mosaic" ethmoiditis, symmetrical shape with external walls bent into the orbital space; e - general ethmoiditis, symmetrical shape with external walls bent to the orbital space; e - isolated ethmoiditis, a form in which one of the paper plates is asymmetrically concave, and the other is convex.

All bony septa separating the air cells of the ethmoid labyrinth are divided into three main types [3]:

- septa of the first order (connecting the main plates of the ethmoid bone);
- secondary partitions (connect one or two main plates and a primary partition);
- third-order partitions (connect the first and second-order partitions).

Summary. Analyzing the structure of the ethmoid labyrinth in ethmoiditis of different localization, the following results were obtained: with anterior and posterior ethmoiditis, the structure of the ethmoid bone is dominated by septa of the first order, thus forming larger and regularly shaped cells - 77.5% and 76.5%. In the "mosaic" form of ethmoiditis, the process is more localized in small cells, and the structure of the ethmoid labyrinth is dominated by divisions of the 2nd and 3rd order, which form 77.8% of irregularly shaped cells. The pattern in the structure of the ethmoid bone with complete damage to the cells of the ethmoid labyrinth and isolated damage to the cells was not determined.

Used literature

1. Khasanov US, Akhundjanov NA, Djuraev JA INITIAL STATE OF COCHLEOVESTIBULAR FUNCTION IN PATIENTS WITH HD WITH CVD. – 2022.
2. Kondratiev E.A. Anti-relapse treatment for polypous rhinosinusitis / E.A.Kondratieva, M.G.Markov, G.S.Mazetov et al. // Bulletin of Otolaryngology – 1999 – N4 – P.39.
3. Lantsov A.A. Epidemiology of polypous rhinosinusitis /A.A. Lantsov, S.V. Ryazantsev, V.I. Koshel // RIA-AMI, St. Petersburg, 1999, p.96.

4. Lonskiy V.V. Complex therapy of polypous rhinosinusitis / V.V.Lonskiy // Controversial issues of otolaryngology - Orenburg - 2000 - P.22-24.
5. Lopatin A.S. Rhinitis: an eternal and still unsolved problem /A.S.Lopatin// Consilium Medicum , Extra issue – 2008 – P. 3-6.
6. Botirov AJ et al. Clinical and morphological results of xenografts for use in myringoplasty //The International Tinnitus Journal. – 2020. – T. 24. – No. 1. – pp. 1-6.
7. Boymuradov SA et al. RESULTS OF ELIMINATION OF POST-TRAUMA DEFORMATIONS OF THE FACIAL AND JAW AREA (LIPOFILLING) //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – No. 02. – P. 1-13.
8. Djuraev JA et al. MIGRAINE: BASIC PRINCIPLES OF TREATMENT AND PREVENTION //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – No. 02. – pp. 88-91.
9. Djuraev J. A. et al. MODERN METHODS OF TREATMENT OF VIRAL HEPATITIS //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 69-75.
10. Djuraev J. A. et al. POLYCYSTIC OVARY SYNDROME: A MODERN VIEW ON THE PROBLEM //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 83-87.
11. Djuraev J. A. et al. Results of Frequency Analysis Distribution of Polymorphism Rs1800895 592c> A In Il10 Gene among Patients with Chronic Polypoid Rhinosinusitis //The International Tinnitus Journal. – 2021. – T. 25. – №. 2. – C. 176-180.
12. Djuraev J. A. Prevalence of Allelic and Genotypic Variants of Il4, Il10, Il12b and Tlr2 Gene Polymorphism in Patients with Chronic Polypoid Rhinosinusitis.
13. Djuraev J. A., Fayozov S. F. Rhinoplasty InCombined Deformations Of The Nose //International Scientific and Current Research Conferences. – 2021. – C. 58-59.
14. Khasanov U. S. et al. A COMPLEX APPROACH TO THE TREATMENT OF ACUTE SENSONEURAL HEARING LOSS OF DIFFERENT GENES //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 14-25.
15. Khasanov U. S. et al. BOLALARDA EKSUDATIV OTITNI DAVOLASH USULI //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 1. – C. 64-80.

*Saidakhmedova Shakhnoza Saidakhmatovna – assistant teacher
Tashkent Medical Academy (Tashkent, Uzbekistan)*

Abstract. During the study, 30 patients and 30 volunteer workers were selected for the control group, who applied to the ENT polyclinic of the Tashkent Medical Academy . The diagnosis of the disease is based on general and local symptoms, patient complaints, medical history, and results of laboratory tests. Pathological microflora were found in the obtained smears. Improvement of treatment methods for chronic tonsillitis was developed.

Key words. Chronic tonsillitis, chronic pharyngitis, lacunae, lymphocyte.

Enter. It is often necessary to distinguish between chronic tonsillitis, chronic pharyngitis, simple or granulosa types. Patients with these diseases have complaints similar to chronic tonsillitis. Chronic pharyngitis is confused with the period of agitation , in some cases with catarrhal angina. Chronic pharyngitis is characterized by lymphadenoid tissue (diffuse or local), redness, swelling of the mucous membrane of the back wall of the larynx . Sometimes in lateral pharyngitis, swelling of the tongue and palatal arches is observed, but almost no changes are observed in the palatal glands.

The purpose of the study. Traditional methods of using drugs in the treatment of chronic tonsillitis are not always effective, because they leave the body quickly, and it is not possible to maintain a high concentration of these drugs in the affected area of the body and regional lymph nodes for a long time . From this point of view, the lymphatic system is of great interest. In this system, during the pathological process, substances that destroy cells, microorganisms, toxins and metabolites are destroyed in the intercellular space , the complex of reactions of detoxification of tissue fluid and lymph from the center of inflammation is carried out in the regional lymphatic nodes, which are the main joints of the lymphatic region. is increased.

Method of treatment with Thymogen spray

Formation of local immunity, leads to the development of chronic tonsillitis. Local immune protection is usually broken as a result of long-term improper antibiotic therapy or taking drugs that reduce body temperature.

Based on this, in the complex treatment of patients with chronic tonsillitis, it is necessary to use drugs with a strong immunomodulatory effect. Medicines currently used to correct immunity are microbiliary preparations, thymomimetics have a number of disadvantages: they worsen blood formation , they are prohibited in severe kidney diseases.

In complex conservative treatment, we used an immunomodulatory drug called "Timogen Spray". This drug has an immunomodulatory, detoxifying effect and increases the body's immune resistance. The immunomodulatory effect of the drug is determined by its effect on the macrophage immune system and the formation of antibodies. Thymogen spray activates the migration of macrophages, increases their ability to digest pathogenic microorganisms.

In addition, this drug increases the effectiveness of the cooperative dependence of lymphocytes in the reactions of antibody formation, and prevents the loss of immunity against infections in cases where the reserve capacity of macrophages is reduced in the long-term infectious process that is the basis of chronic tonsillitis. . In addition,

manifested in a significant detoxification ability .

Thymogen spray has a controlled effect on the non-specific resistance of the body and humoral and cellular immune reactions.

Uses regeneration processes . Cell metabolic processes improve tooth decay . Enhances the expression of differential receptors on lymphocytes, normalizes the number of T-helpers, cytotoxic T-lymphocytes, and their ratio in patients with various immunodeficiency states . When the drug is taken intranasally, it is quickly absorbed into the systemic bloodstream . Alpha-glutamyl-tryptophan is broken down into L-glutamic acid and L-tryptophan under the action of sodium peptidases, which participate in the body's peptide synthesis process. It does not have a special effect when taking the drug for the first time and when you stop taking it . This drug does not have special properties when used by children and adults with chronic diseases. The spray is dosed , 25 mcg/dose in 10 ml dark glass or polymer vials, closed with a plastic cap and equipped with a plastic body dispenser - a pump, a nozzle and a cap. A cardboard box contains one vial and instructions for use . The number of doses in the vial is not less than 80.

Chronic tonsillitis occupies one of the leading positions in otorhinolaryngological practice. The prevalence of chronic tonsillitis remains high among ENT pathology (1-3). Chronic tonsillitis, sometimes starting at a young age, follows the patient throughout his life, and has its own characteristics at each age . In chronic tonsillitis, there are disturbances in the protective-adaptive mechanisms of the tissues of the palate , bacterial invasion promotes inflammation and its spread, scar tissue formation, chronic nausea, the cause of the violation of the self-cleansing mechanism of the tonsils. will be Treatment of chronic tonsillitis should be consistent with the clinical course and forms . Patients with simple and toxic-allergic form 1 of chronic tonsillitis are treated with conservative therapy, tonsillectomy is indicated for patients with toxic-allergic form 2.

Conventional methods of conservative treatment of patients with chronic decompensatory tonsillitis often give a short-term clinical effect . In our opinion, this

situation is related to the fact that such methods do not take into account the correction of disorders of the immune system . In order to achieve a good result in the treatment of patients with chronic tonsillitis, it is necessary to apply a combination of different methods to the palatal folds and the state of the body's immunoreactivity, and to introduce new methods into clinical practice (8-5). In part of the patients suffering from chronic tonsillitis , the failure of the therapy is due to the loss of reparative ability of the tonsils on the one hand, and the presence of secondary immune deficiency on the other hand.

With immunomodulatory effect in the complex treatment of chronic tonsillitis is relevant. In the complex conservative treatment, we used the immunomodulatory drug Timogen. It has an immunomodulatory, detoxifying effect and increases the body's immune resistance. The immunomodulatory effect of the drug is determined by its effect on the immune macrophage joint and enhancing the formation of antibodies . Thymogen activates the migration of macrophages, increases their ability to digest pathogenic microorganisms. In addition, this drug leads to an increase in the effectiveness of the cooperative relationship of lymphocytes in the reactions of antibody formation, and prevents the violation of immunity against infections in the long-term infectious process, characterized by chronic tonsillitis, when the reserve capacity of the macrophagic joint decreases.

List of used literature

1. Khasanov U. S., Akhundjanov N. A., Djuraev J. A. INITIAL STATE OF COCHLEOVESTIBULAR FUNCTION IN PATIENTS WITH HD WITH CVD. – 2022.
2. Botirov A. J. et al. Clinical and morphological results of xenografts to use in myringoplasty //The International Tinnitus Journal. – 2020. – T. 24. – №. 1. – C. 1-6.
3. Boymuradov S. A. et al. RESULTS OF ELIMINATION OF POST-TRAUMA DEFORMATIONS OF THE FACIAL AND JAW AREA (LIPOFILLING) //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 1-13.
4. Djuraev J. A. et al. MIGRAINE: BASIC PRINCIPLES OF TREATMENT AND PREVENTION //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 88-91.
5. Djuraev J. A. et al. MODERN METHODS OF TREATMENT OF VIRAL HEPATITIS //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 69-75.
6. Djuraev J. A. et al. POLYCYSTIC OVARY SYNDROME: A MODERN VIEW ON THE PROBLEM //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 83-87.

7. Djuraev J. A. et al. Results of Frequency Analysis Distribution of Polymorphism Rs1800895 592c> A In Il10 Gene among Patients with Chronic Polypoid Rhinosinusitis //The International Tinnitus Journal. – 2021. – T. 25. – №. 2. – C. 176-180.

8. Djuraev J. A. Prevalence of Allelic and Genotypic Variants of Il4, Il10, Il12b and Tlr2 Gene Polymorphism in Patients with Chronic Polypoid Rhinosinusitis.

9. Djuraev J. A., Fayozov S. F. Rhinoplasty InCombined Deformations Of The Nose //International Scientific and Current Research Conferences. – 2021. – C. 58-59.

10. Khasanov U. S. et al. A COMPLEX APPROACH TO THE TREATMENT OF ACUTE SENSONEURAL HEARING LOSS OF DIFFERENT GENES //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 14-25.

11. Khasanov U. S. et al. BOLALARDA EKSUDATIV OTITNI DAVOLASH USULI //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 1. – C. 64-80.

12. Khasanov U. S. et al. INITIAL STATE OF COCHLEOVESTIBULAR FUNCTION IN PATIENTS WITH HD WITH CVD //The American Journal of Medical Sciences and Pharmaceutical Research. – 2022. – T. 4. – №. 01. – C. 60-73.

13. Khasanov U. S. et al. METHOD FOR THE TREATMENT OF EXUDATIVE OTITIS MEDIA IN CHILDREN //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 01. – C. 64-81.

14. Khasanov U. S. et al. Results of audiometricalindicators of cochlevestibular disorders in patients with arterial hypertension disease //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 26-36.

15. Khasanov U. S. et al. Results of audiometricalindicators of cochlevestibular disorders in patients with arterial hypertension disease //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 26-36.

16. Khasanov U. S. et al. Results of frequency analysis distribution of A1188C RS3212227 polymorphism in the IL 12B gene among patients with chronic rhinosinusitis polyposis //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 01. – C. 104-115.

17. Khasanov U. S. et al. VESTIBULAR ANALYZATOR TEST RESULT INDICATORS OF COCHLEOVESTIBULAR DISORDERS ON THE BACKGROUND OF ARTERIAL HYPERTENSION //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 37-44.

MORPHOLOGICAL EXAMINATION OF CHRONIC TONSILLITIS

*Akhmedova Ziyoda Anvarovna - assistant teacher
Tashkent Medical Academy (Tashkent, Uzbekistan)*

Abstract. During the research, 25 patients and 25 volunteer workers were selected for the control group, who applied to the ENT polyclinic of the Tashkent Medical Academy . Pathological microflora are found in the obtained smears, the phagocytic activity of leukocytes decreases, and multinucleated types of leukocytes appear in the blood, and lymphocytes decrease.

Key words. Chronic tonsillitis, chronic pharyngitis, lacunae, lymphocyte.

Enter. When we talk about chronic tonsillitis, we mean chronic inflammation of the palate with specific pathophysiological and morphological qualities, consisting of non-specific factors affecting the body's natural resistance and disruption of humoral and cellular links of immunity . Chronic tonsillitis does not always occur after the patient has angina . In most cases, the disease develops without knowing it (a form of chronic tonsillitis without angina) passing as ORVI, adenoid, stomatitis, periodontosis, or in fact, the palatal mucosa returns to the inflammatory process, actively carrying out protective work in these cases.

The purpose of the study. The diagnosis of the disease is based on general and local symptoms, patient's complaint, medical history, results of laboratory tests. In some suspected cases, examination of lacunae and smears taken from the surface of the gland helps to fully confirm the diagnosis of the disease.

Methods of assessing immune status and cellular composition of peripheral blood

Immunological examination of patients BDSST (1980,1987) and O'z.Res . SSV was conducted on the basis of standard tests of the Commission on the Evaluation of Problems in the Epidemiology of Immune Status and Immune Deficiency. In order to determine the immune status of the patients , before and after the treatment, analyzes were conducted to determine the dynamics of immunoglobulins in the blood of the patients who were in hospital treatment (Table 2). Blood analyzes were conducted at the "Etalon" diagnostic center .

Antigens were obtained according to Boaven - complex microbial antigen (BoivinA, by extracting the milk culture of microorganisms with trichloroic acid (TCH) .

Is determined by the usual method of calculating the percentage of absorption of microbes - phagocytic numbers (FCH) and phagocyte completion (PZF) . Daily cults such as E coli, S aureus and S pyogenes belonging to the p-hemolytic

streptococcus group were used as test microbes. Hemagglucination (RGA) and reverse hemagglucination (RNGA) reactions were carried out according to the commonly used methodology from rabbit and sheep erythrocytes (RGA) using erythrocyte diagnostic series created by the Scientific Research Institute of Vaccine and Serum Production (RF) in Nizhnogorod .

Antibody titer *S aureus*, (Lot 32/ SA) staphylococcal erythrocyte diagnostic; *S epidermidis*, (Lot 32/ SE) staphylococcal erythrocyte diagnosticum, *EcoliM-17* (Lot 16/M-17), *E.coli 026* (Lot 16/026); *E.coli 055* (Lot 16/055) was detected using erythrocyte diagnostics such as *Escherichia coli* erythrocyte diagnostic. Antibody titers were expressed as the negative log of $2(\lg 2 + \text{SIg})$.

(K-coefficient) was taken as a relative indicator to take into account the probability of excretion of antibodies (in the case of high proteinuria) in the urine

$K = \frac{\text{AT}}{\text{OB}}$

The K-coefficient reflects the ratio of antibodies (AT) in infected blood to total protein (protein) in the blood (OB).

Studied collection strains were revived from semi-liquid agar before culturing was inactivated . Subsequent cultivation and identification were performed according to the generally accepted (Bergy, 1997) and Manual of Systematic Bacteriology (1999) methods.

Susceptibility to antibacterial drugs was determined by discodiffusion method . The following antibiotic discs were used: oxacillin, amoxicillin/clavulanate (amoxiclav), cefazolin, cefuroxime, cefotaxime, ceftriaxone, cefoperazone, cefepime and cephalixin.

Saliva and blood serum were determined by the simple radial immunodiffusion method according to Mancini (1964).

To assess the cellular composition of peripheral blood, we used the general analysis of blood in an expanded form and determined the essence of the following parameters (Table 1).

Table 1. **Peripheral blood studies**

No	Research method	Number of patients (persons)
1	Leukocytes (x 10 ¹¹)	50
2	Neutrophils (x 10 ^{1/1})	50
3	Lymphocyte PK (x 10 ^{1/1})	50
4	Monocytes (x 10 ^{1/1})	50
5	Erythrocytes (x 10 ^{1/1})	50
6	Hemoglobin (g/l)	50
7	SOE (mm/h)	50

Principles of immune correction during antibacterial therapy in patients with chronic tonsillitis .

All patients were divided into 2 groups depending on the administration of immunocorrective therapy :

Group 1 - a control group consisting of 25 patients, who received standard treatment + lacunal lavage .

Group 2 - a research group of 25 patients, in the treatment of which standard treatment + lavage of lacunae + local immunotherapy using Thymogen spray (Fig. 6).

Table 2.

according to forms of chronic tonsillitis .

Shaped	Control group		Research group	
	abs	%	Abs	%
Simple	12	48	14	56
Toxic-allergic I-level	8	32	9	36
Toxic-allergic level 2	5	20	2	8
Total	25	100	25	100

Examination of the oral cavity - during pharyngoscopy, hypertrophy of the pharyngeal mucosa is observed, which is filled with bluish or pale pink mucous liquids. Tonsils are enlarged. When vasoconstrictor drugs are instilled, the mucosal inflammation does not go away. Rhinoscopy is necessary for differential diagnosis with diseases of other ENT organs (sinusitis, nasal obstruction, polyps, tumors). To determine the presence of additional diseases, such as laryngitis, pharyngitis, chronic and moderate otitis, hearing loss, headache.

changes are observed in chronic tonsillitis .

1. Epithelial layer or changes around it

Changes in the parenchyma ;

3. Changes in peritonsillar tissue .

In chronic tonsillitis , changes in the epithelial layer develop mainly in lacunae, where the epithelium thickens as a result of inflammation, and their migration is observed in places. The change of the epithelium depends on the width and length of the crypts, their branching. These changes depend on the level, time, duration of the inflammatory process and the patient's age, so the epithelium thickens or thins in places, undergo metaplasia, and sometimes this layer is completely flattened. In some cases, leukocytes and lymphocytes are

released from the crypts due to sharp infiltration of the epithelial layer. Crypts merge with parenchyma and cause various inflammatory processes.

Changes in the parenchyma . It appears in two ways :

- a) the first is an active inflammatory process
- b) the second is a complication of the inflammatory process

the changes of the first group, the formation of infiltrates and abscesses is observed in the glands, the infiltrates are single or concentrated, located in different places of the parenchyma, cover several follicles with unclear edges. The infiltrate located in the center spreads to the periphery and reaches the capsule of the gland. An abscess formed in the center of some infiltrates can be seen . Abscess covers the entire follicle or several follicular groups. As a result of this inflammatory process, lymphostasis is observed in the lymphatic channels of the palate glands.

The second group of changes in the glands includes scar sclerotic conditions, which is the end stage of inflammation. In this case, the crypts in the gland decrease and are located on the surface. The epithelium is thickened, there are few follicles, because they are replaced by connective tissue, sometimes lymphoid infiltration is observed.

The peritonsillar and paratonsillar tissue are sclerotic in nature, in which the strong connective tissue covers not only the outer part of the glands, but also the capsule. Symptoms of inflammation are not fully manifested in reduced lymphoid tissues . Peritonsillar tissue infiltration or peritonsillitis is observed inside and outside the gland capsule . This condition often occurs in the upper part of the gland.

Active participation of tonsils in the formation of local and general immunity in the body is their main protective function. Palate cells, located at the intersection of the respiratory tract and gastrointestinal tract, come into direct contact with antigens entering the body, and the anatomical features (the presence of crypts, flexible character) allow exogenous substances to be in long contact with organ tissues. provides, in which contact is necessary for the formation of specific and non-specific biologically active elements, as well as cell elements such as lysozyme, interferon, interleukin, immunoglobulin (IgA, IgM, IgG, sIgA), lymphocytes, plasma cells, macrophages.

The lymphoid (lymphoid) ring of the larynx and the lymphoid tissue of the throat are of great importance in protecting the tissues of the body from the flow of antigens. In adults, palatine tonsils participate in the formation of local immunity, because they contain plasma cells

(IgA). In children, these cells perform two tasks: based on the cell composition, local reactions are carried out in them as well as general system

reactions of immunity. This can be explained by the large number of plasma cells and IgG in children.

Of tonsil parenchyma with connective tissue is the leading pathophysiological process of the disease. As an initial factor in the development of chronic tonsillitis, the reduced potential of pus collection, antigenic stimuli, and the presence of mimic antigens in its structure, which escapes adequate immunological control, are assumed to be triggers. Therefore, along with the elements of productive inflammation in the tonsils, they are exchanged with the parenchyma's slow connective tissue. These actions are carried out due to the cell-fibrous transformation of fibroblasts, the formation of encapsulated points of necrosis and the involvement of regional lymph nodes in the inflammatory process. At the same time, sequestered antigens of tonsils in the center of micronecrosis and mimic antigens of the causative agent induce an immunopathological background. This background is manifested in the formation of humoral and cell-type autoimmune reactions against the tissues of the tonsils and the polyferable connective tissue. As a result of this, autoimmune cases of immunological tolerance disorders, which form a pathological status, arise. B. S. Preobrazhenskiy and VT Palchuna's clinical classification reflects this, the pathogenesis of chronic tonsillitis. It consists of three stages.

The normal form or the initial stage, at this stage there is not a history of frequent angina, but local symptoms (the presence of purulent fluid or purulent-caseous plugs in the lagoons of the tonsils, subepithelial purulent follicles with signs of Zaka, Gize, Preobrazhensky, etc. and enlargement of regional lymph nodes and pain on palpation), in which chronic tonsillitis can also be observed in etiologically and pathologically unrelated diseases.

Toxic-allergic form I (TAF I) is determined by the presence of angina from time to time in the anamnesis, and all the above symptoms are combined with general toxic-allergic processes (periodic rise in subfebrile fever, tonsillogenic intoxication with weakness (nausea) conditions are observed, pain, rapid exhaustion, pain in the joints, pain in the heart that is not reflected in the ECG during the period of exertion), these symptoms are any acute respiratory diseases or aggravated after angina, leaving an asthenic complication of functional disorders.

Toxic-allergic form II (TAF II) in which the symptoms of form I are more pronounced (functional disturbance of heart activity reflected in the ECG, pain in the heart and heart rhythm disorders even during angina and when there is no exacerbation of chronic tonsillitis, subfebrile fever long-term elevation, functional disorders of the kidneys, liver, vascular system, joints determined by laboratory methods) are associated with diseases with etiopathogenetic factors combined with chronic tonsillitis: local (paratonsillar, abscess, parapharyngitis,

pharyngitis) and general (acute and chronic tonsillogenic sepsis, rheumatism, infectious arthritis, acquired heart attack, diseases of the urinary system, prostate gland, thyroid gland, and cerebral cortex).

Returning to the clinical-anatomical characteristics of the structure and function of the palate, we note that chronic tonsillitis is a very dangerous disease, the first signs of which are a hematogenous and lymphogenous infectious-allergic attack on the body.

Inflammatory process in the lymphoepithelial ring of the throat and tonsils of the palate is the source of homotoxicosis, which harms the endoecology of the body. It turns out that we should accept chronic tonsillitis as a center of infection, the elimination of this infection is necessary for good treatment of diseases and maintenance of human health in general.

Used literature

1. Khasanov U. S., Akhundjanov N. A., Djuraev J. A. INITIAL STATE OF COCHLEOVESTIBULAR FUNCTION IN PATIENTS WITH HD WITH CVD. – 2022.

2. Botirov A. J. et al. Clinical and morphological results of xenografts to use in myringoplasty //The International Tinnitus Journal. – 2020. – T. 24. – №. 1. – C. 1-6.

3. Boymuradov S. A. et al. RESULTS OF ELIMINATION OF POST-TRAUMA DEFORMATIONS OF THE FACIAL AND JAW AREA (LIPOFILLING) //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 1-13.

4. Djuraev J. A. et al. MIGRAINE: BASIC PRINCIPLES OF TREATMENT AND PREVENTION //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 88-91.

5. Djuraev J. A. et al. MODERN METHODS OF TREATMENT OF VIRAL HEPATITIS //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 69-75.

6. Djuraev J. A. et al. POLYCYSTIC OVARY SYNDROME: A MODERN VIEW ON THE PROBLEM //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 83-87.

7. Djuraev J. A. et al. Results of Frequency Analysis Distribution of Polymorphism Rs1800895 592c> A In Il10 Gene among Patients with Chronic Polypoid Rhinosinusitis //The International Tinnitus Journal. – 2021. – T. 25. – №. 2. – C. 176-180.

8. Djuraev J. A. Prevalence of Allelic and Genotypic Variants of Il4, Il10, Il12b and Tlr2 Gene Polymorphism in Patients with Chronic Polypoid Rhinosinusitis.

9. Djuraev J. A., Fayozov S. F. Rhinoplasty InCombined Deformations Of The Nose //International Scientific and Current Research Conferences. – 2021. – C. 58-59.

10. Khasanov U. S. et al. A COMPLEX APPROACH TO THE TREATMENT OF ACUTE SENSONEURAL HEARING LOSS OF DIFFERENT GENES //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 14-25.

11. Khasanov U. S. et al. BOLALARDA EKSUDATIV OTITNI DAVOLASH USULI //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 1. – C. 64-80.

12. Khasanov U. S. et al. INITIAL STATE OF COCHLEOVESTIBULAR FUNCTION IN PATIENTS WITH HD WITH CVD //The American Journal of Medical Sciences and Pharmaceutical Research. – 2022. – T. 4. – №. 01. – C. 60-73.

13. Khasanov U. S. et al. METHOD FOR THE TREATMENT OF EXUDATIVE OTITIS MEDIA IN CHILDREN //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 01. – C. 64-81.

14. Khasanov U. S. et al. Results of audiometricalindicators of cochlevestibular disorders in patients with arterial hypertension disease //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 26-36.

15. Khasanov U. S. et al. Results of audiometricalindicators of cochlevestibular disorders in patients with arterial hypertension disease //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 26-36.

16. Khasanov U. S. et al. Results of frequency analysis distribution of A1188C RS3212227 polymorphism in the IL 12B gene among patients with chronic rhinosinusitis polyposis //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 01. – C. 104-115.

17. Khasanov U. S. et al. VESTIBULAR ANALYZATOR TEST RESULT INDICATORS OF COCHLEOVESTIBULAR DISORDERS ON THE BACKGROUND OF ARTERIAL HYPERTENSION //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – №. 02. – C. 37-44.

POLYPOUS RHINOSINUSITIS: DEPENDENCE OF THE STATE OF SYSTEMIC AND LOCAL ADAPTIVE IMMUNITY

*Khodjaeva Dilnoza Malikovna - assistant teacher
Tashkent Medical Academy (Tashkent, Uzbekistan)*

Abstract. The study of the state of the adaptive immune system in polyp rhinosinusitis (PRS) remains relevant to this day, because the constantly changing ideas about the main processes of immune inflammation inevitably affect the current views on the pathogenesis of PRS. The etiology and pathogenesis of PRS remain unclear. Many works in this direction did not change the situation. However, ideas about the pathogenesis of PRS have recently undergone significant changes, primarily due to advances in the field of clinical immunology of ENT diseases. In all theoretical views on the genesis of nasal polyps, the involvement of the immune system, especially the immune status of the nasal mucosa, plays a leading role.

Key words. Chronic polyposis rhinosinusitis, sinus surgery, endoscopy, FESS operations.

Enter

Taking into account the common pathogenetic mechanisms of the development of immune inflammation of the mucous membrane, the development of swelling and dysfunction of external breathing in asthma and PRS, it becomes clear that these are different manifestations of the same pathological process in different parts. respiratory tract. Therefore, in accordance with the decisions of international consensus conferences, PRS is figuratively defined as "nasal asthma" using all the terms of modern immunology related to the immunopathogenesis of this process . Analysis of special literature and dissertation studies on the structure of the paranasal sinuses, especially the ethmoid labyrinth, the role of genetic factors and bacterial biofilms in the development of chronic rhinosinusitis, the characteristics of the pathophysiological processes occurring in the cells of the ethmoid labyrinth. during ethmoiditis and in the body as a whole led to turning to various scientific sources at the intersection of different disciplines: rhinology, radiology, microbiology, allergology, genetics, cytology.

The purpose of the study

Frontal, maxillary and sphenoid sinusitis often begins with a pathological process in the cells of the ethmoid labyrinth. This clinical association is explained by the close anatomical connections between the frontal, maxillary, sphenoid sinuses and the ethmoid bone, as theories regarding its development place the ethmoid labyrinth in a strategic central position within the nasal complex [4].

Adaptive immunity

Recurrence of nasal polyps after nasal polypotomy is undoubtedly one of the most important aspects of the PRS problem. To date, the scientific basis of the recurrence of nasal polyps has not been developed and is not understood. Based on these rules, we analyzed our data on the state of adaptive immunity of patients with PRS according to relapses. The results of the analysis are presented in this part of the work.

As mentioned above, we examined 38 patients with PRS. 20 of them had recurrent polyposis, which is 52% of the total group. According to the history of the disease, the frequency of relapses varies from 1-2 to 6-7. Relapses occurred in 100% of patients with a disease duration of more than 5 years, 57% of cases from 1 to 5 years, and no relapses occurred in patients with a disease duration of up to 1 year. all. Interestingly, in the group of patients with eosinophilia more than 150 cells / μL , the relapse rate was three times higher than in patients with eosinophilia up to 150 cells / μL (81.6% vs. 30%). Regarding the pathomorphology of nasal polyps, differences were insignificant in patients with fibro-edematous type, there was a tendency to increase the frequency of relapses; It should also be noted that BA occurred only in patients with the recurrent type of PRS, that is, in 27.2% of cases.

In accordance with the material presentation plan adopted in this work, we first present ICH data on the composition of the inflammatory infiltrate. The density of CD-positive cells in the tissues of nasal polyps is shown depending on PRS relapses. It can be seen that there were no statistically significant differences between the groups of patients with or without relapses of nasal polyps in any parameter. In control preparations of intact mucosa, CD -positive cells ranged from isolated cases to their complete absence. It can be seen that the inflammatory process in PRS is accompanied by intensive infiltration of nasal polyp tissue with CD-positive cells, regardless of the recurrence of nasal polyps.

In the group of patients without recurrent nasal polyps, only the percentage of IgA-positive cells increased significantly, but compared to the group of patients with recurrent nasal polyps ($p < 0.05$), the fact of the recurrence of the disease is directly related to the reliable and significant inhibition of IgA-positive cells. At the same time, these data show the prospects of targeted stimulation of the functional activity of IgA-positive cells to correct changes in the adaptive immune status of patients with PRS. In general, the increase in fluorescence and the number of IgA-positive cells in the peripheral blood of patients with PRS indicate the unconditional activation of this type of cells responsible for the formation of systemic and, in particular, local humoral immunity (sIgA). -positive cells). Regarding IgG- and IgM-positive cells, the changes in the studied properties of these cells were unreliable in both groups.

The relationship between the studied indicators is shown in the table. As can be seen from the table, in the group of patients with recurrent polyps, a significant negative strong correlation was found only with respect to CD 68+ cells. In the group of patients without recurrence of nasal polyps, a significant positive average correlation was found with respect to CD 8+ and CD 68+ cells, and in the latter case this relationship was accompanied by a significant increase in the level of these cells in the blood compared to the control group. In other words, in the group of patients with non-relapsing PRS, there is a simultaneous increase in the level and functional activity of CD 68+ cells both in the peripheral circulation and in the inflammatory infiltrate in nasal polyps.

Used literature

1. Khasanov US, Akhundjanov NA, Djuraev JA INITIAL STATE OF COCHLEOVESTIBULAR FUNCTION IN PATIENTS WITH HD WITH CVD. – 2022.
2. Kondratiev E.A. Anti-relapse treatment for polypous rhinosinusitis / E.A.Kondratieva, M.G.Markov, G.S.Mazetov et al. // Bulletin of Otolaryngology – 1999 – N4 – P.39.
3. Lantsov A.A. Epidemiology of polypous rhinosinusitis /A.A. Lantsov, S.V. Ryazantsev, V.I. Koshel // RIA-AMI, St. Petersburg, 1999, p.96.
4. Lonskiy V.V. Complex therapy of polypous rhinosinusitis / V.V.Lonskiy // Controversial issues of otolaryngology - Orenburg - 2000 - P.22-24.
5. Lopatin A.S. Rhinitis: an eternal and still unsolved problem /A.S.Lopatin// Consilium Medicum , Extra issue – 2008 – P. 3-6.
6. Botirov AJ et al. Clinical and morphological results of xenografts for use in myringoplasty //The International Tinnitus Journal. – 2020. – T. 24. – No. 1. – pp. 1-6.
7. Boymuradov SA et al. RESULTS OF ELIMINATION OF POST-TRAUMA DEFORMATIONS OF THE FACIAL AND JAW AREA (LIPOFILLING) //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – No. 02. – P. 1-13.
8. Djuraev JA et al. MIGRAINE: BASIC PRINCIPLES OF TREATMENT AND PREVENTION //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – No. 02. – pp. 88-91.
9. Djuraev J. A. et al. MODERN METHODS OF TREATMENT OF VIRAL HEPATITIS //International Journal of Medical Sciences AndClinical Research. – 2023. – T. 3. – №. 02. – C. 69-75.
10. Djuraev J. A. et al. POLYCYSTIC OVARY SYNDROME: A MODERN VIEW ON THE PROBLEM //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 83-87.

11. Djuraev J. A. et al. Results of Frequency Analysis Distribution of Polymorphism Rs1800895 592c> A In Il10 Gene among Patients with Chronic Polypoid Rhinosinusitis //The International Tinnitus Journal. – 2021. – T. 25. – №. 2. – C. 176-180.
12. Djuraev J. A. Prevalence of Allelic and Genotypic Variants of Il4, Il10, Il12b and Tlr2 Gene Polymorphism in Patients with Chronic Polypoid Rhinosinusitis.
13. Djuraev J. A., Fayozov S. F. Rhinoplasty InCombined Deformations Of The Nose //International Scientific and Current Research Conferences. – 2021. – C. 58-59.
14. According to Khasanov US et al. A COMPLEX APPROACH TO THE TREATMENT OF ACUTE SENSONEURAL HEARING LOSS OF DIFFERENT GENES //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – No. 02. – C. 14-2
15. According to Khasanov US et al. Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – No. 1. – C. 64-8

**POLYPOUS RHINOSINUSITIS: ALTERATIONS
OF LOCAL ADAPTIVE IMMUNITY**

*Khodjaeva Dilnoza Malikovna - assistant teacher
Tashkent Medical Academy (Tashkent, Uzbekistan)*

Abstract. The etiology and pathogenesis of PRS remain unclear. Many works in this direction did not change the situation. However, ideas about the pathogenesis of PRS have recently undergone significant changes, primarily due to advances in the field of clinical immunology of ENT diseases. In all theoretical views on the genesis of nasal polyps, the involvement of the immune system, especially the immune status of the nasal mucosa, plays a leading role.

Key words. Chronic polyposis rhinosinusitis, sinus surgery, endoscopy, FESS operations.

Enter

Therefore, in accordance with the decisions of international consensus conferences, PRS is figuratively defined as "nasal asthma" using all the terms of modern immunology related to the immunopathogenesis of this process. Analysis of special literature and dissertation studies on the structure of the paranasal sinuses, especially the ethmoid labyrinth, the role of genetic factors and bacterial biofilms in the development of chronic rhinosinusitis, the characteristics of the pathophysiological processes occurring in the cells of the ethmoid labyrinth. during ethmoiditis and in the body as a whole led to turning to various scientific sources at the intersection of different disciplines: rhinology, radiology, microbiology, allergology, genetics, cytology.

The purpose of the study

Thus, it is clear from the presented modern literature that changes in local immunity in PRS are multifaceted. The complexity and interdependence of immunopathogenetic mechanisms determines the insufficient clinical effectiveness of immunotropic therapy. However, these changes are the target of current drug treatments. At the same time, these "points of action" are the subject of the development of new drugs with anti-inflammatory and immunomodulatory effects.

Changes in local adaptive immunity

In the current literature, much attention is paid to the local immune status in PRS. The results of these studies can be divided into two blocks - data block on adaptive local immunity and data block on innate local immunity. In the first case, we talk about the CD phenotype of the cells in the inflammatory infiltrate, the expression

of inflammatory genes, cytokines, chemokines, growth factors, adhesion factors and angiogenesis by activated cells. In the second case, the expression of innate immune receptors in the same cells is studied, first of all, it is the above-mentioned Toll -, Rig -, Nod - and other receptors [3,9]. The close functional relationships between these two compartments of the immune system are well known [12]. However, given the subject of this work, it is necessary to present the most recent, most interesting scientific data on changes in local adaptive immunity in PRS. The importance of these data is that the correction of immunopathological processes occurring in the area of nasal polyps consists in the creation of local anti-inflammatory and/or immunotropic therapy schemes. The interpretation of available data on this issue is as uncertain as the interpretation of changes in systemic adaptive immunity in PMS. However, the relationship between systemic and local adaptive immune indicators allows interpretation of changes in the immune status in terms of typical changes in the cells of the peripheral blood immune system in situ.

But first, it must be said that the migration of cells from peripheral blood to inflammatory tissues is governed by a precise sequence of events. These events are mediated by two types of signals: diffusible chemotactic factors and cell surface adhesion factors. Under the influence of sensitizing inflammatory signals, leukocytes turn in the endothelium due to the expression of selectins and the corresponding ligands in leukocytes, then these cells migrate to the tissues of nasal polyps and take an active part in the pathological process. process [12].

It leads to hyperproduction of ESP, MBP, eotaxins 1, 2, 3, growth factors (TGF- β), angio- and neoangiogenesis factors (VEGFs, VEGF-A, VEGF-B), chemokines (RANTES, Eotaxin), adhesion molecules (ICAM-1, VCAM-1, E-selectin, P-selectin) and secondly, to activate cells, primarily the immune system. situ and the active participation of these cells in the formation of inflammation in the nasal mucosa [9,12,15]. According to modern concepts, eosinophils, which produce anti-inflammatory factors, in turn activate fibroblasts and platelets, in which the synthesis of growth factors is uncontrolled in conditions of chronic inflammation. We are talking about transforming growth factor- β (TGF- β), platelet (PDGF) and epithelial (EGF) growth factors that disrupt the integrity of the collagen structure of the nasal mucosa and lead to its reconstruction [9,16,16]. The participation of activated T-lymphocytes (CD 3+ CD 45 RO +), B lymphocytes (CD 20+ cells), plasma cells, IgE receptor-carrying mast cells and others has been shown in these processes [9,13]. Concentrations of IL-5 and IL-5 receptor, the main cytokine responsible for the activation and accumulation of eosinophils at the site of inflammation, were 1200-fold higher in patients with PRS compared to controls [10].

From the point of view of the pathogenesis of PRS, very important information is provided by the phenotype of inflammatory infiltrate cells. IGX methods showed that the level of B cells (CD 19+ and CD 20+) and plasma cells (

CD 138+) in the tissues of nasal polyps was significantly higher than similar values in the group of patients with chronic rhinosinusitis. was high and these. facts related to production intensity in situ Enterotoxin-specific IgE, IgG 4 and IgA St. aureus [16]. These results are consistent with the results of a study conducted by Japanese authors. According to these data, a significant increase of PRS-activated CD 20+ cells (B-lymphocytes) is detected in the area of nasal polyps, which is the result of protein synthetic activity, as well as an increase in their concentration. Production of Ig in situ of all classes, tumor necrosis factor (TNF) family, and B-cell activating factor (BAFF) with anti-inflammatory properties [11]. In nasal polyps, the number of cells with surface markers of T-lymphocytes predominated over B-lymphocytes. A characteristic feature of the topography of the latter is that they showed a clear tendency to perivascular localization [13]. Among the subpopulations of T helper cells (CD 4+), that is, Th -1 and Th -2 types in PRS, the percentage of Th -2 CD 4+ cells was statistically significantly increased in the group of PRS patients with clinical signs of atopy. The distribution of this subpopulation of CD 4+ cells in nasal polyp tissue has also been shown in other studies by leading researchers on the PRS problem [14]. Pro-inflammatory cytokines such as IL-6 and its receptors produced by nasal epithelial cells have been shown to be actively involved in the pathogenesis of PRS. We talk about the fact that the synthesis of these inflammatory factors is triggered by infectious "triggers" PRS - Staphylococci. aureus and Pseudomonas aeruginosa [11]. At the same time, the study of a wide range of CD phenotype of inflammatory infiltrate cells in the nasal mucosa and nasal polyps (CD 1+, CD 2+, CD 3+, CD 5+, CD 7+, CD 4+, CD 8+). , CD 10+, CD 20+, CD 19+ and HLA - DR +) did not show significant differences [14].

A review [10] analyzed the results of studies of inflammatory genes in PRS, which showed that gene expression of the above cytokines, chemokines, and growth factors plays an important role in the persistence of inflammation in the nasal cavity. Mucous membrane in PRS.

In PRS, the functional state of a group of zinc-containing enzymes - endopeptidases with proteolytic activity against some components of the extracellular matrix of connective tissue - is important in the process of nasal mucosa reconstruction. These enzymes are called matrix metalloproteinases (MMPs), which generally play an important role in remodeling the body's connective tissue [11,12,13]. In PRS, the ratio of MMPs and tissue inhibitors of their activity (TIMPs) was significantly changed compared to the control group [11]. In nasal polyp tissue, the expression of MMPs such as MMP-2 and MMP-9 in endothelial cells and epithelial cells was increased. The activity of this type of MMPs (in the sense of proteolysis) is focused on type 4 collagen, which forms the framework of connective tissue. Similar results were obtained by other authors regarding MMP-2, MMP-7, MMP-9 and TIMP-1 in PRS and chronic rhinosinusitis [114,119,120]. The data

presented are interesting in that they show some pathogenetic similarity between systemic connective tissue diseases and PRS. It is known that the pathogenesis of systemic connective tissue diseases is largely related to the activity of MMPs, and the process of connective tissue remodeling in these diseases and the tissue of nasal polyps in PRS have certain similarities.

In the context of the interaction of cells in the inflammatory infiltrate in PRS and based on their own data, Japanese authors hypothesized that mast cells of the nasal mucosa and activated eosinophils (CD 34+) in the inflammatory infiltrate in the nasal cavity . polyps cooperate to cause subsequent migration of eosinophils from blood vessels to tissues, and this process is simultaneously regulated by the functional activity of fibroblasts. The latter, among others, produces transforming growth factor (TGF- β), which, in turn, stimulates the expression of vascular endothelial growth factor (VEGF), which is the main factor in angiogenesis and tumor development in nasal polyps. strengthens In addition, according to the authors, eosinophil basic protein (MBP) and eosinophil cationic protein (ECP) released from in situ activated eosinophils are actively involved in effective inflammation [1]. Recurrence of nasal polyps after nasal polypotomy is undoubtedly one of the most important aspects of the PRS problem. To date, the scientific basis of the recurrence of nasal polyps has not been developed and is not understood. Based on these rules, we analyzed our data on the state of adaptive immunity of patients with PRS according to relapses. The results of the analysis are presented in this part of the work.

As mentioned above, we examined 38 patients with PRS. 20 of them had recurrent polyposis, which is 52% of the total group. According to the history of the disease, the frequency of relapses varies from 1-2 to 6-7. Relapses occurred in 100% of patients with a disease duration of more than 5 years, 57% of cases from 1 to 5 years, and no relapses occurred in patients with a disease duration of up to 1 year. all. Interestingly, in the group of patients with eosinophilia more than 150 cells / μ L, the relapse rate was three times higher than in patients with eosinophilia up to 150 cells / μ L (81.6% vs. 30%). Regarding the pathomorphology of nasal polyps, differences were insignificant in patients with fibro-edematous type, there was a tendency to increase the frequency of relapses; It should also be noted that BA occurred only in patients with the recurrent type of PRS, that is, in 27.2% of cases.

In accordance with the material presentation plan adopted in this work, we first present ICH data on the composition of the inflammatory infiltrate. The density of CD-positive cells in the tissues of nasal polyps is shown depending on PRS relapses. It can be seen that there were no statistically significant differences between the groups of patients with or without relapses of nasal polyps in any parameter. In control preparations of intact mucosa, CD -positive cells ranged from isolated cases to their complete absence. It can be seen that the inflammatory process in PRS is accompanied

by intensive infiltration of nasal polyp tissue with CD-positive cells, regardless of the recurrence of nasal polyps.

In the group of patients without recurrent nasal polyps, only the percentage of IgA-positive cells increased significantly, but compared to the group of patients with recurrent nasal polyps ($p < 0.05$), i.e. the fact of the recurrence of the disease is directly related to the reliable and significant inhibition of IgA-positive cells. At the same time, these data show the prospects of targeted stimulation of the functional activity of IgA-positive cells to correct changes in the adaptive immune status of patients with PRS. In general, the increase in fluorescence and the number of IgA-positive cells in the peripheral blood of patients with PRS indicate the unconditional activation of this type of cells responsible for the formation of systemic and, in particular, local humoral immunity (sIgA)-positive cells). Regarding IgG- and IgM-positive cells, the changes in the studied properties of these cells were unreliable in both groups.

The relationship between the studied indicators is shown in the table. As can be seen from the table, in the group of patients with recurrent polyps, a significant negative strong correlation was found only with respect to CD 68+ cells. In the group of patients without recurrence of nasal polyps, a significant positive average correlation was found with respect to CD 8+ and CD 68+ cells, and in the latter case this relationship was accompanied by a significant increase in the level of these cells in the blood compared to the control group (Table 15). In other words, in the group of patients with non-relapsing PRS, there is a simultaneous increase in the level and functional activity of CD 68+ cells both in the peripheral circulation and in the inflammatory infiltrate in nasal polyps.

Used literature

1. Khasanov US, Akhundjanov NA, Djuraev JA INITIAL STATE OF COCHLEOVESTIBULAR FUNCTION IN PATIENTS WITH HD WITH CVD. – 2022.
2. Kondratiev E.A. Anti-relapse treatment for polypous rhinosinusitis / E.A.Kondratieva, M.G.Markov, G.S.Mazetov et al. // Bulletin of Otolaryngology – 1999 – N4 – P.39.
3. Lantsov A.A. Epidemiology of polypous rhinosinusitis /A.A. Lantsov, S.V. Ryazantsev, V.I. Koshel // RIA-AMI, St. Petersburg, 1999, p.96.
4. Lonskiy V.V. Complex therapy of polypous rhinosinusitis / V.V.Lonskiy // Controversial issues of otolaryngology - Orenburg - 2000 - P.22-24.
5. Lopatin A.S. Rhinitis: an eternal and still unsolved problem /A.S.Lopatin// Consilium Medicum , Extra issue – 2008 – P. 3-6.

6. Botirov AJ et al. Clinical and morphological results of xenografts for use in myringoplasty //The International Tinnitus Journal. – 2020. – T. 24. – No. 1. – pp. 1-6.
7. Boymuradov SA et al. RESULTS OF ELIMINATION OF POST-TRAUMA DEFORMATIONS OF THE FACIAL AND JAW AREA (LIPOFILLING) //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – No. 02. – P. 1-13.
8. Djuraev JA et al. MIGRAINE: BASIC PRINCIPLES OF TREATMENT AND PREVENTION //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – No. 02. – pp. 88-91.
9. Djuraev J. A. et al. MODERN METHODS OF TREATMENT OF VIRAL HEPATITIS //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 69-75.
10. Djuraev J. A. et al. POLYCYSTIC OVARY SYNDROME: A MODERN VIEW ON THE PROBLEM //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 02. – C. 83-87.
11. Djuraev J. A. et al. Results of Frequency Analysis Distribution of Polymorphism Rs1800895 592c> A In Il10 Gene among Patients with Chronic Polypoid Rhinosinusitis //The International Tinnitus Journal. – 2021. – T. 25. – №. 2. – C. 176-180.
12. Djuraev J. A. Prevalence of Allelic and Genotypic Variants of Il4, Il10, Il12b and Tlr2 Gene Polymorphism in Patients with Chronic Polypoid Rhinosinusitis.
13. Djuraev J. A., Fayozov S. F. Rhinoplasty In Combined Deformations Of The Nose //International Scientific and Current Research Conferences. – 2021. – C. 58-59.
14. According to Khasanov US et al. A COMPLEX APPROACH TO THE TREATMENT OF ACUTE SENSONEURAL HEARING LOSS OF DIFFERENT GENES //Oriental Journal of Medicine and Pharmacology. – 2023. – T. 3. – No. 02. – C. 14-2
15. According to Khasanov US et al. Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – No. 1. – C. 64-8

COCHLEOVESTIBULAR DISORDERS CHARACTERISTICS IN ARTERIAL HYPERTENSION IN PATIENTS

Khakimova R.A.

Tashkent Medical Academy

Abstract. The article presents the otoneurological characteristics of pre-stroke cerebrovascular disorders in patients with essential hypertension. Among the problems of modern otorhinolaryngology, one of the leading places belongs to cochleovestibular disorders in some cardiovascular diseases, in particular, hypertension. The state of vestibular function in arterial hypertension was studied by many authors who noted a decrease in resistance in such patients. It has been established that one of the reasons for the formation of secondary cochleovestibular disorders is chronic hypertensive encephalopathy, which develops in patients with arterial hypertension, often already in the early stages of the disease. In the study of the peculiarities of the pathogenesis of cochleovestibular disorders, certain results have made it possible to study the nature of the vestibulo-vascular interaction. It is shown, in particular, the difference in vestibulo-vascular reactions in the case of central and peripheral lesions of the vestibular analyzer, which is important for the differential diagnosis of these pathological conditions.

Keywords: hearing, arterial hypertension, cochleovestibular disorders.

Introduction. The cochleovestibular apparatus is one of the most ancient analyzers; it is the first of all receptors to form in embryogenesis [4-15]. According to its structure, extensive connections within the CNS and functional properties, the cochleovestibular apparatus differs sharply from all cranial nerves: when it is stimulated, not a narrow local reaction occurs, but an effect on all body functions (somatic and autonomic) is observed [3].

The central parts of the vestibular and auditory analyzer are very complex, which reflects the diversity and complexity of the function of this peculiar nerve [1-6]. Morphologically and functionally, the vestibular apparatus is clearly divided into two sections: the otolith apparatus and the system of semicircular canals. The first responds to rectilinear accelerations and deviations from the vertical, while the second to angular accelerations in any of the three main planes in which the channels are oriented [17-34].

The vestibular nerve enters the brainstem at the level of the cerebellopontine angle, slightly above the external (cochlear) root, between it and the spinal root of the Y nerve. In the internal parts of the rope body, not reaching the bottom of the IV ventricle, the vestibular nerve divides into ascending and descending branches. Part of the descending fibers terminate in the lower nucleus, part in the medial and lateral

nuclei [14-26]. The ascending fibers of the vestibular nerve terminate in the superior nucleus. Some of these fibers, passing through the nucleus, end in the roofing nucleus of the cerebellum [42].

Hypertension is a widespread disease that affects people of working age, and is also the most common cause of disability and death from cardiovascular diseases [39]. The fight against this disease, early detection of signs of damage to target organs is an urgent problem of modern medicine [5,31-42].

It should be noted that the existing literature reflecting cochleovestibular disorders in HD patients is presented mainly on the basis of prescription, HD stage, but without taking into account cerebrovascular disorders [39,40]. In separate reports on LCVR in HD, cochleovestibular disorders are only listed among the pathologies of other cranial nerves [11,56]. We did not find in-depth otoneurological studies in HD patients with CVD, especially with a reflection of their dynamics against the background of the use of modern antihypertensive drugs. It is also impossible to consider the issue of the frequency of occurrence and nature of auditory and vestibular disorders as resolved, so if Tanchev K.S. (1999), believes that in hypertension, hearing loss is mild and rare, then according to Agakhanova A.G. and Lebedeva N.V. (2003) such a pathology is detected in more than 90% of cases.

The aim of work is to study the otoneurological characteristics of pre-stroke cerebrovascular disorders in patients with hypertension.

Material and methods. Under our supervision were 110 patients with GB of a stable course treated in the clinical bases of the Research Institute of Cardiology of the Ministry of Health of the Republic of Uzbekistan. GB was diagnosed according to WHO criteria (1978). The control group consisted of 30 persons not suffering from GB.

All examined were males, whose age was distributed as follows. 25-44 years old - 12 people (10.9%), 45 - 59 years old - 76 patients (69.1%) and over 60 years old - 22 examined (20%).

As can be seen from the above data, among the patients with GB examined by us, persons aged 45-59 years predominate, i.e. mature and older persons.

The duration of GB varied from 1 year to 20 years, including; 1 year suffered from hypertension 1 person, 1 - 5 years - 30 patients, 5-10 years - 36 examined, 10-15 years - 30 people and more than 15 years were 13 people.

In addition, all patients underwent a general analysis of urine, blood, the level of total cholesterol, lipid fractions in the blood, and a coagulogram were determined. Since the obtained results of biochemical studies did not differ from the literature data, we did not describe them.

Excluded from the study were persons who had previously suffered from ENT - diseases that could cause hearing loss, regardless of hypertension.

Results and discussion.

Initial state of cochleovestibular function in patients with GB with CVD and in the control group.

Functional examination of the organ of hearing and vestibular apparatus was preceded by an examination of the upper respiratory tract and ear, the results of which are shown in Table 1.

Table 1

The state of the upper respiratory tract in patients with GB with DCVR.

Changes	Number of patients	% of the total
Deviated septum	26	23,6
Vasomotor rhinitis	3	2,7
Nasal bleeding	15	13,6
The development of the vascular pattern	25	22,7
a) nasal septum	14	12,7
b) oropharynx		
mucosal atrophy:	6	5,4
a) nose	9	8,1
b) throats	13	11,8
chronic tonsillitis	11	10
chronic pharyngitis		

The table shows that in hypertension with LCVR, the most common deviated septum and the development of the vascular pattern on the mucous membrane of the nose and pharynx. These changes were usually localized in symmetrical areas of the nasal septum and soft palate, and were not accompanied by any unpleasant subjective sensations..

Of the 110 patients with DCVR examined by us, 76 people (69.1%) complained of noises: of these, noise was localized in the ears in 15 patients (13.6%), in the head - 12 people (10.9%), in the head and ears 49 patients (44.6%).

The results of the study of hearing acuity speech.

Of the 110 examined, deterioration in the perception of whispered speech was found in 85 (77.3%) patients, and only in 6 it was unilateral, and in the rest it was bilateral. In the majority of the surveyed, the hearing for whispered speech is reduced from 3 to 6 meters. Information about the hearing acuity for whispered speech in the examined is presented in the table 2.

Table 2

Characteristics of hearing acuity for whispered speech in patients with GB with LCVR

Form DTSVR	Within Norms	Raising the threshold in abs. figures			
		Bcero			
		up to 3 m.	from 3 to 6 m	Quantit y	% to total qty
NPNMK	10	1	17	18	16,4
GE-I dg.	11	3	23	26	23,6
GE-II dg.	4	5	17	22	20
HPP	-	7	12	19	17,3
PNMK					
Total:	25	16	69	85	77,3

In the control group, normal perception of whispered speech was found in 28 people (93.3%), in two examined patients, a decrease in hearing for whispered speech up to 5 m on both sides was noted, which may be associated with age-related changes. Thus, the normal perception of whispered speech in the control group occurred more than 10 times more often than in patients with LCVR (table 3).

Conclusion. Thus, disturbances in the sound analyzer in GB are characterized by: deterioration in perception, mainly of high frequencies, especially during bone conduction, hearing damage of both labyrinthine and retrolabyrinthine nature, dissociation between the perception of speech and pure tones. In most patients with hypertension, various stato-kinetic disturbances are detected, both of a spontaneous nature and with the use of experimental samples. Spontaneous nystagmus in such patients is rare (4.5%) and has features of central origin (combined with dizziness of the central type, bilateral, classic, horizontal). When using experimental samples, nystagmus increases. Tonic reactions proceed normally. When using the sensitized Romberg test, tonic disorders are detected in most of these patients. Observation of the dynamics of vestibular reactions in such patients makes it possible to reveal the interest of the stato-kinetic apparatus where there are no spontaneous disorders yet. So, on the electronystagmography of the caloric reaction, the majority of the examined patients revealed altered responses (75.5%), namely: asymmetry (30%), hyporeflexia (28.2%), hyperreflexia (11.8%), areflexia (5.5%).

References:

1. Khasanov U. S., Djuraev J. A. Morphological characteristics of chronic polypous rhinosinusitis //CUTTING EDGE-SCIENCE. – 2020. – T. 30.
2. Djuraev J. A. et al. Results of an immunogistochemical study in patients with polipoid rhinosinusitis //European Journal of Molecular & Clinical Medicine. – 2020. – T. 7. – №. 2. – C. 2526-2541.
3. Botirov A. J. et al. Clinical and morphological results of xenografts to use in myringoplasty //The International Tinnitus Journal. – 2020. – T. 24. – №. 1. – C. 1-6.
4. Djuraev J. A. et al. Distribution of Allel Variants and Genotypes of Il4, Il10, Il12b, Tlr2 Genes in the Group of Patients with CPRS //Annals of the Romanian Society for Cell Biology. – 2021. – C. 4466-4470.
5. Shaumarov A. Z. et al. Role of Hemostatic Agents in Simultaneous Surgical Interventions in the Nasal Cavity //Journal of Experimental and Clinical Surgery. – 2021. – T. 14. – №. 2. – C. 175-180.
6. Djuraev J. A., Khasanov U. S. Results of Frequency Analysis Distribution of Polymorphism Rs1800895 592c> A In Il10 Gene among Patients with Chronic Polypoid Rhinosinusitis //International Journal Of Medical Science And Clinical Research Studies. – 2021. – T. 1. – №. 6. – C. 129-134.
7. Kurbonov Y. K., Boymuradov S. A., Djuraev J. A. Purulent-Necrotic Diseases of The Face: Aspects of Diagnostics and Treatment //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – T. 3. – №. 01. – C. 24-30.
8. Khasanov U. S., Khayitov O. R., Djuraev J. A. OF THE STATE OF HEARING AND CEREBRAL HEMODYNAMICS IN PATIENTS WITH DEVIATION OF THE NASAL SEPTUM //НАУКА, КУЛЬТУРА, ОБРАЗОВАНИЕ: АКТУАЛЬНЫЕ ВОПРОСЫ, ДОСТИЖЕНИЯ И ИННОВАЦИИ. – 2021. – С. 185-187.
9. Jumanov D. A. U. et al. International Journal of Biological and Pharmaceutical Sciences Archive //International Journal of Biological and Pharmaceutical Sciences Archive. – 2021. – T. 1. – №. 1. – C. 011-015.
10. Khasanov U. S. et al. Results of frequency analysis distribution of A1188C RS3212227 polymorphism in the IL 12B gene among patients with chronic rhinosinusitis polyposis //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 01. – C. 104-115.
11. Nigmatov I. O. et al. Features of the application of fat tissue auto transplantation (Lipofiling) in patients with deformities of the maxillofacial region //ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL. – 2021. – T. 11. – №. 1. – C. 195-204.

12. Normurodov B. K. et al. Prevalence and structure of purulent inflammatory diseases of the maxillofacial area //Central Asian Journal of Medicine. – 2020. – T. 2020. – №. 1. – C. 116-130.
13. Khasanov U. S., Vokhidov U. N., Djuraev J. A. Frequency of il 12b gene polymorphism among patients with chronic rhinosinusitis polyposis. – 2022.
14. Nordjigitov F. N., Djuraev J. A. RESULTS OF MORPHOLOGICAL STUDIES OF VARIOUS FORMS OF CHRONIC TONSILLITIS. – 2022.
15. Vohidov U. N. et al. Modern Issues Of The Treatment Of Chronic Polypous Rhinosinusitis //KRS Journal of Medicine. – 2022. – T. 2. – №. 4. – C. 27-33.
16. Narmurotov B. K., Boymuradov S. A., Djuraev J. A. Comparative Characteristics Of Rheological Properties Of Blood In Combined Face Injuries Before And After Treatment //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – T. 3. – №. 01. – C. 67-75.
17. Djuraev J. A. Prevalence of Allelic and Genotypic Variants of Il4, Il10, Il12b and Tlr2 Gene Polymorphism in Patients with Chronic Polypoid Rhinosinusitis.
18. Khasanov U. S., Abdullaev U. P., Djuraev J. A. RESULTS OF AUDIOLOGICAL EXAMINATION IN ACUTE SENSORINEURAL HEARING LOSS OF VARIOUS GENESIS //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 01. – C. 24-50.
19. Khasanov U. S. et al. FEATURES OF MYCOLOGICAL AND CLINICAL STUDIES OF OTOMYCOSIS //The American Journal of Medical Sciences and Pharmaceutical Research. – 2022. – T. 4. – №. 01. – C. 40-59.
20. Khasanov U. S. et al. Morphological Characteristics of the Cysts of the Maxillary Sinuses //International Scientific and Current Research Conferences.
21. Razzokov J. K., Djuraev J. A. Adenoiditis: A Modern Look In Diagnostics And Treatment //International scientific and current research conferences. – 2021. – C. 91-93.
22. Khasanov U. S. et al. BOLALARDA EKSUDATIV OTITNI DAVOLASH USULI //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 1. – C. 64-80.
23. Djuraev J. A. et al. Results of Allergological and Immunological Research in Patients with Polipoid Rhinosinusitis //Asian Journal of Immunology. – 2020. – C. 34-40.

EFFECTIVENESS OF USING OF THE SPLINTS USE IN NASAL CAVITY SURGERIES

Shaykhova Kh.E.

Tashkent Medical Academy

Abstract: The creation of new medical technologies allows doctors to perform simultaneous surgical procedures in the upper respiratory tract. Joint operative procedures are often performed in ENT organs, but this problem remains poorly studied and insufficiently illuminated in the practice of otorhinolaryngology. There are not many works of local authors devoted to simultaneous operations in rhinology. It should be noted that, despite the possibilities of modern conservative therapy, the number of simultaneous operations in diseases of the nose, intranasal structures, and paranasal cavities is not decreasing.

Keywords: nasal cavity, simultaneous operations, paranasal sinuses.

Introduction. Among the diseases of the larynx, deviation of the septum of the nose occupies the main place. The deviation of the septum of the nose causes the occurrence of other pathological processes in the nasal cavity. The deviation of the septum of the nose causes hypertrophy of the lateral wall of the nasal cavity, which in turn causes joint diseases in the cavity. Simultaneous operations ("simultaneous" in English - at the same time) are complex operative practices aimed at the simultaneous surgical correction of two or more diseases of different organs in one or more anatomical areas. It is especially important to perform simultaneous operations in cases where there is a pathogenetic connection between two surgical diseases. If the existing joint pathology is not surgically corrected at the same time, the disease may worsen in the postoperative period. It should be noted that simultaneous surgical correction by an otorhinolaryngologist is cost-effective compared to separate operations, in which the cost of place-day is reduced by 2 or more times, the time spent on examinations, pre- and post-operative treatment, anesthesiological drugs costs are reduced.

The creation of new medical technologies allows doctors to perform simultaneous surgical operations in the field of upper respiratory tract less invasively. Joint operative procedures are often performed in ENT organs, but this problem remains poorly studied and insufficiently covered in the practice of otorhinolaryngology. There are not many works of local authors devoted to simultaneous operations in rhinology [5,17,3,7,16]. It should be noted that despite the possibilities of modern conservative therapy, the number of simultaneous operations in diseases of the nose, nasopharyngeal structures and paranasal cavities is not decreasing [3,9,10,21,1,17].

Purpose of the research work was - studying the morpho-functional features of the nasal mucosa after joint simultaneous surgical operations in cavity of the nose.

The results and discussion. Research materials and methods In 2021-2022, 60 patients with diseases of the nose and paranasal cavities were comprehensively examined and treated at the otorhinolaryngology department of the multidisciplinary clinic of the Tashkent Medical Academy. Combined surgical procedures were performed in these patients, and morpho-functional studies were conducted on the effectiveness of hemostatic agents. Symptoms such as difficulty breathing through the nose, constant and occasional runny nose, impaired sense of smell were observed in the patients. These symptoms have been associated with impaired olfactory function in some cases. During the clinical examination, the symptoms of headache and forehead pain were often noted in the patients (table 1).

Table 1

The frequency of the main clinical symptoms in patients with joint disease of the nasal cavity

Complaints	Number of patients (n=120), %	
	abs.	%
Difficulty breathing through the nose	60	100.0
Impaired sense of smell	14	23.0
Nasopharyngeal discomfort	22	36.6
Sneezing	18	45.0
Discharge from the nose (of different nature - mucous, mucous-purulent, etc.)	30	50.0
Constant runny nose	20	33.3
Occasional runny nose	10	16.6
Occasional headaches	10	16.6

$p > 0.05$

During the study hydrogen ion concentration activity was also studied during the investigation nasal separation, suction, mucociliary transport and nasal cavity in patients (table 2).

Table 2.

Results of functional testing methods of the mucous membrane of the nasal cavity

Indicators	Group 1 n=20	2nd group, n=20	Group 3 n=20	Indicators in the norm
Mucociliary clearance (min)	31.7±0.67** *	29.83±0.4***	30.83±0.4** *	11.5±1.4
	28.5±0.72*	26.4±0.82**	20.4±0.82**	
Hydrogen ion concentration indicator (pH)	7.36±0.01** *	7.37±0.01***	7.37±0.01** *	7.0±0.01
	7.3±0.01	7.2±0.01	7.2±0.01	

*-Differences compared to normal values weak reliable, (p>0.05)

** -Differences compared to normal values moderately strong reliable, (p>0.05)

***-Differences compared to normal values strong reliable, (p>0.05)

In order to determine the degree of influence of the tools used in the nasal cavity on the nasal mucosa after nasal cavity surgical procedures, a cytological study was conducted in patients (table 5).

Table 5

In rhinopathologies, the state of the mucous membrane of the nasal cavity is on a rhinocytogram

Signs	1 group (n=)			2 groups (n=)			3 groups (n=)		
	Before the operation	Day 7 after surgery	Day 14 after surgery	Before the operation	Day 7 after surgery	Day 14 after surgery	Before the operation	Day 7 after surgery	Day 14 after surgery
breath papillary cellular structures derived from the epithelium of the airways									
Basal cells	+	+	+	+	+	+	+	+	+
Scattered cells of the respiratory epithelium	-	-	-	-	-	+	+	+	+

Signs of hypersecretion in respiratory epithelial cells	-	-	+	-	+	+	+	+	+
Degenerative-destructive signs in respiratory epithelial cells	-	+	+	-	-	+	-	-	-
Metaplasia of squamous cell elements	-	-	+	-	-	+	-	-	+
Treatment pathomorphosis	-	-	-	-	-	+	+	+	+
Cornification	-	-	+	-	+	+	-	+	+
Fibroblasts	-	+	+	-	+	+	+	+	+
segmented neutrophils	-	-	+	-	-	+	-	+	+
Eosinophils	+	-	+	+	-	+	+	-	+
Lymphocytes	+	+	+	+	+	+	+	+	+
Histiocytes	-	-	+	-	+	+	+	+	+
Phagocytosis	-	-	+	-	-	+	+	+	+
Bacterial flora	+	+	+	+	+	+	+	-	-

As can be seen from the table data, the state of the nasal mucosa was recorded in patients of each group in the cytological material obtained from the mucous membrane of the nasal cavity after the operation. Thus, in patients who used gauze tamponade of the nasal cavity (the first group), clear signs of inflammatory infiltration and dystrophic changes were detected. In the second group of patients, a hemostatic sponge was used after surgery, and in this group, in addition to the symptoms in the above group, therapeutic pathomorphism was determined. Patients in the third group (only the splint was used) were distinguished by the reduction of inflammatory signs and the presence of regenerative process signs, as can be seen from the rhinocytogram of the mucous membrane.

Thus, the cytological examination of smears taken from the mucous membrane of the nasal cavity taken from patients with various rhinopathologies in the postoperative period showed that nitric oxide leads to the disruption of intercellular connections in the structure of polypous tissue and splint after surgery in group 3 patients with the help of it led to the strengthening of the regenerative processes of the mucous membrane of the nasal cavity. The results of cytological studies have once again confirmed the effectiveness of using the splint in the practice of otorhinolaryngologists.

CONCLUSION

The use of the silicon "Splint" as an alternative to tamponade of the nasal cavity in joint surgical procedures in the nasal cavity, due to the reduction of the volume of complications during and after the operation in patients, strong trophic changes of the mucous membrane and pain reduction improved treatment results.

References:

1. Khasanov U. S., Djuraev J. A. Morphological characteristics of chronic polypous rhinosinusitis //CUTTING EDGE-SCIENCE. – 2020. – T. 30.
2. Djuraev J. A. et al. Results of an immunohistochemical study in patients with polypoid rhinosinusitis //European Journal of Molecular & Clinical Medicine. – 2020. – T. 7. – №. 2. – C. 2526-2541.
3. Botirov A. J. et al. Clinical and morphological results of xenografts to use in myringoplasty //The International Tinnitus Journal. – 2020. – T. 24. – №. 1. – C. 1-6.
4. Djuraev J. A. et al. Distribution of Allel Variants and Genotypes of Il4, Il10, Il12b, Tlr2 Genes in the Group of Patients with CPRS //Annals of the Romanian Society for Cell Biology. – 2021. – C. 4466-4470.
5. Shaumarov A. Z. et al. Role of Hemostatic Agents in Simultaneous Surgical Interventions in the Nasal Cavity //Journal of Experimental and Clinical Surgery. – 2021. – T. 14. – №. 2. – C. 175-180.
6. Djuraev J. A., Khasanov U. S. Results of Frequency Analysis Distribution of Polymorphism Rs1800895 592c> A In Il10 Gene among Patients with Chronic Polypoid Rhinosinusitis //International Journal Of Medical Science And Clinical Research Studies. – 2021. – T. 1. – №. 6. – C. 129-134.
7. Kurbonov Y. K., Boymuradov S. A., Djuraev J. A. Purulent-Necrotic Diseases of The Face: Aspects of Diagnostics and Treatment //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – T. 3. – №. 01. – C. 24-30.

8. Khasanov U. S., Khayitov O. R., Djuraev J. A. OF THE STATE OF HEARING AND CEREBRAL HEMODYNAMICS IN PATIENTS WITH DEVIATION OF THE NASAL SEPTUM //НАУКА, КУЛЬТУРА, ОБРАЗОВАНИЕ: АКТУАЛЬНЫЕ ВОПРОСЫ, ДОСТИЖЕНИЯ И ИННОВАЦИИ. – 2021. – С. 185-187.
9. Jumanov D. A. U. et al. International Journal of Biological and Pharmaceutical Sciences Archive //International Journal of Biological and Pharmaceutical Sciences Archive. – 2021. – Т. 1. – №. 1. – С. 011-015.
10. Khasanov U. S. et al. Results of frequency analysis distribution of A1188C RS3212227 polymorphism in the IL 12B gene among patients with chronic rhinosinusitis polyposis //Oriental Journal of Medicine and Pharmacology. – 2022. – Т. 2. – №. 01. – С. 104-115.
11. Nigmatov I. O. et al. Features of the application of fat tissue auto transplantation (Lipofiling) in patients with deformities of the maxillofacial region //ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL. – 2021. – Т. 11. – №. 1. – С. 195-204.
12. Normurodov B. K. et al. Prevalence and structure of purulent inflammatory diseases of the maxillofacial area //Central Asian Journal of Medicine. – 2020. – Т. 2020. – №. 1. – С. 116-130.
13. Khasanov U. S., Vokhidov U. N., Djuraev J. A. Frequency of il 12b gene polymorphism among patients with chronic rhinosinusitis polyposis. – 2022.
14. Nordjigitov F. N., Djuraev J. A. RESULTS OF MORPHOLOGICAL STUDIES OF VARIOUS FORMS OF CHRONIC TONSILLITIS. – 2022.
15. Vohidov U. N. et al. Modern Issues Of The Treatment Of Chronic Polypous Rhinosinusitis //KRS Journal of Medicine. – 2022. – Т. 2. – №. 4. – С. 27-33.
16. Narmurotov B. K., Boymuradov S. A., Djuraev J. A. Comparative Characteristics Of Rheological Properties Of Blood In Combined Face Injuries Before And After Treatment //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – Т. 3. – №. 01. – С. 67-75.
17. Djuraev J. A. Prevalence of Allelic and Genotypic Variants of Il4, Il10, Il12b and Tlr2 Gene Polymorphism in Patients with Chronic Polypoid Rhinosinusitis.
18. Khasanov U. S., Abdullaev U. P., Djuraev J. A. RESULTS OF AUDIOLOGICAL EXAMINATION IN ACUTE SENSORINEURAL HEARING LOSS OF VARIOUS GENESIS //Oriental Journal of Medicine and Pharmacology. – 2022. – Т. 2. – №. 01. – С. 24-50.
19. Khasanov U. S. et al. FEATURES OF MYCOLOGICAL AND CLINICAL STUDIES OF OTOMYCOSIS //The American Journal of Medical Sciences and Pharmaceutical Research. – 2022. – Т. 4. – №. 01. – С. 40-59.
20. Khasanov U. S. et al. Morphological Characteristics of the Cysts of the Maxillary Sinuses //International Scientific and Current Research Conferences.
21. Razzokov J. K., Djuraev J. A. Adenoiditis: A Modern Look In Diagnostics And Treatment //International scientific and current research conferences. – 2021. – С. 91-93.
22. Khasanov U. S. et al. BOLALARDA EKSUDATİV OTITNI DAVOLASH USULI //Oriental Journal of Medicine and Pharmacology. – 2022. – Т. 2. – №. 1. – С. 64-80.

**EFFECTIVE METHODS AND TECHNIQUES OF
TEACHING ENGLISH LANGUAGES**

Tolibova Shokhzoda Bakhtiyorovna

*Teacher of the Department of Foreign Languages,
Faculty of Philology, Samarkand State University
named after Sharof Rashidov*

Sobirova Zarhala Boltakulovna

*Teacher of the Department of Foreign Languages,
Faculty of Philology, Samarkand State University
named after Sharof Rashidov*

Abstract: Today, English plays an important role in global communication, business, science and culture. Therefore, the process of teaching and learning English is relevant for everyone. The use of effective methods in the teaching process helps to increase the level of language acquisition of students. This article provides detailed information on effective methods of teaching English.

Key words: English language, communicative approach, communication, interactive games, modern technologies, skills.

A communicative approach is important in teaching English. This approach focuses on teaching students how to use the language in real life. By dividing students into groups and giving them different tasks, their communication skills can be developed. In this process, students have the opportunity to interact by expressing their opinions, asking and answering questions. This method also develops students' collaborative skills. The use of technology in teaching English can produce effective results. Modern educational programs and mobile applications offer students interactive and fun ways to learn the language. For example, through online platforms, students can perform various exercises, watch video lessons and even interact. Such technologies allow students to learn the language at their own time and in their own environment, which increases their motivation.

The role of the teacher in teaching English is very important. The teacher should encourage students, increase their interest and help them feel free. A teacher can organize an effective teaching process by making his lessons interesting and interactive, attracting students' attention and respecting their opinions. A teacher's personal experience and knowledge can motivate students and help them achieve their goals. It is important to consider the individual needs of students when teaching English. Each student learns in a unique way, so the teacher must tailor lessons to each student's abilities and interests. Providing students with tasks at different levels

helps them to develop themselves. This approach also develops students' self-assessment skills.[1]

It is important to consider the cultural context when teaching English. Learning a language involves not only mastering grammar rules, but also understanding and adapting to other cultures. In teaching English, providing information about the culture, customs and traditions of English-speaking countries will increase students' interest in the language and facilitate their language acquisition process.[2]

In teaching English, special attention should be paid to the development of students' listening and comprehension skills. Providing students with a variety of audio and video materials will help them develop their listening skills. Introducing students to different accents and pronunciations will increase their understanding of the language. Such materials help students prepare for real-life communication. In teaching English, it is necessary to pay attention to the development of students' writing skills. Giving students a variety of writing tasks helps them express their ideas clearly and fluently. Written assignments allow students to develop skills in organizing their thoughts, creating logically structured texts, and expressing their thoughts in writing. A teacher can help students develop by evaluating their writing and giving them constructive feedback.[3]

In teaching English, it is important to organize the process of mutual evaluation and exchange of ideas. Students will have the opportunity to develop themselves by exchanging ideas, evaluating each other's work and expressing their opinions. This process develops students' communication skills and allows them to share their ideas with others. It is important to develop students' self-assessment skills in English language teaching.[4]

Students should learn to analyze their successes and failures, and what steps to take to achieve their goals. The teacher should provide and guide students with the necessary tools for self-assessment. In order to increase students' motivation in English language teaching, it is necessary to use various motivational methods. Encouraging students to succeed increases their self-confidence and interest in learning. A teacher can help motivate students by recognizing and rewarding their successes.[5]

Conclusion:

In conclusion, the process of teaching English is complex and multifaceted, and the use of effective methods can help students improve their language skills. Communicative approach, use of technology, teacher's role, consideration of individual needs, cultural context, development of listening and writing skills, peer assessment, self-evaluation and motivational methods, English language itself helps to succeed in learning. By applying these methods in their lessons, teachers can effectively organize the language acquisition process of students.

References:

1. Sirojiddinov, A. (2020). "Methodology of teaching English". Tashkent: Teacher.
2. Abdullaeva, N. (2019). "Methods of Teaching English in Modern Education". Samarkand: SamDU publishing house.
3. Tursunova, G. (2021). "Innovative Approaches to Teaching English". Tashkent: Science and Technology.
4. Karimova, D. (2022). "Effective Ways to Learn English". Bukhara: BukhDU publishing house.
5. Jalilov, R. (2020). "Communicative approach in the teaching process". Tashkent: Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan.
6. Muradov, S. (2018). "English Language Teaching Methodology". Andijan: Andijan State University.
7. Kholmatova, L. (2023). "Teaching English in Uzbekistan: problems and solutions". Tashkent: Education of Uzbekistan.

**BOSHLANG‘ICH TA‘LIM MUASSASALARIDA TAFAKKUR VA MUSIQA
TARBIYASINING BOLALAR RIVOJLANISHIDAGI O‘RNI**

*Shahrisabz davlat peadagogika instituti
Musiq ta‘lim yo‘nalishi 2-kurs talabasi*

Abdullayeva Dilovar Sobirovna

Ilmiy rahbar: X.Tursunov

Tel: +998-99-106-34-24

Annotatsiya: Ushbu maqolamizda bolalar ta‘limida tafakkur va musiqa tarbiyasining o‘rni va ahamiyati. Tafakkurning rivojlanishi va uning bolalar tomonidan o‘zlashtirilishi bugungi kunda milliy madaniyatimizga bo‘lgan e‘tibor, amalga oshirilayotgan islohotlar, haqida so‘z yuritilgan..

Kalit so‘zlar: Musiqa, Ta‘lim to‘g‘risida”gi qonun, “Kadrlar tayyorlash Milliy dasturi”, Tafakkur.

**РОЛЬ МЫШЛЕНИЯ И МУЗЫКАЛЬНОГО ВОСПИТАНИЯ В
РАЗВИТИИ ДЕТЕЙ НАЧАЛЬНЫХ ОБРАЗОВАТЕЛЬНЫХ
УЧРЕЖДЕНИЙ**

Аннотация: В данной статье обсуждаются роль и значение мышления и музыкального воспитания в воспитании детей, развитие мышления и его усвоение детьми, внимание к нашей национальной культуре, проводимые реформы.

Ключевые слова: Музыка, Закон об образовании, Национальная программа подготовки кадров, Мысль.

**THE ROLE OF THINKING AND MUSIC EDUCATION IN CHILDREN'S
DEVELOPMENT IN PRIMARY EDUCATIONAL INSTITUTIONS**

Abstract: This article discusses the role and importance of thinking and music education in children's education. The development of thinking and its assimilation by children, the attention paid to our national culture today, the reforms being implemented, are discussed.

Keywords: Music, Law on Education, "National Personnel Training Program", Thinking.

Tafakkur – faqat inson zotiga xos oliy bilish jarayonidir. Bola dunyo yuzini ko‘rishi bilanoq voqelikdagi ayrim narsa va hodisalarni sezishi yoki his qilishi mumkin. Biroq bu paytda unda narsa va hodisalar to‘g‘risida fikr yuritish hali tarkib topmagan bo‘ladi. Kishilar bilan aloqa qilishi sababli asta-sekin uning tafakkuri o‘sib

boradi. Demak, tafakkur bolada uning umumiy taraqqiyoti bilan bilish faoliyatining bevosita ta'siri ostidagina vujudga kelishi mumkin ekan. Shunday qilib, real borliqning sezgi organlarida idrok va tasavvurda aks etishi hamda xotirada mustahkamlanishi natijasida tafakkur hosil bo'lar ekan.

Boshlang'ich ta'lim muassasasi o'quvchilarining tevarak-atrofdagi voqelikning belgi va xususiyatlarini, ularning xossalarini, qonuniyatlarini bilish va ta'lim jarayonida tushunib boradi, tafakkur faoliyatida muhim o'zgarishlar yuzaga kela boshlaydi. Boshlang'ich ta'lim muassasasi o'quvchilarini san'at asarlari bilan tanishtirib borishda bevosita kuzatish, idrok qilish jarayoni vujudga keladi va bunda narsa-hodisalar munosabatini, bog'lanishlarini kuzatish, xulosa chiqarishga o'rganib boradi.

Bolaning "Bu nima?", "Nega bunday?" degan savollariga ilmiy nuqtai nazaridan o'zlari javob topishlari kerak. Mana shunday psixologik muhim o'zgarish davrida san'at asarlari kichkintoyning eng katta yordamchisiga aylanadi. Masalan, yaxshilik va yomonlik, insonparvarlik va yovuzlik haqidagi tushunchalarining bola tafakkurida sayqallanib borishida xalq ertaklari, dostonlari, rivoyatlari, masala va risolatlari inson ongiga ijobiy ta'sir o'tkaza oladi. Bundan tashqari bolani mantiqiy fikrlashi, to'g'ri mulohaza yuritishida san'at vositalarining o'rni muhimdir. Boshlang'ich ta'lim muassasasi tayyorlov guruhi ma'lum taraqqiyot bosqichiga ko'tarilgan tafakkur o'smirlik davriga kelib o'zining yana bir yuqori pallasiga ko'tariladi. San'at vositalari yordamida bular teatr san'ati, badiiy so'z, kino sanati va hokazolar yordamida bolalarda o'rganilishi zarur bo'lgan materiallarni analiz va sintez qilish, ya'ni analitiksintetik faoliyat hamda abstract tafakkur jarayonlarini jadal sur'atlar bilan taraqqiy eta boshlaydi. Boshlang'ich ta'lim muassasasi o'quvchilaridagi tanqidiy tafakkurning, qat'iy mulohaza qilishning yetarli darajada taraqqiy etmaganligi, badiiy did va umumiy madaniyat hissining kamligi badiiy asar qiymatini yuzaki baholashga olib keladi. Boshlang'ich ta'lim muassasasi tayyorlov guruh o'quvchilari xususiyatlaridan yana biri darslikda bayon qilingan fikr va qarashlardan foydalanmay turib, adabiy asarlarni mustaqil tushunish sari intilishdan iboratdir.

Mustaqil O'zbekistonning porloq kelajagini bunyod etuvchi, vatan istiqboli ruhan go'zal bo'lishi kerak. Ozod yurtimizning ravnaqi va kelajagi yoshlarga bog'liq. Bunda albatta, oila, bog'cha, Boshlang'ich ta'lim muassasasi va Boshlang'ich maktabdan tashqari muassasalarining roli beqiyosdir. Shaxsning rivojlanishiga salmoqli va samarali ta'sir ko'rsatadigan madaniyatini yuksaltiradigan muhim omillardan biri – musiqiy ta'lim-tarbiya hisoblanadi. Chunki musiqa kishini xushfazilatli, samimiy, ziyrak, ko'ngilchan, yuksak axloqiy fazilatli hamda ma'naviy madaniyat egasi bo'lib yetishishiga yordam beradi. Insonning kamolotga yetishishida musiqaning bag'oyatda kuchli ta'siri odamzod taraqqiyotining barcha bosqichlarida yaqqol namoyon bo'lib kelgan. Boy musiqiy merosimiz, maqomlar va xalq

qo'shiqlari bir necha asrlardan buyon xalqni ma'naviy jihatdan yuksaltirishdek oliyjanob vazifani bajarmoqda.

O'zbek musiqa san'atining ildizlari juda qadimiydir. Tarix saboqlari shuni ko'rsatadiki, musiqiy tarbiyani insonning bolalik chog'idan boshlash lozim. Darhaqiqat, inson hayotini qo'shiqsiz tasavvur qilib bo'lmaydi. Musiqa san'atining axloqiy-estetik tarbiyadagi to'g'ri his etib, uning yosh avlodni tarbiyalashdagi ahamiyatini keng targ'ib qilish kerak. Inson qalbini kuchli emotsional tuyg'ulari muayyan holda ro'yobga chiqadi. U tevarak-atrofdagi kishilarning darhol diqqatini tortadi. Shuning uchun ham shoirning haroratli she'rlari, san'atkorlarning dildan aytgan monologi, sozandaning sel qilib oqizuvchi kuyi tinglovchining diqqatidan chetda qolmaydi.

Bugungi "Ta'lim to'g'risida"gi Qonun ham "Kadrlar tayyorlash milliy dasturi"da ham Boshlang'ich ta'lim muassasasigacha bo'lgan yoshlikdayoq bolalarga musiqiy ta'lim berila boshlaydi. Bunday yoshda kichik guruhlardan oq musiqadan hissiy ta'sirlanishni tarbiyalash, musiqani diqqat bilan tinglash ko'nikmalarini hosil qilishdan boshlanadi. Turli shakldagi musiqa asarlariga qiziqish, ularni tinglashga ishtiyoq uyg'otish, musiqadagi o'zgarishlarni sezish, tovushning baland-pastligi, ikki-uch xil cholg'u asboblarning templarini farqlash, turli ritmlarni ifodalash, tanish qo'shiq va pyessalarni tinglash qobiliyati va malakalarni tarbiyalash, ashula aytishga, kuychanlikka e'tibor berish, murakkab bo'lmagan qo'shiqlarni sof ohangda aytish, jamoa bo'lib kuylash malakasini va ko'nikmalarini tarkib toptirish, oddiy gimnastik raqs va obrazli harakatlarni o'rgatayotganda musiqa va harakat birligiga rioya etishlariga diqqatini qaratish kabi ko'nikmalarni hosil etib boriladi. Umumta'lim hamda boshlang'ich ta'lim muassasalarida olib boriladigan barcha tarbiyaviy ishlar bu oliyjanob fazilatlarni yosh avlodga bog'cha yoshidan boshlab shakllantirishga qaratilgan. Ta'lim muassasalarida amalga oshirilayotgan tarbiyaning muhim qismi estetikadir. Musiqaviy tarbiya esa estetik tarbiyaning tarkibiy qismi hisoblanadi.

"Musiqa, - deb yozgan edi V.Suxomlinskiy – tafakkurning ulkan manbasi. Musiqa tarbiyasisiz bolaning mukammal aqliy rivojlanishiga erishib bo'lmaydi!" Shunday ekan, musiqa bolaning axloqiy-estetik va g'oyaviy-siyosiy tarbiyasi uchun muhim vosita hisoblanadi. Ayniqsa, ayrim mazmunli musiqa asarlari tinglashda yoki kuylanadigan qo'shiq mazmunidan bolalar ongida hosil bo'ladigan tasavvurlarni yanada boyitish va konkretlashtirish maqsadida asar mazmuniga xos badiiy suratlardan foydalanish ham yaxshi natija beradi. Turli uslublardan foydalanib o'tqazilgan har bir musiqa mashg'uloti o'quvchilarda badiiy estetik zavq uyg'otadi, ularning his-tuyg'ularini rivojlantiradi. Bundan tashqari musiqaviy o'yin va pastanofkalar, raqslar bolalarda ritm tuyg'usi, chaqqonlik va harakatchankil malakalarini rivojlantiradi hamda qomatini to'g'ri o'sishida yordam beradi.

Musiqa o'quv qobiliyatini asosan quyidagi musiqa turlaridan iborat bo'ladi. Musiqa uquvi (musiqa tovushlari baland-pastligi his etish qobiliyati), temp uquvi

(musiqa tovushlarining bir biridan farq qiladiga o'ziga xos usullarini ajrata bilish qobiliyati), ritm tuyg'usi va musiqa xotirasi. Bolalarning bu psixologik qobiliyatlari musiqaviy tarbiyaning barcha elementlarini amalga oshirish jarayonida muntazam amalga oshirib rivojlantirib boriladi.

O'quvchilarga musiqa ta'limini berish quyidagi vazifalarni o'z ichiga oladi:

- 1) Bolaning musiqaqa bolgan qiziqishini oshirish;
- 2) Musiqa asarlari bilan tanishtirish jarayonida bolalarga emotsional histuyg'ular hosil etish yo'li bilan ularning musiqa haqidagi tasavvurlarini boyitib boorish;
- 3) Bolalarni oddiy musiqa tushunchalari bilan tanishtirish, musiqa tinglash, ashula aytish, musiqa bilan harakat, raqsga tushish va bolalarning oddiy musiqa asboblarida kuy chalish qobiliyatini hosil qilish.
- 4) Bolalar ovozi asrab tarbiyalash, ashula aytishning elementar ko'nikmalarini hosil qilish, qo'shiqlarni sodda, ravon, erkin, tabiiy va ifodali kuylashga o'rgatish;
- 5) Musiqa asarlaridan ta'sirlanish, shu asosida bolalarga musiqaviy did va badiiy muhokama yuritish malakalarini rivojlantirish;
- 6) Turli musiqa mashg'ulotlari jarayonida improvizatsiya qilish maqsadida badiiy obrazni o'yin va ashulalar vositasida ifoda etish, ma'lum musiqaviy tempda yangi o'yin o'ylab topish;
- 7) Musiqaviy tarbiya mashg'ulotlarini Boshlang'ich ta'lim muassasasi hayoti bilan bog'lash, Boshlang'ich maktabda o'tkaziladigan turli mashg'ulotlarda va marosimlarda o'rganilgan kuy va qo'shiqlardan keng foydalanish, turli bayram kechalari, konsertlar uyushtirish vositasida musiqa ajralmas yo'ldosh ekanligi haqida tushuncha hosil qilish.

Boshlang'ich ta'lim muassasasigacha va umumta'lim Boshlang'ich ta'lim muassasalarida olib boriladigan musiqa mashg'ulotlari asosan ashula aytish, musiqa tinglash, musiqali ritmik harakatlar va bolalar yoshiga mos bo'lgan cholg'u asboblarida oddiy kuylar chalishni o'rgatishdan iborat. Musiqa mashg'ulotini tashkil etish uchun har bir Boshlang'ich ta'lim muassasasi va bolalar bog'chalarida alohida zal ajratiladi. Zal keng, yorug', quyosh tushadigan tomonda bo'lishi lozim. Bolalarning musiqiy qobiliyatlarini rivojlantirishda zalning jihozlanishi, gigiyenik talablarga javob berishiga alohida e'tibor beriladi.

Musiqa mashg'uloti 6 ta qismdan iborat bo'ladi:

1. Kirish qismi.
2. Musiqa tinglash.
3. Kuylash.
4. Musiqali raqslar.
5. Musiqa jo'rligida harakatli o'yinlar.
6. Yakuniy qism.

Mazkur mashg'ulot bolalar bog'chalarida tashkil etiladi. Bu yuqoridagi qismlarning o'rnini almashtirilmaydi. Chunki bolalarning o'zlashtirishi musiqiy rivojlanishi hisobga olingan.

Xulosa

Boshlang'ich maktabda o'quvchilarida san'at vositalari orqali axloqiy tizimining asosiy komponentlari, shaxs prinsiplari, o'quvchilarda dunyoqarash g'oyalari majmuini hosil qilish axloqiy idealini tarkib toptirish, o'quvchilarni ijtimoiy foydali ishlarga faoliyatlarini jalb etish, yoshlarning bilim olishi, bolalar jamoasi hayotida axloqiy normalarni qaror toptirishi, o'z-o'zini tarbiyalash protsessiyasini tashkil etish, Tafakkur yuksak darajada tashkil topgan miyaning mahsulidir. Boshlang'ich maktabda o'quvchilari tafakkurini rivojlantirish uchun ularda hamma vaqt sistemali ravishda mantiqiy tafakkur usullarini tarkib topishi zarur. Boshlang'ich maktabda olib boriladigan musiqa mashg'ulotlari bu kelajak avlodni axloqiy tarbiyasini shakllantirishdan iborat. Bu bilan biz ularning axloqiy didlarini, madaniyatini keng ma'noda ijobiy tomonda bo'lishini ko'rishimiz mumkin.

Foydalanilgan adabiyotlari:

1. Kadrlar tayyorlash milliy dasturi. Barkamol avlod O'zbekiston taraqqiyotining poydevori. – Toshkent, 1997.
2. T.N.Qori-Niyoziy. Hayot Boshlang'ich ta'lim muassasasi –Toshkent, Fan, 1970.
3. Sharifa Abduraxmonova tarjimai. Tafakkur gulshani, -Toshkent, G'G'ulom nomidagi adabiyot va san'at nashriyoti, 1989.
4. N.A.Vetlugina tahriri ostida. Bolalar bog'chasida estetik tarbiya. –Toshkent, O'qituvchi, 1981.
5. E.Roziyev. Ta'lim jarayonida o'quvchilar tafakkurining o'sishi. –Toshkent, O'qituvchi, 1980.
6. Safo Ochil. Mustaqillik ma'naviyati va tarbiya asoslari, -Toshkent, O'qituvchi, 1995.
7. Hasan Yusupov. O'rta Osiyo mutafakkirlari musiqa tarbiyaotining tarbiyaviy ahamiyati.– Samarqand, 1993.
8. T.Ye.Solomonova. O'zbek musiqasi tarixi, -Toshkent, O'qituvchi, 1981.
9. Isomovich, Tursunov Husniddin. "Musiqqa San'atning Pedagogik Shakllanish Jarayonlari." Diversity Research: Journal of Analysis and Trends 2.5 (2024): 58-62.
10. Isomovich, T. X. (2024). O 'ZBEKISTONDA MUSIQA PEDAGOGIKASINING DAVRLAR ARO RIVOJLANISHI. Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rnini va rivojlanish omillari, 7(5), 93-99.
11. Isomovich, Tursunov Xusniddin. "XX ASRDA O'ZBEK MUSIQA SAN'ATIDA TUB BURILISH, YOHUD IJROCHILIK USLUBINI YANGI SHAKLI." Ta'lim innovatsiyasi va integratsiyasi 20.5 (2024): 27-31.
12. Isomovich, Tursunov Xusniddin. "O 'ZBEKISTONDA MUSIQA PEDAGOGIKASINING DAVRLAR ARO RIVOJLANISHI." Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rnini va rivojlanish omillari 7.5 (2024): 93-99.
13. Isomovich, Tursunov Husniddin. "Historical Pedagogical Content And Characteristics Of Dutor Instrument Performance." Pedagogical Cluster-Journal of Pedagogical Developments 2.5 (2024): 310-316.

MUSIQA MADANIYATI TA'LIMIDA INNOVATSION PEDAGOGIK
TEXNOLOGIYALAR VA IJODIY TAFAKKURNI RIVOJLANTIRISH

Shahrisabz davlat peadagogika instituti

Musiqa ta'lim yo'nalishi 2-kurs talabasi

Usmonov Jonibek Xusan o'g'li

Ilmiy rahbar: Esonova Marjona Sirojiddin qizi

esonovaMar731@gmail.com

Annotatsiya: Ushbu maqolada musiqa madaniyatini ta'limi va tarbiyadagi ahamiyati, uning o'quvchilarda estetik va ijodiy tafakkurni rivojlantirishdagi roli haqida so'z yuritilgan. Musiqa savodi, qo'shiqlarni o'rganish va musiqiy asarlarni idrok etish orqali o'quvchilarning emotsional va estetik his-tuyg'ulari shakllanadi. Musiqa ta'limi orqali o'quvchilar ijodiy tafakkurga ega bo'lib, o'z his-tuyg'ularini musiqa orqali ifodalash imkoniyatiga ega bo'ladilar.

Kalit so'zlar: Musiqa "Bumerang" "Skarabey" "Tafakkur" "Musiqa madaniyati darslarining didaktik prinsplari"

INNOVATIVE PEDAGOGICAL TECHNOLOGIES AND THE DEVELOPMENT
OF CREATIVE THINKING IN MUSIC EDUCATION

Annotation: This article discusses the importance of music culture in education and upbringing, its role in the development of aesthetic and creative thinking in students. Through musical literacy, learning songs and perceiving musical works, students' emotional and aesthetic feelings are formed. Through music education, students acquire creative thinking and have the opportunity to express their feelings through music.

Keywords: Music "Boomerang" "Scarab" "Thought" "Didactic principles of music culture lessons"

РАЗВИТИЕ ИННОВАЦИОННЫХ ПЕДАГОГИЧЕСКИХ ТЕХНОЛОГИЙ И
ТВОРЧЕСКОГО МЫШЛЕНИЯ В МУЗЫКАЛЬНО-КУЛЬТУРНОМ
ОБРАЗОВАНИИ

Аннотация: В данной статье говорится о значении музыкальной культуры в воспитании и обучении, ее роли в развитии эстетического и творческого мышления у студентов. Эмоциональные и эстетические чувства учащихся формируются посредством музыкальной грамотности, разучивания песен и понимания музыкальных произведений, которые они смогут выразить через музыку.

Ключевые слова: Музыка «Бумеранг», «Скарабей», «Мышление», «Дидактические основы уроков музыкальной культуры».

Musiqa madaniyati fanni umumiy o'rtta ta'lim matablaridagi boshqa o'quv fanlari qatori har tomonlama tarbiyalash va ularni barkamol inson qilib shakllantirishga xizmat qiladi. Ta'lim jarayonida interfaol metodlar, innovatsion texnologiyalar, pedagogik axborot texnologiyalarini o'quv jarayonida qo'llashga bo'lgan qiziqish, e'tibor kuchayib bormoqda. Tavsiya etilgan texnologiyalar va interfaol metodlardan foydalanishda o'qituvchi bu texnologiyalarning maqsadi, mazmuni va o'z fani xususiyatlaridan kelib chiqib to'liq, qisman yoki printsiplardan foydalanishni o'ylab rejalashtirishi zarur. Aks holda dars samaradorligini oshirishda biror natijaga erisha olmasligi mumkin.

Xar bir predmetni o'ziga xos xususiyatlari bo'ladi. Musiqa madaniyati va san'ati darslarining asosiy hususiyatlari quyidagi faoliyatlar bilan bog'liq:

- Vokal, xor mashqlarini kuylash orqali qo'shiq aytish malakasini egallash
- Qo'shiqlar o'rganish va kuylash
- Musiqa asarini tinglash va idrok etish
- Musiqa savodi (nota yozuvini o'qib, oddiy kuy ohanglarini aniqlash)
- Musiqa asari tavsifiga mos raqs va ritmga harakatlar bajarish
- Musiqa, uning yaratuvchilari, ijrochilari va tinglovchilari haqida bilim malaka ko'nikmalariga ega bo'lish.

Musiqa savodi, ya'ni nota yozuvi elementlari, yakkanavozlik, jo'rovoqlik guruhlariga bo'linib "Bumerang", texnologiyasi, "tarmoqlar" metodi, "klaster", "skarabey" texnologiyasi, "aqliy hujum" va boshqa interfaol metodlaridan foydalanish mumkin.

O'qituvchi darsning maqsadi va faoliyatlar bo'yicha:

Innovatsion pedagogik texnologiyalarga asoslangan noan'anaviy va an'anaviy darslar tashkil qilish jarayonida to'plangan tajribalarni tahlil qilish.

"Bumerang" texnologiyasi o'quvchilarning tanqidiy fikrlashlariga imkoniyat yaratadi: g'oyalarni, fikrlarni hamda dalillarni yozma va og'zaki shakllarda bayon qilish ko'nikmalarini rivojlantiradi.

"Skarabey" (aqliy hujum) texnologiyasi-interfaol texnologiya bo'lib, o'quvchilarda fikriy bog'liqlik, mantiq xotiraning rivojlanishiga imkoniyat yaratadi.

Musiqa ta'limi darslarida o'quvchilarning ijodiy tafakkurini shakllantirishga qaratilgan turli pedagogik texnologiyalardan foydalanish musiqa ta'limining kafolatlangan natijalariga erishish omili bo'lib hisoblanadi.

Texnologiyalar mohiyatiga ko'ra:

- musiqa mazmunini mantiqiy o'zlashtirishga qaratilgan tayanch ijroviy-ijodiy texnologiyalar;
- musiqiy-nazariy o'quv ishlari usullarini shakllantirish texnologiyasi;
- integtrativ aloqa va bog'liqlikda bo'lish texnologiyalari;

-o'quvchilarni musiqiy faoliyatlarda faol ishtirok ettirish va nafosatli tarbiyalash texnologiyalari turlariga bo'linadi.

O'quvchilarning musiqiy-o'quv faoliyatini shakllantirish texnologiyasi o'quvchilarning musiqaga bo'lgan qiziqishini oshirishga qaratilgan o'quv faoliyati maxsus va alohida shakl sifatida ko'rib chiqiladi. Shunga tegishli texnologiyada o'quvchilar musiqiy bilimlarni ma'lum bir topshiriqlar, masalan, qo'shiqni musiqiy va badiiy tahlil qilish yoki uni nafis va jozibali kuylash, cholg'u asboblari haqida ma'lumotlar to'plash, ayrim sodda musiqiy tuzilmalar xususiyatini o'rganib kelish orqali egallaydilar.

Musiqqa sohasida o'quvchilar faoliyatini faollashtirish turli musiqiy o'yinlar texnologiyasi, musiqiy asarni idrok etish, qo'shiq kuylash, cholg'u asboblari ijro etish, ularni nazariy jihatdan tahlil qilish kabi texnologiyalardan foydalanish orqali amalga oshiriladi.

Musiqqa madaniyati darslari pedagogikasining didaktik nazariyasi va prinsiplari asosida tuziladi. Mazkur prinsiplar o'qituvchi hamda o'quvchi tomonidan bajariladigan ta'lim asoslari dars mazmuni metodlari va bajariladigan ta'lim asoslari dars mazmunini metodlari va darslarning tuzilishidagi asosiy talablar va uning yo'nalishlarini belgilab beradi.

Musiqqa madaniyati darslarining didaktik prinsiplari 4 turdan iborat:

1. Musiqqa ta'limi va tarbiyasida sistemalik, ilmiylik va davomiylik prinsipi.
2. Darsda o'quvchining ongli va aktivlik prinsipi.
3. O'quv materiallarining bolalar bilim va malakalariga mosligi prinsipi.
4. Musiqqa darslarida bilim va malakalarining mustahkamlik prinsipi.

Mazkur prinsiplar asosan, o'quv materiallarini qo'llash, musiqqa darsini mazmun va rejasini tuzish umumdidaktik prinsiplar bir-biri bilan uzviy bog'liq bo'lib musiqqa darsini davlat ta'lim standartiga muvofiq, milliy xususiyatlarni hisobga olgan holda uzluksizligini va uzviyligini asos qilib musiqqa faoliyatini izchilligini ta'minlaydi.

1. Musiqqa ta'limi va tarbiyasida sistemalik, ilmiylik va davomiylik prinsipi har bir darsda o'zining tuzilishi va mazmuni bilan ilmiy asosida tashkil topishi lozim. Musiqqa haqidagi bilimlar doirasi musiqqa ta'lim va tarbiyasining asosiy omillaridir.

2. Darsda o'quvchilarni onglilik va aktivlik prinsipi. Ushbu prinsip didaktikaning yetakchi prinsiplaridandir. Chunki, bilimni o'zlashtirish o'quvchining aqliy faoliyatiga asos bo'lgan bilish jarayoniga bog'liqdir.

3. O'quv materiallarining bolalar bilim va malakalariga mosligi prinsipi. Mazkur prinsip, dasturdan tanlab olingan o'quv materiallari va mazkur metodik materiallar asosida dars mazmunini tuzish jarayonida qo'llaniladi.

4. Musiqqa darslarida bilim va malakalarning mustahkamligi. Mazkur prinsiplarni amalga oshirishning eng asosiy sharti, yuqorida bayon etgan to'rtta prinsipga jiddiy amal qilishdan iboratdir.

Xulosa qilib aytganda, pedagogikaning umumdidaktik prinsiplari, musiqa madaniyati darslarida katta ahamiyatga ega bo'lib, musiqani hayot bilan bog'lashda muhim ahamiyat kasb etadi.

Musiqiy tarbiya insonni go'zallikka yetaklovchi bir vosita bo'lib, u insonni estetik va emotsional xususiyatlarini shakllantiradi. Inson hayotini musiqa san'atidagi tasavvur qilib bo'lmaydi. Tarbiyada musiqani idrok qilish malakalarini faol rivojlantirish, san'at va atrof hayotdagi go'zal narsalarga muhabbat tuyg'usini hamda o'z his-tuyg'ularini musiqa tilida ijodiy namoyon qilish qobiliyatini shakllantirish katta rol o'ynaydi.

Tafakkur – kishi ongida borliqning uning tahlili va sintezi bilan aks etish jarayonidir. Umumiy psixologiyada tafakkurning quyidagi turlari tavsiflanadi: ko'rgazmali-harakatli. Musiqiy tafakkur - musiqiy madaniyat o'ziga xosligi, qonuniyatlarni bilishning spetsifik, intellektual jarayoni va musiqiy san'at asarini tushunishdir. Musiqa san'atining o'ziga xosligi bilan bog'liq ravishda, musiqiy tafakkurning yana bir turini ajratib ko'rsatish mumkin-bu ijodiy tafakkur.

Ijodiy tafakkur fikrlash elementlariga yangilik, noyoblik, qaytarilmaslik qo'shilgandagi tafakkurni nazarda tutadi. Ijodiylik elementiga ko'ra tafakkur konvergent va divergent tafakkurga bo'linadi. Musiqiy tafakkur bevosita badiiy obrazning tug'ilishiga bog'liq. Musiqiy asardagi badiiy obraz moddiy, ruhiy va mantiqiy ibtido birligidan iborat. Turli metodik manbaalarda musiqiy bilim oluvchi o'quvchilarning ijodiy fikrlashiga va ijodkorlikka o'rgatish borasida turlicha qarashlar mavjud. Masalan, ba'zi bir mutaxassislar fikricha, ijodkorlikni shakllantirish uchun bolalarning bilimni anglab o'tish imkoniyatlarini rivojlantirib, turli ilmiy adabiyotlardan to'g'ri xulosa chiqarib olishga o'rgatish jarayoni muhim hisoblanadi.

Musiqa ijodkorligi faoliyati sinfdagi iqtidorli va iste'dodli o'quvchilarga e'tiborni kuchaytirish, ularning badiiy ehtiyojlarini qondirish uchun juda muhimdir. Iste'dodning o'z vaqtida namoyon bo'lishi tarbiyaga va qo'llab-quvvatlashga bog'liqdir. Yoshlar iste'dodining namoyon bo'lishiga qobiliyatlarini aniq tahlil etish, bolaning o'ziga xos fazilatlarini hisobga olish, ijodiy qobiliyatlar rivojini samarali amalga oshirish uchun zarur.

Shuni alohida ta'kidlash lozimki, mustaqil fikrlash bir qarashda insonning individual xususiyati bo'lsada, bu xususiyat jamiyatda, insonlar o'rtasidagi muhit yaxshi bo'lgandagina rivojlanadi.

Fikr bu -insonning faoliyati, iqtidori, qudrati va bilimni namoyon etadigan ma'naviy-ahloqiy, insoniy sifatdir.

Tafakkur motivlari ikki turga bo'linadi:

O'ziga xos bilish motivlari.

O'ziga xos bo'lmagan motivlar.

O'ziga xos bilish motivlariga tafakkur faoliyatiga undovchi va uni harakatga keltiruvchi kuchlar, bilish ehtiyojlari namoyon bo'ladigan qiziqish va motivlar kiradi.

O'ziga xos bo'lmagan motivlar esa ozmi-ko'pmi tashqi sabablar ta'sirida boshlanadi. Masalan, maktab o'quvchisi biror narsani bilib olish ishtiyoqida emas, balki kattalarning talablarini bajarish majburiyati orqasida yoki o'rtoqlaridan orqada qolib ketishdan qo'rqqani uchun dars tayyorlaydi .

Shaxs ijodiy qobiliyatlarini rivojlantirish jarayonining maqsadli va samarali kechishini ta'minlaydigan shart-sharoitlar quyidagilardan iborat:

O'quvchilarda ijodiy – “Men” – konsepsiyasini shakllantirish.

Ijodiy jarayon mohiyatini nazariy to'g'ri tushunish o'quvchilar ijodiy qobiliyatlarini to'g'ri aniqlash va rivojlantirishda ta'limning samarali metodlari va vositalarini maqsadli tanlash, bolalar ijodi mahsulini to'g'ri baholash imkonini beradi.

Bolalarga insoniy munosabat:

- bolalarga mehr-muhabbatli bo'lish;
- har bir bolaning kelajagiga ishonish;
- hamkorlik qilish, muomala mahorati;
- majburlashdan xoli bo'lish;
- ijodiy mezon va omillarga katta e'tibor berish;
- bolalarning kamchilik va nuqsonlariga chidamli bo'lish kabilarni o'z ichiga qamrab oladi.

Individual yondashuv. Yangicha individual yondashuvning mohiyati shundaki, o'qituvchi ta'lim tizimida o'quv fanidan bolaga tomon emas, balki boladan o'quv faniga tomon harakat qilishi, o'quvchining rivojlantirilishi, takomillashtirilishi, boyitilishi lozim.

Individual yondashuv:

- shaxsning yaxshi fazilatlarini aniqlash;
- shaxsni muntazam psixologik – pedagogik tashhislash;
- ta'lim-tarbiya jarayonida shaxs xususiyatlarini hisobga olish;
- shaxs rivojlanishini bashorat etish va boshqalarni qamrab oladi.

O'quvchilar ijodiy qobiliyatlarini rivojlantirish texnologiyalari deyilganda shaxsning ijodiy xususiyatlarini aniqlash va rivojlantirishga qaratilgan, oldindan rejalashtirilgan ta'lim-tarbiya ishlari jarayoni tushuniladi. Bunda shaxsning qobiliyatlarini rivojlantirishning samarali metod, usul va vositalari o'quvchilarning yosh xususiyatlarini hisobga olgan holda tanlanadi.

Xulosa qilib aytganda, Musiqa madaniyati darslarida innovatsion texnologiyalar va metodlardan foydalanish, o'quvchilarning musiqiy faolligini oshirish, estetik va emotsional rivojlanishini ta'minlashda muhim ahamiyatga ega. Musiqa madaniyati va san'ati darslarida pedagogik texnologiyalarni qo'llash, o'quvchilarning ijodiy

tafakkurini rivojlantirish va musiqa ta'limining samaradorligini oshirish uchun muhim omildir.

FOYDALANILGAN ADABIYOTLAR

1. O'zbek musiqasi tarixi. Tuzuvchi Solomonova T.E. Toshkent, "O'qituvchi" nashriyoti 1981 y.
2. A.Xasanov "Maktabda ashula" Toshkent-1981 yil.
3. Sh.Yo'ldashev "O'zbekistonda musiqa tarbiyasi va ta'limining rivojlanishi. Toshkent 1985 yil
4. S.Begmatova, Q.Mamirov va boshq. G'ofur Gulom nomidagi "Adabiyot va san'at" nashriyoti Toshkent – 2001
5. Tohirjon Ortiqov "Musiqqa o'qitish metodikasi" Toshkent "Muharrir" nashriyoti 2010-yil.
6. Qobiljon Usmonov "Musiqqa darsligi" "Istiqlol" nashriyoti Toshkent – 2006
7. Jo'rayev A. "Tarbiyaviy darslarni o'tish". T., "O'qituvchi" 1994y.
7. Yusupov E va b. "Inson barkamolligi" –T.: O'zbekiston 1989y.G.M.Sharipova. "Musiqqa o'qitish metodikasi". -T., RTM. 2000 yil.
8. Musurmonova. O. Ma'naviy qadriyatlar va yoshlar tarbiyasi.- Toshkent: O'qituvchi, 1996.- 5-6 b.
9. Isomovich, Tursunov Husniddin. "Musiqqa San'atning Pedagogik Shakllanish Jarayonlari." *Diversity Research: Journal of Analysis and Trends* 2.5 (2024): 58-62.
10. Isomovich, T. X. (2024). O 'ZBEKISTONDA MUSIQA PEDAGOGIKASINING DAVRLAR ARO RIVOJLANISHI. Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari, 7(5), 93-99.
11. Isomovich, Tursunov Xusniddin. "XX ASRDA O'ZBEK MUSIQA SAN'ATIDA TUB BURILISH, YOHUD IJROCHILIK USLUBINI YANGI SHAKLI." *Ta'lim innovatsiyasi va integratsiyasi* 20.5 (2024): 27-31.
12. Isomovich, Tursunov Xusniddin. "O 'ZBEKISTONDA MUSIQA PEDAGOGIKASINING DAVRLAR ARO RIVOJLANISHI." Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari 7.5 (2024): 93-99.
13. Isomovich, Tursunov Husniddin. "Historical Pedagogical Content And Characteristics Of Dutor Instrument Performance." *Pedagogical Cluster-Journal of Pedagogical Developments* 2.5 (2024): 310-316.

INSONIYAT TARAQQIYOTIDA MUSIQA TARBIYASINING AHAMIYATI

*Shahrisabz davlat peadagogika instituti
San'atshunoslik kafedrasida o'qituvchisi
Abdullayev Muhitdin Yusupovich
Tel: +998-91-652-69-75
abdullayevmu952@gmail.com*

Annotatsiya: Ushbu maqolamizda O'zbekiston mustaqillikka erishgandan so'ng, musiqa madaniyati fani rivojlanishi, bugungi kunda milliy madaniyatimizga bo'lgan e'tibor, amalga oshirilayotgan islohotlar, buyuk allomalarimizni musiqa ilmiga qarashlari haqida so'z yuritilgan.

Kalit so'zlar: Musiqa, "Kadrlar tayyorlash Milliy dasturi", Al-Farobiy "Musiqa haqida katta kitob" asari

ЗНАЧЕНИЕ МУЗЫКАЛЬНОГО ОБРАЗОВАНИЯ В РАЗВИТИИ ЧЕЛОВЕКА

Аннотация: В данной статье рассказывается о развитии науки о музыкальной культуре после обретения независимости Узбекистана, внимании, уделяемом сегодня нашей национальной культуре, реализуемых реформах, а также взглядах наших великих ученых на музыкальную науку.

Ключевые слова: Музыка, «Национальная программа подготовки кадров», труд Аль-Фараби «Большая книга о музыке».

THE IMPORTANCE OF MUSIC EDUCATION IN THE DEVELOPMENT OF HUMANITY

Annotation: This article discusses the development of the science of music culture after Uzbekistan gained independence, the attention paid to our national culture today, the reforms being implemented, and the views of our great scholars on music science.

Keywords: Music, "National Program for Personnel Training", Al-Farabi's "Big Book on Music"

Musiqa san'ati navqiron avlodimizning yuksak ma'naviyat ruhida kamol topishida boshqa san'at turlariga qaraganda ko'proq va kuchliroq ta'sir ko'rsatmoqda.

Abu Ali Ibn Sino qadimgi yunon faylasuflari hamda Al-Farobiyning musiqa to'g'risidagi ta'limotlarini chuqur o'zlashtirgan holda musiqaning inson ma'naviyatiga bog'liq jihatlariga ham katta e'tibor beradi. Olimning fikricha,

“Musiqqa hayotbaxsh, oliyjanob ahloqiy hususiyatlarini rivojlantiradi, u insonga xizmat qiladi, uning intellektual va ahloqiy qiyofasini shakllantiradi”.

Musiqqa har davrning ijtimoiy - iqtisodiy va ma’naviy – mafkuraviy hayotning muhim va ta’sirchan vositasi bo‘lib kelgan. Ma’naviy barkamol insonni shakllantirishda musiqaning ahamiyatini alohida ta’kidlash joizki, musiqqa asarlarning inson go‘zallik, ulug‘vorlik, ko‘tarinkilik, tushkunlik, g‘amginlik, hazinlik, mayuslik, singari tuyg‘ularni uyg‘otuvchi hususiyatlari mavjud va xuddi mana shu jihatlari orqali inson ma’naviyatga ta’sir ko‘rsatadi. Ayniqsa, yoshlarning iste’dodini ro‘yobga chiqarish, ahloqan poklanish, hayotga moslashish, biror kasb hunar egasi sifatida ijtimoiy faollashishiga yordam beradi.

Xalqimiz madaniyati va ma’naviyatini yuksaltirish, xususan o‘sib kelayotgan yosh avlod ta’lim – tarbiyasiga e’tibor hamda ularning dunyoqarashlarini kengaytirishda, erkin fikrlash qobiliyatlarini kuchaytirishda milliy musiqaning o‘rni juda katta.

Milliy musiqamiz durdonalari va an’anaviy qo‘shiqlarimiz avvaldan xalqimiz orasida ardoqlanib, og‘izdan-og‘izga o‘tib, kuylanib, so‘zlash orqali bizgacha yetib kelgan. Mumtoz kuy va qo‘shiqlarimiz, ayniqsa, oddiy xalq tilidan kuylangan o‘lanlar, allalar, lapar va yallalar, aytishuvlar terma qo‘shiqlar shular jumlasidandir. O‘zbek folklorida o‘rganiladigan har bir qo‘shiqni yoki xatti-harakatning ma’nosida xalqimizning azaliy tarixi yotadi.

O‘zbekiston mustaqillikka erishgandan so‘ng, musiqqa sohasida avvalo milliy an’analarimizni, me’rosimizni asrab avaylash va rivojlantirish jarayoni boshlanadi. Binobarin mustaqillik tufayli milliy musiqqa madaniyatimiz, ma’naviy kamolotini shakllantirishiga xizmat qila boshladi.

Musiqqa shunday vositaki, u yangi avlod tarbiyasida muhim ahamiyat kasb etadi, inson ruhiy olamiga bevosita ta’sir ko‘rsatadi, tinglovchi dunyoqarashini shakllantiradi.

Shaxsni kamol toptirishda musiqqa madaniyatining o‘rni va ahamiyatini ochib berish, birinchidan, insoniylik va uning mohiyati masalasini, ikkinchidan ma’rifatlilik ko‘lamini, uchinchidan ma’naviy kamolotda musiqqa ega bo‘lgan imkoniyatlarni aniqlash demakdir.

Al-Farobiy o‘zining “Musiqqa haqida katta kitob” asarida musiqani uch turga ajratadi. Uning fikricha bir xil musiqqa insonga huzur-halovat baxsh etadi. Ikkinchi xili esa ehtirolarni qo‘zg‘ab, jo‘shqin qiladi va, uchinchi xil musiqqa borki o‘yga toldiradi, fikrlashga, tafakkur qilishga majbur etadi.

Hozirgi musiqiy ta’lim – tarbiyasi shuni ko‘rsatadiki, milliy musiqqa me’rosimizni o‘rgatishda musiqqa darslarini va sinfdan tashqari musiqqa tarbiya tizimini ahamiyati katta. Darsni qiziqarli qilish uchun musiqqa ijodkorligi qo‘llaniladi, barcha musiqqa faoliyatlari (xor bo‘lib kuylash, musiqqa savodi, musiqqa tinglash) dars mavzusining ajralmas qismi va mantiqan uzviy bog‘lanib o‘tiladi.

Jamiyatimizning turli jabhalarida bo‘layotgan siyosiy, iqtisodiy, ijtimoiy, ma’rifiy o‘zgarishlar barcha fanlar qatori musiqa darslarining mazmuni va metodikasiga ham yangi zamonaviy talablar qo‘yiladi:

1.Darsda ta’limiy – didaktik, tarbiyaviy, rivojlantiruvchi maqsadlarni bilish va ularni amalga oshirish.

2.Darsda ta’limning faol usul va uslublaridan foydalanish.

3.Dars jarayonida xalq pedagogikasi an’analarini, jahon pedagogika va psixologiyasi, san’atimiz buyuk ajdodlarimiz o‘g‘itlari, rivoyatlarimiz, hikmat to‘la hadislarimizdan unumli foydalanish maqsadga muvofiqdir.

Eng muhim shart – sharoitlar quyidagilardan iborat:

1.Darsliklar, qo‘llanmalar, dastur – tavsiyanomalar, didaktik va metodik ko‘rgazmali qurollar va texnik vositalardan foydalanish.

2.Sinfda ijobiy psixologik muhit bo‘lishi.

3.O‘qituvchi va o‘quvchilar orasida o‘zaro yaxshi munosabatda bo‘lish.

Ushbu pedagogik shart – sharoitlarga amal qilib darsning maqsadi va mavzusi, to‘g‘ri tashkil qilinsa dars sifatli va samarali bo‘lish mumkin.

Oliy Majlisning 1997-yil 28-avgustdagi IX – sessiyasida qabul qilingan “Kadrlar tayyorlash milliy dasturi” muhim tarixiy, amaliy hujjat bo‘lib ta’lim tizimini tubdan isloh qilish, uni dunyoning ilg‘or demokratik davlat darajasiga yetkazish, va yosh kadrlarni yuksak ma’naviy– ahloqiy, yuqori bilimlarga ega qilib tarbiyalashni maqsad qilib qo‘yadi.

O‘quvchi shaxsini, uning intilishlarini, qobiliyatini va qiziqishini hisobga olgan holda yangi (1-7) sinflar uchun yangi dastur tuzildi.

Dastur asosida darsliklar, metodik qo‘llanmalar, tavsiyanomalar yaratilmoqda. Yetti yillik musiqa o‘qitish davrida o‘quvchilarni go‘zallikni his eta oladigan musiqaga mehr va havas bilan qaraydigan, milliy musiqa me’rosimizga vorislik qila oladigan barkamol inson qilib tarbiyalash asosiy maqsad qilib qo‘yiladi. Yangi dastur asosida musiqa madaniyati darslarini sifatli, pedagogik va metodik jihatdan yuqori talab darajasida olib borish uchun o‘qituvchi ijodkor, o‘z kasbini va o‘quvchilarni sevuvchi, yaxshi cholg‘uchi, metodikani puxta o‘zlashtirgan pedagogik bo‘lishi kerak. Musiqa ta’limini milliy asosini tarkib topishiga, fortepiano asbobi bilan birgalikda, o‘zbek xalq cholg‘u asboblardan ham foydalana olishi zarur.

Musiqa o‘qituvchisi darslarga mavzularni tanlab, rejalashtirish ko‘rgazmali qurollardan, texnika vositalaridan ham foydalanishi kerak. Musiqa darsida musiqa faoliyatlarini oddiydan – murakkabga o‘tish printsipli asosida o‘zaro mantiqiy bir butunlikka erishish va o‘qitishning rivojlanuvchi ta’limiy va tarbiyaviy vazifalarni amalga oshirish zarur.

Boshlang‘ich va o‘rta sinflar uchun ish reja alohida – alohida tuziladi. Bunda o‘quvchilarni yoshi, sinfi, ovoz diapazoni, musiqaga qiziqishi va qobiliyati

va yil fasllari, bayramlar, yil, chorak, dars mavzulari hisobga olinib, yangi dasturdan foydalanib dars strukturasi asosida tuziladi. Musiqa darslari asosan 1 haftada 1 soat o'tiladi. O'quv yili davomida esa quyidagi tartibda choraklarga bo'linib dars soati taqsimlanadi:

I Chorak 9 soat,

II Chorak 7 soat,

III Chorak 10 soat,

IV Chorak 8 soat

Ja'mi 1 yilda 35 soat dars o'tiladi.

Boshlang'ich sinfda dars strukturasi 5 ta faoliyat turidan iborat bo'ladi.

1. Xor bo'lib kuylash.

2. Musiqa savodi.

3. Musiqa tinglash

4. Musiqa xarakteriga mos xarakterlar bajarish.

5. Bolalar cholg'u asboblari musiqaga jo'r bo'lish.

O'rta (V - VII) sinflarda esa dars faoliyati bir muncha kamayadi. Chunki, o'rta sinf o'quvchilari ko'nikma va malakalarga ega bo'ladilar. Musiqa darsi 4 ta faoliyat asosida olib boriladi:

1. Xor bo'lib kuylash.

2. Musiqa savodi.

3. Musiqa tinglash.

4. Musiqa ijodkorligi

Bunda bolalarning ovoz apparatlari shakllangan musiqiy qobiliyatlari rivojlangan musiqaning tuzilishi, shakli musiqi ifoda vositalari haqida bilimga ega bo'ladilar.

Nutqini o'stirish, fikrlash qobiliyatini, dunyoqarashini kengaytirib emotsional his - tuyg'ulariga ham faol ta'sir etadi. O'qituvchining darsga ijodiy tarzda yondoshishi muhim ahamiyat kasb. Darsdagi barcha faoliyatlarni maqsadi va mazmuni, hayot bilan bog'lab darsning hamma qismini bir - biri bilan uzviy olib borishini talab etadi.

Musiqa darsi boshqa darslarga qaraganda o'zining badiiyligi, qiziqarliligi va bolalarga ko'proq ijodiy zavq, emotsional tuyg'ular va obrazli kechinmalar uyg'otishi bilan ajralib turadi.

Dars samaradorligini oshirishda o'quvchilarni bilim va malakalarini baxolash muhim pedagogik ahamiyatga egadir. Qo'shiq kuylash bilan birga, ularni ko'proq fikr bildirish, baxsga tortish va amaliy faoliyatiga ko'proq jalb etish va odilona baxolash lozim bo'lib. Shunday qilib, musiqa darslari, yangi dastur asosida rejalashtirilib, o'quvchilarni milliy musiqamizga mehr – muhabbat va qiziqish uyg'otishimiz lozim.

Xulosa o'rnida shuni aytish joizki, hozirgi zamon ta'lim jarayoni oldida turgan asosiy maqsad o'quvchi shaxsini bilimlar bilan qurollantirishgina emas, balki ularni fikr yuritish faoliyatiga o'rgatishdan iborat. Bu jarayonni maqsadli va samarali kechishini ta'minlashda, o'quvchilarning tafakkur qilish malakalarini, aqliy va axloqiy salohiyatini shakllantirish o'ta muhimdir.

Ta'lim-tarbiya sohasini takomillashtirish bu borada yangi zamonaviy ilg'or pedagogik texnologiyalarini joriy etishning tizimli asoslarini yaratish bugungi kunning dolzarb masalalaridan hisoblanadi.

Foydalanilgan adabiyotlar:

1. Sh.Yo'ladashev "O'zbekistonda musiqa tarbiyasi va ta'limining rivojlanishi. Toshkent 1985 yil
2. Tohirjon Ortiqov "Musiqa o'qitish metodikasi" Toshkent "Muharrir" nashriyoti 2010-yil.
3. Qobiljon Usmonov "Musiqa darsligi" "Istiqlol" nashriyoti Toshkent – 2006
4. Turg'unboyev K. Vahobjonov B. Pedagogik texnologiya asoslari. Andijon 2002 y
5. Buyuk siymolar, allomalar (O'rta Osiyolik mashhur mutafakkir va donishmandlar) 1-3 kitob, - Toshkent "O'zbekiston" 1996, 1997
6. Ahloq - odobga oid Hadis namunalari. T., "Fan", 1990y.
7. Isomovich, Tursunov Husniddin. "Musiqa San'atning Pedagogik Shakllanish Jarayonlari." Diversity Research: Journal of Analysis and Trends 2.5 (2024): 58-62.
8. Isomovich, T. X. (2024). O 'ZBEKISTONDA MUSIQA PEDAGOGIKASINING DAVRLAR ARO RIVOJLANISHI. Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari, 7(5), 93-99.
9. Isomovich, Tursunov Xusniddin. "XX ASRDA O'ZBEK MUSIQA SAN'ATIDA TUB BURILISH, YOHUD IJROCHILIK USLUBINI YANGI SHAKLI." Ta'lim innovatsiyasi va integratsiyasi 20.5 (2024): 27-31.
10. Isomovich, Tursunov Xusniddin. "O 'ZBEKISTONDA MUSIQA PEDAGOGIKASINING DAVRLAR ARO RIVOJLANISHI." Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari 7.5 (2024): 93-99.
11. Isomovich, Tursunov Husniddin. "Historical Pedagogical Content And Characteristics Of Dutor Instrument Performance." Pedagogical Cluster-Journal of Pedagogical Developments 2.5 (2024): 310-316.

A REVIEW OF RECENT WORK ON USING METAL–ORGANIC FRAMEWORKS TO GROW CARBON NANOTUBES

*Samandarov E. Sh¹., Yakubov.Y.Y²., Kodamboev P. K¹.,
Mamatqodirov B.D²., Mukhammadaliev.Kh.G²*

*¹Khorezm Mamun branch of Uzbekistan Academy of Sciences,
Markaz-1, Khiva 220900, Uzbekistan.*

*²Institute of General and Inorganic Chemistry of Uzbekistan
Academy of Sciences, 100170, Mirzo Ulug'bek str., 77a.*

Abstract. Carbon nanotubes (CNTs) have long been known as a class of one-dimensional carbon nanomaterials with sp^2 -hybridized structures that can be constructed with a very large length-to-diameter ratio, which is significantly larger than that of any other carbon nanomaterials. It is well known that CNTs exhibit many excellent properties in mechanics, electricity, chemistry, optics, etc., and are widely used in various fields, thus attracting scientists' attention. In this context, the development of new strategies for optimizing and synthesizing CNTs has far-reaching significance and demand. On the other hand, most metal–organic frameworks (MOFs) are microporous crystals constructed from ordered and uniform metal ions/clusters and organic linkers to obtain crystalline solids with potential porosity. Using MOF materials as precursors, hierarchical CNT-based composite materials, which are difficult to synthesize through the traditional catalyst-assisted chemical vapor deposition method, can be conveniently synthesized by thermal treatment at high temperature. In the process of converting MOFs into CNTs, MOF crystals are used as both catalysts and carbon sources, which are necessary for the growth of CNTs, and they are also used as templates and/or carriers for additional catalysts. Therefore, there are various possibilities for the thermal conversion of MOFs into CNT-based composite materials. In this review, we mainly summarize the two aspects of catalysts and synthetic strategies for MOF-derived CNT-based composite materials. Despite the rapid development in this area, there is still much space for exploration. In order to accurately control the synthesis of CNTs, we should deeply explore the thermal conversion process and mechanism for the conversion of MOFs into CNTs.

Background. Carbon nanotubes (CNTs) have long been known in the form of multi-wall carbon nanotubes (MWCNTs) based on nested single-wall carbon nanotubes (SWCNTs), which are a class of one-dimensional nanomaterials with a radial dimension of nanometers and an axial dimension of micrometers.¹ Such tube-based structures were first observed by Radushkevich and Lukyanovich in 1952.² Subsequently, a Japanese scientist, Dr Iijima of the NEC Corporation, described CNTs in detail in Nature in 1991,³ which ignited extensive research by

scientists.⁴ It is well known that the carbon element in CNTs exhibits sp^2 hybridization,⁵ and CNTs are endowed with many excellent mechanical,^{6,7} electrical,^{8,9} chemical,¹⁰ optical^{11,12} and thermal properties.¹³ In this context, CNT-based composites made from two or more constituent materials, which have significantly different physicochemical properties when combined with CNTs, can be widely used in various applications, such as electrocatalysis,^{14,15} nanoelectronic devices,^{16,17} thermally conductive films,¹⁸ structural materials for aviation,¹⁹ etc. Among the facile synthetic methods,⁴ catalyst-assisted chemical vapor deposition (CCVD)²⁰ can efficiently control the growth of various desired SWCNTs as well as MWCNTs and is utilized on a large scale. To date, optimizing and developing new strategies for growing CNTs still has far-reaching significance and necessity.²¹ On the other hand, metal–organic frameworks (MOFs) are ordered and porous crystalline materials built from metal ions/clusters and organic ligands through versatile coordination bonds.²² According to reported research, the combination of MOFs and CNTs could enhance the electrochemical energy storage and conversion^{23,24} and catalytic performance²⁵ of their composite materials. Therefore, researchers have considered the in situ conversion of MOFs into MOF-derived CNT-based composites,²⁶ which is a convenient strategy for improving the properties of these derived materials.^{27,28} In recent years, due to MOFs' unique pore structures and controllable morphology, and the combination of metal components and carbon sources, people have been keen to use MOF precursors for designing and synthesizing various metal-based and carbon-based nanocomposite materials by pyrolysis at high temperature. Many previous studies have shown that by adjusting the pyrolytic conditions and the combination of ligands and metal species in the MOF materials, the structure and morphology of the derived carbon materials can be controlled and tuned,¹ thereby preparing a variety of carbon materials, such as graphitized carbon nanosheets, carbon nanotubes, porous carbon. At present, due to technical reasons, there are no literature reports on MOF-derived SWCNTs, which need to be explored in the future, so we only discuss MOF-derived MWCNTs in the following. In 2013, Yang et al. doped ZIF-8 with iron ions and pyrolyzed a mixture of the resulting Zn-Fe-ZIF crystals and dicyandiamide under a nitrogen atmosphere, so that N-doped CNT-based composites (NCNTs) were first obtained from a MOF template, which has drawn people's attention to the strategy of converting MOFs into CNTs.

In the transformation process, MOFs can simultaneously act as both catalysts and carbon sources, which are vital for the growth of CNTs, as well as templates and carriers for additional catalysts and carbon sources, providing unlimited possibilities for achieving the thermal conversion of crystalline MOFs to synthesize CNT-based nanocomposite materials. In addition, due to the spatial confinement effect and the energy released during the breakage of coordination bonds, the pyrolysis of MOF

materials helps to activate metal-based catalyst nanoparticles (NPs) and organic components and provides favorable conditions for the reorganization of carbon species to form CNTs. Furthermore, the morphologies of MOFs are diverse and easy to control, and this can be exploited to prepare the expected hierarchical CNT-based structures and composites which are difficult to obtain through traditional CCVD methods. With the emerging prospects of MOF-derived CNT-based nanomaterials in energy-related applications, herein we mainly summarize MOF-derived CNT-based composite materials from the perspective of catalysts and synthetic strategies as listed in Table 1. Finally, recent challenges will be discussed and future perspectives will be proposed for designing and preparing more promising MOF-derived CNT-based nanomaterials for wide ranging applications in various fields.

Catalysts for CNT growth. Generally speaking, high catalytic activity catalysts play a key role in the growth of CNTs.^{52,53} Although CNTs can grow without the presence of catalysts,⁵⁴ the efficient growth of CNTs heavily relies on the participation of catalysts.⁵⁵ Traditionally, according to vapor–liquid–solid theory,⁵⁶ iron group transition metal NPs such as iron,⁵⁷ cobalt,⁵⁸ and nickel⁵⁹ are widely used to catalyze the formation of CNTs. Among them, polymetallic alloys like FeNi,⁶⁰ CoNi,⁶¹ FeNiCo,⁶² etc. also exhibit highly efficient catalytic activity to construct CNTs. Different metals have different interactions with carbon and show different carbon solubility, so the carbon layer is etched by dissolving carbon or by catalytic carbon hydrogenation at a high temperature. Fe, Co, etc. have a large carbon solubility, while Au, Cu, etc. have a low carbon solubility.⁶³ The dissolution and precipitation of carbon by metal particles may lead to reorganization of the carbon structure and the formation of defective carbon, core–shell structures of carbon-encapsulated metal particles, etc.⁶⁴ Besides, some literature has reported that metallic compounds such as ZrO₂/HfO₂⁶⁵ and TiO₂⁶⁶ can also catalyze CNT growth, which confirms that catalysts with only nanoscale curvature and carbon adsorption sites can also diffuse carbon segments on the crystal planes,⁶⁷ so that CNTs can efficiently grow along the specific crystal lattice.⁵² Using particulate catalysts, the CCVD growth method is popular for the preparation of CNT materials, as it yields high-quality nanotubes and exhibits a degree of control over diameter, length, and morphology, but achieving repeatability is a major problem.²¹ In this context, porous coordination polymers are structurally composed of metal and carbon species, thus pristine MOF materials can be intrinsically and steadily self-catalyzed by MOF-derived metal-based catalysts to construct CNTs according to the previously reported literature.⁶⁸ Furthermore, introducing external catalysts into the large pores and channels of MOFs and replacing the original coordinating nodes through transmetallation and impregnation are two common and reliable approaches for the uniform distribution of introduced metal atoms in MOF structures (Fig. 1). We can choose to introduce⁴⁶ or not introduce additional catalysts⁶⁹ into the MOF precursors

which will be decomposed and reduced to form different types of metal-based particulate catalysts (single metals, polymetallic alloys, metallic compounds, etc.) under the high-temperature pyrolysis conditions. In summary, in the pyrolysis process, there are three different types of catalysts which can efficiently catalyze and grow CNTs. In this section, we are going to divide the MOF-derived catalysts for CNT growth into the following types for discussion: (1) single metal catalysts, (2) polymetallic alloy catalysts, and (3) metallic compound catalysts. They grow CNTs through two different catalytic mechanisms. Single metals, polymetallic alloys, and metal carbides with carbon solubility grow CNTs according to the vapor–liquid–solid theory.⁷⁰ Metallic compounds composed of metals and nonmetals (excluding metal carbides) provide only nanoscale curvature and carbon adsorption sites for diffusing carbon segments on the crystal planes so that CNTs can efficiently grow along the specific crystal lattice.⁶⁵

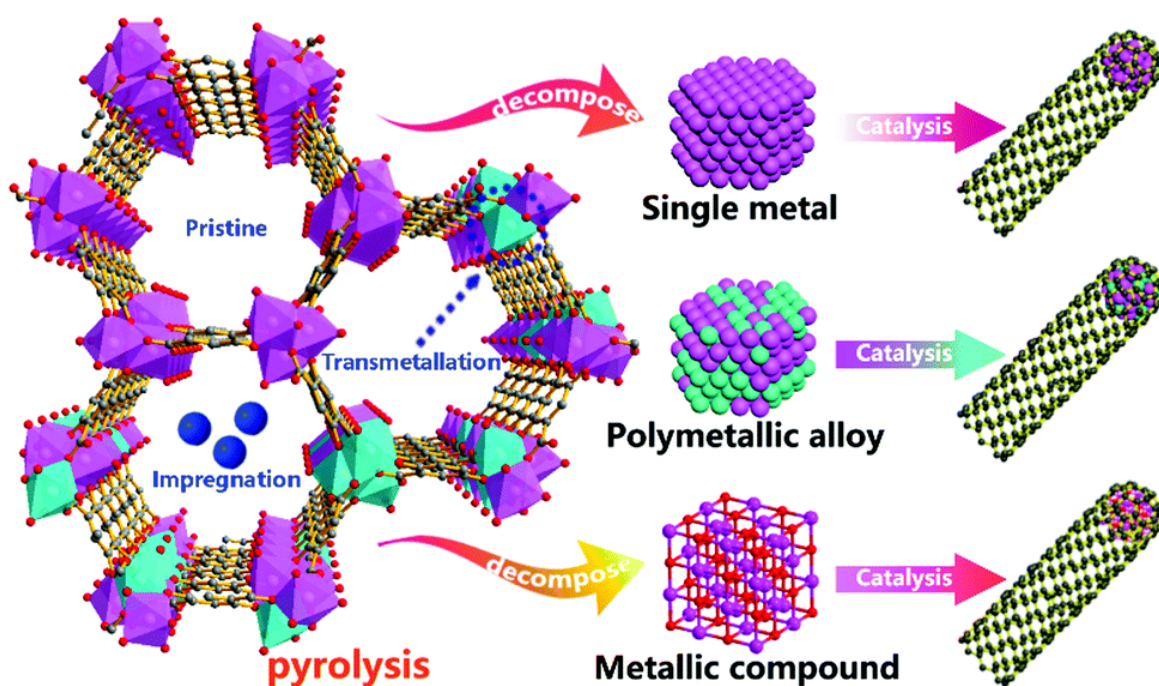


Fig. 1 Schematic diagram of the formation of MOF-derived CNTs catalyzed by three types of catalysts, namely single metals, polymetallic alloys, and metallic compounds.

Single metal catalysts.

As always, metal elements have been considered to be the best catalysts and many researchers have found that single metal NPs (like Fe,⁷¹ Co,⁷² Ni⁷³) can efficiently catalyze the formation of CNTs through calcination of the corresponding MOFs. In 2017, Mai's group developed a simple, versatile, and efficient strategy to pyrolyze MOF crystals in which a single MOF precursor with its own nanocatalyst and carbon sources is decomposed in situ to form a CNT composite with the same morphology by pyrolysis at 435 °C under argon.⁴⁷ A schematic diagram of the

transformation of a ZIF-67 crystal into a hollow CNT-assembled dodecahedron is shown in Fig. 2a, where the ZIF-67 dodecahedron is pyrolyzed under the protection of Ar at a low temperature. The coordination bond between the metal ion and the organic ligand in ZIF-67 is first broken and the overall structure is gradually decomposed, while the metal ions/clusters are further reduced to nanocatalysts by the generated reductive gas, and these in situ formed nanocatalysts catalyze the formation of N-doped CNTs (N-CNTs) from the residual organic ligands. Since metal nanocrystals preferentially form on the surface, the outer layer is first converted into N-CNTs, and the growth direction is from outside to inside, resulting in internal voids. In Fig. 2b, the thin multi-walled N-CNTs are abundant (10–20 nm outer diameter and 5 nm inner diameter), and the cobalt NP (5 nm diameter) catalysts are encapsulated at the tips of the CNTs. On the one hand, it is found that nanocatalysts derived from iron group based MOFs exhibit high catalytic activity for the in situ formation of CNTs. Secondly, organic ligands with abundant hexatomic or N-heterocyclic carbon rings can lower the cyclization energy barrier and promote the formation of CNTs. Moreover, the decomposed coordination bonds in highly ordered MOFs release more energy to activate the remaining metal ions/clusters as well as organic linkers, thereby facilitating the formation of nanocatalysts and the following growth of CNTs. On the other hand, the particle size of the catalyst has a huge influence on the growth process of CNTs, and a smaller catalyst is more beneficial to the growth of CNTs. Therefore, it is vital to control the pyrolytic conditions to obtain abundant nanocatalysts. Additionally, this method can be successfully extended to other iron group based MOFs, including Ni-ZIF, Ni-BTC, Co-BTC, Co-MOF, etc., to obtain the corresponding MOF-derived CNT assembly architectures (Fig. 2c–f). Zhu et al. also reported for the first time that a new N-molecule-assisted autocatalytic carbonization process converts iron-based MIL-88B-NH₂ into conductive CNTs and micro/mesoporous carbon composites (MIL/CNT-Fe).⁷⁴ During the calcination process, the volatile ammonia gas reduces the Fe element in the Fe-MOF to iron nanocrystals, which catalyze the formation of Fe,N-doped CNTs, while the remaining framework is etched by ammonia gas to obtain a type of micro/mesoporous carbon structure (Fig. 2g). In general, by selecting single metal catalysts with high carbon solubility, especially iron group metals, CNT-based composites can be easily synthesized from the corresponding MOFs. We believe that by controlling the pyrolytic conditions, this single metal catalyst strategy can be further extended to other metals (Cu,⁷⁹ Au,⁸⁰ W,⁸¹ Mo,⁸² etc.), which are considered to have low carbon solubility, for the in situ growth of MOF-derived CNT composites with adjustable components and morphology.

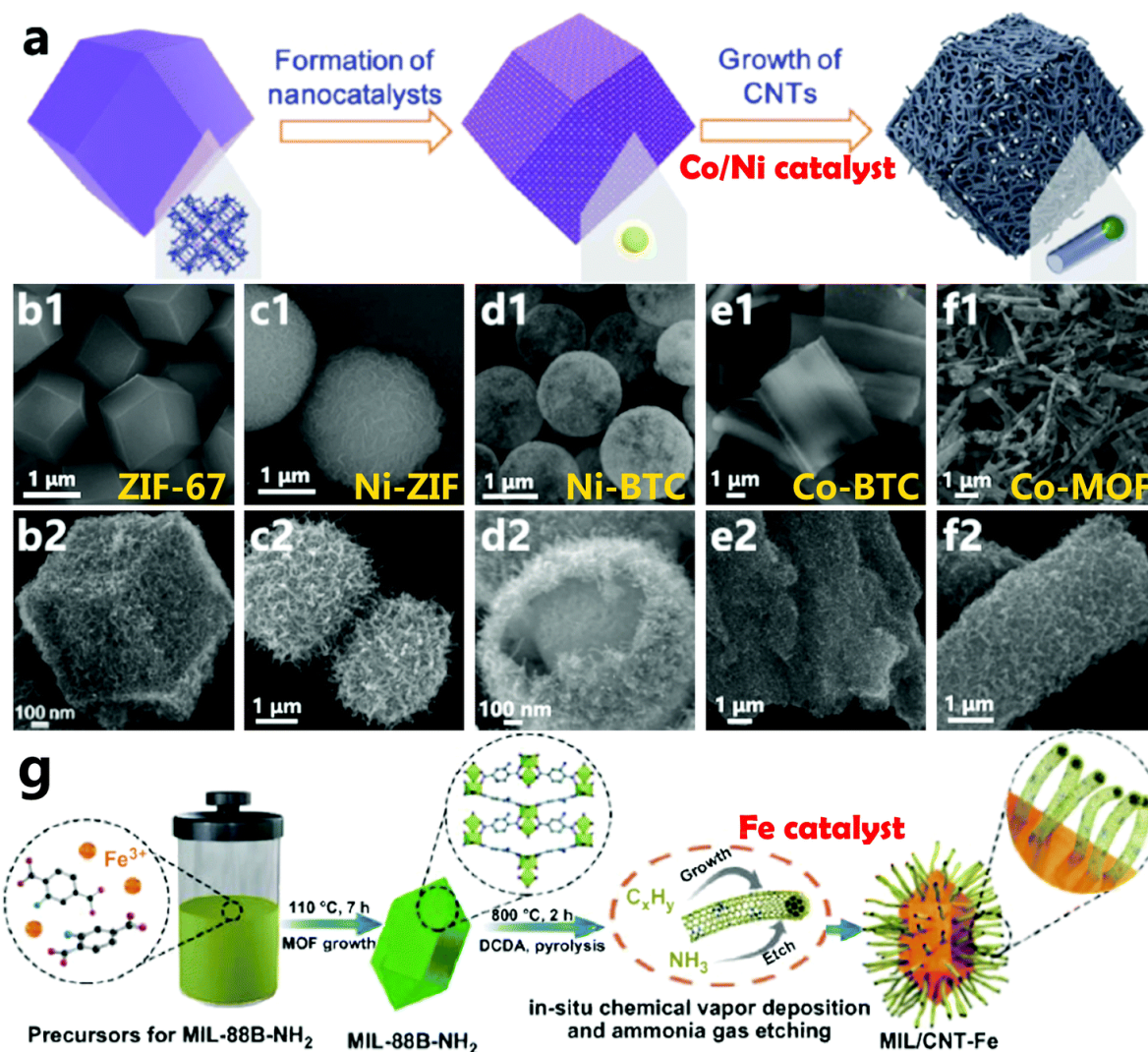


Fig. 2 (a) Schematic of the formation process of N-CNTs from ZIF-67, finally obtaining an N-CNT-assembled hollow dodecahedron. (b1 and b2) SEM images of the ZIF-67 precursor and the derived N-CNT-assembled hollow dodecahedron; (c1 and c2) SEM images of the Ni-ZIF precursor and the derived N-CNT-assembled microspheres; (d1 and d2) SEM images of the Ni-BTC precursor and the derived CNT-assembled hollow microspheres; (e1 and e2) SEM images of the Co-BTC precursor and the derived CNT-assembled microspheres; (f1 and f2) SEM images of the Co-MOF precursor and the derived CNT-assembled nanorods. Reprinted with permission from ref. 47. Copyright (2017) American Chemical Society. (g) Illustrative procedure for the iron(III)-2-aminoterephthalic framework (MIL-88B-NH₂, MIL = Materials from the Lavoisier Institute) and the resultant CNT and Fe-decorated carbon hybrids (MIL/CNT-Fe). Reprinted with permission from ref. 74. Copyright (2019) Springer Nature.

2.2 Polymetallic alloy catalysts

In principle, metal alloys can also catalyze the assembly of carbon sources into CNTs.⁸³ Arne Thomas et al. reported the preparation of bifunctional catalysts (FeNi catalysts) via one-step pyrolysis of a mixture of bimetallic MIL-88-Fe/Ni and

dicyandiamide (DCDA) to obtain MOF-derived N-doped carbon materials (Fe–Ni@NC-CNTs).⁷⁵ First, by a solvothermal method, terephthalic acid, FeCl₃ salt, and Ni(NO₃)₂ salt were assembled into MIL-88-Fe/Ni nanorods. After that, DCDA and the crystalline MOF precursor were physically mixed by mechanical grinding, and pyrolyzed in an inert atmosphere at 800 °C (Fig. 3a). The TEM image of Fe–Ni@NC-CNTs clearly demonstrated that a uniform and porous CNT-anchored network was observed (Fig. 3b), and the nanorod morphology of the precursor could be partially retained. High-resolution TEM showed a particle at the tip of the derived CNT, which was attributed to FeNi₃ NPs, which confirmed that the formation of CNTs was conveniently catalyzed by the FeNi alloy (Fig. 3c). In 2018, Wu and colleagues introduced Fe³⁺ cations into a Zn/Co bimetallic organic framework, denoted by Zn₁Co₁-BMOF, and the formed Fe–Co dual sites were annealed at 900 °C in an N₂ atmosphere to catalyze the decomposition of the organic ligands in the bimetallic MOF precursor, thus FeCo alloy NPs embedded in N-doped CNTs [(Fe,Co)/CNT] which were rich in Fe–Co dual sites were successfully constructed (Fig. 3d and e).⁷⁶ The Fe and Co atoms were coordinated with N at the atomic scale, which was confirmed by the EEL spectrum (Fig. 3f). And bimetallic NiCo-ZIF is a suitable precursor for the growth of NiCo/NCNTs as shown in Fig. 3g.⁷⁷ It is easily reduced into NiCo NPs and almost completely converted into CNTs after being annealed at 700 °C under an H₂/Ar atmosphere. Zhang et al. prepared a bimetallic FeMn₃-1 template which was subsequently treated by thermal carbonization with melamine. They successfully obtained a hierarchical carbon structure of Fe₃Mn₁ alloy NPs coated with N-doped CNTs (Fe₃Mn₁/N-CNTs-100) (Fig. 3h),⁷⁸ in which Fe may be beneficial to the formation of a carbon layer on the surface of the NPs, and Mn can promote the growth and elongation of CNTs. The synergistic effects of different metals in the polymetallic alloy help to regulate the shape and quality of the obtained carbon materials.^{55,84} Thus, we believe that polymetallic alloys consisting of iron group metals (Fe, Co, Ni) and other metals with high carbon solubility are likely to have high catalytic activity for the formation of CNTs,⁵² and reconstituted polymetallic alloy catalysts of various types are conducive to the development of different CNT-based nanocomposites for further applications.

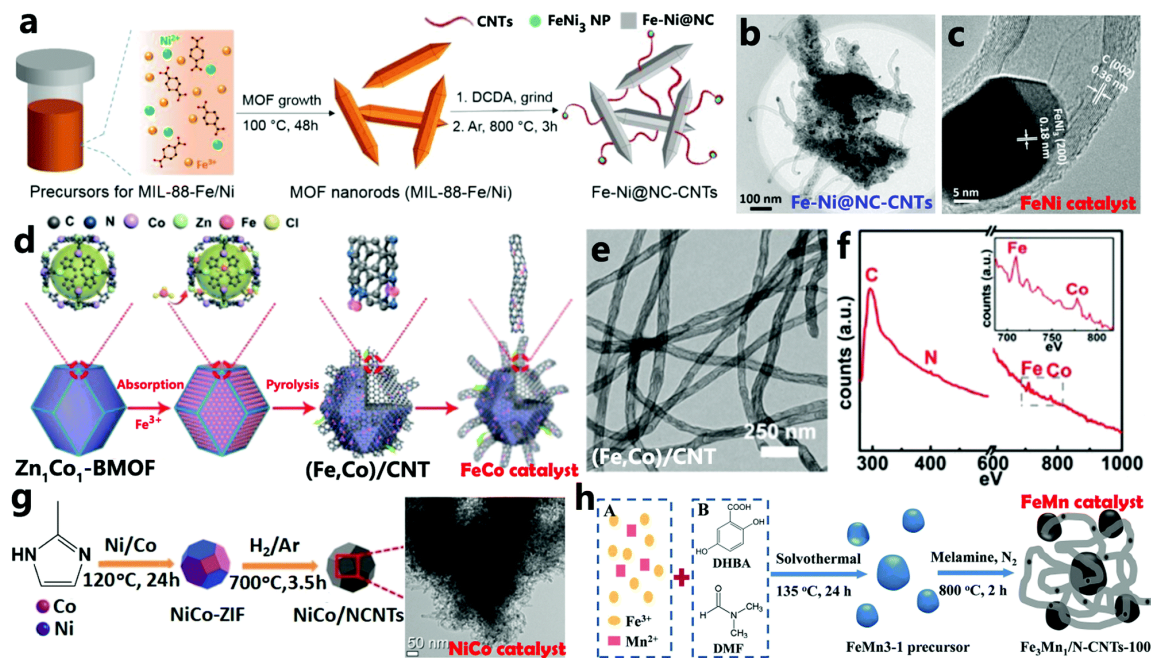


Fig. 3 (a) Synthetic procedure of MIL-88-Fe/Ni and Fe–Ni@NC-CNTs, (b and c) TEM images of Fe–Ni@NC-CNTs. Reprinted with permission from ref. 75. Copyright (2018) Wiley. (d) Schematic image of the preparation of (Fe,Co)/CNT, (e) TEM image, and (f) the EEL spectrum of (Fe,Co)/CNT. Reprinted with permission from ref. 76. Copyright (2018) Royal Society of Chemistry. (g) Scheme of the synthesis of NiCo/NCNTs. Reprinted with permission from ref. 77. Copyright (2020) Elsevier. (h) Illustration of the preparation of the FeMn₃-1 precursor and the derived Fe₃Mn₁/N-CNTs-100 catalyst. Reprinted with permission from ref. 78. Copyright (2018) Wiley.

Conclusions and perspectives.

In the past few years, researchers have developed diverse strategies to easily and efficiently prepare unique MOF-derived CNT-based composite materials. Focusing on catalysts and synthetic strategies, we have reviewed the current research results and revealed the conditions and advantages of using MOF precursors to grow CNTs. First, MOF materials are regarded as good self-catalytic precursors containing both metal and carbon sources. Secondly, the abundant and large pore structures in MOFs are able to load external catalysts, and allow spatial confinement during calcination. Finally, the synthesis of MOFs is convenient and controllable, and MOFs can be easily loaded on other substrates or used to form precursors of hierarchical CNT-based composite materials via the self-template method. Despite the recent rapid development of research in this area, there are still many deficiencies and much space to explore. (i) The specific process and mechanism of the catalysis of the formation of carbon components are not clear. (ii) The purity, uniformity, and structure of MOF-derived CNTs cannot yet be accurately controlled. (iii) The research on the direct growth of CNTs using metallic compounds is still inadequate. (iv) The effect of non-

metal elements on the growth of CNTs needs to be deeply researched. (v) The approach of growing CNTs by calcination is too monotonous, thus we need to further develop various energy supply methods. Therefore, in future research work, we will overcome the practical obstacles by designing precise experiments and specific MOF structures, so as to obtain more controllable and diverse MOF-derived CNT-based composite materials for practical applications.

References.

1. A. Magrez, R. Smajda, J. W. Seo, E. Horváth, P. R. Ribic, J. C. Andresen, D. Acquaviva, A. Olariu, G. Laurenczy and L. Forró, *ACS Nano*, 2011, **5**, 3428–3437
2. L. V. Radushkevich and V. M. Lukyanovich, *Zh. Fiz. Khim.*, 1952, **26**, 88–95.
3. S. Iijima, *Nature*, 1991, **354**, 56–58
4. J. Prasek, J. Drbohlavova, J. Chomoucka, J. Hubalek, O. Jasek, V. Adam and R. Kizek, *J. Mater. Chem.*, 2011, **21**, 15872
5. M. S. Dresselhaus, G. Dresselhaus and R. Saito, *Carbon*, 1995, **33**, 883–891
6. A. Qiu and D. F. Bahr, *Carbon*, 2013, **55**, 335–342
7. R. Zhang, Q. Wen, W. Qian, D. S. Su, Q. Zhang and F. Wei, *Adv. Mater.*, 2011, **23**, 3387–3391
8. P. C. Sun, Y. L. Wu, J. W. Gao, G. A. Cheng, G. Chen and R. T. Zheng, *Adv. Mater.*, 2013, **25**, 4938–494
9. A. Javey, J. Guo, D. B. Farmer, Q. Wang, D. Wang, R. G. Gordon, M. Lundstrom and H. Dai, *Nano Lett.*, 2004, **4**, 447–450
10. A. Mikhalchan, A. M. Banas, K. Banas, A. M. Borkowska, M. Nowakowski, M. B. H. Breese, W. M. Kwiatek, C. Paluszkiwicz and T. E. Tay, *Chem. Mater.*, 2018, **30**, 1856–1864
11. R. Zhang, Y. Zhang, Q. Zhang, H. Xie, H. Wang, J. Nie, Q. Wen and F. Wei, *Nat. Commun.*, 2013, **4**, 1727
12. M. Jian, H. Xie, Q. Wang, K. Xia, Z. Yin, M. Zhang, N. Deng, L. Wang, T. Ren and Y. Zhang, *Nanoscale*, 2016, **8**, 13437–13444
13. R. Zhang, Y. Zhang and F. Wei, *Chem. Soc. Rev.*, 2017, **46**, 3661–3715
14. Y. Li, M. Gong, Y. Liang, J. Feng, J.-E. Kim, H. Wang, G. Hong, B. Zhang and H. Dai, *Nat. Commun.*, 2013, **4**, 1805
15. Y. J. Sa, D.-J. Seo, J. Woo, J. T. Lim, J. Y. Cheon, S. Y. Yang, J. M. Lee, D. Kang, T. J. Shin, H. S. Shin, H. Y. Jeong, C. S. Kim, M. G. Kim, T.-Y. Kim and S. H. Joo, *J. Am. Chem. Soc.*, 2016, **138**, 1504
16. S. H. Jin, S. N. Dunham, J. Song, X. Xie, J. H. Kim, C. Lu, A. Islam, F. Du, J. Kim, J. Felts, Y. Li, F. Xiong, M. A. Wahab, M. Menon, E. Cho, K. L. Grosse, D. J. Lee, H. U. Chung, E. Pop, M. A. Alam, W. P. King, Y. Huang and J. A. Rogers, *Nat. Nanotechnol.*, 201

17. Y. Wang, D. Liu, H. Zhang, J. Wang, R. Du, T. T. Li, J. Qian, Y. Hu and S. Huang, *Nano Lett.*, 2020,
18. M. Fujii, X. Zhang, H. Xie, H. Ago, K. Takahashi, T. Ikuta, H. Abe and T. Shimizu, *Phys. Rev. Lett.*, 2005, **95**, 065
19. R. J. Sager, P. J. Klein, D. C. Lagoudas, Q. Zhang, J. Liu, L. Dai and J. W. Baur, *Compos. Sci. Technol.*, 2009, **69**, 898–904
20. K. A. Shah and B. A. Tali, *Mater. Sci. Semicond. Process.*, 2016, **41**, 67–8
21. C. Liu and H.-M. Cheng, *Mater. Today*, 2013, **16**, 19–28
22. H. Li, M. Eddaoudi, M. O'Keeffe and O. M. Yaghi, *Nature*, 1999, **402**, 27
23. F. Ran, X. Xu, D. Pan, Y. Liu, Y. Bai and L. Shao, *Nano-Micro Lett.*, 2020, **12**, 46
24. X. Q. Li, C. L. Hao, B. C. Tang, Y. Wang, M. Liu, Y. W. Wang, Y. H. Zhu, C. G. Lu and Z. Y. Tang, *Nanoscale*, 2017, **9**, 2178–2187
25. X. Wang, Z. Ma, L. Chai, L. Xu, Z. Zhu, Y. Hu, J. Qian and S. Huang, *Carbon*, 2019, **141**, 643–651
26. Q. Li, J. Wu, L. Huang, J. Gao, H. Zhou, Y. Shi, Q. Pan, G. Zhang, Y. Du and W. Liang, *J. Mater. Chem. A*, 2018, **6**, 12115–12124
27. A. Aijaz, J. Masa, C. Rosler, W. Xia, P. Weide, A. J. Botz, R. A. Fischer, W. Schuhmann and M. Muhler, *Angew. Chem., Int. Ed.*, 2016, **55**, 4087–4091
28. G. Wang, S. Oswald, M. Loffler, K. Mullen and X. Feng, *Adv. Mater.*, 2019, **31**, 18077

POSITRON-EMISSION TOMOGRAPHY (PET)--A NEW DIAGNOSTIC METHOD. PHYSICAL AND TECHNICAL REQUIREMENTS

¹G.E. Nurmetova, A. Zokirov

¹ assistant of Tashkent Medical Academy,

² student of Tashkent Medical Academy

gulzodanurmetova66@gmail.com

ABSTRACT

Positron emission tomography (PET) is an important modality in the field of molecular imaging, which is gradually impacting patient care by providing safe, fast, and reliable techniques that help to alter the course of patient care by revealing invasive, de facto procedures to be unnecessary or rendering them obsolete. Also, PET provides a key connection between the molecular mechanisms involved in the pathophysiology of disease and the according targeted therapies. Recently, PET imaging is also gaining ground in the field of drug delivery. Current drug delivery research is focused on developing novel drug delivery systems with emphasis on precise targeting, accurate dose delivery, and minimal toxicity in order to achieve maximum therapeutic efficacy. At the intersection between PET imaging and controlled drug delivery, interest has grown in combining both these paradigms into clinically effective formulations. PET image-guided drug delivery has great potential to revolutionize patient care by in vivo assessment of drug biodistribution and accumulation at the target site and real-time monitoring of the therapeutic outcome. The expected end point of this approach is to provide fundamental support for the optimization of innovative diagnostic and therapeutic strategies that could contribute to emerging concepts in the field of “personalized medicine”. This review focuses on the recent developments in PET image-guided drug delivery and discusses intriguing opportunities for future development. The preclinical data reported to date are quite promising, and it is evident that such strategies in cancer management hold promise for clinically translatable advances that can positively impact the overall diagnostic and therapeutic processes and result in enhanced quality of life for cancer patients.

Key words: (18)F-FDG; PET/CT; PET/MRI; positron emission tomography, annihilyatsiya

INTRODUCTION

Alternative methods of medical imaging include single-photon emission computed tomography (SPECT), X-ray tomography (CT), magnetic resonance tomography (MRI) and functional magnetic resonance tomography (fMRI), and ultrasound. SPECT is a PET-like imaging technique that uses radioligands to detect molecules in the body. SPECT is cheaper and provides lower image quality than PET. A positron emission tomography (PET) scan is an imaging test that can help

reveal the metabolic or biochemical function of your tissues and organs. The PET scan uses a radioactive drug called a tracer to show both typical and atypical metabolic activity. A PET scan can often detect the atypical metabolism of the tracer in diseases before the disease shows up on other imaging tests, such as computerized tomography (CT) and magnetic resonance imaging (MRI).

Positron emission tomography (PET) is one of the most advanced imaging techniques in medicine, allowing the detection of the functional and metabolic activity of organs and tissues. PET scans are used to diagnose diseases, especially cancer, neurological disorders, and heart disease, at an early stage. PET scanning is a high-resolution technology that allows us to study biological processes in the human body at the molecular level.

The mechanism of action of PET

The use of radioactive tracer:

In preparation for a PET scan, a radioactive tracer is administered to the patient. This substance is used in conjunction with molecules that are actively involved in metabolic processes (e.g., glucose, water, oxygen). One of the most commonly used tracers is 18F-fluorodeoxyglucose (18F-FDG), which allows the monitoring of glucose metabolism.

Annihilation of the positron:

The tracer is converted into a positron (a positively charged electron) during radioactive decay. When a positron and an electron collide, annihilation occurs and gamma rays are emitted. These gamma rays are recorded by a PET scanner.

Detection of gamma rays by:

The PET scanner is equipped with special detectors to detect gamma rays. The gamma rays are scattered from different parts of the body to reach the detectors. These detectors detect the direction and energy of the gamma rays. The collected data is sent to a computer connected to the PET scanner.

Processing and creation of image

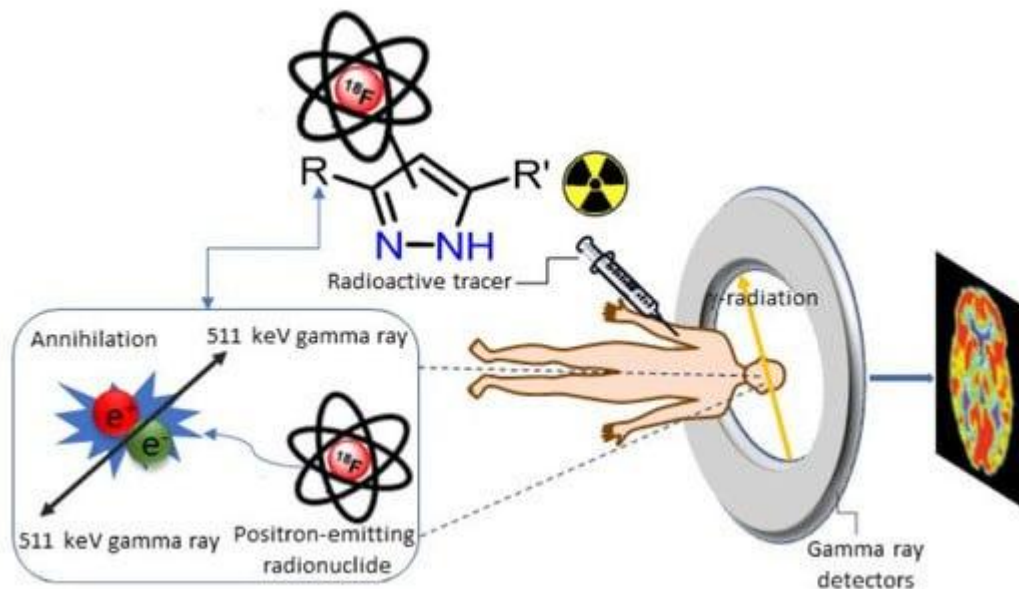
The computer then analyzes the gamma-ray data to create a three-dimensional (3D) functional image of the organs. This image shows a doctor

It tracks the metabolic activity of organs.

It determines the presence or absence of disease.

It assesses outbreaks, their rates, and their spread.

The images are highly accurate, enabling doctors to make timely diagnoses and develop effective treatment plans.



The main areas of application of PET imaging

Oncology (diagnosis of Saraton)

PET is effective in detecting cancer tumors, assessing their levels, and monitoring metastases. Since cancer cells typically have high metabolic activity, tracers accumulate in large amounts in these areas. PET provides accurate results in monitoring tumor size, spread, and response to treatment.

PET scans need to be interpreted carefully because noncancerous conditions can look like cancer. Also, some cancers cannot be seen on PET scans. Many types of solid tumors can be detected with PET-CT and PET-MRI scans, including:

- The brain.
- Breast.
- The cervix.
- Colorectal
- Red wine.
- Head and neck.
- The lungs.
- The lymphatic system.
- The pancreas.
- Prostate
- The skin.

Without shields.



© MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH. ALL RIGHTS RESERVED.

The use of positron emission tomography (PET) in neurology

Alzheimer's disease: PET can be used to detect a decrease in brain metabolism in the early stages of Alzheimer's disease. Alzheimer's-related changes are mostly seen in certain areas of the cerebral cortex (e.g., temporal and parietal regions). PET uses tracers that show a decrease in glucose metabolism, as well as amyloid beta plaques and tau proteins. This allows for a detailed study of the causes of the disease.

Parkinson's disease and other movement disorders: PET scans can be used to assess the activity of dopamine-producing neurons in Parkinson's disease. PET scans detect the state of dopamine receptors in the substantia nigra and can help identify dopamine deficiency. Parkinson's disease and other movement disorders are important in differentiating it from other movement disorders.

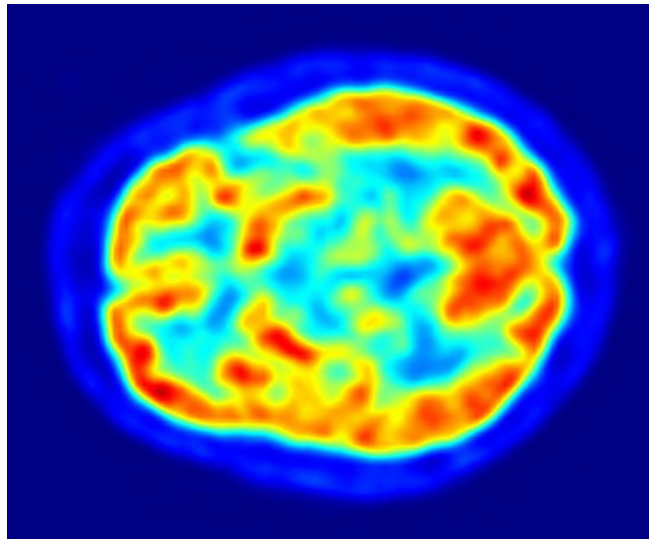
Epilepsy: PET scans are used to help identify the cause of epilepsy. Epileptic seizures are typically characterized by a decrease or change in metabolic activity. PET scans can detect these changes and help determine the need for surgery.

Diagnosis of brain tumors and tumors

PET is used to measure the metabolic activity of brain tumors. Cancer cells have a higher metabolic activity than healthy cells, which can be detected on PET scans. PET scans measure the rate of brain tumors, the extent of spread, and metastases. This is also used to monitor post-operative tumor regrowth.

Studies of brain activity

PET technology is widely used in research to study brain activity: the functional activity of brain regions, such as activity associated with thinking, memory, language, or emotional processes. Evaluation of neurotransmitter activity through PET in understanding psychological disorders (such as schizophrenia, depression, or bipolar disorder).



The use of positron emission tomography (PET) in cardiology

PET is used in cardiology to assess the metabolism, circulation, and function of heart tissue at the molecular level. The high sensitivity of PET helps to detect heart disease at an early stage and optimize treatment plans. The main areas of application are listed below:

Evaluation of the viability of the myocardium

PET scans can be used to determine the viability of the heart muscle (myocardium). After a myocardial infarction, some of the heart's tissues may be damaged by anemia, but they can still be repaired. PET scans detect cells that are alive but not active (in a state of hibernation). This information can help determine the need for surgery (such as coronary artery bypass grafting or angioplasty) to restore blood supply to the heart.

Determination of myocardial ischemia

PET technology allows the monitoring of the blood supply to the myocardium. It is highly effective in the detection of blood flow disorders such as ischemia, and it allows the molecular assessment of myocardial perfusion. Radioactive tracers (such as ^{13}N -ammonium or ^{82}Rb) monitor how blood is delivered to the heart muscle. This process, when used in conjunction with stress tests, provides clear results in the detection of ischemic seizures.

Detection of coronary artery disease

PET scans are used to assess the narrowing or blockage of coronary arteries. PET can be used to measure the amount and flow of blood reaching the heart muscle and to assess atherosclerotic plaques and their impact on the heart.

Analysis of the cardiometabolic processes

PET scans the energy and metabolic pathways of the heart muscle. Metabolic disorders can be studied by determining how heart cells use glucose or fatty acids. It's also used to detect heart disease associated with diabetes.

Diagnosis of cardiomyopathies

PET is used to analyze the metabolic activity and structural changes of heart muscle in various cardiomyopathies (e.g., dilated or hypertrophic). It can be used to detect inflammation or fibrosis.

Evaluation of the effectiveness of treatment of heart disease

PET technology is used to evaluate the effectiveness of various methods of treating the heart (e.g., surgery or drugs). For example, the recovery of heart muscle after coronary artery bypass grafting or angioplasty.

Application of positron emission tomography (PET) in pharmaceuticals and research

PET technology is used not only in diagnostics, but also in pharmaceuticals and scientific research. This technology is a powerful tool for evaluating the effects of drugs and understanding biological processes at the molecular level. Below are some of its applications in pharmaceuticals and research.

Development and testing of drugs

PET is used in the pharmaceutical industry to develop new drugs and study their mechanisms of action: The drug reaches its destination: PET is used to determine the distribution of drugs in the body and their concentration in tissues. Bioavailability assessment: This measures how well a drug is absorbed and metabolized in the body. Determination of dosage: Metabolic data from PET scans are used to determine optimal drug doses. Side effect studies: The effect of the drug on organs or tissues other than the target site is observed

The development of biomarkers

PET technology is used in the development of new biomarkers and their introduction into clinical practice: Biomarkers are used as diagnostic tools for early diagnosis and treatment of various diseases. PET assesses the correct functioning of biomarkers and their interactions with target molecules.

Neuropsychological research

PET is used in the field of neuroscience to study the effects of various drugs: the study of the activity of neurotransmitters (e.g., dopamine, serotonin). Understanding the mechanism of action of drugs used in diseases such as depression, schizophrenia,

or Alzheimer's. The study of the effects of psychotropic drugs (such as antidepressants) on brain function.

Cancer research

PET technology is an important tool in the study of new approaches to cancer diagnosis and treatment: Immunotherapy and chemotherapy monitoring: PET monitors the effectiveness of treatment. Developing cancer biomarkers: Creating tracers that more accurately identify cancer cells. Optimizing radiotherapy: Identifying the affected area for radiotherapy using PET.

The study of metabolic processes

PET is used to study the major metabolic processes in the body: analysis of the metabolism of glucose, fatty acids, or oxygen in various organs and tissues. To determine how energy metabolism changes in different diseases (such as diabetes or cardiovascular disease).

Evaluation of the safety of medicinal substances

PET is used to test new drugs in the early stages of clinical trials: to see how a drug will react when injected into humans. It allows us to identify side effects and understand their molecular basis. PET is used to compare the results of animal models and human trials.

Development of individualized treatment

PET scans can be used to see how effective a drug is on different patients. It is used to tailor drugs based on genetic, biological, or metabolic differences. It helps develop accurate diagnostics and targeted treatment plans for a variety of diseases.

Development of radiopharmaceuticals

Tracers used in PET technology are an important area of scientific research in radiopharmaceuticals: the development of new tracers and their assessment of their suitability for biological purposes. Improving the effectiveness of radiopharmaceuticals used for diagnosis and treatment.

Future Perspectives of PET Technology (PET) is a technology developed by

Positron emission tomography (PET) technology is currently an important part of medical diagnostics and is expected to be further developed in the future. Here are the prospects for PET technology:

1. Increase visual acuity

With new detector materials and algorithms, the signal detection accuracy can be significantly improved. This helps to detect smaller tumors and metabolic processes at low concentrations.

2. Expansion of hybrid systems

Other diagnostics combined with PET, such as PET/MRI or PET/CT, are becoming more widely used. These techniques allow for the study of a wide variety of diseases with high precision and help optimize therapy plans.

3. Development of designated radiotracers

The creation of new radioactive isotopes and targeted tracers expands the possibilities of detecting specific organs or disease processes. It's especially important to be clear about molecular targets for individualized therapy.

4. Artificial intelligence and data analytics

Artificial intelligence algorithms are used to analyze the PET data and interpret the results. This allows you to get results faster and more accurately.

5. Miniaturization and mobile technologies

Portable PET systems have evolved to enable onsite diagnostics. This can be especially important for rural areas and underserved areas.

CONCLUSION

Positron emission tomography (PET) is an innovative technology that provides high accuracy and reliability in diagnostic medicine. The main advantage of PET is its ability to detect changes at the molecular and cellular level, which can help diagnose diseases at an early stage. It's especially important in cancer, cardiovascular and neurological diseases.

PET technology has the potential to bridge the gap between diagnosis and treatment. The ability to monitor therapeutic efficacy and observe disease dynamics using innovative radioactive isotopes provides its widespread application. Integration with hybrid technologies (such as PET/CT and PET/MRI) also allows for simultaneous morphological and metabolic data acquisition.

In addition, the development of PET technology brings significant positive results in the following areas:

- Acceleration of the diagnostic process through artificial intelligence and automated data analysis.
- Developing an individualized treatment plan with the development of identified tracers.
- Expand diagnostic capabilities in underserved areas through miniaturization and portable systems.

In the future, PET technology will be used not only in clinical diagnostics, but also in research and pharmaceuticals. Improving its cost-effectiveness and making the technology available to the masses is an important step for the global healthcare system. PET technology will be a key tool in improving human health and in the detection of complex diseases.

References:

1. Cherry, S. R., Sorenson, J. A., & Phelps, M. E. (2012). *Physics in Nuclear Medicine*. Elsevier Health Sciences.
2. Wahl, R. L. (2002). Principles and applications of positron emission tomography. *Journal of Clinical Oncology*, 20(7), 1699-1712.

3. Bailey, D. L., Townsend, D. W., Valk, P. E., & Maisey, M. N. (2005). *Positron Emission Tomography: Basic Sciences*. Springer Science & Business Media.
4. Rahmim, A., & Zaidi, H. (2008). PET versus SPECT: strengths, limitations and challenges. *Nuclear Medicine Communications*, 29(3), 193-207.
5. Vandenberghe, S., Moskal, P., & Karp, J. S. (2020). State of the art in total body PET. *EJNMMI Physics*, 7(1), 1-21.

ЎСМИРЛАРНИНГ ОИЛАВИЙ МУНОСАТЛАРДАГИ АДАПТАЦИОН ВА ДЕЗАДАПТАЦИОН ПСИХОЛОГИК МУАММОЛАРИ

Сулейманова Хуморохон Улугбек қизи

Чирчик давлат педагогика университети магистранти

xumorasuleymanova1993@gmail.com

АННОТАЦИЯ

Ушбу мақолада оилавий муносабатларда ўсмирлар руҳиятининг тушиб кетиши ёки меъёрий мезонларга мослаша олмаслик, ушбу ҳолатларнинг келиб чиқиш сабаблари, уларнинг олдини олиш ва бартараф этишнинг психологик усули ёритилган.

Калит сўзлар: Эмоция, оилавий муносабатлар, ижтимоий-психологик, дезадаптация, омил, шахслараро гуруҳ, агрессив хатти-ҳаракат, дисфункционал, аффект.

Жамиятда юз бераётган турли ходисалар, табиатдаги ижтимоий вазиятлар ҳар бир инсонда ўзгаришларнинг келиб чиқишига сабаб бўлмоқда. Бугунги кунда бутун дунёда бўлгани каби оила мустаҳкамлиги ундаги соғлом муносабатлар, узаро эмоционал яқинлик хислари инсоннинг ҳаёт давомида учраб турадиган турли огир вазиятларга нисбатан имунитет ҳосил қилиш долзаб муаммолардан бири бўлиб қолмоқда. Инсон томонидан ушбу вазиятларга нисбатан салбий муносабатлар бевосита ижтимоий-психологик мослаша олмаслик бир суз билан айтганда дезадаптация ҳолатларининг келиб чиқишига сабаб бўлади.

Дезадаптация ҳолатларини келтириб чиқарувчи омиллар орасида илк уларок оилани алоҳида тақидлаб утиш жоиз. Ушбу омилларнинг уз вақтида англаш ва бартараф этиш ўсмир шахсини шаклланишда катта аҳамият эгаллайди.

Дезадаптация ҳолатларини келтириб чиқарувчи сабаблар:

1. Усмирлар оилавий анамнезининг оғирлашуви.
2. Нотулик ва носоғлом оилалар.
3. Оиладан ташқарида референт гуруҳларнинг салбий тарбиявий таъсири.
4. Ичкиликка берилган ота ёки она.
5. Ота-оналардан бирининг рухий касаллиги.
6. Оиладаги дисгармоник муносабатлар ва келишмовчиликлар.
7. Фарзанднинг болаликдан тан олинмаслиги .
8. Жисмоний ва рухий тажоввузнинг юқорилиги.

Оила - ҳар биримизнинг эҳтиёжларимизни қондирувчи ва ижтимоий химоя қилувчи тизимимиздир.

Оила - яхлит бир бутунликда, ўзаро алоқадорликда бўладиган шахслараро гуруҳдир. Бу тизимнинг барча қисмлари занжир каби бир бири билан алоқада булар экан, оила аъзоларидан бири вазиятни яхшиланиши ёки ёмонлашувини аниқ равишда бошқаларнинг руҳиятига ўтказмасдан қолмайди.

Баъзи ҳолларда ота-оналар «Нима учун тенгдошлари билан чиқиша олмаяпти?», «ўқишдаги муаммонинг оламизга қандай алоқаси бор?», «Уқитувчи нима учун бола билан яхши муносабатларга нега қира олмайди?» шаклидаги турли саволлар билан мурожаат этадилар. Ваҳоланки, ҳар бир ота-она уз фарзанди руҳиятидаги айрим ўзгаришларни ўқитувчидан кўра яхши билиши, ўқитувчи эса усмир хулқ-атворидаги ота-она пайкамаган томонларни яхшироқ билиши мумкин. Юқоридагилардан келиб чиқиб, ўсмир таълим-тарбиясида ота-оналарнинг таълим муассасаси билан ҳамкорлиги дезадаптация жараёни келиб чиқиш сабабларини олдини олиши ва бартараф этишга ёрдам беради. Агарда оилада усмирлик даврида ижтимоий психологик дезадаптация ҳолатлари уз вақтида аникланиб бартараф этилмас экан, усмир шахсининг камолотига жиддий салбий таъсир курсатиши мумкин булган оқибатларга олиб келиши мумкин. Бу ҳолат куйидагиларга олиб келади:

- ўсмирнинг узига бўлган ишончининг пасайиб кетиши натижасида масъулиятсизлик, боқимандалик, агрессив хулқ қуринишларининг шаклланиши;

- невроз ҳолатининг вужудга келиши ва хатто психик бузилишларга сабаб булиши;

- ташқаридан уни тушинадиган инсон қидириши натижасида оқимларга ёки наркотик моддаларга тобе бўлиб қолиши;

- ва нихоят суицид оқибатларга ҳам олиб келиши мумкин.

Психолог тадқиқотчилар томонидан агрессив хатти-ҳаракатлар намоён бўлишининг куйидаги сабаблари ҳам ўрганилган:

- тарбиянинг мувозатлашмаган шакллари ўз ўзига хаддан зиёд нодакат паст баҳо бериш юқори даражада импульсивлик, алкоғоль ва наркотик моддалари истемол қилиш компютер ўйинларига тобелик

- хулқий омиллар (атрофдагилар ҳаётида халақит қилувчи омиллар (ўз вақтини мақсадсиз ўтказиш, мактабдаги дарсларни сабабсиз қолдириш ўзлаштириш даражасининг пастлиги эрта жинсий алоқаларга кириш , ва х-зо);

- ижтимоий омиллар (ОАВ психологик таъсири, жамиятда удум ва маросимлар, ота онанинг хулқий бузилишларга эга эканлиги, оиланинг ижтимоий мавқеининг пастлиги тарбиячиларнинг ўзгариши;

- ўсмирнинг тарбияда хулқий оғишлари шаклланган дўстлар билан яқинижтимоий алоқалар ўрнатиши (тақлид феномени);

- ички оилавий низолар (ота онаининг ажралиши, иккинчи никоҳдаги фарзандлар, ўсмирнинг ўзлаштирилишига ота она томонидан ўсмир

қобилиятлари, қизиқишлари инобатга олинмаган ҳолда ҳаддан зиёд юқори талабаларнинг қўйилиши.

Дисфункционал оилаларда тарбияланаётган ўсмирларда агрессив хулқ кўринишларининг шаклланиши эхтимоли функционал оилаларда тарбияланаётна оилалардаги ўсмирларга нисбатан юқори эканлиги аниқланган.

Оиладаги ҳаддан зиёд ўсмир эркинликларини чеклаш ёки аксинча ота она томонидан сурункали бефарқлик ҳам шунингдек агрессив хулқ кўринишларини шаклланишга олиб келади. Агрессив хулқ оилада ўсмирнинг эркинликлари ҳаддан зиёд чегараланганда ёки унга ҳаддан зиёд эркинликлар берилганда ҳам шаклланиши мумкин.

Тадқиқотларнинг кўрсатишича, тарбияси қийин; инжик, хулқи салбий болаларнинг келиб чиқишининг ижтимоий сабабларидан ташқари, педагогик ва психологик сабаблари ҳам мавжуд. Ўқувчиларда ножўя хатти-ҳаракатлар пайдо бўлишининг сабаблари ва турткилари ҳар хилдир. Қонунни бузиш ёки қоидага хилоф иш қилиш даражасига қараб тарбияси қийин ўсмирлар жиной қонунбузар ва оддий қоидабузар (тартиббузар) гуруҳларга ажратилади. рбияси қийин ўсмирлар кўпайишига сабаб бўлади.

Тарбияси қийинларни ўрганишда кинолавҳалар, юридик варақа, ишонтириш, рағбатлантириш, бўйсундириш, қўрқитиш, "сунъий қийин ҳолатни яратиш" сингари усуллардан фойдаланилади.

Жамиятда ўсмирларда ноёб қобилиятларини намоён эта олиш имкониятларини топа олишга ёрдам бериш, уларнинг қизиқишлари ва эхтиёжларини инобатга олиш ҳамда фойдали тўғаракларга, касб-ҳунарга йуналтириш, кичик мақсадларини ушалишда қуллаб-қувватлаш ўсмир учун катта туртки бўлади.

М.Далимованинг илмий тадқиқот иши болалардаги тобе ахлоқ ва унинг психологик моҳияти, компьютер ўйинларига тобеликни келтириб чиқарувчи омиллар, компьютер ўйинларига тобелик ўсмирларда вербал ва жисмоний агрессиянинг ортишини, бу билвосита агрессиянинг ҳамтуғилишига туртки бўлганлигини аниқланган. Тожикистон олимлари томонидан ўсмирлик даврида ҳиссий ҳолатлар, ўсмир шахси шаклланишига таъсир этувчи омиллар муаммолари ҳақида тадқиқотлар олиб борилган бўлса-да, аммо, агрессив хулқ-атвор муаммоси махсус психологик тадқиқот предмети сифатида ўрганилмаганлиги ушбу тадқиқот ишининг долзарблигини белгилайди

Болалар ва ўсмирлар ўртасида хулқ оғиши ва қонунбузарликларнинг олдини олишда қуйидагиларга эътибор қаратиш тафсия этилади:

- хулқ оғишига мойил болалар ва ўсмирлар шахсида асоциаллик, руҳий беқарорлик, ўзгарувчанлик, аффектга мойиллик каби хусусиятларнинг яққол

ифодаланганлигидан келиб чиқиб, улар яшаётган оила ва ижтимоий муҳитни соғломлаштириш, шахслараро муносабатларни яхшилаш натижа беради;

- вояга етмаганлар ўртасидаги хулқ оғишининг келиб чиқиши асосий сабаблари сифатида болалар ва ўсмирлар фаолиятини назорат қилмаслик, оилада бола тарбиясига эътиборнинг сусайиши кабилар намоён бўлганлигидан келиб чиқиб, оилада ва оиладан ташқарида болалар ва ўсмирлар фаолиятини, бўш вақтларида нима билан шуғулланаётганлигини назорат қилиш ва оилада бола тарбиясига эътиборни кучайтириш мақсадга мувофиқдир;

- криминоген хулқли оилаларни аниқлаш, уларда тарбияланаётган болалар ва ўсмирлар аҳволидан хабардор бўлиб туриш;

- моддий маиший шароитнинг етарли эмаслиги вояга етмаганларда хулқ оғишининг келиб чиқишига таъсир этишлигини ҳисобга олиб, бундай оилаларга маҳаллий ҳокимият, ижтимоий таъминот ва хайрия жамғармалари томонидан моддий ёрдамлар бериб туришни ташкил этиш;

- ота-оналар, катта ёшдаги кишилар ва ўқитувчилар томонидан болалар ва ўсмирларга нисбатан қўлланилаётган қаттиққўл, қўпол ва адолатсиз муносабатларга барҳам бериш;

- вояга етмаганларда хулқ оғиши кўпинча ота-оналар, ўқитувчиларнинг болалар ва ўсмирлар психологиясини билмасдан туриб муносабатда бўлишликлари натижасида келиб чиқаётганлигини ҳисобга олиб ота-оналар ва ўқитувчиларнинг психологик билимларни ошириш тадбирларини белгилаш;

- вояга етмаганларда хулқ оғишининг олдини олишда болалар ва ўсмирларнинг ёш ва индивидуал-психологик хусусиятларини ҳисобга олиш.

Фойдаланилган адабиётлар

1. Эргаш Ғозиев ОНТОГЕНЕЗ ПСИХОЛОГИЯСИ 194 бет 2010 й
2. Фозилова Масрура Жумановна ЎСМИРЛАРДАГИ АГРЕССИВ ХУЛҚ-АТВОР ВА УНИНГ ОЛДИНИ ОЛИШ 2021 й
3. Л.Гайнутдинова Болалар ва ўсмирларда хулқ оғишининг олдини олишга қаратилган тавсиялар. 2014 йил, 6 июнь
4. Захаров А.И. Как предупредить отклонения в поведении ребёнка.: 1986
5. Леви В.Л., Нестандартный ребёнок М., «Левицентр», 1996

GENERAL CHARACTERISTICS OF THE MATERIAL ON MIDDLE EAR DISEASES

Gulyamov Dilshod Erkinovich

*Tashkent Medical Academy Department of Forensic
Medicine and Medical Law*

ANNOTATION

The principles of operation and application of MSCT (multislice computed tomography) in diagnostics of chronic diseases of the middle ear are an important aspect of modern medical practice. MSCT is a high-tech method of education, allowing to obtain detailed and accurate images of the internal structures of the body. In this section we will consider the basic principles of MSCT operation and its application in diagnostics of chronic diseases of the middle ear.

Keyword: Multispiral computed tomography of the middle ear.

The basic principle of MSCT is the use of X-rays to form images. During the examination, the patient is placed on a table that moves inside a ring-shaped apparatus containing an X-ray tube and detectors. X-rays pass through the patient's body and are recorded by detectors. The resulting data is processed by a computer, which forms image slices that display the structure and condition of organs and tissues.

Multislice computed tomography (MSCT) occupies a special place among modern methods of medical imaging, standing out for its unique advantages, especially when it comes to thorough diagnostics of chronic diseases of the middle ear. This diagnostic method is famous for its high spatial resolution, which is its undeniable advantage. Due to this, MSCT is able to provide doctors with extremely detailed and accurate images, which plays a critical role in the process of diagnosing chronic diseases of the middle ear. After all, it is the detailed visual representation that allows specialists to capture even the most minor pathological changes in the structure of the ear and surrounding tissues, which, of course, contributes to more accurate and effective treatment.

Multispiral tomography (MSCT) has unique capabilities, including the ability to visualize anatomical structures in various projections and planes. Thanks to this, specialists receive extensive information about the condition of the ear and surrounding tissues, which is crucial for the diagnosis of chronic diseases. Such a deep analysis allows not only to assess the overall picture of the disease, but also to determine its features and scale in the ear cavity, which is the key to choosing the optimal treatment strategy.

Another important advantage of MSCT is its safety and non-invasive nature. Unlike other diagnostic methods that may require the introduction of instruments or

even surgery, MSCT does not cause any discomfort and is absolutely painless. This makes the MSCT procedure preferable for patients, especially those suffering from chronic diseases of the middle ear, as they may be particularly sensitive to pain. Taking into account all these factors, it can be argued that MSCT is not only an effective, but also a comfortable diagnostic method that can provide an accurate and comprehensive examination of the condition of the ear and its surrounding tissues.

The use of MSCT in the field of diagnostics of chronic diseases of the middle ear opens up broad prospects for medical practice. Particularly valuable is the ability to assess the condition of the eardrum using this method. MSCT is able to determine with high accuracy the presence and degree of damage to the eardrum, which is a key aspect in the process of diagnostics and subsequent treatment of chronic diseases of the middle ear. MSCT can also be used to assess the condition of the auditory ossicles and mastoid cells. Mastoid cells are cavities in the bones of the skull, which are in close proximity to the middle ear. Their condition can affect the development and course of chronic diseases of the middle ear. MSCT allows you to determine the presence of inflammatory processes, tumors or other changes in mastoid cells.

In addition, MSCT can be used to assess the condition of the inner ear. The inner ear plays an important role in the hearing and balance apparatus of the body. MSCT allows us to determine the presence of changes in the inner ear, such as tumors or inflammatory processes that may be associated with chronic diseases of the middle ear.

The technique developed by G.V. Kurilenkov in 2002 was used to analyze the temporal bones in projections including axial and coronary.

- In the axial projection, the patient was lying on his back, the positioning line passed through the upper edge of the orbit and the upper edge of the external auditory canal.

The examination began at the level of the bony opening of the auditory tube and ended at the level of the anterior semicircular canal. The number of sections in the axial projection ranged from 8 to 10.

- In the coronary projection, the patient is positioned on the abdomen, the positioning line is parallel to the coronal suture.

The study was carried out from the anterior edge of the external auditory canal to the posterior semicircular canal. From 8 to 10 sections were made in the coronal projection.

In the context of studies conducted in children under three years of age and in patients with high sensitivity to emotions, an analysis of the effects of drugs during medical procedures was conducted. Effective drugs were used in the experiments. We replaced the sedative component (Relanium) in the form of a 0.5% solution with a dosage of 0.2-0.3 mg per kilogram of weight, which suppresses the activity of the cerebral cortex. To enhance the hypnotic effect in children under one year of age,

GHB (sodium oxybutyrate) was used with a dosage of 50-70 mg per kilogram of weight intravenously. The onset of anesthesia occurs quickly and without awakening or other undesirable reactions. The effect of the narcotic dose of sodium oxybutyrate lasts approximately 30-40 minutes. We use this drug due to its safety: it is non-toxic, does not have a significant effect on breathing, blood flow and liver function. As an antihypoxant, GHB reduces the consumption of oxygen by brain cells. Ketamine was most often used for anesthesia of children over one year old. When ketamine was administered intravenously in an amount of 1-2 mg per kilogram of body weight, the anesthesia became more controllable, and the administration occurred in stages. The child regained consciousness 15-20 minutes after the drug administration was stopped. During the anesthesia, the pulse, blood pressure, respiratory rate and blood oxygen level were monitored using a Cardiacap monitor. To enhance the contrast of images in children weighing up to 40 kg with suspected tumors, non-ionic contrast agents such as Omnipaque or Ultravist were administered at a dose of 1 ml per kilogram of the child's weight. The effective radiation dose for computed tomography of the brain for children aged 2-5 years is 0.2 mSv, for children aged 6-10 years — 0.3 mSv, and for children aged 10-15 years — 0.4 mSv (NRB — 99). When performing computed tomography of the temporal bone, a significantly smaller amount of tissue is irradiated than when examining the entire skull (thickness of the examined layer is about 15 mm, that is, 10 times less). Therefore, the effective dose for computed tomography of the temporal bones is significantly lower than for radiography of the temporal bones using the method of Mayer and Schüller and computer tomography of the entire skull.

Taking into account the above, we can come to the following conclusion: MSCT is an effective and safe method for diagnosing chronic diseases of the middle ear. It allows obtaining detailed and accurate images, determining the characteristics and spread of the disease, and assessing the condition of the eardrum, auditory ossicles, mastoid cells and inner ear. The use of MSCT in diagnosing chronic diseases of the middle ear significantly improves the ability of doctors to determine the diagnosis and prescribe effective treatment.

Literature:

1. Амонов Ш. Э., Саидов С. Х. Экссудативный средний отит у детей. – 2022. URL: https://sciencecentrum.pl/wp-content/uploads/2021/11/Амонов_веб.
2. Андреев Д. В. И др. Единая диагностическая информационная система: использование результатов эндоскопии при интерпретации изображений компьютерной томографии шеи и краниофациальной области // диагностики. – 2021. URL: <https://journals.rcsi.science/D/issue/download/4193/pdf>
3. Бодрова И. В. мультиспиральная компьютерная томография (мскт) в диагностике причин кондуктивной и смешанной тугоухости. url: <https://sechenov.ru/upload/222572.pdf>.

4. Baranov K.K., Bogomilsky M.R., Minasyan V.S. Modern approaches to the diagnosis and treatment of exacerbations of chronic purulent otitis media in children // Bulletin of the Russian State Medical University. 2015. №1. URL: <https://cyberleninka.ru/article/n/sovremennye-podhody-k-diagnostike-i-lecheniyu-obostreniy-hronicheskogo-srednego-gnoynogo-otita-u-detey>.

5. Bichurina T. A., Litvinenko I. V. Results of complex diagnosis of chronic hyperplastic laryngitis // Russian otorhinolaryngology. - 2009. – No. 4. – pp. 33-38. URL: <https://cyberleninka.ru/article/n/rezultaty-kompleksnoy-diagnostiki-hronicheskogo-giperplasticheskogo-laringita>.

6. Вирапонс С., Ротман С.Г., Кир Эл и др. Компьютерная томографическая анатомия височной кости. // AJNR. — 1982. — Т.3. - С. 379-389.

7. Вирапонсе С, Сарвар М, Бхимани С и др. Компьютерная томография пневматизации височной кости: нормальная картина и морфология. // AJNR. - 2015. - Т. 6. - С. 551-559.

RESULTS OF SPLINTS USE IN NASAL CAVITY SURGERIES

*Khasanov U.S., Makhamadaminova Sh.A.,
Ergashev U.M., Rakhimjonova G.A., Noryigitov F.N.
Tashkent Medical Academy*

Abstract: The creation of new medical technologies allows doctors to perform simultaneous surgical procedures in the upper respiratory tract. Joint operative procedures are often performed in ENT organs, but this problem remains poorly studied and insufficiently illuminated in the practice of otorhinolaryngology. There are not many works of local authors devoted to simultaneous operations in rhinology. It should be noted that, despite the possibilities of modern conservative therapy, the number of simultaneous operations in diseases of the nose, intranasal structures, and paranasal cavities is not decreasing.

Keywords: nasal cavity, simultaneous operations, paranasal sinuses.

Introduction. Among the diseases of the larynx, deviation of the septum of the nose occupies the main place. The deviation of the septum of the nose causes the occurrence of other pathological processes in the nasal cavity. The deviation of the septum of the nose causes hypertrophy of the lateral wall of the nasal cavity, which in turn causes joint diseases in the cavity. Simultaneous operations ("simultaneous" in English - at the same time) are complex operative practices aimed at the simultaneous surgical correction of two or more diseases of different organs in one or more anatomical areas. It is especially important to perform simultaneous operations in cases where there is a pathogenetic connection between two surgical diseases. If the existing joint pathology is not surgically corrected at the same time, the disease may worsen in the postoperative period. It should be noted that simultaneous surgical correction by an otorhinolaryngologist is cost-effective compared to separate operations, in which the cost of place-day is reduced by 2 or more times, the time spent on examinations, pre- and post-operative treatment, anesthesiological drugs costs are reduced.

The creation of new medical technologies allows doctors to perform simultaneous surgical operations in the field of upper respiratory tract less invasively. Joint operative procedures are often performed in ENT organs, but this problem remains poorly studied and insufficiently covered in the practice of otorhinolaryngology. There are not many works of local authors devoted to simultaneous operations in rhinology [5,17,3,7,16]. It should be noted that despite the possibilities of modern conservative therapy, the number of simultaneous operations in diseases of the nose, nasopharyngeal structures and paranasal cavities is not decreasing [3,9,10,21,1,17].

Purpose of the research work was - studying the morpho-functional features of the nasal mucosa after joint simultaneous surgical operations in cavity of the nose.

The results and discussion. Research materials and methods In 2021-2022, 60 patients with diseases of the nose and paranasal cavities were comprehensively examined and treated at the otorhinolaryngology department of the multidisciplinary clinic of the Tashkent Medical Academy. Combined surgical procedures were

performed in these patients, and morpho-functional studies were conducted on the effectiveness of hemostatic agents. Symptoms such as difficulty breathing through the nose, constant and occasional runny nose, impaired sense of smell were observed in the patients. These symptoms have been associated with impaired olfactory function in some cases. During the clinical examination, the symptoms of headache and forehead pain were often noted in the patients (table 1).

Table 1
The frequency of the main clinical symptoms in patients with joint disease of the nasal cavity

Complaints	Number of patients (n=120), %	
	abs.	%
Difficulty breathing through the nose	60	100.0
Impaired sense of smell	14	23.0
Nasopharyngeal discomfort	22	36.6
Sneezing	18	45.0
Discharge from the nose (of different nature - mucous, mucous-purulent, etc.)	30	50.0
Constant runny nose	20	33.3
Occasional runny nose	10	16.6
Occasional headaches	10	16.6

p>0.05

During the study hydrogen ion concentration activity was also studied during the investigation nasal separation, suction, mucociliary transport and nasal cavity in patients (table 2).

Table 2.
Results of functional testing methods of the mucous membrane of the nasal cavity

Indicators	Group 1 n=20	2nd group, n=20	Group 3 n=20	Indicators in the norm
Mucociliary clearance (min)	31.7±0.67***	29.83±0.4***	30.83±0.4***	11.5±1.4
	28.5±0.72*	26.4±0.82**	20.4±0.82**	
Hydrogen ion concentration indicator (pH)	7.36±0.01***	7.37±0.01***	7.37±0.01***	7.0±0.01
	7.3±0.01	7.2±0.01	7.2±0.01	
Suction function (pupil reaction time (number))	81±2.65***	82.3±1.41***	82.3±1.41***	68.2±0.6
	74.5±0.42**	73.8±0.72**	69.8±0.72**	
Separation function (cotton weight (mlgr))	57.3±0.48***	56.5±0.52***	56.5±0.52***	41.25±0.08
	51.1±0.16	49.3±0.26*	44.3±0.26*	

*-Differences compared to normal values weak reliable, (p>0.05)

** -Differences compared to normal values moderately strong reliable, (p>0.05)

***-Differences compared to normal values strong reliable, (p>0.05)

As can be seen from Table 2, there was almost no difference in pH indicators in the 3 groups of patients. However, in the mucociliary transport examination, 31.7 minutes before and 28.5 minutes after surgical interventions in 1 group of patients (with a gauze swab), this indicator was 29.83 before and 26 minutes after medical procedures in 2 groups of patients (hemostatic sponge). ,4 minutes, in 3 groups of patients (splint) it was 30.83 minutes before treatment, and then it was 20.4 minutes. Sucking task (pupillary reaction time (number)) of group 3 patients was observed to be significantly changed compared to the rest of group 1 and 2 patients, namely 82.3 seconds before treatment and 69.8 seconds after treatment. The separation function (cotton weight (mlgr)) results show that

According to obtained results, it can be concluded that the tools used after surgical interventions in the nasal cavity have a significant effect on the mucous membrane of the nasal cavity, which was confirmed in the above data. Among the compared methods, the results of the use of the Splint tool we offer after surgical interventions show that the effect on the mucous membrane of the nasal cavity is almost minimal.

In order to investigate nasal breathing or nasal ventilation, we studied rhinopneumometry indicators (table 3).

Table 3

Rhinopneumometry test results (before treatment procedures)

Group	Right		Left	
	SOP, sm ³ /s	SS, Pa/ sm ³ /s	SOP, sm ³ /s	SS, Pa/ sm ³ /s
I	311.01±9.65 (46%↓)	1.64±0.11 (43%↑)	314.01±9.65 (46%↓)	1.79±0.11 (43%↑)
II	324.23±10.07 (59%↓)	1.45±0.09 (96%↑)	323.23±10.07 (59%↓)	1.65±0.09 (96%↑)
III	301.01±9.65 (46%↓)	1.31±0.11 (43%↑)	325.01±9.65 (46%↓)	1.46±0.11 (43%↑)

p>0.05

As can be seen from the table, rhinopneumometry parameters (before surgery): volume flow value in group 1 patients, right - 291sm³/s, left - 274 sm³/s, resistance, right - 1.84 PA/sm³ /s, left - 0.59 PA/ sm³/s, UHO - 340 sm³/s, UQ - 0.54 PA/ sm³/s. Value of volume flow in 2 groups of patients, right - 291 sm³/s, left - 274 sm³/s, resistance, right - 1.84 PA/ sm³/s, left - 0.59 PA/ sm³/s, UHO - 340 sm³/s, UQ - 0.54 PA/ sm³/s. Volume flow value in 3 groups of patients, right - 291 sm³/s, left - 274 sm³/s, resistance, right - 1.84 PA/ sm³/s, left - 0.59 PA/ sm³/s, UHO - 340 sm³/s, UQ - 0.54 PA/ sm³/s. The results of the examination showed that the indicators of nasal ventilation were almost the same in all 3 groups of patients before treatment.

Table 4

Rhinopneumometry test results (after treatment procedures)

Group	Right		Left	
	SOP, sm ³ /s	SS, Pa/ sm ³ /s	SOP, sm ³ /s	SS, Pa/ sm ³ /s
I	411.01±9.65 (66%↓)	0.84±0.11 (73%↑)	414.01±9.65 (76%↓)	0.99±0.11 (68%↑)
II	584.23±10.07 (79%↓)	0.65±0.09 (86%↑)	564.23±10.07 (84%↓)	0.89±0.09 (89%↑)
III	671.01±9.65 (90%↓)	0.44±0.11 (93%↑)	684.01±9.65 (92%↓)	0.51±0.11 (95%↑)

p>0.05

After treatment procedures (table 4): volume flow value in group 1 patients, right - 204 sm³/s, left - 360 sm³/s, resistance, right - 0.74 PA/ sm³/s, left - 0.42 PA/ sm³/s, UHO- 564 sm³/s, UQ - 0.27 PA/ sm³/s. Value of volumetric flow in 2 groups of patients, right - 204 sm³/s, left - 360 sm³/s, resistance, right - 0.74 PA/ sm³/s, left - 0.42 PA/ sm³/s, UHO - 564 sm³/s, UQ - 0.27 PA/ sm³/s. Value of volumetric flow in 3 groups of patients, right - 204 sm³/s, left - 360 sm³/s, resistance, right - 0.74 PA/ sm³/s, left - 0.42 PA/ sm³/s, UHO - 564 sm³/s, UQ - 0.27 PA/ sm³/s.

The obtained data indicate that the ventilatory function of the nasal cavity was significantly improved in 3 groups of patients (this was manifested due to the absence of means of resistance to the airflow in the nasal cavity).

Patients have a nose a microbiological study was carried out in order to study the significance of the microflora of the mucous membrane in the effect of the means on the functions of the nasal cavity after the medical procedures carried out in the nasal cavity.

In this, **in the 1st group** when examining the condition of smears taken from the nasal mucosa of patients who underwent nasal septum surgery and used gauze tampons 7-14 days after the operation, staphylococcus aureus, Haemophilus influenzae, Streptococcus pneumonia, Escherichia coli were found in the microbiological landscape of 7-14 days in 46 patients. . In the remaining 4 patients, the recovery of the condition of the nasal mucosa in the postoperative period lasted for 1 month. When examining the condition of the smears taken from the nasal mucosa on the 7-14 days after the operation, 47 Staphylococcus aureus and Escherichia coli were detected in the microbiological landscape of the patient on the 7th day. Staphylococcus aureus was detected on the 14th day.

In order to determine the degree of influence of the tools used in the nasal cavity on the nasal mucosa after nasal cavity surgical procedures, a cytological study was conducted in patients (table 5).

In rhinopathologies, the state of the mucous membrane of the nasal cavity is on a rhinocytogram

Signs	1 group (n=)			2 groups (n=)			3 groups (n=)		
	Before the operation	Day 7 after surgery	Day 14 after surgery	Before the operation	Day 7 after surgery	Day 14 after surgery	Before the operation	Day 7 after surgery	Day 14 after surgery
breath papillary cellular structures derived from the epithelium of the airways									
Basal cells	+	+	+	+	+	+	+	+	+
Scattered cells of the respiratory epithelium	-	-	-	-	-	+	+	+	+
Signs of hypersecretion in respiratory epithelial cells	-	-	+	-	+	+	+	+	+
Degenerative-destructive signs in respiratory epithelial cells	-	+	+	-	-	+	-	-	-
Metaplasia of squamous cell elements	-	-	+	-	-	+	-	-	+
Treatment pathomorphosis	-	-	-	-	-	+	+	+	+
Cornification	-	-	+	-	+	+	-	+	+
Fibroblasts	-	+	+	-	+	+	+	+	+
segmented neutrophils	-	-	+	-	-	+	-	+	+
Eosinophils	+	-	+	+	-	+	+	-	+
Lymphocytes	+	+	+	+	+	+	+	+	+
Histiocytes	-	-	+	-	+	+	+	+	+
Phagocytosis	-	-	+	-	-	+	+	+	+
Bacterial flora	+	+	+	+	+	+	+	-	-

As can be seen from the table data, the state of the nasal mucosa was recorded in patients of each group in the cytological material obtained from the mucous membrane of the nasal cavity after the operation. Thus, in patients who used gauze tamponade of the nasal cavity (the first group), clear signs of inflammatory infiltration and dystrophic changes were detected. In the second group of patients, a hemostatic sponge was used after surgery, and in this group, in addition to the symptoms in the above group, therapeutic pathomorphism was determined. Patients in the third group (only the splint was used) were distinguished by the reduction of inflammatory signs and the presence of regenerative process signs, as can be seen from the rhinocytogram of the mucous membrane.

Thus, the cytological examination of smears taken from the mucous membrane of the nasal cavity taken from patients with various rhinopathologies in the postoperative period showed that nitric oxide leads to the disruption of intercellular connections in the structure of polypous tissue and splint after surgery in group 3 patients with the help of it led to the strengthening of the regenerative processes of

the mucous membrane of the nasal cavity. The results of cytological studies have once again confirmed the effectiveness of using the splint in the practice of otorhinolaryngologists.

CONCLUSION

The use of the silicon "Splint" as an alternative to tamponade of the nasal cavity in joint surgical procedures in the nasal cavity, due to the reduction of the volume of complications during and after the operation in patients, strong trophic changes of the mucous membrane and pain reduction improved treatment results.

References:

1. Baranov, Konstantin Konstantinovich, et al. "Osobennosti diagnostiki i lecheniya sochetannoy patologii nosa i slezootvodyashchikh putey u detey." *Practical Medicine* 16.5 (2018).
2. Kalinin, P. L., et al. "Otsrochennye nosovye krovotecheniya posle endoskopicheskogo transspenoidalnogo udaleniya adenoma hypophysis" *Rossiyskaya rinologiya* 25.4 (2017): 28-36.
3. Arabyan, Jirayr Migranovich. *Objektivnaya otsenka i obsnovanie hirurgicheskogo meshatelstva pri sochetannoy adenotonzillarnoy i rhinogennoy respiratory chronic. Obstruktsii u detey.* Diss. Yerevan State Medical University named after M. Geratsy, 2017.
4. Kochergin, G. A., V. V. Dvoryanchikov, and F. A. Syroezhkin. "Rehabilitation of patients with vestibular disturbances posle simultannyx rinootoxirurgicheskix vmeshatelstv." *Russian Rhinology* 23.4 (2015): 29-33.
5. Ermakova, M. V., K. O. Kurganova, and A. B. Knyazev. "Tselesoobraznost simultannyx operatsiy v rinologii." *Bulletin of medical internet conference.* Vol. 5. No. 5. Obshchestvo s ogranichennoy otvetstvennostyu "Nauka i innovatsii", 2015.
6. Palchun V. T., Magomedov M. M., Dibirova T. A. *USTROYSTVO DLYa OStanOVKI NOSOVOGO KROVOTECHENIya.* - 2011.
7. Boyko, N. V., A. S. Bachurina, and A. I. Zhdanov. "Prophylaxis of postoperatsionnykh krovotechenii pri adenotomii." *Russian rhinology* 23.2 (2015): 26-30.
8. Boyko, N. V., and Yu. V. Shatokin. "Pathogenesis of nosovykh krovotechenii and bolnykh s arterialnoy hypertension." *Journal of Otorhinolaryngology* 80.5 (2015): 41-45.
9. Tarkova AR, Chernyavsky AM, Morozov SV, Grigorev IA, Tkacheva NI, Rodionov VI. Hemostatic material of local activity and the basis of oxidized cellulose. *SibNauchMedy Journ.* 2015;35(2):11-15.
10. Zabiroy R. A. i dr. *MASSIVNYE RETcIDIVIVIRUYushchIE NOSOVYE KROVOTEChENIya U BEREMENNOY JENshchchINY //RUSSIAN OTORHINOLARYNGOLOGY Meditsinskiy nauchno prakticheskiy zurnal.* - 2011. - S. 144.
11. Kraynyukov P. E. i dr. *Ostanovka profuznogo nosovogo krovotecheniya (prnk) with ispolzovaniem roentgenendovaskulyarnykh methodical //Glavnyy vrach Yuga Rossii.* – 2013. – no. 1 (32).

12. Konstantinova YuE, Abrosimova NV, Sotnikov KA, Lipatov VA. Pokaseteli krovoostanavlivayushchey activity foam na osnove carboxymethylcellulose. *Zdorove i Obrazovanie v XXI veke*. 2016;18(1): 142-44.
13. Sharipova, M. A., G. A. Nurkasimova, and J. S. Isabaeva. "Metody uskoreniya srokov reabilitatsii posleoperatsionnogo perioda v rhinohirurgii." *Journal of Surgery Kazakhstan* 2 (38) (2014).
14. Gyusan, A. O. "Vozmozhnosti simultaneous surgery and rhinology." *Journal of Otorhinolaryngology* 3 (2014): 48-50.
15. Leontev, A. F., et al. "Simultannoe lechenie hirurgicheskoy i otorinolaringologicheskoy patologii u detey mlashe vozrasta." *Kremlin medicine. Clinical Journal* 1 (2014): 37-38.
16. Morozov, Aleksandr Dmitrievich, and Milana MuzarinovnaKumysheva. "Opredelenie taktiki perioperatsionnogo lecheniya zabolevaniy polosti nosa. *RussianotorhinolaryngologyMeditsinskiy nauchno-prakticheskiy zurnal* (2014): 153.
17. Khushvakova N. J., Khamrakulova N. O., Abdusamatov F. S. PRIMENENIE PREPARATA TAXOKOMBA PRI NOSOVYX KROVOTECHENIYAX U BOLNYX S CHRONICHESKIM LEUKOZOM //Novye tekhnologii v otorinolaringologii. - 2014. - S. 287-291.
18. Konoshkov A. S., Letyagin K. V. DIAGNOSTICHESKAYA I LECHEBNAYA TAKTIKA PRI POSTTRAUMATICHESKIX NOSOVYX KROVOTECHENIYAX //RUSSIAN OTORHINOLARYNGOLOGY Meditsinskiy nauchno-prakticheskiy zurnal. - 2012. - S. 99.
19. Jurova O. N., Podpalov V. P., Kunitsky V. S. Obshchaya vrachebnaya praktika: tactic of a doctor in arterial hypertension, oslojnennoy nosovym krovotечением //Uvajaemye kollegye!. - 2012.
20. Bejin A.I., Maystrenko A.N., Lipatov V.A., Chizhikov G.M., and Zhukovsky V. A.. "Hemostatic activity of new application means and basis of carboxymethyl cellulose" *Vestnik new medical technology*, vol. XVIII, no. 3, 2011, pp. 152-154.
21. Tarkova A. R., Chernyavsky A.M., Morozov S.V., Grigorev I.A., Tkacheva N.I., and Rodionov V.I. "Hemostatic material of local activity and the basis of oxidized cellulose" *Sibirskii nauchnyi meditsinskii zurnal*, vol. 35, no. 2, 2015, pp. 11-15.
22. Lipatov V.A., Ershov M.P., Sotnikov K.A., Ushanov A.A., Novikova N.V., Konstantinova Yu.E. "Sovremennye tendentsii primeneniya lokalnykh apliktsionnykh krovoostanovlivayuschikh sredstv" *Innova*, no. 2 (3), 2016, pp. 64-69.
23. Lipatov V.A., Lazarenko S.V., Sotnikov K.A., Severinov D.A., & Ershov M.P. (2018). K voprosu o metodologii sravnitel'nogo izucheniya stepi hemostaticheskoy activitii applicatsionnyx

TABLE OF CONTENTS / ОГЛАВЛЕНИЯ / MUNDARIJA

№	The subject of the article / Тема статьи / Maqola mavzusi	Page / Страница / Sahifa
1	YOSHLAR O'RTASIDA JINOYATCHILIKNING OLDINI OLISH MUAMMOLARI VA YECHIMLARI	3
2	MIRZO ULUG'BEKNING HUKMDOR VA OLIM SIFATIDAGI FAOLIYATI HAMDA ILMIY AKADEMIYASIGA DOIR QARASHLAR	6
3	SAYOHATNING PSIXOLOGIK VA JISMONIY SALOMATLIGIGA TA'SIRI	14
4	FOREIGN EXPERIENCE OF FINANCING ECONOMICALLY INSOLVENT ENTERPRISES	19
5	KONSTITUTSIYA DAVLATNING ASOSIY QONUNI	28
6	INTERCULTURAL COMPETENCE IN ENGLISH LANGUAGE TEACHING	35
7	AUTOCAD THREE-DIMENSIONAL DESIGN	38
8	TIJORAT BANKLARINI SOLIQQA TORTISHNING O'ZIGA XOS XUSUSIYATLARI	41
9	CHAKANA BANK XIZMATLARI HISOBI VA AUDITINI TAKOMILLASHTIRISH	43
10	HOW ENGLISH IDIOMS REFLECT CULTURE AND SOCIETY	45
11	КАМБАФАЛЛИК СИРТМОҒИ ВА БОШҚАРУВ САМАРАДОРЛИГИ	49
12	THE ROLE OF TENSOR ANALYSIS IN ARCHITECTURE AND CONSTRUCTION: SYSTEMS AND STRUCTURAL ANALYSIS	62
13	PIYOZNING ZARARKUNDALAR VA KASALLIKLARGA QARSHI KURASH CHORALARI	67
14	TURLI DASTURLARDA YUZ-JAG' MINTAQANING NUQSONLARINI MODELLASHTIRISH VA 3D BIOPRINTERDA PLA BIOMATERIALINI CHOP ETISHNING ENG YAXSHI USULLARI	71
15	МОНИТОРИНГ ОСАДОЧНЫХ КОМПЛЕКСОВ НА НЕФТЬ И ГАЗ	77
16	ОТБОР И УПРАВЛЕНИЕ ДВИЖЕНИЕМ КЕРНА В ГЕОЛОГИИ	79
17	АНАЛИЗ И ИССЛЕДОВАНИЕ КЕРНА	82
18	O'ZBEKISTON RESPUBLIKASI DAVLAT MADHIYASI: MILLIY G'URUR VA BIRLIK RAMZI	85
19	ОЦЕНИВАНИЕ ФУНКЦИОНАЛЬНЫХ ХАРАКТЕРИСТИК МНОГОМЕРНЫХ РАСПРЕДЕЛЕНИЙ ПРИ ПОМОЩИ КОПУЛА ФУНКЦИЙ	89
20	INTERCELLULAR CONNECTIONS IN THE BARK OF THE CRANIAL HEMISPHERES . REACTION OF THE CRANIAL HEMISPHERES TO HYPOXIA .ANATOMICAL HISTALOGICAL STRUCTURE	93
21	O'ZBEKISTON RESPUBLIKASIDA AUDITORLIK XIZMATLARI BOZORI ASOSIY KO'RSATKICHLARINING TAHLILI	96

22	O‘ZBEKISTONDA KONSOLIDATSIYALASHGAN BUDJET PARAMETRLARINING JORIY YIL UCHUN PROGNOZ KO‘RSATKICHLARI	106
23	CHRONIC RHINOSINUSITIS: REVIEW LITERATURE	112
24	CONDITION OF NASAL MUCOSA AFTER SIMULTANEOUS SURGERY IN NASAL CAVITY	119
25	MODERN METHODS OF EXAMINATION OF CHRONIC ETHMOIDITIS	126
26	MODERN TREATMENT METHODS OF CHRONIC TONSILLITIS	131
27	MORPHOLOGICAL EXAMINATION OF CHRONIC TONSILLITIS	135
28	POLYPOUS RHINOSINUSITIS: DEPENDENCE OF THE STATE OF SYSTEMIC AND LOCAL ADAPTIVE IMMUNITY	142
29	POLYPOUS RHINOSINUSITIS: ALTERATIONS OF LOCAL ADAPTIVE IMMUNITY	146
30	COCHLEOVESTIBULAR DISORDERS CHARACTERISTICS IN ARTERIAL HYPERTENSION IN PATIENTS	152
31	EFFECTIVENESS OF USING OF THE SPLINTS USE IN NASAL CAVITY SURGERIES	158
32	EFFECTIVE METHODS AND TECHNIQUES OF TEACHING ENGLISH LANGUAGES	164
33	BOSHLANG‘ICH TA‘LIM MUASSASALARIDA TAFAKKUR VA MUSIQA TARBIYASINING BOLALAR RIVOJLANISHIDAGI O‘RNI	167
34	MUSIQA MADANIYATI TA‘LIMIDA INNOVATSION PEDAGOGIK TEXNOLOGIYALAR VA IJODIY TAFAKKURNI RIVOJLANTIRISH	172
35	INSONIYAT TARAQQIYOTIDA MUSIQA TARBIYASINING AHAMIYATI	178
36	A REVIEW OF RECENT WORK ON USING METAL–ORGANIC FRAMEWORKS TO GROW CARBON NANOTUBES	183
37	POSITRON-EMISSION TOMOGRAPHY (PET)--A NEW DIAGNOSTIC METHOD. PHYSICAL AND TECHNICAL REQUIREMENTS	193
38	ЎСМИРЛАРНИНГ ОИЛАВИЙ МУНОСАТЛАРДАГИ АДАПТАЦИОН ВА ДЕЗАДАПТАЦИОН ПСИХОЛОГИК МУАММОЛАРИ	202
39	GENERAL CHARACTERISTICS OF THE MATERIAL ON MIDDLE EAR DISEASES	206
40	RESULTS OF SPLINTS USE IN NASAL CAVITY SURGERIES	210