

Alcohol and Alcoholism in Russia since 1985 with Special Reference to the Suicide Rate

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The purpose of this report was to draw attention to certain aspects of alcohol consumption in Russia: consequences of the anti-alcohol campaign (AAC) (1985-1988), use of the alcohol-related topics to distract public attention from shortages of public health and assistance, toxicity of some legally sold alcoholic beverages, offences against alcoholics and people with alcohol-related dementia aimed among others at appropriation of their immobile property.

The fact that the state at various times stimulated alcohol sales is known to the scientific community [1]. During the Soviet period, drunkenness at workplaces was tolerated at many factories and institutions. Ringleaders could be observed in students', workers' and intelligentsia groups, who manipulated others towards consumption of large amounts of alcohol. Non-drinkers were sometimes stigmatized [2]. The proclaimed goals of anti-alcohol measures and their consequences have sometimes been quite different.

Aversive therapy using emetics and disulfiram preparations was applied for the treatment of alcoholism together with persuasion referred to as rational psychotherapy [3-5]. Labor-and-treatment preventorium (LTP) were in fact a form of detainment for chronic alcoholics violating public order and labor discipline. However, the patients in LTP were not deprived of the access to alcohol: expeditions to the retail outlets (bottle stores) through loopholes "unnoticed" by the management could be observed. Implantation of disulfiram preparations, being in fact placebos has been performed for money [6,7]. After the implantations, disulfiram-alcohol reactions reportedly sometimes occurred, but were usually absent [5]. Many patients started drinking alcohol shortly after the implantation. During the 1990s, the business with the treatment of alcoholism has become widespread, whereas many charlatans participated [8]. The so-called ultra-rapid (one sitting) psychotherapy of alcohol dependence, known in the former Soviet Union as "coding" should be mentioned [9,10]. The method was started during the AAC; it has been criticized because of the use of verbal intimidation, painful manipulations such as the "forceful thumb pressure" on the trigeminal nerve branches, spraying of the throat by chloroethane, forced backwards movements of the patient's head, etc. [11] The latter technique may be dangerous for patients with vertebral abnormalities. One of the motives behind

the widespread use of the ultra-rapid psychotherapy has been minimum expenditure and maximum profit [12]. Other treatment modalities disagreeing with the international practice have been applied, e.g. antipsychotic drugs (phenothiazines, haloperidol) for alcohol dependence [4,13]. Among contraindications, synergism between certain antipsychotic drugs and alcohol potentially aggravating liver injury, should have been considered [14]. Intravenous infusion therapy (solutions of NaCl, glucose, dextran etc.) has been broadly used and recommended for detoxication and rehydration e.g. for the moderately severe alcohol withdrawal syndrome [5]. Prolonged infusions were unfounded in many cases: alcohol and its metabolites are discharged spontaneously, while rehydration can be achieved per os. In conditions of insufficient procedural quality assurance, overuse of intravenous infusions might have contributed to the spread of viral hepatitis and other infections. It is known that the combined alcoholic and viral hepatic injury is unfavorable. Apparently, ideation of punishment coupled with irresponsibility has played a role in some personnel [15,16]. The principle of informed consent has not been sufficiently known and observed; paternalistic or authoritative attitude to patients often prevailed [17].

The AAC and predictable increase in the alcohol consumption after its failure destabilized the society thus facilitating the economical reforms. Workers did not protest against privatizations of factories and other state property during the early 1990s because of the widespread drunkenness and involvement into illegal activities such as the workplace theft, use of equipment for private purposes etc., which was tolerated by the management at that and earlier time [18]. Alcoholics are prone to the emotions of guilt and shame, tend to have low self-esteem thus being easier to manipulate and to command [19].

The alcohol-related mortality temporarily decreased during the AAC; but the frequency of poisonings by surrogates was increasing. Manufacturing of home-made alcohol (samogon) was growing. Inexpensive perfumery, window cleaner etc. were massively sold and caused poisonings, which was knowingly tolerated by the authorities. The quality of legally sold alcoholic beverages deteriorated. After the failure of the AAC, legally sold beverages have become easily available and relatively cheap;

and the consumption of technical liquids decreased abruptly. The state alcohol monopoly was abolished in 1992. Thereafter, technical alcohol (synthetic and cellulosic), finding no demand from the partly disorganized industry, was extensively used for the production of beverages [8,20-22]. Poor quality alcohol was imported from other countries, especially, from the former Soviet republics. The author observed a long line of gasoline tankers with ethanol at a border crossing. It is unknown, what kind of liquids those tankers had transported before, and how they were cleaned. The Caucasus has been known as a nationwide source of cheap alcoholic beverages [8]. Alcohol was diluted and poured out in variably clean vodka bottles: especially small manufacturers would not spend much money on bottle washing and necessary equipment, while the disdainful attitude of some Russian business to the mass consumer is known. Note that unwashed bottles may contain remnants of toxic substances. Cases e.g. of organochloride poisoning from the contents of vodka bottles are known. Technical alcohol was added to beer, wine and other beverages, which could be smelled and tasted. Its astringent taste is known as technical alcohol has been purloined from some factories and scientific institutions.

The incidence of lethal poisonings by legally sold alcoholic beverages increased considerably in the early 1990s [20]. Sales of falsified beverages through legally operating shops and kiosks occurred generally with the knowledge of authorities. Exaggeration by some authors of the consumption of non-beverage alcohol shifts responsibility for poisonings on the consumers, who supposedly prefer to drink surrogates [23]. According to our observations and generally known facts, drinking of alcohol-containing technical liquids and perfumery decreased abruptly after the failure of the AAC in 1989, when vodka, beer and other beverages have become easily available and relatively cheap.

After the AAC, the average life expectancy in Russia decreased especially in men. For the period 1993-2001, this figure was estimated to be around 58-59 years [8,24,25]. The causes of the enhanced mortality have been analyzed before: limited availability of modern health care, chronic diseases often left untreated, late detection of malignant tumors, offences and crime against alcohol-dependent people resulting in homelessness and premature death [26,27]. As discussed above, some anti-alcohol measures resulted in heavier intoxications and surplus mortality due to the consumption of surrogates. Moreover, limited availability of alcohol during the AAC contributed to the intravenous drug use and hence to the dissemination of HIV and hepatitis virus [28,29].

As discussed above, one of the causes of the enhanced mortality after the AAC was abundance of falsified alcoholic beverages, produced from technical alcohol and other surrogates, sold through legally operating shops and kiosks. Numerous lethal intoxications after a consumption of moderate amounts of the beverages were reported also with the relatively low alcohol concentration in blood [8,20,22,24]. After 1991, the increase in mortality considerably outstripped the alcohol consumption, the latter having increased from 1987 to 1992 by 25-27 %, while mortality from alcohol-

related causes increased during the same period 2.5 times [21]. In the years 1998-2004, the mortality rate from alcohol poisonings increased by 58 % and continued growing [24]. The unrecorded alcohol-related mortality was probably higher due to the habitual post mortem overdiagnosis of cardiovascular diseases in unclear cases [24,26].

The low quality of alcoholic beverages must have contributed to the enhanced incidence of acute pancreatitis [30]. In Russia, the rate of pancreatitis mortality has been among the highest in the world. The rate increased during the period 1992-1994 by 72.3% and 29.6% for men and women, respectively. After a slight decrease during 1995-1998, the pancreatitis mortality increased again between 1998 and 2005 (by 84.3% and 46.4% in men and women) outstripping the increase in alcohol consumption for the corresponding periods [30,31]. Epidemiologic data indicated a higher frequency of alcohol-induced acute pancreatitis in the areas where surrogates or homemade alcohol are consumed [32]. In particular, methanol poisoning is known to produce pancreatic injury [33]. Non-purified synthetic alcohol and self-made beverages can have a relatively high methanol concentration [21].

Poisonings by legally sold alcoholic beverages were reported repeatedly for example, in 2006, an outbreak of toxic liver injury was reportedly caused by disinfectant Extrasept-1 sold in vodka bottles in different regions of Russia [21]. Apart from ethanol, this liquid contained 0.08-0.15% of diethyl phthalate and 0.1-0.14% of polyhexamethylene guanidine hydrochloride (PHMG). The registered number of poisonings with marked jaundice during the period August-November 2006 was 12,611 cases, among them - 1189 lethal cases [34,35]. Unrecorded figures were probably higher. Histologically, "cholestatic hepatitis with a severe inflammatory component" was reported [35]. However, the toxicological assessments of PHMG and a related compound - polyhexamethylene biguanide (PHMB) have not shown any strong hepatotoxicity, whereas PHMG had broader margins of safety than PHMB. Both substances are used worldwide as antimicrobial agents also for treating pool water and for cleaning of swimming pools [36,37]. As for diethyl phthalate, its acute toxicity is low [38,39]. Some phthalates can produce liver injury but this effect has not been demonstrated when tested in primates and humans [40].

Considering the above, there is a suspicion that many intoxications including the mass poisoning in 2006 were caused by toxic admixtures, e.g. of organochlorides. In particular, carbon tetrachloride, used in the dry cleaning, could have caused liver injury [41]. The sources of the surrogate should have been clarified, e.g. whether it was dry cleaning; there were rumors about it. Importantly, the toxic liquid was purchased in shops and kiosks in vodka bottles [34], which has been veiled by some writers creating an impression that consumers deliberately bought disinfectant for drinking: "According to the media and personal communications by narcology experts, this outbreak was caused by the consumption of antiseptics with chloride compounds due to the deficit of other non-beverage alcohol. The victims had yellow

eyes...” [42].

Presumably, organochlorides were meant under the “chloride compounds”. Note that there was not the “deficit of other non-beverage alcohol” [42] but a temporary deficit of vodka caused by the elevation of excise duties in 2006 [5]. The gap was filled by surrogates sold in vodka bottles through legally operating shops and kiosks [34]. There is no illegal alcohol retail market in Russia apart from limited sales of homemade alcohol mainly in rural areas or reselling at night of beverages bought during the day.

In this connection, statistics presented in diagrams in should be commented [43]. Around 2006, the curves both of male mortality and of lethal alcohol poisonings go downwards, which is compatible with some reports [5,44], although according to [22], the all-cause mortality in 2006 was slightly higher than in preceding and subsequent years. As discussed above, in 2006 there was an outbreak of poisonings [34,35]. This outbreak, caused by the use of technical liquids by vodka manufacturers, resulted from an elevation of excise duties and limited availability of standard vodka [5,43,44]. The “outbreak of toxic hepatitis” in 2006 was discussed in the Russian-language article but not in a review by the same authors in an international journal [43,45]. Previously, the same researchers wrote that alcohol policy should include measures against manufacturing and sales of surrogates [46]. Note that the industry will always produce alcohol-containing liquids for technical purposes. What is important is prevention of sales of such liquids in vodka bottles and addition of technical alcohol to beer and wine.

The effects of recent “specific alcohol control policy measures on alcohol-related mortality” have been discussed in some Russian publications as if alcohol had been a single factor determining mortality changes [43]. Other factors are not mentioned: availability of modern health care toxicity of some legally sold alcoholic beverages, decline of heavy binge drinking reliability of statistics etc [26,47,48]. In the author’s opinion, efficiency of alcohol policies has been exaggerated in [43,49]. The following citations are illustrative: “The effect of alcohol taxation measures is likely to be significant and moderately positive. However, its significance was outperformed with much stronger effects of the measures to reduce availability of ethyl alcohol and non-beverage alcohol with very high alcohol content” and “All these measures greatly reduced the amount of ethyl alcohol available...” [43]. In fact, after the AAC, vodka and strong beer have become easily available (no queues as during the Soviet time, more retail outlets), while the average salary / minimal vodka price ratio has remained several times higher than it had been prior to the AAC [50,51]. Khaltourina and Korotayev discussed the role of the “crisis of medicine” in their Russian-language book arguing against a significant role of this factor in the mortality increase [46]. Validity of their arguments is questionable; for example, the unchanged since the Soviet time mortality rate among stroke patients while the stroke incidence has increased. Post mortem overdiagnosis of stroke and cardiovascular diseases in unclear cases i.e. unreliability of cause of death statistics has been discussed previously [26].

Decreasing since 1999 infant and maternal mortality, presented as evidence of health care improvement may reflect priorities in the public health policies but is unrelated to the increased mortality predominantly in middle-aged men [46,52].

As discussed above, consumption of technical liquids and perfumery decreased abruptly after the AAC, so that the “non-beverage alcohol with very high alcohol content” allegedly bought by consumers from “illegal market” has hardly played any significant role after the AAC, aside from medicinal and technical ethanol stolen at some workplaces [43,49]. As mentioned above, apart from limited sales of homemade alcohol (samogon) and reselling at night of beverages legally bought during the daytime, there is no illegal alcohol retail market in Russia. All vodka and wine, including counterfeit and toxic varieties, imitations of foreign products etc. have been sold through legally operating shops, supermarkets, eateries, and previously also kiosks (the latter prohibited in 2006), generally with the knowledge of authorities (Figure 1-3) [53]. Admittedly, a tendency of quality improvement of alcoholic beverages has been noticed since approximately the last decade, although beer does sometimes smell technical alcohol. Recent international sanctions against Russia seem to have had a negative impact on the quality of sold foodstuff and some alcoholic beverages.



Figure 1: This Crimean Madera resembles its prototypes but tastes as if somewhat diluted.



Figure 2: This beer tasted differently from the product of the same name bought in Western Europe.



Figure 3: Cognac sold in the famous department store GUM near the Red Square in Moscow.

The “specific alcohol control policy measures” introduced since 2006 resulted in moderate oscillations of the real vodka price considering inflation and no significant decrease in physical availability [43]. For example, the following prices for 0.5 vodka bottle were reported: 2005 – 74.5 rubles; 2007 – 91 rubles. Some measures, such as disappearance of small (0.33l) beer cans, may have contributed to consumption in higher doses. Another recent measure – the prohibition from 1 January 2013 of beer sales between 23 p.m. and 8 a.m. (in places the restrictions are stricter) – seems to have resulted in buying by some people of larger amounts in advance with subsequent consumption. Admittedly, this measure contributes to the public order. Physical restrictions of alcohol availability may cause a decrease in the total amount of consumed alcohol being at the same time conducive to deeper occasional intoxications i.e. heavy binge drinking [54]. In this way acted queues during the Soviet period: after queuing, larger amounts of alcohol were usually purchased and consumed. Analogously, having waited in a queue at the entrance to a beerhouse, visitors usually stayed there for hours. It was a predictable consequence of the anti-alcohol measures of 1972, restricting vodka sales and maintaining queues at retail outlets.

The well-known association between alcoholism and the suicide was confirmed on the basis of correlations between the rates of suicides with a measurable blood alcohol concentration (BAC) and alcohol psychoses in Belarus. These two trends dropped sharply during the AAC, began to increase in 1988, and “dramatically jumped” from 1991 to 1998 [55]. In 1999 there was a slight decrease in the rates, and from 2000 they started to rise again until 2004, having decreased thereafter [55]. Both curves (alcohol psychosis and BAC-positive suicide rates) closely follow each other as curves usually do in reports by Razvodovsky [30,55-57]. However, psychosis-like conditions may be caused not only by ethanol but also by admixtures in poor-quality alcoholic beverages and surrogates. Misdiagnosis of neurological symptoms after the ingestion of toxic alcohol-containing fluids as psychosis cannot be excluded; drinking of denatured alcohol is associated with high incidence of toxicity to the central nervous system [59]. Overdiagnosis of psychosis was generally known to occur [58]. It was reported that e.g. methanol and carbon tetrachloride produced hallucinations or other symptoms of psychosis [60-62]. We observed marked disorientation, unusual for ethanol intoxication, after the consumption of poor quality fortified wine during the AAC. The alcohol psychosis rate might be “a proxy for alcohol consumption” as per Razvodovsky [55] in countries with a stable quality of consumed alcohol but not for Russia, where the quality fluctuated considerably. This latter argument was published [63,64] but left by Razvodovsky [65] without comment. Further studies with toxicological assessment of beverages sold in shops are necessary. Other potentially confounding variables changing with time such as malnutrition of marginalized people should be taken into account.

Remarkably, the rate of BAC-negative suicides slightly increased after the start of the AAC (1985 – 6.25; 1988 – approximately 6.6 per 100.000 of residents), then decreased to 6.1 after the AAC

failure, which coincided with the peak of optimism at the beginning of the reforms around 1991. Thereafter, both the BAC-positive and BAC-negative suicide rates increased steadily, the latter - up to approximately 10.4 in 2003 [55]. These figures indicate that dynamics of suicides depend not only on the amounts of consumed alcohol, but also on social factors. It can be reasonably assumed that the increase in the suicide rate after 1991 has been partly caused by deterioration of the social assistance, when many people, unemployed and homeless, were abandoned in a desperate condition [63]. This latter statement is more constructive than discourses about “psychosocial distress” [55] as the welfare in Russia is underdeveloped, unemployment benefits being low and difficult to obtain on the long run, while a disdainful attitude to the unemployed at the job centers has become a habit. Hopefully, there is an improvement tendency today. The main conclusion by Razvodovsky that “a restrictive alcohol policy can be considered as an effective measure of suicide prevention” [55] distracts attention from solvable social problems. The motive for such statements is the fact that ostentatious anti-alcohol measures and rhetoric are easier and cheaper to implement than a social assistance worthy of a civilized country.

All said, the conclusion of this letter is cautiously optimistic: Russia has made a step from her alcoholic past. However, alcohol consumption still remains a part of our life; and it can be eliminated only together with life. The last AAC and its consequences have demonstrated it. The concept of absolute sobriety as a goal of alcohol policies and alcoholism treatment, propagated e.g. by the prominent surgeon Fedor Uglov, seems to be insincere being unrealistic at least for the present time. Uglov applied lung resections and bronchoscopies without sufficient indications, reviewed in [66]. Figuratively speaking, the AAC was a surgery performed without sufficient indications, causing loss of life. The AAC and its predictable failure have been used to facilitate the economic reforms of the early 1990s including the privatization of factories and other former state property.

The labor productivity is growing; but unemployment is persisting, and there are not enough prestigious jobs for everybody. Under these circumstances, drinkers especially of older age can be regarded as voluntary outsiders, leaving their places to more energetic people. Following the example of more developed countries, aged alcohol-dependent people should be left a possibility to spend time in public houses and then go home, under the condition of maintenance of public order. Moderate alcohol consumption should be permitted in homes for the aged. However, it must be taken into account that alcohol is contraindicated in certain diseases, and incompatible with some drugs, which requires competent advice. It should be mentioned that conditions in Russian homes for the aged and psychiatric hospitals lag behind their Western analogs [58,67]. Experience of foreign countries should be studied in this field; in the author’s opinion, it is necessary to invite authorized foreign experts and advisers. At the same time, clinical attachment of Russian doctors abroad should be encouraged. Improvement of professional skills and remuneration of personnel in Russian homes for the aged and psychiatric hospitals is necessary,

whereas the question of patients’ rights in such facilities should not be forgotten [58,67]. The society must care of its unprotected members, including those suffering of alcoholism and alcohol-related dementia.

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