



## Some aspects of tobacco smoking in the context of alcohol drinking, hangover and mental health problems

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### Abstract

The public health relevance of hangover is in its potential effects on occupational safety and performance. Apart from pharmacological effects of ethanol and congeners, psychosocial factors also contribute to morning-after feelings, particularly the emotions of shame and guilt. Tobacco smoking increases the hangover's incidence and severity, explained by pharmacological effects of nicotine and other smoke constituents. During a drinking binge, many people would smoke more than usual; some intermittent smokers or those who gave up would restart. The hangover "curing" with beer or vodka the next morning (hair of the dog) may contribute to negative affectivity in the long run, as it implies a cycle of alcohol consumption and shame. Some individuals experience a temporary symptomatic relief after a hair of the dog drink. According to our observations, if the "curing" is accompanied by smoking, the elevated mood in some people would more easily shift to dysphoria, irritation or depression. Psychological mechanisms thereof are discussed here. Besides, the problem of smoking in psychiatric hospitals is briefly discussed. In conclusion, smoking can exacerbate hangover symptoms through both toxicological and psychosocial mechanisms. The problem of smoking in the settings of alcoholism and mental health problems should be further investigated.

**Keywords:** hangover; alcohol drinking; cigarette smoking; surveys

### 1. Introduction

This report is focused on the important but understudied association between alcohol drinking, tobacco smoking, and hangover. The public health relevance of hangover is in its potential effects on occupational safety and performance <sup>[1]</sup>. Among the symptoms are fatigue, physical discomfort, anxiety, emotional disturbances, impairments of cognitive functions, psychomotor speed and sustained attention <sup>[2-4]</sup>. The severity of hangover depends not only on the quantity but also on the quality of consumed alcohol: congeners or admixtures may have a significant impact <sup>[3,5]</sup>. During the anti-alcohol campaign (1995-1989) in the former Soviet Union (SU), the consumption of technical liquids and lotions increased considerably. Many distilleries producing vodka from grain and potatoes were closed and dismantled. After the campaign, technical alcohol met no demand from the stagnating industry. It was generally known and smelled by the drinking public that technical liquids, synthetic and cellulosic alcohol were used for production of beverages legally sold in bottles with vodka and other labels. Reportedly, around a half of lethal poisonings by alcohol-containing liquids in the 1990s was caused in some areas by legally sold beverages <sup>[6]</sup>. Since then, the quality of alcoholic beverages has improved but falsified products can be met in shops now as before; further details and references are in <sup>[7,8]</sup>. The hangover symptoms after the consumption of such beverages seem to be pronounced more than usual.

### 2. Focused review

Pharmacological effects are just one side of the problem. Psychosocial factors participate not only in the pathogenesis of alcoholism but may also contribute to morning-after feelings, particularly neuroticism, emotions of shame and guilt <sup>[5,9]</sup>. It can

be argued that these emotions are reactions to the societal norms about drinking rather than hangover itself. However, the epiphenomena are hardly separable from the clinical picture. The emotion of shame may be a predominant one over the period of hangover and alcohol withdrawal. The differential diagnosis of hangover and alcohol withdrawal syndrome is a known problem <sup>[10]</sup>. This is of importance for Russia, where both conditions are not clearly distinguished in some handbooks and other literature recommending for the latter a detoxification e.g. prolonged intravenous infusions of sodium chloride, magnesium sulphate, glucose solutions, dextran etc. <sup>[11,12]</sup>. Indications for the infusions appear questionable in some cases: alcohol and its derivatives are discharged spontaneously while rehydration can be achieved by an oral intake of liquids. In conditions of suboptimal procedural quality assurance, repeated prolonged infusions resulted in thrombosis and transmission of viral hepatitis <sup>[8,13]</sup>. Although combinations are possible, the hangover is distinct from the alcohol withdrawal syndrome, the latter being a result of neuroadaptation after a long-term consumption <sup>[10]</sup>. However, several lines of evidence suggest that hangover may be a mild manifestation of the alcohol withdrawal in non-alcohol-dependent drinkers whereas symptoms may overlap <sup>[5]</sup>. With regard to the smoking, it alone can provoke shame and guilt <sup>[14]</sup>. These emotions may be enforced both by the society's sanctions against smoking and realization of one's own inability to abstain from this habit, known to be harmful, despite decisions and promises. Moreover, alcohol consumption patterns including chronic heavy drinking reflect cultural norms <sup>[15]</sup>. The excessive consumption has been a tradition in some countries of the former SU. Fortunately, the attitude to heavy binge drinking is currently changing and approaching international conventions.

The tobacco smoking was reported to enhance the odds of hangover incidence and severity, being explained mainly by acute pharmacological or toxicological effects of nicotine and other smoke constituents<sup>[1]</sup>. However, surveys can detect not only pharmacologically caused symptoms but also those related to psychosocial factors e.g. feeling of misery, depressive or angry moods, anxiety and shame<sup>[16-19]</sup>. Some people regret what they have said and done, which may give rise to the feelings of guilt. Excessive shame and guilt are known to potentially contribute to addictive tendencies<sup>[9]</sup>. The “next day shame from previous night’s drinking” can be a consequence of problematic drinking patterns<sup>[20]</sup>. Light smokers tend to smoke more on social occasions<sup>[1]</sup>. During a heavy binge, many people would smoke more than usual; some intermittent smokers or those who gave up would restart during a binge. All that, along with unpleasant sensations in the oral cavity, can reinforce subjective symptoms of hangover.

The hangover “curing” with beer or vodka the next morning (hair of the dog) may contribute to negative affectivity in the long run, as it implies a cycle of alcohol consumption and shame. Alcohol is used for a temporary alleviation of shame, which comes back afterwards with the same or higher intensity<sup>[9]</sup>. Of note, additional drinking would enhance the toxicity from the preceding bout and may increase the probability of further drinking<sup>[5]</sup>. In one study, neither usual nor caffeinated alcoholic beverages had an effect upon the incidence and severity of hangover<sup>[21]</sup>. However, some individuals experience a transient symptomatic relief after a hair of the dog drink<sup>[22]</sup>. In certain cultures, the “curing drink” is a tradition associated with a temporary mood elevation especially if it occurs in a pleasant ambiance with like-minded people. If the “curing” is accompanied by smoking, the elevated mood in some people might more easily shift to dysphoria, irritation or depression. The psychological mechanism is comprehensible: a next-morning beer or vodka with a cigarette would signify for some non-habitual smokers a personal failure complicated by cough.

Last but not the least; we would like also to tackle the problem of smoking in psychiatric hospitals. People with mental health problems account for a disproportionately large amount of smokers, particularly, in the inpatient settings<sup>[23]</sup>. In the past, the over-institutionalization of patients with mental disorders has been usual in the former SU. The emphasis has remained on the medical aspects of treatment, without sufficient consideration of social and occupational rehabilitation<sup>[24,25]</sup>. After the reforms of the 1990s, the number of general psychiatric hospital beds has been reduced and that of forensic psychiatric beds increased<sup>[26]</sup>. Even though hygiene and other conditions have recently improved, conditions in some psychiatric hospitals remain rather primitive being not in conformity with the recommendations of the Council of Europe<sup>[27]</sup>. The overcrowding, lack of privacy, insufficiently clean toilets in the corridors etc. can be observed now as before. Male nurses tend to be bossy; some of them would beat patients. The wards, corridors and lavatories remain crowded in spite of major repairs performed in some hospitals. Overcrowding of the toilets is increased because patients use them for smoking. Usually there are no cubicles: lavatory pans and urinals are in the same room; an image can be viewed in the article<sup>[28]</sup>. Patients are sitting on the pans and on the floor and smoking; others come to use the toilet etc. Objections against

smoking rooms are, however, justified: not to create pleasant associations with smoking, give the patients an opportunity to discontinue the habit during the hospital stay. For inveterate smokers remains only smoking in the toilet. The author agrees with those experts, who stress the benefit from the smoking rooms in psychiatric inpatient settings for preservation of the patients’ civil status and dignity<sup>[29]</sup>.

### 3. Conclusions

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 alcoholism and mental health problems should be further studied by surveys using correspondingly formulated questionnaires.

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