

Letter to Editor

Some Aspects of Tobacco Smoking in the Context of Alcohol Consumption and Hangover

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Abstract The hangover is a multifactorial phenomenon involving neurochemical and psychosocial mechanisms. The severity of hangover depends not only on the quantity but also on the quality of consumed alcohol: congeners may have a significant impact. The differential diagnosis between hangover and alcohol withdrawal syndrome is of particular importance for Russia, where both conditions have not been clearly distinguished in some textbooks. Accordingly, detoxification by intravenous infusions has been recommended for alcohol withdrawal syndrome also of moderate severity. This is generally not in agreement with the international practice. In conditions of suboptimal procedural quality assurance, repeated intravenous infusions may lead to viral hepatitis. During a drinking binge, many people would smoke more than usual; some intermittent smokers or those who had given up would restart. Tobacco smoking can exacerbate hangover symptoms through pharmacological and psychosocial mechanisms. The next morning curing with beer or vodka (hair of the dog) may enhance toxicity from the preceding binge and predispose to a continued drinking. In certain cultures, the curing drink is a tradition. According to observations, if the “curing drink” is accompanied by smoking, elevated mood in some people may be more easily converted to irritation or dysphoria.

Keywords: hangover, alcohol drinking, cigarette smoking, surveys

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Introduction

The signs and symptoms of the alcohol intoxication and hangover are generally known. The hangover is a multifactorial phenomenon involving a variety of bio- and neurochemical mechanisms (1). The topic is significant because of potential effects on the occupational safety and performance (2). Typical hangover symptoms include fatigue, anxiety, physical discomfort, dysphoria, cognitive derangements, impairments of psychomotor speed and sustained attention. Individual variations are considerable

(1-5). However, this is only one side of the problem. Psychological and social factors may contribute to morning-after feelings, neuroticism, emotions of shame and guilt (6, 7). It can be argued that these emotions are reactions to the societal norms about drinking rather than hangover itself; but the causative factors, epiphenomena and symptoms are difficult to disentangle.

The severity of hangover depends not only on the quantity but also on the quality of consumed alcohol: congeners may have a significant impact (1). During the anti-alcohol campaign (1985-1988) in the former Soviet Union (fSU),

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the consumption of technical liquids and lotions increased considerably. Many distilleries producing vodka from grain and potatoes were dismantled. After the campaign, industrial ethanol met no demand from the industry stagnating at that time. Following the abolition of the state alcohol monopoly in 1992, the country was inundated by low-quality alcoholic beverages. It was known and smelled by the drinking public that alcohol from non-edible raw materials (synthetic and cellulosic) was used for the production of legally sold vodka, added to beer, wine and other beverages. The astringent taste of industrial ethanol is broadly known as it was purloined from some factories and scientific institutions. Reportedly, around a half of lethal alcohol-related poisonings in the 1990s was caused in some areas by legally sold alcohol (8). Since then, the quality of beverages has improved; but falsified products can be encountered in shops and eateries now as before, more details and references are in (9, 10).

Although combinations are possible, the hangover is different from the alcohol withdrawal syndrome, the latter being largely a result of neuroadaptation after a long-term consumption (11). The differential diagnosis between hangover and alcohol withdrawal syndrome is of particular importance for fSU, where both conditions have not been clearly distinguished in some textbooks and instructions. The detoxification by intravenous infusions of sodium chloride, dextran, magnesium (Mg) sulphate, glucose solutions etc. have been recommended and applied in various forms of alcohol dependence and alcoholism including the “moderately severe withdrawal syndrome” (12-15). This is generally not in agreement with the international literature (16, 17). Alcohol and its derivatives are eliminated spontaneously while rehydration can be usually achieved *per os*. Intravenous glucose and Mg are

generally not recommended in the settings of alcohol withdrawal syndrome (16, 17). Excessive infusions of Mg-containing solutions are associated with adverse effects (18). Moreover, plasmapheresis, sorbent hemoperfusion, endolymphatic and endobronchial drug delivery, pyrotherapy with sulfozine (oil solution of sulphur for intramuscular injections) and pyrogenal, endoscopic cholangiopancreatography and angiography, endoscopic and surgical biopsies of internal organs have been applied to alcoholics sometimes without clear indications; more details and references are in (19-22). Note that especially in conditions of suboptimal procedural quality assurance, endovascular and endoscopic manipulations can lead to the transmission of viral hepatitis and other infections, which was known to occur to treated alcoholic patients. The combination of alcoholic and viral liver injury is unfavorable.

The tobacco smoking is associated with stigma, emotions of shame and guilt in some people (23). These emotions may be enforced both by the society’s sanctions against smoking and realization of one’s own inability to abstain from the harmful habit despite decisions and promises. Light smokers tend to smoke more on social occasions (2). During a heavy binge, many people would smoke more than usual; some intermittent smokers or those who had given up would restart during a binge. Some people regret what they have said and done, which may give rise to the feelings of guilt. The emotions of shame and guilt may contribute to addictive behaviors (7). The “next day shame from previous night’s drinking” can be a consequence of problematic drinking patterns (24). All that, along with the coughing and unpleasant sensations in the oral cavity, would reinforce subjective hangover symptoms.

The smoking was reported to enhance the hangover incidence and severity, being explained mainly by pharmacological or toxicological effects of nicotine and other smoke constituents (2). However, survey data can reflect not only pharmacologically caused symptoms but also those related to psychosocial factors e.g. feeling of misery, depressive and angry moods, anxiety and shame (25-28). Of note, survey data from FSU are of limited value in this debate as surveys and opinion polls have been partly discredited by obtrusive solicitations to answer various questionnaires, often asking for private information – in the streets, by telephone and previously also by agents coming to private homes (29). Accordingly, many people are “sick and tired” of questionnaires and tend to conceal true facts and opinions. The tendency to discredit surveys can be seen as a continuation of the Soviet-time policy, when the “frame of mind of the working people” was monitored but the data were kept secret or published in a biased manner in accordance with the official ideology (30).

The next morning “therapy” with beer or vodka (hair of the dog) may contribute to the negative affectivity in the long run, as it perpetuates the cycle of alcohol consumption and shame. However, alcohol provides a temporary relief from shame, which then comes back with the same or higher intensity (7). According to the author’s hypothesis, the emotion of shame, often connected to particular events in the past, can be one of manifestations of the alcohol withdrawal syndrome. Some individuals experience a transient relief after a hair of the dog drink (31); but the additional dose of alcohol would enhance toxicity from the preceding binge and predispose to a continued drinking (6). The quality of alcohol i.e. congeners and admixtures are of importance also for the “curing drink” next morning. In certain cultures, the “curing drink” is a tradition associated

with a temporary mood elevation especially if it occurs in a pleasant ambiance. Furthermore it is widely believed that sauna and Russian steam bath (banya) contribute to the detoxification during hangover. Of note, some small rural banyas are dangerous for inebriated people who can slip on the wet floor, fall upon the stove and suffer burns (32). According to our observations, if the “curing” is accompanied by smoking, an elevated mood in some people can more easily convert to dysphoria, irritation or depression. The psychological mechanism is understandable: a next-morning beer or vodka with a cigarette would mean for some non-habitual smokers a personal failure complicated by cough.

In conclusion, the hangover is a complex phenomenon caused both by toxicological and psychosocial factors. The smoking can exacerbate hangover symptoms through both pharmacological and psychosocial mechanisms, in particular, emotions of shame and guilt. The topic of smoking in the settings of alcohol consumption and alcoholism should be further studied by toxicological methods and surveys using adequately formulated questionnaires. As mentioned above, results of surveys concerning such delicate topics as the alcohol consumption may be unreliable in some parts of the world (29).

Conflicts Of Interest

None

Acknowledgments

None

References

1. Palmer E, Tyacke R, Sastre M, Lingford-Hughes A, Nutt D, Ward J. Alcohol hangover: underlying biochemical, inflammatory and neurochemical mechanisms. *Alcohol Alcohol*. 2019;54(3):196-203.
2. Jackson KM, Rohsenow DJ, Piasecki TM, Howland J, Richardson AE. Role of tobacco smoking in hangover symptoms among university students. *J Stud Alcohol Drugs*. 2013;74:41-49.
3. Gunn C, Mackus M, Griffin C, Munafò MR, Adams S. A systematic review of the next-day effects of heavy alcohol consumption on cognitive performance. *Addiction*. 2018;113:2182-93.
4. Stephens R, Ling J, Heffernan TM, Heather N, Jones K. A review of the literature on the cognitive effects of alcohol hangover. *Alcohol Alcohol*. 2008;43:163-70.
5. van Schroyen Lantman M, Mackus M, van de Loo AJAE, Verster JC. The impact of alcohol hangover symptoms on cognitive and physical functioning, and mood. *Hum Psycho Pharmacol*. 2017;32(5):e2623.
6. Swift R, Davidson D. Alcohol hangover: mechanisms and mediators. *Alcohol Health Res World*. 1998;22:54-60.
7. Potter-Efron R, Carruth B. Shame, Guilt, and Alcoholism. *Treatment Issues in Clinical Practice*. 2nd edition. New York: Routledge, 2013.
8. Nuzhnyi VP, Kharchenko VI, Akopian AS. Alcohol abuse in Russia is an essential risk factor of cardiovascular diseases development and high population (mortality review). *Ter Arkh*. 1998;70(10):57-64.
9. Jargin SV. Alcohol-related poisonings in Russia: Obfuscated facts. *J Addict Ther Res*. 2018;2:001-005.
10. Jargin SV. Alcohol abuse and toxicity of alcoholic beverages in Russia: Recent history. *ARC Journal of Addiction*. 2016;1:21-29.
11. Boness CL, Lane SP, Sher KJ. Assessment of withdrawal and hangover is confounded in the Alcohol Use Disorder and Associated Disabilities Interview Schedule: Withdrawal prevalence is likely inflated. *Alcohol Clin Exp Res*. 2016;40:1691-9.
12. Ivanets NN, Vinnikova MA. Alcoholism. Moscow: MIA, 2011. (in Russian)
13. Shabanov PD. Narcology. 2nd edition. Moscow: Geotar-Media, 2015. (in Russian)
14. Diagnostics and treatment standards (protocol models) of narcological patients. Annex to the Order of the Health Ministry of Russian Federation No. 140 of 28 April 1998. (in Russian) [Cited August 2020]. Available from: <http://docs.cntd.ru/document/1200119087>
15. Galankin LN, Livanov GA, Guzikov BM, Volkov NIu. The method of the tactics determination in alcohol withdrawal syndrome. Patent RU2202946C2 (2003).
16. Jesse S, Bråthen G, Ferrara M, Keindl M, Ben-Menachem E, Tanasescu R et al. Alcohol withdrawal syndrome: mechanisms, manifestations, and management. *Acta Neurol Scand*. 2017;135(1):4-16.
17. Schuckit MA. Recognition and management of withdrawal delirium (delirium tremens). *N Engl J Med*. 2014;371(22):2109-13.
18. Swaminathan R. Magnesium metabolism and its disorders. *Clin Biochem Rev*. 2003;24:47-66.
19. Jargin SV. Invasive procedures with questionable indications: Prevention of a negligent custom. *J Surg Open Access*. 2017;3(5).
20. Jargin SV. Some aspects of renal biopsy for research. *Int J Nephrol Kidney Failure*. 2015;1(2): <http://dx.doi.org/10.16966/2380-5498.108>.
21. Makhov VM, Abdullin RG, Gitel' EL, Zavodnov VIa, Podzolkov VI, Sozinova TIu et al. Visceral lesions in alcoholism. *Ter Arkh*. 1996;68(8):53-56.
22. Krut'ko VS. Pneumonia in patients with pulmonary tuberculosis and alcoholism. *Probl Tuberk*. 1990;(1):64-66.
23. Brown-Johnson CG, Popova L. Exploring smoking stigma, alternative tobacco product use, & quit attempts. *Health Behav Policy Rev*. 2016;3:13-20.
24. Luoma JB, Guinther PM, Lawless DesJardins NM, Vilardaga R. Is shame a proximal trigger for drinking? A daily process study with a community sample. *Exp Clin Psychopharmacol*. 2018;26:290-301.
25. Harburg E, Gunn R, Gleiberman L, DiFranceisco W, Schork A. Psychosocial factors, alcohol use, and hangover signs among social drinkers: a reappraisal. *J Clin Epidemiol*. 1993;46:413-22.
26. Mackus M, Adams S, Barzilay A, Benson S, Blau L, Iversen J, et al. Proceeding of the 8th Alcohol Hangover Research Group Meeting. *Curr Drug Abuse Rev*. 2016;9:106-12.
27. Piasecki TM, Trela CJ, Mermelstein RJ. Hangover symptoms, heavy episodic drinking, and depression in young adults: a cross-lagged analysis. *J Stud Alcohol Drugs*. 2017;78:580-7.
28. Scherer M, Worthington EL, Hook JN, Campana KL. Forgiveness and the bottle: promoting self forgiveness in individuals who abuse alcohol. *J Addict Dis*. 2011;30:382395.

29. Jargin SV. Reliability of surveys on alcohol consumption, sexual coercion and contraception. *Journal of Addiction Prevention*. 2016;4:5. doi: 10.13188/2330-2178.1000030.
30. Bondarenko AG. *Sociological research: survey methods*. Volgograd, Russia: Polytechnic, 2006. (in Russian)
31. Piasecki TM, Robertson BM, Epler AJ. Hangover and risk for alcohol use disorders: existing evidence and potential mechanisms. *Curr Drug Abuse Rev*. 2010;3:92-102.
32. Jargin SV. Pine tree tapping in Siberia with special reference to alcohol consumption. *J Addiction Prevention*. 2017;5(1):3.



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