

Forensic View and Personal Opinions to the Lethal Cases of the Alcohol Dependent

Forenzný pohľad a osobné názory na prípady úmrtí závislých na alkohole

Peter Makovický^{1,2}, Radek Matlach³, Mária Makovická^{1,2}, Kvetoslava Rimárová⁴

¹Department of Histology and Embryology, Faculty of Medicine, University of Ostrava, Czech Republic

²Laboratory of Veterinary Histopathology in Komárno, Slovak Republic

³Forensic expert in healthcare, Liberec, Czech Republic

⁴Department of Public Health and Hygiene, Faculty of Medicine, Pavol Jozef Safarik University in Košice, Slovak Republic

<https://doi.org/10.54937/zs.2025.17.1.41-45>

Summary

Objectives: The objective of this work is to document four lethal alcohol cases and discuss our opinions concerning alcoholism in young, and adult, people.

Material and methods: We will consider archive examples of four lethal cases with a view to considering possibilities for intervention and prevention. The study involves one woman and three men who were dependent on alcohol. It is a brief description of events that led to a tragic outcome without apparent influence of others within the frame of acquired knowledge concerning these cases.

Results: In the first case, the main protagonist is a woman who died lying on the ground in the hallway of her own apartment. The second case describes a man who died after falling or jumping out of the fourth-floor window in an apartment building. The third case is a man who died lying on the floor of an empty apartment. In the fourth and last case, there is a man who died sitting on the couch in his own home.

Conclusion: All the mentioned people started drinking young, never admitting their growing alcohol dependence. They refused treatment and never stopped drinking. Here several factors come into consideration: family influence, nurture, social environment, educational institutions, to say nothing of the influence of support mechanisms concerning the management of the problem by government agencies. There appears to be a consensus among experts that alcohol is a major health risk that needs to be communicated throughout public, institutional, channels, especially to young people in order to address this public health crisis.

Keywords: Alcohol. Sudden deaths. Intoxication. Prevention. Dependence.

Súhrn

Ciele: Tu sa na podklade z nášho archívu vybraných štyroch letálnych prípadov závislých na alkohole zamýšľame nad škálou preventívnych nástrojov, ktoré by sa mohli uplatniť v boji proti alkoholizmu.

Materiál a metodika: Ide o jednu ženu a troch mužov, ktorí prepadli závislosti od alkoholu. V rozsahu dodaných, alebo inak získaných údajov je v stručnosti popísaný priebeh posledných udalostí, ktoré bez jednoznačného dôkazu konania iných osôb končia tragicky.

Výsledky: V prvom prípade je hlavným aktérom žena, ktorá umrela ležiac na dlážke vo vestibule vlastného bytu. Druhý prípad pojednáva o mužovi, ktorý umrel po vypadnutí, alebo vyskočení z okna štvrtého poschodia panelovej bytovky. V treťom prípade ide o muža, ktorý umrel ležiac na podlahe neobývaného bytu. V poslednom štvrtom prípade ide o muža, ktorý umrel doma v sede na pohovke.

Záver: Všetci začali piť v mladosti, pričom v priebehu rozvíjajúcej sa závislosti si nepripustili problém s alkoholom, odmietli alternatívu odborného liečenia a neprestali piť. Ťažiskom práce je prevencia pitia detí a mládeže. Tu sa uplatňuje niekoľko faktorov. Ide o vplyv rodiny, výchova, sociálne prostredie, výchovné inštitúcie, včítane vplyvu podporných mechanizmov riadiacich a štátnych inštitúcií. V probléme prevencie pitia detí a mládeže zohráva významnú úlohu celá spoločnosť. Zvláštny význam má nekompromisný postoj odbornej spoločnosti k pitiu, zahrňujúc dostupnú a zrozumiteľnú informovanosť o vplyve alkoholu na duševné a fyzické zdravie detí i dospelých.

Kľúčové slová: Alkohol. Náhle úmrtia. Opitosť. Prevencia. Závislosť.

Introduction

Alcohol dependence syndrome is defined as a complex of physiological, behavioral and cognitive forms in which an individual prioritizes alcohol consumption denigrating other behavioral routines [1]. It is a severe mental disorder in which alcohol negatively impacts the physical health and social well-being of an individual amidst their family relationships and, potentially, their whole society. Expert studies on alcohol dependence are, of course, important because of the gravity of the matter. An effort prevails to present this problem to physician, and non-physician, expert communities as it is defined by WHO in its broader sense. Most of the studies are dedicated to statistical indicators of drinking and concern dependence-manifestation, therapy and prevention, even mental and somatic disorders caused by alcohol use [2, 3]. Studies discussing the relationship

between social or genetic predispositions and alcohol use seem to be, currently, prevalent [4, 5]. Studies focusing on molecular-biological mechanisms of alcohol adaptation and connected organ, tissue and cell damage appear even more frequently [6]. Causes and reasons for excessive drinking are commonly discussed, which leads to a spectrum of suggestions potentially usable in prevention [7]. There are several cases, however, that have unfavorable prognosis even with intervention and they end in tragedy. Despite this, many alcohols dependent people resist therapy or have no knowledge of modern therapeutic principles, including psychosocial and pharmacological interventions [8]. Alcoholism affects the whole society, so the topic should be taken in broader terms. In this article we would like to point out four select cases from our archives, people who failed to admit

alcohol dependence, refused treatment options, never stopped drinking and finally died tragically without any proven influence of others. Here own opinions on this problem from the forensic medicine point of view are briefly presented. Facts which could contribute to the prevention of alcoholism in young people and adults are here from personal views discussed. Selected case series are useful in generating hypothesis and draw attention to the problem, that persist in our society.

Case reports

Four lethal cases of alcohol dependency from our autopsy practice archives were selected. Part of the autopsies were performed on the premises of the Pathology facility Mimoň (Czech Republic) and part on the Pathology department of Česká Lípa hospital (Czech Republic). The documentations are a part of our forensic practice and are integral components of the investigatory materials used to construct our work. The information's about past life of participants were detected with Police cooperation. Blood and urine samples were taken during the autopsies and analyzed for ethanol presence [9]. In addition, internal organs were screened for the presence of different drugs and medications in a chemical and toxicological analysis [10].

Case 1

A 60-year-old woman on disability pension who regularly drank alcohol in various amounts since her youth. Her affinity for alcoholic beverages was one of the probable causes to enter marriage because her husband is an alcohol consumer as well. They met at a local dance. They were attracted to each other immediately and started to meet more often. When she got pregnant, they naturally got married and continued drinking alcohol together intermittently. After some time, they became estranged and later they started to feel repulsion to each other. They considered divorce, but they did not file for one. They argued on a regular (daily) basis, blamed each other for different things and physically assaulted each other. They lived in a shared apartment, but they chose to ignore each other and lived their own lives. Neither of them stopped drinking alcohol, on the contrary, one of them tended to drink more for periods of time, then they switched roles. There were unbearable times with one or both of them unemployed. They were struggling financially. They found friends to drink with for varying periods of time. This went on for years, decades even. According to the husband's testimony it was around 5 a.m. when he came home. He opened the entrance door of the building and he saw his wife on the floor in front of their apartment. As he remembers very well, she was lying motionless with her head turned towards their apartment door. This was not anything unusual, he had seen her many times before in a similar state. He unlocked the apartment door and pulled her inside the apartment into the hallway. She woke up and told him angrily: "Leave me alone". He then picked up her scattered things from the hallway (dentures, a tissue, keys, cigarettes and a 100 crown banknote) and left her lying on the floor in the hallway of their shared apartment. Then he supposedly went to work. He finished around 4:30 p.m. He went straight to the pub and, if he remembers correctly, he drank seven small 11° beers. At around 8:30 p.m. he left for home. Upon entering the apartment, he found his wife lying on the floor just as he had left her in the morning. She did not react to his words so he decided to wake her up, but, as per his statement, he found out she had probably been dead. He quickly called the Emergency services. The doctor on call who arrived at the site discovered a dead woman lying in the middle of the hallway on her back, partially covered by a white sheet.

The body was centered, head loosely lying on the linoleum, slightly tilted left, legs spread a little and both arms along the torso with hands slightly clenched. The husband claims to have seen his wife the day before around 5 p.m. when he came home from the pub. She was home but they did not speak. He then went back to the pub around 5:10 p.m. and when he came home at around 8 p.m., she was not home. He explained that his wife regularly came home in the early morning, often intoxicated. On pension payday, she would drink for 4-5 days in a row and when she came home, she was very aggressive. Luckily, they both had a separate room. Whenever she came home drunk, they would assault each other. Sometimes he was able to lock her in her room but she banged on the door and screamed until he let her out, in which case he promptly locked himself in his room to get rid of her.

The cause of death was brain swelling (1300 g) during brain compression with epidural hematoma (130 g). The dominant traumatic change is a laceration-contusion wound in the parietal region, frequent hematomas in soft cranial tissues, hematoma in left temporal muscle and the skull base fracture. There was also aspiration of gastric contents in the lungs. Chemical and toxicological screening proved ethyl alcohol presence in blood (0.31 g/kg) and urine (0.74 g/kg). Presence of toxicologically relevant substances from drug groups and medications was not confirmed.

Case 2

A 67-year-old man with a long term alcohol problem. None of his relatives were able to say with certainty when and under what circumstances he succumbed to alcohol, however, everybody agreed that he was addicted to alcohol. According to his daughter's statement, her father was drunk constantly, she fails to remember him being sober. When he was a little tipsy, his mood was buoyant, he wanted to have fun and communicate and would sing and, sometimes, even dance. On the brink of sobriety, he was, on the other hand, nervous and not himself. Those were the times when he did not feel like communicating, he was unpleasant and behaved primitively. He would start discussions over the things he had made up, he constructed artificial arguments and became garrulous, frequently getting into trouble at work. He was perceived as a good person trying to please everybody, but was not able to work without supervision. He constantly changed jobs and was hired mostly for unqualified manual jobs with no future prospects. With the passing of time, he was partly made fun of, but he also annoyed people with his inability to finish tasks and be trusted. However, when he was inebriated, he became talkative and presented ways to solve work problems, algorithms for work procedures adding his own ideas which he believed led to professional contributions. He pointed out the mistakes of others and put his own suggestions before everybody else. He talked about his experience, practice, overcoming problems, accomplishments and the things he could have achieved. He started drinking alcoholic beverages before starting his job, as well as during his working hours. When caught in the act of drinking or suspected of drinking, he would deny it strongly or say that others drink. After work, he went directly to the pub where he drank to the extent that he was not able to articulate coherently or walk. He was seen staggering, sometimes falling, often lying on the pavement, in the park or anywhere outdoors. Various people, including his neighbors helped him get home or his wife had to carry him home. When his daughter came home from school and did not find her father home, she went to look for him, because he was probably lying somewhere

or drinking uncontrollably at the pub. Periods of light drinking alternated with periods of heavy drinking. Due to his drinking, the situation at home was always tense, everyday fighting and financial problems prevailed. The father could not, or would not, understand it and continued to burden the family budget with his drinking. When he did not have any possessions, he begged for money, gave away or sold family property. He failed to take care of himself, was often unkempt and dirty, dressed in old clothes. His reputation suffered. He visited his daughter approximately one year ago asking for money for alcohol, threatening to jump out of the window if she did not comply. He said he did not need any food or anything else. She refused to give him the money and insisted on treatment. He would not consider it, saying he did not need it. His daughter has not heard from him since. At that time, there was a report from the Emergency service on dispatch to a person who fell or jumped out of the fourth floor window of an apartment building. Upon arrival, they failed to restore vital functions despite all efforts, the person died.

The cause of death was a traumatic shock with hemorrhaging in the chest cavity and frequent rib and spine fractures. Toxicological screening proved ethyl alcohol presence in blood (0,26 g/kg), and urine (0,57 g/kg), presence of other toxicologically relevant substances was not confirmed.

Case 3

A 63-year-old man, who succumbed to alcohol during adolescence. It was the primary reason for his poor job performance and problems at work, frequently changing jobs and enduring unemployment. He was able to abstain from alcohol for periods of time, especially upon the insistence of his brother, but would relapse. He was unable to stop drinking and was constantly intoxicated. Gradually, he fell deeper and deeper into alcoholic intoxication, stopped taking care of himself which resulted in poor health. He refused to acknowledge his situation and was not willing to undergo an expert examination or detoxification treatment. As per his brother's statement, in January last year, he succumbed to his addiction and began drinking uncontrollably. "He had no income, yet he decided to leave home all by himself. After that, I heard from him briefly, as he was reportedly sleeping in an abandoned house with other homeless people". Taken from a statement of one of the homeless women, she went to lie down in the house in question between the hours of 15.00 and 16.00, seeing a familiar man lying on the ground in one of the rooms. He was lying on the ground on his side, with his head turned to the ground, presumably sleeping. She then mentioned thinking he was "wasted" and she did not think about it any longer. After a longer period of time, noticing he was not moving, she went to check on him to find out he did not react or breathe. She turned him around and started to revive him. Somebody called the Emergency services. In the report made by the on-call unit, we read that it was a breathless man without a pulse, turned on his back and resuscitated by the founder. His body was rigid, with livor mortis on the whole right side of the body, dried blood around his nose and mouth and on his right arm. It is not possible to exclude a hematoma under his cheek bone in the torch light, but his chest, abdomen and back appear uninjured.

The cause of death was brain swelling (1570 g) during brain compression with epidural hematoma. The dominant traumatic change is soft cranial tissue hematoma in the forehead area and on the border of occipital and temporal area. A hematoma in the right side of the cerebellum and a compression of the base of the left frontal lobe. Skull base fracture. Toxicological screening proved ethyl alcohol presence in blood (0.44 g/kg). Presence

of toxicologically relevant substances from drug groups and medications was not confirmed in the organ samples.

Case 4

A 50-year-old man on a disability pension, who had problems with alcohol from a young age and gradually developed alcohol dependence. He lived alone in his parents' house after divorcing his wife. According to his neighbors, he was not aggressive, but he was frequently intoxicated, lacking in personal care, he was unkempt, dirty, unshaved and uncombed. Every time he acquired some money, he was seen in the local pub where he drank with his friends. When the money was low, he was fine with cheap boxed wine, which he bought in the local shop. He would often stand in front of the local shop with others drinking one or two boxes of wine. As is apparent from his medical documentation, his disability was caused by alcoholic liver damage and hemorrhagic liver conditions. Moreover, he was regularly hospitalized for short periods of time and recommended liver support treatment, as well as circulatory system support, diuretics and vitamins and strict abstinence, laboratory screenings and regular checkups with a hematologist were strongly advised in the doctors' reports. When he was not seen in the local pub for some time, his friends decided to visit him, only to find him lifelessly sitting on the sofa. They called the Emergency service. Upon their arrival, the door was open, the lock and insert undamaged, keys inside the lock from the inside. A man's body in a passive position was sitting with his head slightly tilted back.

It was not possible to determine the immediate cause of death due to the postmortem decomposition of the body and internal organs. It was, most probably, the frailty of the circulatory system caused by the liver damage. Based on the autopsy findings we list a right wrist hematoma, free fluid in the chest cavity (250 ml on the right, 300 ml on the left), 11 liters of free yellowish fluid in the abdominal cavity, cirrhosis of the liver, enlarged spleen and atherosclerotic arteries. Toxicological screening proved ethyl alcohol presence in blood (0.27 g/kg). Presence of toxicologically relevant substances from drug groups and medications was not confirmed in the organ samples.

Discussion

All four participants died at a higher age, despite long term drinking. The deaths occurred without any proven influence of other people and autopsy findings can be explained by alcohol toxicity amidst long term alcohol abuse and injuries caused by uncontrolled falls. In one study which analyzed deaths caused by severe intoxication, such forms of death are in the third place (because of cardiovascular failure induced by liver failure) and then in the seventh place (because of injuries, most frequently, falls from erect positions onto hard surfaces) out of ten forms of death caused by intoxication [11]. Taking into consideration the frequent drinking of all participants and their severe intoxication, it was a matter of time before such tragedy would occur. In case number two, as stated in the report, the person was often heavily inebriated, thus falling regularly, sustaining some traumatic injuries. The woman in case number one was often inebriated as well. The danger of a serious injury was imminent for some time. As illustrated above, we can see evidence of such danger in two, additional, cases. It corresponds with the literature, when intoxicated people are often treated for light or severe injuries [12]. When discussed in a community, those stories seem to be a source of joviality, not a potential danger. Adolescents, especially, recall jovially not remembering anything after drinking, and

stories of people falling, damaging something or drinking and driving are sources of sociality. It seems like that young people and adults do not have sufficient information about the harmfulness of alcohol or are not fully aware of the dangers of alcohol consumption. An attentive reader might have noticed the lower concentration of blood ethyl alcohol or the concentration in urine, depending on sample availability in all four cases. Nevertheless, the woman from case number one was identified as heavily inebriated by the reporting person. Credibility of the report aside, it is a document concerning an alcohol dependent person. Dependence development affects all neurotransmitter systems with changes in neuroadaptation in the brain [13]. It is well known that young brain of children and adolescents only adapts and develops, it is obvious, that even small amounts of alcohol are rightly considered to be potentially dangerous [14]. At least three out of the four cases document experience with alcohol at a young age. It is highly probable that they were not able to understand the severity of their situation at a higher age. Attempts at conscious abstinence in cases like these are much more difficult, because of impaired motivational mechanisms. Such people reduce the intake of alcohol over time, but it is often too late for a fundamental lifestyle change [15]. In our opinion, early prevention is one of the best and most effective ways to counter dependence. This fact has been known for a long time. WHO has been raising awareness about the health risks of drinking alcohol in any amount in expert and lay communities. Statistics on consumption of various kinds of alcohol, crime, accident rate and other factors are available [16, 17]. They are published on relevant internet sites, including comparisons with previous years or situation in neighboring states. The health and economic damage caused by direct, or indirect, influence of alcohol are well understood. WHO developed strategic measures to reduce harmful alcohol intake. They consist of three well known pillars. The first is alcohol marketing restriction, the second is excise duty increase with set lowest unit price and the last one is limiting the time and venues where alcohol is sold. Special attention is given to children and young people. It is the reason why professional education concerned with addiction should begin in elementary schools and include the active participation of young people. Schools should adopt practical training led by experts, not teachers, who are frequently not respected by the students [18]. Additionally, active support of children spending their time in a meaningful and practical way with the prospect of future careers including sport activities should be the focus of educational institutions or even managing and governmental authorities [19]. Young people tend to get bored, they lack opportunities for cultural or other meaningful activities. They gather in small groups which look for something to do in their neighborhood. Parents and other adults often do not have enough time to spend with their children. It is vital to invest in such urban infrastructure that will create facilities for the young to spend their time in a meaningful way. These activities should be varied and supervised by trained adults. One of the most critical factors is family environment and nurture. In some families, with no history of alcohol consumption, children develop a positive attitude toward drinking, in others, on the contrary, especially if one of the parents is addicted to alcohol, children develop a strong resistance towards alcohol. As referenced in our second case, the daughter does not have an apparent alcohol problem. In case number one, a pregnancy is mentioned, but relevant details could not be obtained from the reports. In the remaining two cases, relevant information was not available either. There is a possibility that in families without

alcohol addiction, the children are not made aware of the problem, and they later copy the social norm of their peers [20]. On the other hand, parents are not able to significantly influence their children's behavior. This can be seen in the case, where a mother was trying to motivate her daughter to stop smoking to no effect [21]. A local physician once gave a lecture on the risks of smoking. The mother was able to convince her daughter to attend. When she found out about the health damages, beauty loss and pregnancy risks, she stopped smoking that evening. However, one week later, she resumed smoking as before. This can be interpreted in multiple ways. For example, if children see that their peers, parents, teachers, pastors, doctors and actors drink, they will probably drink as well. Contrarily, it does not automatically mean they will become addicted. Furthermore, young people should have access to information about the risks of addictions in an understandable compact form more frequently than once a year. The impact of well-intentioned, motivational, inspiring, words tend to fade with time. Besides, parents who drink themselves are not qualified to talk about the dangers of alcohol with any authority. This is described in another case study, an adult party with children present consuming alcohol [22]. A guest at the party was offered a drink repeatedly. After refusing to drink, he was confronted by other guests to explain why he would not drink. He politely answered that if he drank, his son, who was sitting there, would drink. It is a very simple, yet not sufficient example of prevention, which shows the importance of nurture. It would not be right to simplify things. Many children from families with no alcohol problems similarly have no problems with alcohol as well. The problem is much broader and complemented by additional facts. Young people often do not have suitable role models and moral guides. For instance, in the same monograph is written, that notorious drinkers are often admired by children. If someone drank several liters of water at a time, he might be considered crazy, but if a man drinks several liters of beer, he looks heroic often. Aside from educational and informational aspects, a certain role could be played by restrictions. The alternative to selling alcohol in specialized stores is, in our opinion, less effective. The supply of alcohol could be eliminated from diners, local grocery stores, supermarkets and hypermarkets, but this alternative is borderline, in some cases it could be provocative, leading to the urge to acquire alcohol at any cost. When we consider countries with limited availability of alcohol, this is not a future solution. To conclude, it is a society-wide problem, which requires the support of interlocking agencies, particularly in education and the wider labour market to evoke an investment in cultural, spiritual and social life, inspiring the development of mutual respect among people. It makes clear that the prevention of future alcohol addiction will need a broader perspective and make intelligible the risks to children and young people.

Conclusion

In this article some personal opinions based on four tragic cases of alcohol dependent are discussed. Four representative cases were selected from our archive for this reason. Even case series are useful in generating hypotheses, not establishing causal interference and is not possible to clearly conclude preventive aspects, it is possible to compare these cases with others similar. Study probably can be usable with another in definition of prevention of overdosing and harm reduction strategies and trainings how to reduce risks and use protection strategies. Here it is apparent that crucial factors include family relationships and nurture, social environment and finally, the influence of

educational institutions, including wider government agencies. The whole society plays a vital role in this phenomenon, confronting us with a need to establish an expert forum capable of publicizing the negative influence of alcohol on physical and mental health. As long as people downplay the influence alcohol has on their health and do not sufficiently consider their well-being, threats resulting from alcohol abuse will be ignored and we will keep witnessing deaths caused by alcohol dependence.

Acknowledgements

Thanks to Simone Charlesworth for proof-reading and corrections.

This paper was supported by grants KEGA 008UPJŠ-4/2020; KEGA 001UPJŠ-4/2024 and KEGA 003UPJŠ-4/2024 of the Ministry of Education, Science, Research and Sport of the Slovak Republic.

Conflict of Interests

None declared.

References

- [1] Rimárová K, Kaňuková L, Makovický P. Intervenčné postupy v prevencii a liečbe neinfekčných ochorení a návykov. GAIA, grafické štúdio: Univerzita Pavla Jozefa Šafárika v Košiciach. 2022, 170 s.
- [2] Cífková R, Krajčoviechová A. Alcohol and cardiovascular disease: Position paper of the Czech society of cardiology. Cent Eur J Public Health. 2022, 27, S1, S6–S9. <https://doi.org/10.21101/cejph.a5998>
- [3] Makovický P, Matlach R, Makovický P. Letálne prípady intoxikácie etylalkoholom: zamyslenie sa nad príčinami. Vnitr Lek. 2021, 67, 8, E29–E35. <https://doi.org/10.36290/vnl.2021.132>
- [4] Dreisig M, Barteček R, Kašpárek T. Cíle molekulárně genetické analýzy závislosti na alkoholu. Čes a slov Psychiat. 2013, 109, 6, 289–297.
- [5] Makovický P, Švecová I. Veterinary pathology: the past, present and the future. Phenogenomic Newsletter. 2016, 2, 2, 22–23.
- [6] Salvatore J.E, Cho S.B, Dick D.M. Genes, environments, and sex differences in alcohol research. J Stud Alcohol Drugs. 2017, 78, 4, 494–501. <https://doi.org/10.15288/jsad.2017.78.494>
- [7] Tiemensa M, Byard R.W. A 20-year review of recumbent pedestrian fatalities (2001–2020). Am J Forensic Med Pathol. 2023, 44, 2, 100–102. <https://doi.org/10.1097/PAF.0000000000000807>
- [8] Stoklosa I, Wieckiewicz G, Stoklosa M, Piegza M, Pudlo R, Gorczyca P. Medications for the treatment of alcohol dependence-current state of knowledge and future perspectives from a public health perspective. Int J Environ Res Public Health. 2023, 20, 3, 1870. <https://doi.org/10.3390/ijerph20031870>
- [9] Metodický pokyn pro postup při laboratorním stanovení alkoholu (etylalkoholu) v krvi, Věstník Ministerstva zdravotnictví, 2006, částka 7.
- [10] Balíková M. Současné toxikologické možnosti testování abúzu drog. Kriminalistika. 1995, 28, 2, 97–109.
- [11] Straka Ľ, Štuller F, Novomeský F, Novotný V. Otravy alkoholom a úmrtia v ťažkom stupni opitosti v regióne severného Slovenska. Psychiatr prax. 2008, 9, 2, 80–84.
- [12] Korcha R.A, Cherpitel J.C, Bond J, Monteiro

M, Chou P, Borges G, Cook W.K, Bassier-Paltoo M, Hao W. Drinking context and cause of injury: Emergency department studies from 22 countries. J Subst Use. 2018, 23, 3, 240–246. <https://doi.org/10.1080/14659891.2017.1378747>

- [13] Hoffman P.L, Tabakoff B. Alcohol dependence: a commentary on mechanism. Alcohol Alcohol. 1996, 31, 4, 333–340. <https://doi.org/10.1093/oxfordjournals.alcalc.a008159>
- [14] Devine E.K, Teesson M, Debenham J, Guckel T, Stapinski L.A, Barrett E, Champion K.E, Chapman C, Newton N.C. Updated systematic review of Australian school-based prevention programmes for alcohol and other drugs: a review protocol. BMJ Open. 2022, 12, 11, e059795. <https://doi.org/10.1136/bmjopen-2021-059795>
- [15] Vágnerová M, Marek J, Csémy L. Narativní analýzy role alkoholu v životních příbězích mužů-bezdomovců. Čes a slov Psychiat. 2018, 114, 2, 53–59.
- [16] Newbury-Birch D, Ferguson J, Connor N, Divers A, Waller G.A. Rapid systematic review of worldwide alcohol use disorders and brief alcohol interventions in the criminal justice system. Front Psychiatry. 2022, 13, 900186. <https://doi.org/10.3389/fpsyt.2022.900186>
- [17] Makovický P, Matlach R, Makovický P. Fatálne sa končiace úniky motorizovaných osôb pred policajnými hliadkami. Kriminalistika. 2021, 54, 3, 231–239.
- [18] Makovický P, Makovický P. Eliminácia kriminality v nočných vlakoch. Security magazín. 2018, 24, 5, 16–23.
- [19] Sebold M, Kiebel S.J, Smolka M.N, Heinz A, Deserno L. Computational theories of alcohol use disorder: Mapping learning and choice mechanisms on symptoms. Neuropsychobiology. 2022, 81, 5, 339–356. <https://doi.org/10.1159/000527146>
- [20] Skylstad V, Babirye J.N, Kiguli J, Solheim-Skar, A.M, Kuhl M.J, Nalugya J.S, Stadskleiv-Engelbreten I.M. Are we overlooking alcohol use by younger children? BMJ Paediatr Open. 2022, 6, 1, e001242. <https://doi.org/10.1136/bmjpo-2021-001242>
- [21] Ďurič L, Grác J, Štefanovič J. Pedagogická psychológia. JASPIS Bratislava. 1991, 336 s.
- [22] Grác J. Educational Psychology. International postgraduate training courses for teacher. UNESCO. 1976, 120 s.

Contact:

Ing. Peter MAKOVICKÝ, PhD.
Department of Histology and Embryology
Faculty of Medicine, University of Ostrava
Syllabova 19
700 03 Ostrava-Vítkovice
Czech Republic
E-mail: pmakovicky@email.cz