

Forensic and Pharmaceutical, Organizational and Legal Studies of Illegal Circulation, Danger and Drug Addiction from Cannabinoids

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Abstract. A forensic and pharmaceutical, organizational and legal study of illegal circulation, danger and drug addiction from cannabinoids was conducted. Psychoactive substances of cannabinoids were classified as narcotic drugs. Global experience in the circulation of cannabis and psychoactive substances was summarized. Also analyzed scientific works of domestic and foreign authors on the subject of the study. The use of cannabinoids by different categories of the population was analyzed. Forensic and

pharmaceutical practice on the illegal circulation of narcotic drugs of plant origin was studied. An assessment of the problems of pharmacotherapy of drug patients with cannabinoid addiction was given. An algorithm for determining the status of cannabinoid addiction has been developed.

Keywords: forensic pharmacy, narcotic drugs, psychoactive substances, cannabis, marijuana, cannabinoid drug addiction, drugs, drug patients.

Introduction. Everyone feels stress and fear when doctors give them an unfamiliar diagnosis. Especially diagnoses: oncological, cardiovascular, psycho-neurological disorders, HIV/AIDS, tuberculosis, diabetes, etc. The diagnosis of "drug addiction" for a minor patient is made as a result of the abuse of narcotic drugs of plant origin (marijuana, cannabis) [1, 2].

Such persons are registered with the police [3]. Drug addicts need active, free, accessible, effective and safe, social and economic, medical and pharmaceutical, spiritual, psychological support from the state, state authorities and self-government. In addition to the diagnosis of drug addiction, concomitant diseases are formed [4, 5] in accordance with ICD-11 [6, 7], which is complicated during the pandemic of COVID-19 [8, 9, 10] and the monkeypox virus [11].

Due to the careless use of psychoactive substances (SPAs), so-called light narcotics (marijuana, cannabis) by minors, mental and physical dependence is formed. Doctors of the All-Ukrainian Narcological Center "Medikon" and the "NewLife" clinic note that marijuana is a narcotic drug. Contains psychoactive substance – cannabis of plant origin from the hemp plant. It has slang names: anasha, ganja, hashish, plan, weed [12].

The publication of leading scientists of Ukraine: Sosin I.K., Lynskii I.V., Shapovalova V.O., Valentyn Shapovalov, Minko O.I., Chuiev Yu.V., Shapovalov V.V., Osyntseva A.O., Vasina Yu.V. and others were devoted to the problem of studying the causes and conditions that contribute to the spread of drug addiction and associated diseases among all segments of the population in Ukraine, and ways to solve it [13-52].

The purpose of the study. Forensic and pharmaceutical, organizational and legal research of illegal circulation, danger and narcotic addiction to cannabinoids in the areas of: generalization of world experience regarding the circulation of cannabis and psychoactive substances; analysis of the use of cannabinoids by different categories of the population; study of forensic pharmaceutical practice on the illegal circulation of narcotic drugs of plant origin; assessment of problems of pharmacotherapy of drug patients with cannabinoid addiction; development of an algorithm for determining the status of cannabinoid addiction; rehabilitation of drug addicts and features of addictive narcotic dependence on cannabinoids.

Materials and methods. A complex experimental study was carried out using forensic and pharmaceutical, organizational and legal approaches. The study was conducted at the intersection of the organization of healthcare, narcology, organization and management of pharmacy, forensic pharmacy, clinical pharmacy, management for different groups of patients and was based on the

principles of evidence-based medicine, evidence-based pharmacy. The study was conducted from February 2022 to September 2022 using freely available 2021 and older data. The review of scientific sources of the world's leading scientists on the topic of work was conducted. More than 700 scientific sources on the topic of the work were used [53-66].

Methods of analysis were used to solve the problems: historical, documentary and comparative, regulatory and legal analysis, forensic and pharmaceutical monitoring, analytical and descriptive, statistical. Mathematical and graphic methods were used to process the received data. Mathematical processing and statistical evaluation of data was carried out using modern computer technologies of the Criminal-Stat program.

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 D/21U000031, terms 2021-2026).

Results and discussion. World experience shows that some states have legalized the circulation of cannabis. Thus, in the eastern country, the legislation was changed, the circulation (cultivation, storage, consumption, etc.) of cannabis was legalized, the strict approach of law enforcement and judicial authorities to long imprisonment and the death penalty for crimes related to the illegal circulation of narcotic drugs was canceled [67].

In Colombia, the production of cannabis and marijuana for medical purposes is already allowed, mostly for export to the foreign markets of the United States and Canada. Supporters of the new legislation believe that only the legalization of recreational cannabis can push thousands of farmers away from the drug trade and switch to legal circulation, for cultivation and controlled sales and trade [68].

Malaysian Health Minister Khairy Jamaluddin [69] told Parliament that the current legislation governing cannabis and its by-products in Malaysia, including the Dangerous Drugs Act 1952, the Poisons Act 1952, and the Sale of Narcotic Drugs Act 1952, did not prohibit the use of cannabis for medical purposes. The retail sale or supply of a product for the treatment of certain patients may only be made by a medical practitioner registered to patients under the Medicines Act 1971 or by a registered pharmacist with a Type A license to certain persons on the basis of prescriptions issued by a registered medical practitioner.

CodeBlue previously reported that Malaysia's National Pharmaceutical Regulatory Agency (NPRA) in 2014 approved a cannabis-infused prescription drug to treat muscle spasms and spasticity from multiple sclerosis. Sativex, an oral mucosal spray containing cannabis extract, was withdrawn from the Malaysian market after three years because it was not commercially viable. Sativex was developed by GW Pharmaceuticals, a manufacturer of cannabinoid therapeutics based in Ireland. There is currently no registered marijuana-based drug in Malaysia. The Malaysian Association for the Study of Pain said there is still a lack of clinical trial evidence to support the general use of cannabis for pain pharmacotherapy. Some of the conditions for which cannabis treatment is recommended include epilepsy, neuropathic pain, and chronic widespread pain, as well as appetite problems, nausea, vomiting, and pain in cancer patients.

A study of the experience of marijuana circulation in the United States of America showed that at the end of the 20th century there was a growing movement for the legalization of marijuana [70]. For example, in 1996, California made headlines as the first US state to approve the decriminalization of marijuana for medical use, and later medical marijuana was legalized in other states. Then in 2012, Washington and Colorado passed initiatives to legalize recreational marijuana. By 2019, more than 30 US states had legalized marijuana use, although it remained illegal at the federal level. The term "cannabis" has largely been replaced by the anglicized marijuana, which some believe was done to promote the foreignness of the drug and fuel xenophobia. Around this time, many states began to pass laws prohibiting marijuana (Fig. 1).

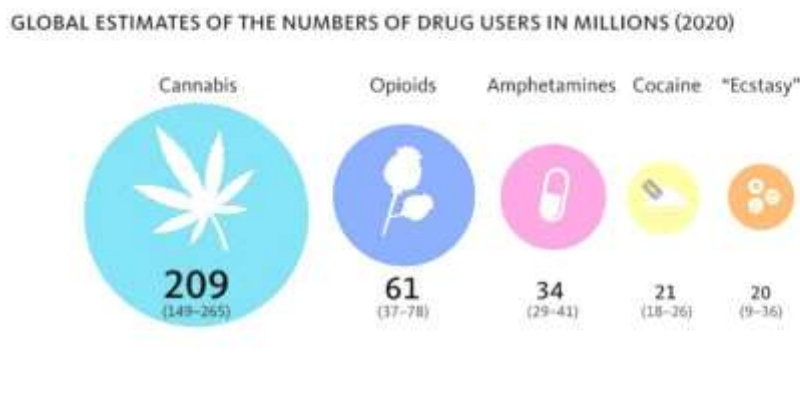


Fig. 2. A surge in the number of people addicted to psychoactive substances, according to UNODC.

Specialists of the Ukrainian Institute of the Future conducted a sociological survey (2,400 respondents) regarding addiction to psychoactive substances [76]. The results were obtained: cannabis – 31%; amphetamines – 18%; salts ("designer drugs") – 8%; poppy straw (extraction opium "shirka") - 7%; methadone – 6%; synthetic marijuana (spices) – 6%; heroin – 4%; ecstasy – 4%; tramadol – 4%; cocaine – 4%; others – 4%. Doctors note that minors have the following facts:

- the first sample of marijuana, in the future - to the abuse of particularly dangerous narcotic drugs and psychotropic substances (heroin, desomorphine, cannabis, cannabis resin, extracts and tinctures of cannabis, opium; cathinone, methamphetamine, mexedrone, mescaline phencyclidine), the circulation of which is prohibited in Ukraine and established criminal liability [73, 77];
- changing the subculture of communication and the environment of people who use marijuana (keep, smoke, transport, sell, sell);
- illegal use of the narcotic drug cannabis with the development of mental and physical addiction;
- complication of the clinical picture, behavior, narrowing of interests, communication, etc.;
- complications of the physical and mental state, redness of the eyes, apathetic states, increased appetite, dulling of thinking, mental disorders.

By the Articles 27 and 49 of the Constitution of Ukraine, the state guarantees [78]:

- protection of people's lives and health from illegal encroachments, that is, from criminals involved in the drug business;
- the right to health care, medical assistance, and medical insurance.

Health care is provided by state financing of relevant social and economic, medical, sanitary and health and preventive programs. The state creates conditions for effective and accessible medical care for all citizens. Medical assistance is provided free of charge in state and communal health care institutions; the existing network of such institutions cannot be reduced. The state promotes the development of medical institutions of all forms of ownership. Patients with "drug addiction" are not included in the preferential category of citizens. Proposed to include this category of patients in Appendix 2 of the List of categories of diseases, in the case of outpatient treatment of which medicinal products are dispensed free of charge. Appendix 2 is included in the Resolution of the Cabinet of Ministers of Ukraine No. 1303 of August 17, 1998 "On regulating the free and subsidized dispensing of pharmaceuticals according to doctors' prescriptions in the case of outpatient treatment of certain groups of the population and for certain categories of diseases" [79].

Forensic and pharmaceutical practice on the illegal circulation of narcotic drugs of plant origin is analyzed below using the example of cannabis.

Forensic and pharmaceutical example 1. Criminal proceedings initiated under Part 1 of Art. 313 of the Criminal Code of Ukraine (CC of Ukraine) [80, 81].

During the pre-trial investigation, it was established that on July 17, 2022, operatives of the Department of Combating Narcotic Crime in the Dnipropetrovsk Region detained a 59-year-old

local resident of Kryvorizka District B., from whom, in the presence of witnesses, the following were seized from illegal circulation: 700 bushes of hemp plants; 15 kg of cannabis; laboratory equipment; fertilizer. For the sale of narcotics made from such a large number of narcotic plants B. planned to receive more than UAH 3 million profit. To achieve the goal, the city B. arranged a specially equipped greenhouse on the territory of the former boiler house, where he grew herbal hemp. Gr. B. showed that in advance he purchased the seeds of elite hemp plants and the necessary equipment, which he placed in the room where he installed heat and waterproofing with a system of forced ventilation, artificial lighting, and watering, and installed temperature and humidity sensors. In the future, he dried plants, stored them and processed them by making cannabis, which he planned to sell to drug addicts in South Africa. Procedural decisions regarding the additional qualification of the criminal's actions, the notification of suspicion and the selection of preventive measure by the investigator will be made after receiving the results of the forensic chemical-pharmaceutical, forensic medical, and forensic drug examination.

Forensic and pharmaceutical example 2. Criminal proceedings under part 2 of Art. 310 of the Criminal Code of Ukraine [82]. During the pre-trial investigation, it was established that National Police in Vinnytsia region received operational information that 42-year-old resident of the regional center grows narcotic plants. To verify the above information, on June 30, 2022 operatives of the Vinnytsia District Police Department, in the presence of witnesses, during an inspection of the territory of the household found 99 hemp plants in the yard and 3 containers with cannabis in the house. Seized material evidence was sent for forensic chemical-pharmaceutical, forensic-medical, forensic-narcological examination.

Forensic and pharmaceutical example 3. Criminal proceedings under part 1 of Art. 310 of the Criminal Code of Ukraine [83]. During the pre-trial investigation, it was established that on September 7, 2022, in Vinnytsia, on the basis of a court order, investigators and operatives in the household of a 30-year-old citizen conducted an authorized search. 179 bushes of hemp plants were found on the homestead. In the premises of the house, they found: crushed substance (signs of cannabis); a device for smoking cannabis classified as a narcotic drug. Material evidence removed from illegal circulation and was sent for forensic chemical and pharmaceutical, forensic and medical, forensic and narcological examination. After the examinations, the investigators will determine the final legal qualification of the citizen's actions.

Forensic and pharmaceutical case study 4. The Court of Appeal of the Rivne Region ordered the hearing of the case of a 16-year-old boy from Volhynia, who was sentenced to six years in prison for the sale of cannabis [84]. A schoolboy from one of the villages sold cannabis twice in the village. The investigators agreed with local residents, two girls, that they would encourage the boy, who was using the drug, to sell them cannabis. They recorded all this on video. The boy is currently in the Lutsk pre-trial detention center, awaiting review of the decision by the appeals court.

The court verdict mentions the participation of witnesses in both operational purchases of cannabis and audio and video monitoring. The lawyer believes that the police, having organized the purchase of drugs, provoked his client to commit a crime.

Based on the generalization of the data available for research for the period from 2007 to 2022 of the State Administration of Ukraine in the Kharkiv region and other regions of Ukraine (Vinnytsia, Volyn, and other regions) using the analytical and descriptive method and the Criminal-Stat program, it was determined that the demand of illegal consumers of offenders was directed at 3 types of surfactants containing cannabinoids (Fig. 3), namely, it was found that the abuse of hemp was most often noted – 47.36% and marijuana – 39.48%.

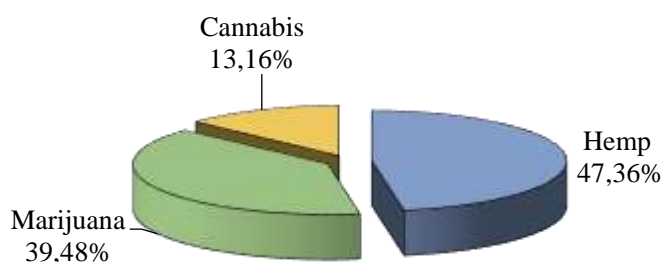


Fig. 3. Cannabinoids containing psychoactive substances, which were in demand among illegal users during the studied period.

The study of the demand assessment indicator for the abuse of cannabinoids among illegal consumers at the regional level was conducted using the analytical and descriptive method and the Criminal-Stat program. Established that the demand of illegal users was aimed at the abuse of cannabinoids both in their pure form and in combination with other psychoactive substances. Thus, cases of abuse of cannabinoids in the composition of hemp, marijuana and cannabis were recorded among illegal users in the districts of Kharkiv and Kharkiv region, and at the level of individual state authorities and self-governments in the districts of Kharkiv region – in addition to hemp, marijuana, and cannabis, also hashish. Abuse of the following combinations of surfactants has been recorded: cannabinoids + tobacco; cannabinoids + alcohol; cannabinoids + tramadol; cannabinoids + pervitin; cannabinoids + opium. Most often, offenders abused cannabinoids together with tobacco (35.71%) and alcohol (21.43%), and less often – with opium (1.43%) [85].

The assessment of the problems of pharmacotherapy of drug patients with cannabinoid addiction indicates the insufficiency of the pharmaceutical provision of their drugs in the system of compulsory medical and pharmaceutical care. At the same time, established that more than half of illegal cannabinoid users at the regional level (69.77%) and at the level of city councils (74.47%) are not provided with medicine. They are not sent to health care institutions for forced medical care, which violates their right to pharmaceutical support. This causes the spread of socially dangerous diseases in society (in particular, cannabinoid addiction), as well as the deterioration of the epidemiological situation in prisons and detention centers where cannabinoid drug addicts are kept. In addition, failure to provide medical assistance to persons who have committed offenses of various degrees of severity, in the form of forced treatment, violates their rights and freedoms, which are guaranteed by the Constitution of Ukraine.

As part of the research, an algorithm for determining the status of cannabinoid addiction (F12) was developed for the first time, which consists of four stages [86, 87]. The developed algorithm for determining the status of dependence on cannabinoids (Fig. 4) was applied to drug addicts with a diagnosis of F12, who were treated in the communal health care facility Kharkiv Regional Narcological Dispensary using the analytical and descriptive methods. The respondents involved in the study (20 people) were male aged 24 to 31 years. With the help of the developed algorithm, 11 drug patients were selected with level 3 status of cannabinoid (hashish) addiction, which assumed the presence of high motivation to abuse cannabinoids (stage I), strong addiction to cannabinoids (stage II), a high level of refusal to abuse cannabinoids (stage III) and the probability of the development of concomitant diseases (stage IV).

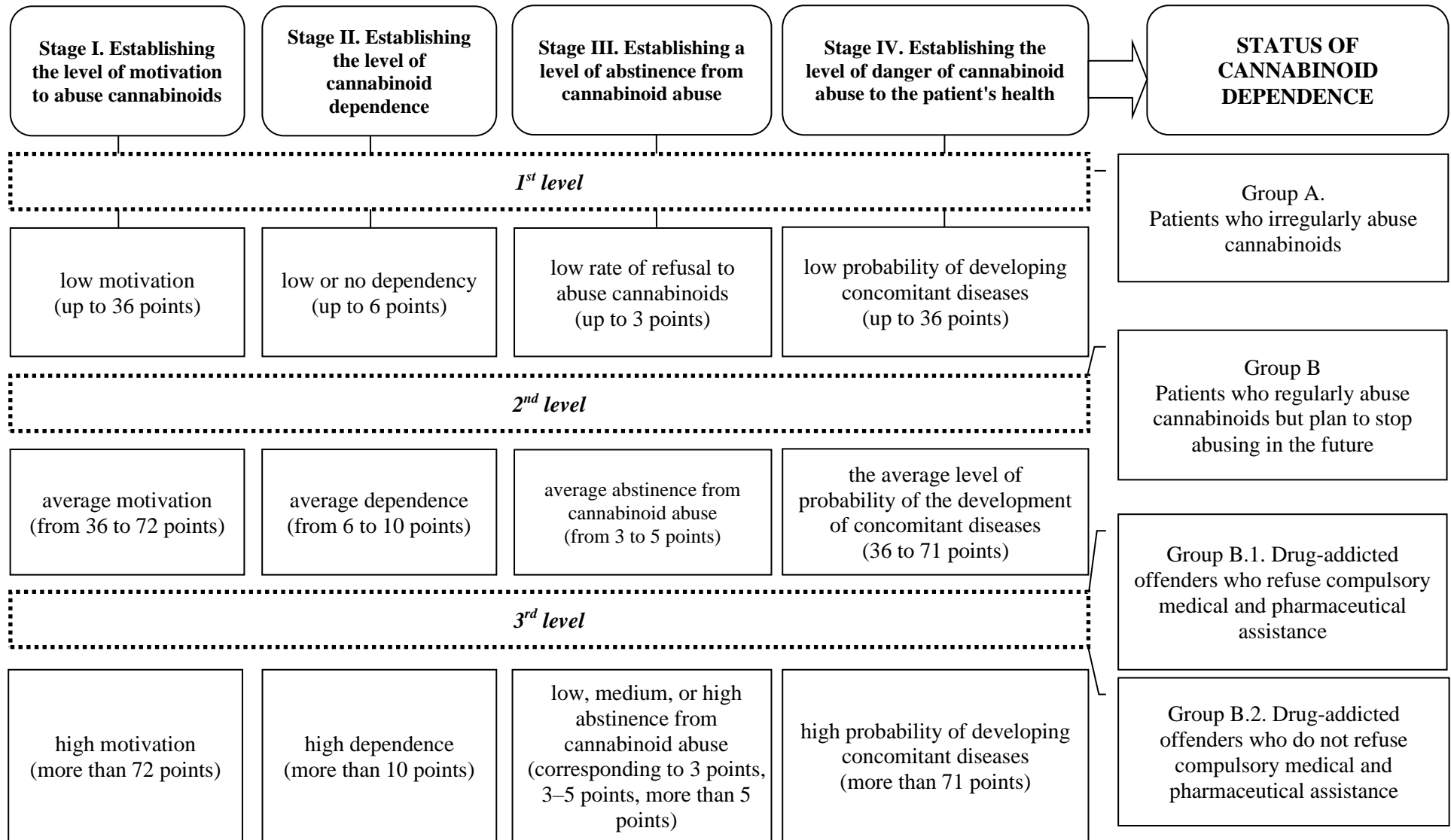


Fig. 4. Algorithm for determining the status of addiction to cannabinoids.

Since these drug patients had a high level of refusal to abuse cannabinoids (more than 5 points), according to the developed algorithm for determining the status of cannabinoid addiction, they were assigned to group B.2 – patients with cannabinoid addiction who have committed offenses and regularly abuse cannabinoids (level 3 status cannabinoid addiction), but they are very willing to stop abusing cannabinoids and do not refuse forced medical and pharmaceutical help.

Rehabilitation (French rehabilitation from the Latin “re” – again and “habilis” – convenient, adapted) is a set of medical, psychological, and other necessary measures to restore the health of individuals as a result of transferred or congenital diseases, injuries, and in our case – drug addiction [88]. The availability of smoking the narcotic drug marijuana is mainly imperceptible and gradual destruction of the personality and all spheres of human life. It requires complex treatment and pharmacotherapy [89]. Doctors note that young people regularly use marijuana, anasha. Not everyone is aware of the danger of such an addiction and does not undergo treatment for drug addicts [90].

Peculiarities of addictive narcotic addiction to marijuana are given in Table. 1.

Table 1. Features of dependence on the psychoactive substance of marijuana.

1	2	3
<p>The main symptoms of addiction to smoking marijuana:</p> <ul style="list-style-type: none"> • state of altered consciousness; • total relaxation; • reddened eyes; • inability to control one's own body; • slowed reaction to external stimuli; • speech disorder; • causeless laughter; • inhibition, disorientation; • memory problems; • poor concentration of attention 	<p>With regular use of psychoactive substances, there are the following symptoms of addiction:</p> <ul style="list-style-type: none"> • decrease in intellectual abilities; • hoarseness; • frequent respiratory diseases due to poor immunity; • emotional sensitivity; • tremor of limbs; • manifestations of fever (increased body temperature, chills); • psychotic manifestations; • increased appetite (a person can eat a lot, but not get better); • redness of the skin around the eyes; • increased blood pressure, rapid heartbeat; • dryness of mucous membranes; • sleep disturbance. 	<p>The difficulty of giving up marijuana abuse is due to a combination of factors:</p> <ul style="list-style-type: none"> • availability and cheapness of the narcotic substance; • lack of awareness about the consequences of using cannabis; • the widespread practice of drug use among young people — when everyone around is smoking, it is difficult to give up a puff, because it shows "coolness"; • imperceptible habit formation.
<p>Withdrawal syndrome (breakdown) appears 3-7 days after the last use of cannabis:</p> <ul style="list-style-type: none"> • insomnia; • decreased interest in food; • pain in muscles and joints; • increased irritability; • nightmares; 	<p>Dangerous consequences for a person if you do not give up the abuse of marijuana:</p> <ul style="list-style-type: none"> • liver and kidney failure; • schizophrenia and other mental disorders; • sexual dysfunction; • irreversible changes in lung tissue, provoking bronchitis, asthma; • loss of moral and ethical values; 	<p>In health care institutions and drug addiction centers in all regions of Ukraine, a drug addiction patient is provided with the following assistance, which consists of 4 stages, namely:</p> <p>1st stage. Diagnostic procedures and examination by a narcologist to confirm the diagnosis and determine the patient's state of health.</p>

<ul style="list-style-type: none"> • aggressive behavior; • depressive thoughts; • bad mood; • chills; <p>disorientation.</p>	<ul style="list-style-type: none"> • arrhythmia; • violation of exchange processes; • depression; • malignant neoplasms; • chronic diseases of the urinary system. 	<p>2nd stage. Carrying out detoxification with the use of certified drugs and individual dosage calculation.</p> <p>3rd stage. Stopping the withdrawal syndrome in hospital conditions to achieve sustainable improvement in well-being.</p> <p>4th stage. Rehabilitation and social adaptation course – together with experienced psychologists, drug addicts learn to be happy without weed, to take responsibility for their lives, to communicate normally with other people and to experience stressful situations.</p>
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Drug patients during treatment in the system of legal relations "doctor-patient-pharmacist-lawyer" use drugs during detoxification to eliminate withdrawal symptoms [91]. Pharmacotherapy helps to reduce the craving for narcotic drugs and prevent relapse.

Conclusions. Forensic and pharmaceutical, organizational and legal study concerning illegal circulation, danger and drug addiction from cannabinoids was conducted. Global experience in the circulation of cannabis and psychoactive substances was summarized. The use of cannabinoids by different categories of the population was analyzed. Forensic and pharmaceutical practice on the illegal circulation of narcotic drugs of plant origin has been studied. The demand of illegal consumers has been systematized. An assessment of the problems of pharmacotherapy of drug patients with cannabinoid addiction is given. An algorithm for determining the status of cannabinoid addiction has been developed. The content of the rehabilitation of drug addicts and the peculiarities of addictive narcotic dependence on marijuana are given. Further researches are ongoing.

Ethical approval. Ethical clearance was obtained from the administration of communal health care facility Kharkiv Regional Narcological Dispensary. A permission statement for conducting the experiments was received from the administration of communal health care facility Kharkiv Regional Narcological Dispensary. Before any data collection, the main purpose of the study was clearly explained to each department (concerned personnel).

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References.

1. Treatment of addiction to weed: when a teenager can still be saved. *All-Ukrainian Narcological Center "Medicon"*. 18.09.2022. URL: <https://nonarcotic.com.ua/uk/likuvannya-narkomaniji/likuvannia-zalezhnosti-vid-travky/>.
2. Gaponenko O.V., Golovanova D.V. Problems of prevention of drug-addicted teenagers in Ukraine. "Social and humanitarian sciences, economics, law: new challenges, innovation practice": materials of the Inter. science and practice conference, Poltava, April 16-17, 2015: in 2 volumes, T.2. K.: "Ukraine" University. 2015. P. 37-45. URL: https://uu.edu.ua/upload/Nauka/Electronni_naukovi_vidannya/Conf_Soc_gum_nauki_Tom2_15.pdf
3. Vovk V.M., Kalinichenko A.P., Lyashuk A.V. et al. The main directions and problems of combating drug addiction. Ivano-Frankivsk, National Acad of Internal Affairs, 2017. 122 p. URL:

https://www.naiu.kiev.ua/files/naukova-diyalnist/naukovi-zaxodi/zbirnuki/2017/zbir_KrugSt_narkoman.pdf.

4. Sokolenko M.O. Comorbidities in HIV infection. *Infectious diseases*. 2016. No. 1. P.14-18.
5. Chilutyan O. Most of the cases with which HIV-positive people apply are indicators of general and systemic problems in the state. *Ukrainian Helsinki Human Rights Union*. 20.04.2021. URL: <https://helsinki.org.ua/articles/oryna-chylutian-bilshist-vypadkiv-z-iyakymy-zvertaiutsia-vil-pozytyvni-liudy-ie-indykatoramy-zahalnykh-i-systemnykh-problem-v-derzhavi/>.
6. Shapovalova V. The ICD-11 for the twenty-first century: the first view from the organizational, legal, clinical and pharmacological aspects. *SSP Modern Pharmacy and Medicine*. 2022. Vol.2. No.1. P.1–13. URL: <https://doi.org/10.53933/ssppm.v2i1.37>.
7. Ivanishyn-Hayduchok L., Shapovalova V., & Shapovalov V. ICD-11: Organizational and legal, medical and pharmaceutical, social and economic issues of implementation of the program of state guarantees of medical care in 2022 in Ukraine, based on the fundamental principles of the European Union. *SSP Modern Pharmacy and Medicine*. 2022. Vol. 2 No. 2. P. 1–14. URL: <https://doi.org/10.53933/ssppm.v2i2.53>.
8. The Impact of COVID-19 on drug use – and how it contributes to overdose risk. *NYU*. 25.04.2022. URL: <https://www.nyu.edu/about/news-publications/news/2022/april/covid-19-drug-use.html>.
9. Murphy F. Cannabis use has risen with legalization and COVID lockdowns, U.N. report says. *Reuters*. 27.06.2022. URL: <https://www.reuters.com/world/cannabis-use-has-risen-with-legalization-covid-lockdowns-un-report-2022-06-26/>.
10. Shapovalova V. An Innovative multidisciplinary study of the availability of coronavirus vaccines in the world. *SSP Modern Pharmacy and Medicine*. 2022. Vol.2. N.2. P.1–17 URL: <https://doi.org/10.53933/ssppm.v2i2.45>.
11. Shapovalova V. Monkeypox virus – new challenges of modernity: experimental organizational and legal, clinical and pharmacological studies. *SSP Modern Pharmacy and Medicine*. 2022. Vol.2. N.3. P.1–15. URL: <https://doi.org/10.53933/ssppm.v2i3.54>
12. Лікування від марихуани, куріння травки. *Клініка NewLife*. 18.09.2022. URL: <https://nc-newlife.com/ua/likuvannya-narkomaniji/likuvannya-vid-marikhuani>.
13. Shapovalova V.O., Shapovalov V.V., Negretskyi S.M. Organizational, legal and moral aspects of the study of the problem of the prevalence of drug addiction (on the example of cannabis) in modern society in the light of the spiritual heritage of the Orthodox Church. *Ukrainian Herald of Psychoneurology*. 2010. Vol. 18, issue 2. (63). P. 97-101. URL: <https://www.uvnpn.com.ua/arkhiv-nomeriv/2010/tom-18-vipusk-2-63/organ-zats-yno-pravov-moraln-aspekti-vivchennya-proble-mi-poshirenost-narkoman-na-priklad-kanab-su-v>.
14. Shapovalova V.O., Shapovalov V.V., Negretskyi S.M. Forensic pharmacy: organizational and legal procedure for the destruction of controlled plants in Ukraine. *Ukrainian Journal of Clinical and Laboratory Medicine*. 2010. Vol. 5. No. 3. P. 9-12.
15. Shapovalov V.V. (Jr.), Negretskyi S.M. Forensic-pharmaceutical study of the prevalence of cannabinoid addiction in the Kharkiv region. *Pharmaceutical journal*. 2010. No. 6. P. 9-11.
16. Shapovalova V.O., Shapovalov V.V., Negretskyi S.M. Forensic pharmacy: ways to rehabilitate drug addicts using cannabinoids using apitherapy. *Ukrainian Herald of Psychoneurology*. 2011. T. 19. Issue 2 (Appendix). P. 102-104.
17. Shapovalova V.O., Shapovalov V.V., Negretskyi S.M. Forensic-pharmaceutical monitoring of illegal cannabis circulation. *Ukrainian Herald of Psychoneurology*. 2011. T. 19. Issue 2 (Appendix). P. 148-151.
18. Shapovalova V.A., Shapovalov V.V., Negretskyi S.M. Forensic pharmacy: countermeasures against illegal trafficking of the dangerous narcotic drug cannabis. *Ukrainian Herald of Psychoneurology*. 2012. T. 20. Issue 2 (Appendix). P. 99-101.
19. Shapovalova V.O., Shapovalov V.V., Negretskyi S.M. Forensic and pharmaceutical study of the problem related to drug addiction prevention and medical-pharmaceutical and church

- rehabilitation of drug addicts. *Ukrainian Herald of Psychoneurology*. 2012. T. 20. Issue 4. P. 74–78.
20. Shapovalov V.V., Shapovalova V.O., Negretskyi S.M. Forensic pharmacy: analysis of illegal cannabinoid traffic at the level of city councils. *Ukrainian Herald of Psychoneurology*. 2013. Vol. 21. Vol. 2 (75) Appendix. P. 42-46.
21. Sosin I.K., Chuev Y.F., Horban A.E. et al. An integrated approach to the therapy of hashish addiction with the use of modern hardware and drug technologies. *Ukrainian Herald of Psychoneurology*. 2014. Vol. 22. Vol. 2 (79) Appendix. P. 123-128.
22. Shapovalov V.V. (Jr.), Shapovalova V.A., Shapovalov V.V. et al. Forensic and pharmaceutical status of the determination of depending from cannabinoids (F12). *European Applied Sciences*. 2013. Vol. 2. No. 9. P. 146-149.
23. Shapovalov V.V., Shapovalov V.V. (Jr.), Negretsky S.N. et al. Forensic and pharmaceutical study of drug crime associated with illegal circulation of cannabis group drugs. *Bulletin of the Tajik National University*. 2013. No. 3 (3). P. 71-77.
24. Shapovalov V.V. Orhanizatsiino-pravovi pidkhody do rozrobky kombinovanykh likarskykh zasobiv na osnovi psykhoaktyvnykh rehovyn dlia poperedzhennia i likuvannia narkomani: avtoref. dys. na zdobuttia nauk. stupenia doktora farmats. nauk: spets. 15.00.01 «Tekhnolohiia likiv ta orhanizatsiia farmatsevychnoi spravy». Kyiv, 2005. 44s. URL: <http://irbis-nbuv.gov.ua/ASUA/0011146>.
25. Vasina Yu.V. Orhanizatsiini doslidzhennia sudovoi farmatsii shchodo protydii narkotyzatsii molodi psykhoaktyvnymy rehovynamy: avtoref. dys. na zdobuttia nauk. stupenia kand. farmats. nauk: spets. 15.00.01 «Tekhnolohiia likiv ta orhanizatsiia farmatsevychnoi spravy». Kharkiv, 2009. 24 s. URL: <http://irbis-nbuv.gov.ua/ASUA/0090297>.
26. Osyntseva A.O. Naukove obgruntuvannia pryntsyypiv farmatsevychnoi korektsii polinarkomanii na zasadakh sudovoi farmatsii avtoref. dys. na zdobuttia nauk. stupenia kand. farm. nauk: spets. 15.00.01 «Tekhnolohiia likiv ta orhanizatsiia farmatsevychnoi spravy». Kh., 2020. 24 s. URL: <https://nuozu.edu.ua/s/naukovi-pidrozdily/spetsializovani-vcheni-rady/spetsializovana-ychena-rada-d-2661304>.
27. Sosin I.K., Horban A.E., Honcharova O.Yu. et al. Patent 93334 Ukraine, IPC (2014.01) A61K31/00. The method of integrated therapy of hashish addiction/Application No. u201404521; statement 28.04.14; published 25.09.14. Bul. No. 18. 8 p.
28. Shapovalova V.A., Sosin I.K., Butenko H.M. et al. Pharmaceutical law in narcology. 4th ed. Kh.: FAKT, 2004. 800 p.
29. Shapovalova V.A., Stefanov A.V., Trakhtenberg I.M. et al. Pharmaceutical law in safe self-treatment: drugs dispensed without a doctor's prescription. 2nd ed. Kh.: FAKT, 2005. 800 p.
30. Shapovalova V.A., Shapovalov V.V. Handbook of legal and forensic pharmacy. Kh.: Torsing, 1997. 656 p.
31. Shapovalova V.A., Voloshin P.V., Stefanov A.V. et al. Drugs in neurology, psychiatry and narcology. Kh.: Fakt, 2003. 770 p.
32. Shapovalov V.V. Sudovo-farmatsevychni osnovy poshuku sposobiv farmakokorektsii narkopatsientiv z deviantnoiu povedinkoiu v ramkakh derzhavnoi kontseptsii protydii narkomanii i narkozlochynnosti: avtoref. dys. na zdobuttia nauk. stupenia doktora farmats. nauk: spets. 15.00.01 «Tekhnolohiia likiv, orhanizatsiia farmatsevychnoi spravy ta sudova farmatsiia». Kyiv, 2017. 44 s. URL: <https://nuozu.edu.ua/s/naukovi-pidrozdily/spetsializovani-vcheni-rady/spetsializovana-ychena-rada-d-2661304>.
33. Shapovalova V.O., Shapovalov V.V., Osyntseva A.O. Sudovo-farmatsevychna otsinka polinarkomanii pry odnochasnomu vzhyvanni psykhoaktyvnykh rehovyn. *Likarska sprava*. 2018. N.1–2 (1146). DOI: 10.31640/JVD.1-2.2018(29). P. 171–177.
34. Nehretskyi S.M. Sudovo-farmatsevychne obgruntuvannia orhanizatsiinykh zakhodiv dlia zabezpechennia likamy narkokhvorykh z zalezhnistiu vid kannabinoidiv (F12): avtoref. dys. na zdobuttia nauk. stupenia kand. farmats. nauk: spets. 15.00.01 «Tekhnolohiia likiv, orhanizatsiia farmatsevychnoi spravy ta sudova farmatsiia». Kyiv, 2016. 24 s. URL:

- <https://nuozu.edu.ua/s/naukovi-pidrozdily/spetsializovani-vcheni-rady/spetsializovana-vchena-rada-d-2661304>.
35. Shapovalova V.O., Shapovalov V.V., Negretskyi S.M. Pharmaceutical law: compulsory medical and pharmaceutical assistance in unity to increase the level of spirituality of the criminal and the citizen. Postgraduate training of pharmacy specialists in the organizational and economic direction: scientific and practical materials. conf. from international participation June 2-3 2010. Kh., 2010. P. 89-90.
36. Chuiev Y., Shapovalova V. Interdisciplinary pharmacoeconomic study of pharmacotherapy of cupping of drunk forms of alcohol dependence: clinical and pharmacological, organizational, legal and marketing experiment. *SSP Modern Pharmacy and Medicine*. 2021. Vol.1. No.2. P.1–12. URL: <https://doi.org/10.53933/ssppmp.v1i2.24>.
37. Negretskyi S.M. The fight against drug addiction and crime lies in the unification of society's efforts on the basis of spirituality. Forensic pharmacy, evidentiary pharmacy and pharmaceutical legislation as components of pharmaceutical law in the program of implementation of state policy in the field of combating crime and violations of the rules of circulation of psychoactive substances for 2011-2017: materials of the VII International. science and practice conf. November 19–20 2010. Kh., 2010. P. 36.
38. Shapovalov V.V. (Jr.), Negretskyi S.M. Forensic pharmacy as an integral part of state policy in medical and pharmaceutical assistance to criminals suffering from drug addiction. Dovzhenko readings: additive status in normality and pathology (diagnostic, therapeutic and prognostic aspects): materials of the XII Ukr. science and practice conf. from international participation April 12 2011 H.: "Pleiada", 2011. P. 231-232.
39. Negretskyi S.M., Shapovalova V.O. Forensic pharmacy: study of the prevalence of addiction to cannabinoids (F12) in the territory of Ukraine. Actual issues of creation of new medicines: Vseukr. science and practice conf. study and minor of scientists, April 21-22, 2011. thesis. Kharkiv, 2011. P. 524.
40. Shapovalova V., Zakharchenko I. Organizational and legal approaches to reforming of the law enforcement system of Ukraine: illegal circulation of psychoactive substances and addictive dependence. 2021. *SSP Modern Law and Practice*. Vol. 1. N.1. P.1–22. URL: <https://doi.org/10.53933/sspmlp.v1i1.20>.
41. Shapovalova V.O., Shapovalov V.V., Negretskyi S.M. Forensic pharmaceutical assessment of the level of cannabinoid dependence. Combating drug crime: domestic and international experience of law enforcement and judicial cooperation: Ukrainian-German materials. science and practice conference, May 26-27 2011. Donetsk, 2011. P. 163-164.
42. Negretskyi S.M. On the importance of forensic pharmaceutical research in the system of state measures for the rehabilitation of drug addiction patients, taking into account the experience of church parishes. Pre-trial investigation, pharmaceutical and medical law, as components of the state policy of Ukraine in combating drug crime and the spread of drug addiction: from police chemistry and forensic pharmacy to pharmaceutical and medical legislation, social, evidence-based medicine and pharmacy: VIII International. science and practice conference, November 18-19 2011: Abstracts of add. Kharkiv, 2011. P. 74.
43. Shapovalova V.O., Shapovalov V.V., Negretskyi S.M. Forensic pharmacy: development of organizational measures to counter the illegal circulation of cannabinoids. Dovzhenko readings: rehabilitation and resocialization of persons with addictions of various origins: materials of XIII Ukr. science and practice conf. from international participation, April 10-11 2012. Kh.: "Pleiada" Publishing House, 2012. P. 238-246.
44. Chuiev Y., Shapovalova V. Integrated ABC/VEN-analysis of drug prescriptions in pharmacotherapeutic schemes for relief of drunken forms of alcohol dependence. *SSP Modern Pharmacy and Medicine*. 2022. Vol.2. N.1. P.1-14. <https://doi.org/10.53933/ssppmp.v2i1.35>.
45. Negretsky S.M. Danger expansion of cannabinoid drug addiction for Ukrainian society. The revival of spirituality in the modern world: the interaction of church and education: materials of the

- II Intern. sci.-pract. conf. to the 20th anniversary of the Kharkiv Bishops' Council of the UOC, April 26–27. 2012 Kh.: Publishing house of KhNU named after. V.N. Karazin, 2012. P. 302-304.
46. Shapovalova V.O., Shapovalov V.V., Negretskyi S.M. Forensic-pharmaceutical problems of cannabis circulation: perspectives of state control, medico-narcological consequences. Dovzhenko readings: the problem of attractiveness of drug addiction treatment. From service to service: materials of XIV Ukr. science and practice conf. from international participation, April 9-10 2013. H.: Pleiada, 2013. P. 313-316.
47. Sosin I.K., Horban A.E., Honcharova O.Yu. etc. Adjuvant effects of membrane plasmapheresis, hepatoprotectors of the new generation and bioadaptive regulation of systems in narcology. Dovzhenko readings: The problem of adherence of patients with a narcological profile to therapy. The need for treatment and treatment as needed: materials of the 15th Ukr. science and practice conf. from international participation, April 8-9 2014. H.: "Pleiada", 2014. P. 228-231.
48. Sosin I.K., Chuev Y.F., Horban A.E. et al. Search for innovative integrations of nanotechnology methods, pharmacological hepatoprotection and self-training (on the biofeedback model) in narcology. Application of lasers in medicine and biology: materials XXXII International. science and practice conference, December 11-13 2014. Yaremche, 2014. P. 62-65.
49. Shapovalov V. (Jr.), Zbrozhek S., Gudzenko A. et al. Organizational and legal analysis of the pharmaceutical provision for the most common diseases of society. *International Journal of Pharmaceutical Sciences Review and Research*. 2018. Vol.51. N.1. P.118-124. URL: <http://globalresearchonline.net/journalcontents/v51-1/18.pdf>.
50. Shapovalov V.V. (Jr.), Shapovalova V.A., Shapovalov V.V. Development of forensic and pharmaceutical researches within the organization of pharmaceutical business, drug technology and pharmaceutical law in Ukraine concerning the turnover of controlled drugs and substances. *Health of Society*. 2021. Vol.10. No.3. P.98-106. URL: <https://doi.org/10.22141/2306-2436.10.3.2021.246351>.
51. Shapovalov V. (Jr.), Gudzenko A., Komar L. et al. Concerning the importance of forensic and pharmaceutical researches to improve patients' accessibility to medicines. *Pharmacia*. 2017. Vol. 65. N.2. P.23–29. URL: <http://bspms.org/wp-content/uploads/2017/07/Shapovalov.pdf>.
52. Shapovalov (Jr.) V., Gudzenko A., Shapovalova V. et al. Forensic and pharmaceutical analysis of addictive morbidity because of the use of narcotic psychoactive substances in Ukraine (retrospective aspect). *International Journal of Pharmaceutical Sciences and Research*. 2018. Vol. 3. Is.3. P.22-25. URL: <http://www.pharmacyjournal.net/archives/2018/vol3/issue3>.
53. Shapovalova V.A., Zbrozhek S.I., Shapovalov V.V. et al. Coronavirus disease pandemia 2019: growth of epidemic dangers. *Acta scientific pharmaceutical sciences*. 2020. Vol.4. Iss.7. P.61–68. URL: <https://www.actascientific.com/ASPS/ASPS-04-0559.php>.
54. Hayduchok I., Shapovalov V. Covid-19: multidisciplinary researches of forensic and pharmaceutical risks and causal relationships of unqualified medical care for patients during pandemic. 2022. *SSP Modern Law and Practice*. Vol.2. No.1. P.1-25. URL: <https://doi.org/10.53933/sspmlp.v2i1.39>.
55. COVID pandemic fuelling major increase in drug use worldwide: UN report. *United Nations*. URL: <https://news.un.org/en/story/2021/06/1094672>.
56. Shapovalova V.A., Shapovalov V.V. The clinical efficacy of the combined drug agent Valcophen in children. *Likars'ka sprava*. 1999. No.1. P.124–126.
57. Shapovalova V.O., Mykhailov V.S., Shapovalov V.V. The characteristics of the development of cataleptic phenomena during the action of a new Ukrainian neuroleptic--a butyrophenone derivative--in experiments on mice. *Fiziologichnyi zhurnal*. 1999. Vol.45. No.3. P 114–117.
58. Shapovalova V.O., Shapovalov V.V. Spasmophilia in children and the anticonvulsant properties of a new Ukrainian preparation containing a pyrimidine derivative. *Fiziologichnyi zhurnal*. 1998. Vol.44. No.5-6. P. 102–105.
59. Shapovalova V.O., Chernykh V.P. The physiological properties of the action of a new analgesic and antipyretic preparation. *Fiziologichnyi zhurnal*. 1997. Vol.43. No.1-2. P. 117–121.

60. Shapovalov V.V. (Jr.), Zbrozhek S.I., Shapovalova V.O. et al. Organizational and legal evaluation of availability of medicines' circulation for cancer patients. *Pharmacia*. 2018. Vol. 65. No. 2. P. 17-22. URL: <http://bsphs.org/?magasine=organizational-and-legal-evaluation-of-availability-of-medicines-circulation-for-cancer-patients>.
61. Shapovalov V., Butko L., Shapovalov V. Organizational and legal study of quarantine restrictions in the spread of coronavirus disease in Ukraine. *SSP Modern Pharmacy and Medicine*. 2021. Vol.1. No.2. P.1–12. URL: <https://doi.org/10.53933/sspm.v1i2.23>.
62. COVID pandemic fuelling major increase in drug use worldwide: UN report. *United Nations*. URL: <https://news.un.org/en/story/2021/06/1094672>.
63. Shapovalov V. (Jr.), Gudzenko A., Shapovalova V. et. el. Forensic and pharmaceutical study of the presence of a causal link between the degree of alcohol abuse and qualification level of the respondents. *Pharmacia*. 2017. Vol. 66. No. 3. P. 31–39. URL: <http://bsphs.org/wp-content/uploads/2017/11/Shapovalov.pdf>.
64. Gudzenko A., Shapovalov V., Shapovalov V., et al. Forensic pharmacy: analysis of complaints about the pharmaceutical provision for privileged categories of patients in Ukraine (experimental research). *Science Review*. 2021. V.2. Iss.37. P.1–6. DOI: https://doi.org/10.31435/rsglbal_sr/30042021/7517.
65. Peresyphkin O.V. Sudovo-farmatsevytchne obruntuvannia obihu likarskykh zasobiv iz psykhoaktyvnyh vlastyivostiamy riznykh nomenklaturno-pravovykh hrup: avtoref. dys. na zdobuttia nauk. stupenia kand. farmats. nauk: spets. 15.00.01 «Tekhnolohiia likiv, orhanizatsiia farmatsevytchnoi spravy ta sudova farmatsiia». Kharkiv, 2013. 24 s. URL: <http://www.disslib.org/sudovo-farmatsevytchne-obruntuvannja-obihu-likarskykh-zasobiv-iz-psykhoaktyvnyh.html>.
66. Shapovalova V.A., Shapovalov V.V., Movsisyan A.G. et al. Sudebno-farmatsevticheskoe izuchenie riskov, vliyayuschih na razvitie addiktivnoy zavisimosti u molodezhi. *Farmatsiya Kazahstana*. 2016. No. 7 (182). P. 47–55.
67. Head J. Thailand cannabis: From a war on drugs to weed curries. *BBC*. 21.06. 2022. URL: <https://www.bbc.com/news/61836019>.
68. Pozzebon S. This country calls time on the 'war on drugs. *CNN*. 21.08.2022. URL: <https://edition.cnn.com/2022/08/21/americas/colombia-marijuana-bill-war-on-drugs-intl-cmd/index.html>.
69. Khairy J. No need for law changes to register medical cannabis. *CodeBlue*. 10.12.2021. URL: <https://codeblue.galencentre.org/2021/12/10/khairy-no-need-for-law-change-to-register-medical-cannabis/>.
70. Tikkanen A. Why is marijuana illegal in the U.S.? *Britannica*. 16.09.2022. URL: <https://www.britannica.com/story/why-is-marijuana-illegal-in-the-us>.
71. Citizens against Legalizing marijuana (CALM) is an all-volunteer political action committee dedicated to defeating any effort to legalize marijuana. *Calmca*. 2006. URL: <https://calmca.org/>.
72. Doctors are outraged by marijuana legalization. *Public movement "All together"*. 03.06.2018. URL: <https://vsirazom.ua/article/likari-oburyuyutsya-marixuanovim-legalajzom-pryama-mova>.
73. Resolution of the Cabinet of Ministers of Ukraine No. 770 of May 6, 2000 "On Approval of the List of Narcotic Drugs, Psychotropic Substances and Precursors". *Cabinet of Ministers of Ukraine*. URL: <https://zakon.rada.gov.ua/laws/show/770-2000-rr#Text>.
74. UN drug report shines light on cannabis, cocaine and methamphetamine trends. *United Nations*. 27.06. 2022. URL: <https://news.un.org/en/story/2022/06/1121472>.
75. World Drug Report 2022 launched to the public with an expert forum discussing findings in-person and online. *United Nations Office on Drugs and Crimes*. 29.06.2022. URL: <https://www.unodc.org/unodc/en/frontpage/2022/June/world-drug-report-2022-launched-to-the-public-with-an-expert-forum-discussing-findings-in-person-and-online.html>.
76. Denisenko V. Determination of the scale of drug and alcohol addiction. Public consequences. *Ukrainian Institute for the Future*. 29.06.2021. URL:

<https://uifuture.org/publications/mizhnarodna-konferencziya-narkotychna-ta-alkogolna-zalezhnist-bezpeka-suspilstva-zahyst-nepovnolitnih-psyhichne-zdorovya/>.

77. Criminal Code of Ukraine. *Verkhovna Rada of Ukraine*. 2001. URL: <https://zakon.rada.gov.ua/laws/show/2341-14#Text>.

78. Constitution of Ukraine. *Verkhovna Rada of Ukraine*. 1996. URL: <https://zakon.rada.gov.ua/laws/show/254%D0%BA/96-%D0%B2%D1%80#Text>.

79. Resolution of the Cabinet of Ministers of Ukraine No.1303 of August 17, 1998 "On regulation of 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". *Verkhovna Rada of Ukraine*. 14.08.2021. URL: <https://zakon.rada.gov.ua/laws/show/1303-98-%D0%BF#Text>.

80. In the Dnipropetrovsk region, the police exposed a drug dealer and seized more than UAH 3 million worth of drug raw materials. *Official website of the National Police*. 18.07.2022. URL: <https://www.npu.gov.ua/news/narkozlochyni-na-dnipropetrovshhyni-policzejski-vikryti-narkodilera-ta-viluchili-narkosirovini-na-ponad-3-mln-grn/>.

81. Lototska N. In the Dnipropetrovsk region, the police exposed a drug dealer with goods worth UAH 3 million. *LB.ua*. 19.07.2022. URL: https://lb.ua/society/2022/07/19/523557_dnipropetrovshhyni_politseyski.html

82. The police found a hemp crop on the homestead of a resident of Vinnytsia. *Official website of the National Police*. 01.07.2022. URL: <https://vn.npu.gov.ua/news/narkotiki/policzejski-viyavili-posiv-konopel-na-prisadibnij-dilyanczi-vinnichanina/>

83. In Vinnytsia, a man grew two-meter-high hemp and cannabis. *Vinnytsia.Info*. 08.09.2022. URL: <https://www.vinnitsa.info/news/na-vinnychchyni-cholovik-vyroshchuvav-konopli-ta-kanabis-zavyshky-v-dva-metry.html>.

84. Kovalenko O. The boy was imprisoned for 6 years for 11 grams of hemp. How a schoolboy is judged in Volyn. *BBC News Ukraine*. 02.03.2021. URL: <https://www.bbc.com/ukrainian/features-56195604>.

85. Shapovalov V.V. (Jr.), Negretskyi S.M. Forensic pharmaceutical practice: investigation of causal relationships of deviant behavior in drug patients. *Ukrainian Journal of Clinical and Laboratory Medicine*. 2012. Vol. 7. No. 2. P. 77-79.

86. Shapovalov V.V. (Jr.), Shapovalova V.O., Shapovalov V.V. et al. Pharmaceutical Law and Forensic Pharmacy: An Algorithm for Defining the Status of Cannabinoid Addiction (F12). Scientific studies and their practical application. Current state and ways of development 2013: coll. of science Proceedings of SWorld International science and practice conference, October 1–12 2013. Ivanovo: A.D. Markova, 2013. Vol. 3. Vol. 48. Cit: 313-0489. P. 16–19.

87. Shapovalov V.V. (Jr.), Negretskyi S.M., Shapovalova V.O. et al. Forensic and evidence-based pharmacy: determining the status of cannabinoid addiction (F12): methodological recommendations, Kharkiv, 2011. 24 p.

88. Introduction to Rehabilitation. *Physiopedia*. 15.09.2022. URL: https://www.physio-pedia.com/Introduction_to_Rehabilitation.

89. Treatment from marijuana, smoking weed. *NewLife addiction treatment clinic website*. 16.09.2022. URL: <https://nc-newlife.com/ua/likuvannya-narkomaniji/likuvannya-vid-marikhuani>.

90. Should weed addiction be treated? *Rehabilitation center "Vybir+Lviv"*. 24.11.2020. URL: <https://vybir.lviv.ua/zalezhnist-vid-travychky/>

91. Legg T.J. What are the treatments for addiction? *MedicalNewsToday*. 02.11.2018. URL: <https://www.medicalnewstoday.com/articles/323468>.