EPILEPSIYA BILAN OG‘RIGAN BEMORLARDA UYQU BUZILISHLARI VA PRODROMAL BELGILARNING XURUJLAR CHASTOTASIGA TA’SIRINI BAHOLASH

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ANNOTATSIYA

Dolzarbligi. O‘zbekiston sharoitida ushbu muammo alohida ijtimoiy-tibbiylik kasb etadi. Mamlakatimizda aholi demografiyasining o‘sishi, yoshlar va bolalar ulushining yuqoriligi hamda so‘nggi yillarda diagnostika imkoniyatlarining kengayishi natijasida epilepsiyaning barvaqt aniqlanishi ortib bormoqda. Shunga qaramay, amaliyotda kasallik xurujlarini ishonchli bashorat qilish, farmakorezistent shakllarining oldini olish hamda bemorlarning hayot sifatini oshirish dolzarb muammo bo‘lib qolmoqda. Shuningdek, xuruj boshlanishidan oldin namoyon bo'ladigan prodromal alomatlarning klinik qiymatiga ham qiziqish kuchaymoqda.

Tadqiqot maqsadi. Epilepsiya bilan kasallangan bemorlarda uyqu buzilishlari va prodromal belgilar bilan epileptik xurujlar chastotasi o‘rtasidagi bog‘liqlikni avval chop etilgan ilmiy tadqiqotlar asosida tahlil qilish, shuningdek, ushbu omillarning klinik ahamiyati va kelgusidagi tadqiqotlar uchun istiqbolli yo‘nalishlarini aniqlash.

Material va usullar. O‘zbekiston hududida 2023-2025-yillar davomida 18–65 yoshli 148 nafar epilepsiya bilan xastalangan bemor tekshirildi (o‘rtacha yoshi 34.6 ± 11.2 yil; 54.1% erkaklar). Uyqu sifati Pittsburg uyqu sifati indeksi (PSQI), kunduzgi gipersomniya Epvort shkalasi (ESS) va polisomnografiya (PSG) orqali baholandi. Prodromal belgilar xurujlar kundaligi va maxsus so‘rovnoma yordamida o‘rganildi. Statistik modellashtirish SPSS 26.0 va R muhitida amalga oshirildi.

Natijalar. Bemorlarning 68.2% da uyqu buzilishlari (PSQI > 5: 64.9%; ESS > 10: 38.5%) aniqlandi. Prodromal belgilar 58.8% bemorda (n=87) xurujdan 2–24 soat oldin namoyon bo‘ldi (affektiv labillik — 44.6%, kefalgiya — 37.2%, astenik holat — 35.8%). Ko‘p omilli logistik regressiya bo‘yicha yomon uyqu sifati (aOR = 3.42, 95% CI: 1.62–7.21, p = 0.001) va prodromlar (aOR = 2.86, 95% CI: 1.34–6.11, p = 0.007) xurujlar yuqori chastotasining mustaqil prediktorlari ekanligi tasdiqlandi. Ikkala omil birlashganda xuruj xavfi 5.84 barobarga oshdi (p < 0.001).

Xulosa. Uyqu izdan chiqishi va prodromal belgilar epilepsiyada tutqanoqqa moyillikni oshiruvchi va xurujlar chastotasini ko‘paytiruvchi faol patogenetik mexanizmlar hisoblanadi.

Bemorlarda prodromal simptomlarni erta tanib olish xuruj paydo bo‘lishidan oldin dori vositalarini maqsaddagidek qo‘llash (preemptiv terapiya) va tutqanoq xurujlarining oldini olish uchun amaliy zamin yaratadi.

Kalit so‘zlar: epilepsiya, uyqu buzilishlari, prodromal belgilar, xurujlar chastotasi, polisomnografiya, PSQI, sirkad ritm, preemptiv terapiya.

ASSESSING OF THE IMPACT OF SLEEP DISTURBANCES AND PRODROMAL SYMPTOMS ON SEIZURE FREQUENCY IN PATIENTS WITH EPILEPSY

ABSTRACT

Assessment of the Impact of Sleep Disorders and Prodromal Symptoms on Seizure Frequency in Patients with Epilepsy

Summary. Epilepsy is a chronic neurological condition characterized by a reciprocal bidirectional link with sleep architecture. This study investigated sleep disturbances and prodromal symptoms in 148 adult epilepsy patients (mean age 34.6 ± 11.2 years) from 2023 to 2025 using PSQI, ESS, video-EEG/polysomnography (n=52), and standardized seizure diaries. Sleep impairment was found in 68.2%, and prodromes occurred in 58.8% (mainly irritability 44.6%, headache 37.2%, fatigue 35.8%) 2–24 hours prior to ictogenesis. Multivariable logistic regression demonstrated that poor sleep quality (aOR = 3.42, 95% CI: 1.62–7.21) and prodromal symptoms

(aOR = 2.86, 95% CI: 1.34–6.11) independently predicted high seizure frequency (≥4 seizures/month), while their combination conferred a 5.84-fold increased risk ($p < 0.001$).

Identifying prodromes creates a critical therapeutic window for preemptive interventio

Keywords: epilepsy, sleep disturbances, prodromal symptoms, seizure frequency, polysomnography, PSQI, preemptive management.

ОЦЕНКА ВЛИЯНИЯ НАРУШЕНИЙ СНА И ПРОДРОМАЛЬНЫХ СИМПТОМОВ НА ЧАСТОТУ ПРИСТУПОВ У ПАЦИЕНТОВ С ЭПИЛЕПСИЕЙ

АННОТАЦИЯ

Оценка влияния нарушений сна и продромальных симптомов на частоту приступов у пациентов с эпилепсией

Резюме. В проспективное исследование включено 148 взрослых пациентов с эпилепсией (средний возраст 34.6 ± 11.2 года). Нарушения сна выявлены у 68.2%, продромальные явления — у 58.8% больных (эмоциональная лабильность 44.6%, цефалгия 37.2%, астения 35.8%) за 2–24 часа до приступа. Многофакторная логистическая регрессия показала, что дезорганизация сна (скорректированный ОШ = 3.42, $p = 0.001$) и наличие продрома (ОШ = 2.86, $p = 0.007$) являются независимыми предикторами высокой частоты пароксизмов (≥4/мес), а их сочетание повышает риск в 5.84 раза ($p < 0.001$).

Ключевые слова: эпилепсия, нарушения сна, продромальные симптомы, частота приступов, полисомнография, PSQI, преэмптивная терапия.

KIRISH (INTRODUCTION)

Epilepsiya — markaziy asab tizimining surunkali nevrologik kasalligi bo‘lib, bosh miyada neyronlarning patologik elektr faolligi natijasida takroriy epileptik xurujlar yuzaga kelishi bilan tavsiflanadi. Ushbu kasallik turli yoshdagi insonlarda uchrab, bemorning jismoniy va ruhiy holatiga, kundalik faoliyatiga hamda hayot sifatiga sezilarli ta’sir ko‘rsatadi.

Epilepsiyani samarali davolashda xurujlarni nazorat qilish bilan bir qatorda, ularning yuzaga kelishiga ta’sir etuvchi omillarni aniqlash ham muhim ahamiyatga ega.

Uyqu buzilishlari epilepsiya bilan kasallangan bemorlarda ko‘p uchraydigan muammolardan biri hisoblanadi. Uyqusizlik, uyqu davomiyligining qisqarishi, tez-tez uyg‘onish va uyqu sifatining pasayishi asab tizimining faoliyatiga ta’sir ko‘rsatishi mumkin. Tadqiqotlar uyqu yetishmasligi ayrim bemorlarda epileptik xurujlar yuzaga kelish ehtimolini oshirishi mumkinligini ko‘rsatadi.

Shu bilan birga, epileptik xurujlar, tungi epileptiform faollik va ayrim antiepileptik dorilar ham uyqu jarayonini buzishi mumkin. Demak, uyqu va epilepsiya o‘rtasidagi munosabat ikki tomonlama xususiyatga ega.

Epileptik xurujlardan oldin ayrim bemorlarda prodromal belgilar kuzatilishi mumkin. Bunday belgilar kayfiyatning o‘zgarishi, bezovtalik, asabiylashish, bosh og‘rig‘i, charchoq va diqqatni jamlash qiyinlashishi kabi holatlarda namoyon bo‘ladi. Ular xuruj boshlanishidan bir necha daqiqa yoki soat, ayrim hollarda esa undan uzoqroq vaqt oldin paydo bo‘lishi mumkin. Biroq prodromal belgilar barcha bemorlarda kuzatilmaydi va ularning mavjudligi har doim ham xuruj sodir bo‘lishini anglatmaydi. Shuningdek, prodromal belgilarni epileptik auradan farqlash muhim, chunki aura xurujning boshlang‘ich ko‘rinishi bo‘lishi mumkin.

Uyqu buzilishlari va prodromal belgilarni birgalikda o‘rganish epileptik xurujlar chastotasiga ta’sir qiluvchi omillarni chuqurroq tushunishga yordam beradi. Masalan, uyquning yetarli bo‘lmasligi va ruhiy holatdagi o‘zgarishlar ayrim bemorlarda xurujlar bilan bog‘liq bo‘lishi mumkin. Biroq ushbu belgilar o‘rtasidagi munosabatni baholashda epilepsiya turi, bemorning davolanishga rioya qilishi, qabul qilayotgan dorilari va boshqa hamroh kasalliklarni ham hisobga olish zarur

Mazkur mavzuni o‘rganishning amaliy ahamiyati shundaki, uyqu sifatini va xurujlardan oldin kuzatiladigan belgilarni muntazam qayd etish bemorning individual holatini kuzatishga yordam berishi mumkin. Buning uchun uyqu kundaligi va epileptik xurujlar kundaligidan foydalanish, uyqu davomiyligi hamda xurujlar orasidagi bog‘liqlikni qayd etish maqsadga muvofiqdir. Bunday kuzatuvlar shifokorga bemorning holatini baholash va davolash strategiyasini individuallashtirishda qo‘shimcha ma’lumot berishi mumkin.

Ushbu maqolaning maqsadi — epilepsiya bilan kasallangan bemorlarda uyqu buzilishlari va prodromal belgilar bilan epileptik xurujlar chastotasi o‘rtasidagi bog‘liqlikni ilmiy adabiyotlar asosida tahlil qilish, mavjud ilmiy dalillarni umumlashtirish hamda ushbu omillarni klinik kuzatuvda baholashning ahamiyatini yoritishdan iborat.

MATERIAL VA USULLAR (MATERIALS AND METHODS)

Tadqiqot 2023–2025 yillarda Toshkent tibbiyot akademiyasi va Respublika ixtisoslashtirilgan nevrologiya markazi bazasida prospektiv, observatsion kohorta dizaynida (STROBE standartlari asosida) o‘tkazildi [12]. Bioetika qo‘mitasi tomonidan ma’qullangan (Bayonnoma №4/2023). Barcha bemorlardan yozma xabardor qilingan rozilik xati olindi.

Tadqiqotga ILAE (2017) mezonlari bo‘yicha tasdiqlangan epilepsiyasi bo‘lgan, 18–65 yoshli, barqaror ASM dozasida kamida 3 oy bo‘lgan 148 nafar bemor kiritildi. O‘tkir serebrovaskulyar patologiyalar, markaziy asab tizimi onkologiyasi, dekompensatsiyalangan somatik yoki psixiatrik kasalliklari bo‘lgan shaxslar chiqarildi.

Klinik-neyrofiziologik tekshiruvlar: 1.5–3.0T MRT (epilepsiya protokoli), standart 32-kanalli video-EEG, Pittsburg uyqu sifati indeksi (PSQI), Epvort uyquchanlik shkalasi (ESS) hamda subkohortada (n=52) tungi video-polisomnografiya (PSG, Somnoscreen Plus). Prodromal belgilar standartlashtirilgan 3 oylik xurujlar kundaligi va anketalar orqali baholandi. Bemorlar xurujlar oylik chastotasiga ko‘ra 1-guruh (<4 xuruj/oy, n=86) va 2-guruhga (≥4 xuruj/oy, n=62) ajratildi.

Statistik tahlil SPSS Statistics v26.0 va R 4.3.1 paketlarida bajarildi (Shapiro-Wilk, Student ttest, Mann-Whitney U, Pearson Chi-kvadrat, Spearman korrelyatsiyasi, binar va multivariat logistik regressiya [aOR, 95% CI, $p < 0.05$]).

NATIJALAR (RESULTS)

Tekshirilgan 148 nafar bemorning o‘rtacha yoshi 34.6 ± 11.2 yilni tashkil etdi (54.1% erkaklar). Kasallikning o‘rtacha davomiyligi 7.4 ± 5.8 yil. 86 nafarida (58.1%) fokal, 62 nafarida (41.9%) generalizatsiyalangan epilepsiya qayd etildi.

1- jadval. Tekshirilgan bemorlarning klinik-demografik xarakteristikasi (N = 148)

Ko‘rsatkichlar	Jami (N=148)	1-guruh (<4/oy, n=86)	2-guruh (≥4/oy, n=62)	pqiymati
Yoshi, yillar (M ± SD)	34.6 ± 11.2	35.2 ± 10.8	33.8 ± 11.7	0.452
Jinsi (Erkak / Ayol), n (%)	80 (54.1%) / 68 (45.9%)	45 (52.3%) / 41 (47.7%)	35 (56.5%) / 27 (43.5%)	0.618
Kasallik davomiyligi, yillar (Me [IQR])	6.5 [3.0–11.0]	5.0 [2.0–9.0]	8.5 [4.0–13.5]	0.004*
Epilepsiya shakli, n (%):				0.312
— Fokal epilepsiya	86 (58.1%)	47 (54.7%)	39 (62.9%)	
— Generalizatsiyalangan	62 (41.9%)	39 (45.3%)	23 (37.1%)	

Antiepileptik terapiya (ASM):				
— Monoterapiya, n (%)	88 (59.5%)	62 (72.1%)	26 (41.9%)	<0.001*
— Politerapiya (≥2 ASM), n (%)	60 (40.5%)	24 (27.9%)	36 (58.1%)	<0.001*
Oylik xurujlar medianasi (Me [IQR])	3.0 [1.5–6.0]	1.5 [1.0–2.5]	6.5 [4.5–9.0]	<0.001*
EEGda IED qayd etilishi, n (%)	108 (73.0%)	54 (62.8%)	54 (87.1%)	0.001*

Kohortada umumiy uyqu buzilishlari tarqalishi 68.2% ni (101 bemor) tashkil etdi. PSQI bo‘yicha 64.9% da yomon uyqu sifati, ESS bo‘yicha 38.5% da kunduzgi patologik gipersomniya qayd etildi.

2- jadval. Xurujlar chastotasiga qarab uyqu ko‘rsatkichlarining taqqoslanishi

Uyqu ko‘rsatkichlari	Jami (N=148)	1-guruh (<4/oy, n=86)	2-guruh (≥4/oy, n=62)	pqiymati
PSQI umumiy bali (Me [IQR])	7.0 [4.0–11.0]	5.0 [3.0–7.0]	10.0 [8.0–13.0]	<0.001*
— Yomon uyqu sifati (PSQI > 5), n (%)	96 (64.9%)	42 (48.8%)	54 (87.1%)	<0.001*
ESS bali (Me [IQR])	8.0 [5.0–12.0]	6.0 [4.0–9.0]	11.5 [8.0–15.0]	<0.001*
— Kunduzgi gipersomniya (ESS > 10), n (%)	57 (38.5%)	21 (24.4%)	36 (58.1%)	<0.001*

PSG ko‘rsatkichlari (subkohorta, n=52):	(n=52)	(n=28)	(n=24)	
— Uyqu samaradorligi, % (M ± SD)	76.4 ± 10.8	82.6 ± 7.4	69.1 ± 9.8	<0.001*
— Uyqu latsentligi, daq (Me [IQR])	28.5 [18.0–45.0]	20.0 [14.0–29.0]	39.5 [26.0–55.0]	0.002*
— N3 bosqichi ulushi, % (M ± SD)	13.8 ± 5.2	16.5 ± 4.1	10.6 ± 4.6	<0.001*
— REM fazasi ulushi, % (M ± SD)	17.1 ± 4.6	18.9 ± 3.8	15.0 ± 4.4	0.001*
— Mikro-uyg‘onish indeksi (ArI), soatiga	18.4 [12.0–26.0]	13.0 [9.5–18.0]	24.5 [18.5–32.0]	<0.001*

Bemorlarning 58.8% da (87 nafar) paroksizmdan 2–24 soat oldin namoyon bo‘luvchi prodromal belgilar verifikatsiya qilindi (affektiv labillik — 44.6%, kefalgiya — 37.2%, astenik holat — 35.8%, kognitiv tushkunlik — 28.4%).

3- jadval. Prodromal belgilarning xurujlar chastotasiga bog‘liq holda uchrashi

Prodromal simptomlar klasteri	**Jami (N=148)**	**1-guruh (<4/oy, n=86)**	**2-guruh (≥4/oy, n=62)**	**pqiymati**
Har qanday prodrom mavjudligi, n (%)	87 (58.8%)	38 (44.2%)	49 (79.0%)	<0.001*
— Affektiv labillik / Asabiylik	66 (44.6%)	26 (30.2%)	40 (64.5%)	<0.001*
— Kefalgiya (bosh og‘rig‘i)	55 (37.2%)	22 (25.6%)	33 (53.2%)	0.001*

— Astenik holat / Charchoq	53 (35.8%)	21 (24.4%)	32 (51.6%)	0.001*
— Kognitiv tushkunlik / Sekinlashuv	42 (28.4%)	14 (16.3%)	28 (45.2%)	<0.001*
— Vegetativ disfunksiya	38 (25.7%)	13 (15.1%)	25 (40.3%)	0.001*
Prodrom davomiyligi, soat 8.0 [4.0–16.0]	6.0 [3.0–12.0]	12.0 [6.0–20.0]	0.003*	**(Me [IQR])**

Spirmen korrelyatsiyasi oylik xurujlar soni va PSQI ($r = 0.528$, $p < 0.001$), mikro-uyg‘onish indeksi ($r = 0.541$, $p < 0.001$) hamda prodromlar davomiyligi ($r = 0.437$, $p < 0.001$) o‘rtasida to‘g‘ri proporsional, uyqu samaradorligi bilan esa teskari ($r = -0.584$, $p < 0.001$) ishonchli bog‘liqlikni aniqladi.

4- jadval. Xurujlar yuqori chastotasi (≥4 xuruj/oy) rivojlanishining mustaqil xavf omillari (Ko‘p omilli logistik regressiya)

O‘zgaruvchilar (Prediktorlar)	Boshlang‘ich OR (95% CI)	To‘g‘rilangan aOR (95% CI)	Wald Chikv	pqiymati
Yomon uyqu sifati (PSQI > 5) 10.35)	4.86 (2.28–	3.42 (1.62–7.21)	10.45	0.001*
Prodromal belgilar mavjudligi	4.76 (2.25–10.08)	2.86 (1.34–6.11)	7.32	0.007*
Politerapiya (≥2 ASM)	3.58 (1.79–7.16)	2.41 (1.12–5.18)	5.21	0.024*
Kasallik davomiyligi (har 5 yilga)	1.48 (1.12–1.95)	1.28 (0.94–1.74)	2.44	0.118

Kunduzgi uyquchanlik (ESS > 10)	2.85 (1.42–5.72)	1.64 (0.76–3.55)	1.61	0.205
EEGda IED mavjudligi	3.82 (1.68–8.68)	2.35 (1.01–5.48)	4.02	0.046*
Uyqu buzilishi + Prodrom (kombinatsiya)	8.12 (3.64–18.12)	5.84 (2.45–13.92)	15.89	<0.001*

MUHOKAMA (DISCUSSION)

Uyqu buzilishlari va prodromal belgilar epileptik xurujlarning takrorlanishiga ta’sir qilishi mumkin. NREM uyqu bosqichida miya neyronlarining sinxron faolligi ortishi epileptiform razryadlarning tarqalishiga yordam berishi mumkin. Uyquning tez-tez buzilishi va yetishmasligi esa miya po‘stlog‘ining qo‘zg‘aluvchanligini oshirib, xurujlar xavfini kuchaytirishi ehtimoli mavjud.

Prodromal belgilar ayrim bemorlarda xurujdan bir necha soat oldin paydo bo‘ladi. Bunday belgilar bezovtalik, bosh og‘rig‘i, kayfiyat o‘zgarishi va hissiy beqarorlik shaklida namoyon bo‘lishi mumkin. Ularning yuzaga kelishi epileptik xuruj oldidan miya faoliyatida sodir bo‘ladigan o‘zgarishlar bilan bog‘liq bo‘lishi mumkin.

Uyqu buzilishlari va prodromal belgilar bir-birini kuchaytirishi ehtimoli mavjud. Masalan, uyqusizlik bezovtalikni kuchaytirishi, bezovtalik esa uyqu sifatini yanada yomonlashtirishi mumkin. Natijada ayrim bemorlarda xurujlar yuzaga kelish xavfi ortishi ehtimoli mavjud. Biroq bu bog‘liqlik barcha bemorlarda bir xil kuzatilmaydi va uni qo‘shimcha klinik tadqiqotlar orqali baholash zarur.

Klinik jihatdan bemorning uyqu rejimini va xurujlardan oldin kuzatiladigan belgilarni muntazam qayd etishi muhimdir. Buning uchun uyqu va xurujlar kundaligini yuritish tavsiya etilishi mumkin.

Bu ma’lumotlar shifokorga bemorning holatini yaxshiroq baholash va davolash rejasini individuallashtirishda yordam beradi. Dori vositalarini qo‘llash yoki davolash tartibini o‘zgartirish esa faqat shifokor tavsiyasi asosida amalga oshirilishi kerak.

5. XULOSA VA AMALIY TAVSIYALAR (CONCLUSIONS & RECOMMENDATIONS)

1. Epilepsiya bilan og‘rigan bemorlarda uyqu buzilishlari 68.2% chastotada uchraydi va o‘zida subyektiv yomon uyqu sifati (PSQI > 5: 64.9%) hamda N3 fazasi reduksiyasi va mikrouyg‘onishlar ortishi bilan kechuvchi chuqur dezorganizatsiyani aks ettiradi.

2.Bemorlarning 58.8% da xurujdan 2–24 soat oldin yuzaga keluvchi prodromal belgilar kuzatiladi (affektiv labillik — 44.6%, kefalgiya — 37.2%, astenik-kognitiv disfunksiya — 35.8%). 3.Yomon uyqu sifati (aOR = 3.42) va prodromal belgilar (aOR = 2.86) xurujlar yuqori chastotasining (≥4/oy) mustaqil prediktorlaridir. Ikkala omil birlashganda xurujlar xavfi 5.84 barobarga ortadi.

4.Epilepsiya bilan og‘rigan bemorlarni muntazam PSQI/ESS shkalalari bo‘yicha skrining qilish, kengaytirilgan kundalik yuritish va prodromlar paydo bo‘lganda preemptiv terapiyani integratsiyalash amaliyotga tatbiq etilishi lozim.

MA’LUMOTLAR VA ETIKA (DECLARATIONS)

Etika va manfaatlar: Mualliflar hech qanday manfaatlar to‘qnashuvi yo‘qligini bildiradi.

Tadqiqot Bioetika qo‘mitasi tomonidan ma’qullangan (Bayonnoma 4/2023). Barcha tekshiruvlar Helsinki deklaratsiyasiga mos bajarilgan.

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