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MENTAL HEALTH, NEUROLOGY AND NEUROPHARMACOLOGY: INTERNATIONAL SCIENTIFIC CONFERENCE ON MEDICINE AND HEALTH SCIENCES OF THE UNIVERSITY OF LATVIA, 2026

On 26 March 2026, the University of Latvia hosted the International Scientific Conference on Medicine and Health Sciences.

This section, “Mental Health, Neurology and Neuropharmacology”, presents a broad and integrative overview of current research on brain health, highlighting the aging and neurodegeneration, with critical reflection on decades of Alzheimer’s disease research and the limited success in developing effective treatments, including recent antibody-based therapies. By linking mechanisms underlying Alzheimer’s and Huntington’s diseases, the section offers a more unified understanding of neurodegeneration. In addition, novel methodological approaches, such as mass spectrometry imaging, are introduced as powerful tools for studying brain biochemistry and advancing future research.

The section also draws attention to the growing burden of mental health problems in high-pressure environments. Studies reveal high levels of burnout, anxiety, and depressive symptoms among medical students, physicians, and healthcare workers. These findings point to the importance of early mental health screening, improved working conditions, and institutional support systems. Emotional well-being is shown to influence not only personal health but also professional performance, including clinical decision-making and patient communication, emphasising its relevance in healthcare quality and safety.

Another important theme is resilience and adaptive coping in the context of prolonged stress and trauma. Research involving military personnel and civilians exposed to war-related conditions supports a shift from focusing solely on pathology to strengthening psychological resources such as resilience and sense of coherence. Additional studies explore accessible interventions, including structured physical activity environments, which may support mental well-being in diverse populations. These approaches provide a foundation for scalable and cost-effective prevention strategies.

The section further examines risk factors, diagnostic challenges, and assessment methods in mental and neurological disorders. Depression emerges as a central predictor of suicidal behaviour, often mediating the effects of social stressors. At the same time, discrepancies between clinical evaluations and standardised assessment tools highlight the need for more structured and reliable diagnostic approaches. Findings also emphasise the importance of toxicological screening, individualised psychiatric assessment, and improved documentation practices in clinical settings. Neurological studies underline the complexity of diagnosing rare conditions and the key role of imaging techniques in early and accurate detection.

Finally, the impact of lifestyle and environmental factors on mental health is addressed, particularly in relation to technology use, sleep, and substance use. Research indicates that specific digital habits and sleep disturbances are associated with increased anxiety and depressive symptoms. Social context, family environment, and psychosocial adversity are likewise recognised as significant factors influencing mental health outcomes. Overall, this section offers a coherent, evidence-based synthesis that links developments in neuroscience with practical applications for prevention, diagnosis, and intervention across diverse populations.

Baiba Jansone

DEPRESSIVE SYMPTOMS IN HEALTHCARE WORKERS: A CROSS-SECTIONAL PILOT SURVEY

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Background. Healthcare professionals routinely work under time pressure, responsibility for patient outcomes, and frequent emotionally charged interactions. These occupational conditions are associated with psychological distress and may increase vulnerability to depressive symptoms. However, data from small clinical settings and preliminary samples remain limited, underscoring the need for pilot investigations to inform future large-scale studies.

Aim. To assess depressive symptom burden in healthcare workers and explore associations with perceived work-related stress impact, emotion-related factors, and demographic/professional characteristics.

Methods. A cross-sectional pilot survey was conducted among healthcare workers (n = 25). Depressive symptoms were measured as a total score across nine self-report items (0–3 each). Perceived work-stress impact on comfort at work, age, work experience, and emotional profile were collected; Geneva Emotion Wheel items were aggregated into a negative emotion index. Data are reported as median (IQR) and range. Associations were tested using Spearman's correlation; group comparisons used Mann–Whitney U. Statistical significance was set at $p < 0.05$.

Results. The total depression symptom score ranged from 0 to 17, with a median of 5 (IQR 2–7), indicating marked interindividual variability. Using a pragmatic cutoff (total score ≥ 5), elevated depressive symptoms were present in 13 of 25 participants (52%). No participant reported suicidal ideation, resulting in zero variance for this item. Depressive symptom severity was not significantly correlated with perceived work-related stress (Spearman's r = –0.25, $p = 0.22$), age (Spearman's r = 0.37, $p = 0.07$), work experience (Spearman's r = 0.36, $p = 0.08$), or negative emotion load (Spearman's r = 0.08, $p = 0.70$). A non-significant difference in depressive symptom scores was observed between participants reporting lower versus higher perceived work-related stress ($p = 0.064$); this result should be interpreted cautiously due to small and highly imbalanced subgroup sizes.

Conclusion. In this pilot sample of healthcare workers, depressive symptom burden demonstrated considerable variability, while suicidal ideation was not reported. No statistically significant associations were detected between depressive symptoms and perceived work-related stress or negative emotional load. Trend-level associations with age and work experience suggest that symptom burden may increase with prolonged occupational exposure. Larger, adequately powered studies are required to confirm these preliminary findings.

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PATTERNS OF ARTIFICIAL INTELLIGENCE TOOL USE FOR MENTAL HEALTH SUPPORT AMONG ADOLESCENTS AND YOUNG ADULTS

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Background. Recent studies show that adolescents increasingly use AI tools for emotional support, self-disclosure, and stress relief, often due to reduced fear of judgment and greater anonymity. While most research focuses on diagnostic uses, young people report using AI informally as a coping tool. Concerns remain about lack of empathy, personalisation, and risks such as harmful content or data misuse. These gaps highlight the need to better understand how adolescents use and perceive AI for mental health.

Aim. The aim of this study is to examine how adolescents and young adults use AI chatbots for mental health-related purposes. It also explores their emotional experiences, perceived motivations, and potential concerns when interacting with these tools.

Methods. A total of 783 respondents aged 16 to 30 participated in online anonymous survey. Two exclusion criteria were applied, based on questions assessing knowledge of AI chatbots and their daily use. After exclusions, 558 respondents remained and were included in statistical analysis. Data were analysed using frequency distributions and cross-tabulations. Certain questions of emotional use and perceived effects of AI chatbots were shown only to respondents aged 18 and older. Respondents were divided in groups based on their occupation and based on their PHQ-4 score — none (0–2), mild (3–5), moderate (6–8), severe (9–12).

Results. Educational level and frequency of AI chatbot use was statistically significant ($p = 0.011$). University students

s used AI chatbots the most. Most respondents used AI chatbots for school/study-related tasks (25.4%, n = 401). Noteworthy proportion used them for mental health related purposes such as: talking about emotions, thoughts, feelings (7.0%, n = 111), coping with stress (6.8%, n = 108), seeking relationship or friendship advice (4.6%, n = 73). Higher PHQ-4 score was associated with more frequent chatbot use (p = 0.034), feeling worse after using chatbot (p = 0.037), using chatbots to deal with stress ($p < 0.001$) and to talk about emotions, thoughts and feelings ($p = 0.020$). 47.5% reported that AI chatbots helped understand themselves or situation better. 40.5% said that chatbot use did not affect real-life conversations. The most endorsed reasons for chatbot use were: availability (55.4%), reduced fear of being judged (54.8%), anonymity (45.2%). Most respondents felt chatbot imitating emotional understanding (42.2%), few believing it truly understands their emotions (8.8%).

Conclusion. Psychological distress (PHQ-4) is the key factor influencing how adolescents engage with AI chatbots for emotional support or mental health-related purposes. Results reveal a vulnerable group more likely to rely on these tools for support, while also experiencing more negative effect after using them.

SUICIDAL BEHAVIOUR AND ITS RISK FACTORS: THE IMPACT OF DEPRESSION AND WORKPLACE MOBBING IN A LATVIAN POPULATION

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Background. Latvia has one of the highest suicide rates in the European Union, yet there is limited research on mental health risk factors associated with suicidal behaviour in the Latvian population.

Aim. This study aims to identify and quantify behavioural and psychosocial predictors of suicide risk using validated instruments partially based on UK Biobank methodology.

Methods. We conducted a cross-sectional online survey of Latvian adults aged 18 years and older. The study employs validated questionnaires including PHQ-9 for depression, NAQ-R (Negative Acts Questionnaire-Revised) for workplace mobbing and adapted UK Biobank items for comprehensive mental health assessment. Hierarchical logistic regression and machine learning approaches will be used to identify independent risk factors and develop predictive models.

Results. A total of 960 participants completed the survey (mean age = 41.1 years, SD = 12.5). The sample included 819 women (85.3%), 136 men (14.2%), and 5 individuals identifying as other (0.5%). Suicidal behaviour was reported by 614 participants (64.9%). Among its components, suicidal ideation was present in 584 respondents (61.6%), self-injury in 202 (21.4%), and suicide attempts in 74 (7.8%). The PHQ-9 score showed the strongest correlation with suicidal behaviour (r = 0.37). Each additional PHQ-9 point increased the odds of suicidal behaviour by 16% (OR = 1.159, $p < 0.001$). For individuals with a low level of mobbing, the rate of suicidal behaviour is 61.1%, for individuals with a medium level of mobbing 64.2%, for individuals with a high level of mobbing 79.1%.

Conclusions. When performing statistical analysis, an overview of univariate and multivariate analysis the PHQ-9 is a strong predictor of suicidal behaviour. The effect of workplace mobbing is fully mediated through depression. This indicates that mobbing affects suicidal risk indirectly by promoting the development of depressive symptoms.

THE IMPACT OF EMOTIONAL STATE ON DECISION-MAKING, COMMUNICATION, AND WELL-BEING AMONG MEDICAL STAFF: A PILOT STUDY

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Background. The emotional state of healthcare professionals may substantially influence clinical decision-making, communication with patients, and professional well-being. Understanding these relationships is essential for improving healthcare quality and supporting sustainable working environments. This study explores the associations between

emotional state, decision-making, communication quality, and perceived well-being among medical professionals using data from an anonymous survey.

Aim. To evaluate the associations between the emotional state, decision-making processes, communication with patients, and well-being among medical staff.

Methods. Data were collected using an anonymous survey assessing emotional experiences, psycho-emotional aspects of the work environment, communication with patients, decision-making processes, and self-rated health status. Twenty-five healthcare professionals were surveyed. Statistical analysis was performed using IBM SPSS version 30. Spearman's rank correlation coefficient (rho) was used, with statistical significance set at $p < 0.05$.

Results. Moderate and statistically significant correlations were observed between psycho-emotional factors in the work environment and perceived comfort and well-being at work (rho = 0.42; $p < 0.05$). Emotional state demonstrated a strong positive association with decision-making processes (rho = 0.62; $p = 0.001$), indicating that more favourable emotional states were linked to greater perceived confidence and clarity in professional decisions.

In addition, a statistically significant and strong correlation was identified between emotional state and self-rated health status (rho = 0.63; $p = 0.001$), reflecting a coherent perception of emotional influence across both professional functioning and personal well-being.

Conclusions. Emotional state in medical professionals is not merely an individual experience but a multidimensional factor that simultaneously affects internal processes, such as perceived health and well-being, and external professional functions, including decision-making and patient communication.

Acknowledgements. The authors declare no conflict of interest.

THE EFFECT OF BLOOD TOXICOLOGICAL ANALYSIS ON DIAGNOSTIC APPROACH AND TREATMENT OF ACUTE PSYCHIATRIC PATIENTS

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Background. Psychiatric admissions involve dual-diagnosis patients, where substance abuse coincides with primary psychiatric symptoms. Diagnostic uncertainty can affect pharmacological management, discharge planning, referral to addiction specialists. Blood toxicology testing may support diagnostic precision. Its impact on diagnosis and treatment remains insufficiently quantified.

Aim. To evaluate the association between blood toxicological analysis positivity and documented diagnostic, treatment impact, including addiction-specialist referral after discharge. To explore whether selected admission clinical variables are associated with toxicology positivity and whether age differs between groups.

Methods. A retrospective study was conducted in a cohort of acute psychiatric inpatients who underwent blood toxicology testing at the National Centre of Mental Health, Rīga, Latvia. The analysis included 100 patient epicrises from admissions between 01.06.2024 and 30.06.2025. Variables included toxicology result (positive/negative), whether the blood toxicology finding was documented as clinically significant for diagnostic formulation and/or treatment adjustment, discharge recommendations (including addiction specialist referral), and selected admission clinical variables. Group comparisons used chi-square, age differences were assessed with Mann–Whitney U test.

Results. The mean age was 33 years (men 34 y.o., women 31 y.o.). On admission, the most frequent primary diagnosis range was F20–F29 (schizophrenia spectrum and delusional disorders, 39%), followed by F40–F49 (neurotic, stress-related and somatoform disorders, 19%) F10–F19 (mental and behavioural disorders due to psychoactive substance use) accounted for 13%. At discharge, F20–F29 remained the most common primary diagnosis range (42%), F10–F19 accounted for 12%. Among patients with a positive blood toxicology test, a diagnostic impact of the toxicology finding was documented in 51.1%, among test-negative patients it was 5.7% ($p < 0.001$). Treatment was changed due to the blood drug analysis in 40.4% of test-positive patients versus 3.8% of test-negative patients ($\chi^2(1) = 19.765$, $p < 0.001$). Test-positive patients were more frequently referred for outpatient addiction specialist than test-negative patients (38.3% vs. 9.4%, $p < 0.001$). In contrast, selected admission clinical variables did not significantly differ between test-positive and test-negative groups. No significant age differences were observed ($p = 0.365$).

Conclusion. In acute psychiatric inpatients, blood toxicology positivity was strongly associated with documented diagnostic changes, treatment modification, and increased referral to addiction services. However diagnostic changes were documented in only half of toxicology-positive cases, suggesting incomplete integration of results into clinical decision-making, this may influence subsequent treatment strategy. Clinical variables didn't reliably predict positivity. A standardised documentation approach is recommended.

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ASSESSMENT OF SUICIDE RISK FACTORS IN PATIENTS HOSPITALISED AFTER INTENTIONAL SELF-HARM

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Background. Suicide is a serious global public health issue. In Latvia, 253 deaths from deliberate self-harm were recorded in 2021 (13.4 per 100,000 inhabitants), ranking Latvia eighth among EU countries. Identifying risk factors is essential for improving mental health care and prevention.

Aim. This study aimed to identify risk factors for self-harm among patients admitted to VSIA "Ģintermuiža" following intentional self-harm between 01.11.2024 and 01.11.2025.

Methods. A hospital-based cross-sectional study was conducted among patients admitted to the regional psychiatric hospital "Ģintermuiža" between 01.11.2024 and 01.11.2025 after self-harm who consented. Quantitative and qualitative data on sociodemographic, psychiatric, and somatic comorbidities, and alcohol use were collected. Psychological pain was assessed using a Visual Analogue Scale (VAS). Qualitative data were analysed with chi-square, quantitative data summarised with medians and quartiles. Mann–Whitney and Kruskal–Wallis tests were used for inferential analyses.

Results. The study included 71 patients aged 18–86 years (median 38), including 39 women (54.9%) and 32 men (45.1%). Half of the participants were hospitalised for the first time (n = 36, 50.7%), while 12 (16.9%) and 8 (11.3%) were hospitalised for the second and third time, respectively. Most patients were unmarried (n = 46, 64.8%, $p < 0.001$). Regarding education, 23 (32.4%) had basic education, 26 (36.6%) secondary, and 6 (8.5%) higher education ($p < 0.001$). Limited social support was common — 28 patients (39.4%) reported having 0–3 close relatives and 33 (46.5%) reported 3–5 (p 0.001). The majority did not participate in social activities (n = 53, 74.6%), were alone at the time of self-harm (n = 52, 73.2%), and did not inform anyone about the act (n = 54, 76.1%; all $p < 0.001$). Death was considered a possible outcome by 43 patients (60.6%, $p < 0.001$). The most common self-harm methods were poisoning (n =2 8, 39.4%) and use of a sharp object (n = 28, 39.4%; $p < 0.001$). Median psychological pain score was 4 (IQR 3–7). The most common diagnoses were mood/affective and neurotic disorders (both n = 16, 22.5%), followed by substance use disorders (n = 13, 18.3%) ($p = 0.007$). Higher psychological pain was observed in patients aged 76–95 and was associated with death inevitability. Personality disorders were linked to more hospitalisations and self-harm ($p < 0.05$).

Conclusion. Significant differences were observed across age, marital status, education, social support, social activity, sleep disturbances, circumstances of self-harm, perceived likelihood of death, type of suicide, and primary diagnosis. Psychological pain and sense of death inevitability varied significantly, as did hospitalisations and self-harm episodes among diagnosis groups. Identifying these risk factors is essential for suicide prevention.

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ALCOHOL USE AND DEPRESSION IN LATVIAN PRIMARY CARE PATIENTS: CROSS-SECTIONAL STUDY OF AUDIT-PHQ9 CORRELATION AND SOCIODEMOGRAPHIC CHARACTERISTICS

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Background. In Latvia, alcohol consumption averages 11.7 litres of pure alcohol *per capita* per year, and depression prevalence is 6.7%, highest among those aged 45–54 in the comparison with globally, an estimated 5.7%. Despite a well-known bidirectional relationship between depression and alcohol use, Latvian primary care data are limited.

Aim. The aim of this study was to assess alcohol use patterns and depressive symptoms among Latvian primary care patients, examine their association, evaluate sociodemographic influences, and to test the psychometric performance of an Alcohol Use Disorder (AUD) screening tool.

Methods. This cross-sectional study used convenience sampling (n = 331) in two general practice settings in different Latvian cities. Data were collected using AUDIT, PHQ-9, DSM-5 AUD criteria, and a sociodemographic questionnaire. AUDIT performance was assessed via ROC analysis. Non-parametric methods, including Spearman's rank correlation, were applied due to non-normal data distribution. Data analysis was conducted using a purpose-built analytical pipeline developed in the Python programming language.

Results. DSM-5–defined AUD was identified in 14% of the total sample, with regional prevalence rates of 12% and 15%, respectively. AUDIT scores showed moderate correlations with PHQ-9 scores and DSM-5 criteria count. In the total sample prevalence of the moderate clinical depression symptoms or more was 11.48% (PHQ9 ≥ 10, n = 331). Elevated alcohol use risk was significantly associated with male sex and lower educational attainment. Depressive symptom severity demonstrated a weak but statistically significant association with sex (r = 0.136, p = 0.013, n = 331), and stronger associations with worse self-rated health (r = 0.274, p 0.001, n = 286) and prior isolated mental health treatment (r = 0.206, p = 0.00021, n = 320). PHQ-9 scores were not significantly associated with education, employment status or number of children.

Regional analyses revealed that in Rīga, alcohol use was positively associated with depressive symptom severity, whereas in Rēzekne alcohol consumption reflected more stable habitual patterns without significant association with depression. Across all subgroups, AUDIT demonstrated good discriminative performance.

Conclusion. These findings highlight the need for region-specific screening and tailored primary care interventions. AUDIT reliably identifies DSM-5 AUD risk. In the capital, alcohol risk is associated with depressive symptoms and sociodemographic factors, while patterns vary across regions, indicating the need for larger, regionally nuanced studies.

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BRAIN REGION- AND SEX-SPECIFIC TRANSCRIPTOME OF SIGMA-1 RECEPTOR KNOCK-OUT MICE

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Background. Activation of the stress-regulated chaperone Sigma-1 receptor (Sigmar1) has shown neuroprotective potential, while recessive *Sigmar1* mutations have been linked to several neurodegenerative diseases. However, gene expression changes in *Sigmar1* knockout (*Sigmar1*–/–) animals — particularly across brain regions and between sexes — remain poorly characterised.

Aim. Through comprehensive transcriptomic analyses of specific cerebral regions, our study aimed to reveal how

Sigmar1 deletion influenced gene expression, regulatory pathways, and potential functional outcomes, as well as to characterise its association with pathways implicated in neurodegenerative diseases.

Methods. Wild-type (WT) and *Sigmar1–/–* mice of both sexes were used in this study. Total RNA was extracted from ten distinct brain regions using the Qiagen RNeasy kit. RNA sequencing libraries were prepared with the MGIEasy RNA Library Prep kit and sequenced on the DNBSEQ-G400 platform. The STAR aligner and the DESeq2 package were used for genome mapping and differential gene expression (DEG) analysis, respectively, while Gene Ontology (GO) and pathway enrichment analyses were performed to interpret functional changes.

Results. Principal Component Analysis (PCA) demonstrated that brain region is the primary factor for transcriptomic variation. Significantly altered genes identified across various structures included *Vcp*, *Ccl27a*, *Il11ra1*, *Robo3*, *Nudt2*, *Car8*, *Fancg*, and *Rasgrp1*, while Venn diagram analysis also demonstrated many region and sex-specific DEGs. Furthermore, our results align with previous findings showing significantly reduced GABA-B R2 receptor expression in the hippocampus and habenula of male *Sigmar1–/–* mice, along with decreased GFAP expression in the molecular layer of the cerebellum. Pathways most frequently appearing across *Sigmar1–/–* vs WT comparisons include protein handling, cellular stress responses, DNA repair processes, synaptic and neuronal functions, signalling pathways, immune responses, and opioid/pain-related mechanisms.

Conclusions.This research enhances our understanding of Sigmar1's role in these specific brain regions and highlights its sex-specific effects on brain function. By identifying distinct transcriptomic signatures and altered regulatory pathways, this study contributes to the knowledge of Sigmar1's involvement in neurological and neuropsychiatric disorders. Ultimately, these findings provide a foundation for more targeted research and the development of specialised therapeutic interventions for neurodegenerative diseases.

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PATIENT-REPORTED OUTCOMES AMONG CHRONIC NEUROPATHIC PAIN PATIENTS ACROSS DIFFERENT STAGES OF PAIN MANAGEMENT

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Background. Chronic neuropathic pain patients experience a wide range of clinical and psychosocial symptoms, including pain, altered sleep, anxiety, depression, and reduced quality of life. Botulinum toxin injections have emerged as a therapeutic option, however the data describing pain characteristics and patient reported experiences following this intervention remain limited.

Aim. We present case series evaluating patients with neuropathic pain receiving therapy with botulin toxin. In these case series we evaluated the clinical and psychosocial characteristics including pain intensity, sleep quality, anxiety, depression and quality of life, and satisfaction with botulinum toxin injections among patients with chronic neuropathic pain. The goal is to gain some insight into the variation in patient reported outcomes across this population.

Methods. Data were collected at a single time point using validated questionnaires. Pain intensity measured with the visual analog scale, neuropathic pain features with the S-DN4, functional impairment with the Pain Disability Index. Patient satisfaction with botulinum toxin treatment was assessed using a VAS-based scale.

Results. Neuropathic pain features were assessed using self-administered DN4 (S-DN4). Total scores ranged from 4 to 6, with all participants meeting the cutoff for probable neuropathic pain (3/7). Burning pain, tingling and numbness were the most frequently reported symptoms.

The pain intensity measured by the visual analogue scale ranged from 7 to 9.5 out of 10. Mean VAS score was 8.2, indicating severe pain in all participants.

Total Pain Disability Index (PDI) scores ranged from 43 to 51, with a mean score of 48 indicating moderate to severe pain-related disability. Higher amount of disability was observed across recreational, social and occupational domains, while lower scores were reported in sexual behaviour-related activities.

All patients had received botulinum toxin injections as part of their treatment. Treatment satisfaction was assessed using a VAS ranged from 50% to 80%, indicating moderate to high satisfaction across patients.

Conclusions. Despite severe neuropathic pain and significant pain related disability, patients reported moderate to high satisfaction with botulinum toxin treatment. This treatment could show promising results in patient treatment, increasing their quality of life.

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CLINICAL DECISION-MAKING IN COMPULSORY MEASURES OF A MEDICAL NATURE IN PSYCHIATRY

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Background. Compulsory measures of a medical nature are applied in psychiatric practice to individuals who have committed a criminal offence and pose a significant risk to themselves or others. Clinical decision-making in this context requires careful evaluation of psychiatric diagnosis, symptom severity, treatment response, and long-term prognosis. Despite their clinical and ethical complexity, systematic analyses of real-world psychiatric practice related to compulsory measures of a medical nature remain limited. Improved understanding of decision-making patterns may support more structured psychiatric care.

Aim. The aim of this study was to analyse clinical characteristics, psychiatric diagnoses, treatment courses, and clinical decision-making patterns related to the continuation, modification, or termination of compulsory measures in psychiatric practice.

Methods. A retrospective descriptive analysis was performed using data from 152 psychiatric cases involving patients subject to compulsory measures of a medical nature. Clinical documentation from psychiatric case conferences conducted in 2024 at the National Centre of Mental Health and "Ģintermuiža" Hospital was reviewed. These cases focused on the evaluation of ongoing compulsory measures of a medical nature and clinical decision-making regarding further treatment strategy, including continuation, modification, or proposed termination following court decisions. Analytic categories were developed to extract information on demographic characteristics, psychiatric diagnoses, measure type and duration, clinical dynamics, treatment response, and clinical recommendations.

Results. Among the 152 analysed psychiatric cases, males predominated (n = 125), compared to females (n = 27). Schizophrenia spectrum disorders (ICD-10, F20-F29) were the most prevalent diagnoses, accounting for 84.2% of cases. Medical treatment of a general type in a psychiatric hospital, as defined under Section 68 (1) (2) of the Criminal Law of Latvia and representing an intermediate level of restriction, was the most frequently applied measure (48%). Offences against life and health were the most common reasons for the application of compulsory measures of a medical nature, while a substantial proportion involved property-related offences. Psychotic symptoms were present in more than half of the cases (57.2%). In over half of the cases, continuation of the existing measure was recommended, while in 42.8%, modification or termination was advised based on clinical improvement and treatment response.

Conclusion. Clinical decision-making in compulsory measures of a medical nature is primarily driven by psychiatric diagnosis, symptom dynamics, and treatment response. These findings highlight the importance of structured and individualized psychiatric assessment to support clinically justified decisions regarding further management.

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CLINICAL PRESENTATION AND DIAGNOSTIC VALUATION OF CREUTZFELDT–JAKOB DISEASE: A FIVE-YEAR SINGLE-CENTRE EXPERIENCE

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Background. Creutzfeldt–Jakob disease is a rare, rapidly progressive and fatal prion-related neurodegenerative disorder with low annual incidence and heterogeneous early clinical presentation. Initial symptoms are often non-specific, including cognitive, cerebellar and neuropsychiatric manifestations, which overlap with more common neurological conditions. This clinical variability contributes to delayed diagnosis, making early recognition challenging despite the availability of several diagnostic tools. Analysing clinical data from routine clinical practice remains imperative for improving diagnostic awareness and understanding the practical contributions of available investigations.

Aim. The aim of this study was to analyse a case series of patients with Creutzfeldt-Jakob disease treated at a single tertiary centre over a 5-year period, with a focus on early clinical features, key diagnostic investigations and time from symptom onset to diagnosis.

Methods. A retrospective observational study was conducted of all patients diagnosed with sporadic Creutzfeldt-Jakob disease between 2020 and 2025 at Paula Stradiņš Clinical University Hospital (n=4). Clinical records were reviewed to identify early symptoms, disease progression and time from first symptom to diagnosis, as well as results of diagnostic investigations, with a particular focus on MRI and EEG. Findings were evaluated in relation to the clinical presentation and diagnostic contribution of MRI and EEG.

Results. Four patients with sporadic Creutzfeldt-Jakob disease were included. Rapidly progressive neurological deteri-oration was observed in all patients, with the most common initial clinical manifestations including cognitive decline, gait instability, cerebellar dysfunction, speech impairment and neuropsychiatric features. Diagnosis was delayed in all cases, with a mean time from symptom onset to diagnosis of approximately 6–8 weeks due to the presence of non-specific early symptoms. MRI demonstrated cortical and deep grey matter signal abnormalities compatible with the disease in all four patients (4/4). EEG findings were more variable; diffuse encephalopathic slowing was observed in all four cases, while disease-specific patterns were identified in only one patient (1/4). In several cases, MRI abnormalities preceded definitive EEG changes.

Conclusions. This case series highlights the diagnostic challenges posed by the clinical heterogeneity of early Creutzfeldt-Jakob disease. Our findings underscore the pivotal role of MRI as a reliable diagnostic modality in supporting the diagnosis. EEG provided complementary but less consistent evidence. Increasing clinical vigilance, with early recognition of rapidly progressive neurological symptom clusters and prompt diagnostic investigation, is essential for the timely identification of this rare condition.

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FREQUENCY OF SOMATIC SYMPTOMS IN EPILEPSY PATIENTS DURING THE INTERICTAL AND POSTICTAL PERIOD AND THEIR RELATIONSHIP WITH SEIZURE CONTROL: PRELIMINARY DATA

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Background. Epilepsy is a chronic neurological disease characterised not only by repeated seizures, but also by neurobiological, cognitive, psychological consequences of this disease. In the interictal and postictal periods, patients often experience somatic symptoms such as fatigue, headache, weakness, and other autonomic symptoms. However, data of the frequency of these symptoms and their relationship to the level of seizure control has been limited in the literature. A deeper understanding of these symptoms may contribute to improving patient care and personalising therapy.

Aim. To determine the frequency of somatic symptoms in epileptic patients in the interictal and postictal period and

Methods. Quantitative cross-sectional study was conducted using pseudonymised patient questionnaires on somatic symptoms in interictal and postictal periods, complemented by medical record review to determine seizure frequency, epilepsy characteristics, and anti-epileptic drug (AED) therapy. Participants were classified as having well-controlled epilepsy (≤ 1 seizure/year) or poorly controlled epilepsy (>1 seizure/year). Descriptive statistics were performed. Fisher's exact test was used for categorical comparisons between seizure control groups, and Wilcoxon signed-rank test was used to compare paired symptom counts between interictal and postictal periods within the same participants.

Results. Preliminary data from nine participants (age 22–86) were analysed. In the interictal period, the most frequently observed symptoms were fatigue, weakness and insomnia, each present in 66.7% (6/9) of participants. Postictal symptom burden was higher than interictal burden, with a mean somatic symptom count of 5.13 per patient compared with 4.13 interictally ($p = 0.219$; n = 8 with available postictal-after-last-seizure data). After the last seizure (n = 8), the most common symptoms were fatigue (100%; 8/8) and dizziness (87.5%; 7/8). Weakness and daytime sleepiness were each reported by 75% (6/8). Headache was reported by 50% (4/8), and nausea by 37.5% (3/8) participants. Based on seizure control, 33.3% (n = 3) had well-controlled epilepsy and 66.6% (n = 6) had poorly controlled disease. In the interictal period, fatigue or headache was observed similarly in both groups (2/3 vs. 5/6; $p < 0.999$). Across postictal measures, the poorly controlled group showed numerically higher prevalence and co-occurrence of symptoms in some indicators, but no statistically significant differences were detected ($p > 0.999$). Most participants were taking 1-3 AEDs, and most had no change in therapy in the past year.

Conclusion. Preliminary data from nine epileptic patients show that somatic symptoms were common in both interictal and postictal periods, with a higher postictal symptom burden. Differences by seizure control were not statistically significant, likely due to the small sample size. Further recruitment and analysis in a larger cohort are warranted.

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THE ASSOCIATION BETWEEN SMART DEVICE USE AND SYMPTOMS OF ANXIETY AND DEPRESSION AMONG HIGH SCHOOL STUDENTS IN RĪGA

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Background. Smart device use among high school students has increased substantially in recent years, accompanied by a rise in daily screen time. Excessive screen exposure has been associated with adverse mental health outcomes, particularly anxiety and depression, which may negatively affect adolescents' quality of life, academic performance, and daily functioning. Understanding the association between smart device use and mental health symptoms in high school students is essential for timely prevention and the promotion of healthier usage habits.

Aim. To assess the association between smart device use and symptoms of anxiety and depression among high school students in Rīga.

Methods. A cross-sectional study was conducted among high school students aged ≥ 16 years in Rīga. An anonymous online survey was distributed through school administrations. Anxiety and depressive symptoms were assessed using the Generalized Anxiety Disorder-7 (GAD-7) scale and the Patient Health Questionnaire-9 (PHQ-9). Smart device usage habits were evaluated using a study-specific questionnaire. Data were analysed using IBM SPSS Statistics version 29.0. Associations were assessed using inferential statistical analyses.

Results. A total of 509 students participated (73.5% girls; mean age 17 years). The mean daily screen time was 6.4 hours. Anxiety symptoms were defined as a GAD-7 score ≥ 5, and depressive symptoms as a PHQ-9 score ≥ 5. Anxiety symptoms were identified in 68.0% (n = 434) and depressive symptoms in 75.2% (n = 422) of respondents. Anxiety and depressive symptom scores were strongly and positively correlated (Spearman's $\rho = 0.71$; $p < 0.001$). Girls demonstrated significantly higher levels of anxiety and depressive symptoms compared to boys ($p < 0.001$). Screen time was significantly associated with anxiety ($p = 0.001$) and depressive symptoms ($p = 0.019$); however, the association was non-linear. The highest symptom severity was observed among students reporting 4–6 hours of daily smart device use. Age and primary purpose of device use were not statistically significant factors.

Conclusion. This study demonstrated that smart device use is associated with symptoms of anxiety and depression among high school students, although no linear relationship with symptom severity was observed. These findings underscore the importance of early identification of mental health difficulties, particularly anxiety and depressive symptoms, and the promotion of healthier smart device use among adolescents.

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DESIGNING BIBLIOTHERAPY PROGRAMMES IN SPORT: INSIGHTS FROM LATVIAN COACHES' READING HABITS AND DISCIPLINE-SPECIFIC ENGAGEMENT

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Background. Bibliotherapy is increasingly recognised as a method to strengthen athletes' psychological resilience. There is little information on how bibliotherapy is viewed and used in actual coaching settings, despite its conceptual significance.

Aim. To examine key correlations between bibliotherapy experience, interest, and contextual variables within Latvian sports environments.

Methods. A survey was conducted among 100 sports professionals (58 male, 42 female), covering their experience with bibliotherapy, interest in integration, reading habits, and demographic background. Chi-square test was applied to examine whether categorical variables were statistically associated.

Results. A significant association was found between sport discipline and bibliotherapy use ($p = 0.0032$), with higher engagement in fitness, triathlon, and tennis. The ability to remember and recommend literature was significantly correlated with reading frequency ($p = 0.0032$), indicating that regular readers interact more care-fully with bibliotherapeutic resources. Gender ($p = 0.8394$), age group (p = 1.0), and sport type (individual vs. team; $p = 1.0$) did not significantly correlate with bibliotherapy use, indicating that these variables do not affect engagement.

Conclusion. The results indicate that reading culture and sport-specific environment are important factors that influence bibliotherapy involvement, although demographic characteristics are not very relevant. Programmes in the future ought to emphasise sport-specific curriculum and reflective techniques. These revelations provide a basis for evidence-based, scalable bibliotherapy programmes that empower coaches in a variety of training settings and promote the mental health of athletes.

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ALCOHOL CONSUMPTION SCREENING IN PRIMARY HEALTH CARE

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Background. Alcohol consumption remains a major public health problem in Latvia, particularly in primary health care, where early detection of alcohol use disorders is crucial. Although the Alcohol Use Disorders Identification Test (AUDIT) is widely used internationally, it has not previously been psychometrically tested in Latvian primary care, limiting systematic identification of risky and problematic alcohol use.

Aim. To assess psychometric properties, and diagnostic value of the AUDIT questionnaire in Latvian primary health care settings, and to examine the prevalence of alcohol-related risk and regional variability.

Methods. This cross-sectional study included a convenience sample of 331 patients from two general practitioner practices in different Latvian regions (Rīga and Rēzekne). Data were collected using the AUDIT, DSM-5 criteria for alcohol use disorder, the PHQ-9, and a socio-demographic questionnaire. Psychometric evaluation of AUDIT included internal consistency measures and Receiver Operating Characteristic (ROC) analysis. Associations between AUDIT scores and demographic variables were analysed using non-parametric statistics, including Spearman's rank correlation.

Results. Overall, 83% of participants scored ≥ 8 on the AUDIT, indicating hazardous, harmful, or potentially dependent alcohol use. Hazardous alcohol use (AUDIT 8–15) was identified in 60% of patients, while harmful use (16–19) and possible dependence (≥ 20) together accounted for 14% of cases. ROC analysis demonstrated good diagnostic accuracy of the AUDIT (AUC = 0.79). Moderate positive correlations were observed between total AUDIT scores and the number of DSM-5 criteria for alcohol use disorder (r = 0.38–0.48), indicating that higher AUDIT scores were associated with greater diagnostic severity. The most informative AUDIT items were those assessing drinking frequency and quantity (items 1–2), loss of control (item 4), and negative consequences (item 9/10).

Conclusions. AUDIT has demonstrated reliable psychometric characteristics and sufficient diagnostic value for identifying alcohol risk and alcohol use disorder in primary care in Latvia, confirming its suitability for use in clinical practice.

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PRIMARY EMOTIONAL AFFECTIVE SYSTEMS IN OUT-PATIENT PSYCHOTHERAPY PATIENTS: PERSONALITY ORGANISATION, CLINICAL DIAGNOSES, AND THERAPISTS'PERSPECTIVES

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Background. Research on the relationship between primary emotional affective systems (PEAS) and personality functioning or structure remains limited. According to J. Panksepp's model of affective neuroscience, mammalian behaviour is organised around seven core affective systems (SEEKING, CARE, PLAY, LUST, FEAR, RAGE, PANIC/GRIEF). From a psychoanalytic perspective, O. Kernberg proposes three levels of personality functioning (LPF): neurotic, borderline, and psychotic- reflecting fundamental dimensions of the psyche, including identity integrity, psychic defences and reality testing.

Aim. This experimental pilot study employed quantitative methods, complemented by qualitative analysis to explore differences in PEAS across LPF and psychiatric diagnoses, and to compare treating psychotherapists' assessments with questionnaire-based measures.

Methods. The cross-sectional study examined 31 out-patient patients undergoing psychodynamic psychotherapy (mean age = 31.6, SD 8.3, men = 7 (22.6%)). Data were collected using two self-report questionnaires: IPO-57 (Inventory of Personality Organization) assessing LPF, and the Latvian version of B-ANPS (Brief Affective Neuroscience Personality Scale) which measures six affective systems. Results were calculated with IBM SPSS 26.0 version.

Results. Adequate internal consistency was observed across all scales of IPO-57 and B-ANPS (Cronbach's $\alpha > 0.714$), except SEEKING (Cronbach's ¡ – 0.583). Anxiety and panic disorder were associated with higher scores on FEAR (p = 0,011). Clinical depression (CD) was related to higher scores on both FEAR (p = 0.045) and PANIC/GRIEF (p = 0.013), as well as higher overall IPO-57 score (p = 0.019), particularly in primitive defences (p = 0.004), and identity diffusion (p = 0.042) domains. No statistically significant correlation was identified between IPO-57 scores and treating psychotherapists' assessment of patients' LPF (Spearman's r (rs) = 0.338, p = 0.063).

Conclusions. Higher negative affect score and diagnosis of CD were associated with higher IPO-57 results, potentially indicating persecutory anxiety and separation anxiety consistent with the paranoid-schizoid position and borderline personality organisation level. Higher IPO-57 scores in patients with CD may reflect depressive dynamics characterised by splitting rather than solely personality pathology. Findings suggest absence of concordance between standardised self-report measures and clinical assessments of LPF. Possible explanation: the majority of treating therapists were residents. Mental health professionals in general may have difficulty identifying profound internal dysfunction in externally well adapted patients, highlighting the value of standardised assessment instruments in early assessment. Given the IPO-57's limitations in determining precise LPF, more accurate tools, such as the Structured Interview of Personality Organization (STIPO) require validation and systematic implementation in clinical practice.

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BURNOUT SYNDROME AMONG EMERGENCY DEPARTMENT PHYSICIANS AT PAULS STRADIŅŠ CLINICAL UNIVERSITY HOSPITAL

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Background. A burnout syndrome is a work-related psychological condition and is a global problem among emergency unit doctors with prevalence ranging from 25% to 78% among doctors. There is no data about burnout syndrome among emergency department doctors in Latvia from 2025.

Aim. The aim of the study was to give a chance to emergency doctors to evaluate their mental health state, to understand the prevalence of burnout syndrome among emergency department physicians at Pauls Stradiņš Clinical University Hospital and make conclusions.

Methods. Altogether 37 doctors were enrolled in this study during 2025. An anonymous online survey including questions about gender, age, working experience, lifestyle and 22 questions of Maslach burnout inventory. The Maslach burnout inventory is divided in 3 subscales: emotional exhaustion, depersonalisation, and personal accomplishment. Data was analysed with SPSS Statistics 25.0.

Results. 26 (70.27%) from doctors were women, but 11 (29.73%) were men. Average age in the group was 36.03 ± 9.52 years. 10 (27.03%) doctors work 2–5 years and 10 (27.03%) doctors work more than 10 years, with most working load being 80 working hours (51.35%). 28 doctors (75.68%) have high emotional exhaustion, 26 doctors (70.27%) have high depersonalization and 28 doctors have low personal accomplishment (75.68%). Strong statistically significant correlation was found between emotional exhaustion and depersonalisation scales ($P = 7.70 \times 10^{-6}$), which shows that in 43.56 (r2) % of cases with high emotional exhaustion is high depersonalisation. Statistically significant correlation with men and average level of emotional exhaustion as well as with women and high level of emotional exhaustion ($P = 6.90 \times 10^{-3}$). 15 doctors (40.5%) consider changing job because of working overload and low salary rate. The most common health problems are hypertension and heart rhythm disturbances.

Conclusion. There is a high rate of burnout syndrome among emergency unit doctors of Pauls Stradiņš Clinical University Hospital. Based on results, high emotional burnout is more common in women. Working load decrease by attracting more employees and salary increase are noted as main possible motivators for increasing life quality of doctors. The statistics could be more precise if more doctors enrolled in the research.

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