

## Interdisciplinary Forensic and Pharmaceutical Study of Illegal Circulation of Falsified Alcoholic Beverages to Combat Crime and Prevent Public Health Disorders

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**Abstract.** Forensic and pharmaceutical study of the illegal circulation of falsified (counterfeit, surrogate, counterfeit, modified) alcoholic beverages was conducted within the framework of interdisciplinary organizational and legal, criminal and legal, forensic, clinical and pharmacological, forensic and medical research. It was substantiated that the illegal circulation of falsified alcoholic beverages harms the country's budget, the lives and health of citizens. Summarized reports of the State Tax Service of Ukraine. Forensic-pharmaceutical practice regarding illegal

circulation and medico-pharmaceutical consequences of consuming falsified alcoholic beverages is analyzed. Excise tax rates for alcoholic and low-alcohol beverages have been worked out. Normative initiatives have been developed and directions for the implementation of the anti-alcohol policy in the state have been proposed.

**Keywords:** alcoholic beverages, falsified alcoholic beverages, circulation, forensic pharmacy, crime, health disorders, medicinal products, pharmaceutical supply, pharmacotherapy.

**Introduction.** The state of health of the able-bodied part of the population directly depends on the safety of life, ecology, quality of water, food products, drugs and alcoholic, low-alcohol and non-alcoholic drinks that people and citizens use in their everyday life. It is falsified alcoholic beverages, forged by members of organized criminal groups using appropriate equipment, transport, places of production, liquid alcohol, etc., under well-known brands of legal manufacturers (wine, cognac, vodka, beer, etc.), that are in demand among the population and are in legal trade networks, are in circulation accessible to the public. That is, falsified alcoholic beverages, which are supplied by criminals to the trade network by moving it with high-quality alcoholic products, are in a cause-and-effect relationship with the activities of organized criminal groups that carry out illegal circulation (sales, etc.) of falsified alcoholic beverages, to legal trade networks in which citizens purchase counterfeit alcoholic beverages, consume them, which leads to deaths, as well as deterioration of the health of the most able-bodied part of the population not only in the world, but also in Ukraine, as a result of poisoning from counterfeit alcoholic beverages, which requires health care institutions to provide timely medical care, and from pharmacies – continuous pharmaceutical supply of drugs [1-7].

Every year, 10,000 people die from poisoning by adulterated alcoholic beverages in Ukraine [8-10]. Hundreds of thousands of citizens have health disorders that require a long course of pharmacotherapy and provision of vitally necessary drugs of all clinical-pharmacological, classification and legal, nomenclature and legal groups. In some cases, legal protection of rights and freedoms in the system of legal relations "doctor-patient-pharmacist-lawyer" is required for compensation claims in courts from members of criminal groups for funds for treatment and deaths.

According to research conducted in China, among the reasons that lead to the abuse of adulterated alcoholic beverages and the development of alcohol addiction is a low level of education; mental state due to unemployment; impossibility to earn money for a subsistence level [11].

Criminal business related to the illegal circulation of counterfeit alcoholic beverages is economically profitable for members of organized criminal groups. Crimes are committed on profits from the illegal circulation of adulterated alcoholic beverages.

Forensic and pharmaceutical, and medical aspects of illegal circulation of falsified alcoholic beverages, pharmacotherapy of alcohol addiction, polydrug addiction and comorbid disorders were described in the publications of [Trachterberg I.M.], [Voloshyn P.V.], [Sosin I.K.], [Stefanov O.V.], Minko O.I., Lynskii I.V., Chuiev Y.F., Shapovalova V.O. and other scientists [8-14]. Organizational and legal, marketing, technological, and analytical aspects of pharmaceutical provision of various contingents of patients were described in the publications of Georgievsky V.P., Ponomarenko M.S., Gryzodoub O.I., Tolochko V.M., Volokha D.S., Hrytsyk A.R., Mnushko Z.M., Korytniuk R.S., Trokhymchuk V.V., Shapovalova V.O. and other scientists [15-21]. Aspects of the criminal and legal problem of combating crime were studied and presented in the publications of Shepitko V.Y., [Tatsii V.Y.], [Stashys V.V.], Hetman A.P., Shapovalov V.V., Danyliuk V.O. and other scientists [22-25].

However, complex interdisciplinary forensic and pharmaceutical, organizational and legal, criminal and legal, criminological, clinical and pharmacological, forensic and medical studies of the problem of illegal circulation of falsified alcoholic beverages and related crime have not been conducted until now.

**The purpose of the work** was to conduct forensic and pharmaceutical study of the illegal circulation of falsified (counterfeit, surrogate, counterfeit, modified) alcoholic beverages within the framework of interdisciplinary organizational and legal, criminal and legal, forensic, clinical and pharmacological, forensic and medical research. Analysis of forensic pharmaceutical practice regarding abuse of alcoholic beverages, formation of alcohol addiction, polydrug addiction. Development of directions for the prevention of alcohol abuse and the formation of alcohol addiction among youth and the most able-bodied part of the population of Ukraine.

**Materials and methods.** The authors studied and summarized materials related to: current legislative, regulatory, instructional and methodical documents; forensic and pharmaceutical practice on the systematization and generalization of cases of discovered, documented and confiscated falsified alcoholic beverages in Ukraine; work of the State Fiscal Service of Ukraine in a retrospective dimension; forensic and pharmaceutical researches in the direction of illegal circulation of falsified medicines during 2020-2023; conducted a survey on the treatment of health disorders caused by falsified alcoholic beverages and used drugs; sources of scientific literature (more than 700 sources); Internet resources (more than 140 sites). To achieve it, the methods of documentary, retrospective, comparative, system, tabular, forensic and pharmaceutical analysis were used.

The research of the article is a fragment of research works of Kharkiv Medical Academy of Postgraduate Education on “Improving the organizational and legal procedure for providing patients with drugs from the standpoint of forensic pharmacy, organization and management of pharmacy” (state registration number 0116U003137, terms 2016-2020) and “Pharmaceutical and medical law: integrated approaches to the system of drug circulation from the standpoint of forensic pharmacy and organization of pharmaceutical business” (state registration number 0121U000031, terms 2021-2026); Petro Mohyla Black Sea National University on the topic “Conceptual interdisciplinary approaches to the drug circulation system, taking into account organizational and legal, technological, biopharmaceutical, analytical, pharmacognostic, forensic and pharmaceutical, clinical and pharmacological, pharmaco-economic, pharmacotherapeutic aspects” (state registration number 0123U100468, implementation period 2023-2028); Luhansk State Medical University “Conceptual interdisciplinary approaches to pharmaceutical provision and availability of drugs, taking into account organizational and legal, technological, analytical, pharmacognostic, forensic and pharmaceutical, clinical and pharmacological, pharmaco-economic, marketing, social and economic competencies” (state registration number 0123U101632, terms 2023-2027).

**Results and discussion.** During the years 2000-2023, scientists of the Department of Forensic Pharmacy of the National Pharmaceutical Academy (1995-2012); then the department of medical and pharmaceutical law, general and clinical pharmacy of the Kharkiv Medical Academy of Postgraduate Education (2012-2022); Department of Pharmacy of Luhansk State Medical University (2023-present); with the participation of employees of the State Department of the Ministry of Internal Affairs and Communications of Ukraine in the Kharkiv region (1995-2011) and the pharmacy

department of the Department of Health of the State Administration of Ukraine in Kharkiv region (2011-2019), the reasons and conditions that caused the formation of alcohol addiction and polydrug addiction among young people and the able-bodied part of the population as a result of illegal circulation of counterfeit alcoholic beverages [4, 6, 7, 8, 10, 12, 14, 16-19, 22-25].

According to Osterberg E., Lindeman M., Karlsson T. [26], criminals add batches of counterfeit alcoholic beverages to alcoholic beverages that are on free sale through retail chains. As a result, the level of risks leading to abuse of alcoholic beverages and deaths among the population increases. This requires the authorities to take measures to prevent and combat the circulation of falsified alcoholic beverages due to the policy of raising prices for legal alcoholic beverages. In Switzerland, 10% of the income from alcohol excises goes to eliminate the causes and consequences of the development of addiction from the abuse of psychoactive substances. In Poland, the state's health care costs from alcohol addiction are higher than the income from taxes on alcoholic beverages [27-29].

In our opinion, the policy of increasing the price of alcoholic beverages and raising excise duties leads to an increase in demand for cheap alcoholic products. As a result of the organized criminality, the illegal circulation of falsified alcoholic beverages in Ukraine is increasing. There is an increase in the level of the shadow economy in the field of excise products and an increase in the number of consumers who have been poisoned by consuming adulterated alcoholic beverages. The need for pharmaceutical support, pharmaceutical and medical care is increasing. At the current tax rates, the shadow circulation of liquor and vodka products in Ukraine is 40%, and the state budget will not receive 5 billion hryvnias, which go into the pockets of criminals [30]. Elimination of losses from the consequences of the abuse of alcoholic beverages and adulterated alcoholic beverages on a national scale several times exceeds the revenues from the circulation (production, sale) of alcoholic beverages that come to the country's budget in the form of taxes and excises. Experts note that the level of fiscal return from the excise tax in Ukraine is very low – only 23% (in other words, the government plans to receive an increase in budget revenues from the excise tax of UAH 100, but in fact receives only UAH 23). Legal producers complain about the loss of demand for quality alcoholic beverages. Legal producers and importers of alcoholic beverages propose to strengthen the fight against illegal alcohol circulation. According to the State Tax Service of Ukraine, underground premises (factories, warehouses, shops, etc.) for the production, storage, and sale of counterfeit alcoholic beverages continue to be found in illegal circulation [31, 32].

The problem of combating the distribution of adulterated alcoholic beverages remains relevant in Ukraine. Counteraction policy should be based on world experience, citizen surveys, opinions of leading scientists, legal producers of alcoholic beverages, include all types of alcoholic beverages (low-alcohol and strong), consider the most able-bodied part of the population (male and female youth).

At the next stage of the research, the authors analyzed forensic pharmaceutical practice according to the topic of the work. Below are typical cases from forensic pharmaceutical practice regarding illegal circulation of falsified alcoholic beverages, medical and pharmaceutical consequences of consuming falsified alcoholic beverages.

*Example 1.* Under the procedural leadership of the Ternopil Regional Prosecutor's Office, a criminal case was initiated by the investigators of the State Criminal Court against the illegal activities of organized criminal group members, who created an underground shop for the mass production of counterfeit alcoholic beverages under Part 2 of Art. 28, Part 2 of Art. 204 of the Criminal Code of Ukraine [33, 34]. During the pre-trial investigation, established that on July 23, 2021, in the course of operation "Spirt", tax police officers of the Main Department of the State Fiscal Service in Ternopil Region, together with employees of the Security Service of Ukraine in Ternopil Region, under the procedural guidance of the Ternopil Regional Prosecutor's Office, stopped the operation of 2 underground factories alcoholic beverages and their distribution channel via the Internet and courier delivery services. The investigation established that as a result of illegal actions of an official of a state enterprise, UAH 3.5 million did not go to the state budget. Damages caused to the state

were compensated in full, and almost UAH 4 million of fines and financial sanctions and penalties were paid.

*Example 2.* Under the procedural guidance of the Dnipropetrovsk Regional Prosecutor's Office, the investigator of the State Department of the State of Ukraine in Dnipropetrovsk region investigating a criminal proceeding regarding the illegal activities of members of organized criminal groups who created an underground workshop for the mass production of counterfeit alcoholic beverages under Part 2 of Art. 28, Part 2 of Art. 204 of the Criminal Code of Ukraine [34, 35]. During the pre-trial investigation, it was established that since January 2021, mass illegal production of alcoholic beverages by mixing alcohol with water was organized in Kryvyi Rih. In the future – the sale of counterfeit alcoholic beverages at retail outlets in the dniproptetrovsk region. During searches of the location of the underground workshop, in warehouses and shops in the city of Kryvyi Rih, almost 10 tons of illegally produced strong alcoholic beverages without excise tax stamps were seized. Currently, the pre-trial investigation in the criminal proceedings is ongoing.

*Example 3.* Under the procedural guidance of the Rivne Regional Prosecutor's Office, the investigators of the State Security Service of Ukraine in the Rivne Oblast are conducting criminal proceedings on the facts of illegal acquisition, storage and transportation for the purpose of selling illegally produced alcohol and tobacco products using forged excise tax stamps (Part 1 of Article 199, Part 1 Article 204 of the Criminal Code of Ukraine) [36]. During the pre-trial investigation, it was established that on September 03, 2023 in the city of Rivne, operational services exposed a shop for the production of counterfeit alcoholic beverages. almost 6 tons of alcohol and alcoholic beverages, equipment for their production, a line and containers for bottling, as well as almost 700 packs of cigarettes with excise tax stamps with signs of forgery and more than UAH 250,000 in various currencies were seized. Investigators conducted a number of court-sanctioned searches in the city of Rivne and in several settlements in the Rivne district of the region. In addition, more than 2 tons of alcohol in bottles and cardboard boxes of the "Bag-in-Box" type were found and seized in the car, and more than 200 liters of counterfeit alcoholic beverages packaged in bottles were found in the village store through which the surrogate was sold. The estimated total value of seized falsified excise goods is about 1 million hryvnias. Together with the "goods", the law enforcement officers also seized 2 cars, which the perpetrators used in their illegal activities to transport counterfeit alcoholic beverages. Investigators have appointed the necessary examinations, the issue of seizure of seized property is being resolved.

*Example 4.* Criminal proceedings under part 3 of Art. 229 of the Criminal Code of Ukraine [37]. During the pre-trial investigation, it was established that in the city of Mogilev-Podilskiyi, Vinnytsia region, the illegal activities of members of an organized criminal group consisting of men aged 31 and 34, who manufactured and sold counterfeit alcoholic beverages under the guise of elite, were stopped through a network of Internet stores. At the beginning of 2022, operatives of the cyber police of the Department of National Police in Vinnytsia region identified persons involved in illegal activities - the illegal operation of Internet sites for the sale of surrogate alcohol, the production of counterfeit alcoholic beverages at one of the city's warehouses, which were sent to buyers through the local post office. During court-sanctioned searches at the residence of one of the suspects and in an underground workshop, the police seized: more than 1,200 tetrapacks of alcohol of well-known world brands; tons of alcohol mixture, dyes, flavorings; equipment for bottling, consumables for the production of nearly 5,000 more tetrapacks with markings of various trademarks; bank cards, "draft" records, computer equipment, money obtained by crime.

*Example 5.* On March 9, 2023, the investigators of the Main Investigative Department of the National People's Republic of Ukraine, under the procedural guidance of the Prosecutor General's Office, on the basis of the received evidence, informed three employees of the state enterprise that they were suspected of having committed criminal offenses provided for in Part 2 of Article 28, Part 1 of Art. 204; Part 2 of Art. 27, Part 5 of Art. 27 part 5 of Art. 191 of the Criminal Code of Ukraine, and to two private entrepreneurs - under Part 2 of Art. 28, Part 5 of Art. 27, Part 1 of Art. 204, Part 5 of Art. 191, Part 3 of Art. 289 [38]. The number of damages is UAH 2.5 million. According to the investigation, operatives of the Department of Strategic Investigations exposed the illegal activities

of members of an organized criminal group working at a state-owned enterprise. By means of "insets" they established an unaccounted-for circulation – the withdrawal of alcohol bypassing the counters, which was stored, transported, and sold. Police officers, during the implementation of investigative measures, managed to document the facts of the illegal sale of ethyl alcohol, as well as the shortage of the alcohol mixture, which was supposed to be stored at the state-owned enterprise in the form of finished products. To carry out the criminal activity, the employees of the distillery involved two private entrepreneurs who were engaged in the organization of illegal circulation of alcohol, as well as assisting in the embezzlement of property. According to the results of the investigative actions, 1 million hryvnias, more than 15,000 liters of ethyl alcohol, special equipment for its bottling and a truck were seized. Seized property has been seized. Forensic examinations have been appointed. The question of choosing a preventive measure for the suspect is being resolved.

The analysis of forensic pharmaceutical practice regarding the illegal circulation of counterfeit alcoholic beverages, the formation of alcohol addiction, polydrug addiction is confirmed by the report of the Accounting Chamber on receipt of excise tax on alcoholic beverages to the state budget during 2019-2020 and 9 months of 2021. State bodies did not provide an effective system of control over the circulation of alcoholic beverages, which led to non-receipts of excise tax to the state budget in the total amount of UAH 9 billion per year [39]. According to the State Tax Service of Ukraine, in 2020, compared to 2019, the volume of produced liquor and vodka products increased by almost 11%, wine products and malt beer decreased by 13% and 0.5%, respectively. As part of the Government's fight against the shadow market of alcohol and tobacco, the employees of the Department of Strategic Investigations together with the investigators of the Main Investigation Department of the National Police, with the participation of the employees of the Department of Control over the Circulation and Taxation of Excise Goods of the State Tax Service, exposed a number of offenses. In the Kharkiv region, an underground workshop for bottling counterfeit alcoholic beverages was discovered on the territory of the official production plant, and 30,000 bottles of vodka with forged excise tax stamps were seized. In the Odesa region, a scheme for the production and sale of counterfeit excise tax stamps of Ukraine, as well as the production and sale of counterfeit alcoholic beverages of foreign trade brands (whiskey: Jack Daniels, Monkey, vodka: Absolut, Gray Goose, Finland) was exposed using fake excise stamps [40, 41]. According to the data of the State Customs Service of Ukraine, the import of liquor and vodka products increased by almost 45%, wine products – twice, beer – by more than 11%. During the mentioned period, the state budget received almost UAH 42 billion of excise tax from alcoholic beverages imported and produced in Ukraine. However, its specific weight in the total amount of tax revenues decreased from 1.9% in 2018 to 1.6% in 9 months of 2021.

As a result of the improper work of the Ministry of Finance and the State Tax Service of Ukraine, the following issues have not been resolved:

- the automated control system "Electronic Excise Mark" has not been fully implemented;
- the issue of trade of alcoholic beverages through the Internet is not regulated by law;
- proper inter-sectoral coordination on issues of administration of the excise tax on alcoholic beverages, effective control over their production and circulation was not ensured, which created prerequisites for illegal production and circulation of these products and, as a result, for the non-payment of this tax to the state budget;
- cases of reporting on the volumes of operations carried out by producers, importers, and wholesalers of alcohol, who did not have a valid license for the right to conduct such activities, were found;
- recorded cases of non-application of fines by territorial bodies of the State Tax Service for non-submission, untimely submission of such reports and their submission with unreliable data.

The Ministry of Finance untimely approved the procedure for planning on-site documentary inspections by customs authorities; during 2020, the State Customs Service did not plan or conduct them; during 9 months of 2021, the territorial bodies of the State Customs Service conducted only two documentary checks of subjects of foreign economic activity that carried out transactions with

alcoholic beverages, as a result of which they added UAH 2.6 million, of which 0.8% was paid to the budget; control by the State Customs Service over the illegal movement of alcohol and alcohol was ineffective; due to the imperfection of the software of the excise tax stamp monitoring information block contained in the Unified Automated Information System of the State Customs Service, inspectors at customs posts still monitor the movement of excise tax stamps mostly in paper form.

According to the results of the audit, the Accounting Chamber recommended to the government to improve the legislation on the administration of the excise tax. Accelerate the full implementation of the automated system for controlling the circulation of alcoholic beverages and tobacco products "Electronic Excise Stamp". To improve the licensing of activities in the sphere of circulation of alcoholic beverages. Regulate the sale of alcoholic beverages via the Internet.

So, forensic pharmaceutical practice (examples 1-5) shows that counterfeit alcoholic beverages are detected by law enforcement agencies throughout the territory of Ukraine. Citizens who purchased counterfeit alcoholic beverages, incl. during the COVID-19 pandemic, because of use, they had health disorders in the form of poisoning, intoxication, psycho-neurological disorders, as well as impaired movement coordination, prolonged diarrhea, impaired vision, hearing, circulatory and digestive systems, cardiovascular systems, etc. Health disorders resulting from the use of counterfeit alcoholic beverages required medical and pharmaceutical assistance, the appointment of appropriate pharmacotherapy and long-term use of drugs (enterosorbents, vitamins, peripheral vasodilators, analeptics, cardiac drugs, agents affecting tissue metabolism, hepatoprotectors, etc.). To prove the criminal activity of the members of the organized crime groups, the investigators of the case drew up a plan of investigative actions and operative-search measures, and appointed forensic and medical, forensic and narcological, forensic and psychiatric and forensic examinations.

In accordance with the Decree of the Cabinet of Ministers of Ukraine dated December 27, 2010 No. 1251 "On approval of the Regulation on the manufacture, storage, sale of excise tax stamps and labeling of alcoholic beverages and tobacco products", the fee for one excise tax stamp for alcoholic beverages is UAH 0.1926 [32]. According to the Tax Code of Ukraine (hereinafter the Code), the tax rate on ethyl alcohol as of June 2016 was 105.80 hryvnias for 1 liter of 100 percent alcohol [34]. The Code contains specifics of taxation of ethyl alcohol depending on the direction of its use. According to the document, the tax is paid at the rate of 0 hryvnias for 1 liter of 100 percent alcohol made from:

- a) ethyl alcohol, which is used by enterprises of primary and mixed wine production to produce grape, fruit and berry, other wine materials and wort and vermouth;
- b) ethyl alcohol, which is used to produce medicinal products (including blood components and preparations made from them), except medicinal products in the form of balms and elixirs;
- c) denatured ethyl alcohol (technical alcohol), which is sold to business entities for the purpose of using it as a raw material to produce products of organic synthesis, which do not contain more than 0.1 percent of residual ethanol;
- d) bioethanol, which is used by enterprises to produce gasoline motor blends containing bioethanol, ethyl tert-butyl ether, other additives based on bioethanol;
- e) bioethanol, which is used to produce biofuel.

Excise tax rates on some alcoholic beverages in retrospective and comparative terms are given in the Table 1.

**Table 1.** Excise tax rates on some alcoholic beverages.

No.	Description of goods (products) according to the Formular	Unit of measurement	Tax rate as of 2014	Tax rate as of June 2016
1.	Malt beer (malt)	UAH for 1 liter	1,24	2,48
2.	Ethyl alcohol, undenatured, with an alcohol concentration of 80 vol. % or	UAH for 1 liter of 100% alcohol	70,53	105,80

	more; ethyl alcohol and other alcohol distillates and spirits obtained by distillation, denatured, of any concentration			
3.	Ethyl alcohol, undenatured with an alcohol concentration of less than 80 vol. %; alcoholic distillates and alcoholic beverages obtained by distillation, liqueurs and other beverages containing alcohol	UAH for 1 liter of 100% alcohol	70,53	105,80
4.	Low-alcohol drinks - alcoholic drinks with an ethyl alcohol content of 0.5 to 8.5 percent by volume and extractive substances no more than 14.0 g per 100 cubic meters. cm, made based on a water-alcohol mixture using ingredients, semi-finished products, and preservatives, saturated or unsaturated with carbon dioxide	UAH for 1 liter of 100% alcohol	-	211,59
5.	Only products with an ethyl alcohol content of 8.5 percent by volume and more	UAH for 1 liter of 100% alcohol	70,53	141,06

Excise tax rates are increasing for all studied groups of alcoholic beverages. For the period from 2014 to 2016, the excise tax rate has doubled for beer and products with an ethyl alcohol content of 8.5 percent by volume and more. The excise tax rate on ethyl alcohol increased by 66.66%. It was determined that a group of low-alcohol beverages was added during the research period, which also became subject to excise tax.

At the next stage of the work, a forensic-pharmaceutical analysis of the illegal circulation of AN was carried out. The State Tax Service of Ukraine and its territorial bodies are entrusted with the task of controlling the production and circulation of alcohol, alcoholic beverages, and tobacco products [31]. During the activities of the State Tax Service, control over compliance by business entities with the requirements of legislation in the field of production and circulation of alcohol, alcoholic beverages, and tobacco products, as well as the use of excise tax stamps for alcoholic beverages and tobacco products, was ensured. Measures aimed at preventing and combating the illegal production and circulation of excise goods have been taken. Work has been organized to issue licenses for the right to operate business entities involved in the production of alcohol, alcoholic beverages and tobacco products, wholesale trade in alcohol, wholesale, and retail trade in alcoholic beverages. Control over the timeliness of the transfer of payments to the budget by business entities for the obtained (extended) licenses for the right to manufacture alcohol, alcoholic beverages and tobacco products, wholesale alcohol trade, wholesale and retail trade of alcoholic beverages and tobacco products has been ensured.

The results of the State Tax Service work are given in more detail in the Table 2.

**Table 2.** Results of the work of the State Tax Service in 2015.

No.	Work done	Quantity
1.	Business entities operating in the market of alcohol, alcoholic beverages and tobacco products were checked	6.2 thousand
2.	Penalties applied	UAH 183.3 million
3.	Budget arrived	UAH 845.1 million.

4.	For violation of the requirements of the Law of Ukraine dated December 19, 1995 No. 481/95-VR "On State Regulation of the Production and Circulation of Ethyl, Cognac and Fruit Alcohol, Alcohol and Tobacco Products" licenses for the right to retail alcohol and tobacco products were canceled	320
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From the Table 2, it is clear, that because of the operational actions of the tax police and DPS specialists, more than 845 million hryvnias came to the state budget of Ukraine in 2015. Of them, the share of fines is 21.7%. That is, for one economic entity, which conducts activities in the market of alcohol, alcoholic beverages, and tobacco products, approximately UAH 3,000 is charged. penalties. Of the audited business entities, 5.16% had their licenses for the right to retail trade in tobacco products and tobacco products revoked. This indicates insufficiently well-executed work of alcoholic beverage business entities, which leads to offenses and damage to the lives and health of Ukrainian citizens.

In view of the given data, the authors proposed directions for the implementation of the anti-alcohol policy in the state. The anti-alcohol policy regarding reducing the availability of alcohol to the population by increasing the price should be reasonable and aimed at reducing the underground production and sale of alcohol, which can lead to poisoning and death of citizens. Strengthening the promotion of a healthy lifestyle among teenagers and young people. Informing the population of Ukraine about the harm caused using low-quality, falsified alcoholic beverages. Survey of the population regarding the ban on the sale of alcohol at night. An increase in fines for violating the rules of circulation of alcoholic beverages.

During the study, the authors conducted an oral survey among 204 respondents who occasionally drink alcoholic beverages. The respondents consisted of specialists in pharmacy (32%), medicine (43%), law enforcement agencies (20%), specialists in other fields (5%) about pharmacotherapy of health disorders caused using counterfeit alcoholic beverages. It was established that 12% of respondents had digestive disorders after drinking alcoholic beverages; 24% experienced hangover symptoms (dizziness, headache), 64% used drugs of different clinical and pharmacological groups simultaneously with alcoholic beverages.

In view of the above data, the authors proposed changes to:

- ✓ Decree of the Cabinet of Ministers of Ukraine dated August 17, 1998 No. 1303 "On regulating the free and subsidized dispensing of medicines according to doctors' prescriptions in the case of outpatient treatment of certain groups of the population and for certain categories of diseases" regarding the addition to the List of categories of diseases, in the case of outpatient treatment of which medicines are dispensed free of charge in the category of poisoning by falsified alcoholic beverages;
- ✓ Decree of the Cabinet of Ministers of Ukraine dated September 5, 1996 No. 1071 "On the procedure for the procurement of medicinal products by health care facilities and institutions financed from the budget" - addition to the List of domestic and foreign manufactured medicinal products that can be purchased by health care facilities and institutions health, fully or partially financed from the state and local budgets of drugs for the pharmacotherapy of alcohol addiction and comorbid disorders, namely Arginine glutamate (A05BA01).

It is also necessary to provide legal assistance to victims of counterfeit alcoholic beverages. In the conditions of the purchase of counterfeit alcoholic beverages in the legal sector of the economy of Ukraine, all expenses for the pharmacotherapy of poisoning should be borne by the management of trade establishments that sell counterfeit alcoholic beverages. It is proposed to strengthen the work on health insurance for consumers of alcoholic beverages.

According to the estimates of the World Health Organization, the share of illegal alcohol in Ukraine is more than a third of the total alcohol market and more than half of the hard alcohol market [39]. It should be noted that during the COVID-19 pandemic, citizens significantly changed their drinking habits, moving places of consumption from bars and restaurants to homes. The greatest increase in alcohol consumption was noted in Australia, Belgium, France, Great Britain, and the



United States [41]. In EU countries, emergency calls about domestic violence, the risk factor of which is the harmful use of alcohol, have increased by 60%. There is also a risk that COVID-19 will cause an increase in problem drinking in the medium term, given that binge drinking is common after traumatic events in response to high levels of stress [10, 14, 18, 19, 43, 44].

The Government of Ukraine has at its disposal several political and normative, criminal and legal, social and economic, medical and pharmaceutical measures to combat the harmful consumption of alcohol and prevent alcohol addiction. Prohibition of alcohol advertising for children and minors. Pricing policy for cheap alcohol. Increasing the level of participation and responsibility of state authorities and self-government bodies in combating the circulation of counterfeit alcoholic beverages. Increased funding for health care facilities, family doctors who carry out work on the prevention of alcohol-related diseases and injuries. Counseling based on primary medical care for people with alcohol addiction. Prevention of alcohol abuse and counterfeit alcoholic beverages. Prevention of harmful alcohol abuse by young people and the working population will help the state to restore economic and industrial activity and social life after the pandemic [45-51].

**Conclusions.** A forensic and pharmaceutical study of the illegal circulation of falsified (counterfeit, surrogate, counterfeit, modified) alcoholic beverages was conducted within the framework of interdisciplinary organizational and legal, criminal and legal, forensic, clinical and pharmacological, forensic and medical research. It was substantiated that the illegal circulation of counterfeit alcoholic beverages harms the country's budget and the health of citizens. A retrospective analysis of the sources of scientific literature on the topic of the work was carried out. Summarized reports of the State Tax Service of Ukraine. Forensic and pharmaceutical practice regarding the illegal circulation of counterfeit alcoholic beverages and the medical and pharmaceutical consequences of the use of counterfeit alcoholic beverages have been analyzed. Excise tax rates for alcoholic and low-alcohol beverages have been worked out. Normative initiatives have been developed and directions for the implementation of the anti-alcohol policy in the state were proposed.

**Conflict of interests.** The authors confirm that they are the authors of this work and have approved it for publication. The authors also certify that the obtained clinical data and research were conducted in compliance with the requirements of moral and ethical principles based on medical and pharmaceutical law, and in the absence of any commercial or financial relationships that could be interpreted as a potential conflict of interest.

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