

Alcohol, Condom Use and Sexually Transmitted Infections: A Letter from Russia

Keywords: Alcohol abuse; Health care; Contraception; Sexually transmitted infections

Abstract

The abortion rate in the former Soviet Union was reported to be the world highest, being caused not only by the insufficient availability of modern contraception but also by irresponsible behavior. The alcohol overconsumption has been perceived as a contributing factor. The social background and cause-effect relationships between the alcohol abuse, heavy binge drinking and certain behavioral stereotypes are discussed here based on the literature and our observations since the 1970s. The conclusion is that the use of condoms is dependent on individual traits and a level of social development; however, alcohol consumption at sexual encounters and heavy binge drinking are risk factors for the non-use of condoms and other irresponsible behaviors potentially contributing to the spread of sexually transmitted infections.

Case 1

A son of a higher officer awarded himself a next "military rank" every time he was infected with Gonorrhoea (Gn). In this way he became a generalissimo, which illustrates irresponsibility - the patient was in fact proud of his "career". The patient was one of the leaders of a drinking company that involved adolescents into alcohol consumption, teenage girls into sexual contacts, etc. The patient and his companions treated themselves with intramuscular injections of Bicillin (Benzathin-Benzylpenicillin). Retrospectively it is unclear when it was a fresh infection or exacerbation: the case was reported to the authorities after years of the patient's activities. This case demonstrates that the society and authorities factually permitted the spread of Sexually Transmitted Infections (STI), in particular, by people from higher social classes. The same company applied for induction of abortions intramuscular injections of oil solution of Hexestrol (named Synoestrol in Russia), which was broadly used for that purpose [1].

Case 2

A female student residing in a students' dormitory was infected with Gn. It should be commented that female students were sometimes manipulated towards sexual contacts by certain administrators and professors whereas alcohol consumption played its role [2,3]. First time she had not noticed any symptoms. Shortly thereafter she was admitted to a gynecology department with the diagnosis of adnexitis. In the meantime, her partner developed acute urethritis with an abundant purulent discharge. An acquainted physician prescribed them an antibiotic of foreign production that was not available at the hospital. The patient took it in addition to the hospital medication. The recovery was complete. Gn was not diagnosed at the hospital, which permitted the couple to avoid some of the procedures described



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in [4,5]. The methods of topical treatment and provocation, inherited from the pre-antibiotic era, not mentioned by internationally used textbooks, reviews and recommendations by the World Health Organization (WHO), have been used until recently in the former Soviet Union (SU) [4,5]. High-risk groups knew about lengthy and unpleasant treatments applied at the governmental prevention and treatment centers (so-called dermatovenereological dispensaries) and avoided them. Responsible individuals administered themselves regular courses of antibiotics, but others treated themselves inadequately and continued spreading STI.

Background

The abortion rate in the former SU has been the highest in the world caused not only by the insufficient availability of modern contraception and poor quality of condoms but also by certain behavioral stereotypes [6]. An unofficial directive aimed at the birth rate enhancement has apparently played a role [7]. Besides, the alcohol overconsumption was perceived as a factor contributing to the non-use of condoms. Fortunately, the abortion rate has been decreasing in the former SU since the 1980s [6,8], the alcohol consumption and heavy binge drinking tending to decrease as well [9,10].

Focused Review

The alcohol intake was reported to be associated with a disinhibitory behavioral impact and diminished perception of risk, increasing the likelihood that individuals put themselves at risk of STI by engaging in unsafe sexual practices e.g. unprotected intercourse, multiple and concurrent sexual partners [11,12]. In younger and less experienced people e.g. students, problematic use of alcohol is associated with novelty, sensation and popularity seeking and hence with risky behaviors [13]. According to a meta-analysis, the hazardous alcohol use has been associated with risky sexual behaviors: multiple partners, inconsistent condom use etc. [12]. In particular, the alcohol misuse has been associated with behaviors that place women at a greater risk for STI/HIV [14]. Among HIV-infected people, an association between the alcohol abuse or dependence with sex-risk behaviors, including the inconsistent condom use, was found [15]. It

is not surprising that links between alcohol involvement (frequency of alcohol intake, symptoms of alcohol disorder) and STI risk have been demonstrated [16].

The association between alcohol and high-risk behaviors is explainable within the scope of the alcohol myopia theory, according to which, alcohol reduces the cognitive capacity and causes people to focus on the cues that are most salient in the environment. Less salient cues (e.g. possibility that the partner may be infected with STI) require additional cognitive resources to process being less likely to be acted upon by an inebriated individual [17]. According to a survey performed in adolescents, “ever used alcohol before sex” was associated with “ever been pregnant” [18]. Moreover, some studies indicate that sexually aggressive acts often do not involve condom use, while rapist alcohol consumption and condom non-use correlated [19]. Conversely, the sex without coercion was associated with a more frequent condom use [20]. The correlation between victimization and sexual risk-related behaviors is well established, the supposed mechanism being weakened assertiveness [21].

Several experimental studies have demonstrated that alcohol intoxication interferes with the ability to evaluate consequences of high-risk situations [22-25]. In accordance with the myopia theory, alcohol was shown to interfere with the recognition of ambiguous risk cues, whereas clear cues continued to be recognized. For example, a moderate dose of alcohol impaired the intoxicated women’s perception of ambiguous sexual assault risk cues but did not diminish perception of clear sexual assault risks [25-27]. It should be commented that in the experimental studies [22-25], alcohol doses designated as “high” (4-5 drinks) were moderate according to ex-Soviet standards. At the doses e.g. 0.75-1.5l of fortified wine or ≥ 250 ml of vodka accompanied by beer the perception of risks may decrease considerably [28].

There is an opinion that people who use condoms being sober would use them also when they are drinking, while those who fail to use condoms when drinking would fail to use them also when sober [29]. However, empirical exceptions from this rule are recognized [17]. Undoubtedly, sexual behaviors largely depend on individual traits; but heavy binge drinking and alcohol consumption at sexual encounters are largely considered to be risk factors for the non-use of condoms [30-35], which agrees with our observations in the former SU since the 1970.

Another issue is the dependence of sexual behaviors on the past experience of alcohol overconsumption. We have found in the literature no data on correlations between the duration of alcohol abuse, age, use of condoms and the incidence of STI; therefore the following considerations are partly theoretic, based on circumstantial evidence and observations. Multivariate analyses indicated that a higher weekly alcohol use increased women’s perceived risk of an intercourse as a result of a man’s authority or coercion; i.e. women who were heavy drinkers perceived themselves at a higher risk for sexual victimization. However, even when women recognize that alcohol use increases the risk for assault, they may not take steps to reduce the risk or to reduce their alcohol consumption [36]. For binge drinkers in general, stronger appraisals of the positive consequences for having an intercourse while intoxicated predicted lower STI-protective self-efficacy [37]. According to the author’s observations,

some individuals having alcohol dependence and increased alcohol tolerance preserved a high level of risk perception and behavioral skills in conditions of alcohol intoxication. However, personality changes as a result of a prolonged alcohol abuse and heavy binge drinking would sooner or later interfere with the risk perception and behavioral skills. The non-use of condoms is apparently favored by the personality changes developing after a prolonged alcohol abuse, such as cognitive impairment, deficits in the frontal inhibitory control and working memory [38,39] i.e. symptoms more or less compatible with the beginning alcohol-related dementia, overlapping with such entities as the frontal lobe syndrome and organic personality disorder. Among manifestations of these conditions are a poorly planned irresponsible behavior and impulsivity i.e. inability to forego small, immediate rewards for larger, delayed rewards [40]. The damage of neural structures can be caused not only by the prolonged alcohol overconsumption per se but also by poor quality of alcoholic beverages i.e. other substances than ethanol [28,41].

Finally, the use of condoms depends on the level of social development. All studies, known to us, not unequivocally confirming the association between alcohol drinking and non-use of condoms, were performed in more developed countries including Russia [17,42-50]; while those from less developed and newly industrialized countries do generally confirm such association [51-59]. In the U.S. indicators of the alcohol consumption were stronger predictors of an inconsistent condom use in African Americans than in Whites [60]. Low education levels were associated with risky sexual behaviors (not using condoms, drunk at last sexual act, ≥ 3 sexual partners in the past year) in young indigenous Australians [61]. It can be reasonably assumed that, along with the social and cultural development, the attitude towards contraception tends to become more responsible, distracting factors such as alcohol gradually losing power. Accordingly, less acculturated men have been found to drink more heavily, being more likely to engage in risky sexual behavior than more acculturated ones [62]. The literature cited in the systematic review and meta-analysis is compatible with this concept [12]. However, international migrations may confound this scheme. In parallel with the cultural development and education, the promiscuity among adolescents tends to decrease e.g. in Southern Africa [18], although such data are difficult to generalize on a global scale.

Conclusion

According to the literature and our observations, the heavy binge drinking and alcohol consumption at sexual encounters are risk factors for the non-use of condoms and hence of the STI/HIV. Moreover, the chronic alcohol abuse and heavy binge drinking are associated with personality changes potentially conducive to the irresponsible behavior including the non-use of condoms. The role of the quality of alcoholic beverages i.e. chemical substances other than ethanol should be investigated [28,41]. The mechanisms discussed above probably contributed to the growing HIV prevalence in the former SU [63]. Among predisposing social factors, currently becoming more conspicuous in Russia and some other countries, are militarist and machismo ideology [64], whereas promiscuity is sometimes seen as an attribute of “manliness”. Within the context of sexual and reproductive coercion, contraception sabotage etc. [2], the following citation seems to be suitable as a concluding note: “It

is not these men who are monstrous; rather, it is the society that has defined them and taught them to define themselves as a consequence of their gender” [65]. In other words, the wrongly understood idea of manliness may directly or indirectly justify the irresponsible sexual behavior [66].

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