

# Drug Abuse: Distribution and Health Impact on Societies

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## Abstract

Human wealth is considered the most precious wealth possessed by countries and is the real capital of nations because of this wealth's potential to contribute to the building and development of society. However, this wealth is sometimes affected by the negative aspects of society and its economic, social, and safety conditions. Drugs are one of these negatives that threaten the building of societies, and all statistics indicate that there are many different types of drugs and an excessive increase in their use, especially among youth groups, which are the basic building blocks of any society. The research includes a health and digital review of the impact of this scourge on societies, supported by scientific analysis and data charts.

**Keywords:** Amphetamines, cannabis, cocaine, ecstasy, opioids

## INTRODUCTION

Drug addiction is one of the health, economic, and social problems that different countries of the world suffer from both people and governments and seek by all available means to combat it and alleviate its impact on society.<sup>[1]</sup> This problem was not limited to one type of drug, a specific country, or a specific stratum of society but included all types and classes. Many new compounds have appeared a clear effect on the nervous system and the brain. There are many types of drugs, the first of which is alcohol, which is considered one of the oldest and most widespread substances and is used by most people of the world even in their religious rituals.<sup>[2]</sup> Alcohol causes inhibition of the cerebral cortex, and a person can sometimes become aggressive for losing the ability to balance.<sup>[3]</sup> The second type is depressants, and their effect is to inhibit the activity of the nervous system at the time of opium, morphine, and heroin. The third type is hypnotics, and one of their long-term effects is the infectious and moral effect on humans. The fourth type is tranquilizers that treat anxiety and stress conditions but have long-term health effects. The fifth type is natural stimulants such as cocaine, in which a percentage of opium leads to laziness and general thinness, as well as khat, which leads to mental and physical laziness.

The sixth type is hallucinogens, which are a group of heterogeneous chemicals, some of which are natural, such as cannabis extracted from the cannabis plant, and have an effect on the central nervous system. The seventh type is inhalants such as gasoline, paint thinner, tire adhesive, and others.<sup>[4-7]</sup>

## DIAGNOSIS AND TREATMENT

The diagnosis of drug addiction requires a psychological and medical evaluation, as blood and urine tests are used and these tests can be used later in the treatment of addiction.<sup>[8]</sup> Drug addiction affects the brain and as a result affects the addict's behavior and inability to control depending on the type of drugs being used. These conditions lead to the addict's imbalance, drowsiness, lack of concentration, slow breathing, falls or accidents, skin rashes, bad breath, nausea, tremors, depression, constipation, insomnia, vomiting, sweating,

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sleep problems, hallucinations, convulsions, bone and muscle pain, high blood pressure, heart rate and body temperature, depression, and suicide attempt.<sup>[9,10]</sup> Other cases of diagnosis reveal the sudden change of the addict in his lifestyle with a low level of study or performance at work, mood swings, nervousness in dealing, introversion and loneliness, and weight loss due to anorexia; all these consequences can lead to the addict getting health complications or infectious diseases such as acquired immune deficiency syndrome (AIDS) due to the lack of the required immunity inside the addict's body. Studies have proven that there are no exact treatments for drug addiction, but there are medications and treatment options that help the addict to overcome this epidemic and get away from it, which often need a long time and continuous follow-up.<sup>[11]</sup> There is a range of therapeutic programs, including individual, group, or family therapy sessions, as well as educating the addict on the consequences of addiction. This sometimes requires isolation or admission to specialized hospitals for treatment and detoxification. The specialist can prescribe a specific drug to help the addict recover, as well as withdrawal therapy. Behavioral treatment through a psychologist may be employed, along with the development of specific plans and programs, including identifying the legal problems that may occur to the addict, and there must be accurate treatment programs to follow-up and evaluate the addict and the extent of their response and improve their health status.<sup>[12]</sup>

### The main types of drugs

There are six main types of drugs as follows:

1. **Cannabis:** The products of cannabis belong to the oldest known drugs. Cannabis and its products contain many substances, but the most important of them is known as tetrahydrocannabinol (THC). THC acts on the receptors (CB1 and CB2) of certain brain cells (particularly in areas such as the hippocampus, basal ganglia, cerebellum, and neocortex) that normally react with natural chemicals like THC. These natural chemicals play a role in normal brain development and function. The use of cannabis and its products can lead to addiction, and research indicates that between 9% and 30% of those who use marijuana may develop some degree of addiction and its effects on human health: A decrease in the degree of life satisfaction, a decline in mental health, a decline in physical health, problems in relationships, and less academic and professional success.<sup>[13]</sup>
2. **Opioids:** Opioids are narcotic medical analgesics that have the possibility of pain relief, especially for cancer diseases or joint and back pain, where these substances provide some relief to the patient, but their danger lies in addiction to them, where their effectiveness in pain relief is limited in time, and when addicted to them, side effects appear that threaten human life, as taking high doses leads to constriction of the pupils, loss of consciousness, and difficulty breathing. The most widespread number of opioids on the continent of Asia is in Southeast Asia and the regions near the Middle East, followed by the Americas in North America and then Africa, Europe, and Oceania.<sup>[14]</sup>
3. **Cocaine:** Cocaine is considered the most medicinal stimulant (increasing dopamine levels in the brain). It is extracted from the coca plant and grows mainly in South America and both Peru and Bolivia and is sometimes used with tea to relieve fatigue; later, scientists used it as a local anesthetic for eye, nose, and throat surgeries to prevent bleeding. Cocaine increases the activity of the nervous system and leads to an increase in heartbeat and high blood pressure. The most widespread continent in the use of cocaine is the Americas and in North America, followed by Europe in central and Western Europe and then Asia, Africa, and Oceania.<sup>[15]</sup>
4. **Amphetamines:** Amphetamine is considered a powerful stimulant for the nervous system (by increasing the levels of neurotransmitters, particularly dopamine and norepinephrine, in the brain) and leads to increased brain concentration and feelings of energy and confidence. It is used to treat some medical conditions such as attention deficit hyperactivity, reduced appetite, weight loss, treating numbness, and depression. Using unusual amounts of amphetamine or not consulting a specialist doctor leads to the occurrence of side health conditions such as stroke, decreased blood flow to the extremities, headaches, rapid heartbeat, stomach pain, and some psychological conditions related to anxiety, insomnia, and mood swings. The highest prevalence of amphetamine is in the Americas and North America, followed by the Asian continent in East and Southeast Asia and then Europe, Africa, and Oceania.<sup>[16,17]</sup>
5. **Ecstasy/MADA:** Ecstasy pills are an illegally manufactured drug that leads to a change in mood, sensation of surrounding objects, and a feeling of increased energy and emotion. Ecstasy pills affect the brain (acting as both a stimulant and an empathogen), increase the energy and motor ability of the user, increase heart rate and blood pressure, and cause drowsiness, and excessive intake can lead to aggressiveness and depression, insomnia, anxiety, nausea, and loss of appetite, the appearance of skin rashes and the transmission of sexual diseases such as AIDS.<sup>[18]</sup>
6. **Captagon:** Captagon is an addictive substance that goes by the generic name fenethylamine. Captagon has a stronger effect on the central nervous system than its main metabolite, amphetamine. Captagon addiction is primarily caused by amphetamine, an agonist for trace amine-associated receptor 1 that enhances dopamine signaling (increased irritability and aggression). The primary metabolite of Captagon, amphetamine, is a

central nervous system stimulant that can improve physical performance and alertness as well as give one a sense of confidence, aggression, and well-being.<sup>[19]</sup>

**GLOBALLY PREVALENCE OF DRUGS**

The highest annual prevalence of cannabis was in the Americas, specifically in North America, followed by the continent of Asia, especially in East and Southeast Asia, and then Africa in central and West Africa, the fourth place was Europe in eastern and Southeast Europe, and the lowest region is Oceania. The greatest spread of ecstasy pills was in the continent of Asia and in East and Southeast Asia, followed by the Americas and North America, then Europe, Africa, and Oceania,

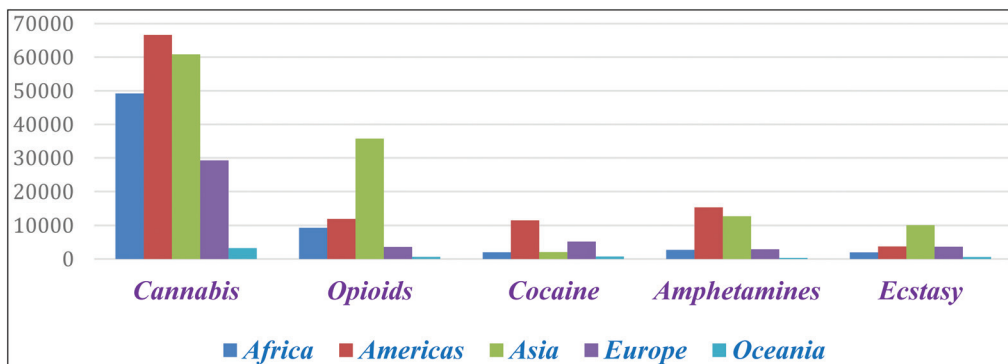
as shown in Table 1 and Figure 1. Table 2 and Figure 2 show the annual prevalence of cannabis use among young people aged 15 to 16 years, with the highest number in Asia (4184), followed by the Americas (3856), Africa (3784), Europe (2288), and Oceania (226), and globally, the number was (14,338) according to data in.<sup>[20-22]</sup>

**PREVALENCE OF HUMAN IMMUNODEFICIENCY VIRUS (HIV) AND HEPATITIS AMONG PEOPLE WHO INJECT DRUGS**

Drug consumption mainly affects people by acquiring HIV, hepatitis C virus (HCV) viral hepatitis, and hepatitis B virus (HBV) viral hepatitis. The number of injecting

**Table 1: Annual prevalence of the use of cannabis, cocaine, opioids, opiates, amphetamine-type stimulants, and “ecstasy” by region and globally, 2020**

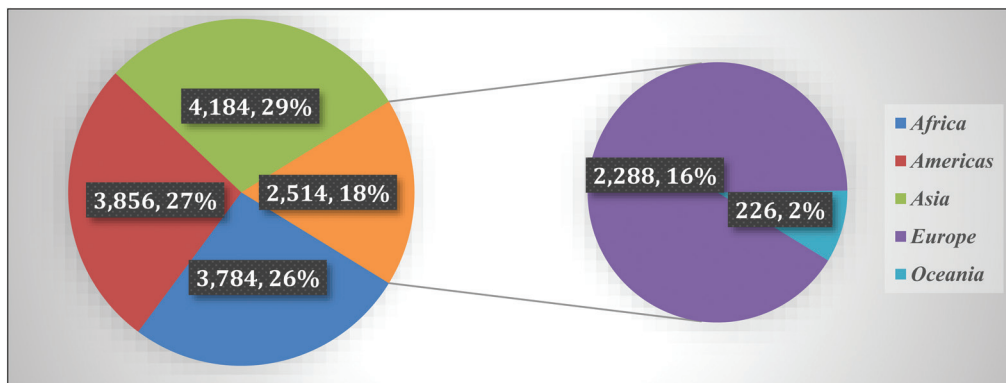
Regions	Drug types				
	Cannabis	Opioids	Cocaine	Amphetamines	Ecstasy
Africa	49,200	9290	1990	2720	1950
East Africa	–	–	–	–	–
North Africa	7970	1610	414	–	–
Southern Africa	–	–	–	–	–
West and Central Africa	28,510	–	445	780	–
Americas	66,640	11,950	11,500	15,390	3750
Caribbean	1080	–	100	–	60
Central America	1010	–	310	310	60
North America	54,100	10,970	6350	12,480	2940
South America	1050	800	4740	2350	690
Asia	60,860	35,770	2040	12,730	10,100
Central Asia and Transcaucasia	1530	590	–	–	–
East and Southeast Asia	19,420	3110	780	9860	3670
Southwest Asia/Near and MiddleEast	10,110	10,520	150	690	–
South Asia	29,800	21,550	1070	1970	–
Europe	29,260	3610	5200	2900	3640
Eastern and South-Eastern Europe	4550	1720	650	570	710
Western and Central Europe	24,710	1890	4550	2330	2930
Oceania	3260	660	730	330	590
Global	209,220	61,290	21,470	34,080	20,040



**Figure 1: Spread of drugs around the world**

**Table 2: Annual prevalence of the use of cannabis in the population aged 15–16, 2020**

Regions	Number (thousands)	Prevalence (%)
Africa	3784	6.4
East Africa	1034	6.2
North Africa	220	2.6
Southern Africa	1082	13.8
West and Central Africa	1448	5.6
Americas	3856	12.7
Caribbean	74	5.3
Central America	116	6.7
North America	2706	19.7
South America	960	7.1
Asia	4184	3.0
Central Asia and Transcaucasia	84	3.1
East and Southeast Asia	2618	4.4
Southwest Asia/Near and Middle East	–	–
South Asia	994	1.7
Europe	2288	12.6
Eastern and South-Eastern Europe	666	8.5
Western and Central Europe	1622	15.7
Oceania	226	18.2
Global	14,338	5.8



**Figure 2:** Annual prevalence of the use of cannabis around the world

drug users in Asia (5,160,000) is the highest, followed by Europe (2,600,000), the Americas (235,000), Africa (92,000), Oceania (30,000), and globally (11,160,000).

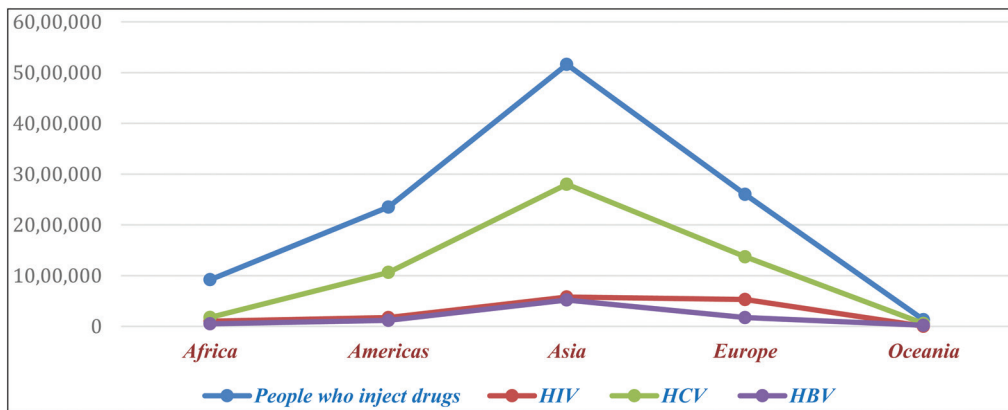
People who inject drugs and have HCV viral hepatitis were the highest among the other viruses, with a global total of infected (5,467,000). The highest number was in Asia (2,800,000), followed by Europe (1,371,000), Americas (1,063,000), Africa (176,000), and Oceania (57,000). People who inject drugs and acquire HIV come in second place, in the number of users globally (1,380,000), with the highest percentage in Asia (42%), followed by Europe (38%), the Americas (13%), Africa (7%), and Oceania (0.2%). The third virus affecting injecting drug users is HBV, with the number of people administered globally (883,000), the highest percentage in Asia (59%), followed by Europe (20%), the Americas (13%), Africa (6%), and Oceania (2%),<sup>[20,23-26]</sup> according to data in Table 3, Figure 3.

### INDICATORS OF CULTIVATION AND PRODUCTION OF DRUGS

The most cultivated regions of opium are Southwest Asia and Afghanistan with (71%) of the total cultivation of this species globally, which is constantly increasing for the period (2009–2021) with its cultivation fluctuating for some years; the most cultivated countries in Asia are Myanmar followed by Lao People’s Democratic Republic. The countries of Central and South America participated, with Mexico occupying the highest area for opium cultivation, followed by Colombia, while the rest of the world accounted for the remaining percentage (16%) [Table 4]. Figure 4 shows the general trend of the time series (2009–2021) for opium cultivation according to,<sup>[27-30]</sup> and the general trend was positive and indicates that there was an annual increase of

**Table 3: Estimating the number of people with human immunodeficiency virus (HIV) and viral hepatitis who are taking injectable drugs, 2020**

Regions	Health effect			
	People who inject drugs	HIV among people who inject drugs	Hepatitis C virus among people who inject drugs	Hepatitis B virus among people who inject drugs
Africa	920,000	101,000	176,000	51,000
East Africa	270,000	44,000	36,000	12,000
North Africa	330,000	12,000	47,000	26,000
Southern Africa	150,000	33,000	55,000	9000
West and Central Africa	160,000	12,000	39,000	4000
Americas	235,000	173,000	1,063,000	118,000
Caribbean	1,810,000	125,000	976,000	81,000
Central America	90,000	10,000	69,000	0
North America	440,000	37,000	18,000	35,000
South America	20,000	200	1000	1000
Asia	5,160,000	578,000	2,800,000	519,000
Central Asia and Transcaucasia	340,000	24,000	174,000	21,000
East and Southeast Asia	3,010,000	266,000	1,951,000	291,000
Southwest Asia	750,000	222,000	295,000	154,000
Near and Middle East	90,000	2500	30,000	9000
South Asia	970,000	63,000	349,000	44,000
Europe	2,600,000	529,000	1,371,000	173,000
Eastern and South-Eastern Europe	1,730,000	438,000	927,000	136,000
South-Eastern Europe	80,000	4800	44,000	5000
Western and Central Europe	790,000	86,000	400,000	31,000
Oceania	130,000	2700	57,000	22,000
Global	11,160,000	1,380,000	5,467,000	883,000

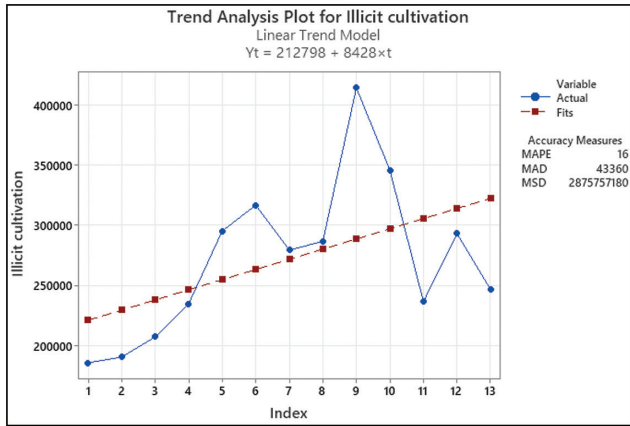


**Figure 3:** Percentage of viruses transmitted via drug injection

8428 hectares according to the value of the marginal slope of the general trend, which its equation is as follows:

$$\hat{Y} = 212798 + 8428t$$

Table 5 shows the production of opium in the most cultivated regions of the world, as the series (2009–2021) for all regions of the world was constantly increasing; the most regions are Southwest Asia and Afghanistan by 86%, specifically in the state of Myanmar and the lowest percentage in Asia



**Figure 4:** Illicit cultivation of opium poppy, 2009–2021 (hectares)

in Lao People’s Democratic Republic. The countries of Central and South America ranked second in production, especially Mexico, followed by Colombia. The rest of the world had significant production volumes (9%). Figure 5 shows the general trend of opium production, as the general trend was positive with an annual increase of (260) tons according to the marginal slope of the general trend according to the following equation [Figure 6]:

$$\hat{Y} = 4910 + 260t$$

### DRUGS AND DEATH

Death can occur indirectly for a person using drugs, and directly because of taking additional doses, Table 6

**Table 4: Illicit cultivation of opium poppy, 2009–2021 (hectares)**

Year	Region							Total
	Southwest Asia Afghanistan	Southeast Asia		South and Central America		Other countries		
		Lao People’s Democratic Republic	Myanmar	Colombia	Mexico			
2009	123,000	1900	31,700	355.8	19,500	9479	185,930	
2010	123,000	3000	38,100	340.8	14,000	12,221	190,660	
2011	131,000	4100	43,600	338	12,000	16,389	207,430	
2012	154,000	6800	51,000	313	10,500	12,282	234,900	
2013	209,000	3900	57,800	298	11,000	13,293	295,290	
2014	224,000	6200	57,600	387	17,000	11,584	316,770	
2015	183,000	5700	55,500	595	26,100	8549	279,440	
2016	201,000	5395	–	462	25,200	54,641	286,700	
2017	328,000	5327	41,000	282	30,600	8791	414,000	
2018	263,000	4925	37,300	663	28,000	11,815	345,700	
2019	163,000	4624	33,100	–	21,500	14,426	236,650	
2020	224,000	901	29,500	–	–	38,691	293,090	
2021	177,000	–	30,200	–	–	39,592.91	246,790	

**Table 5: Potential production of oven-dry opium, 2009–2021 (tons)**

Year	Region							Total
	Southwest Asia Afghanistan	Southeast Asia		South and Central America		Other countries		
		Lao People’s Democratic Republic	Myanmar	Colombia	Mexico			
2009	4000	11.4	330	8.8	425	178	4950	
2010	3600	18	580	8.4	300	224	4730	
2011	5800	25	610	8.3	250	290	6980	
2012	3700	41	690	7.9	220	171	4830	
2013	5500	23	870	10.5	225	181	6810	
2014	6400	92	670	12	360	201	7740	
2015	3300	48	647	17	418	146	4660	
2016	4800	47	612	13.2	404	710	5980	
2017	9000	44	550	7	491	143	10,240	
2018	6400	41	520	18	449	168	7600	
2019	6400	–	508	–	440	226	7620	
2020	6300	–	405	–	–	724	7430	
2021	6800	–	423	–	–	706	7930	

shows the estimated annual number of deaths attributed to drug use due to direct and indirect causes of death by region,<sup>[31-37]</sup> as explained in Figures 7 and 8 the annual death either directly by drug abuse or development of risk factors [Table 7].

### DRUGS IN IRAQ

The lack of security stability and the conflicts that have occurred in Iraq with the spread of unemployment have been contributing factors to the increase in illegal activities, including the drug trade, as it generates huge profits for its traders. Iraq has witnessed a marked increase in the volumes of seized drugs of various types, as it has become a leading trade considering the security situation after the occupation of Iraq. The Iraqi Ministry of Health has pointed to the increasing number of visitors to health institutions for drug addiction, and the Iraqi authorities have arrested many drug dealers. There are three main corridors for drug smuggling, especially since Iraq has a border strip of about four thousand kilometers, these corridors are through Iran, Syria, and Saudi Arabia. Table 8 shows the annual increase in the volumes of drugs smuggled into Iraq by the main types for the period from 2029 to 2023, and noting that Captagon is the most prevalent type, while heroin appears to be decreasing [Figure 9]. There is a need to strengthen collective action for the spread of drugs in Iraq and the Arab world, exchange and analyze experiences and information, comply with international

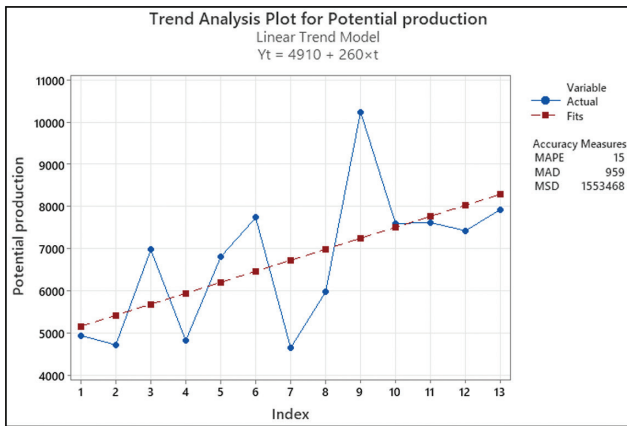


Figure 5: The general trend of opium production

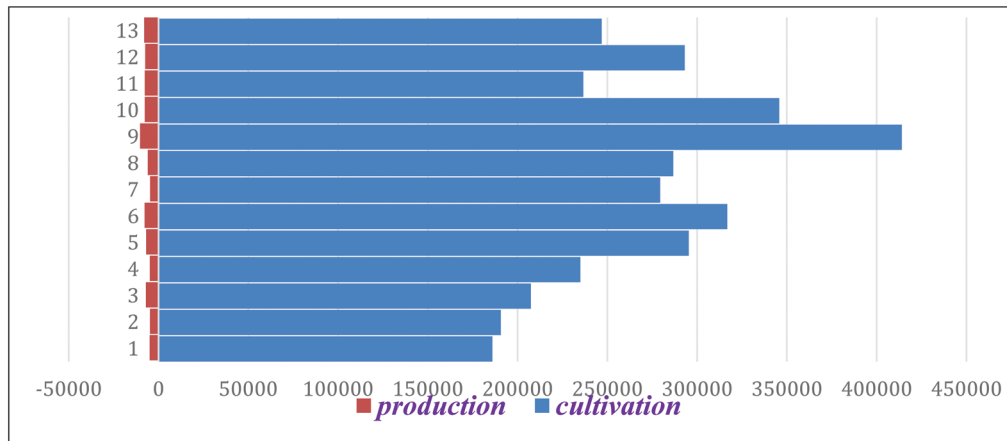


Figure 6: General opium production and cultivation

Region	Direct	Risk factor
Organization for Economic Co-operation and Development countries	81,818	16,678
North America	68,243	109,800
East Asia and Pacific	17,164	142,198
Western Pacific region	15,482	117,002
Southeast Asia	10,566	100,177
South Asia	10,211	84,716
Eastern Mediterranean region	7645	25,169
Latin America and Caribbean	3019	20,375
Africa	2703	36,543
High-income countries	–	166,330
Middle-income countries	–	164,931
Lower middle-income countries	–	150,491
Low-income countries	–	12,577
World	128,083	494,492

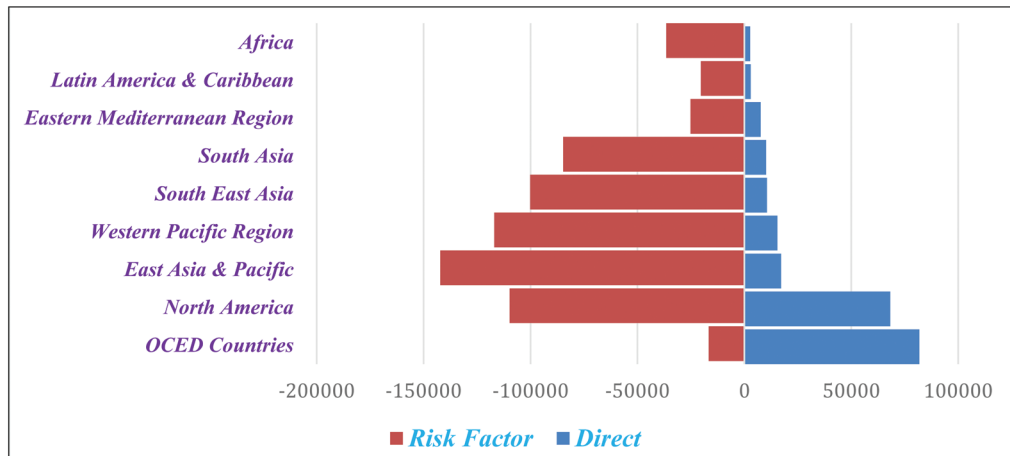


Figure 7: Annual number of deaths

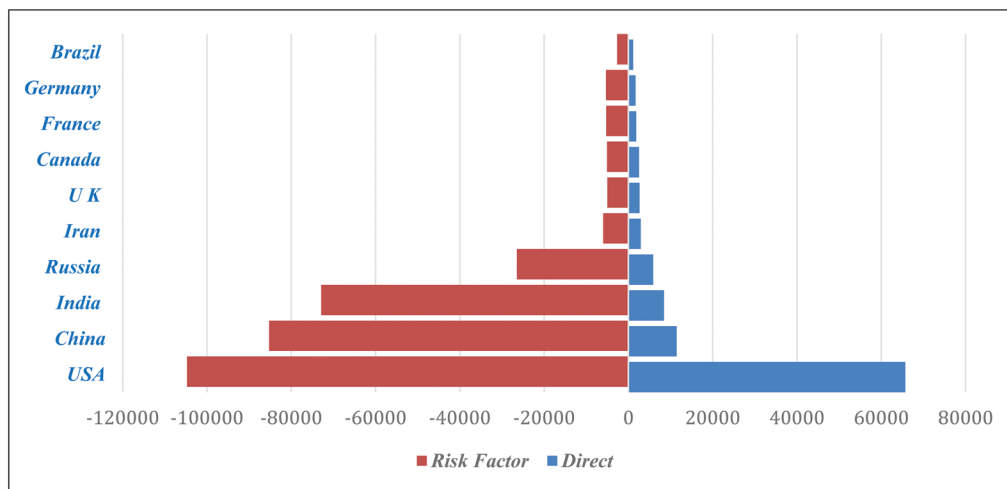


Figure 8: Annual number of deaths as a risk factor or direct

**Table 7: The estimated annual number of deaths attributed to drug use due to direct and risk factor causes of death (top 10 countries)**

Region	Direct	Risk factor
USA	65,717	104,736
China	11,445	85,238
India	8463	72,903
Russia	5877	26,479
Iran	2918	5980
UK	2654	5014
Canada	2526	5062
France	1839	5246
Germany	1678	5329
Brazil	1128	2673

agreements, and strengthen drug responses to treat patients.<sup>[38]</sup>

Iraqi Kurdistan is considered an area affected by drug smuggling because of its borders with neighboring countries. The complexity of its territory and the difficulty

of controlling smuggling corridors helped it to have a direct link with smuggling networks and sometimes be a corridor for the movement of drugs to other countries. Table 9 also shows the increase in smuggled quantities, but by a smaller percentage, as noted by the absence of Captagon for the first three years, while it increased alarmingly in 2023 by an increase of 277% from 2022 [Figure 10].

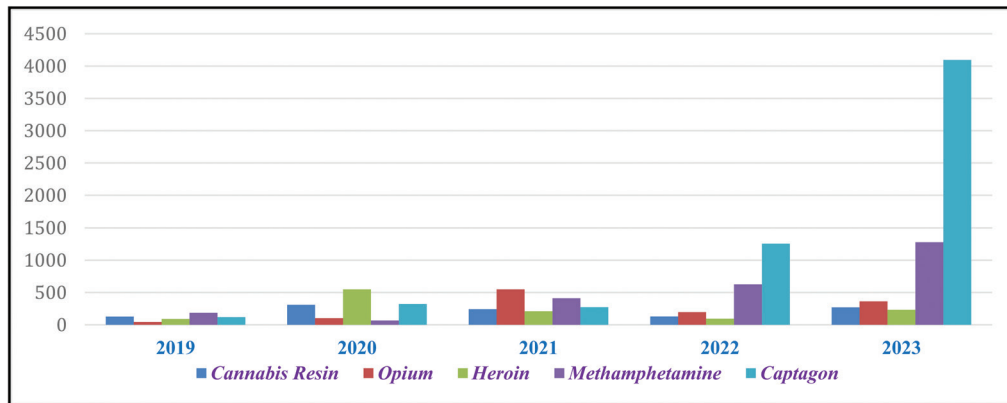
### CONCLUSION

Many people in the world use and trade drugs, and most drug users are susceptible to infection with the AIDS, viral hepatitis, or both. The problem of drug abuse is one of the main international problems, and all countries of the world are trying to combat it and reduce its use and harm to human health. For this reason, all countries of the world must take strict legal measures, organize treatment programs, provide medical consultations to treat patients with behavioral awareness programs to reduce the problem of addiction, educate about it, evaluate patients continuously to find

**Table 8: Iraqi annual volumes of drugs seized, 2019–2023**

Types	Years				
	2019	2020	2021	2022	2023
Cannabis resin	126	309	242	128	270
Opium	43	102	549	195	362
Heroin	89	549	210	94	233
Methamphetamine	185	65	410	626	1278
Captagon	118	322	273	1256	4094

Source: UNODE, 2024

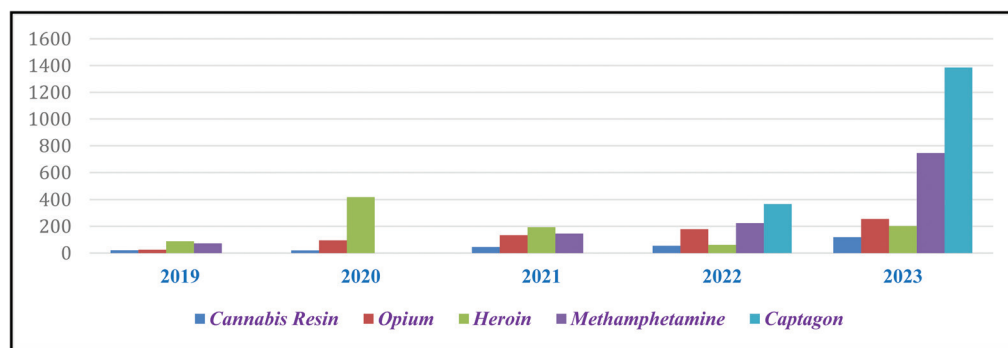


**Figure 9:** Iraqi annual volumes of drugs seized, 2019–2023

**Table 9: Kurdistan Iraq annual volumes of drugs seized, 2019–2023**

Types	Years				
	2019	2020	2021	2022	2023
Cannabis resin	20.6	19.8	45.2	54.7	119.3
Opium	24.6	95.5	133.8	178.6	255.3
Heroin	88.1	418.6	193.78	61.8	202.75
Methamphetamine	72.03	–	146.14	223.8	745.6
Captagon	–	–	–	367	1385

Source: UNODE, 2024



**Figure 10:** Kurdistan Iraq annual volumes of drugs seized, 2019–2023

out the levels of improvement of their health status, and create a successful family environment between parents and children; especially, since most drug users are young people and students. The countries of the world are obliged to monitor the spread of drugs and their use,

take all legal means to combat them and limit their spread, hold accountable the people who traffic them, and punish them with the maximum penalties according to the legal legislation of each country, criminalize and allocate material and human resources to combat

and treat drug addiction with the latest medical treatments.

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### Conflicts of interest

There are no conflicts of interest

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