These findings illustrate the multifactorial origins of health misinformation. The prominence of digital media reflects contemporary information-seeking behaviors, whereas the enduring influence of family lore highlights the continued impact of traditional beliefs on health literacy. Furthermore, the substantial proportion of respondents conflating bone and muscle healing points to fundamental gaps in anatomical knowledge, which may foster unrealistic expectations regarding recovery.

Conclusion

The findings demonstrate a high prevalence of misconceptions regarding fracture healing within this cohort. The most commonly held inaccuracy was the belief that fractures heal "stronger than before" (33.0%), followed by uncertainty regarding healing outcomes (21.8%) and the erroneous notion that bones are "always permanently weaker" post-fracture (16.5%). Only 53.2% of participants correctly understood that fractures heal to their original strength, indicating that inaccurate beliefs about bone healing are widespread and may constitute an underrecognized impediment to optimal recovery.

Regarding sources of misinformation, the internet and social media were most frequently cited (21.28%), followed by intergenerational family lore (19.68%), confusion between bone and muscle healing processes (18.62%) and portrayals in movies and television (18.62%). These results underscore the necessity for targeted educational strategies. Integrating fracture healing education into routine clinical care, leveraging diverse information channels including digital platforms, and directly addressing common misconceptions during patient interactions may enhance health literacy. Proactively identifying patients with inaccurate beliefs and delivering clear, evidence-based information could improve treatment adherence, align recovery expectations with clinical reality, and ultimately optimize functional outcomes following fracture.

LITERATURE

1. Wienhöfer L, Histing T, Herath SC, et al. [Plastering-A technique fallen into obscurity]. Unfallchirurgie (Heidelb). 2024 Mar;127(3):235-245. DOI: 10.1007/s00113-024-01422-4.

2. Sayeed S, Balikudembe E, Kizito E, et al. Demystifying Traditional Bonesetting: Lessons from Mbarara Regional Hospital. J Bone Joint Surg Am. 2025. PMID: 41183157.

3. Diaz-Garcia RJ, Chung KC. Common myths and evidence in the management of distal radius fractures. Hand Clin. 2012 May;28(2):127-33. DOI: 10.1016/j.hcl.2012.02.005. PMID: 22554655; PMCID: PMC3345125.

4. Hossieny P, Kimmel L, Liew SM. Efficacy of patient information concerning casts applied post-fracture. ANZ J Surg. 2012 Mar;82(3):151-5. DOI: 10.1111/j.1445-2197.2011.05965.x. PMID: 22510125.

5. Health literacy in orthopaedic lower limb trauma patients: A cross-sectional survey study. OrthopTraumatolSurg Res. 2024 Feb;110(1):103605. DOI: 10.1016/j.otsr.2023.103605.

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ALCOHOL WITHRAWAL SYNDROME: CURRENT STRATEGIES AND ECONOMIC BURDEN IN INTENSIVE CARE UNITS

Introduction

Alcoholism remains a pressing public health challenge, with alcohol withdrawal syndrome representing a common and serious consequence of chronic abuse. Its most severe manifestation, delirium tremens, constitutes a life-threatening emergency characterized by acute confusion,

profound agitation, and autonomic instability. Patients with this condition experience significantly prolonged intensive care unit stays and face elevated mortality, driven by both the withdrawal process itself and the decompensation of underlying comorbid diseases.

The management of alcoholic delirium in the intensive care setting is inherently complex. Clinicians must balance rapid control of agitation with prevention of complications and vigilant monitoring for iatrogenic effects. Benzodiazepines, particularly diazepam, remain the cornerstone of pharmacologic intervention. However, effective treatment often requires doses exceeding conventional guidelines, demanding a highly individualized approach. This necessity introduces additional risks, including the paradoxical possibility of benzodiazepine-induced delirium, especially in refractory cases.

Beyond these clinical challenges, the economic burden of delirium tremens is substantial. Extended intensive care, high-cost pharmacologic agents, and the management of complications generate significant healthcare expenditures, with costs differing markedly between uncomplicated and complicated clinical courses.

This review synthesizes three critical dimensions of alcoholic delirium. We examine current literature on pathophysiology and treatment, analyze the pharmacoeconomics of care comparing uncomplicated and complicated cases, and present findings from a retrospective analysis of patient outcomes at our institution. By integrating these clinical, economic, and retrospective perspectives, we aim to demonstrate that alcoholic delirium is not only a socially significant and treatable condition, but one whose frequent complications render it a profoundly expensive endeavor, warranting continued efforts toward optimized management strategies.

Goal

1. To analyze current literature on pathogenesis and treatment of alcoholic delirium.
2. To perform pharmacoeconomic evaluation of treatment costs with and without complications.
3. To conduct retrospective analysis of pharmacotherapy in patients with alcohol withdrawal syndrome in ICU.
4. To identify key problematic issues and propose optimization directions.

Material and methods of research

Pharmacoeconomic analysis. Calculation of direct medical costs for patients with uncomplicated alcohol withdrawal syndrome versus patients with nosocomial pneumonia (consultations, CT, microbiological studies).

Retrospective analysis. Analysis of 137 medical records of patients with alcohol withdrawal syndrome hospitalized in the ICUs (the Republic of Belarus) in 2024. After applying inclusion criteria (age 18–75, first-day ICU admission, diagnoses F10.4/F10.41/F10.52, treatment with diazepam+haloperidol), the final sample comprised 118 patients. Data collected: demographics, length of stay, laboratory parameters (ALT, AST, GGT, de Ritis ratio), pharmacotherapy details (doses, routes, frequency). Statistical analysis: Statistica 10.0, Shapiro-Wilk test, Spearman correlation, Mann-Whitney U test, Kruskal-Wallis test.

The results of the research and their discussion

Alcohol withdrawal syndrome develops after cessation of prolonged alcohol use. Pathophysiologically, chronic alcohol consumption enhances GABA-ergic inhibition and inhibits NMDA glutamate receptors. Upon withdrawal, reduced GABAergic tone and increased NMDA activity create hyperexcitability state [1]. Symptoms progress: tremor (6 hours), hallucinations (12–24 hours), seizures (early phase), and delirium (3–4 days to 2 weeks). Two types exist: hyperactive (psychomotor agitation) and hypoactive (reduced activity), the latter presenting diagnostic challenges [2].

Benzodiazepines, particularly diazepam, are first-line therapy. Clinical protocol No. 99 (the Republic of Belarus, 2021) recommends: diazepam 2.5–10 mg IV bolus q5-10min, maintenance

2.5–10 mg hourly or infusion; maximum daily dose without mechanical ventilation 1–1.5 mg/kg, with mechanical ventilation up to 2–3 mg/kg [3]. However, standard drug instructions recommend lower doses (10 mg 3–4 times daily), creating clinical dilemmas [4].

Refractory delirium (requiring >200 mg diazepam in 3 hours or >400 mg in 8 hours) may necessitate phenobarbital, propofol, or dexmedetomidine. Pharmacogenetic factors influence response: CYP2C19 polymorphisms affect diazepam metabolism, with significant differences in efficacy and safety between genotypes.

Direct medical costs for uncomplicated alcohol withdrawal syndrome: ~825 BYN per treatment course (1 day). With nosocomial pneumonia: ~1146 BYN (39% increase, 1 day), excluding antibacterial therapy costs. Complication prevention through optimal sedation and monitoring is therefore economically crucial.

Retrospective analysis results. Of 118 patients, 77.1% male, 22.9% female. Mean age 45.5±11.2 years (men 44.7, women 48.4). Average ICU stay 2.1 days (men 2.17, women 2.0). Diagnoses: F10.52 (psychotic disorder, predominantly hallucinatory) – 53.4%, F10.4 (delirium) – 42.4%, F10.41 (delirium with seizures) – 4.2%.

Common comorbidities: injuries/wounds (17.8%), hypertension (12.7%), alcoholic hepatitis (11.0%), coronary heart disease (8.5%). Laboratory findings indicated liver damage: elevated ALT (men 87.2 U/L, women 88.0 U/L), AST (men 124.1 U/L, women 141.0 U/L), GGT (men 271.8 U/L, women 272.7 U/L); de Ritis ratio 1.67 (men) and 1.62 (women).

All patients received haloperidol. Diazepam administered to 117 patients (99.2%); one case withheld due to desaturation. Mean first-day diazepam dose 73.8 mg (range 10–180 mg). Of 117 patients, 22 (18.8%) received doses exceeding protocol maximum (1–1.5 mg/kg), risking deep sedation. Additional diazepam required in 33 cases (28.2%): 9 women (7.7%), 24 men (20.5%). Mean haloperidol dose 9.4 mg.

DU 90% analysis identified 9 key concomitant drugs: thiamine, pyridoxine, cyanocobalamin, Ringer's solution, potassium chloride, magnesium sulfate, omeprazole, silymarin, metoprolol. Notably, omeprazole, metoprolol, and silymarin inhibit CYP2C19, potentially enhancing diazepam effects – clinically significant interaction requiring dosage consideration.

Sodium thiopental used in 5 cases (4.2%) for refractory delirium (off-label, risk of respiratory depression).

Statistical analysis revealed abnormal distribution of most parameters (Shapiro – Wilk $p<0.05$). Spearman correlations showed strong positive relationships between diazepam and haloperidol doses ($r=0.64$, $p<0.001$), frequency of administration and total doses ($r=0.95$ for diazepam, $r=0.90$ for haloperidol), indicating coordinated combination therapy.

Gender analysis (Mann – Whitney U test) showed significantly lower maximum diazepam doses in women (93.0 mg vs 109.5 mg, moderate effect size), possibly reflecting different pharmacokinetics or prescribing practices. No significant gender differences in total diazepam dose or haloperidol parameters.

Across diagnostic groups (F10.4, F10.41, F10.52), non-normal distributions predominated, emphasizing need for individualized rather than standardized approaches.

Conclusions

Alcoholic delirium is a severe, socially significant condition requiring ICU management. Benzodiazepines remain first-line therapy, but optimal dosing requires individualization exceeding standard recommendations due to tolerance and clinical severity.

Complications, particularly nosocomial pneumonia, increase direct medical costs by approximately 39%, underscoring the economic importance of prevention through optimal sedation and monitoring.

Retrospective analysis of 118 cases showed general compliance with clinical protocols. Mean first-day diazepam dose was 73.8 mg, with 18.8% receiving doses exceeding protocol maximum. Strong correlations between diazepam and haloperidol use confirm combination therapy in practice.

Significant drug interactions exist: omeprazole, metoprolol, and silymarin inhibit CYP2C19, potentially enhancing diazepam effects. These must be considered in dosing calculations.

Women received significantly lower maximum diazepam doses than men, warranting further investigation into gender-based differences in benzodiazepine pharmacokinetics or prescribing patterns.

High patient heterogeneity (non-normal parameter distributions across diagnostic groups) mandates individualized therapeutic approaches based on clinical assessment rather than fixed regimens.

Refractory delirium (4.2% requiring thiopental) and pharmacogenetic factors (CYP2C19 polymorphisms) represent important directions for future research and clinical optimization.

Development of a clinical dosing calculator incorporating patient characteristics, mental status, and concomitant therapy could potentially reduce ICU length of stay and associated costs.

LITERATURE

1. Grover, S. Delirium Tremens: Assessment and Management / S. Grover, A. Ghosh // J. Clin. Exp. Hepatol. – 2018. – № 8(4). – P. 460–470.

2. Muronov, A. Ye. Delirium tremens: early diagnosis and intensive care guidelines / A. Ye. Muronov // Bulletin of Intensive Care. – 2020. – № 1. – P. 53–65.

3. Clinical protocol No. 99. Ministry of Health, Belarus. 2021.

4. Schmidt K.J., Doshi M.R., Holzhausen J.M., et al. Treatment of Severe Alcohol Withdrawal. Ann. Pharmacother. 2016;50(5):389-401.

5. Skrybin V.Yu., Zastrozhin M.S., Grishina E.A., et al. CYP2C19*17 polymorphism and diazepam efficacy/ safety in alcohol withdrawal. Bulletin of Siberian Medicine. 2019;18(4):119-126.

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KNOWLEDGE AND PERCEPTIONS OF ANESTHESIOLOGY AS A CAREER CHOICE AMONG FOREIGN MEDICAL STUDENTS OF GOMEL STATE MEDICAL UNIVERSITY

Introduction

Anesthesiology is a multifaceted specialty encompassing perioperative care, critical care, and pain management, yet it remains underrepresented in medical curricula and often misunderstood by students. This limited early exposure is particularly concerning given the global shortage of anesthesia providers. When students do engage with the field, interest is typically driven by factors such as hands-on procedural work, lifestyle considerations, intellectual challenge, and meaningful mentorship. This study examines these dynamics in 90 medical students, finding that despite minimal prior exposure, interest remained stable or grew for 80% of participants. Understanding these motivators can help educators better support and cultivate the next generation of anesthesiologists.

Goal

Assess medical students' knowledge, perceptions, and the evolution of their interest in anesthesiology as a career throughout their medical education.

Material and methods of research

This cross-sectional study was conducted among 90 medical students to assess their knowledge, perceptions, and interest in anesthesiology.A structured, self-administered questionnaire was used to collect data on demographics, clinical rotation experience, knowledge level, career perceptions,