Legal Appraisal of "Njaga" Cannabis and Associated Medicinal Herbs in Uganda

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A Legal Appraisal of "Njaga" Cannabis and Associated Medicinal Herbs in Uganda

A Discourse to Decriminalise and Delegalize

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Dedication

Oh God, Even my God my Hish Tower, my refuge, my Redemeer, my only source of hope. This and many more is for you Oh God of the mighty universe.

Abstract

Cannabis is a drug plant. People use the dried leaves, seed oil, and other parts of the cannabis plant for recreational and medicinal purposes. It can have a pleasurable effect and may soothe the symptoms of various conditions, such as chronic pain.

It is prudent to say that the first written record of the plant consumption and growing is in South Africa. Jan van Riebeeck, who ordered officers of the Voorman to purchase "daccha" in Natal for trade with the Khoikhoi. The Dutch East India Company attempted to establish a monopoly on its sale, and to that end prohibited cultivation of the plant by Cape settlers from 1680. However, the ready availability of cannabis in the wild and through trade with indigenous peoples meant that there was little profit to be made. Consequently, the prohibition was lifted in 1700.

Beginning in 1860, the Natal Colony began to import Indian workers (called "coolies" at the time) to supplement their labour force. These Indians brought with them the habit of consuming cannabis and hashish, which blended with local, extant African traditions. The European authorities were concerned by this practice, believing it sapped the vitality of their workers; consequently, in 1870, Natal's Coolie Law Consolidation prohibited "the smoking, use, or possession by and the sale, barter, or gift to, any Coolies whatsoever, of any portion of the hemp plant (Cannabis sativa) ..."

Over 10 countries have now legalized marijuana, these include, Lesotho. The high-altitude, landlocked kingdom encircled by South Africa, was the first country in the continent to legalise medicinal cultivation of weed in 2017, South Africa, Netherlands, Canada, Colombia, United States, Rwanda, Morocco.

The **legality of cannabis** for medical and recreational use varies by country, in terms of its possession, distribution, and cultivation, and (in regards to medical) how it can be consumed and what medical conditions it can be used for. These policies in most countries are regulated by three United Nations treaties: the 1961 Single Convention on Narcotic Drugs, the 1971 Convention on Psychotropic Substances, and the 1988 Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances.[1][2] Cannabis is classified as a Schedule I drug under the Single Convention treaty, meaning that signatories can allow medical use but that it is considered to be an addictive drug with a serious risk of abuse.

The use of cannabis for recreational purposes is prohibited in most countries; however, many have adopted a policy of decriminalization to make simple possession a non-criminal offense (often similar to a minor traffic violation). Others have much more severe penalties such as some Asian and Middle Eastern countries where possession of even small amounts is punished by imprisonment for several years. Countries that have legalized recreational use of cannabis are Canada, Georgia, Malta, Mexico, South Africa, Thailand, and Uruguay, plus 19 states, 2 territories, and the District of Columbia in the United States and the Australian Capital Territory in Australia. Commercial sale of recreational cannabis is legalized nationwide in two countries (Canada and Uruguay) and in all subnational U.S. jurisdictions that have legalized possession except Washington, D.C. A policy of limited enforcement has also been adopted in many countries, in particular the Netherlands where the sale of cannabis is tolerated at licensed coffeeshops.

Countries that have legalized medical use of cannabis include Argentina, Australia, Barbados, Brazil, Canada, Chile, Colombia, C ostaRica, Croatia, Cyprus, CzechRepublic, Denmark, Ecuador, Finland, Ge rmany, Greece, Ireland, Israel, Italy, Jamaica, Lebanon, Lithuania, Luxembo urg, Malawi, Malta, the Netherlands, New Zealand, North Macedonia, Norway, Panama, Peru, Poland, Portugal, Rwanda, Saint Vincent and the Grenadines, San Marino, Sri Lanka, Switzerland, Thailand,

the United Kingdom, Uruguay, Vanuatu, Zambia, and Zimbabwe. Others have more restrictive laws that allow only the use of certain cannabis-derived pharmaceuticals, such as Sativex, Marinol, or Epidiolex. In the United States, 37 states, 4 territories, and the District of Columbia have legalized the medical use of cannabis, but at the federal level its use remains prohibited.

Interestingly Njaja (cannabis) and Mirra (khat), although designated as noncommercial herbs, there use both medically and economically cannot be underestimated, neighboring countries like Kenya and Ethiopia have actually delegalized their trade, and have adopted an open policy for khat as a very major source of economic production, by way of comparison khat as a source of income in Ethiopia and Kenya beats all our exports combined. It's also prudent to note that where tea grows khat will easily grow, in fact several planes ferry khat on daily basis to Mogadishu and Kenya on average earns about to there million dollars out of khat.

If we are to argue in terms of the level of intoxication it can be argued that one beer bottle is equivalent to several kilograms (which would be several sacks full) of Cannabis which is practically impossible for one to consume in a single day. This therefore poses the question is it not time to delegalize these herbal plants and advocate for an open policy for cannabis and other herb medicinal plants.

CHAPTER ONE

Njaga (Cannabis) In Uganda

Cannabis in Uganda is illegal; the drug is locally referred to as **bhang**. Cannabis[1]. In as early as 1902, the British banned the production of "opium" in Uganda, noting that opium "includes... also the preparation known as bhang, ganja, churus, and chandoo natron".[2] A 1902 British ethnological work noted that cannabis was used in Uganda, only by men, and particularly smoked in a water pipe. Young men of fighting age were not allowed to smoke cannabis.[3]

Although cannabis is grown all across the country, the total cultivated area, based on the 1998 International Narcotics Control Strategy Report, is less than 5,000 hectares (12,000 acres). Locally known as bhang, it is believed to be the only drug grown in Uganda. Cultivation is most prevalent in eastern Uganda, especially in Bugiri, Busia, Iganga, Kayunga, Mayuge, and Mukono. Ugandan cannabis is mainly smuggled to neighbouring African countries like the Democratic Republic of Congo and Sudan.

Drugs are articles that are intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease in humans or animals and any articles

[1] The East Africa Law Reports. Butterworth's. 1973.

[2] British and Foreign State Papers. H.M. Stationery Office. 1905. pp. 928–.

[3] Charles William Hobley (1902). Eastern Uganda: An Ethnological Survey. Anthropological Institute of Great Britain and Ireland. pp. 30

other than food, water or oxygen that are intended to affect the mental or body function of humans or animals.[4] Drug abuse has also been defined as self-administration of drugs for non-medical reasons, in quantities and frequencies which may impart inability to function effectively and which may result in physical, social and emotional harm.[5] Drugs can be swallowed, inhaled through the nostrils, injected with a needle, applied to the skin, taken as a suppository or smoked. However, if not controlled, drugs become abusive to an extent of most of the addicts getting physiological and mental disorders and, in this case, drugs are abused through going against the medical doctor's personnel prescription, taking drugs meant for someone else and taking the drug for non-medical reasons.[6]

Drugs are categorized in accordance to their effects like those considered as analgesics which kill pain and psychoactive drugs which alter the mind or behavior yet on the other hand, some drugs like Psychoactive substances produce psychological highs or lows according to whether they are stimulants or depressants. [7]

Globally, the World Drug Report explains that, the use of illicit drugs has increased throughout the world in recent years. The report further states that a major world trend is the increasing availability of many kinds of drugs to an ever-widening socioeconomic spectrum of consumers. [8]The World Drug Report argues that the main problem drugs at global level continue to be opiates (notably heroine) followed by cocaine for example, for most of

[4] Farlex, the free dictionary Drugs and Narcotics

[5] Olatuwara MO and AO Odejide Prevalence of drug taking among secondary school students; a pilot study, in Proceedings of the workshop on ism and drug addiction in Africa, held in Nairobi, Kenya,1974.

[6] WHO, What Is Substance Abuse? Substance Abuse and Addiction, www.drugshapana.ac.ug,
accessed on 21" June (2019).

[7] ibid

[8] The World Drug Report (2005), https.jjwww.unodc.orgjunodcjenjdata-and-analysis/WDR-2005.11tml accessed on 21" June (2019).

Europe and Asia, opiates continued to be the main problem drugs, accounting for 62 percent of all treatment in 2003. Reports from a total of 95 countries indicated that drug seizures increased four-fold in 2003 and more than half of these were of cannabis.

As drugs have been abused for hundreds of years all over the world, their effects have been felt for just as long. Since drugs have been used, there were always those who abused them, which led to full-blown addiction and the bevy of side effects that come with it as the physical and mental health implications of addiction became clearer, rehabilitation efforts began to appear and as a result, the history of rehabilitation in the United States dates back hundreds of years.[9]

For instance, in 1864, the New York State's hospital intended to solely treating drug abuse as a mental health condition founded and as the public began to view ism and related drug abuse more seriously, more community groups and sober houses began appearing. Today, thousands of drug abuse rehabilitation programs offer addicts a variety of treatment approaches, ranging from traditional, evidenced-based care to more experimental or holistic services. Since care should be customized according to the individual patient, oftentimes one's treatment regime will consist of a range of therapies that have been chosen specifically for the individual.[10] Despite eradication efforts in countries in Africa, the region still remains a major supplier of some drugs such as cannabis, which is one of the most widely abused drugs.[11] Simbee states, since the early nineteen eighties, Africa has been experiencing

[9] The World Drug Report (2005}, https://www.unodc.org/unodc/en/data-and-analysis/WDR-
2005.html accessed on 2ifh June (2019).

[10] Benin City, Nigeria, Flosolal Publishers, (1982), 22, https.//www.britannica.com/place/Benin-Oty accessed on 2ifh June (2019).

[11] R. Maithya, Drug Abuse in Secondary Schools in Kenya: Developing a Programme for Prevention and Intervention, Published PhD Thesis, University of South Africa, (2009), https.//pdfs.semantic scholar. org/1 dc0/4e15d2fa6832cce874f11794d84ab39f367b.pdf, accessed on 1 dh April 2019.

an escalating problem with drug abuse and trafficking. Although reliable information is scarce, data collected under the Eastern Africa Drug Information System/Global Assessment Programme (EADIS/GAP), country mission reports coupled and small-scaled research activities conducted by governments and non-governmental organizations all attest to this. All the while, Africa's role in the global drugs supply chain is increasing. Already the continent is the second largest region for cannabis production, trafficking and consumption, accounting for 26 percent of global seizures of this drug in 2001.[12] By country, the largest hauls in this period were in Kenya, Nigeria and the Republic of South Africa, while Morocco is said to be one of the main producers of Cannabis resin.[13]

Substance abuse among adolescents and youth costs a country a lot of money every year. [14]This is evident in large sums of money that are used in prevention and treatment centers throughout Africa. [15]Eventually this affects the whole country because these funds could be used in other avenues such as poverty alleviation programs, since poverty is one of the reasons that lead to substance abuse. Most youths in their adolescence life start using drugs as young as 12 years of age.[16]

The abuse of drugs in Africa is nevertheless escalating rapidly from cannabis abuse to the more dangerous drugs and from limited groups of drug users to a wider range of people abusing drugs.[17]The largely unheeded spread of injection drug use in East Africa has wide implications for public health in

[12] UNODC, (2004).

[13] R. Maithya, Drug Abuse in Secondary Schools in Kenya: Developing a Programme for Prevention and Intervention, Published PhD Thesis, University of South Africa, (2009) https.//pdfs.semantic scholar. org/1 dc0/4e15d2fa6832cce874f11794d84ab39f367b.pdf, accessed on Jd" April 2019 .11 Mohasoa, P. Substance

[14] Mohasoa, P. Substance abuse among male adolescents, Published dissertation on Master of Arts in psychology, university of South Africa, 2010.

[15] https. //www. unodc. org/documents/wdr/WDR_2008/WDR_2008_eng_ web.pdf.

[16] Karen Lesly, 2008; Parrott, https.//core.ac.uk/download/pdf/43166732.pdf.

[17] The United Nations Office on drugs and cnmes,(UNODC}, Drug abuse in Africa.

the region yet Injection Drug Users (IDU).[18] Therefore, drug abuse is increasing in the East African region both in terms of supplies and users. To make matters worse, East African countries are now known to be among the largest producers and users of Marijuana according to the UNO DC report where Cannabis use poses one of the biggest challenges. [19]

On the side of Uganda, the first legal regulation of drug use appears to have been the application, through the force of the reception clause in the 1902 Order-in Council, to Uganda of the United Kingdom Dangerous Drugs Act (of 1920) and the United Kingdom Pharmacy and Poisons Act (of 1933). The next step in drug regulation appears to have been the Pharmacy and Drugs Act, which commenced on15th June 1971.[20]

According to the Long Title of the Act, it was enacted in order to 'amend and to consolidate the law relating to the control of the profession of pharmacy and trade in and use of drugs and Poisons, and other purposes connected therewith. [21]This was followed by the National Drug Policy and Authority Statute of 1993 which is currently known as the National drug policy and authority act cap 206 which was aimed at establishing a national drug policy and a national drug authority 'to ensure the availability, at all times, of essential, efficacious and cost-effective drugs to the entire population of Uganda, as a means of providing satisfactory health care and safeguarding the appropriate use of drugs'.[22]The NDA Act has provisions aimed at preventing drug abuse in Uganda for example under **Section123** there is a description provided for to explain the Act as being the main law governing drugs and medicines regulation in Uganda accompanied by a set of nine regulations; **Sections 50&51** which specify the powers of entry and of investigation for

[18] https.jjwww. unodc. orgjunodc/en/data-and-analysisjbulletin/bulletin_1996-0 1-0 1_1, page006.html.

[19] https.jjiogt. org/blog/20 11/11/29/drug-abuse-increasing-in-the-east-african-region;
[20] https.j/en.wikipedia.org/w!ki/Misuse(_Drugs_Act_1971, accessed on 1d";; 2019.
[21] ibid
[22] The National Drug Policy and Authority Act Cap 206, Long Title.

NDA inspectors and **Section** 4 provides for Licensure where it is stipulated that in Uganda the NDA Act only requires harmacies and drug sellers (drug shops)[23] and wholesalers to be licensed. However, irrespective of the law, drugs continue to be abused and this is what the study covers.

Use Of Cannabis

Cannabis is a plant. People use the dried leaves, seed oil, and other parts of the cannabis plant for recreational and medicinal purposes. It can have a pleasurable effect and may soothe the symptoms of various conditions, such as chronic pain.

Ways of using it include:

- smoking or vaping it
- brewing it as a tea
- consuming it in the form of edibles, such as brownies or candies
- eating it raw
- applying it as a topical treatment
- taking it as capsules or supplements
- Some of the ingredients in cannabis are psychoactive (mind-altering), but others are not. The potency and balance of the ingredients vary, depending on how the manufacturer grows and processes the plant.

Components And Legality Of Cannabis

What are CBD and THC?

[23] Ibid at section. 14, 15.

Cannabis contains at least 120 Trusted Source active ingredients, or cannabinoids. The most abundant ones are cannabidiol (CBD) and delta-9-tetrahydrocannabinol (THC).

Some cannabinoids can have euphoric or psychoactive effects. THC produces both effects.

CBD is present in various forms, including:

- oils for applying to the skin
- capsules, to take as a supplement
- gummy candies

So far, most studies have focused on CBD and THC, but scientists are looking into the effects of other cannabinoids, too.

Is CBD legal?

The 2018 Farm Bill removed hemp from the legal definition of marijuana in the Controlled Substances Act. This made some hemp-derived CBD products with less than 0.3 percent THC federally legal. However, CBD products containing more than 0.3 percent THC still fall under the legal definition of marijuana, making them federally illegal but legal under some state laws. Be sure to check state laws, especially when traveling. Also, keep in mind that the FDA has not approved nonprescription CBD products, and some products may be inaccurately labeled.

MEDICAL USES

According to the National Academies of Sciences, Engineering, and Medicine, there is conclusive evidence that cannabis or cannabinoids can help manage:

- chronic pain in adults
- nausea and vomiting resulting from chemotherapy treatment

- some symptoms of multiple sclerosis (MS)
- There is moderate evidence that it can help with sleep problems relating to sleep apnea, fibromyalgia, chronic pain, and MS.

Other conditions that it may be helpful for include:

- low appetite
- Tourette's syndrome
- anxiety, in some individuals

In 2018, the Food and Drug Administration (FDA)Trusted Source approved Epidiolex, a medication that derives from cannabis, to treat two rare and severe types of epilepsy that do not respond well to other treatments. Epidiolex is a purified form of CBD that does not contain THC.

Three drugs that contain synthetic substances with a structure similar to that of THC have received FDA approval. Marinol, Syndros, and Cesamet are treatment options for some kinds of anorexia.

Effects of using cannabis

There are different ways of using cannabis, and the method can determine the effects of the drug.

Smoking or inhaling: A sense of elation can start within minutes and peak after 10–30 minutes. The feeling will typically wear off after about 2 hours.

Ingesting: If a person consumes products containing cannabis by mouth, they will usually feel the effects within 1 hour, and the sensations will peak after 2.5–3.5 hours. One study suggests that the type of edible affects the time it takes to feel the effect, with hard candies kicking in quicker.

Topical: Transdermal patches allow the ingredients to enter the body over a prolonged period Trusted Source. This steady infusion can benefit people who are using cannabis to treat pain and inflammation.

What are the effects of second-hand cannabis smoke?

How do cannabinoids work?

The human body naturally produces some cannabinoids through the endocannabinoid system. They act in a similar way to neurotransmitters, sending messages throughout the nervous system.

These neurotransmitters affect brain areas that play a role in memory, thinking, concentration, movement, coordination, sensory and time perception, and pleasure.

The receptors that respond to these cannabinoids also react to THC and other cannabinoids. In this way, cannabinoids from an outside source can change and disrupt normal brain function.

THC appears to affect areas of the brain that control:

memory and attention balance, Trusted Source posture, and coordination reaction time, Due to these effects, a person should not drive a car, operate heavy machinery, or engage in risky physical activities after using cannabis.

THC stimulates specific cannabinoid receptors that increase the release of dopamine. Dopamine is a neurotransmitter that relates to feelings of pleasure.

THC can also affect sensory perception. Colors may seem brighter, music more vivid, and emotions more profound.

Important Questions

- Do the benefits of cannabis outweigh the risks?
- What does a person feel?

Side Effects Of Using Cannabis

When people use cannabis, they may notice the following effects:

A feeling of elation or euphoria, known as a high relaxation change in perception, for example, of color, time, and space an increase in appetite feeling more talkative

Impairment of judgment: A 2012 study Trusted Source reported a higher chance of having a road traffic accident when driving within 3 hours of smoking cannabis.

Immune response: A 2019 study Trusted Source showed that frequent cannabis use may affect the immune system, but more studies are necessary to confirm this.

Gum disease: According to the American Dental Association, there may be a link between cannabis use and gum disease

Memory loss: One study Trusted Source found that smokers of potent cannabis strains (skunk, for instance) may have a higher risk of acute memory loss.

Testicular cancer: A 2018 review. Trusted Source concluded that using cannabis more than 50 times in a lifetime may increase the risk of testicular cancer.

People have modified some types of cannabis, such as skunk, to maximize the potency of certain components. From the 1990s to 2018, the average THC content in confiscated cannabis rose from 4% to over 15% .

One problem with using unregulated or recreational drugs is that people cannot know exactly what they contain or how strong the effect will be, there may also be contaminants.

Addiction

With long-term use, changes in the brain can occur that lead to problematic use, or cannabis use disorder. This disorder, in which a person experiences withdrawal symptom when not taking the drug, may affect about 30% of people who use cannabis, according to the of these individuals, about 9% may develop an addiction. A person has an addiction when they cannot stop using a substance. The NIDA add that up to 17% of those who start using cannabis in their teens may become dependent on it.

Cannabis withdrawal

Quitting cannabis, after becoming dependent, is not life threatening, but it can be uncomfortable.

Symptoms may include:

- irritability
- mood changes
- insomnia
- cravings
- restlessness
- decreased appetite
- general discomfort

Symptoms tend to peak within the first week after stopping and last up to 2 weeks.

Experts do not know exactly how frequent and long-term cannabis use affects a person's health. Both the short- and long-term effects may vary among individuals. Cannabis contains chemicals that can have various effects on the human body. It is a popular recreational drug with some medicinal use anyone who is considering using cannabis for any purpose should first check that it is legal to use in their state. They should also consider its possible effects on their mental and physical health.

Fentanyl-laced cannabis

Several social media posts and local news reports warn of fentanyl-laced marijuana, or cannabis. While isolated case reports suggest that cannabis may sometimes contain fentanyl, most reports argue this is likely an urban legend or a very rare occurrence.

It is common for drug dealers to lace other drugs, such as prescription painkillers, with fentanyl. This is because of its comparatively low cost. However, it can intensify the side effects of other drugs and increase the risk of overdose.

Fentanyl, is a leading cause of drug overdoses in the United States, and some people who overdose do not know they are using fentanyl. However, as fentanyl remains more expensive than cannabis, fentanyl-laced cannabis would not make financial sense.

Can cannabis help treat symptoms of glaucoma?

Some research suggests that cannabis may improve symptoms of glaucoma, primarily by reducing pressure in the eye, which experts call intraocular pressure (IOP). However, the data on using cannabis for glaucoma are not unequivocal.

The American Academy of Ophthalmology (AAO) claims that cannabis is not a practical treatment for glaucoma, a 2019 review highlights some promising research indicating that cannabis may ease symptoms of glaucoma. However, many of the studies had a poor design, with a small sample size or inadequate controls. Hence, research is necessary before experts can draw any conclusions about cannabis for glaucoma. Some doctors recommend cannabis for glaucoma and a minority of people with the condition take it and believe that it helps. Some cannabis dispensaries also routinely dispense cannabis for glaucoma in states where it is a qualifying condition.

Without more research, one cannot conclude that cannabis can treat glaucoma. There is no conclusive scientific evidence that it is superior to standard treatments. However, some people with glaucoma say that cannabis helped them when other treatments did not.

Glaucoma is a condition that cause increased IOP, which damages the optic nerve. Over time, this can weaken vision and potentially lead to blindness. Glaucoma is the leading cause of vision loss among people over the age of 60 years, Reducing IOP is the most important tactic for decreasing the risk of glaucoma. Lowering IOP can also help ease glaucoma symptoms.

Traditional glaucoma treatments aim to decrease IOP. Proponents of medical cannabis believe that it, too, may cause IOP reduction.

Animal studies suggest that cannabis might promote blood flow to the eye or offer neuroprotective effects that prevent nerve damage and reduce the effects of glaucoma, some studies support the idea that cannabis might play a role in treating glaucoma.

For instance, according to a 2019 review , five randomized controlled trials found some evidence that cannabis could lower IOP. It is of note, though, that no studies compared cannabis with standard glaucoma treatment. Also, sample sizes were small, and the data were conflicting.

However, an older study Trusted Source found that tetrahydrocannabinol could lower IOP, while CBD increased it.

Various ophthalmic organizations do not recommend cannabis, because the evidence supporting its use is insufficient and because cannabis may cause side effects.

The AAO states that even if cannabis does decrease IOP, the effect is too short-lived to help with glaucoma. A person would need to take enormous quantities of cannabis to get any benefit or to see consistent symptom improvement.

Additionally, the AAO cautions that there is evidence that cannabis may harm the optic nerve. It notes that research on cannabidiol (CBD) is ongoing and may eventually show some benefits.

Currently, however, there is insufficient scientific support for cannabis as a glaucoma treatment.

Main benefits

Some evidence indicates that cannabinoids, which are the chemicals in cannabis, have neuroprotective properties.

According to animal studies Trusted Source, cannabinoids may increase blood flow to important structures in the eye.

Proponents of medical cannabis for glaucoma argue that these findings suggest glaucoma might help reverse glaucoma or even cure it, not just manage symptoms.

Other potential benefits of medical cannabis for glaucoma include:

fewer side effects than with other treatments a reduced need for surgery better pain management a treatment people perceive as "natural" However, research on cannabis for glaucoma is equivocal. Potential risks

If a person replaces conventional treatments for glaucoma with cannabis, their condition may get worse. Also, cannabis is potentially addictive.

Moreover, cannabis is illegal in many countries and at the federal level in the United States. That is why using cannabis may subject a person to legal risks, including jail.

All treatments, including natural and alternative remedies, can cause side effects. Some risks and side effects of cannabis use include lung damage, as smoking cannabis can lead to airway inflammation and chronic bronchitis preterm labor and pregnancy complications in pregnant people who use

cannabis decreased fertility in males mental health issues, notably an increased risk of psychosis

A small body of research notes that cannabis products could damage cells in the eye, Studies into cannabis use have also linked it to vision loss and decreased color perception, although the data are correlative. This means that researchers have not proven that cannabis causes these effects.

Other alternative treatments for glaucoma. No treatment can reverse vision loss from glaucoma. Instead, treatment focuses on preventing further damage. When medication proves ineffective, a person may need surgery.

Some people choose alternative treatments instead. These include:

Ginkgo biloba: Some people believe that the anti-inflammatory effects of this herb improve glaucoma symptoms.

Dark leafy greens: A diet rich in dark leafy greens correlates with a lower risk of developing glaucoma.

Omega-3 fatty acids: Consuming omega-3 fatty acids may help prevent inflammation and oxidative damage. Some people think omega-3 fatty acids may also prevent glaucoma, although research is not conclusive.

B vitamin supplements: One study found a link between low levels of vitamin B12 and thinner retinal nerves.

Antioxidant supplements: Antioxidants such as vitamin C and vitamin A might help reverse oxidative damage or inflammation to manage or treat glaucoma.

Melatonin: Melatonin may help ease sleep symptoms associated with glaucoma.

Lifestyle changes: To manage glaucoma more effectively, some people may find it helpful to:

- reach or maintain a moderate body weight
- follow a balanced diet
- get regular exercise

Alternative and complementary medicine: Some people turn to acupuncture, massage therapy, or other interventions to help with glaucoma, while some research suggests alternative therapies might help, or offers theoretical or animal models to support their use, there is no conclusive scientific data that these interventions help.

There is also no evidence that alternative treatments are superior to conventional treatments. Living with glaucoma can be difficult, and treatment is not effective for everyone. Moreover, it is impossible to reverse vision damage resulting from glaucoma.

Consequently, many people turn to alternative treatments. Science has not fully explored the potential risks and benefits of cannabis. It is possible that scientific research will eventually back up people's anecdotal experiences. Currently, however, there is not enough evidence to support cannabis use as a glaucoma treatment.

People who still wish to try cannabis should seek guidance from a doctor who is knowledgeable about medical cannabis.

It is advisable to discuss the risks, benefits, and side effects and to learn about the potential legal risks.

The advocacy for the legalization of marijuana brings with it the greater possibility that younger populations will use marijuana. Indiana University researchers focused on studying cannabis use in adolescents ages 12 to 14, as use during this critical period of brain development could impair working memory and increase the risk of psychosis later in life. This is a significant public health concern. Today's cannabis strains are being bred for increased THC content. It's very different and much riskier than the more traditional

strains used in the past. There's an urgent need to understand the effects of these new strains."

Dangers of Over Using Cannabis

Whereas previous in vitro studies have revealed that cigarette smoking inhibits the growth of epithelial cells and enhances the risk of cell death through necrotic and apoptotic pathways. Additionally, researchers have reported that DNA damage occurs in cells exposed to cigarette smoke. Prior studies have indicated that tobacco and cannabis smoke consist of different organic and inorganic chemical compounds that adversely affect cannabis smokers. Cannabis sativa is a common cannabis plant that contains 60 different phytocannabinoids, including cannabinol, cannabigerol, cannabidiol, cannabichromene, and tetrahydrocannabinol.

Studies have shown that cannabis smoke contains many chemicals including benzopyrenes, hydrocarbons, tar, and nitrosamines. Scientists revealed that when cannabis smoke comes in contact with oral cavities, it causes dryness in the mouth, fiery-red papilloma, and nicotinic-like stains.

A high prevalence of oral candidiasis and dental caries have been associated with cannabis smokers. Compared to non-smokers, high growth of Candida albicans has been observed in the mouth of cannabis smokers. Previous studies have also revealed that frequent candida smokers suffer from increased gingivitis, gingival hyperplasia, and alveolar bone loss because the smoke affects the structure and functioning of the gingival tissue. However, the precise effect of cannabis smoke on gingival epithelial cells is unclear.

In a new study published in the Archives of Oral Biology, scientists evaluated the effect of cannabis smoke condensate (CSC) on the gingival epithelial cells. They determined the effect of CSC on cell shape, adhesion and viability, at intervals of 30 minutes, 60 minutes, 2 hours, and 24 hours, through microscopic observations and lactate dehydrogenase activity assays. Additionally, they determined how CSC affected lactate dehydrogenase

(LDH) release and phosphorylated signaling pathway proteins using flow cytometry. The effect of CSC on autophagy, oxidative stress, and cell apoptosis was studied using gene expression via an RT2 -PCR array. Gingival epithelial cells exposed to these CSCs caused alterations in their morphology and a decrease in cell adhesion. The current study revealed that CSC is toxic to gingival epithelial cells. It decreases cell viability and its metabolic functions. Similar occurrences have been reported with cigarette smoke condensate. Scientists have linked the adverse effects of CSCs with the high level of lactate dehydrogenase (LDH) in the cell culture medium.

The majority of cells contain LDH, which is a soluble cytoplasmic enzyme, which is released into the extracellular space when the plasma membrane encounters damage. The present study reported that CSC damaged the gingival epithelial cell membrane, which led to the release of LDH into the culture medium.

Previous studies reported that DNA gets damaged due to excessive oxidative stress, which sometimes leads to cell apoptosis. In the current study, researchers reported that CSC initiates oxidative stress in the cells, due to the detection of a higher number of reactive oxygen species (ROS)-positive gingival epithelial cells, compared to the control cells. An increased level of ROS enhances the risk of cell death through apoptosis and autophagy, via simulation of different apoptotic genes.

The current study reported that when cells are exposed to CSC at 20%, activation of different apoptotic genes (e.g., BCL2-like 11) occurred, which caused cell death. The triggering of genes caused gingival epithelial cells to bind with anti-apoptotic proteins, which in turn released sequestrated pro-apoptotic molecules. These molecules ultimately caused cell death.

Scientists showed that cannabis smoke caused higher expression of several genes including the TNF superfamily (TNFSF) and NLR-family apoptosis inhibitory protein, which facilitated gingival epithelial cell death via

apoptosis. They also stated that lowering of CD40L gene expression led to a disruption in cell communications and, indirectly, promoted cell apoptosis.

The CSC facilitated gingival epithelial cell autophagy by elevating the expression of CDKN1B, TMEM74, and GABARAPL1 genes. The finding of this study is in line with previous studies that reported GABARAPL1 gene to be associated with autophagic flux. The authors reported that CSC deregulates gingival epithelial cell behavior by suppressing the phosphorylation of such signaling proteins (e.g., P38, STAT5, NF-κB, and ERK1/2).

Future perspective

When one evaluates gingival epithelial cells' gene expression at 20% CSC; the adverse effect of CSC was found at other concentrations, such as 5 and 10% as well. Hence, in the future, genetic analysis of gingival epithelial cells being exposed to lower CSC concentrations must be performed.

Researchers believe that as epithelial cells play a key role in innate immunity, their response to CSC exposure might have a substantial effect on the immune response. This hypothesis must be addressed in future studies. Additionally, the results obtained in this study are based on monolayer cell cultures, which must be further validated via animal studies.

Cocaine addiction

Researchers have found that blocking certain acetylcholine receptors in the lateral habenula (LHb), an area of the brain that balances reward and aversion, made it harder to resist seeking cocaine in a rat model of impulsive behavior. These findings identify a new role for these receptors that may represent a future target for the development of treatments for cocaine use disorder. There are currently no approved medications to treat cocaine use disorder.

Published in the Journal of Neuroscience, the study was supported by the National Institute on Drug Abuse (NIDA), part of the National Institutes of Health. In 2020, over 41,000 people died from drug overdoses involving stimulants, including cocaine and methamphetamine. Developing safe and effective medications that help treat addictions to cocaine and other stimulants is critical to expand the choices offered to people seeking treatment and to help sustain recovery.

This discovery gives researchers a new, specific target toward solving a problem that has long been elusive - developing treatments for cocaine addiction. As we have seen with medications to treat opioid use disorder, adding this tool to clinical care could save lives from overdose and drastically improve health and quality of life."

Addiction science researchers are particularly interested in the LHb as a target for future treatment development because of its position as an interface between brain regions involved with reasoning and other higher order thought processes and those mediating emotion and reward - factors known to be associated with substance use disorders as well as major depressive disorders. For instance, these areas are involved in regulating behaviors like abstaining from a reward when it is determined not to be "beneficial."

Building on previous work that established the importance of the LHb and acetylcholine receptor signalling in impulsive cocaine-seeking, this study further defined the cellular mechanisms through which LHb neurons regulate this behavior. Researchers used a behavioural paradigm called the Go/NoGo model in rats. In this model, rats were trained to self-administer cocaine, where a lever press led to an injection of the drug. This was followed by specific training in the Go/NoGo task where cocaine was available when the lights were on (Go), but not when the lights were off (NoGo). Animals quickly learned to stop responding when cocaine was not available.

The researchers then chemically manipulated the LHb, to assess the impact on the rats' ability to withhold their response to cocaine. They found that

response inhibition for cocaine was impaired by blocking a specific type of muscarinic acetylcholine receptor, known as M2Rs, with an experimental drug called AFDX-116, and not with a drug called pirenzepine that blocks other muscarinic acetylcholine receptors known as M1Rs. Thus, when M2Rs were blocked in the LHb the rodents were no longer able to stop responding for cocaine even when it was not available (the "NoGo" condition), despite the training. This indicates that increasing LHb M2R function may represent a potential target for treating impulsive drug seeking and substance use disorders.

The researchers also studied the cellular mechanisms by which M2Rs alter LHb neuronal activity by measuring changes in the electrical activity of these neurons in response to acetylcholine-like drugs. Although these drugs reduced both excitatory and inhibitory inputs onto LHb neurons, there was a net increase in inhibition, which may account for acetylcholine's ability to limit impulsive cocaine seeking.

"The LHb acts like an interface between rational thought in the forebrain and the modulation of neurotransmitters like dopamine and serotonin that originate in the midbrain, which are important in regulating decision processes and emotions," said Carl Lupica, Ph.D., chief of the Electrophysiology Research Section of the Computational and Systems Neuroscience Branch of NIDA. "While the immediate results of this study are related to cocaine seeking, there are also greater implications for impulsivity as it relates to other drugs as well as to psychiatric conditions like obsessive-compulsive disorder. Our future studies will explore the relationship between LHb activity and impulsive behavior related to other drugs such as cannabis, and opioids such as heroin."

Although targeting M2Rs is promising, there are challenges because the muscarinic acetylcholine system is involved in everything from regulating heart rate, affecting motion sickness, and controlling vasodilation, for example. These receptors are also located throughout the body, including many other regions of the brain. Further research is needed to develop ways

to target the M¬2Rs in the LHb without causing a cascade of side effects, and as a first step these researchers are now trying to identify where in the brain the acetylcholine released in the LHb originates.

To determine the different effects of cannabis and/or tobacco, it is crucial to know the quantity of how much was smoked. Those who frequently use tobacco will typically smoke between ten and twenty cigarettes each day, whereas the average cannabis user will smoke two to three times per month.

Many people first try cannabis in their late teens or early twenties, with some continuing to use cannabis for several years at modest doses. Since heavy cannabis users were comparatively uncommon in the study population, accurate estimates of the consequences of excessive usage were not available in the aforementioned 2012 study, despite the fact that heavy exposure to cannabis may harm the lungs.

In a recent Chronic Diseases and Translational Medicine study, researchers evaluated the effects of smoking cannabis on coronavirus disease 2019 (COVID-19) test positivity, as well as potential risk factors associated with cannabis-induced lung damage and COVID-19.

Approximately 500,000 men and women participated in the United Kingdom Biobank (UKB), which is a sizable prospective observational study that was conducted between 2006 and 2010. UKB participants were selected from 22 centers throughout England, Wales, and Scotland and are still being longitudinally monitored to record any subsequent health occurrences.

Study participants were asked several questions upon their enrolment in the UKB. For example, participants were asked whether a doctor had ever informed them that they have a certain health condition, such as chronic obstructive pulmonary disease (COPD).

The subjects were then asked whether they had consumed cannabis. If the response was "yes," cannabis usage was entered in the UKB data field. The participants were also asked at what age they had last consumed cannabis.

Subsequently, study participants were asked the frequency to which they used cannabis. The available response options included less than once a month, once a month or more, but not every week, once a week or more, but not every day, and once a day.

The researchers also incorporated COVID-19 laboratory-confirmed cases that were reported between March 16, 2020, to April 26, 2020, with the UKB data. A positive test result was regarded as a reliable indicator of severe COVID-19 during this time, as the testing of older groups was primarily restricted to individuals who were hospitalized as a result of their infection.

Study finding indicated the mean age of the study participants was about 57 years old. Taken together, 54% of the study participants were women, whereas the remaining 46% were men.

Increased cannabis use was associated with an increased incidence of both COPD and COVID-19 positivity. Packs-years smoking was also found to correlate with COVID-19 incidence.

Implications

In general, smoking tobacco increases an individual's risk of lung infections like COVID-19. Although the data is limited in establishing an association between the smoking of cannabis and its effects on the lungs, previous research has shown that cannabis smoke causes respiratory symptoms such as increased cough, sputum, and hyperinflation, all of which are also observed in tobacco smokers.

In the current study, both smoking packs of cigarettes and cannabis had significant effects on the likelihood of testing positive for COVID-19. This observation insinuates that although cannabis had not been used for at least ten years, its ability to cause damage to the lungs is additive.

Although it is challenging to correctly predict and separate the consequences of cannabis usage from those associated with smoking cigarettes, smoking

cannabis can nevertheless cause significant harm to the lungs. With prolonged cannabis use, significant lung problems can develop, such as chronic bronchitis symptoms. Cannabis use has also been linked to weakened immune systems and pneumonia.

Excessive cannabis use can also worsen COVID-19 outcomes and restrict the airways. However, cannabis use may reduce lung inflammation and inhibit viral replication in COVID-19 patients, which may improve certain prognoses.

Effects of Marijuana Use

Cerebrovascular Risk Factors

Similar to the literature linking marijuana use with cardiovascular outcomes, evidence that marijuana consumption increases the prevalence of specific cerebrovascular risk factors and disease is limited by a preponderance of observational studies, cross-sectional studies, case reports, and case series ‵‵prone to potential publication and other biases. Postulated adverse effects of marijuana use may include sympathetic nervous system activation, blood pressure changes, activation, and electrophysiological effects. Concomitant tobacco smoking and other substance use and abuse possibly contribute to these effects, which may be short term and have been studied mostly in low-risk populations such as younger adults. These factors may explain why many longitudinal studies linking marijuana use and cardiovascular or metabolic risk factors have been negative after multivariable adjustment for unhealthy behaviors such as diet and tobacco smoking.

Hypertension, in particular, is an important risk factor for ischemic stroke, hemorrhagic stroke, and subarachnoid hemorrhage. With marijuana use, the most common acute reaction in humans is a decrease in blood pressure resulting from cannabinoid effects on the vasculature and autonomic nervous system. Despite this physiological reaction, limited studies using the National Health and Nutrition Examination Survey showed a modest

association of recent cannabis use with higher systolic blood pressure and higher prevalence of hypertension among current users 30 to 59 years of age.56 Heavy users, defined as use of marijuana or hashish in >20 of the past 30 days, had higher odds of abnormal blood pressure compared with never-users. Although this difference remained statistically significant after adjustment for age, sex, race, ethnicity, body mass index, education, and survey year, it was no longer statistically significant after additional adjustment for current tobacco and binge alcohol use

The relationship between marijuana uses and elevated blood pressure, especially among heavy users, may drive longer-term associations with cerebrovascular outcomes, although this mechanism remains to be studied.

This association demonstrates the potential role of marijuana as an acute trigger for cardiovascular disease. Over 25 years of follow-up, among 5113 adult participants in the Coronary Artery Risk Development in Young Adults study, cumulative or recent marijuana use was not associated with coronary heart disease, stroke, or cardiovascular disease mortality. This finding contrasts with a population-based, multi-institutional database study that observed an increased risk of 3-year cumulative incidence of MI among marijuana users compared with control subjects

Similarly, marijuana use appears to be a trigger for AF. Data from the Nationwide Inpatient Sample show that the percentage of individuals with cannabis use disorder discharged in the post legalization period (2010–2014) with the diagnosis of arrhythmia increased 31%. However, in a study of patients hospitalized for heart failure, marijuana users had a reduced odds of AF compared with nonusers (adjusted odds ratio, 0.87 [95% CI, 0.77–0.98]). Simultaneous use of cocaine, stimulants, and other drugs may be responsible for observations of AF among marijuana users, although this remains to be fully studied outside of observational and cross-sectional reports.

Risk of Stroke and Transient Ischemic Attack

Several case reports and case series mostly in young individuals suggest a relationship between recent and heavy cannabis use and risk of stroke. In contrast, and as reviewed below, findings among case-control studies, population-based studies,68 and studies conducted using outpatient or inpatient, national databases or hospital electronic health records have been equivocal, depending on the study design, covariates considered in the analysis, and source of the population being studied. Inconsistent associations also can be attributable to the presence of comparison groups and whether adjustment of other important risk factors was considered, along with attention to potential confounding by other risk factor and lifestyle features between cannabis users and nonusers.

Using cannabis urine screens to identify cannabis users, the authors found an association between cannabis use and the risk of ischemic stroke and transient ischemic attack, but the association was not significant when tobacco use was included as a covariate (adjusted odds ratio, 1.59 [95% CI, 0.71–3.70]) among subjects 18 to 55 years of age with and without stroke. Similarly, after adjustment for cigarette smoking and alcohol use, another study found no association between cannabis use in young adulthood and the occurrence of fatal and nonfatal stroke later in life among Swedish men in up to 38 years of follow-up.

Data from studies that have examined more specifically the dose or amount of cannabis consumed within a designated time frame suggest that regular cannabis use may increase the risk of stroke. Using data from population-based surveys, investigators have reported that when no cannabis use was compared with heavy cannabis use in the past year, cannabis use was associated with an increased risk for the occurrence of nonfatal stroke and transient ischemic attack. Similarly, another study found that recent (within the past 30 days) and frequent (>10 d/mo) cannabis use was associated with increased risk for the occurrence of stroke compared with nonuse, whereas

less frequent cannabis use (≤10 d/mo or less than weekly in the past year) was not associated with increased risk.

Using several International Classification of Diseases, Ninth Revision, Clinical Modification codes for marijuana use, a Nationwide Inpatient Sample study found that cannabis use among men and women hospitalized between 2004 and 2011 was associated with a 17% increased relative risk for acute ischemic stroke in a multivariable-adjusted analysis. Concomitant use of tobacco with cannabis increased the risk to 31%. Similarly, a separate study using the Nationwide Inpatient Sample but between 2009 and 2010 observed a higher odds of stroke among cannabis users (odds ratio, 1.24 [95% CI, 1.14–1.34]). In contrast, investigators using electronic health record data from patients admitted to a single center between 2015 and 2017 found that testing positive for cannabis use was not associated with the risk of ischemic stroke compared with testing negative, even after adjustment for numerous confounders, including age, cigarette smoking, and comorbidities.

There may be certain populations or scenarios in which cannabis use can be meaningfully linked to stroke. A study of a large longitudinal cohort of Canadian pregnant women that included >1 million participants between 1989 and 2019 with follow-up at 30 years observed that cannabis use disorder was associated with a doubling of risk for hemorrhagic stroke (hazard ratio, 2.08 [95% CI, 1.07–4.05]) but no increased risk for ischemic or other cerebrovascular disease. Because of the theoretical vasoactive effect of cannabis, its use has been implicated in some cases of reversible cerebral vasoconstriction syndrome, with 6 of 24 nonidiopathic reversible cerebral vasoconstriction syndrome cases at a Colorado stroke center attributed to marijuana use. In addition, an elevated risk of stroke from intracranial arterial stenosis has been described among young cannabis users 18 to 45 years of age wherein vasospasm or reversible cerebral vasoconstriction syndrome may be a potential mechanism. Studies done in experimental models have shown that cannabinoids exert complex effects on cardiac contractility, vascular tone, and atherogenesis. Both vasodilatation and vasoconstriction responses were observed, depending on the experimental model and cannabinoid used. CB1

activation promotes inflammation, upregulates the production of reactive oxygen species, and activates proapoptotic pathways in endothelial cells and cardiomyocytes. In addition, it induces endothelial dysfunction and vascular smooth muscle cell proliferation and migration. These processes have been linked to cardiac dysfunction and the development of atherosclerosis. This is in contrast to the atheroprotective role associated with CB2.

Acute cardiovascular events and stroke also have been reported in patients using synthetic cannabinoids. Spice is associated with idiopathic thrombocytopenic purpura, which increases the risk of major hemorrhage. In addition, intracranial hemorrhage in Spice users has been linked to the presence of brodifacoum, an adulterant considered a superwarfarin.

Education and Future Directions

Uunderstanding of the ramifications of cannabis consumption on brain health is limited but rapidly evolving, observational studies have produced conflicting results in relation to the effect of marijuana on different outcomes of interest, including hypertension, AF, MI, and cognition. Several methodological factors may explain these apparent contradictions.

First, given its historical classification as an illicit drug, the use of marijuana has been underreported for generations. The inclusion of marijuana users in the control group of observational studies that rely on self-reported use could underestimate its effect on brain health. Second, several behaviors such as smoking and alcohol use are associated with marijuana consumption and can influence stroke risk and brain connectivity. The often-missing information on frequency of exposure to these factors limits our ability to determine with accuracy the independent effect of marijuana.

Third, the time of exposure, frequency of use, and bioavailability of marijuana, which is affected by the route of administration, diet, and concomitant use of medications that may affect its metabolism, are reported inconsistently.

Fourth, THC and CBD have different pharmacological effects. Although the use of THC has been associated with detrimental effects, CBD appears to have therapeutic potential in some neurologic disorders. The absolute and relative concentrations of these compounds differ according to the strain of cannabis plant and the methodology used to extract the active ingredients.

Fifth, the gradual increase in the potency of marijuana used recreationally limits the relevance of older studies.

Sixth, different factors impede the development of long-term placebo-controlled studies, including ethical reasons and the psychotropic effect of THC, which cannot be blinded.

Social media may emphasize a beneficial role for marijuana, and the general population may perceive it as a harmless drug. However, the emerging evidence linking marijuana use to cardiovascular events and stroke, as well as the potential and demonstrated drug-to-drug interactions between marijuana and medications commonly used in the general population, calls for caution and highlights the potential importance of active surveillance programs. In addition, the high density of cannabinoid receptors in areas involved in executive function and memory, the dose-dependent detrimental effect of THC on working and episodic memory, and the role of cannabinoid-associated biochemical pathways on synaptic plasticity and neuronal development raise concern that long-term exposure to marijuana may affect brain health. There is lack of agreement on whether the effects of marijuana resolve completely after months of abstinence. However, the disruption of endocannabinoid signaling pathways during the prenatal and perinatal periods and in adolescence may be detrimental to neurodevelopment.

Key points discussed in this scientific statement are summarized It should be noted that the overarching goal of this scientific statement was to discuss mechanisms by which marijuana use could influence brain health. However, as the field is developing, several important aspects require additional research. As an example, there is limited information comparing the

differential effect of recreational, illicit, and medicinal uses of marijuana, as well as the type of cannabis product consumed. Similarly, the modulatory effects of social determinants of health and race and ethnicity on the interaction of brain health and marijuana use are largely unexplored. The latter area of research may be particularly important because communities of color in the United States may be disproportionately affected by natural and synthetic cannabinoids in relation to use and exposure and the legal implications of criminalization of marijuana.

Comperative Study Of Cannabis In South Africa

Both the Cape and Transvaal colonies restricted the growth of the plant, which they considered a "noxious weed"; in 1891, the Cape Colony prohibited cannabis under Act 34, and the Free State outlawed dealing in cannabis in 1903. In 1908, Natal began to regulate the sale of cannabis. In the Transvaal, dagga was sold "openly and normally" by storekeepers to miners.

Although white farmers did cultivate cannabis in the 18th century and early 19th century, consumption by the farmers themselves was rare. However, even cultivation fell out of favor later in the 19th century. In 1921, "serious signs of a moral panic focusing around dagga" appeared, centered on the Western Cape. A concern developed about the "'camaraderie' which led some to lay aside race and other prejudices with regard to fellow" drug users.

In 1922, regulations were issued under an amended Customs and Excises Duty Act which criminalised the possession and use of "habit forming drugs", including dagga. Under regulation 14, the cultivation, possession, sale, and use of the plant were prohibited. The burden of proof for any defence against a charge lay with the accused; legal scholar Professor Chanock contrasted this with laws regulating alcohol at the time, which laws placed the burden of proof on the accuser; he reasoned that the cannabis regulations were applied differently because they were intended to target black people.

Following the Fifth Session of the League of Nations Advisory Committee on Traffic in Opium and Other Dangerous Drugs, it was at South Africa's wish, expressed by Secretary to the Prime Minister J. C. Van Tyen in 1923, that dagga was included in a list of prohibited narcotics, which list had hitherto been almost entirely concerned with opium and its derivatives. Cannabis was subsequently outlawed internationally in 1925.

People marching in the streets of Cape Town against the prohibition of cannabis in South Africa, 9 May 2015 Cannabis was wholly criminalised in South Africa in 1928 under the Medical, Dental, and Pharmacy Act, for political and moral reasons. In 1937, the government of South Africa introduced the Weeds Act, which made the occupant or owner of a property accountable for preventing the growth of cannabis, or any other plant classified as a "weed", on the property. Concern about the extent of dagga use in South Africa continued to grow, resulting eventually in the enactment, in 1971, of the Abuse of Dependence-producing Substances and Rehabilitation Centers Act. Under the Drugs and Drug Trafficking Act of 1992, people found in possession of more than 115 grams of dagga were presumed to be guilty of dealing. However, following the adoption of the interim constitution of South Africa, courts found that this unjustifiably infringed the constitutionally enshrined presumption of innocence, and consequently invalidated those parts of the Act.

On 18 September 2018 the South African Constitutional Court decriminalized the use and cultivation of cannabis in a private space, and provided a 24-month period in which the Parliament of South Africa could amend the relevant laws, failing which the court judgment would prevail. Even though private use of cannabis has been decriminalized the buying and selling of cannabis, cannabis oil and cannabis seeds remains illegal. Members of the South African Police arrest a Rastafarian for a cannabis related offense during prohibition.

Cannabis grows well in South Africa's climate, especially in the "dagga belt", an area including the Eastern Cape and KwaZulu-Natal provinces where, per

the 2011 International Narcotics Control Strategy Report, it is a traditional crop. According to Ground Up, cannabis is "an important cash crop" that "sustains entire communities in the rural Eastern Cape", which otherwise survive in a subsistence economy. Rural farmers are typically poor and produce low quality local product that is consumed domestically by the lower class, while middle class growers produce product for the rest of the national and international marijuana market.[24] Most of the national product is consumed domestically or regionally, but increasing amounts are seized in Europe.[25]

In 1996, the Department of Land and Agriculture, the Tobacco and Cotton Research Institute, and the Southern African Hemp Company conducted agricultural research on the viability of farming non-psychoactive hemp strains of the plant in the North West province.[26]

The state conducted cannabis eradication programs since the 1950s. Police initially uprooted dagga plantations and burned the crops but in 1980 switched to using herbicides, which they would dispense with hand-held pumps. By the end of the 1980s, helicopters replaced ground patrols, and helicopter patrols would release herbicides aerially to destroy entire crops in minutes.[27]

In 1990, a coalition of civil society organisations successfully lobbied government in the former Natal province to ban the herbicide paraquat from

[24] Bergman, Derrick (2018-09-18). "ConCourt rules that law banning dagga use in private is unconstitutional". Weekend Argus. Retrieved 2018-09-19

[25] William R. Brownfield (1 May 2011). International Narcotics Control Strategy Report: Volume I: Drug and Chemical Control. DIANE Publishing. p. 557. ISBN 978-1-4379-8272-5.

[26] "South Africa's first legal dagga farm". The M&G Online. 1996-06-26. Retrieved 2017-05-02.

[27] de Greef, Kimon (2016-04-20). "Battle to stop dagga spraying". GroundUp. Retrieved 2017-05-05.

use in aerial eradication programmes. The South African Police Service (SAPS) now uses a herbicide formulation which includes glyphosate, and maintains that it is safe, posing "no threat to human, animal, or environmental health". However, a new coalition of the non-profit organisations Fields of Green for All and the Amapondo Children's Project launched legal proceedings in 2016 to stop the SAPS from performing aerial eradications.[28]

MEDICAL USE

In South Africa, medical cannabis products may be prescribed for any health condition, once the presiding physician determines that it could assist in treatment. Patients may request medical cannabis through authorised health practitioners who are licensed by the South African Health Products Regulatory Authority (SAHPRA). The health practitioner must apply online on their patient's behalf to SAHPRA. Once a prescription has been issued to the patient, it can be fulfilled by pharmacists registered with the South African Pharmacy Council (SAPC).[29]

Iqela Lentsango: The Dagga Party of South Africa (more commonly known as the Dagga Party) is a South African political party founded in February 2009 by Jeremy Acton, who remains the party's leader. The Dagga Party was established to allow voters who support the legalisation of dagga to have representation in elections. The party's position is that cannabis users should have the same rights as people who use tobacco and alcohol.

Julian Stobbs and Myrtle Clarke are known as the "Dagga Couple" in South African media. In August 2010, their property was raided and they were

[28] de Greef, Kimon (2016-04-20). "Battle to stop dagga spraying". GroundUp. Retrieved 2017-05-05.

[29] Chanock, Martin (2001). The Making of South African Legal Culture 1902-1936: Fear, Favour and Prejudice. Cambridge University Press. pp. 92–94. ISBN 9780521791564.

arrested on charges of possessing and dealing in dagga. In February 2011, they argued before a magistrate's court that they had a "human right to ingest anything" they chose, provided that it did not harm them, and applied for leave to make their case before the Constitutional Court.[30]Their case was struck from the court roll, pending the result of their constitutional challenge of the legality of cannabis prohibition.[31]

Global Marijuana Marches

Since 2000, as part of the Global Marijuana March and NORML initiative, Cape Town and other cities have hosted an annual pro-legalisation Cannabis Walk on the first Saturday of May each year. 012, a crowd of 500 in 2013, and "a few thousand" people marched in 2014/15. The participants increased to 3,000 in 2016, and to 6,000 in 2017.[32]

In February 2014, the Inkatha Freedom Party's Dr Mario Oriani-Ambrosini introduced the Medical Innovations Bill, which would legalise cannabis for medical treatment and industrial use. Under the proposed bill, with the patient's informed consent, doctors can administer unproven but harmless cancer treatments such as cannabis if other treatments are not efficacious; informed consent will shield doctors from common law liability and the requirements of their medical profession in such circumstances. Dr Oriani-Ombrosini was diagnosed with lung cancer, and had been on cannabinoid treatment in the last months leading to his death. Oriani-

[30] Nina Oosthuizen (2016-09-02). "SABC News - The Trial of the Plant: Should SA legalise marijuana?:Friday 2 September 2016". Sabc.co.za. Archived from the original on 11 November 2016. Retrieved 2016-11-10.

[31] "Dagga activists to hold '4.20' celebration". Independent Online. 2014-04-19. Retrieved 2017-05-03.

[32] "Rastas march for the full legalisation of dagga", SABC Digital News, 2017-05-06

Ambrosini's bill was rejected by Parliament's Portfolio Committee on Health in November 2017.[33]

Central Drug Authority

The official position of the CDA is that dagga should be decriminalised, reasoning that criminalisation has been shown to have little effect on the prevalence of drug use, and that decriminalisation could improve public health. However, the CDA does not currently support commercialisation of the plant.[34]

In 2015, the Department of Social Development commissioned the CDA to conduct research into the feasibility of partially legalising dagga. That research is yet to be completed.[35]

The South African regulatory body for drugs, the Medicines Control Council (MCC), initially classified dagga as a Schedule 7 substance, which meant that it had no medicinal value and was "illegal to cultivate, analyse, possess, research, use, sell or supply without authorisation from the Department of Health."[36] In 2016, it published regulations providing for the use of dagga for medical reasons, and expressed a desire to reclassify "cannabinoid medication" as a Schedule 6 substance, which would make it available for medicinal use.[37] However, the Dagga Couple noted that partial

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[33] "Medical marijuana bill rejected, but... | Sunday Independent". www.iol.co.za. Retrieved November 2, 2019.

[34] Cronje, Jan (2016-09-10). "Decriminalising dagga 'a good idea'". Independent Online. Retrieved 2017-05-03

[35] Whittles, Govan (2017-04-06). "Drug authority: SA doesn't have the necessary discipline to allow dagga judgment". The M&G Online. Retrieved 2017-05-03.

[36] Jordaan, Nomahlubi (2016-12-05). "SA's weed oil salesmen get ahead of themselves". Times LIVE. Retrieved 2017-05-02.

[37] Abdool Karim, Safura (2017-04-02). "Understanding Judge Davis's dope judgment". Ground Up. Retrieved 2017-05-02.

decriminalisation in 2017 has reduced the significance of the proposed change in scheduling, and have called for a more drastic reclassification of the drug.[38]

In January 2016, following a systematic review of scientific studies on cannabis, the Medicine Research Council concluded that there was evidence that cannabinoids could be used to treat chronic pain and spasticity in multiple sclerosis.[39]

South African Health Products Regulatory Authority (SAHPRA)

The Medicines Control Council (MCC) was replaced by the South African Health Products Regulatory Authority (SAHPRA) in 2018. They have reclassified CBD as a Schedule 4 substance or Schedule 0 under certain criteria. Similarly, THC now falls under Schedule 6 or Schedule 0 under certain conditions. See here for a summary.[40]

In 2014, a report by the Anti-Drug Alliance of South Africa argued that the criminalisation of cannabis had "created victims rather than solutions", and recommended legalisation.[41]

The Police and Prisons Civil Rights Union have since 2009 recommended that dagga be legalised. They argued this would free up the police for other

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[38] "Real Talk with Anele Season 3 Episode 13 - Decriminalisation of Marijuana". Retrieved November 2, 2019 – via www.youtube.com.

^ Vicente, Ansie (2014-07-04). "For our love of dagga we go to court". The M&G Online.

[39] Cronje, Jan (2016-09-10). "Decriminalising dagga 'a good idea'". Independent Online. Retrieved 2017-05-03.

[40] "Medical Cannabis Dispensary South Africa: Current Cannabis Laws in South Africa".

[41] Kings, Sipho (2014-02-28). "The war on dagga sobers up". The M&G Online. Retrieved 2017-05-02.

work, and would allow the South African government to benefit from cannabis by taxing sales of it.[42]

Countries That Have Delegalized Cannabis

1. Lesotho

The high-altitude, landlocked kingdom encircled by South Africa, was the first country in the continent to legalise medicinal cultivation of weed in 2017. It is the largest cannabis producer of weed in Africa as different varieties of cannabis thrive there. It is however still illegal to use and possess weed or use it for recreational purposes there. Cannabis is cultivated almost everywhere in Lesotho, including the capital Maseru, but the primary cultivation is in the central mountain zones and western foothills.

2. South Africa

South Africa is quite chilled about the consumption of marijuana. The country's Constitutional Court decriminalised the possession, growing and usage of weed by adults in private in 2018. However, buying, selling and usage of weed outside private spaces is still prohibited. Here, medical cannabis products may be prescribed for any health condition, once the presiding physician determines that it could assist in treatment. Patients may request medical cannabis through authorised health practitioners who are licensed by the South African Health Products Regulatory Authority

3. Netherlands

In Holland, it is not only legal to light up a weed spliff, but you can also buy weed gummies or have some weed coffee. During the Covid-19 pandemic, some weed coffee shops had been closed down, but they were later reopened

[42] Saulse, Kim (2009-09-23). "IFP criticises Popcru's efforts to legalise dagga". Bush Radio. Retrieved 2017-05-02.

as the service they were providing—the sale of weed—was considered essential.

4. Canada

Not only is bhang legal in Canada for anyone who is 18 years of age and above to legally possess up to 30 grams of weed in public, but also one can also legally grow up to four marijuana plants at home. Talk about getting high on your own supply. On October 17, 2018 the North American nation became only the second country in the world after Uruguay to formally legalise the cultivation, possession, acquisition and consumption of bhang and its by-products. It is the first G7 and G20 nation to do so.

5. Colombia

In the South American country, which is also notorious with production and sale of other hard drugs such as cocaine and heroine, the selling of weed is still illegal but the possession of up to 20 grammes of weed is legal. One can grow up to 20 plants for personal use, which can grow really big as the climactic conditions in that part of the world are suitable for the growth of the plant.

6. United States

In 19 out of the USA's 50 states, two US territories, and the District of Columbia (DC) have legalised the recreational use of cannabis. In 37 states, four US territories, and DC have legalised the medical use of the drug, but not recreational consumption. One of America's most recognisable sports figures former boxing heavyweight champion Mike Tyson has been selling cannabis products since 2016 through his California-based Tyson Holistic label. California is one of the states where marijuana is legal.

7. Rwanda

In June 2020, the East African nation permitted the production and processing of medical marijuana with an aim to maximise its profits. The production and use of weed is however limited to licensed dealers such as the

pharmacies. However, in Rwanda, recreational consumption of cannabis remains illegal. Its production is done in adherence to the law governing narcotic drugs, psychotropic substances and precursors.

8. Morocco

In the North African country, cannabis had been illegal since the nation's independence in 1956, reaffirmed by a total ban on drugs in 1974, but was partially tolerated in the country. Cannabis has been cultivated in Morocco for centuries and the country is currently among the world's top producers of hashish. As of 2016, Morocco was the world's top supplier of cannabis. On May 26, 2021, it decriminalised the legal use of bhang through parliament. Legal use means it can only be used in medicine, cosmetics and industrial purposes. Recreational use remains prohibited and subject to prosecution. This is just like in Zambia and Zimbabwe where weed use for medical purposes is legal while consumption is illegal.

9. Uruguay

At Uruguay, folks can head over to the pharmacies to hoard marijuana for recreational purposes but they first have to first officially register with a regulator. The country legalised the recreational usage of marijuana for people aged 18 years and above in 2013, making it the first country in the modern era to legalise cannabis. In August 2014, the South American nation legalised the growing up to six plants at home, as well as the formation of Cannabis Social Clubs, a state-controlled marijuana dispensary regime, and the creation of a Cannabis regulatory institute.

10. Jamaica

The Caribbean country decriminalised ganja otherwise known as weed, kaya or cannabis in February 2015. The country permits the use of cannabis for medicinal and religious purposes. Here, Rastafarians can have weed in unlimited quantities without any restrictions. Indentured servants imported from India during British rule of both nations introduced cannabis to

Jamaica in the 1850s and 60s. It was, however, banned under the 1913 Ganja Law.

What is the difference between "legal" and "decriminalised"?

Some countries have fully legalized recreational marijuana, while others have only approved medical use. There are also countries where marijuana has been decriminalized, a legal gray area which means that cannabis is not legal for personal use but won't result in harsh penalties either.

Navigating laws around marijuana can be tricky, given that a lot differs depending on countries and cultures. "Decriminalised" doesn't really mean legal, and even if cannabis is accepted in a country for medicinal use, it may not mean recreational use is permitted.

countries have legalized recreational marijuana, which have medical use programs, and which have decriminalized the plant. In general, Europe is more friendly than Asia and Africa. But there are exceptions, and not every country in Europe has legalized or even decriminalized cannabis for medical or recreational use.

Furthermore, penalties for consuming or possessing cannabis also vary widely across continents. Importing marijuana into Indonesia, for example, can result in a prison sentence of up to 15 years. Meanwhile, cannabis possession in France usually results in a fine rather than incarceration.

But there are always exceptions. Unapproved cannabis use in the United Kingdom can carry long prison terms on par with those in Indonesia. The bottom line? There is no rhyme or reason to global cannabis laws. The best tool you can arm yourself with before traveling abroad is knowledge of where you may legally have cannabis for personal use and where you may not.

Countries Where Marijuana Is Completely Legal

When it comes to recreational use, there are few countries in the world that have fully recreationally legal status. Many people think of the Netherlands as one such place, but as stated above, cannabis is merely "tolerated" rather than legal per sé. Some parts of Denmark also have a "tolerance" policy in place. Spain has decriminalized cannabis for personal use, and cultivation is allowed on private property – only commercial production is illegal.

Technically, there are only two countries where cannabis is legal on a federal level, Canada and Uruguay. Even then, in Uruguay, those who are not citizens are prohibited from buying cannabis. Canada has passed legislation to legalize cannabis federally, with provinces and territories being left to decide how they will distribute it.

In the country of Georgia, it is legal to possess and consume cannabis but it's not legal to sell it. In South Africa, it is legal to possess and cultivate cannabis but not for sale.

Countries with Medical Marijuana Programs

Austria, Belgium, Croatia, Cyprus, France, Germany and the United Kingdom have some cannabinoid-based medications available for prescription. Spain has legalized cannabis consumption in private areas, and there are some cannabinoid-based medications available upon prescription, but cannabis is still illegal in public areas. Outside of Europe, Australia has a medicinal cannabis program.

As for the UK, cases like Alfie Dingley's and Billy Caldwell's could help establish an official medical cannabis program. When this will happen, we do not know, but it is part of our work to advocate for patients everywhere, and to try and to accelerate this process wherever possible.

Within the United States, certain states have medical marijuana/cannabis programs. But at the federal level, cannabis and a variety of cannabinoids

(including THC and CBD, although CBD derived from hemp is technically legal in all states) is illegal and classified as a Schedule I controlled substance.

Classification as a Schedule I controlled substance means cannabis is considered to have "no medical value," and therefore cannot be "prescribed" in any fashion. Other drugs in this category include heroin, ecstasy and LSD. The solution for Americans? If you can, get a medical marijuana card and stay informed about the latest laws in your home state.

Countries That Have Decriminalized Marijuana

There are some countries where cannabis is "tolerated" or decriminalized to some extent, depending upon state, region, local customs and amount of cannabis the person possesses.

These countries include Antigua and Barbuda, Argentina, Australia (Northern Territory and South Australia, plus ACT), Austria, Barbados (if you're a registered Rastafarian), Belgium, Belize, Bermuda, Bolivia, Chile, Colombia, Costa Rica, Croatia, Czech Republic, Dominica, Ecuador, Estonia, Israel, Italy, Jamaica, Luxembourg, Malta, Mexico, Moldova, Paraguay, Peru, Portugal, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Slovenia, Switzerland, and Trinidad and Tobago.

In some instances, the law may be poorly enforced or treated as an administrative or health issue rather than a legal issue, but punishment is still an option. As for North Korea, nobody knows too much about how the state treats marijuana use. Some say it's illegal, while others say nobody in the country even treats the plant as a "drug." Marijuana legalization and decriminalization are constantly evolving around the world. Some countries where cannabis remains illegal impose very strict penalties on people who travel with or consume marijuana within their borders. Most encourage people to be informed of the most current legal status of cannabis wherever you travel, and to always carry their medical marijuana card if you have a valid one. Perhaps a good lesson for Uganda to borrow a leaf.

Decriminalisation of marijuana means that possession or use of the drug will not lead to criminal charges. In some countries, possessing marijuana is not a criminal act, but it might still be illegal. This means that you won't be taken to court, but may have to deal with civil penalties like heavy fines or referrals to an education or treatment program. Legalisation or decriminalisation also do not imply deregulation. Even in countries where marijuana is legal for recreational and medicinal use, sales of the drug are strictly regulated and only cannabis purchased from authorised stores are considered legal Countries where marijuana is legal

Canada

Cannabis has been legal for medicinal purposes in Canada since 2001. In 2018, cannabis was also made legal for recreational purposes under the Cannabis Act. Since 2019, cannabis edible products and concentrates are also legal for sale in Canada. Accordingly, adults over the age of 18 years are allowed to:

- possess up to 30 grams of legal cannabis (dried or equivalent) in public
- share up to 30 grams of legal cannabis with other adults
- buy dried or fresh cannabis and cannabis oil from a provincially-licensed retailer
- grow, from licensed seed or seedlings, up to 4 cannabis plants per residence for personal use
- make cannabis products, such as food and drinks,
- at home as long as organic solvents are not used to create concentrated products

Can tourists in Canada buy marijuana legally?

When you are travelling within Canada, if you meet the minimum age requirement of the province or territory you are in, you may possess up to 30 grams of dried cannabis or the equivalent. Remember that it is still illegal to transport cannabis or cannabis products (including CBD) across the Canadian border, when entering or leaving the country. This applies even if you are authorised to use cannabis for medicinal purposes. If you are entering Canada and are in possession of cannabis in any form, you need to declare it to the Canada Border Services Agency.

Uruguay

Uruguay was the first country in the world to legalise marijuana back in 2013. According to Uruguayan law, adult (over the age of 18) citizens and residents of the country can grow their own cannabis, join a cannabis club or buy up to 40gms of cannabis per month from an authorised pharmacy, as long as they are part of the government registry. Marijuana is legal for recreational and medicinal purposes in the country

Can tourists in Uruguay buy marijuana legally?

Currently, only citizens and residents of Uruguay can buy and use marijuana legally in the country.

South Africa

In South Africa, adults are allowed to possess, cultivate or use cannabis in private. Buying, selling and use of cannabis in public spaces still remains illegal in the country.

USA

Several of the United States have legalised marijuana, even though recreational and medicinal use remains illegal at a federal level. Here are the states where marijuana is legal:

Colorado
Washington
Alaska
Oregon
Washington,-D.C.
California
Maine
Massachusetts
Nevada
Michigan
Vermont
Guam

Illinois
Arizona
Montana
New-Jersey
New-York
Virginia
New-Mexico
Connecticut
Rhode Island

Is marijuana legal in the Netherlands?

Contrary to popular belief, marijuana in the Netherlands is not legal, but decriminalised. It is against the law to possess, sell or produce drugs both soft and hard in the Netherlands. However, some coffee shops are allowed to sell cannabis in the country under specific conditions, as part of the Dutch policy of toleration. A coffee shop is an establishment where cannabis is sold but no alcoholic drinks are sold or consumed. Neither these coffee shops nor the general public is prosecuted for the possession of up to 5gms of cannabis or up to 5gms of cannabis plants.

Can tourists in the Netherlands buy marijuana legally?

Under the toleration policy, only 'residents of the Netherlands' are permitted to visit coffee shops and purchase cannabis there. Enforcement of the rule, however, differs from municipality to municipality. There is now a possibility that non-residents will be banned from Amsterdam's cannabis coffee shops to prevent organised crime and drug tourism.

Here's a list of countries where marijuana is decriminalised:

Colombia
Ecuador
Peru
Brazil
Bolivia
Chile
Argentina
Australia
Italy
Portugal
Switzerland
Czech-Republic
Belgium

Estonia
Moldova

Njaaga (Cannabis) And The Law

Legality of Cannabis

The **legality of cannabis** for medical and recreational use varies by country, in terms of its possession, distribution, and cultivation, and (in regards to medical) how it can be consumed and what medical conditions it can be used for. These policies in most countries are regulated by three United

Nations treaties: the 1961 Single Convention on Narcotic Drugs, the 1971 Convention on Psychotropic Substances, and the 1988 Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances.[43] Cannabis is classified as a Schedule I drug under the Single Convention treaty, meaning that signatories can allow medical use but that it is considered to be an addictive drug with a serious risk of abuse.[44] The use of cannabis for recreational purposes is prohibited in most countries; however, many have adopted a policy of decriminalization to make simple possession a non-criminal offense (often similar to a minor traffic violation). Others have much more severe penalties such as some Asian and Middle Eastern countries where possession of even small amounts is punished by imprisonment for several years.[45] Countries that have legalized recreational use of cannabis are Canada, Georgia, Malta, Mexico, South Africa, Thailand, and Uruguay, plus 19 states, 2 territories, and the District of Columbia in the United States and the Australian Capital Territory in Australia. Commercial sale of recreational cannabis is legalized nationwide in two countries (Canada and Uruguay) and in all subnational U.S. jurisdictions that have legalized possession except Washington, D.C. A policy of limited enforcement has also been adopted in many countries, in particular the Netherlands where the sale of cannabis is tolerated at licensed coffeeshops.[46]

Countries that have legalized medical use of cannabis include Argentina, Australia, Barbados, Brazil, Canada, Chile, Colombia, Costa Rica, Croatia,

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[43] Bewley-Taylor, David; Jelsma, Martin; Rolles, Steve; Walsh, John (June 2016), Cannabis regulation and the UN drug treaties (PDF), retrieved 22 July 2018

[44] Kwai, Isabella (2 December 2020). "U.N. Reclassifies Cannabis as a Less Dangerous Drug". The New York Times. Retrieved 5 December 2020.

[45] Powell, Burgess (24 February 2018). "The 7 Countries with the Strictest Weed Laws". High Times. Retrieved 21 July 2018.

[46] Haines, Gavin (21 February 2017). "Everything you need to know about marijuana smoking in the Netherlands". The Telegraph. Archived from the original on 11 January 2022. Retrieved 22 July 2018.

Cyprus, Czech Republic, Denmark, Ecuador, Finland, Germany, Greece, Ireland, Israel, Italy, Jamaica, Lebanon, Lithuania, Luxembourg, Malawi, Malta, the Netherlands, New Zealand, North Macedonia, Norway, Panama, Peru, Poland, Portugal, Rwanda, Saint Vincent and the Grenadines, San Marino, Sri Lanka, Switzerland, Thailand, the United Kingdom, Uruguay, Vanuatu, Zambia, and Zimbabwe. Others have more restrictive laws that allow only the use of certain cannabis-derived pharmaceuticals, such as Sativex, Marinol, or Epidiolex. n the United States, 37 states, 4 territories, and the District of Columbia have legalized the medical use of cannabis, but at the federal level its use remains prohibited.

The law of cannabis in South Africa

Cannabis in South Africa has been decriminalised by the country's Constitutional Court for personal consumption by adults in private. However, laws prohibiting use outside of one's private dwelling and buying and selling cannabis still remain. Since regulations against the purchase of products containing cannabis still remain in effect, it is unclear how the ruling can be enforced.

Before prohibition against the plant was lifted in 2018 advocates pressured the government to modify its laws, which first restricted cannabis in 1922, to allow exemptions for medical use, religious practices, and other purposes. Dagga is the Afrikaans term commonly referred to for cannabis; it derives from the Khoikhoi word dacha, which was used by the early European colonial settlers in the Western Cape.

Cannabis is thought to have been introduced to Africa by early Arab or Indian traders. It was already in popular use in South Africa by the indigenous Khoisan and Bantu peoples prior to European settlement in the Cape in 1652, and was traditionally used by Basotho to ease childbirth. According to author Hazel Crampton, old Afrikaner recipes for teas and foods exist which make use of the plant. Use of the plant was associated with traditional African populations and a lower economic status.

Longitudinal research studies by the Medical Research Council (MRC) report that the number of cannabis users in South Africa was 2.2 million in 2004, and 3.2 million in 2008. In 2003, Interpol rated South Africa as the fourth-largest cannabis producer in the world, and the Institute for Security Studies reported that most cannabis seized in the UK and a third globally had South African origins.

Decriminalisation, Initial Cape High Court ruling : On 31 March 2017, in a case brought by Gareth Prince, Jeremy Acton, and Jonathan Rubin before the Western Cape High Court, presiding Judge Dennis Davis ruled that any law disallowing the use and cultivation of cannabis by an adult in a private dwelling was unconstitutional and therefore invalid, on the grounds that such infringement of the constitutional right to privacy could not be justified.[47] However due to appeals from the state, this decision needed to be confirmed by the Constitutional Court before taking effect. The court also ruled that, in the interim, prosecutions related to the transgression of the laws in question should be stayed. The judge further ordered that "it will be deemed to be a defence that the use, possession, purchase or cultivation of cannabis in a private dwelling is for the personal consumption of the adult accused".[48] The Central Drug Authority's chairperson David Bayever encouraged the Department of Social Development to appeal the ruling, citing concerns about the possibility of an increase in road accidents, and the difficulty in limiting children's exposure to the drug. After hearing all appeals in the Constitutional Court during the month of November 2017, the panel announced their decision to reserve judgment in the matter until further notice.[49]

[47] Evans, Jenni (2017-03-31). "How the Western Cape High Court dagga judgment applies to you". News24. Retrieved 2017-04-27.

[48] Wolhuter, Bernadette (2017-04-03). "Dagga use can still land you in jail". IOL. Retrieved 2017-05-02.

[49] Robertson, Andrew (2017-04-09). "Dagga ruling leaves authorities in a haze". Weekend Argus. Retrieved 2017-05-03.

After announcing their decision to rule on the matter, the full panel of judges convened on 18 September 2018 at the Constitutional Court in Johannesburg with Chief Justice Raymond Zondo reading out what he described as a unanimous decision. In his ruling it was stated:

An adult person may, [sic] use or be in possession of cannabis in private for his or her personal consumption in private. The use, including smoking, of cannabis in public or in the presence of children or in the presence of non-consenting adult persons is not permitted. The use or possession of cannabis in private other than by an adult for his or her personal consumption is not permitted. The cultivation of cannabis by an adult in a private place for his or her personal consumption in private is no longer a criminal offense.[50]

He placed no limits on quantities that adults would be allowed to carry, consume or grow and said that it would be up to parliament to decide once a bill was drawn up to accommodate these recommended changes. The government has been given a period of 24 months to implement the landmark ruling's findings.[51] 2020 cannabis for private purposes bill. The bill has proposed limits on the personal cultivation, possession, sharing and use of cannabis by adults and in private (out of sight). It makes provision for publicly possessing as well as gifting (without any exchange of remuneration) cannabis plants, seeds/seedlings and dried flowers, or the equivalents thereof. It also depicts what quantities will be considered as trafficable and commercial offences, leading to fines and/or up to 6-years and 15-years imprisonment, respectively. It has yet to be approved by parliament and signed into law.[52]

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[50] Robertson, Andrew (2017-04-09). "Dagga ruling leaves authorities in a haze". Weekend Argus. Retrieved 2017-05-03.

[51] Bergman, Derrick (2018-09-18). "ConCourt rules that law banning dagga use in private is unconstitutional". Weekend Argus. Retrieved 2018-09-19.

[52] "Medical Cannabis Dispensary South Africa: Current Cannabis Laws in South Africa".

Cannabis in Namibia

Cannabis in Namibia is illegal for recreational and medicinal uses, but cannabis, just like mandrax (methaqualone), are the most popular illicit drugs in he country. Cannabis also has an history of use as a traditional medicine by local indigenous communities. Per the 2011 UNODC report, the incidence of annual cannabis usage in Namibia was 3.9% as of 2000. [53]

Laws and policies

The "Abuse of Dependence-Producing Substances and Rehabilitation Centres Act of 1971" is the law currently in force in Namibia, supplemented by the "Combatting of the Abuse of Drugs Bill" of 2006 which increased penalties to prison sentences of between 20 and 40 years (alternative to incarceration includes a fine of between N$300,000 and N$500,000), even for first-time drug offense, regardless of drug type or quantity. At the time of adoption of that bill, protests were raised against the proposal, particularly by Namibia's artistic and creative communities, and followers of the Rastafarian faith.[54] Following a proposal filed in June 2020 by the non-profits Ganja Users of Namibia (GUN) and Rastafari United Front (RUF),[55] a governmental task force was established to consult on the eventual regulation and controlled use of cannabis in Namibia, including a public consultation

[53] World Drug Report 2011. United Nations Office on Drugs and Crime (UNODC). Cannabis stats are from Chapter 6.1.1.3. Consumption: Annual prevalence of Cannabis, p. 217. "Sources: Annual Reports Questionnaires, Academic Researches, Concise International Chemical Assessment Documents (CICAD), Government Reports, European School Survey Project on Alcohol and Other Drugs (ESPAD), International Narcotics Control Strategy Reports (INCSR)."

[54] "Public gets on high horse over new drug law". The Namibian. 2016-11-03. Retrieved 2016-11-07.

[55] Office of the Speaker, Parliament of Namibia (2020). Petition by the Ganja Users of Namibia for the Legalization of the use of marijuana in Namibia (PDF). Windhoek: Parliament of Namibia.

process open from 12 to 22 November 2020 convened by the Ministry of Health and Social Services.[56]

The Cannabis and Hemp Association of Namibia (CHAN) was constituted, with support from the Dagga Couple of neighbouring South Africa, to further represent voices[of the communities of people who use or grow cannabis and hemp in the country.[57]

In September 2021, GUN and RUF filed a lawsuit against the Ministers of justice, and of health and social services, as well as other country officials, asking "for their own rights to use dagga, to challenge the constitutionality of all laws prohibiting dagga in Namibia."[58]

Cannabis in Nigeria

Cannabis in Nigeria is illegal, yet the country is a major source of West African-grown cannabis, and ranked the world's third highest consumer of cannabis. Cannabis is widely grown across the States of Nigeria, including Lagos State, Edo State, Delta State, Osun State, Oyo State and Ogun State.

Though cannabis has long been present in Eastern and Central Africa, as well as throughout North Africa, most scholars believe cannabis only gained traction in Nigeria in the 20th century. It is widely believed that cannabis was introduced to the area by soldiers and sailors returning from conflict zones in North Africa and the Far East during and after World War II, though some scholars have stated that British colonial authorities had engaged in small-scale cannabis and coca cultivation as early as the 1930s. The cultivation

[56] Namibian, The. "Dagga legalisation talks back on the table". The Namibian. Retrieved 2021-05-19.

[57] "Cannabis in Namibia: an Interview with Angela Prusa – Canna Tech Global". Retrieved 2021-05-19.

[58] "Lawsuit to legalise cannabis filed in Namibia". Medical Brief. 2021-09-08. Retrieved 2021-11-04

of cannabis spread rapidly during the 1960s thereby making it a public issue in Nigeria after its abuse by individuals and psychiatric patients. By the 1950s, arrests of Nigerian cannabis farmers are documented, as well as a small flow of Nigerian cannabis to the United States and Europe, and some import of cannabis from South Africa and the Belgian Congo.[59]

During the early 1970s, the use of cannabis became common among soldiers who abused it in order to suppress timidity. The use of cannabis became popular among youths between 1980-1990.[60]

During Nigeria's second military Junta, the military rulers issued Decree 20, which made the death penalty an available punishment for drug trafficking, though this was used only sparingly, focused on cocaine, and removed in 1985.[61] Nigeria strengthened its focus on cannabis eradication with the 1994 launch of "Operation Burn the Weeds", but the eradication program peaked in the 1999 at 3500 hectares (vice 40 hectares in 1994) before falling substantially in the 2000s.[62]

Despite Nigeria's role as a transhipment point for cocaine and heroin, throughout the 20th century cannabis remained the only illicit drug produced domestically. In addition to international treaties to which Nigeria was party, cannabis use in Nigeria was limited by a series of statutes, including

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[59] Chioma Obinna (16 July 2013). "Young adults, highest users of marijuana, others in Nigeria –POLL". Vanguard. Retrieved 1 August 2015.

[60] Professor Anita Kalunta-Crumpton (28 June 2015). Pan-African Issues in Drugs and Drug Control: An International Perspective. Ashgate Publishing, Ltd. ISBN 978-1-4724-2214-9.

[61] 2006 World Drug Report: Analysis. United Nations Publications. 1 January 2006. pp. 2090–. ISBN 978-92-1-148214-0.

[62] John David Yeadon Peel; African Studies Association of the United Kingdom (1998). Biennial conference: School of Oriental and African Studies, 14-16 September 1998 : ASAUK 1998 : comparisons and transitions : papers. African Studies Association of the UK. p. 48.

the 1935 Dangerous Drugs Act while under British rule, and following independence the Indian Hemp Decree of 1966, and its amendments in 1975 and 1984. The 1966 decree recommended the death penalty for hemp cultivation, while the 1975 decree removed the threat of capital punishment, and the 1984 amendment increased penalties and jail terms.[63]

In early 2019, The Governor of Ondo State, Rotimi Akeredolu, proposed legalization of cannabis growing in his state for medical use.[64] He repeated the call in early 2020.[65]

Cannabis is one of the most widely used illegal drug in Nigeria. Cannabis has no religious or medical use in the country. A study of secondary schools in Northern Nigeria, substance abuse ranged between 1.1 - 3.5% with a male to female ratio of substance abuse of 3:1. 3% smoked cigarettes, benzodiazepines abused by 3.5% and solvents by 1.5%. Abuse of cocaine and heroin was 1.1% and 1.3% respectively. In a study carried out in about fourteen psychiatric hospitals in Lagos indicated that cannabis abusers are responsible for 13.8% of the total drug related admissions for 1992.[66]

Cannabis use and other related drug abuse cases is controlled by the National Drug Law Enforcement Agency in collaboration with the U.S. government to combat narcotic trafficking in West Africa.[67] The possession

[63] Abisola Olasupo (May 14, 2019). "Ondo to tap into legal Marijuana market". The Guardian.
[64] "Akeredolu in Aso Rock, invites Buhari to commission N5bn flyover in Ondo". Premium Times. February 4, 2020.
[65] "Drug Abuse In the Global Village Drug Abuse Among African Youth". Retrieved 1 August 2015.

[66] "22 PERCENT OF NIGERIANS SMOKE MARIJUANA". The Nigerian Voice. 22 November 2010. Retrieved 1 August 2015.[

[67] "Nigeria's romance with MARIJUANA". The Nation. 15 December 2014. Retrieved 1 August 2015.

of cannabis is illegal and is punishable by a minimum sentence of 12 years in prison. In serious trafficking cases, life imprisonment may be imposed.[68]

The National Drug Law Enforcement Agency, in 2011 commenced night patrols on major roads in Osun State to combat and intercept trucks that are usually used to traffic cannabis during the night. In an annual report of the National Drug Law Enforcement Agency in 2014, 3,271 suspected drug traffickers made up of 3,062 male and 209 female offenders were arrested with a total quantity of 205,373 kg of cannabis seized.

In addition to such widespread international terms as marijuana, hemp, ganja, and pot, cannabis in Nigeria is also referred to by terms such as kaya, wee-wee, igbo, oja, gbana, blau, kpoli and abana.[69]

[68] "World Drug Report 2014: Nigeria records highest cannabis seizure in Africa". National Drug Law Enforcement Agency. 8 April 2014. Archived from the original on 27 September 2014. Retrieved 1 August 2015.

[69] "22 PERCENT OF NIGERIANS SMOKE MARIJUANA". The Nigerian Voice. 22 November 2010. Retrieved 1 August 2015

CHAPTER TWO

Legality of Cannabis

Although cannabis in Uganda is illegal, law enforcement is poor. The 2010 International Narcotics Control Strategy Report highlighted that there were only two detection dogs for conducting drug searches and no drug test kits or X-ray machines to detect drugs, along with the fact that the local police were both corrupt and inadequately trained. From 2008 to 2010, the government's Anti-Narcotics Unit (ANU) seized 5 kilograms (11 lb) of cannabis and officially arrested some 482 people for possession of the drug.[70] The ANU also reported that 15 acres (6.1 ha) of cannabis plants were destroyed from 2008 to 2009.[71]

The export of cannabis for medicinal purposes was approved by the Ugandan Ministry of Health in January 2020, which stipulated among other things that all cannabis exporters had to have a minimum capital of USh.18.3 million/= or US$5,000. Prior to this, however, Industrial Hemp Uganda, a private company based in Hima, Kasese District, had already been exporting medicinal cannabis to Germany and China.[72]

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[70] International Narcotics Control Strategy Report. The Bureau. 1998. pp. 512–.

[71] William R. Brownfield (May 2011). International Narcotics Control Strategy Report: Volume I: Drug and Chemical Control. DIANE Publishing. pp. 626–627. ISBN 978-1-4379-8272-5.

[72] Ahabwe, Conrad (28 January 2020). "Govt finally approves marijuana growing, releases tough rules for firms". PML Daily.

Decriminisation And Criminisation Of Cannibis.

You can smoke it, you can drink it, or eat it. It can make you happy, dizzy, nauseous, relaxed, hungry or confused. It is known by many different names: Mary Jane, Grass, Hash, Chronic, Dope, Weed, Ganja, and Marijuana. But they all refer to the same mind-altering drug derived from the Cannabis sativa plant. In the United States, cannabis is the most commonly used illegal drug; over 18 million people report they have used it.

Drug Liberalization

Drug liberalization is a drug policy process of decriminalizing or legalizing the use or sale of prohibited drugs. Variations of drug liberalization include: **drug legalization**, **drug re-legalization** and **drug decriminalization**. Proponents of drug liberalization may favor a regulatory regime for the production, marketing, and distribution of some or all currently illegal drugs in a manner analogous to that for alcohol and tobacco.

Proponents of drug liberalization argue that the legalization of these would make them more widely available, eradicating the illegal drug market and reducing the law enforcement costs and incarceration rates. They frequently argue that prohibition of recreational drugs—such as cannabis, opioids, cocaine, amphetamines and hallucinogens—has been ineffective and counterproductive and that substance use is better responded to by implementing practices for harm reduction and increasing the availability of addiction treatment. Additionally, they argue that relative harm should be taken into account in the regulation of drugs. For instance, they may argue that addictive or dependence-forming substances such as alcohol, tobacco and caffeine have been a traditional part of many cultures for centuries and remain legal in most countries, though other drugs which cause less harm than alcohol or tobacco are entirely prohibited, with possession punishable with severe criminal penalties. Opponents of drug liberalization argue that it would increase the amount of drug users, increase

crime, destroy families, and increase the amount of adverse physical effects among drug users.

The 1988 United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances made it mandatory for the signatory countries to "adopt such measures as may be necessary to establish as criminal offences under its domestic law" (art. 3, § 1) all the activities related to the production, sale, transport, distribution, etc. of the substances included in the most restricted lists of the 1961 Single Convention on Narcotic Drugs and 1971 Convention on Psychotropic Substances. Criminalization also applies to the "cultivation of opium poppy, coca bush or cannabis plants for the purpose of the production of narcotic drugs". The Convention distinguishes between the intent to traffic and personal consumption, stating that the latter should also be considered a criminal offence, but "subject to the constitutional principles and the basic concepts of [the state's] legal system" (art. 3, § 2).

Drug liberalization proponents hold differing reasons to support liberalization, and have differing policy proposals. The two most common positions are **drug legalization** (or re-legalization), and **drug decriminalization**. The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) defines decriminalization as the removal of a conduct or activity from the sphere of criminal law; depenalisation signifying merely a relaxation of the penal sanction exacted by law. Decriminalization usually applies to offences related to drug consumption and may include either the imposition of sanctions of a different kind (administrative) or the abolition of all sanctions; other (noncriminal) laws then regulate the conduct or activity that has been decriminalized. Depenalisation usually consists of personal consumption as well as small-scale trading and generally signifies the elimination or reduction of custodial penalties, while the conduct or activity still remains a criminal offence. The term legalization refers to the removal of all drug-related offences from criminal law: use, possession, cultivation, production, trading, etc.

Harm reduction refers to a range of public health policies designed to reduce the harmful consequences associated with recreational drug use and other high risk activities. Harm reduction is put forward as a useful perspective alongside the more conventional approaches of demand and supply reduction.[9] Many advocates argue that prohibitionist laws criminalize people for suffering from a disease and cause harm, for example by obliging drug addicts to obtain drugs of unknown purity from unreliable criminal sources at high prices, increasing the risk of overdose and death. Its critics are concerned that tolerating risky or illegal behaviour sends a message to the community that these behaviours are acceptable.

Drug Legalization

Drug legalization calls for a return to pre–1906 Pure Food and Drug Act attitudes when almost all drugs were legal. This would require ending government-enforced prohibition on the distribution or sale and personal use of specified (or all) currently banned drugs. Proposed ideas range from full legalization which would completely remove all forms of government control, to various forms of regulated legalization, where drugs would be legally available, but under a system of government control which might mean for instance:

- Mandated labels with dosage and medical warnings.
- Restrictions on advertising.
- Age limitations.
- Restrictions on amount purchased at one time.
- Requirements on the form in which certain drugs would be supplied.
- Ban on sale to intoxicated persons.
- Special user licenses to purchase particular drugs.

A possible clinical setting for the consumption of some intravenous drugs and/or supervised consumption.

The regulated legalization system would probably have a range of restrictions for different drugs, depending on their perceived risk, so while some drugs would be sold over the counter in pharmacies or other licensed establishments, drugs with greater risks of harm might only be available for sale on licensed premises where use could be monitored and emergency medical care made available. Examples of drugs with different levels of regulated distribution in most countries include: caffeine (coffee, tea), nicotine (tobacco),[14] and ethyl alcohol (beer, wine, spirits).

Full legalization is often proposed by groups such as libertarians who object to drug laws on moral grounds, while regulated legalization is suggested by groups such as Law Enforcement Against Prohibition who object to the drug laws on the grounds that they fail to achieve their stated aims and instead greatly worsen the problems associated with use of prohibited drugs, but who acknowledge that there are harms associated with currently prohibited drugs which need to be minimized. Not all proponents of drug re-legalization necessarily share a common ethical framework, and people may adopt this viewpoint for a variety of reasons. In particular, favoring drug legalization does not imply approval of drug use. Since each country has its own regulations and most distinguish between different classes of drugs, there can be difficulties when it comes to regulating which should be more readily accessible, since a particular drug criminalized in one area might be completely acceptable elsewhere.

Since 1996, 23 states and Washington D.C., have passed laws decriminalizing cannabis when used for medical purposes. As of 2020, Alaska, Arizona, California, Colorado, Illinois, Maine, Massachusetts, Michigan, Nevada, New Mexico, Oregon, Vermont, and Washington, have passed laws decriminalizing the sale and distribution of cannabis for personal use, with many more legalizing its use for medical purposes.

In 2015, the District of Columbia passed a law decriminalizing possession of cannabis. **Decriminalization** of cannabis is defined as removing or reducing the criminal classification or status of cannabis use. While some states have

begun to pass laws decriminalizing the use of cannabis, not everyone believes cannabis should be decriminalized. In fact, the federal government still defines cannabis as a dangerous drug, with a high potential for abuse and no medical value.

Pros of Cannabis Decriminalization

Supporters believe there are some major benefits to decriminalizing cannabis. First, cannabis can be used for medical treatment. Second, decriminalizing cannabis would reduce the prison population and save the government money. And third, cannabis is safer than alcohol or tobacco. Let's look at these benefits one at a time.

1. Medical Treatment

Supporters believe cannabis should be decriminalized because the plant can be used to help those suffering with medical conditions. Supporters point to studies done by the University of California Center for Medicinal Cannabis Research, where it was found that cannabis reduced the nerve pain of patients suffering with cancer, diabetes, and HIV/AIDS. Another study done by the Center found that Multiple Sclerosis patients who smoked cannabis had reduced pain. Currently, more than 60 U.S. and international health organizations support the use of cannabis for medicinal purposes.

2. Decrease the Prison Population

Supporters believe that decriminalizing cannabis will decrease the prison population and save money that the government now spends on enforcing cannabis laws. Supporters point out that since 1972, about 16.5 million Americans have been arrested for violating cannabis laws, and over 80% of these arrests were for minor possession charges. In addition, currently, one in eight inmates is incarcerated because of cannabis. The U.S. has spent over 20 billion dollars enforcing cannabis laws and over one billion dollars a year

incarcerating those who violate the laws. Cannabis supporters believe that this money could be better spent elsewhere.

3. Safer Than Alcohol or Tobacco

Supporters of decriminalization believe that the use of cannabis is safer than using alcohol or tobacco. They point out that about 50,000 people each year die from alcohol poisoning, and each year more than 40,000 deaths are attributed to the use of tobacco. In addition, you cannot die from an overdose using cannabis and it is non-toxic. Yet, both alcohol and tobacco, which cause more deaths each year than cannabis, are legal.

Cons of Cannabis Decriminalization

Critics believe that decriminalizing cannabis has the following major drawbacks. First, cannabis is harmful to your health. Second, cannabis is addictive. And third, decriminalizing cannabis would not reduce the number of arrests. Let's now look at these a bit closer.

Reasons To Legalize And Regulate Cannabis

1. A country that values liberty should not be punishing adults for using cannabis. Cannabis is far safer than alcohol, tobacco, and many medications. In a nation dedicated to "life, liberty, and the pursuit of happiness," the government should not be tearing families apart over a plant that is safer than alcohol.

2. Prohibition wastes public resources, while legalizing and taxing cannabis brings in much-needed revenue. An estimate by the Congressional Research Service projected that replacing cannabis prohibition with taxation and regulation could yield $6.8 billion in excise taxes alone. In Washington State, taxes on cannabis sales brought in $600 million in 2020.

3. Arresting cannabis offenders prevents police from focusing on real crime. In 2019, the FBI reported 663,367 cannabis arrests and citations more arrests than for all violent crimes combined. Meanwhile, FBI data showed that police only cleared 33 percent of rapes, 31 percent of robberies, and 14 percent of burglaries by making an arrest.

4. Prohibition sends an incredible number of Americans through the criminal justice system, ruining countless lives. According to the FBI, there have been more than 15 million cannabis arrests in the U.S. since 1995. While cannabis consumers who were not convicted have gone on to be president or Supreme Court justice, a criminal conviction can stand in the way of securing a job, getting housing, or receiving a professional license, student loan, food assistance, driver's license, or firearms permit.

5. Cannabis laws are disproportionately enforced. According to the ACLU, Black individuals are more than 3.5 times as likely to be arrested for cannabis possession than white individuals nationwide, despite similar rates of use.

6. Replacing prohibition with regulation creates barriers to teens accessing cannabis. A 2012 survey by the National Center on Addiction and Substance Abuse at Columbia University found 40% of high schoolers reported knowing a student who sells cannabis at school while under 1% know a peer who sells alcohol. Regulated cannabis businesses check IDs and aren't allowed to sell to or employ minors.

7. Cannabis prohibition breeds violence. As was the case during alcohol prohibition, driving this lucrative market underground results in violence. Both buyers and sellers are vulnerable to assault.

8. Only regulation allows for control. Prohibition guarantees that cannabis will not be tested for purity and potency, creating the risk of contamination by dangerous pesticides, molds, bacteria, or even lacing.

9. Prohibition is bad for the environment. Illicit cannabis growers sometimes use banned pesticides, divert waterways, and leave hazardous

waste in state and national parks. Regulated cannabis businesses are monitored to ensure compliance with zoning and environmental laws.

10. Cannabis is safer than alcohol. Researchers have consistently concluded that cannabis is less toxic than alcohol, it has less potential for addiction, and it is less likely to contribute to serious medical problems. The Centers for Disease Control and Prevention reports that every year more than 50,000 Americans die from the health impacts of chronic alcohol consumption, with 2,200 additional deaths from acute overdose. Cannabis has not been shown to increase mortality, and there has never been a verified cannabis overdose death in history. It makes no sense for the law to steer consumers to the more dangerous substance.

Drug decriminalization calls for reduced control and penalties compared to existing laws. Proponents of drug decriminalization generally support the use of fines or other punishments to replace prison terms, and often propose systems whereby illegal drug users who are caught would be fined, but would not receive a permanent criminal record as a result. A central feature of drug decriminalization is the concept of harm reduction.

Drug decriminalization is in some ways an intermediate between prohibition and legalization, and has been criticized by Peter Lilley as being "the worst of both worlds", in that drug sales would still be illegal, thus perpetuating the problems associated with leaving production and distribution of drugs to the criminal underworld, while also failing to discourage illegal drug use by removing the criminal penalties that might otherwise cause some people to choose not to use drugs.

In 2001 Portugal began treating use and possession of small quantities of drugs as a public health issue. Rather than incarcerating those in possession, they are referred to a treatment program by a regional panel composed of social workers, medical professionals, and drug experts. This also decreases the amount of money the government spends fighting a war on drugs and money spent keeping drug users incarcerated. HIV infection rates also have

dropped from 104.2 new cases per million in 2000 to 4.2 cases per million in 2015. Portugal is the first country that has decriminalized the possession of small amounts of drugs, to positive results. Anyone caught with any type of drug in Portugal, if it is for personal consumption, will not be imprisoned.

As noted by the EMCDDA, across Europe in the last decades, there has been a movement toward "an approach that distinguishes between the drug trafficker, who is viewed as a criminal, and the drug user, who is seen more as a sick person who is in need of treatment" (EMCDDA 2008, 22). A number of Latin American countries have similarly moved to reduce the penalties associated with drug use and personal possession" (Laqueur, 2015, p. 748). Mexico City has decriminalized certain drugs and Greece has just announced that it is going to do so. Spain has also followed the Portugal model. Italy after waiting 10 years to see the result of the Portugal model, which Portugal deemed a success, has since recently followed suit. In May 2014, the Criminal Chamber of the Italian Supreme Court upheld a previous decision in 2013 by Italy's Constitutional Court, to reduce the penalties for the convictions for sale of soft drugs.

Some other countries have virtual decriminalization for marijuana only, in three US states, Colorado, Washington, and Oregon, one Australian state (SA) and in the Netherlands there are legal marijuana cafes. In the Netherlands these cafes are called "coffee shops".

Economics of Drugs

There are numerous economic and social impacts of the criminalization of drugs. According to economist Mark Thornton, prohibition increases crime (theft, violence, corruption) and drug price and increases potency.[73]In many developing countries the production of drugs offers a way to escape poverty. Milton Friedman estimated that over 10,000 deaths a year in the US is caused by the criminalization of drugs, and if drugs were to be made legal

[73] "Drug War Statistics". Drug Policy Alliance. Retrieved 16 October 2021.

innocent victims such as those shot down in drive by shootings, would cease or decrease. The economic inefficiency and ineffectiveness of such government intervention in preventing drug trade has been fiercely criticised by drug-liberty advocates. The War on Drugs of the United States, that provoked legislation within several other Western governments, has also garnered criticism for these reasons.

Prices and consumption

Much of the debate surrounding the economics of drug legalization centers on the shape of the demand curve for illegal drugs and the sensitivity of consumers to changes in the prices of illegal drugs.[74] Proponents of drug legalization often assume that the quantity of addictive drugs consumed is unresponsive to changes in price; however, studies into addictive, but legal, substances like alcohol and cigarettes, have shown that consumption can be quite responsive to changes in prices. In the same study, economists Michael Grossman and Frank J. Chaloupka estimated that a 10% reduction in the price of cocaine would lead to a 14% increase in the frequency of cocaine use. This increase indicates that consumers are responsive to price changes in the cocaine market. There is also evidence that in the long run, consumers are much more responsive to price changes than in the short run, but other studies have led to a wide range of conclusions.[75]

Considering that legalization would likely lead to an increase in the supply of drugs, the standard economic model predicts that the quantity of drugs consumed would rise and the prices would fall.[76] However, Andrew E. Clark, an economist who has studied the effects of drug legalization, suggests that

[74] "Amsterdam Coffeeshops Guide". Amsterdam.info. Retrieved 7 July 2014.

[75] "Drug War Statistics". Drug Policy Alliance. Retrieved 16 October 2021.

[76] Grossman, Michael; Frank J. Chaloupka (1998). "The Demand for Cocaine by Young Adults: a Rational Addiction Approach" (PDF). Journal of Health Economics. **17** (4): 428. doi:10.1016/s0167-6296(97)00046-5. PMID 10180926. S2CID 14660848.

a specific tax, or sin tax, would counteract the increase in consumption.[77] Additionally the legalization of it would reduce the cost of having to mass incarcerate marginalized communities, which are those who are disproportionately affected. Of those arrested for drug possession or drug related crimes, the majority of those individuals arrested are Black or Hispanic.[78]

Proponents of drug prohibition argue that many negative externalities, or third-party costs, are associated with the consumption of illegal drugs. Externalities like violence, environmental effects on neighbourhoods, increased health risks and, increased healthcare costs are often associated with the illegal drug market.[79] Opponents of prohibition argue that many of those externalities are created by current drug policies. They believe that much of the violence associated with drug trade is due to the illegal nature of drug trade, where there is no mediating authority to solve disputes peacefully and legally.[80] The illegal nature of the market also affects the health of consumers by making it difficult to acquire syringes, which often leads to needle sharing. [1]Prominent economist Milton Friedman argues that prohibition of drugs creates many negative externalities like increased incarceration rates, the undertreatment of chronic pain, corruption, disproportional imprisonment of African Americans, compounding harm to users, the destruction of inner cities and harm to foreign countries. Proponents of legalization also argue that prohibition decrease the quality of the drugs made, which often leads to more physical harm, like accidental overdoses and poisoning, to the drug users.[81] Steven D. Levitt and Ilyana Kuziemko point to the overcrowding of

[77] Clark, Andrew E. "The Economics of Drug Legalization" (PDF). Archived (PDF) from the original on 9 August 2011. Retrieved 10 December 2016.

[78] "Drug War Statistics". Drug Policy Alliance. Retrieved 16 October 2021.

[79] Bovey, Chris (23 February 2014). "EU cannabis petition requires one million signatures". NORML UK. Retrieved 7 July 2014.

[80] Friedman, Milton (11 January 1998). "There's No Justice in the War on Drugs". The New York Times.

[81] Debusmann, Bernd (3 December 2008). "Einstein, Insanity and the War on Drugs". Reuter. Archived from the original on 5 December 2008. Retrieved 1 April 2012.

prisons as another negative side effect of the war on drugs. They believe that by sending such a large number of drug offenders to prison, the war on drugs has reduced the prison space available for other offenders. This increased incarceration rate not only costs tax payers more to maintain, it could possibly increase crime by crowding violent offenders out of prison cells and replacing them with drug offenders.[82]

A Harvard economist, Jeffrey Miron, estimated that ending the war on drugs would inject 76.8 billion dollars into the US economy in 2010 alone. He estimates that the government would save $41.3 billion for law enforcement and the government would gain up to $46.7 billion in tax revenue.[83]

Since the war on drugs began under the administration of President Richard Nixon, the federal drug-fighting budget has increased from $100 million in 1970 to $15.1 billion in 2010, with a total cost estimated near 1 trillion dollars over 40 years. In the same time period, an estimated 37 million nonviolent drug offenders have been incarcerated. $121 billion was spent to arrest these offenders and $450 billion to incarcerate them.[84]

Size of the illegal drug market

According to 2013 data from the United Nations Office on Drugs and Crime (UNODC) and European crime-fighting agency Europol, the annual global

[82] Kuiemko, Ilyana; Steven D. Levitt (2003). "Empirical Analysis of Imprisoning Drug Offenders". Journal of Public Economics. **88** (9–10): 2043–2066. CiteSeerX 10.1.1.381.6010. doi:10.1016/s0047-2727(03)00020-3.

[83] Miron, Jeffrey A.; Katherine Waldock (27 September 2010). "The Budgetary Impact of Ending Drug Prohibition". The Cato Institute.

[84] The Associated Press (13 May 2010). "After 40 years, $1 trillion, US War on Drugs Has Failed to Meet Any of its Goals". The Associated Press. Retrieved 1 April 2012.

drugs trade is worth around $435 billion a year, with the annual cocaine trade worth $84 billion of that amount.[85]

Policies By Country In Legalizing Cannabis

Thailand

Although Thailand has a strict drug policy, in May 2018, the Cabinet approved draft legislation that allows for more research into the effects of marijuana on people. Thus, the Government Pharmaceutical Organization (GPO) will soon begin clinical trials of marijuana as a preliminary step in the production of drugs from this plant. These medical studies are considered exciting, new landmarks in the history of Thailand, because the manufacture, storage, and use of marijuana has been completely outlawed in Thailand since 1979.[86]

On 9 November 2018, the National Assembly of Thailand officially proposed to allow licensed medical use of marijuana, thereby legalizing what was previously considered a dangerous drug.

The National Assembly on Friday submitted its amendments to the Ministry of Health, which would place marijuana and vegetable kratom in the category allowing their licensed possession and distribution in regulated conditions. The ministry reviewed the amendments before sending them to the cabinet, which returned it to the National Assembly for a final vote. This process was completed on 25 December 2018.[87] Thus, Thailand became the first Asian

[85] Liebman, Jonathan. "UN Office on Drugs and Crime" (PDF). Princeton. Retrieved 10 November 2015.

[86] "Medical marijuana trials to start soon". Bangkok Post.

[87] Supreme Court of the Czech Republic (25 February 2012), 6 Tdo 156/2010 [NS 7078/2010]

country to legalize medical cannabis.[88] It is worth noting that the proposed changes will not allow recreational use of drugs. These actions were taken because of the growing interest in the use of marijuana and its components for the treatment of certain diseases.

Supporters of legalization argue that the legal market for marijuana in Thailand could increase to $5 billion by 2024.[89]

Germany

In 1994 the Federal Constitutional Court ruled that drug addiction was not a crime, nor was the possession of small amounts of drugs for personal use. In 2000 the German narcotic law ("BtmG") was changed to allow for supervised drug injection rooms. In 2002, a pilot study was started in seven German cities to evaluate the effects of heroin-assisted treatment on addicts, compared to methadone-assisted treatment. The positive results of the study led to the inclusion of heroin-assisted treatment into the services of the mandatory health insurance in 2009. On 4 May 2016 the Cabinet of Germany decided to approve the measure for legal cannabis for seriously ill patients who have consulted with a doctor and "have no therapeutic alternative". German Health Minister, Hermann Gröhe, presented the legal draft on the legalization of medical cannabis to the cabinet which is expected to take effect early 2017.

Mexico

In April 2009, the Mexican Congress approved changes in the General Health Law that decriminalized the possession of illegal drugs for immediate consumption and personal use allowing a person to possess up to 5 g of marijuana or 500 mg of cocaine. The only restriction is that people in possession of drugs should not be within a 300-meter radius of schools, police departments, or correctional facilities. Opium, heroin, LSD, and other

[88] "Where do Thai lawmakers stand on legalizing medical marijuana?". 9 November 2018.
[89] "Where do Thai lawmakers stand on legalizing medical marijuana?". 9 November 2018.

synthetic drugs were also decriminalized, it will not be considered as a crime as long as the dose does not exceed the limit established in the General Health Law.[90] Many questions this, as cocaine is as much synthesised as heroin, both are produced as extracts from plants. The law establishes very low amount thresholds and strictly defines personal dosage. For those arrested with more than the threshold allowed by the law this can result in heavy prison sentences, as they will be assumed to be small traffickers even if there are no other indications that the amount was meant for selling.[91]

United States

Throughout the United States, various people and groups have been pushing for the legalization of marijuana for medical reasons. Organizations such as NORML and the Marijuana Policy Project work to decriminalize possession, use, cultivation, and sale of marijuana by adults, even beyond medical uses. In 1996, 56% of California voters voted for California Proposition 215, legalizing the growing and use of marijuana for medical purposes. This created significant legal and policy tensions between federal and state governments. Since then, 20 more states and the District of Columbia have legalized and regulated medical marijuana. State laws in conflict with federal law about cannabis remain valid, and prevent state level prosecution, despite cannabis being illegal under federal law (see Gonzales v. Raich).

On 6 November 2012, Colorado and Washington state legalized possession of small amounts of marijuana for private recreational use, and created a process for writing rules for legal growing and commercial distribution of

[90] "Canada: Support Grows For Legalizing Marijuana". Media Awareness Project.

[91] Mexico: The Law Against Small-Scale Drug Dealing. A Doubtful Venture, Jorge Hernández Tinajero & Carlos Zamudio Angles, Series on Legislative Reform of Drug Policies Nr. 3, November 2009

marijuana within each state.[92] The 2014 Midterms saw voters in Oregon, Alaska, and Washington, D.C. vote to legalize marijuana for recreational use. In 2016, California Proposition 64 was passed, legalizing private, recreational use of marijuana for those age 21 or older in the state of California.[93]

Following the 2018 midterm ballot, Michigan legalized the recreational use of marijuana in private. [94]

In 2019, Illinois passed the Illinois Cannabis Regulation and Tax Act, making Illinois the first state to legalize the recreational use by an act of the state legislature. This took effect as of January 1, 2020. In 2020, Oregon decriminalized the possession of all drugs in Measure 110. In 2021, New York legalized adult-use cannabis when it passed the Marijuana Regulation and Taxation Act (MRTA). [95]

Australia

In 2016, Australia legalised medicinal cannabis on a federal level, since 1985, the Federal Government has run a declared "War on Drugs" and while initially Australia led the world in 'harm-minimization' approach, they have since lagged.

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[92] Levin, Sam (9 November 2016). "California, Nevada and Massachusetts vote to legalize recreational marijuana". The Guardian. Retrieved 26 February 2020.

[93] Levin, Sam (9 November 2016). "California, Nevada and Massachusetts vote to legalize recreational marijuana". The Guardian. Retrieved 26 February 2020.

[94] "Oregon becomes the first state to decriminalize small amounts of heroin and other street drugs". CNN.

[95] {{Cite web|url=https://cannabis.ny.gov/marihuana-regulation-and-taxation-act-mrta Martin Booth (June 2005). Cannabis: A History. Picador. pp. 391–. ISBN 978-0-312-42494-7.

Australia has a number of political parties that focus on cannabis reform, The (HEMP) Help End Marijuana Prohibition Party was founded in 1993 and registered by the Australian Electoral Commission in 2000. The Legalise Cannabis Queensland Party was established in 2020.

A number of Australian and international groups have promoted reform in regard to 21st-century Australian drug policy. Organisations such as Australian Parliamentary Group on Drug Law Reform, Responsible Choice, the Australian Drug Law Reform Foundation, Norml Australia, Law Enforcement Against Prohibition (LEAP) Australia and Drug Law Reform Australia advocate for drug law reform without the benefit of government funding. The membership of some of these organisations is diverse and consists of the general public, social workers, lawyers and doctors, and the Global Commission on Drug Policy has been a formative influence on a number of these organisations.

In 1994, the Australian National Task Force on Cannabis formed under the Ministerial Council on Drug Strategy noted that the social harm of cannabis prohibition is greater than the harm from cannabis itself, total prohibition policies have been unsuccessful in reducing drug use and have caused significant social harm, as well as higher law enforcement costs, the use of cannabis is widespread in Australia and that its adverse health effects are modest and only affect a minority of users.

In 2012, the think tank Australia 21, released a report on the decriminalization of drugs in Australia noted that "by defining the personal use and possession of certain psychoactive drugs as criminal acts, governments have also avoided any responsibility to regulate and control the quality of substances that are in widespread use." Prohibition has fostered the development of a criminal industry that is corrupting civil society and government and killing our children. “The report also highlighted the fact that, just as alcohol and tobacco are regulated for quality assurance,

distribution, marketing and taxation, so should currently, unregulated, illicit drugs.[96]

There has been a number of enquires in Australia relating to cannabis and other illicit drugs, in 2019 the Queensland government instructed the Queensland Productivity Commission to conduct an enquiry into imprisonment and recidivism in QLD, the final report was sent to the Queensland Government on 1 August 2019 and publicly released on 31 January 2020. The commission found that "all available evidence shows the war on drugs fails to restrict usage or supply" and that "decriminalisation would improve the lives of drug users without increasing the rate of drug use" with the commission ultimately recommending that the Queensland government legalise cannabis.[97]The QPC said the system had also fuelled an illegal market, particularly for methamphetamine. Although the Palaszczuk Queensland Labor Party led state government rejected the recommendations of its own commission and said it had no plans to alter any laws around cannabis, a decision that received heavy scrutiny from supporters of decriminalization, legalisation, progressive and non progressive drug policy advocates alike.[98] In 2019, The Royal Australasian College of Physicians (RACP) and St. Vincent's Health Australia called on the NSW Government to publicly release the findings of the Special Commission of Inquiry into the Drug 'Ice, saying there was "no excuse" for the delay. [99]The report was the culmination of months of evidence from health and judicial experts, as well as families and communities affected by amphetamine-type substances across NSW. The report made 109 recommendations aimed to

[96]Australia 21 (2012). The Report (p. 4). Retrieved from http://www.australia21.org.au/publications/press_releases/Australia21_Illicit_Drug_Policy_Report.pdf Archived 9 March 2013 at the Wayback Machine

[97] "Cooked QLD Government Rejects Recommendations to Decriminalise Drugs". Friendly Aussie Buds. 15 February 2020.

[98] "Drug Reform Would Save Billions but Queensland Premier Rules It Out". Australian Broadcasting Company.

[99] "Ice Inquiry Findings". Australian Broadcasting Company. 27 February 2020.

strengthen the NSW Governments response regarding amphetamine-based drugs such as crystal meth or ice. Major recommendations included more supervised drug use rooms, a prison needle and syringe exchange program, state-wide clinically supervised substance testing, including mobile pill testing at festivals, decriminalisation of drugs for personal use, a cease to the use of drug detection dogs at music festivals and to limit the use of strip searches. The report, also called for the NSW Government to adopt a comprehensive Drug and Alcohol policy, with the last drug and Alcohol policy expiring over a decade ago. The reports commissioner said the state's approach to drug use was profoundly flawed and said reform would require "political leadership and courage" and "Criminalising use and possession encourages us to stigmatise people who use drugs as the authors of their own misfortunate". Mr Howard said current laws "allow us tacit permission to turn a blind eye to the factors driving most problematic drug use" including childhood abuse, domestic violence and mental illness. The NSW government rejected the reports key recommendations, saying it would consider the other remaining recommendations. Director of the Drug Policy Modelling Program (DPMP) at UNSW Sydney's Social Policy Research Centre said the NSW Government has missed an opportunity to reform the state's response to drugs based on evidence.[100] The NSW Government is yet to officially respond to the inquiry as of November 2020, a statement was released from the government citing intention to respond by the end of 2020.[101]

In the Australian Capital Territory, after a bill was passed on 25 September 2019, new laws came into effect on 31 January 2020 which allowed for possession of up to 50 grams of dry material, 150 grams of wet material, and cultivation of 2 plants per individual up to 4 plants per household, effectively legalising the possession and growing of cannabis in the ACT. However, the

[100] "Academics on Government Response to Ice inquiry". Newsroom.

[101] "Special Commission of Inquiry into 'Ice' report released". NSW Government.

sale and supply of cannabis and cannabis seeds is still illegal, so the effects of the laws are limited and the laws also contradict federal laws. It is also still illegal to smoke or use cannabis in a public place, expose a child or young person to cannabis smoke, store cannabis where children can reach it, grow cannabis using hydroponics or artificial cultivation, grow plants where they can be accessed by the public, share or give cannabis as a gift to another person, to drive with any cannabis in your system, or for people aged under 18 to grow, possess, or use cannabis.[102] The personal possession and growth of small amounts of cannabis remains prohibited non-medicinal purposes in every other jurisdiction in Australia.

Groups advocating change

The Senlis Council, a European development and policy think tank, has, since its conception in 2002, advocated that drug addiction should be viewed as a public health issue rather than a purely criminal matter. The group does not support the decriminalisation of illegal drugs. Since 2003, the council has called for the licensing of poppy cultivation in Afghanistan in order to manufacture poppy-based medicines, such as morphine and codeine, and to combat poverty in rural communities, breaking ties with the illicit drugs trade. The Senlis Council outlined proposals for the implementation of a village-based poppy for medicine project and calls for a pilot project for Afghan morphine at the next planting season.[103]

East African drug trade

East African drug trade refers to the sale and trafficking of illegal drugs that take place in East African countries like Kenya, Tanzania, Uganda, Somalia,

[102] Treasury, ACT Government; PositionTitle=Director; SectionName=Corporate Management; Corporate=Chief Minister and (19 February 2020). "Home". Cannabis.

[103] Poppy for Medicine Archived 2007-09-30 at the Wayback Machine" (June 2007)

and Ethiopia. The most prevalent types of drugs traded in East Africa are heroin, marijuana, cocaine, methamphetamine, and khat, all of which are strictly prohibited in East African countries.

The United Nations Office on Drugs and Crime reports that the number of reported seizures of illegal drugs between 1995 and 2006 is inadequate to conclude that the patterns of trafficking and possible drug abuse are alarming. Nevertheless, the low number of officially reported seizures is not a sign of minimal activity. Instead, it is an indication of the lack of border control, insufficient understanding of the drug trade, and a weak criminal justice system. Though research on the effects of drug trade in East Africa remains lower than that of other regions, trafficking of drugs has been often correlated with corruption, terrorism, HIVs and youth.

In fact, drug trafficking in East Africa has been sharply increasing in the past few decades. As the region experiences limited supply for its rising demand of drugs, East African countries have been involved in international drug trafficking as well. Due to popular trafficking routes to Europe and the United States like the Balkan Route experiencing increased surveillance, drugs from Asia have been traveling through East African countries into Africa or ultimately to Europe and the United States. The Journal of International Affairs stated in 2012 that the UNODC reported a four-fold increase in cocaine seizures in East Africa between 2005 and 2010. Similarly, the number of seizures of heroin at major ports in East Africa increased nearly ten times between 2009 and 2013. Such data shows that East African trade is constantly growing, and that countries have been increasingly responding to illicit drug trafficking.

Due to its history and geography, East Africa is an ideal port of entry for the transportation of drugs from Asia. Historical trade routes through the Indian Ocean to Asia and through sub-Saharan Africa have facilitated the flow of legal goods for many years. In the 1970s, however, due to negative effects of the African debt crisis and its associated structural adjustment programs,

legitimate routes of commerce have increasingly become conduits of illicit substances with loosened interference from authorities.

The socio-political environment of many countries in East Africa has further encouraged illegal drug trafficking. Weak law enforcement operations and relative new exposure to illegal drug trade throughout the region have unequipped governments to prevent smuggling. Moreover, corruption has encouraged lucrative illegal operations, as elections in countries such as Kenya have been funded by profits from illicit drug trade to gain greater political power. Additionally, bribery to ignore criminal activities has become a more prominent concern in the region in the past decades.

Illegal drug trafficking in East Africa can be traced back to the mid-1980s, when drug traffickers started using East African countries as their transit sites. The drug trade in East Africa was originally organized and managed by Nigerian crime organizations. In more recent years, criminal organizations from Kenya and Tanzania have also begun to play major roles.

Initially, the illegal drug trade through East Africa overwhelmingly traded just two drugs: marijuana and brown sugar heroin. The latter was a type of heroin that was heated into vapor and inhaled, or combined with marijuana into a joint to be smoked. Since brown sugar heroin was administered without a needle, its status as a public health risk was downplayed. Drugs in the early East African drug trade were already being smuggled into Western countries and were present in tourist hubs throughout East Africa.

In the late 1990s, brown sugar heroin was replaced in the global drug trade by a new type of heroin. White crest heroin, also known as white powdered heroin, was significantly more potent than other forms of heroin and injectable. Unlike brown sugar heroin, it did not require a complex heating process and was therefore easy to use. Starting in the early 2000s, white crest heroin became very common in East Africa itself for both domestic use and international trafficking, especially in Kenya and Tanzania.

The domestic use and smuggling of marijuana and white crest heroin continued into the 2000s. Methamphetamines also became a common illicit drug soon; the first seizure of them was in 2008. There is a lack of data and scholarly research that covers methamphetamines in East Africa, although a growing number of seizures since the first have been recorded. Cocaine is another drug that has become prevalent in the East African drug trade more recently.

According to the United Nations Office on Drugs and Crime (UNODA), there are four main causes that have been contributing to the rise in illicit drug trade in East Africa. For one, the increasing demand in the broader African continent has created and expanded a market for drugs. Second, with more frequent international flights in and out of Africa, the transportation of goods have also helped the shipment of drugs. Third, East Africa lacks sufficient trafficking control measures, which have allowed actors of drug trade to travel in and out of the region with greater ease. Finally, the UNODC points corruption in customs and law enforcement as a factor for growing drug trade trends.

Supply and Demand

Most African countries lack adequate infrastructure the facilities and knowledge to commercially domestically produce drugs to match international and domestic demands. Cannabis is one of the only drugs that has consistently been domestically produced. But, even cannabis production in East Africa has been inadequate to satisfy demands from Europe, the United States, and East African countries due to legal prohibition on production and consequent lack of a mass production system. Such a shortage in domestic supply of illicit drugs have made East African countries more reliant on international supplies.

The majority of the supply of illicit drugs traded in East Africa comes from Asia. East Africa's two main drug suppliers, Afghanistan and Southeast Asia, are also the two largest suppliers of illicit drugs in the world. In 2020, Afghan

opium production accounted for approximately 85% of global production of opium as well as for 80% of opium consumers globally, part of which has been trafficked into East Africa.

Demand

The demand that fuels the East African drug trade comes from both international and domestic sources. Historically, demand came predominantly from Western countries, but in recent years East African countries have established themselves as consumers of illicit drugs. For instance, Tanzania especially in the island of Zanzibar has seen a dramatic increase in domestic drug use. A staggering 7% of the Zanzibari population is considered to be addicted to illicit drugs. The increasing levels of drug use and addiction in East African countries show that domestic demand has also been constantly growing.

The origin of Western demand comes from centers of tourism that were developed before the 1980s. Coastal resorts in East Africa saw an influx of European, South African, and American tourists, who sparked demand for marijuana and heroin in the region. Beginning in the 1980s, the war on drugs in the United States greatly strengthened East Africa as a piece of the international drug trade because competing drug smuggling operations in Centrals and South America were closed or significantly impeded.

Air Routes

The Kenyan city Nairobi and the Ethiopian city Addis Ababa have become key points of entry for illegal drugs on the continent that are smuggled through air transport. The Jomo Kenyatta International Airport in Nairobi received a Category One status from the U.S. Federal Aviation Authority in 2017, allowing travelers from the U.S. to fly directly into Nairobi instead of having to transfer in Amsterdam or Heathrow. This change in status has made Kenya a major transfer point, especially for flights from neighbouring East African countries like Uganda, Tanzania, Ethiopia, and Rwanda. As a result, the high volume of commercial flights flying in and out of Nairobi has

made Nairobi a key point in air routes. Similarly, the Bole International Airport in Addis Ababa experiences more than 22 million passengers annually, being one of the most busy airports on the continent. Between 2019 and 2020, the Ethiopian police has arrested nearly 100 drug traffickers at Bole International Airport. In addition, the Federal Police Commission, drug seizures in the past three years amount to 402 kilograms of Latin American cocaine and 1377 kilograms of cannabis. Drug trafficking through the Bole International Airport is particularly high because the Counter Narcotics Operations Unit has significant infrastructural problems. The unit does not have trained officers, on-site scanning technology, sniffer dogs, on-site testing facilities, or an intelligence system that targets specific flights.

The "Southern Route"

The most prominent route that has been responsible for the trafficking of illicit drugs from Afghanistan since the 1990s is the "southern route." Discreetly packaged drugs, including opium, heroin, and methamphetamine from Afghanistan travels to ports on the Makran Coast, which lies along the southern borders of Iran and Pakistan. At the ports on the Makran Coast, the drugs are distributed into fishing vessels in small packages ranging from 3 kilograms to 6 kilograms. From there, the fishing vessels travel through the Indian Ocean, and arrive at Pemba and the Quirimbas islands, both of which are popular tourist venues in Mozambique. The low severity of tidal waves and extensive sand dunes in the area allow a conducive environment for smugglers to avoid searches. Larger quantities of heroin are also trafficked using the same route, but are concealed in containers carrying motor vehicle parts, appliances, and agricultural products from Pakistan.

CHAPTER THREE

Perception of Drugs

OPIUM

Opium is a depressant drug, which means it slows down the messages traveling between your brain and body. The opium poppy (Papaver somniferum L.) from which opium is derived is one of the earliest plants of which there is recorded medicinal use.[1] Evidence of opium cultivation by the Sumerian people dates to 3400BCE, although some scholars believe opium use predates Sumerian culture.[2]

Opium poppy pods hold a milky substance called latex that contains a number of chemicals, including morphine and codeine Latex is extracted from the opium pods and dried to create opium. Typically, it is further refined by boiling and drying again. Opium is a sticky dark-brown gum with a strong odour. It can also be manufactured into a liquid or powder.

Slang names

Aunti, Aunti Emma, Big O, O, Black pill, Chandu, Chinese Molasses, Dopium, Dream Gun, Fi-Do-Nie, Gee, Guma, Midnight Oil, Zero.

Other types of opioids

- **Buprenorphine**
- **Codeine**

- **Buprenorphine - Long Acting Injectable**
- **Fentanyl**
- **Heroin**
- **Methadone**
- **Naloxone**
- **Oxycodone**

How is opium used?

Opium may be smoked, eaten raw or as a pill, or made into a tincture for drinking.

Opium can be manufactured into heroin and is a prerequisite for heroin production.

Effects of opium

There is no safe level of drug use. Use of any drug always carries some risk. It's important to be careful when taking any type of drug.

Opium affects everyone differently, based on:

- the person's size, weight and health
- regularity of use
- whether other drugs are taken around the same time
- the amount taken
- the strength of the drug (which varies between batches).

Short term effects may include:

- euphoria
- relaxation
- analgesia
- slower, shallower breathing
- lower heart rate
- impaired reflexes
- temporary constipation
- loss of appetite.[3, 4]

Overdose

If you take a large amount of opium, you could overdose. Call an ambulance straight away by dialling triple zero (000) if you or another person have any of these symptoms (ambulance officers don't need to involve the police):

Symptoms of opium overdose:

- very slow breathing
- loss of consciousness
- tiny pupils.[5]

Untreated overdose can lead to brain damage and death.

Long-term effects

Regular use of opium may cause:

- tolerance - needing to use more to get the same effect
- irregular periods and difficulty having children

- loss of sex drive
- constipation
- dependence on opium.

Mixing opium and other drugs

Taking multiple depressant drugs, like opium with alcohol or benzodiazepines, can significantly increase the chances of overdose.

Taking opium with stimulants, like cocaine or speed, send opposite signals to your body, which can strain the heart. Mixing opium and stimulants may also mask the effects of each other, which can increase the risk of overdose.

Withdrawal

Giving up opium after using it for a long time is challenging because the body must get used to functioning without it. Withdrawing from opium is similar to withdrawing from other opioid drugs.

Withdrawal symptoms usually start six to 24 hours after the last dose and can last around seven to ten days. These symptoms are described as flu-like, and can include:

- restlessness and irritability
- insomnia
- depression and crying
- diarrhoea
- sweating
- restless sleep
- muscle cramps

- nausea and vomiting
- fast heartbeat.[6]
- effect on the mind

The intensity of opium's euphoric effects on the brain depends on the dose and route of administration. It works quickly when smoked because the opiate chemicals pass into the lungs, where they are quickly absorbed and then sent to the brain. Opium "high" is very similar to a heroin "high"; users experience a euphoric rush, followed by relaxation and the relief of physical pain.

Opium and lead poisoning

Some opium has been found to be contaminated with lead. The source of lead in opium is still unclear, possibly due to contamination from equipment used to process the opium, intentional adulteration of opium with lead to increase its weight, or from growing opium poppies in contaminated soil, Lead poisoning can have a serious effect on people's health, including organ damage.[104]

Heroin

Since 2006, heroin usage in Africa has increased faster than on any other continent.[As of today, Africa currently experiences its highest increase in drug use, further increasing its demand for heroin. In terms of consumption, East Africa receives about 9% of the heroin trade globally.[Large seizures of heroin by the Combined Maritime Forces (CMF) reveal East Africa's growing involvement in the global heroin trade. Totaling over 674 kg in 2012, heroin is no longer traded at small quantities. The drug is mainly shipped from Afghanistan and Pakistan through maritime and aerial routes into East African countries such as Kenya and Ethiopia. Additionally, the

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International Narcotics Control Board (INCB) indicates that the East African region is a notable conduit for heroin smuggling from Southwest Asia to other parts of the globe.

Marijuana

Marijuana was first introduced in East Africa during the Middle Ages by Muslim traders from Egypt and the Arabian Peninsula. Marijuana has gained more attention as a topic of medical research across the continent, and many African countries began to discuss the legalization of the drug. Malawi is one of the major producers of the drug, and its government is currently allowing trial productions of high-quality strains of cannabis. The government of Malawi became the first in East Africa to legalize the cultivation, sale, and export of marijuana in February 2020. However, illicit cultivation and trade of marijuana is still common throughout East Africa because the growth of these crops allows farmers who face financial barriers to pursue new economic avenues.

Cocaine

Cocaine trafficking is most common in North Africa, but the drug has been attaining a growing presence in East Africa despite being a region far from conventional cocaine smuggling routes Starting in 2004, there have been several high-profile seizures in East Africa. From 2005 and 2010, cocaine seizures in East Africa had increased by four times. As the emerging middle class in East Africa contributes to the increasing demand for cocaine, many East African governments are worried about the rising availability and prevalence of cocaine in the region. Along with heroin, cocaine has been involved in elections in countries such as Kenya, to which the profit derived from its sales has been used to fund campaigns and increase political power.

Methamphetamine

Methamphetamine has taken over the global drug market in recent decades. It can have devastating effects on communities of all economic situations because of the drug's widespread affordability and availability. While authorities in East Africa have not discovered any major operations to manufacture methamphetamine, they have reported minor confiscations of the drug in transit to Asia. In terms of production, Nigerian crime groups are the most well-known and active actor in the region. Moreover, more illicit markets of methamphetamine are on the rise in East Africa as a rivalry between "Mexican meth" from Nigeria and "Pakistani meth" from Afghanistan has prompted each to seize control of the region's trade.

Khat

What Is Khat?

Khat (Catha edulis) is a flowering shrub native to East Africa and the Arabian Peninsula. The term khat refers to the leaves and young shoots of Catha edulis. The plant has been widely used since the thirteenth century as a recreational drug by the indigenous people of East Africa, the Arabian Peninsula, and the Middle East. Individuals chew khat leaves because of their stimulant and euphoric effects, which are similar to, but less intense than, those resulting from the abuse of cocaine or methamphetamine.

What does khat look like?

When fresh, khat leaves are glossy and crimson-brown in color, resembling withered basil. Khat leaves typically begin to deteriorate 48 hours after being harvested from the shrub on which they grow. Deteriorating khat leaves are leathery and turn yellow-green.

How is khat used?

Fresh khat typically is chewed and then retained in the cheek and chewed intermittently until the juices are extracted. Dried khat can be brewed into tea or made into a chewable paste. Less common methods of administering khat are smoking or sprinkling on food. Immediate effects of khat use include increased heart and breathing rates, elevated body temperature and blood pressure, and increased alertness, excitement, energy, and talkativeness. The effects of khat usually last between 90 minutes and 3 hours. After-effects of khat use include lack of concentration, numbness, and insomnia.

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Who uses khat?

The use of khat is accepted within Somali, Ethiopian, and Yemeni cultures; in the United States, khat use is most prevalent among immigrants from those countries. Abuse levels are highest in cities with sizable immigrant populations from Somalia, Ethiopia, and Yemen, such as Boston, Columbus, Dallas, Detroit, Kansas City, Los Angeles, Minneapolis, Nashville, New York City, and Washington, D.C.

Street Terms for Khat

Abyssinian tea	Miraa
African salad	Oat
Bushman's tea	Qat
Chat	Somali-tea
Gat	Tohai
Graba	Tschat
Kat	

What are the risks?

Khat abuse causes psychological dependence, and chronic abuse can lead to behavioral changes and mental health impairment. Clinical symptoms include manic behavior with grandiose delusions, violence, suicidal depression, and schizophreniform psychosis characterized by paranoid delusions. Chronic abuse can also produce physical exhaustion, anorexia, periodontal disease, and gastrointestinal illness.

Khat contains two central nervous system stimulants: cathinone--a Schedule I drug[1] under the Federal Controlled Substances Act--and cathine--a Schedule IV drug.[2] Cathinone is the principal active stimulant; its levels are highest in fresh khat. Once the plant is harvested, cathinone levels begin to decline; cooling the cut plant material reduces the rate of decline. In dried or dehydrated khat, also known as Graba, cathinone may be detected for many months or even years. Cathine, which is about 10 times less potent than cathinone, remains stable in khat after the plant has been harvested. Khat samples in which any level of cathinone is found by chemical analysis are treated as Schedule I plant material. Khat samples in which only cathine is detectable by chemical analysis are treated as Schedule IV plant material.

Khat is a flowering evergreen shrub that is abused for its stimulant-like effect. Khat has two active ingredients, cathine and cathinone. WHAT IS ITS

ORIGIN? Khat is native to East Africa and the Arabian Peninsula, where the use of it is an established cultural tradition for many social situations. What are common street names? Common street names for khat include: • Abyssinian Tea, African Salad, Catha, Chat, Kat, and Oat What are its overdose effects? The dose needed to constitute an overdose is not known, however it has been historically associated with those who are long-term chewers of the leaves. Symptoms of toxicity include: • Delusions, loss of appetite, difficulty with breathing, and increases in both blood pressure and heart rate Additionally, there are reports of liver damage (chemical hepatitis) and of cardiac complications, specifically myocardial infarctions. This mostly occurs among long-term chewers of khat or those who have chewed too large a dose. What does it look like? Khat is a flowering evergreen shrub. Khat that is sold and abused is usually just the leaves, twigs, and shoots of the khat shrub. How is it abused? Khat plant Khat is typically chewed like tobacco, then retained in the cheek and chewed intermittently to release the active drug, which produces a stimulant-like effect. Dried khat leaves can be made into tea or a How is it abused? Khat plant Khat is typically chewed like tobacco, then retained in the cheek and chewed intermittently to release the active drug, which produces a stimulant-like effect. Dried khat leaves can be made into tea or a chewable paste, and khat can also be smoked and even sprinkled on food. What is its effect on the mind? Khat can induce manic behavior with: • Grandiose delusions, paranoia, nightmares, hallucinations, and hyperactivity • Chronic khat abuse can result in violence and suicidal depression. What is its effect on the body? Khat causes an immediate increase in blood pressure and heart rate. Khat can also cause a brown staining of the teeth, insomnia, and gastric disorders. Chronic abuse of khat can cause physical exhaustion. Which drugs cause similar effects? Khat's effects are similar to other stimulants, such as cocaine, amphetamine, and methamphetamine. What is its legal status in the United States? The chemicals found in khat are controlled under the Controlled Substances Act. Cathine is a Schedule IV stimulant, and cathinone is a Schedule What is its legal status in the United States? The chemicals found in khat are controlled under the Controlled Substances Act. Cathine is a Schedule IV stimulant,

and cathinone is a Schedule I stimulant under the Controlled Substances Act, meaning that it has a high potential for abuse, no currently accepted medical use in treatment in the United States, and a lack of accepted safety for use under medical supervision.

Khat is a plant-based drug native to Ethiopia that is widely consumed in East African countries including Ethiopia, Yemen, Somalia, Djibouti, Kenya, Tanzania, and Uganda. Consumers of khat consider its psychotropic effects to be stronger than that of marijuana. The Somali Civil War and the resulting dispersion of Somali people across not only Africa, but also other countries brought public attention to the consumption and trade of khat taking place in East Africa. In Kenya, domestically produced khat is sold across the country as well as exported to neighbouring countries with high demands for khat. While khat consumption and trade is not illicit in countries like Kenya and Uganda, where producers of khat aim to sell for profit, the growing consumption, especially among the youth, has given rise to local movements and efforts to ban trade and consumption.[105]

Effects

Research on the effects of the drug trade on the countries and populations in East Africa is less common than that of other regions of the continent, but reveals that the impacts of the East African drug trade are widespread across numerous sectors. African police agencies have few resources and little capacity to record crime statistics; but when they do, they often do not differentiate between conventional and transnational criminal activity. Much of the scholarship that discusses the effects of the East African drug trade is

[105] Beckerleg, Susan (2006). "What Harm? Kenyan and Ugandan Perspectives on Khat". African Affairs. **105** (419): 219–241. doi:10.1093/afraf/adi105. ISSN 0001-9909. JSTOR 3876787.

derived from a small amount of qualitative data, and case studies that lack quantitative data to substantiate their claims.[106]

Corruption

The illegal drug trade is a lucrative venture that affects corruption levels in governments. Countries are more vulnerable to corruption with weak states and insufficient frameworks of law enforcement.[107] According to the International Journal of Drug Policy, there is considerable evidence that finds a relationship between drug trafficking and involvement of government officials. Corruption poses great concerns in East Africa as economic and institutional weaknesses can elicit significant levels of corruption among government officials and employees with just a small pool of financial resources. Moreover, the lack of parameters of drug-related offenses in criminal justice systems is problematic with complicit some involvement of authorities. It allows for the increased flow of drugs throughout East Africa and handicaps counter-narcotic efforts, ultimately strengthening the organizational structures of drug trafficking.[108] The International Journal of Drug Policy reports that drug trafficking can hinder economic growth because it is rare for illegal drug profits to flow into long-term and sustainable capital investments.[109] Corruption undermines the state's capacity to develop robust institutions that are essential for establishing the rule of law and strong

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[106] Mumbere, Daniel (February 28, 2020). "Malawi becomes latest African country to embrace cannabis". Africanews. Retrieved 2022-05-08.

[107] "An emerging drug market". The Economist. 2016-04-14. ISSN 0013-0613. Retrieved 2019-05-15.

[108]Wyler, Liana Sun; Cook, Nicolas (September 30, 2009). "Illegal Drug Trade in Africa: Trends and U.S. Policy" (PDF). CRS Report for Congress.

[109] Singer, Merrill (2008). "Drugs and development: The global impact of drug use and trafficking on social and economic development". International Journal of Drug Policy. **19** (6): 467–478. doi:10.1016/j.drugpo.2006.12.007. PMID 19038724.

economies. Moreover, the Journal of International Affairs states concerns about Kenya's growing proneness to corruption as the presence of organized crime groups have expanded.[110]

Terrorism

Profits from the illegal drug trade in East Africa are being used to finance terrorist organizations and other insurgent movements; however, the degree to which said groups are funded by the drug trade is unknown. The United States Drug Enforcement Administration claims that a large portion of the organizations that are labeled as foreign terrorist organizations have direct ties to the illicit drug trade. Many groups incriminated in the drug smuggling industry have been tied to terrorist groups in East Africa, most notably Al-Shabaab.[111] Other groups related to Al-Shabaab are prominent, such as the Muslim Youth Center of Kenya, which recruits young foreigners to fight for Al-Shabaab. Such terrorist groups have assisted in the smuggling of drugs as well as personnel both into East Africa and between African countries. The international nature of the drug trade means that those arrested in East Africa can be prosecuted by the US and other Western countries if a link is found with terrorist groups, even if the arrested people are not transporting the drugs to Western countries. The drugs fund these terrorist groups and allow them to continue operations. Additionally, these groups often smuggle black market sugar and resources such as charcoal in and out of the region.

HIV

Injecting drugs with needles is credited with the rise of HIV in East African countries. In particular, in the countries of Mozambique, Tanzania, Madagascar, and Kenya, those who partake in drugs are more likely to have

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[110] Bybee, Ashley (2012). "The Twenty-First Century Expansion of the Transnational Drug Trade in Africa". Journal of International Affairs. **66** (1): 69–84. JSTOR 24388252.

[111] Tiberio, Jenny (2018). "Context and characteristics of illicit drug use in coastal and interior Tanzania". International Journal of Drug Policy. **51**: 20–26. doi:10.1016/j.drugpo.2017.09.012. PMID 29156310.

HIV. Consumers of drugs are more likely to contract HIV before the age of 25 compared to the general population, and statistics point toward a higher rate of HIV infections compared to the general population.

The HIV epidemic has struck some countries harder than others; Kenya has been hit the hardest. Drug use among sex workers is a major cause of the issue. Sex workers inject drugs before or after intercourse. Due to lack of funds, they are forced to use contaminated needles. Combined with a lack of knowledge about the disease itself, contamination through injection has led to a spike in HIV rates among sex workers, which in turn has led to a proliferation of the disease across the country. Heroin is a particularly notable cause of HIV transmission through injection. In the 21st century, injection became the most popular method of inserting heroin into the body. There are approximately 10,000 heroin users in Nairobi and another 8,000 users along the coastal towns in Kenya. From this population, an estimate 68% to 88% have HIV, which connects injection drug use to the prevalence of HIV in Kenya. The International Journal of Drug Policy states that "drug use has been a major factor in the spread of HIV in developing countries, often as a result of syringe, few people are aware of the risks involved with the use and reuse of syringes. In addition, in the case of Kenya, 20% of the general population is estimated to be HIV-positive. lack of healthcare and awareness that exists around these dangerous practices suggest a hazardous environment that could contribute to a public health crisis. Researchers in Tanzania and Kenya found that the HIV rate among a sample of heroin users was more than 50%, which is well over the 13% average.[112]

[112] ^ Du Toit, Brian (1976). "Man and Cannabis in Africa: A Study of Diffusion". African Economic History. **1** (1): 17–35. JSTOR 4617576.

Addiction Age

Africa is the most youthful continent in the world. While most of the world is experiencing an aging population, sixty percent of Africans are under the age of 25. Demand for drugs from youth has caused a proliferation of access to illegal drugs in East Africa. The International Journal of Drug Policy says that "according to World Bank data, illicit drug users in developing countries 'typically fall within the age group of 15–44, although most are in their mid-twenties.'"[113] For example, in 2021, an estimated 11% of youth population aged between 18 and 24 years were reported to use illicit drugs in Kenya. Case studies have produced evidence to reaffirm the concern that links the proliferation of illegal drugs and the large youthful population. Also, the same journal describes that researcher working in the coastal and interior regions of Tanzania have found that "excluding cannabis, heroin was the most commonly used drug, and was concentrated among young men of working the use of drugs in youthful populations may lead to a decrease in productivity, and public health crises. Currently, many countries in Africa, such as Tanzania and Mauritius, are developing methadone programs to stem the tide of drug injections, which are a major cause of HIV.[114] These programs forgo abstinence by offering medicine to alleviate the symptoms of withdrawal. Thousands are now enrolling in these programs in order to overcome addiction, and avoid the threat of HIV infection due to injection by contaminated needles.

In response to the increase in drug trade in East Africa, the role of the government has also grown over the past decades. While the response of each country varies, cases in Kenya, Tanzania, and Uganda are more commonly recorded and studied.

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[113] Wyler, Liana Sun; Cook, Nicolas (September 30, 2009). "Illegal Drug Trade in Africa: Trends and U.S. Policy" (PDF). CRS Report for Congress.

[114] Ng'wanakilala, Fumbuka (February 2013). "New Treatment Gives Hope to East Africa's Drug Users". Bulletin of the World Health Organization. **91** (2): 89–90. doi:10.2471/BLT.13.030213. PMC 3605016. PMID 23554520.

Kenya

A high volume of heroin and cocaine are transited into Kenya from Pakistan, Iran and Latina America through aerial and sea routes to North America and Europe.[115]Drug trafficking networks that involved Kenyans have developed ties with members of the judiciary and within law enforcement agencies in order to gain positions of power, most notably in politics, through drug profits.[116]In response, Kenya had implemented the Narcotics Drug and Psychotropic Substances (Control) Act in 1994 and has since made public efforts to consolidate a stronger stance against drug trade.[51] The policy helped seize 1000 kilograms of cocaine and 1.5 tons of heroine, some of the biggest seizures of the continent. In 2021, an amendment to the 1994 legislation was passed by the National Assembly of Kenya.[117] It aims to clarify judicial parameters of penalties regarding the trafficking of illicit narcotics, update the list of substances that are allowed in the manufacture of drugs, strengthen penalties for law enforcement officers who aid or commit illegal trade and possession of drugs, and more.[118] Kenya has further strengthened maritime security agencies, including the Kenya Coast Guard Service (KCGS) for increased prevention and enforcement of drug transportation into and outside of the country.[119] In 2020, the KCGS has partnered with the United Nations on Drugs and Crime (UNODC) Global Maritime Crime

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[115] Gastrow, Peter (September 2011). "Termites at Work: Transnational Organized Crime and State Erosion in Kenya" (PDF). Retrieved May 10, 2022.

[116] Ibid

[117] A pondi, Bernice (June 21, 2021). "Kenya: Let President reject narcotics bill". International Drug Policy Consortium. Retrieved 2022-05-10.

[118] "Policy Brief on the Narcotics, Drugs and Psychotropic Substances (Control) Amendment Bill" (PDF). NACADA. Retrieved May 11, 2022.

[119] "2021 INCSR—Volume I: Drug and Chemical Control (As submitted to Congress)" (PDF). US Department of State, Bureau of International Narcotics and Law Enforcement Affairs. March 2, 2021.

Programme (GMCP) to focus on capacity building and help protect Kenyan waters from illicit drug trafficking.[120]

Tanzania

The Tanzanian Parliament had created the Drug Control and Enforcement Authority through the Drug Control and Enforcement Act to tackle drug use and drug trafficking from a more coordinated and focused approach.[121]The Drug Control and Enforcement Authority has collaborated with EU-ACT Project to host two major meetings with major participants being heads of law-enforcement agencies across Africa and Europe. During those meetings, participants actively discussed ways to enhance and share maritime intelligence. The Drug Control and Enforcement Authority is also facilitating a project named JODARI, which targets illegal fishing and trafficking of illicit drugs along the coasts of Tanzania in accordance with UNODC recommendations. In 2021, the Drug Control and Enforcement Authority received a global honor for being the best institution controlling the trafficking of narcotic drugs as its robust training programs in addition to a large number of seizures were recognized. Despite recent success and recognition, the Drug Control and Enforcement Authority plans to expand its strategies to address the growing rate of consumption and trafficking of marijuana in Tanzania.[122]

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[120] "UNODC resuming in-person Maritime Law Enforcement capacity building with Kenya Coast Guard". UNODC. September 18, 2020. Retrieved 2022-05-11.

[121]Aucoin, Ciara (June 2018). "Analysing drug trafficking in East Africa" (PDF).

[122] Jump up to:[a] [b] "Implementation of the recommendations adopted by the Twenty-sixth Meeting of Heads of National Drug Law Enforcement Agencies, Africa, held in Addis Ababa from 19 to 23 September 2016" (PDF). United Nations Office on Drugs and Crime. June 29, 2018. Retrieved May 12, 2022. Jump up to:[a] [b] "Implementation of the recommendations adopted by the Twenty-sixth Meeting of Heads of National Drug Law Enforcement Agencies, Africa, held in Addis Ababa from 19 to 23 September

Others

- Crack cocaine
- Crystal methamphetamine
- Drug paraphernalia
- DXM
- Foxy
- Fry
- GHB and analogs
- Heroin
- Inhalants
- Jimsonweed
- Ketamine
- LSD
- Marijuana
- MDMA
- Methadone
- Methamphetamine
- OxyContin
- PCP
- Powder cocaine
- Prescription drugs
- Psilocybin
- Ritalin
- Rohypnol
- Salvia divinorum
- Steroids
- Teens and drugs
- Triple C
- Yaba

2016" (PDF). United Nations Office on Drugs and Crime. June 29, 2018. Retrieved May 12, 2022.

CHAPTER FOUR

Legal Appraisal of Drug Use in Uganda

The Ugandan government had adopted the Narcotic Drugs and Psychotropic Substances Act in 2016 in order to define a clearer and a more punitive measure to drug crime convictions.[123] The legislation includes a number of punitive measures to put a halt to the rising rates of illicit drug consumption and trafficking in Uganda. For instance, possession of illicit drugs may result in a 10 to 25-year sentence, trafficking defined to include even small amounts of smuggling can be punished with a life sentence, and the failure to disclose prescriptions for narcotics can result in a 5-year sentence.[124]

National legal frame work and Regulatory Environment for drug abuse, The Constitution of the Republic of Uganda, 1995 as amended is thus a leading authority for all laws in regard to drug abuse and as stated under article 79, National Drug and Policy Act, Cap 206, Pharmacy and Drugs Act, cap 280, Allied Health Professionals Act, Cap 268, Penal code act, cap 120, Pharmacovigilance and Reports Pharmacovigilance Regulation, 2014 came into effect after approval by parliament framework for regulation of drug abuse involves the following

[123] Kapama, Faustine (2021-07-25). "Tanzania: Tz Drug Authority Wins Global Honour". allAfrica.com. Retrieved 2022-05-12.

[124] "Public Health Problem? Ugandan Officials Prescribe a Prison Sentence". www.opensocietyfoundations.org. Retrieved 2022-05-12.

National Drug and Policy Act, Cap 206, The perceived weaknesses of the National Drug Policy and Authority Act (NDPA) prompted the State to begin work towards a new law dealing specifically with narcotic drugs and psychotropic substances. This resulted in the enactment of the National Drug and Policy Act, Cap 206 regulating pharmacies, investigations for NDA Section 4(3) provides that a person who carries on the business of a pharmacist without a licence issued under this section commits an offence and is liable to a fine. [125] In the case of **Uganda v Lutoti & 2 Ors/9** the accused/respondents were charged for "carrying on a business of a pharmacist without a licence c/s section 14(3) on C.J provides that a person who carries on the business of a pharmacist without a licence issued under this section commits an offence and is liable to a fine.

For purposes of this section, the provisions of section 14 (1) (c) are informative providing thus in the case of a body corporate that a least are of the directors is a pharmacist resident in Uganda.[126]Section 4(3) provides that a person who carries on the business of a pharmacist without a licence issued under this section commits an offence and is liable to a fine.[127]

Under section 14 (1) (c), the requirements for obtaining the licence are listed in section 14 (d) of the Act, upon application, the authority "May" on payment of a prescribed fee issue a licence to the applicant to carry on the business required at xfc the premises" on conditions specified in the license. [128] Section 5 (i) of the National Drug and Policy Act empowers the Drug Authority to make Professional Guidelines. From the evidence on record, the impugned Guidelines were made by the Secretariat of the Drug Authority. A perusal of the Licensing Guidelines for 2017 at page 2 clearly shows that the same were approved by Ms. Dona Kusemererwa in her capacity as a purported Secretary to the Authority. A perusal of the National Drug

[125] The NDPA Cap.206.
[126] The NDPA Cap.206.
[127] (HCT-04-CR-CN-0020-2011) (2014) UGHCCRD 73 (20 August 2014).
[128] The NDPA Cap.206.

Authority Professional Guidelines 2018-Licensing Renewal of License for Pharmacies at page 1 clearly shows that the same were approved by Ms. Dona Kusemererwa in her capacity as purported Secretary to the Authority. During cross examination, Ms. Donna Kusemererwa admitted that the guidelines are developed by Inspectorate Department and approved by the Secretary to the Drug Authority and proof must be provided just in case of desire by inspectors to confirm whether it was registered under legal procedures and in case of disapproval, there is need for appeal in courts of law. This is illustrated in the case of **Uganda v Lutoti** & 2 **or;2** where the Prosecution argues that, Her Worship Mudhasi grossly misdirected herself on the law and shifted the burden of proof of "possession" of licence to the prosecution. This to the appellant was wrong and occasioned a miscarriage of justice; because the burden to prove that Respondents had a licence laid squarely on them. Relying on **Oketcho v. Uganda,** the defence insisted that the failure was fatal to the prosecution case. It was counsel's submission that the entire trial rested on the issue of burden of proof, standard of proof and shifting in the burden of proof. To him the trial court exercised its mind and reached a correct conclusion that the prosecution burden was not discharged.

The prosecution for purposes of this appeal and to contradict the above position relied on section 101 and 103 of the Evidence Act and the case of **R. VS. S. Scot** whose gist is that; "burden of proof as to any particular fact lies on that person who wishes the court to believe in its existence."[129] Having all evidence, law and facts of this appeal in mind, and arguments above, the first question to be answered is whether by alleging that they had paid for the licence and a receipt issued, the burden shifted to the prosecution to prove that the licence was indeed never issued S**ections 50 and** specify the powers of entry and of investigation for NDA inspectors where the NDA draws a schedule for inspections to be carried out district by district, and inspects more frequently in districts with lower levels of compliance. The inspectors can check licenses and determine whether pharmacies and drugs shops are

[129] Sections. 44, 4 5.

run by qualified people and whether manufacturers have suitable premises. All the NDA inspectors use a check list which is standardized in order to harmonize the activities carried out by the Authority in the different regions. Inspectors are re-ported to have found significant drug quality issues in unlicensed drug shops. Under the law the NDA has the power to close unlicensed drug shops and any other actor in the sector that is subject to licensing but is not licensed. Indeed, drug shops and pharmacies are closed by the NDA. However, it appears there are numerous unlicensed shops in Uganda as there are simply too few NDA inspectors to address this regulatory challenge

Section 17 provides that the Act only requires premises such as a storage facility to be certified as to suitability64 and this certificate according to **Section 44 and** 45 is mn tagged by the NDA to a licensed company and the Act also requires an import or export to be authorized by a permit.65 However, Devices, cosmetics, foods, reagents, products for diagnosis, surgical supplies, blood and other products that are typically found in health systems are generally not defined or mentioned specifically in the Act. The provisions of **section 14 {1) {c)** are informative providing thus in the case of a body corporate that a least are of the directors is a pharmacist resident in Uganda where it was shown by evidence that the Respondents were registered pharmacists and the directors of Ambition Pharmacy of a registered company; going by the exhibits on record which means that by all means the Respondents could not be excused from getting a licence for whatever reasons since they were operating under a company name "Ambition Pharmacy" covered. Under section 14 (1) (c) of the Act, the requirements for obtaining the licence are listed in section 14 (d) of the Act, upon application, the authority "May" on payment of a prescribed fee issue a licence to the applicant to carry on the business required at the premises " on conditions specified in the license. "[130] This means that payment of fees does not mandatorily entitle one to a licence. It just sets in place a further process of

[130] The NDPA Cap.206.

discretion whose exercise ends at the tail end with setting and communicating the "condition specified in the licence." This is a burden fixed by law and is a fixed burden of proof. [131]This standard in criminal cases is proof that an accused is guilty of the offence beyond all reasonable doubt.On the other hand is the evidential burden of proof, which is the "burden of adducing evidence to prove a fact in one's favour. [132] The only burden which keeps shifting is the evidential burden. The legal burden never shifts for instance in the case of **Euchu Michael v. Uganda,** 70 where the Supreme Court held that the burden of proof in a criminal case never shifts from the prosecution. The case has to be proved by the prosecution beyond doubt for example in the case of **Nabajja** & 2 **Others v. Uganda.**[133] A licence under section 2 (5) refers to a licence envisaged under section 14 that is a practicing licence to practice business of a pharmacist. This is the Supreme Court held that the burden of proof in a criminal case never shifts from the prosecution. The case has to be proved by the prosecution beyond doubt for example in the case of **Nabajja** & 2 **Others v. Uganda.71** A licence under section 2 (5) refers to a licence envisaged under section 14 that is a practicing licence to practice business of a pharmacist. This is the best way a professional can learn and feel the consequence. In **CISE Dispensers (u} Ltd v Executive Secretary" National Drug Authority"·**[134] this was the first appeal, arising out of the judgment of the High Court, dated 22"d December 2008, dismissing Miscellaneous Application No. 0355/08, vide which the appellant was seeking orders of certiorari, mandamus, a permanent injunction and a number of declarations against the respondent. That the learned trial judge erred in law and in fact in holding that the National Drug Policy and Authority Act and the Allied Health Professionals Act complement each other. That the learned tria! judge erred in fact in holding that some of the drugs found at the premises of the appellant were restricted drugs. That the

[131] Cross & Tapper on Evidence- 8" Edition page 121.

[132] Phipson Law of Evidence (14" Edition) as referred to in Cross and Tapper: Supra page 122.

[133] HCT CR-CN-0030 of 2012.

[134] (Civil Appeal No.20 Of 2009)) (2010) UGCA 38 (8 October 2010).

learned trial judge erred in law and in fact in holding that the impounded drugs be dealt with in accordance with the law without being definite or specific in her ruling. Citing **lord Evershed's Interpretation of Statutes**[135]it is a cardinal rule of interpretation that when a provision of a later Act is inconsistent with or repugnant to those of an earlier Act, the two cannot stand together, the earlier one stands impliedly repealed. Thus, **Cap 268** repealed **Cap 206** by necessary implication. This principle of statutory construction was discussed and applied in the case of David **Sejjaaka Nalima v Rebecca Musoke**[136] where, however, the court further explained that there cannot be any repeal where the two Acts canvass different objects He pointed out that when **Section 35 Cap 268** is read together with **Section 48 of Cap 268,** it is only the Council under the (AHP) Act that is mandated to inspect and not the National Drug Authority. Thus **Section 35 of Cap 268** amended the earlier **Section 5 of Cap 206,** numerating the functions of the National Drug Authority. consequently, regardless of the fact that the premises and the dispenser were not licensed, the National Drug Authority had no authority to enter, let alone, inspect the appellant's premises. **Section 5** thereof prescribes the functions of the drug authority which is to implement the national drug policy. The section specifically mentions pharmacies without mentioning dispensers. The section refers to maintaining the quality of drugs.[137]

Pharmacy and Drugs Act, cap 280

Section 28 provides for the Duty to supply drugs, if a pharmacist carrying on or employed in a pharmacy business is requested during normal business hours to dispense a valid prescription or to supply any drug to a registered medical practitioner, a veterinary surgeon or dentist for use in immediate

[135] Edition Sweet & Maxwell at pages 153 to 154.
[136] Civil Appeal No. 12 of 1985.
[137] The National Drug Policy and Authority Act (NDPAA), 1993.

treatment, he or she shall comply with the request unless there are reasonable grounds for his or her failing to do so.

Section 29(1) provides for the Medical aid by pharmacists, notwithstanding anything in section 1 of the Medical and Dental Practitioners Act or section 13 of the Veterinary Surgeons Act, a pharmacist may give medical, veterinary or dental advice or aid by way of first-aid in cases of accident or by way of first treatment in the case of simple ailments of common occurrence where it is not reasonably practicable for the patient to consult a medical practitioner, dentist or veterinary surgeon, as the case may be. (2) Where advice or aid is given by a pharmacist in accordance with this section, nothing in section 1 of the Medical and Dental Practitioners Act or section 13 of the Veterinary Surgeons Act shall prevent the recovery by the pharmacist of a charge for medicine supplied by him or her.[138]

Section 11 provides for restrictions on use of pharmacist, pharmacy where it is provided that no person who is not a pharmacist shall describe himself or herself as, or otherwise hold himself or herself out to be, a pharmacist, or assume, take, exhibit or, in any way, make use of any title, emblem or description calculated to suggest that he or she is a pharmacist. No person shall cause or permit any premises to be open to the public for the sale of drugs under the description "pharmacy", "dispensary", "chemist" or "drug store" or any similar description, unless a pharmacist is on the premises and is supervising the activities carried on. For the purposes of this section, the use of any of the word's "pharmacist", "druggist", "chemist", "medical" or any similar word or combination of words in any language shall be deemed to suggest that the owner of the business and the person having control of the business on the premises are registered pharmacists.[139]

Allied Health Professionals Act, Cap 268

[138] Ibid at 5.29.

[139] Ibid at Sec.ll.

The purpose of Allied Health Professionals Act, Cap 268, was to provide for the regulation, supervision and control of Allied Health Professionals and to establish the council responsible for registering, licensing and disciplining these professionals whereas the National Drug Policy and Authority Act (Cap 206) was passed to deal with drug regulation and to provide for licensing and approval of premises, to implement the national drug policy and to control the importation and sale of pharmaceuticals, control quality of drugs, and licensing the dispensers of restricted drugs

Section 29 (a) of Allied Health Professionals Act Cap 268 clearly provides that the Allied Professionals may establish, engage in and manage private common health conditions such as dispensers to manage drug shops, compounding and preparation of mixtures as may be approved by the National Drug Authority. Thus, much as the Allied Health Professionals Council may license a health professional to operate a drug shop in Uganda, the quality and regulation of the use of the drugs has to be approved by the National Drug Authority. In that regard, it is correct to assert that the National Drug Policy and Authority Act and the Allied Health Professionals Act complement each other. [140]

On the other hand, **Section 35** provides for inspection of the premises to ensure that they meet the requirements of a health unit as envisaged under the Act. [141] Hence this act shares some things in common with the National Drug Policy and Authority Act (NDPAA), 1993 for instance the two Acts regulate totally two different mischiefs as it was held in **David Sejjaaka Nalima v Rebecca Musoke, [142]** that the

provisions of a later Act cannot impliedly amend, vary or repeal those of an earlier Act when they legislate upon totally two different things.

[140] ibi

[141] Allied Health Professionals Act; Cap 268.

[142] SCC4 No. 12 of 1985.

The policy under the AHP Act is to further the health of the people by establishing an agency to govern the quality and access of medical persons to the Ugandan people. This is the same policy under the NDPA Act which is to provide cost effective drugs, and to provide satisfactory health care. The Acts are, therefore, not in conflict. Each Act serves to cover a separate facet of that policy. Thus, the two Acts complement each other

S.29 (a) of the **AHP Act** together with the **Uganda Clinical Guidelines 2003** at page 17(1) shows the essential drug lists for Uganda at page 18(n). Page 18(k) gives the summaries of information about the levels of drugs found at page 13(1) to 13 (xviii) which can be found at various hospitals and health centres administered by enrolled nurses, clinical officers and medical officers. The fore-word expressly states that the Guidelines were designed to provide updates, practical and useful information for lower-level health facilities. The mandate to prepare a national list of essential drugs lies with the NDA under **Section 8.**[143]

Section 2 provides for the Allied Health Professionals council whose functions are laid down under· **Section** 4 and are limited to regulating the standards of the Allied Health Professionals, supervising their registration, approving their institutions and qualifications as well as other matters incidental thereto. [144] It is thus clear the functions of the council do not include the licensing of pharmacies, registration of drugs, promoting the national use of drugs, regulation and control of the manufacture production, importation, marketing and use of drugs which functions are the preserve of the National Drug Authority

S.56 of the AHP directs that "a person who commits an offence under this Act is liable on conviction to a fine of not less than three hundred thousand shillings or to a term of imprisonment not exceeding three years or to both.

[143] SCC4 No. 12 of 1985.

[144] Allied Health Professionals Act; Cap 268.

S.51 **(2)** provides that where a drug is taken away pursuant to this Section, reasonable payment thereof shall be tendered by the inspection officer but no payment need be tendered in respect of a drug if the inspecting officer reasonably suspects that the drug is unfit for its purpose by reason of deterioration, impurity, adulteration or other defect; but if the drug is later found on analysis not to be so unfit, reasonable payment shall be tendered by the inspection officer in respect of the drug which is not returned to its owner in good condition; no payment shall be made in respect of a drug if the inspecting officer anticipates that proceedings for an offence under this Act will be brought in respect of the drugs but if the proceedings are not commenced within six months, reasonable payment shall be tendered by the inspecting officer in respect of the drug which is not returned to its owner in good condition

Section 12(1) explains that intoxication shall not constitute a defence to any criminal charge. Intoxication shall be a defence to any criminal charge if by reason of the intoxication the person charged at the time of the act or omission complained of did not know that the act or omission was wrong or did not know what he or she was doing and the state of intoxication was caused without his or her consent by the malicious or negligent act of another person or the person charged was by reason of intoxication insane, temporarily or otherwise at the time of such act or omission where the defence under subsection is established, then in a case falling under subsection (2) the accused person shall be discharged and in a case falling under subsection (2), the provisions of the Magistrates Court Act relating to insanity shall apply. (4) Intoxication shall be taken into account for the purpose of determining whether the person charge d had formed any intention, specific or otherwise, in the absence of which he or she would not be guilty of the offence.[145]

Section 173 prohibits the Sale of noxious food or drink and it provides that any person who sells or offers or exposes for sale as food or drink, any article

[145] National Drug Policy and Authority Act.

which has been rendered or has become noxious or is in a state unfit for food or drink, knowing or having reason to believe that the same is noxious as food or drink, commits a misdemeanor

Section 174 provides for the adulteration of drugs where it is argued that any person who adulterates any drug or medical preparation in such a manner as to lessen the efficacy or change the operation of such drug or medical preparation, or to make it noxious, intending that it shall be sold or used for or knowing it to be likely that it will be sold or used for any medicinal purpose, as if it had not undergone such adulteration, commits a misdemeanor adverse effects or any other drug-related problem after release on the market. Post marketing surveillance is part of the process.

Regulation 37 describes that there is a Pharmacovigilance unit in the Ugandan NDA but the Act does not specifically require or authorize PMV or reporting. The PMV Regulation defines adverse drug events and reactions. Inspection and reports are two key tools of PMV and both are important to identifying or detecting suspicious and actual medicines which is the essential step before further circulation can be prevented. The reports are used to collect data, as are other data gathering means such as epidemiological studies and these data are analyzed to identify safety signals of risks. Once the risks are evaluated and investigated incident handling and risk minimization efforts can be taken.

Institutional framework for drug abuse in Uganda

The **National Drug Authority (NDA)** is a government-owned organisation in Uganda, mandated to regulate drugs in the country, including their manufacture, importation, distribution, and licensing. [146] NDA was created by the Ugandan legislature in 1993. It began operations in 1994 as the

[146] Ghana News Agency (3 October 2013)

National Drug Authority (NDA).[147] At that time, the mission of the NDA was to regulate the manufacture, importation, and use of human and veterinary drugs in the country. In 2014, the Ugandan Cabinet approved plans to expand the NDA into the NFDA by adding food, food additives, food supplements, cosmetics, and commercial animal feeds to the items under the organization's supervision. The relevant laws transforming NDA into NFDA are before the Ugandan Parliament for promulgation drugs and on narcotics; the licensing of sellers and other persons, the places where drugs may be supplied and on who can conduct wholesale trade, provide transport or import and export of drugs. The Act also grants the NDA the enforcement powers to enter and investigate premises, vehicles, vessels and documents. Importantly, the Act provides for the licensing of (non-pharmacist) 'sellers', who may retail restricted drugs (other than Class A or B). These sellers operate the so-called 'licensed drug shops. The NDA drug information department is responsible for authorizing drug advertisements, so for example herbal medicines require approval before being advertised

Although there may be some aspect of Ugandan Jaw that differs, in general a regulation such as the Licensing Regulation is insufficient to legally mandate manufacturers to be licensed operators if there is nothing in the legislation. This is especially important as wholesalers, manufacturers, importers and exporters, transport and storage operators are private sector actors who function under corporate umbrellas. Thus, the law must act against the regulated actor for it to have optimal effectiveness and for many reasons this patchwork of licensure requirements should be harmonized and as is likely the case, must be corrected with an amended Jaw and not another regulation. schedules to the Act that is to say Class A, B and C drugs. These restricted drugs were found on the premises of the appellant. Thus, under **Sections 13, 14 and 15** of the NDPA Act it is only pharmacists, dentists, veterinary

[147] New Vision Supplement, "National Drug Authority: Celebrating 20 Years of Service in the Drug Sector, New Vision Mobile. Kampala, 2014, accessed on 21'' July, 2019.

surgeons or licensed persons who are allowed to dispense or supply restricted drugs. [148]

Under **Section 12,** the drugs specified in the 1st, 2nd and 3'd Schedules to the Act are classified or restricted drugs. The provisions of **Section 13** of the NDPA Act are mandatory prohibiting anybody to deal in restricted or classified drugs except as provided under the Act. [149] It was argued in the case of **David Sejjaaka Nalima v Rebecca Musoke** that although the trial judge heavily relied on **S.60** of the NDPA Act which clearly stipulates how the situation ought to have been handled, she did not invoke the provisions thereof. 102 The appellant having expended huge sums of money on the purchase of the said drugs, the judge should have resolved the dispute by invoking **S.56** of the Allied Health Professionals Act. **S.15 (2)** of the NDPA Act is explicit on how impounded drugs

Minister acting in consultation with the Drug Authority. Further the authority to make professional guidelines is in the Authority and not the Secretariat. In the case of **Kasule v Attorney General,** 104Court held that the purported orders were ultra vires the Premium Development Bond Act. The conditions were therefore invalid and plaintiff entitled to the prize. By developing the National Drug Authority Licensing Guidelines 2017 and the National Drug Authority Guidelines, 2018, the Secretariat acted outside the scope of its mandate and usurped the powers of vested in the Minister to make regulations in consultation with the Drug Authority

Section 17[150] mandates the Authority approve suitability of premises for inter alia location of pharmacies. Regulations 31, 32, 33, 34, 8,9,10, 15 and 16[151] prescribe the considerations for the approval of location premises and the grant of a certificate for the suitability of premises distance between

[148] The NDPA Cap.206.

[149] ibid

[150] The National Drug and Policy Act.

[151] The National Drug & Policy (Certificate of Suitability of premises) Regulations 2014, https:/lwww.nda.or.ug (accessed on 21'1 July, 2019.

Pharmacies is not one of the considerations set out therein. **(1) (a)** provides that the National Drug Policy shall be to ensure that essential, safe, efficacious and cost-effective drugs are made available to the entire population of Uganda, to provide satisfactory health care.

The pharmaceutical society

Over the years Pharmacy practice in Uganda has grown both in numbers and in scope. This calls for strengthening of regulations and creation of additional measures to promote professionalism. The Council of PSU is mandated to securing the highest practicable standards in the practice of Pharmacy. Section 21, subsection 3 of the Pharmacy and drugs act, chapter 280 of the Ugandan constitution provides for the Council of PSU to enact a code of conduct which shall, on approval by the society at a general meeting of the society, be binding upon the members of the society. Every Pharmacist has an obligation to comply in full with this Code of Conduct both within and without their practicing sectors.[152]

This principle Codes are critical elements of the professional regulatory system. It is a public declaration of the principles and ethical standards which govern pharmacists in the practice of their profession and which the public, patients, other healthcare professionals and society generally require and expect from professional pharmacists as key frontline health professionals. Every pharmacist and pharmacy in the country should regularly consult this important document and ensure that their professional practice is guided and supported by these principles. The health, wellbeing, care and safety of their patients is the primary concern of every pharmacist and this is now clearly mandated. Every pharmacist has a responsibility to enhance and improve the reputation and status of the profession and this Code enables and empowers all in the profession. [153]

[152] Pharmaceutical Society of Uganda Draft Pharmacists' Code of Conduct 2013.

[153] Pharmaceutical Society of Uganda Draft of the Pharmacists' Code of Conduct, 2013.

As healthcare professionals, practicing pharmacists are required not only to display full technical competence in their chosen profession but also to behave with probity and integrity and to be accountable in this regard for their actions (or omissions). The qualities of competence, probity, integrity and accountability which a pharmacist must demonstrate are underwritten by a Code of Conduct to which all pharmacists must subscribe. This Code of Conduct is a public declaration of the principles and ethical standards which govern pharmacists in the practice of their profession. Every Pharmacist is personally responsible under the Code of Conduct for his/her own acts r omissions. Pharmacists may also be responsible under the Code for the acts or omissions of persons operating in the area of pharmacy under their direction, control or super vision. This code of conduct is applicable to all registered Pharmacists in Uganda.[154]

The Code of Conduct is one of a number of regulator mechanisms employed y the Council of the Pharmaceutical society of Uganda so as to ensure that any person employing the services of a pharmacist can expect to encounter the highest professional standards in the delivery of pharmacy care, treatment or services. This Code of Conduct sets out the core principles in accordance with which pharmacists must act and by which they will be judged whilst so acting in the provision of their professional services. The Code of Conduct sets out the principles for professional practice and behaviour which patients, members of the public, other healthcare professionals and society generally require and expect from pharmacists who are registered with the PSU. The Code of Conduct also provides support and guidance to pharmacists as they discharge their professional duties. Pharmacists are expected to exercise their professional judgment in the light of the principles set out in the Code of Conduct. 110 For example principle seven provides that a pharmacist shall maintain the highest professional standard in his conduct, and in his professional relations with the pharmaceutical society, members of his own

[154] Pharmaceutical Society of Uganda Draft Pharmacists' Code of Conduct, 2013.

profession and other allied professions. pharmacists obey the laws, regulations, standards, guidelines and policies of the profession both in letter and in spirit. Pharmacists do not condone breaches of the law, regulations, standards or policies by colleagues, co-workers or owners of a pharmacy and report, without fear, such breaches. Pharmacists accept the ethical principles of the profession and do not engage in activity that will bring discredit to the profession. Pharmacists shall ensure that all information provided to the society is factual. Pharmacists do not abuse drugs or alcohol; do not condone the abuse of drugs or alcohol by colleagues or co-workers and report, without fear, such abuse. In his practice, a pharmacist shall not by words or deed or by inference thereof discredit or disparage the professional integrity or judgment or skill of another pharmacist or of a member of an allied profession. [155]

Principle Five provides that a pharmacist must maintain a level of competence sufficient to provide his/her professional services effectively and efficiently. In order to fulfill his/her obligations under this principle a pharmacist should maintain, develop and update competence and knowledge of evidence-based learning which includes CPD (Continuing Professional Development) and CE (Continuing Education). Provide a proper standard of practice and care to those for whom they provide professional services. Use their professional skills, competence and specialized knowledge about medicines, health-related products, medicinal and non-medicinal therapies for the benefit of patients. Encourage the rational and proper use of medicines and in order to fulfil his/her obligations under this principle a pharmacist should support positive changes in the healthcare system. Be cognisant of societal requirements for the provision of pharmacy service. Ensure discriminatory practices are not demonstrated towards any class of patient or sector of the community

Medical and Dental practice as well as research on human beings in order to effectively contribute to a healthy and productive population. 113 The

[155] Principle 7 of the Pharmaceutical Society of Uganda, Pharmacists' Code of Conduct, 2013.

Uganda Medical and Practitioners Council were established in 1913 and the laws governing its mandate and functions have been revised from time to time, as the practice of medicine and dentistry has advanced. The current parliamentary act that governs the council was promulgated in 1996. It is known as the "Uganda Medical and Dental Practitioners Act 11, of 1998.[156]

Section 2.4(1) provides that a person registered or provisionally registered as a medical practitioner under this Act may engage in medical practice. A person registered or provisionally registered as dental practitioner under this Act may engage in dental practice. [157]Section **27{1)** provides that a person shall not engage in private practice without holding a practicing licence issued under this Act. A person contravening this section commits an offence and is liable on conviction to a fine of not less than two hundred thousand shillings and not more than three million shillings or to a term of imprisonment of not less than three months and not more than three years or tobothY11[158]

Section 43(1) provides that a person authorized by the director general of health services may give medical or dental treatment in a Government medical institution after undergoing appropriate training. A person authorized to give medical or dental treatment under subsection (1) shall not be allowed to possess or use any drugs, instruments or appliances other than those authorized by the director general of health services or to charge or receive any fee or other consideration for the treatment rendered to a person. .[159]

Medical and Dental Practioners Council

Council commends all the health care providers in their effort to offer quality health services to all the citizens of Uganda. Council has spent this financial to consolidate the system that has been built for years. The emphasis during

[156] Mubangizi, Michael (8 July 2012).
[157] Uganda Medical and Dental Practitioners Act 11, of 1998, cap 272.
[158] Ibid sec27
[159] Ibid sec 27

this year was on strengthening inspection of health facilities. Council continued funding the regional inspection activities that are done by our inspectors in the region. [160] Council came up with an innovation "peer inspection" where health facilities in the private sector provide specialists that inspect each under guidance of UMDPC. This activity covered all major health facilities in Kampala and it was well received. Experiences **will** be used to inspect other regions. [161]

International legal framework for drug abuse

For centuries, drug abuse has been an international problem because it has not been possible to confine drugs to their places of origin. Modern methods of transport and communication have increased and facilitated the dissemination of all drugs of abuse, both licit and illicit. Although attention has tended to be focused on the illicit spread and use of heroin, cocaine and cannabis, there is also a vast global trade in legal, recreational drugs such as tobacco as well as in products such as tranquillizers and hypnotics, which have legitimate medical uses but which are also drugs of abuse and dependence. 120 Hence on a global perspective, conventions have been ratified against drug abuse as seen below;

United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, Chapter vi

This Convention provides comprehensive measures against drug trafficking, including provisions against money laundering and the diversion of precursor chemicals. It provides for international cooperation through, for example extradition of drug traffickers, controlled deliveries and transfer of proceedings.

[160] Medical and Dental Practioners Council
[161] ibid

Article 1(1) provides for definitions like Board which means the International Narcotics Control Board. Cannabis which means the flowering or fruiting tops of the cannabis plant excluding the seeds and leaves when not accompanied by the tops from which the resin has not been extracted, by whatever name they may be designated. Cannabis resin" means the separated resin, whether crude or purified, obtained from the cannabis plant. Coca bush means the plant of any species of the genus Erythroxylon. Coca leaf means the leaf of the coca bush except a leaf from which all ecgonine, cocaine and any other ecgonine alkaloids have been removed. Therefore, this Convention provides comprehensive measures against drug trafficking, including provisions against money laundering and the diversion of precursor chemicals. It provides for international cooperation through, for example, extradition of drug traffickers, controlled deliveries and transfer of proceedings. 121 **Article 2(1)** provides for substances under control where it is argued that except as to measures of control which are limited to specified drugs, the drugs in Schedule I are subject to all measures of control applicable to drugs under this Convention and in particular to those prescribed in article 4(c), 19, 20, 21, 29, 30, 31, 32, 33, 34 and Article 2(2) stipulates that the drugs in Schedule II are subject to the same measures of control as drugs in Schedule I with the exception of the measures prescribed in article 30, paragraphs 2 and 5, in respect of the retail trade. 122 **Article 3(1)** provides for the changes in the scope of control where a Party or the World Health Organization has information which in its opinion may require an amendment to any of the Schedules, it shall notify the Secretary-General and furnish him with the information in support of the notification.

Article 5 provides for the international control organs where the Parties, recognizing the competence of the United Nations with respect to the international control of drugs, agree to entrust to the Commission on Narcotic Drugs of the Economic and Social Council, and to the International Narcotics Control Board, the functions respectively assigned to them under this Convention. 124 **Article** 14{1) provides for measures by the Board to ensure the execution of provisions of the Convention and if, on the basis of

its examination of information submitted by Governments to the Board under the provisions of this Convention, or of information communicated by United Nations organs or by specialized agencies or, provided that they are approved by the Commission on the Board's recommendation, the Board has objective reasons to believe that the aims of this Convention are being seriously endangered by reason of the failure of any Party, country or territory to carry out the provisions of this Convention, the Board shall have the right to propose to the Government concerned the opening of consultations or to request it to furnish explanations. [162]

Article 23{1) provides for national opium agencies where a Party that permits the cultivation of the opium poppy for the production of opium shall establish, if it has not already done so, and maintain, one or more government agencies (hereafter in this article referred to as the Agency) to carry out the functions required under this article.

Article 23{2) provide that each such Party shall apply the following provisions to the cultivation of the opium poppy for the production of opium and to opium the Agency shall designate the areas in which, and the plots of land on which, cultivation of the opium poppy for the purpose of producing opium shall be permitted. Only cultivators licensed by the Agency shall be authorized to engage in such cultivation.

Each licence shall specify the extent of the land on which the cultivation is permitted. All cultivators of the opium poppy shall be required to deliver their total crops of opium to the Agency. The Agency shall purchase and take physical possession of such crops as soon as possible, but not later than four months after the end of the harvest.

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[162] Ibid at Art14.

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Article 31(1) provides for the special provisions relating to international trade where the Parties shall not knowingly permit the export of drugs to any country or territory except in accordance with the laws and regulations of that country or territory; and Within the limits of the total of the estimates for that country or territory, as defined in paragraph 2 of article 19 with the addition of the amounts intended to be re-exported. The Parties shall exercise in free ports and zones the same supervision and control as in other parts of their territories, provided, however, that they may apply more drastic measures.[163]

Convention on psychotropic substances

The Convention on Psychotropic Substances of 1971 is a United Nations treaty designed to control psychoactive drugs such as amphetamine-type stimulants, barbiturates, benzodiazepines and psychedelics signed in Vienna, Austria on 21 February 1971. The Single Convention on Narcotic Drugs of 1961 did not ban the many newly discovered psychotropics, since its scope was limited to drugs with cannabis, coca, and opium-like effects. [164]

Article 1 provides for the use of terms Except where otherwise expressly indicated, or where the context otherwise requires, the following terms in this Convention have the meanings given below Council" means the Economic

[163] Art. 31 of the UNC against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.

[164] https:jjwww.unodc.org/pdf/convention_1971_en.pdf, accessed on 2d" July, 2019.

and Social Council of the United Nations. Commission" means the Commission on Narcotic Drugs of the Council, Board means the International Narcotics Control Board provided for in the Single Convention on Narcotic Drugs, 1961. "Secretary-General" means the Secretary-General of the United Nations. Psychotropic substance" means any substance, natural or synthetic or any natural material in Schedule I, II, III or IV. [165]

Article 2(2) provides for the roles of secretary where it is portrayed that he or she Secretary-General shall transmit such notification, and any information which he considers relevant, to the Parties, to the Commission and when the notification is made by a Party, to the World Health Organization. Subsection 2(3) provides for the information transmitted with such a notification indicates that the substance is

suitable for inclusion in Schedule I or Schedule II pursuant to paragraph 4, the Parties shall examine, in the light of all information available to them, the possibility of the provisional application to the substance of all measures of control applicable to substances in Schedule I or Schedule II, as appropriate. [166]

Article 3(1) provides special provisions regarding the control of preparations except as provided in the following paragraphs of this article, a preparation is subject to the same measures of control as the psychotropic substance which it contains, and, if it contains more than one such substance, to the measures applicable to the most strictly controlled of those substances. [167]

Article 4 provides for other special provisions regarding the scope of control in respect of psychotropic substances other than those in Schedule I, the Parties may permit, the carrying by international travelers of small quantities of preparations for personal use; each Party shall be entitled, however, to

[165] Convention on psychotropic substances of 1971.
[166] Convention on psychotropic substances of 1971
[167] Ibid at Art. 4.

satisfy itself that these preparations have been lawfully obtained; the use of such substances in industry for the manufacture of non-psychotropic substances or products, subject to the application of the measures of control required by this Convention until the psychotropic substances come to be in such a condition that they will not in practice be abused or recovered; the use of such substances, subject to the application of the measures of control required by this Convention, for the capture of animals by

persons specifically authorized by the competent authorities to use such substances for that purpose. [168]

Article 9(1) provides for prescriptions where the Parties shall require that substances in Schedules II, III and IV be supplied or dispensed for use by individuals pursuant to medical prescription only, except when individuals may lawfully obtain, use, dispense or administer such substances in the duly authorized exercise of therapeutic or scientific functions. Subsection 2 provides for the fact that Parties shall take measures to ensure that prescriptions for sub-stances in Schedules II, III and IV are issued in accordance with sound medical practice and subject to such regulation, particularly as to the number of times they may be refilled and the duration of their validity as will protect the public health and welfare. [169]

Article 14 provides the special provisions concerning the carriage of psychotropic substances in first-aid kits of ships, aircraft or other forms of public transport engaged in international traffic. The international carriage by ships, aircraft or other forms of international public transport such as international railway trains and motor coaches, of such limited quantities of substances in Schedule II, III or IV as may be needed during their journey or voyage for first-aid purposes or emergency cases shall not be considered to be export, import or passage through a country within the eaning of this Convention.

[168] ibid

[169] Article 9(1) of the Convention on psychotropic substances of 1971.

International Narcotics Control Board 1992

It is a permanent and independent body, consisting of 13 members, who are elected for a five-year term by the Economic and Social Council on the basis of their competence and serve in their personal capacity. The Board monitors the implementation of the conventions and, where appropriate, makes recommendations to States. It also administers the statistical control of drugs on the basis of data supplied by Governments and assesses world requirements of licit drugs with a view to the adaptation of production to those requirements. UNODC has an important role in assisting these bodies in performing their treaty-based functions and in assisting States Parties in the implementation of their obligations under the international drug control treaties. [170] In its resolution 45/179 of 21 December 1990, it requested the Secretary-General to create a single drug control programme to be called the United Nations International Drug Control Programme, based at Vienna, and to integrate fully therein the structures and the functions of the Division of Narcotic Drugs of the Secretariat, the secretariat of the International Narcotics Control Board and the United Nations Fund for Drug Abuse Control with the objective of enhancing the effectiveness and efficiency of the United Nations structure for drug control in keeping with the functions and mandates of the United Nations in this field, recalling also the Political Declaration and the Global Programme of Action adopted on 23 February 1990 at its seventeenth special session. [171]

Ways through which drugs are abused

Through smoking

Some, weed, cigarette smokers, may not be ready to quit immediately but may be willing to reduce cigarette consumption with the goal of quitting. Among

[171] umted Nations International Drug Control Programme,

cigarette smokers not ready to quit, tobacco reduction incorporating nicotine replacement therapy and behavioral interventions decrease cigarettes smoked and increase future smoking abstinence. Population-based studies suggest that quitting gradually may be less successful than quitting abruptly. However, a systematic review comparing both approaches suggest that reducing cigarettes before the quit date and quitting

abruptly without prior reduction yields comparable quit rates. 137 People start smoking for a variety of different reasons. Some think it looks cool. others start because their family members or friend's smoke. Statistics show that about 9 out of 10 tobacco users start before they are 18 years old. Most adults who started smoking in their teens never expected to become addicted that is why people say it is just so much easier to not start smoking at all.

Through poor storage

Poor storage can turn the drugs into poison, to make matters worse; it can cause danger to kids especially when they come across them. On addition, it can be abused through overdose. This therefore leads to increased risk of illness. Studies show that smokers get more colds, flu, bronchitis and pneumonia than nonsmokers and people with certain health conditions, like asthma become sicker if they smoke (and often if they're just around people who smoke). Because teens who smoke as a way to manage weight often light up instead of eating, their bodies also lack the nutrients they need to grow, develop and fight off illness properly.

Through injections

That is to say injecting yourself using marijuana to relieve pain or get some energy as portrayed by World Health Organization, through self-medication for instance addicts go against medical prescriptions, through taking drugs meant for someone and a drug for non-medical reasons, through accessing unskilled medical practitioners like unrecognized clinics and through

substance acts which involves substantially taking drugs which are not legally recognized. [172]

Through selling expired drugs

The expiration dates on most drugs simply indicate a date after which the manufacturer will no longer keep records on that particular batch. The large majority of drugs do not suddenly lose potency after their expiration dates, as long as they are not subjected to extremes of temperature or humidity. The Medical Letter, a well-respected publication on drugs and drug therapies, did a study a few years ago in which they examined a variety drug that were long past their expiration dates. They tested penicillin tablets that had been bottled during WWII and found that most of tested as having 110% of their stated potency. [173]

Through addiction

Addiction can lead to incidents of losing one's Job; no matter the type of drug one takes, abusing that drug can have serious consequences when it comes to landing and maintaining a job. In the short term, impaired judgment and lack of sleep from drug use can make an addict perform poorly the duties he or she would otherwise excel at. In the long run, desperation from addiction can lead to stealing, lying, excessive absences and other undependable behaviors that an employer will find unacceptable

Through hurting the addict physically

Drug abuse is very literally harmful to one's body depending on the drug of choice, abuse can lead to lung and cardiovascular disease, stroke, various kinds of cancer, HIV/AIDS and Hepatitis B and C. However, through addiction which does not only come from long-term use but also using just once hence

[172] https.//w ww. who.intjbulletin/volumes/86/6/08-020608/en/

[173] World Health Organization (WHO), reasons for increased number of youths who inject drugs in
Kampala suburbs, 2012.

resulting in a fatal overdose, brain damage and infect someone with diseases that will stay with them for the rest of their life. [174]

Through overconsumption which lowers one's Finances

Simply put, drugs cost money, the more you abuse a drug, the more of it you need to get the same effect, and therefore, the more money you need to spend to support the habit. Combined with the aforementioned detriment drug abuse can have when it comes to maintaining a job, persisting with this habit can have serious negative impacts on your financial future. [175]

Through taking overdose hurting your freedom; difficulty with finances, keeping a job, and mental health problems are all issues that can ultimately land a person in jail. Whether it's by pursuing unlawful means of financial gain, committing crimes due to paranoid delusions, stealing from others to support a habit, or any other of the myriad ways drug abuse can contribute to criminal activity, each of those paths leads to the same place jail. 143 Generally, the more someone abuses drugs, the more their priorities shift toward their drug of choice for instance, an important family event such as a wedding or baby shower will often take a backseat to a person's drug use. Prioritizing a drug over loved ones can very quickly lead to self-alienation and tarnished or broken family relationships.[176]

If the drug fulfills a valuable need, an addict may find him or herself increasingly relying on it and may take illegal drugs to calm or energize him or herself or make him more confident. This can be reached on through starting to abuse prescription drugs to relieve pain, cope with panic attacks or improve concentration at school or work and if an addict uses drugs to fill a void in his or her life, he is more at risk of crossing the line from casual drug use to drug abuse and addiction. To maintain a healthy balance in his or her life, there is need to have positive experiences and feel good about his life

[174] Uganda is a signatory to the United Nations Single Convention on Narcotic drugs 1961,
[175] https://pdfs.semanticscholar.org/ . /8d54b15da78c6d5e2b6734fb9722bda28494.pdf.
[176] ibid

without any drug use. [177]Drug abuse may start as a way to socially connect; people often try drugs for the first time in social situations with friends and acquaintances. A strong desire to fit into the group can make it feel like doing the drugs with them is the only option.

People from all walks of life can experience problems with their drug use, regardless of age, race, background or the reason they started using drugs in the first place. Some people experiment with recreational drugs out of curiosity, to have a good time, because friends are doing it or to ease problems such as stress, anxiety or depression. However, it is not just illegal drugs, such as cocaine or heroin that can lead to abuse and addiction. Prescription medications such as painkillers, sleeping pills and tranquilizers can cause similar problems. In fact, next to marijuana, prescription painkillers are the most abused drugs in the U.S and more people die from overdosing powerful opioid painkillers each day than from traffic accidents and gun deaths combined.

School children in boarding schools have found these sachets very convenient to smuggle into their dormitories and classrooms and many use their Foam mattresses and cut them in the middle and stuff them with as many sachets of illicit drugs as they can afford. Female students may use packets of their sanitary towels like "Always" and push in the sachets of drugs. 148 Different drugs give rise to different signs and complaints (symptoms). Weed or Marijuana makes one very thirsty, eats without getting satisfied, they get disorganized and isolate themselves. The hard drugs drive someone into confusion when they do not get access to them; they will lie will steal and make up stories to get money to maintain their expensive habit because these drugs are always expensive in big quantities that are why the traffickers pack them into smaller units for easy buy.

[177] HelpGuide .org Internationa I,

UUNSUCCESSFUL INTERVENTIONS FOR DRUG ABUSE IN UGANDA

Regional imbalance in sensitization;

There have been some interventions to address drug abuse in the country and most of these have concentrated in law enforcement less in prevention, treatment and rehabilitation. Many of these are located in urban centers mainly in Kampala city, largely uncoordinated, underfunded and NGO driven. Nationally, law enforcement and policy development to regulate drug abuse has remained largely unattended to and yet this had a potential to reduce the drug abuse phenomenon.

Weak laws and policies in drug control;

Neighboring Kenya, Rwanda and Tanzania have increased their efforts to end the transport of illicit drugs into their countries. In comparison, Uganda's laws under the National Drug Authority are very weak, compared to those in our neighboring countries. The maximum conviction under the NDA law of three years in prison and a fine of not more than 2 million Uganda shillings, makes it by far the weakest punishment within the East African Region, where Kenya, has a life sentence for traffickers and fines up to three times the value of the illicit drugs one is caught with. They also have a time limit when bars and recreation places open and close. Traffickers in Rwanda face life imprisonment while those in Tanzania get lengthy sentences and hefty fines. The lenient sentences and fine in Uganda do not come anywhere close to deterring traffickers. Often those caught insist on being taken to court almost immediately and they plead guilty and pay the fine. For someone trafficking drugs worth tens or hundreds of millions, a two million fine is nothing.

Challenges Of The Law On Prevention Of Drug Abuse In Uganda

Drug and substance abuse is today more than ever far and wide in Uganda. You can barely count the family, friends and loved ones completely lost to theses addictions. The once promising student who picks the habit from peers in school and forever loses his way, the very educated man who gets hooked to and ends up jobless, hopeless and useless to his family, a friend who suddenly becomes a chain smoker, and multiple young men in the suburbs becoming slaves to marijuana among others. The issue of regulation of drug use made headlines with the recent enactment of the Narcotic Drugs and Psychotropic Substances (Control) Act of 2015 (NDPSA) in Uganda. This Act introduces a much more rigorous and criminal law based legal regime governing drug use and clearly domesticates the international 'war on drugs.' The war on drugs has negative implications of the individual users of drugs who are harassed, forced to hide and regarded as un apprehended criminals.

Lack of prioritization of the Persons who inject drugs

The NDPSA has a decided penal focus and does not prioritize the welfare of persons who use drugs. One of the primary aims of the Act is to give effect to punitive international conventions. 155 Along with the criminalisation of trafficking in narcotics drugs and psychotropic substances, the Act also criminalizes the possession of these drugs and prescribes heavy penalties such as a fine of Ugx 10,000,000 (approx. USD 3,000) or three times the market value of the drug, whichever is greater, or imprisonment of a minimum of ten years or both such a fine and imprisonment. The Act also criminalizes acts associated with narcotic drugs such as possession of any pipe or utensil for the illicit use of such drugs; 'recruiting' or 'promoting' the smoking, inhaling, sniffing or other use of such substances and owning, occupying or being 'concerned in the management' of any premises used for the cultivation, sale or manufacture of such substances.

Delays in collection of proof;

The mechanism for 'rehabilitation' contemplated under the Act can only be accessed after one has been convicted and sentenced. Since the time spent in the 'center' is considered as part of one's custodial sentence, it is feared that the provision may have the direct and adverse effect of triggering custodial sentences where fines would otherwise have been imposed. The fact that the envisioned Advisory Committee membership does not provide for participation or inclusion of PWUD is also viewed as problematic.

Overall, the NDPSA conflates support for PWUDs with the criminal law and even the limited health services provided under such a framework are rendered meaningless and effectively inaccessible. It also leaves the judicial officer with broad and unqualified power to determine which PWUDs access treatment and who does not, which severely undermines not only the agency and autonomy of such persons but also their rights to health and, ultimately, to life. The essence of the Act is to treat PWUD as criminals who need to be locked up instead of viewing them as human needing assistance.

Lack of a national commitment;

This is normally expressed in policy frame work interventions and laws and becomes a challenge in especially addressing substance abuse and other Narcotics. Uganda signed and ratified the United Nations (UN) Narcotic Convention 1961. Today Uganda has a narcotic law passed in April 2015 but not operationalized to show commitment and compliance in combating substance abuse. Most services are haphazard and uncoordinated which has been a recipe for poor delivery and increased substance abuse among young people in particular. There has been no progressive national report has been undertaken to provide a detailed picture of what is happening on the ground in terms of substance abuse. Such a law needs to reflect the needs of the local realities as well the emerging new technology to address substance abuse

Low sensitization of the law

Nationally, law enforcement and policy development to regulate drug abuse has remained largely unattended to and yet this had a potential to reduce the drug abuse phenomenon. Government actions and statements have not comprehensively addressed drug misuse, thus there is a need to advocate for a comprehensive policy measure to reduce SA, but also to protect those individuals and groups, especially children, youth, students, universities and women who are at risk of being negatively affected by SA. The enactment of sound policies and interventions that work to curtail drug abuse in Uganda is long overdue, if we are to address the physical and social consequences caused by drugs.

Unemployment of youth forces them to break the law;

Failure to obtain employment affects the livelihood of youth and puts them in a poverty trap which predisposes them to criminality behavior. The resultant effect of this has been that the population has imposed so much stress on resources and the available goods and services. In the urban and semi urban centers, this has detrimental pressures exerted on infrastructure as evidenced by the congestion of spaces in towns and cities, with increasing slum settlements. According to the United Nation Population fund (UNFP), a good proportion of youth in Uganda especially 158 those below the age of 24, live in urban centers and 63 percent of in mates are youth.

Many youths in Uganda impetuously engage in certain behavior due to the desire of getting something to eat and as a result of drug abuse and unemployment are always caught on the wrong side of the law. Many of them have resorted to theft as a way of dealing with the social emotional aspect of life such as peer pressure, fit in and boredom. This rather communicates that preventive and protective measure through organized sports need to be put into place to equip the young people with life skills most especially refusal skills.

Inaccessibility of the health services

The challenge with the current conflation of support for PWUDs with the criminal law process under the NDPSA is that even the limited health services provided under such a framework are rendered meaningless and effectively inaccessible. It also leaves the judicial officer with broad and unqualified power to determine which PWUDs access treatment and who does not which severely undermines not only the agency and autonomy of such persons but also their rights to health and, ultimately, to life.

Self-control, which tends to inhibit problem behavior and often increases naturally as children mature during adolescence. In addition, protective family structure, individual personality, and environmental variables can reduce the impact of serious risks of drug abuse. Preventive interventions can provide skills and support to high-risk youth to enhance levels of protective factors and prevent escalation to drug abuse. 163 In general, the pattern of abuse is associated with levels of social disapproval, perceived risk, and the availability of drugs in the community. Scientists have proposed several hypotheses as to why individuals first become involved with drugs and then escalate to abuse. One explanation is a biological cause, such as having a family history of drug or alcohol abuse, which may genetically predispose a person to drug abuse. Another explanation is that starting to abuse a drug may lead to affiliation with more drug-abusing peers which, in turn, exposes the individual to other drugs. Indeed, many factors may be involved.

Prevention drug abuse through legislation in Uganda

The National Drug Policy and Authority Act (the Act) 206 prohibits the sale of 'any drug, medical appliance or similar Article which is not of the nature, substance and quality demanded or which does not conform to the standards laid down in the authorized pharmacopoeia' **Section 30(a)165** describes that the Act also prohibits the supply of 'any drug which is unwholesome or adulterated or which does not conform to the prescription

under which it is supplied. 166 Any person who does so commits and offence and is liable to a fine not exceeding five million shillings or to imprisonment for a term not exceeding ten years or to both. 'Supply' includes, in relation to a drug, the administration of any such drug. 167 Part IX of the Act of the National Drug Policy and Authority Act (the Act) 206 provides for offences and penalties which are expressed under **Section 60(1)168** which stipulates that a person contravening a provision of this Act commits an offence and, where no punishment is provided, is liable to a fine not exceeding one million shillings. To withdraw the license or permit for a period not exceeding five years; to cause the items in contravention to be impounded, forfeited, destroyed or disposed of in a manner prescribed by the Minister; to imprisonment not exceeding one year or to any two of the above punishments and for any subsequent offence under this Act, a person is liable to a fine not exceeding two million shillings or to a term of imprisonment not exceeding five years or to both.

Fines

A person who abuses drugs is liable where the offence relates to class A drugs, to afine not exceeding two million shillings or to a term of imprisonment not exceeding five years or to both; where the offence relates to narcotic drugs or psychotropic substances under international control and is a second or more subsequent offence, to a term of life imprisonment where the offence relates to manufacturing, smoking or having possession of any narcotic drug or psychotropic substance under international control and is a second or more subsequent offence, to a term not exceeding ten years.

Setting aside the derogatory references to 'addicts'

These provisions notwithstanding, it remains clear that the thrust of the Act is deterrent and punitive for instance, setting aside the derogatory references to 'addicts' and 'convicts' which are by themselves indications of the lenses through which the regulatory framework views drug use, the mechanism for 'rehabilitation' contemplated under the Act can only be accessed after one has

been convicted and sentenced. Indeed, the time spent in the 'center' is considered as part of one's custodial sentence, and may have the direct and adverse effect of triggering custodial sentences where fines would otherwise have been imposed, triggered by a paternalistic sensibility that the person before the Court is a danger to themselves who can only be helped through the imposition of a prison term. Content is composed of information, skills development, methods and services Information can include facts about drugs and their effects, as well as drug laws and policies. Drug information alone, however, has not been found to be effective in deterring drug abuse. Combining information with skills, methods, and services produces more effective results. Programs include skills development training to build and improve behaviors in important areas, such as communication within the family, social and emotional development, academic and social competence in children, and peer resistance strategies in adolescents

In conclusion;

In considering the overall effect of criminalisation of drug use, it is suggested that any regulation of drug use should not involve a direct or indirect violation of the rights to life and health of persons who use drug. It is suggested that the principle of 'harm reduction' should be embraced in order to reduce the negative consequences associated with drug use. Uganda is in need of the adoption of a nation-wide harm reduction policy which would create an enabling legal environment for PWUIDs to access health services relevant for them to enjoy the highest attainable standard of physical and mental health; and would also involve increased state funding to support the legal and public health needs of the PWUIDs.

Drug abuse continues to pose a serious challenge to health, social and economic well-being of people in Uganda. The findings from this research work have revealed that the trend in drug abuse has persisted irrespective of the law. Most of these have concentrated in law enforcement less in prevention, treatment and rehabilitation. many of these are located in urban centers mainly in Kampala city, largely uncoordinated. Nationally, law

enforcement and policy development to regulate drug abuse has remained largely unattended to and yet this had a potential to reduce the drug abuse phenomenon. Government actions and statements have not comprehensively addressed drug misuse, thus there is a need to advocate for a comprehensive policy measure to reduce SA but also to protect those individuals and groups, especially children, youth, students, universities and women who are at risk of being negatively affected by drug abuse. The enactment of sound policies and

interventions that work to curtail drug abuse in Uganda is long overdue, if we are to address the physical and social consequences caused by drugs. For the purpose of periodic or as needed inspections of the places where medicines might be found, the law is sufficient in terms of inspections but is weak in terms of whether the inspector can "seize" permanently or temporarily the other items that are found concurrently with FS medicines such as production equipment or packaging materials. This gap in the law cannot be filled without legislation as the taking of property, even if used in illegal activity, affects legal property rights hence seizure, both temporary and permanent should be authorized and circumscribed by law.

Nationally, law enforcement and policy development to regulate drug abuse has remained largely unattended to and yet this had a potential to reduce the drug abuse phenomenon. Government actions and statements have not comprehensively addressed drug misuse, thus there is a need to advocate for a comprehensive policy measure to reduce drug abuse but also to protect those individuals and groups especially children, youth, students, universities and women who are at risk of being negatively affected by SA. The enactment of sound policies and interventions that work to curtail drug abuse in Uganda is long overdue, if we are to address the physical and social consequences caused by drugs.

CHAPTER FIVE

Herbal Medicinal Plants

Nowadays, attention is being focused on the investigation of the efficacy of plant in the traditional medicine because they are cheap and have little side effects. Synthetic preservatives, which have been used in foods for decades, may lead to negative health consequences. Moreover, the use of synthetic compounds has significant drawbacks, such as increasing cost, handling hazards, concerns about residues on food, and threat to human environment. As a good alternative, spices and herbs replace synthetic preservatives as natural, effective, and non-toxic compounds. Spices and herbs (garlic, mustard, cinnamon, cumin, clove, thyme, basil, pepper, ginger, rosemary, etc.) have been used as food additives since ancient times, as flavoring agents and natural food preservatives. A number of spices show antimicrobial activity against different types of microorganisms. The consumption of herbal medicines is increasing steadily throughout the world as an alternative treatment for alleviating a number of health problems including heart diseases, diabetes, high blood pressure, and even certain types of cancer. However, unlike drugs, herbal products are not regulated for purity and potency. Herbal drugs are considered as food integrators and readily available in the market without prescription. This chapter highlights potential benefits and possible risks associated with consumption of herbal products. Antimicrobial activity of spices and herbs as well as some essential oils against most common bacteria and fungi that contaminate food is also discussed.

Health Benefits and Possible Risks of Herbal Medicine.

Nowadays, attention is being focused on the investigation of the efficacy of plant in the traditional medicine because they are cheap and have little side effects. Synthetic preservatives, which have been used in foods for decades, may lead to negative health consequences. Moreover, the use of synthetic compounds has significant drawbacks, such as increasing cost, handling hazards, concerns about residues on food, and threat to human environment. As a good alternative, spices and herbs replace synthetic preservatives as natural, effective, and non-toxic compounds. Spices and herbs (garlic, mustard, cinnamon, cumin, clove, thyme, basil, pepper, ginger, rosemary, etc.) have been used as food additives since ancient times, as flavoring agents and natural food preservatives. A number of spices show antimicrobial activity against different types of microorganisms. The consumption of herbal medicines is increasing steadily throughout the world as an alternative treatment for alleviating a number of health problems including heart diseases, diabetes, high blood pressure, and even certain types of cancer. However, unlike drugs, herbal products are not regulated for purity and potency. Herbal drugs are considered as food integrators and readily available in the market without prescription. This chapter highlights potential benefits and possible risks associated with consumption of herbal products. Antimicrobial activity of spices and herbs as well as some essential oils against most common bacteria and fungi that contaminate food is also discussed.

Advantages and disadvantages

Discover the many advantages and disadvantages of herbal medicine before choosing it as an alternative treatment. Before treating yourself with herbs you want to seek the advice from a qualified herbalist, naturopath, or doctor to weigh the pros and cons of specific herbal treatments and remedies.

Proving the Advantages and Disadvantages of Herbal Medicine

Herbal medicine remains largely an unproven, inexact science. Although the history of herbal medicine provides centuries of anecdotal information, scientific study of herbal medicine is relatively new. The U.S. Department of Health and Human Service National Institutes of Medicine created a new division in 1992, the National Center for Complimentary and Alternative Medicine (NCCAM). However, compared to the Federal Food and Drug Administration (FDA) founded in 1906, NCCAM has only begun to scratch the surface of scientific research on herbal medicines.

Evidenced-Based Herbal Medicines

While herbalists, holistic therapists and naturopaths can offer personal experience in using herbs and successfully treating patients with herbs, there is very little evidence-based herbal medicine trials and studies to support these claims. Without the scientific data to validate the healing value of herbs, much of the herbal medicines remain classified as anecdotal evidence, in spite of historical use. This lack of scientific validation would seem to make it impossible for conventional medicine to accept the use of herbal remedies. However, many medical professionals see the value of herbal treatments and practice integrative medicine.

Problems with Many Herbal Medicine Studies

In examining the few trials conducted on Traditional Chinese Medicine (TCM), researchers have found a lack of consistency in the trials. According to the US National Institutes of Health's National Library of Medicine, "Proof of efficacy or safety for the vast majority of herbal medicine has not been fully established through an evidence-based approach."

Single Plant Herb Studies

The few herbal trial studies that have been conducted using randomized clinical trials (RCTs) followed the International Conference on Harmonization (ICH) Good Clinical Practice Guidelines that evaluate the efficacy and/or safety of the herb. Most of the trials were conducted on single plant herbs. This made evaluating the efficacy of a single herb difficult since most herbal treatments are a combination of herbs and rarely are a single plant remedy or treatment.

Discover the many advantages and disadvantages of herbal medicine before choosing it as an alternative treatment. Before treating yourself with herbs you want to seek the advice from a qualified herbalist, naturopath, or doctor to weigh the pros and cons of specific herbal treatments and remedies.

Multi-Component Herbal Medicines

The issue with evaluating single plant herbs is how the herbs are administered by practitioners. Most prescribe a combination of herbs customized for the individual. This is especially true in Traditional Chinese Medicine (TCM). Chinese doctors will prescribe a tea that is then compounded in their clinic pharmacy just for the patient. These remedies are very difficult to evaluate in a trial study since they are individualized treatments.

Books on Evidence-Based Herbal Medicines

One of the most referrenced books written on evidence-based herbal medicines was written by Michale Rotblatt and Irwin Ziment and published in 2001, Evidence-Based Herbal Medicine. The book received good reviews from the Mayo Clinic and the British Medical Association's journal, BMJ. The writers reviewed 65 common herbal remedies, historical use of the herb, its pharmacology, the clinical trial evidence with respect to efficacy, the adverse effects to the herbs, any interactions with drugs, and the dosage information.

Not All Herbs Equal

Another issue in attempting to conduct trials on the effectiveness of herbs to treat illnesses is herb quality. Herbs are not regulated and the quality of one herb from another can be vast. This makes validation of herb efficacy impossible, especially when some herbs are adulterated.

Traditional Chinese Medicine Review

Traditional Chinese Medicine (TCM) has been practiced for thousands of years. A review of Chinese medicinal herb studies found in the Cochrane Library for the treatment of chronic hepatitis B revealed a possible effective herbal treatment. The researchers concluded, "Some Chinese medicinal herbs may work in chronic hepatitis B. However, the evidence is too weak to recommend any single herb." Single and Compound Herbal Treatments The review examined single and compound herbs. While these were found to have a positive effect in clearing hepatitis B virus and the diseased liver, the researchers concluded the positive results were more likely to be published than the negative trials and recommended further closely monitored trials were needed.

Review of Ayurvedic Herbal Medications

In another review of studies, the researchers examined Ayurvedic medication for the treatment of schizophrenia and concluded, "Ayurvedic medication may have some effects for treatment of schizophrenia but has been evaluated only in a few small pioneering trials."

Anecdotal Arguments Made for Herbal

Medicine Advantages

In light of so few trials on the benefits and efficacy of herbal treatments, those arguing the advantages of herbs are left with anecdotal examples. The

arguments made for the advantages associated with using herbal medicines are often done in comparison to pharmaceutical treatments, which have been studied more so risks are proven and known.

Reduced Risk of Side Effects and Safety

Herbal advocates claim there are fewer unintended consequences with herbs than with pharmaceutical drugs, but there is no trial evidence to support these claims. Advertisements and the accompanying literature for prescription drugs typically have a long list of possible side-effects, but without study, side effects remain largely undocumented and/or unknown.

Some herbs do come with warnings, such as not to take if you're pregnant or lactating. Another argument in favor of herbal medicines is the safety factor versus long-term effects of non-herbal drugs. Again, this may be true in a personal experience, but there is little to no scientific evidence so far to back up such claims.

Herbs Are Food

The argument that herbs are safe by virtue of being a food is not necessarily valid. Herbs are touted as safe simply because they are foods. Most people find this to be true in their personal uses of herbs.

However, it should be noted that individuals can be allergic to herbs just as they are to any other food or not use them in proper dosage, causing problems.

Herbs Cost Less Than Modern Medicines

It is true that some herbs cost less than modern medicines. You can grow your own herbs and use in food preparations, make into tinctures, teas, and salves for a DIY medicine cabinet of remedies. However, high-quality herbs, such as those produced by Gaia Herbs cost more than cheaper herbs grown under less favorable, controlled and stringent conditions.

Herbal Supplements and Medicines Easily Available

The number of herbal supplements and medicines with easy availability is staggering. Wading through all the products and claims can feel impossible. You can purchase fresh and dried herbs as well as tablets, tinctures, teas, and powder forms without needing a prescription. Keep in mind, however, these are also then unregulated.

Effective Treatment for Chronic Medical Conditions

Some herbal practitioners have experienced a high percentage of effective herbal treatments for chronic ailments for individuals who didn't respond well to modern medicine. One example is the herbs and alternative remedies used to treat arthritis. Vioxx, a well-known prescription drug used to treat arthritis, was recalled due to an increased risk of cardiovascular complications. Alternative treatments for arthritis, on the other hand, have fewer side effects. Herbs often recommended as essential oil remedies include, lavender, myrrh and frankincense.

Disadvantages of Herbal Medicine

Herbs are not without disadvantages, and herbal medicine is not appropriate in all situations. There are a few of disadvantages to consider before turning to herbal medicine instead of modern medicine.

Emergency Conditions and Modern Medicine

Emergency conditions usually require modern medicine, such as a broken leg. A serious trauma, such as appendicitis that requires surgery or a heart attack are better served by modern medicine, diagnostic equipment, and treatments.

Lack of Dosage Standard

The temptation to self-medicate with herbal remedies can be a risk to your health. There is the danger of overdosing and causing great harm to yourself and your health.

Possible Toxicity from Wild Herbs

People who practice foraging wild herbs run the risk of misidentifying a plant. This terrible tragedy can easily happen since some plants often called doppelgangers are poisonous but look similar to perfectly safe herbs. It's always safest to grow your own herbs since they don't require a lot of space, money or care.

Medication Interactions

Herbal treatments can interact with medications. Nearly all herbs come with some warning, and many, like the herbs used for anxiety, such as Valerian and St. John's Wort, can interact with prescription medication like antidepressants. It's important to discuss your medications and herbal supplements with your doctor to avoid dangerous interactions as those listed by Karger Publishers.

There can be both herb-herb interactions as well as herb-prescription medication interactions.

Lack of Regulation

Since herbal products are not regulated, consumers run the risk of buying inferior quality herbs. The quality of herbal products may vary among batches, brands or manufacturers. Some herbal remedies are adulterated, especially those from China and other foreign countries. As a result, people have become ill. In 2017, a woman died after drinking an herbal tea blend from a San Francisco herbalist/trading company. Several others became violently ill.

Examples of Herb Derivative Drugs

Despite the criticism of herbal medicine among some mainstream medical professionals, it should be pointed out that many common drugs used today were derived from plant-based sources.

Willow Bark and Modern Aspirin

PennState Hershey (Milton S Hershey Medical Center) states, "Some studies show willow is as effective as aspirin for reducing pain and inflammation (but not fever), and at a much lower dose." The Science History Institute describes how the original aspirin was derived from willow bark. The salicin found in the white willow bark was the basis for creating the synthetic acetylsalicylic acid in aspirin. Willow bark also contains very powerful flavonoids (anti-inflammatory compounds). According to PennState Hershey, "White willow appears to bring pain relief more slowly than aspirin, but its effects may last longer."

- In 400 BC, Hippocrates prescribed willow bark to treat fever and inflammation.
- In Traditional Chinese Medicine (TCM), willow bark is used to treat pain associated with back problems, tendinitis, osteoarthritis, bursitis, and other inflammatory medical conditions.
- In Europe, willow bark has been used for centuries to treat pain and inflammation.

Foxglove and Digitalis

Another well-known herb derivative is the drug, Digitalis, that's prescribed for specific heart conditions. This drug is derived from an extract of the foxglove flowers. This cultivar is potentially toxic when used incorrectly. In an article, Flowers for the Heart, published by the American Chemical Society, foxglove (Digitalis purpurea) is the mother of a category of drugs that begin with the heart failure drug, Digitalis, often known as Digoxin and

Digitoxin. Foxglove was an ancient Roman herbal remedy. In the 1770s, Dr. William Withering began researching the flower's medicinal properties and discovered it contains cardiac glycosides.

The cardiac glycosides found in foxglove increase heart contractions. Digitalis was created using these glycosides to alleviate edema caused by congestive heart failure. According to Chris Kilham (The Medicine Hunter), the Digitalispatent expired. Today, the most commonly prescribed Digitalis type drug is marketed under the generic name, Digoxin and the brand name of Lonoxin.

Weigh the Advantages and Disadvantages of Herbal Medicine

The bottom line is that herbs are medicines, and like other medications, they have some advantages and disadvantages. Visiting a physician for the correct diagnosis, consulting an herbalist for the proper herb and dosage, and embracing modern medicine when it makes the most practical sense is the best of all possible worlds for anyone who wishes to use alternative and complementary therapies.

Herbal remedies have been in use for thousands of years by indigenous tribes and cultures like the Africans, Indians, and Chinese. Before we had synthetic medicine in the West, our apothecaries were similarly full of medicinal herbs and folk therapies.

While some of the more outlandish treatments were unfounded, many of the ingredients used by our ancestors have been proven to have therapeutic effects. What are the benefits of herbal medicine to our bodies, and how can this ancient wisdom help us today?

1. Fewer Side Effects

Did you know that 66 percent of adults in the United States use prescription drugs? Because prescription medication can be strong, it can be accompanied by significant side effects. Even common antibiotics that doctors often

prescribe can create gastrointestinal issues such as cramps and diarrhea as well as cause serious issues like heart palpitations or seizures.

In contrast, herbal medicines are generally gentler on the body. When taken at the recommended doses, natural treatments result in fewer side effects. By using a natural drug instead of a pharmaceutical one, you may be able to reduce your reliance on synthetic medications and avoid their possible side effects. If you are currently on prescription medications, be sure to check for drug interactions before taking herbal remedies.

2. More Accessible

Healthcare is getting increasingly expensive. Without insurance, it can cost a fortune just to see a general practitioner and a ton more to purchase the prescribed drugs. Since they are crafted from bountiful natural resources instead of being synthetically manufactured in a lab, herbal medicines are generally more affordable. This also means that they are easier for people to obtain than prescription medicine.

While you may like to consult an alternative medicine practitioner or a trained traditional healer before committing to an herbal treatment program, you do not have to navigate the prescription medication procedure created by Big Pharma. Once you know which herbs you need, you can purchase quality natural supplements easily from reputable online stores such as Ancient Bliss.

3. Holistic Health

Unlike many modern approaches that manage symptoms without addressing the root causes, traditional medicine is all about holistic health and maintaining balance within the body. This means that your alternative medicine practitioner will try to diagnose what your body is trying to tell you and formulate a treatment plan that is matched to your specific physical condition and requirements.

This journey of restoration is sometimes not simply one of the body but also of the mind and spirit. Although modern medicine understands the connection between psychological and physiological health, it can be difficult to find doctors who are able to guide their patients to full healing. Natural practitioners, however, are more open to integrating therapies to achieve true holistic health.

4. Empower Yourself

Herbal medicine offers you autonomy, whether you are disillusioned with the modern medical system or simply want to be more in control of your health. Traditional healers provide their patients with the knowledge to prevent illness, manage their chronic conditions, and promote healing. Once you are attuned to your body, you will be able to see and feel the effects of the herbal supplements that you take. Because you can witness the positive effects on your body when you make lifestyle changes for the better, you become more motivated and empowered to undertake the journey of healing. Your fate is no longer in the hands of pharmaceuticals and multimillion-dollar corporations. Your health is in your hands, and you are informed enough to make the right choices and give your body what it needs.

What is Ancient Bliss?

Created in 2021, Ancient Bliss is a young company that brings age-old wisdom into healthcare. Its founder, Macy Schuchart, is passionate about preventative healthcare and the herbal knowledge taught by the indigenous people of Hawaii. The brand prides itself on crafting herbal supplements that enhance not only your health but also your happiness. All the components used in Ancient Bliss supplements are extensively researched and meticulously prepared. Herbal ingredients can easily lose their potency when handled incorrectly. This is why some poor-quality supplements can have little or no effect. Ancient Bliss components are processed with the utmost care to ensure that they retain their potency and deliver the most beneficial results.

Although Ancient Bliss products are made of potent herbs instead of synthetic compounds, all their supplements are subject to rigorous testing and quality checks. This ensures that only the purest, safest, and most effective products leave their NSF GMP-registered dietary supplement manufacturing facility. In addition, composition, strength, quality, and purity details are clearly marked on every label.

As we look towards the oldest cultures in the world, we realize that they have so much knowledge to impart. Ancient Bliss combines indigenous wisdom with the strictest of manufacturing standards to produce supplements that give us the best of both worlds.

If you are tired of modern medicine and pharmaceutical drugs, consider the potential of traditional herbal medicine. Consult a doctor with experience in alternative medicine or speak to a trained traditional healer to find out how herbal medicine can heal you from the inside out.

Herbs & Herbal Medicine

What is herbal medicine?

Herbal medicine involves the use of natural and biologically based practices, interventions, and products to treat a variety of physical or emotional conditions. The World Health Organization estimates that 80% of the world's population, or about 4 billion people, currently use herbal medicine for some of their health care. Thirty percent of the US population uses herbal remedies each year. In the past 10 years, the use of high dose vitamins has grown over 130% and the use of herbal supplements has grown over 380%.

What are the benefits?

Many herbal preparations may have benefits. Others may have no obvious or proven benefit, and some, in fact, can be harmful. For most of the over-the-counter herbs you can buy, there is probably little risk of having a bad reaction if you follow the directions. For example, you might drink a cup of

peppermint tea to settle your stomach. At worst, it can help your upset stomach; at best, it can taste nice, warm you up, and not have any negative side effects! As another example, certain echinacea extracts are accepted in some countries for the treatment of colds and cold symptoms. While the vast majority of herbs do not have any significant side effects, however, caution should be used if you are considering adding herbal supplements in your life.

What are the risks?

Anything that can improve health or do the body good also has the potential to do harm. Just because something is 'natural' doesn't mean it's better for you. It doesn't mean that it's always safe. The US Food and Drug Administration (FDA), which regulates and insures the safety of prescription medicines, does not test herbs. It does not study their safety, benefits, or the effects of their short- and long-term use. In addition, there are no regulations or standards for preparing or packaging of herbal medicines, so their dosages and strengths may not be consistent. Just because one brand of St. John's Wort seems to have an effect for you does not mean the next bottle will have the same effect.

There can be problems and unwanted reactions when herbal medications and high dose vitamins are combined with prescription medicines – something that 20% of the US population does! The majority of these people rarely bother to tell their health care providers that they use supplements. Always let your doctor and other health care providers know what herbs you are taking, especially if they are going to be prescribing a new drug for you.

You are especially likely to have a bad reaction or a dangerous complication if you combine herbal supplements with these prescription medications, so be careful:

- Heart medications (especially Digitalis)
- Asthma medications (especially Theophylline)

- Blood thinners and anticoagulants (especially Coumadin)
- Seizure medications
- Antidepressants (especially MAOI)
- Blood pressure medications
- Immunosuppressants
- Antibiotics

It's hard to know what all these drugs are, and because of all the various names, it's difficult to always know if you're taking one. Be sure to talk about this with your health care providers. Certain herbs can also complicate existing conditions or problems, such as inflammation, allergies, pregnancy, or nursing. Some herbs – St. John's Wort for example – can make you more sensitive to the sun. In other words, with herbal preparations as well as for prescription medications, you need to be aware of possible adverse reactions. More importantly, some herbs on the market are found to be not recommended for human consumption. And as always, be safe and tell your prescribing physicians and other health care providers about all the herbal and vitamin supplements you are taking. Because the herbal industry is growing rapidly, there may be many irresponsible manufacturers looking to make a quick buck. Check with a qualified herbal practitioner to find out quality ratings for a manufacturer before you buy a product.

What to look for on the bottle?

Because herbal supplements are not monitored or regulated by the FDA, it's up to you to figure out what is in the bottle. Amounts of active ingredients can vary from one manufacturer to the next, and even from one batch to the next. In one recent study of Chinese herbal supplements, 25% contained other contaminating substances such as pesticides. Sometimes substances are added, but not mentioned on the label. In that same study, researchers found that cortisone, a powerful anti-inflammatory steroid, had been added to

increase the effect of the herb. To lessen your risk of getting a poor-quality herbal supplement, only buy from responsible companies that use high safety and quality control measures.

Look for the following information on the bottle:

- Expiration date
- NDA registration of manufacturing facility
- Lot/Batch number – companies that are concerned about quality and consistency will code each batch of a product with a specific number that indicates when the product was manufactured
- Recommended daily dosage - this can vary bottle to bottle and between manufacturers. Without a recommended daily dose, you run the risk of over - or under dosing
- Milligrams of each ingredient per dose - you need to know how much of each active ingredient is in each dose
- Independent laboratory verification of dosage
- Return policy - responsible companies will refund unsatisfied customers
- Side effects/precautions - this can be as important as daily dosage. Look for warnings, potential interactions and side effects, the same as you would with prescription and over the counter drugs
- Research on the product

What to look for in a practitioner

Some people choose to use an herbal practitioner (a person trained in herbal medicine) to advise them when using herbs either to treat a specific problem

or to enhance health in general. When choosing a practitioner, pick someone who is:

- Competent – like any profession, you should look for someone who has experience and shows a clear knowledge of what he or she is doing
- Licensed or trained
- A graduate from an accredited institution
- Recommended by his or her peers
- Aware of his or her limitations
- Willing to collaborate, communicate, and cooperate with your doctors and other health care providers
- Concerned and professional enough to carry liability insurance

Is there any research about using herbs and herbal medication after SCI and TBI?

Western scientists are just beginning to explore the uses of herbal remedies for a variety of conditions, so at the moment there isn't any specific research available for people with spinal cord or brain injuries. You may hear stories from other people about things they have tried and things they recommend. Be a smart consumer and make sure the information you are getting is accurate, reliable and factual.

How can I learn more?

If you are interested in using herbal preparations, you should be as informed as possible about the risks and benefits. Several resources are available on the Internet, and many books have been written. Check out the health section of a local bookstore for popular books, or go to a nearby medical library to see if there have been any studies published regarding herbs that interest you.

An interesting web resource is the National Center for Complementary and Integrative Health (NIH) at **nccih.nih.gov**. Here you can check to see if anything has been published on the topic, you're interested in. For example, if you want to learn about the use of herbs for people with spinal cord injuries, you can type in the key words to see what's available. (The web site offers a very long list of approved terms that you can use.) Once you've found some information, it's always a good idea to use caution, check around to see if the information is valid, reliable, and relevant to you, and also learn about the possible risks and benefits.

You can also check The PDR Family Guide to Natural Medicines and Healing Therapies (PDR Family Guides), published by the Medical Economics Company (the same company that publishes the Physician's Desk Reference for prescription drugs). Once you have some solid information and feel ready to consider an herbal remedy, the next step is to talk to your doctors, pharmacists, or other reliable health experts. With the right information, you can take charge and consider all your options most effectively.

Think before you leap

If you choose to use herbal supplements, do your homework. Be aware of the potential risks. If you have doubts about the safety or wisdom of using a particular herbal supplement, seek qualified advice. The things to keep in mind include:

- The lack of regulation of herbal supplements
- How they may react with prescription medications
- The wisdom of treating yourself without supervision

Don't expect supplements to take the place of a good diet, and don't assume all supplements are benign especially when mixed with the wrong prescription medication or taken in higher than recommended dosages.

Before you consider adding any herbal preparations to your daily routine, be sure to ask the following questions:

- Is it safe?
- Does it work?
- What's in the bottle?
- Is it worth it?
- How will it react with other herbs or with prescription drugs?
- Do I really know what I'm doing?

Remember, smart consumers let all their health care providers know what prescription and non- prescription medications and supplements they are taking. By using good common sense, herbal therapy can be safe and beneficial. If you have questions, ask someone you trust and who is qualified to give you advice about herbal supplements.

Herbal Medicine

An Introduction to Its History, Usage, Regulation, Current Trends, and Research Needs[178]

Herbal Medicine: A Growing Field With A Long Tradition

Traditional medicine is "the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, used in the maintenance of health and in the prevention, diagnosis, improvement or treatment of physical and mental illness" (World Health

[178] By Sissi Wachtel-Galor and Iris F. F. Benzie.

Organization, http://www.who.int/topics/traditional_medicine/en/).
There are many different systems of traditional medicine, and the philosophy and practices of each are influenced by the prevailing conditions, environment, and geographic area within which it first evolved (WHO 2005), however, a common philosophy is a holistic approach to life, equilibrium of the mind, body, and the environment, and an emphasis on health rather than on disease. Generally, the focus is on the overall condition of the individual, rather than on the particular ailment or disease from which the patient is suffering, and the use of herbs is a core part of all systems of traditional medicine (Engebretson 2002; Conboy et al. 2007; Rishton 2008; Schmidt et al. 2008).

Traditional Chinese medicine (TCM) is an important example of how ancient and accumulated knowledge is applied in a holistic approach in present day health care. TCM has a history of more than 3000 years (Xutian, Zhang, and Louise 2009). The book The Devine Farmer's Classic of Herbalism was compiled about 2000 years ago in China and is the oldest known herbal text in the world, though the accumulated and methodically collected information on herbs has been developed into various herbal pharmacopoeias and many monographs on individual herbs exist.

Diagnosis and treatment are based on a holistic view of the patient and the patient's symptoms, expressed in terms of the balance of yin and yang. Yin represents the earth, cold, and femininity, whereas yang represents the sky, heat, and masculinity. The actions of yin and yang influence the interactions of the five elements composing the universe: metal, wood, water, fire, and earth. TCM practitioners seek to control the yin and yang levels through 12 meridians, which bring and channel energy (Qi) through the body. TCM is a growing practice around the world and is used for promoting health as well as for preventing and curing diseases. TCM encompasses a range of practices, but herbal medicine is a core part (Engebretson 2002; Nestler 2002; Schmidt et al. 2008; Xutian, Zhang, and Louise 2009). Three of the top-selling botanical products, namely Ginkgo biloba, Allium sativum (garlic), and Panax ginseng, can be traced back to origins in TCM and are today used

to treat various diseases (Li, Jiang, and Chen 2008; Xutian, Zhang, and Louise 2009).

Over the past 100 years, the development and mass production of chemically synthesized drugs have revolutionized health care in most parts of the word. However, large sections of the population in developing countries still rely on traditional practitioners and herbal medicines for their primary care. In Africa up to 90% and in India 70% of the population depend on traditional medicine to help meet their health care needs. In China, traditional medicine accounts for around 40% of all health care delivered and more than 90% of general hospitals in China have units for traditional medicine (WHO 2005). However, use of traditional medicine is not limited to developing countries, and during the past two decades public interest in natural therapies has increased greatly in industrialized countries, with expanding use of ethnobotanicals. In the United States, in 2007, about 38% of adults and 12% of children were using some form of traditional medicine (Ernst, Schmidt, and Wider 2005; Barnes, Bloom, and Nahin 2008). According to a survey by the National Center for Complementary and Alternative Medicine (Barnes, Bloom, and Nahin 2008), herbal therapy or the usage of natural products other than vitamins and minerals was the most commonly used alternative medicine (18.9%) when all use of prayer was excluded. A survey conducted in Hong Kong in 2003 reported that 40% of the subjects surveyed showed marked faith in TCM compared with Western medicine (Chan et al. 2003). In a survey of 21,923 adults in the United States, 12.8% took at least one herbal supplement (Harrison et al. 2004) and in another survey (Qato et al. 2008), 42% of respondents used dietary or nutritional supplements, with multivitamins and minerals most commonly used, followed by saw palmetto, flax, garlic, and Ginkgo, at the time of the interview.

The most common reasons for using traditional medicine are that it is more affordable, more closely corresponds to the patient's ideology, allays concerns about the adverse effects of chemical (synthetic) medicines, satisfies a desire for more personalized health care, and allows greater public access to health information. The major use of herbal medicines is for health promotion and

therapy for chronic, as opposed to life-threatening, conditions. However, usage of traditional remedies increases when conventional medicine is ineffective in the treatment of disease, such as in advanced cancer and in the face of new infectious diseases. Furthermore, traditional medicines are widely perceived as natural and safe, that is, not toxic. This is not necessarily true, especially when herbs are taken with prescription drugs, over-the-counter medications, or other herbs, as is very common (Canter and Ernst 2004; Qato et al. 2008; Loya, Gonzalez-Stuart, and Rivera 2009; Cohen and Ernst 2010).

Regardless of why an individual uses it, traditional medicine provides an important health care service whether people have physical or financial access to allopathic medicine, and it is a flourishing global commercial enterprise (Engebretson 2002; Conboy et al. 2007; Evans et al. 2007). In 1990, expenditure associated with "alternative" therapy in the United States was estimated to be US$13.7 billion. This had doubled by the year 1997, with herbal medicines growing faster than any other alternative therapy (Eisenberg et al. 1998). In Australia, Canada, and the United Kingdom, annual expenditure on traditional medicine is estimated to be US$80 million, US$1 billion, and US$2.3 billion, respectively. These figures reflect the incorporation of herbal and other forms of traditional medicine into many health care systems and its inclusion in the medical training of doctors in many parts of the developed world.

The total commercial value of the ethnobotanicals market cannot be ignored. For example, in 1995, the total turnover of nonprescription-bound herbal medicines in pharmacies was equal to almost 30% of the total turnover of nonprescription-bound medicines in Germany, and in the United States, the annual retail sales of herbal products was estimated to be US$5.1 billion. In India, herbal medicine is a common practice, and about 960 plant species are used by the Indian herbal industry, of which 178 are of a high volume, exceeding 100 metric tons per year (Sahoo 2010). In China, the total value of herbal medicine manufactured in 1995 reached 17.6 billion Chinese yuan (approximately US$2.5 billion; Eisenberg et al. 1998; WHO 2001). This trend has continued, and annual revenues in Western Europe reached US$5

billion in 2003-2004 (De Smet 2005). In China, sales of herbal products totaled US$14 billion in 2005, and revenue from herbal medicines in Brazil was US$160 million in 2007 (World Health Organization; http://www.who.int/topics/traditional_medicine/en/). It is estimated that the annual worldwide market for these products approached US$60 billion (Tilburt and Kaptchuk 2008).

Currently, herbs are applied to the treatment of chronic and acute conditions and various ailments and problems such as cardiovascular disease, prostate problems, depression, inflammation, and to boost the immune system, to name but a few. In China, in 2003, traditional herbal medicines played a prominent role in the strategy to contain and treat severe acute respiratory syndrome (SARS), and in Africa, a traditional herbal medicine, the Africa flower, has been used for decades to treat wasting symptoms associated with HIV (De Smet 2005; Tilburt and Kaptchuk 2008). Herbal medicines are also very common in Europe, with Germany and France leading in over-the-counter sales among European countries, and in most developed countries, one can find essential oils, herbal extracts, or herbal teas being sold in pharmacies with conventional drugs.

Herbs and plants can be processed and can be taken in different ways and forms, and they include the whole herb, teas, syrup, essential oils, ointments, salves, rubs, capsules, and tablets that contain a ground or powdered form of a raw herb or its dried extract. Plants and herbs extract vary in the solvent used for extraction, temperature, and extraction time, and include alcoholic extracts (tinctures), vinegars (acetic acid extracts), hot water extract (tisanes), long-term boiled extract, usually roots or bark (decoctions), and cold infusion of plants (macerates). There is no standardization, and components of an herbal extract or a product are likely to vary significantly between batches and producers.

Plants are rich in a variety of compounds. Many are secondary metabolites and include aromatic substances, most of which are phenols or their oxygen-substituted derivatives such as tannins (Hartmann 2007; Jenke-Kodama,

Müller, and Dittmann 2008). Many of these compounds have antioxidant properties (see Chapter 2 on antioxidants in herbs and spices). Ethnobotanicals are important for pharmacological research and drug development, not only when plant constituents are used directly as therapeutic agents, but also as starting materials for the synthesis of drugs or as models for pharmacologically active compounds (Li and Vederas 2009). About 200 years ago, the first pharmacologically active pure compound, morphine, was produced from opium extracted from seeds pods of the poppy Papaver somniferum. This discovery showed that drugs from plants can be purified and administered in precise dosages regardless of the source or age of the material (Rousseaux and Schachter 2003; Hartmann 2007). This approach was enhanced by the discovery of penicillin (Li and Vederas 2009). With this continued trend, products from plants and natural sources (such as fungi and marine microorganisms) or analogs inspired by them have contributed greatly to the commercial drug preparations today. Examples include antibiotics (e.g., penicillin, erythromycin); the cardiac stimulant digoxin from foxglove (Digitalis purpurea); salicylic acid, a precursor of aspirin, derived from willow bark (Salix spp.); reserpine, an antipsychotic and antihypertensive drug from Rauwolfia spp.; and antimalarials such as quinine from Cinchona bark and lipid-lowering agents (e.g., lovastatin) from a fungus (Rishton 2008; Schmidt et al. 2008; Li and Vederas 2009). Also, more than 60% of cancer therapeutics on the market or in testing are based on natural products. Of 177 drugs approved worldwide for treatment of cancer, more than 70% are based on natural products or mimetics, many of which are improved with combinatorial chemistry. Cancer therapeutics from plants include paclitaxel, isolated from the Pacific yew tree; camptothecin, derived from the Chinese "happy tree" Camptotheca acuminata and used to prepare irinotecan and topotecan; and combretastatin, derived from the South African bush willow (Brower 2008). It is also estimated that about 25% of the drugs prescribed worldwide are derived from plants, and 121 such active compounds are in use (Sahoo et al. 2010). Between 2005 and 2007, 13 drugs derived from natural products were approved in the United States. More than 100 natural product-based drugs are in clinical studies (Li and

Vederas 2009), and of the total 252 drugs in the World Health Organization's (WHO) essential medicine list, 11% are exclusively of plant origin (Sahoo et al. 2010).

Herbal Medicine And Aging Population

Average life expectancy at birth has increased from around 41 years in the early 1950s to approaching 80 years in many developed countries. Consequently, the percentage of elderly people (65 years and above) in our populations is increasing. The graying of our populations brings an increasing burden of chronic age-related disease and dependency. Aging is associated with a progressive decline in physiological function and an increased risk of pathological changes leading to cancer, cardiovascular disease, dementia, diabetes, osteoporosis, and so on. Lifestyle factors such as nutrition or exercise play an important role in determining the quality and duration of healthy life and in the treatment of chronic diseases (Bozzetti 2003; Benzie and Wachtel-Galor 2009, 2010). It is most likely that there is no one cause of aging, and different theories of aging have been suggested over the years. Genetic factors are undoubtedly important, but among all the metabolic theories of aging, the oxidative stress theory is the most generally supported theory (Harman 1992; Beckman and Ames 1998). This theory postulates that aging is caused by accumulation of irreversible, oxidation-induced damage (oxidative stress) resulting from the interaction of reactive oxygen species with the DNA, lipid, and protein components of cells. However, even if the aging process itself is found to be unrelated to oxidative stress, highly prevalent chronic age-related diseases all have increased oxidative stress (Holmes, Bernstein, and Bernstein 1992; Beckman and Ames 1998; Finkel and Holbrook 2000; Rajah et al. 2009). Antioxidants in herbs may contribute at least part of their reputed therapeutic effects (Balsano and Alisi 2009; Tang and Halliwell 2010).

With the growing popularity of herbal medicine, the "traditional" ways of identification and preparation of herbs need to be replaced with more

accurate and reproducible methods (see Chapter 20) so as to ensure the quality, safety, and consistency of the product. Given the market value, potential toxicity and increasing consumer demand, particularly in the sick and elderly members of our populations, regulation of production and marketing of herbal supplements and medicines require attention.

Challenges And Regulations Of Herbal Medicines

WHO has recognized the important contribution of traditional medicine to provide essential care (World Health Organization, http://www.who.int/topics/traditional_medicine/en/). In 1989, the U.S. Congress established the Office of Alternative Medicine within the National Institutes of Health to encourage scientific research in the field of traditional medicine (http://nccam.nih.gov, last access: November 5, 2010), and the European Scientific Cooperative on Phytotherapy (ESCOP) was founded in 1989 with the aim of advancing the scientific status and harmonization of phytomedicines at the European level (www.escop.com, last access: November 5, 2010). This led to an increase in investment in the evaluation of herbal medicines. In the United States, the National Center for Complementary and Alternative Medicine at the National Institutes of Health spent approximately US$33 million on herbal medicines in the fiscal year 2005; in 2004, the National Canadian Institute committed nearly US$89 million for studying a range of traditional therapies. While this scale of investment is low compared to the total research and development expenses of the pharmaceutical industry, it nevertheless reflects genuine public, industry, and governmental interest in this area (Li and Vederas 2009).

With tremendous expansion in the interest in and use of traditional medicines worldwide, two main areas of concern arise that bring major challenges. These are international diversity and national policies regarding the regulation of the production and use of herbs (and other complementary

medicines) and their quality, safety, and scientific evidence in relation to health claims (WHO 2005; Sahoo et al. 2008).

International Diversity and National Policies

The diversity among countries with the long history and holistic approach of herbal medicines makes evaluating and regulating them very challenging. In addition, there are a great number of different herbs used. Legislative criteria to establish traditionally used herbal medicines as part of approved health care therapies faces several difficulties. In a survey conducted across 129 countries, WHO reported the following issues regarding herbal medicines: lack of research data, appropriate mechanisms for control of herbal medicines, education and training, expertise within the national health authorities and control agency, information sharing, safety monitoring, and methods to evaluate their safety and efficacy. The support needed from different countries includes information sharing on regulatory issues, workshops on herbal medicines safety monitoring, general guidelines on research and evaluation of herbal medicines, provision of databases, herbal medicine regulation workshops, and international meetings.

National policies are the basis for defining the role of traditional medicines in national health care programs, ensuring that the necessary regulatory and legal mechanisms are established for promoting and maintaining good practice, assuring the authenticity, safety, and efficacy of traditional medicines and therapies, and providing equitable access to health care resources and their resource information (WHO 2005). Another fundamental requirement is harmonization of the market for herbal medicines for industry, health professionals, and consumers (Mahady 2001). Herbal medicines are generally sold as food supplements, but a common regulatory framework does not exist in different countries. As a result, information on clinical indications for their use, efficacy, and safety are influenced by the traditional experience available in each place. A brief outline of the legislation in United States, Canada, and Europe is given in this

section, and could be used to guide the legal aspects of the herbal medicine industry in other countries.

In the United States, under the Dietary Supplement Health and Education Act (DSHEA) of 1994, any herb, botanical and natural concentrate, metabolite and constituent of extract, is classified as a dietary supplement. Dietary supplements do not need approval from the Food and Drug Administration (FDA) before they are marketed (FDA 2010). Under DSHEA, herbal medicines, which are classified as dietary supplements, are presumed safe, and the FDA does not have the authority to require them to be approved for safety and efficacy before they enter the market, which is the case for drugs. This means that the manufacturer of the herbal medicine is responsible for determining that the dietary supplements manufactured or distributed are indeed safe and that any representations or claims made about them are sustained by adequate evidence to show that they are not false or misleading. However, a dietary supplement manufacturer or distributor of a supplement with a "new dietary ingredient," that is, an ingredient that was not marketed in the United States before October 1994, may be required to go through premarket review for safety data and other information. Also, all domestic and foreign companies that manufacture package labels or hold dietary supplements must follow the FDA's current good manufacturing practice (GMP) regulations, which outline procedures for ensuring the quality of supplements intended for sale (FDA 2010; Gao 2010). Regarding contamination, the FDA has not issued any regulations addressing safe or unsafe levels of contaminants in dietary supplements but has set certain advisory levels in other foods (FDA 2010; Gao 2010). A product being sold as an herbal supplement (dietary supplement) in the United States cannot suggest on its label or in any of its packaging that it can diagnose, treat, prevent, or cure a specific disease or condition without specific approval from the FDA. A claim also cannot suggest an effect on an abnormal condition associated with a natural state or process, such as aging (FDA 2010; Gao 2010).

In Canada, herbal remedies must comply with the Natural Health Products Regulations (Health Canada 2003). According to these regulations, all natural products require a product license before they can be sold in Canada. In order to be granted a license, detailed information on the medicinal ingredients, source, potency, nonmedicinal ingredients, and recommended use needs to be furnished. Once a product has been granted a license, it will bear the license number and follow standard labeling requirements to ensure that consumers can make informed choices. A site license is also needed for those who manufacture, pack, label, and import herbal medicines. In addition, GMPs must be employed to ensure product safety and quality. This requires that appropriate standards and practices regarding the manufacture, storage, handling, and distribution of natural health products be met. The GMPs are designed to be outcome based, ensuring safe and high-quality products, while giving the flexibility to implement quality control systems appropriate to the product line and business. Product license holders are required to monitor all adverse reactions associated with their product and report serious adverse reactions to the Canadian Department of Health.

In Europe, the European Directive 2004/24/EC released in 2004 by the European Parliament and by the Council of Europe provides the guidelines for the use of herbal medicines (Calapai 2008). The directive establishes that herbal medicines released on the market need authorization by the national regulatory authorities of each European country and that these products must have a recognized level of safety and efficacy (Calapai 2008). The registration of herbal medicinal products needs sufficient evidence for the medicinal use of the product throughout a period of at least 30 years in the European Union (EU), at least 15 years within the EU, and 15 years elsewhere for products from outside the EU. With regard to the manufacturing of these products and their quality, products must fulfill the same requirements as applications for a marketing authorization. Information is based on the availability of modern science–based public monographs in the European Pharmacopeia and their equivalents developed by the pharmaceutical industry. The standards put forward allow not only to define the quality of

products but also to eliminate harmful compounds, adulteration, and contamination. Within the EU, a number of committees were set up to attempt and standardize the information and guidelines related to herbal medicines. A variety of materials has been produced, such as monographs on herbs and preparations, guidelines on good agricultural and collection practice for starting materials of herbal origin, and guidelines on the standardization of applications and setting up pragmatic approaches for identification and quantitative determination of herbal preparations and their complex compositions (Routledge 2008; Vlietinck, Pieters, and Apers 2009).

Quality, Safety, and Scientific Evidence

Herbal medicine has been commonly used over the years for treatment and prevention of diseases and health promotion as well as for enhancement of the span and quality of life. However, there is a lack of a systematic approach to assess their safety and effectiveness. The holistic approach to health care makes herbal medicine very attractive to many people, but it also makes scientific evaluation very challenging because so many factors must be taken into account. Herbal medicines are in widespread use and although many believe herbal medicines are safe, they are often used in combination and are drawn from plant sources with their own variability in species, growing conditions, and biologically active constituents. Herbal extracts may be contaminated, adulterated, and may contain toxic compounds. The quality control of herbal medicines has a direct impact on their safety and efficacy (Ernst, Schmidt, and Wider 2005; Ribnicky et al. 2008). But, there is little data on the composition and quality of most herbal medicines not only due to lack of adequate policies or government requirements but also due to a lack of adequate or accepted research methodology for evaluating traditional medicines (WHO 2001; Kantor 2009). In addition, there is very little research on whole herbal mixtures because the drug approval process does not accommodate undifferentiated mixtures of natural chemicals. To isolate each

active ingredient from each herb would be immensely time-consuming at a high cost, making it not cost-effective for manufacturers (Richter 2003).

Another problem is that despite the popularity of botanical dietary and herbal supplements, some herbal products on the market are likely to be of low quality and suspect efficacy, even if the herb has been shown to have an effect in controlled studies using high-quality product. There is a belief that herbs, as natural products, are inherently safe without side effects and that efficacy can be obtained over a wide range of doses. Although herbs may well have undesirable side effects, there are no set "doses," and herb–drug or herb–herb interactions are possible.

A major hypothetical advantage of botanicals over conventional single-component drugs is the presence of multiple active compounds that together can provide a potentiating effect that may not be achievable by any single compound. This advantage presents a unique challenge for the separation and identification of active constituents. Compounds that are identified by activity-guided fractionation must be tested in appropriate animal models to confirm in vivo activity. Ideally, the composition of the total botanical extract must be standardized and free of any potential hazards, and plants should be grown specifically for the production of botanical extracts under controlled conditions and originate from a characterized and uniform genetic source with a taxonomic record of the genus, species, and cultivar or other additional identifiers. Records should be maintained for the source of the seed, locations and conditions of cultivation, and exposure to possible chemical treatments such as pesticides. Because the environment can significantly affect phytochemical profiles and the efficacy of the botanical end product, botanical extracts can vary from year to year and may be significantly affected by temperature, drought, or flood as well as by geographic location. Therefore, biochemical profiling must be used to ensure that a consistent material is used to produce a botanical. The concentration step can also be challenging, and the process to concentrate active compounds to a sufficient level can negatively affect their solubility and bioavailability. Therefore, improving efficacy by increasing concentration can be counterproductive,

and the use of solubilizers and bioenhancers needs to be considered just as for drugs (Ribnicky et al. 2008). However, there are major challenges to achieving this.

Although in theory botanicals should be well characterized and herbal supplements should be produced to the same quality standards as drugs, the situation in practice is very different from that of a pure drug. Herbs contain multiple compounds, many of which may not be identified and often there is no identifier component, and chemical fingerprinting is in its early stages and is lacking for virtually all herbs (see Chapter 20). This makes standardization of botanicals difficult, although some can be produced to contain a standardized amount of a key component or class of components, such as ginsenosides for ginseng products or anthocyanins for bilberry products (see Chapter 4 on bilberry and Chapter 8 on ginseng in this volume). However, even when such key compounds have been identified and a standard content is agreed or suggested, there is no guarantee that individual commercial products will contain this.

Another interesting point to consider is that herbal materials for commercial products are collected from wild plant populations and cultivated medicinal plants. The expanding herbal product market could drive overharvesting of plants and threaten biodiversity. Poorly managed collection and cultivation practices could lead to the extinction of endangered plant species and the destruction of natural resources. It has been suggested that 15,000 of 50,000–70,000 medicinal plant species are threatened with extinction (Brower 2008). The efforts of the Botanic Gardens Conservation International are central to the preservation of both plant populations and knowledge on how to prepare and use herbs for medicinal purposes (Brower 2008; Li and Vederas 2009).

Research Needs In The Field Of Herbal Medicines

Research needs in the field of herbal medicines are huge, but are balanced by the potential health benefits and the enormous size of the market. Research into the quality, safety, molecular effects, and clinical efficacy of the

numerous herbs in common usage is needed. Newly emerging scientific techniques and approaches, many of which are mentioned in this book, provide the required testing platform for this. Genomic testing and chemical fingerprinting techniques using hyphenated testing platforms are now available for definitive authentication and quality control of herbal products. They should be regulated to be used to safeguard consumers, but questions of efficacy will remain unless and until adequate amounts of scientific evidence accumulate from experimental and controlled human trials (Giordano, Engebretson, and Garcia 2005; Evans 2008; Tilburt and Kaptchuk 2008). Evidence for the potential protective effects of selected herbs is generally based on experiments demonstrating a biological activity in a relevant in vitro bioassay or experiments using animal models. In some cases, this is supported by both epidemiological studies and a limited number of intervention experiments in humans (WHO 2001). In general, international research on traditional herbal medicines should be subject to the same ethical requirements as all research related to human subjects, with the information shared between different countries. This should include collaborative partnership, social value, scientific validity, fair subject selection, favorable risk-benefit ratio, independent review, informed consent, and respect for the subjects (Giordano, Engebretson, and Garcia 2005; Tilburt and Kaptchuk 2008). However, the logistics, time, and cost of performing large, controlled human studies on the clinical effectiveness of an herb are prohibitive, especially if the focus is on health promotion. Therefore, there is an urgent need to develop new biomarkers that more clearly relate to health (and disease) outcomes. Predictor biomarkers and subtle but detectable signs of early cellular change that are mapped to the onset of specific diseases are needed.

Research is needed also to meet the challenges of identifying the active compounds in the plants, and there should be research-based evidence on whether whole herbs or extracted compounds are better. The issue of herb–herb and herb–drug interactions is also an important one that requires increased awareness and study, as polypharmacy and polyherbacy are

common (Canter and Ernst 2004; Qato et al. 2008; Loya, Gonzalez-Stuart, and Rivera 2009; Cohen and Ernst 2010). The use of new technologies, such as nanotechnology and novel emulsification methods, in the formulation of herbal products, will likely affect bioavailability and the efficacy of herbal components, and this also needs study. Smart screening methods and metabolic engineering offer exciting technologies for new natural product drug discovery. Advances in rapid genetic sequencing, coupled with manipulation of biosynthetic pathways, may provide a vast resource for the future discovery of pharmaceutical agents (Li and Vederas 2009). This can lead to reinvestigation of some agents that failed earlier trials and can be restudied and redesigned using new technologies to determine whether they can be modified for better efficacy and fewer side effects. For example, maytansine isolated in the early 1970s from the Ethiopian plant Maytenus serrata, looked promising in preclinical testing but was dropped in the early 1980s from further study when it did not translate into efficacy in clinical trials; later, scientists isolated related compounds, ansamitocins, from a microbial source. A derivative of maytansine, DM1, has been conjugated with a monoclonal antibody and is now in trials for prostate cancer (Brower 2008).

Conclusions

Plants, herbs, and ethnobotanicals have been used since the early days of humankind and are still used throughout the world for health promotion and treatment of disease. Plants and natural sources form the basis of today's modern medicine and contribute largely to the commercial drug preparations manufactured today. About 25% of drugs prescribed worldwide are derived from plants. Still, herbs, rather than drugs, are often used in health care. For some, herbal medicine is their preferred method of treatment. For others, herbs are used as adjunct therapy to conventional pharmaceuticals. However, in many developing societies, traditional medicine of which herbal medicine is a core part is the only system of health care available or affordable. Regardless of the reason, those using herbal medicines should be assured that

the products they are buying are safe and contain what they are supposed to, whether this is a particular herb or a particular amount of a specific herbal component. Consumers should also be given science-based information on dosage, contraindications, and efficacy. To achieve this, global harmonization of legislation is needed to guide the responsible production and marketing of herbal medicines. If sufficient scientific evidence of benefit is available for an herb, then such legislation should allow for this to be used appropriately to promote the use of that herb so that these benefits can be realized for the promotion of public health and the treatment of disease.

Chemical Components Of Cannabis

Cannabis (Cannabis sativa) is an herbal drug. It contains chemicals called cannabinoids, including delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD).

The cannabinoids in cannabis work by binding to specific sites in the brain and on the nerves. There are over 100 cannabinoids in cannabis, but THC and CBD are the most well-studied. Cannabinoids are found in the highest levels in the leaves and flowers of the plant.

Cannabis is commonly used as a recreational drug. People also commonly use cannabis for multiple sclerosis (MS) and nerve pain. It is also used for nausea, vomiting, migraine, and many other conditions, but there is no good scientific evidence to support theseconditions, but there is no good scientific evidence to support these uses. There is also no good evidence to support using cannabis for COVID-19. Don't confuse cannabis with hemp. Hemp contains very low levels of THC, less than 0.3% according to legal standards. Both hemp and cannabis also contain cannabinoids such as CBD, cannabidivarin (CBDV), cannabigerol (CBG), and others. Unlike hemp, cannabis is illegal under federal law in the US. It is classified as a Schedule I controlled substance. But some states have legalized or decriminalized recreational use.

Use of Cannabis

- Multiple sclerosis (MS). Spraying a cannabis extract spray (Sativex) under the tongue seems to improve symptoms of MS such as muscle spasms and nerve pain. This product is not available in the US. In the UK and Canada, this product is a prescription drug.
- Nerve pain. Smoking cannabis seems to moderately reduce nerve pain caused by HIV and other conditions. The pain relief lasts for about 2 hours.

There is interest in using cannabis for a number of other purposes, but there isn't enough reliable information to say whether it might be helpful.

Khat

As a medicine, khat leaf is used for **diabetes, muscle strength, to lower the need for food and sleep, and to increase aggression**, but there is no good scientific evidence to support these uses. Khat is a plant. The leaves and stem have been traditionally chewed by people in East African countries as a recreational drug to elevate mood (as a euphoriant).

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The World Health Organization (WHO) lists khat as a drug that creates "dependence" in people, meaning it produces a continuing desire to keep using it. It is banned in countries like the US and Canada. However, it is legal in some European countries. Khat is used by many people from East Africa and Yemen. Khat contains stimulants similar to amphetamines. **When taken by mouth**: Khat is **POSSIBLY UNSAFE** for most people. Although it isn't associated with physical addiction, it can cause psychological dependence. When people try to stop chewing khat, they may experience withdrawal.

Withdrawal symptoms include irritation, nervousness, depression, loss of appetite, trembling, feeling hot, sleep problems, and nightmares.

Khat can also cause many side effects including mood changes, hyperactivity, aggressiveness, anxiety, depression, high blood pressure, manic behavior, paranoia, and psychosis. Trouble sleeping, loss of energy, and lack of concentration usually follow after use of khat. Severe side effects from khat include migraine, bleeding in the brain, heart attack, changes to blood vessels, lung problems, liver damage, and changes in sex drive and sexual performance.

Chewing khat leaves has led to infections that can cause problems such as pain below the ribs, changes in white blood cells, and an enlarged liver. This is probably from contamination of fresh, damp khat leaves.

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Pregnancy and breast-feeding: It is **POSSIBLY UNSAFE** to take khat by mouth if you are pregnant. Khat may lower birth weight and cause problems for the mother. It is also **POSSIBLY UNSAFE** to take khat by mouth if you are breast-feeding. Some of the active chemicals it contains can pass into breast-milk and reduce the amount of breast-milk produced. Avoid use.

Depression: Chewing khat might make people feel depressed. This might be especially unsafe in people who already have depression. Avoid use.

Diabetes: Using khat seems to increase levels of blood sugar in people with diabetes. Avoid use.

High blood pressure: Khat might increase blood pressure. This might be especially unsafe in people who already have high blood pressure. Avoid use.

Interactions

Major Interaction

Do not take this combination

- **Ampicillin interacts with KHAT**

Khat might reduce how much ampicillin the body absorbs. This might decrease how well ampicillin works. Separate dose times by at least 2 hours.

Moderate Interaction

Be cautious with this combination

- **Medications for high blood pressure (Antihypertensive drugs) interacts with KHAT**

Khat might increase blood pressure. By increasing blood pressure, khat might decrease the effectiveness of medications for high blood pressure. Some medications for high blood pressure include captopril (Capoten), enalapril (Vasotec), losartan (Cozaar), valsartan (Diovan), diltiazem (Cardizem), amlodipine (Norvasc), hydrochlorothiazide (HydroDiuril), furosemide (Lasix), and many others.

- **Stimulant drugs interact with KHAT**

Stimulant drugs speed up the nervous system. By speeding up the nervous system, stimulant medications can make you feel jittery and speed up your heartbeat. Khat might also speed up the nervous system. Taking khat with stimulant drugs might cause serious problems including increased heart rate and high blood pressure. Avoid taking stimulant drugs along with khat.

Some stimulant drugs include diethylpropion (Tenuate), epinephrine, phentermine (Ionamin), pseudoephedrine (Sudafed), and many others.

- **Medications for mental conditions (Antipsychotic drugs) interacts with KHAT**

Khat may reduce the effects of antipsychotic drugs. Until more is known, do not use khat if you are taking an antipsychotic agent.

- **Warfarin (Coumadin) interacts with KHAT**

Warfarin is a blood thinner. Chewing khat might decrease the effects of warfarin. This might increase the risk for clotting. Until more is known, don't chew khat if you take warfarin.

Dosing

The appropriate dose of khat depends on several factors such as the user's age, health, and several other conditions. At this time there is not enough scientific information to determine an appropriate range of doses for khat. Keep in mind that natural products are not always necessarily safe and dosages can be important. Be sure to follow relevant directions on product labels and consult your pharmacist or physician or other healthcare professional before using.

Benefits of Herbal Medicine

Herbal remedies have been used for huge number of years like conventional medicine. In fact, herbal medicine is the establishment of modern medicine. This medicine also has very less herbal side effects. Tragically, herbal medicine usually takes a backseat when compared with conventional drug therapy, which is a shame since herbal remedies offer lots of health benefits .In today's world, Herbal medicine most part used to treating intense and constant sicknesses.More affordable than conventional medicine. Easier to obtain than prescription medicine.

- Stabilizes hormones and metabolism.
- Natural healing.
- Strength in immune system.
- Fewer side effects.
- cost effective.

Some Popular Medicinal Herbal Plants

For centuries, cultures around the world have relied on traditional herbal medicine to meet their healthcare needs.

Despite medical and technological advancements of the modern era, the global demand for herbal remedies is on the rise. In fact, it's estimated that this industry grosses about $60 billion annually, Some natural remedies may be more affordable and accessible than conventional medicines, and many people prefer using them because they align with their personal health ideologies, all the same, you may wonder whether herbal options are effective.

Here are 9 of the world's most popular herbal medicines, including their main benefits, uses, and relevant safety information.

1. Echinacea

Echinacea, or coneflower, is a flowering plant and popular herbal remedy.

Originally from North America, it has long been used in Native American practices to treat a variety of ailments, including wounds, burns, toothaches, sore throat, and upset stomach (2Trusted Source).

Most parts of the plant, including the leaves, petals, and roots, can be used medicinally though many people believe the roots have the strongest effect.

Echinacea is usually taken as a tea or supplement but can also be applied topically.

Today, it's primarily used to treat or prevent the common cold, though the science behind this isn't particularly strong.

One review in over 4,000 people found a potential 10–20% reduced risk of colds from taking echinacea, but there's little to no evidence that it treats the cold after you have caught it.

Though insufficient data exists to evaluate the long-term effects of this herb, short-term use is generally considered safe. That said, side effects like nausea, stomach pain, and skin rash have occasionally been reported.

You can find echinacea in most supermarkets and health food stores, though you can also buy it online, Echinacea is a flowering plant frequently used to

treat and prevent the common cold. Research is limited, but it may reduce your risk of catching a cold by up to 20%.

2. Ginseng

Ginseng is a medicinal plant whose roots are usually steeped to make a tea or dried to make a powder.

It's frequently utilized in traditional Chinese medicine to reduce inflammation and boost immunity, brain function, and energy levels.

Several varieties exist, but the two most popular are the Asian and American types, Panax ginseng and Panax quinquefolius, respectively. American ginseng is thought to cultivate relaxation, while Asian ginseng is considered more stimulating. Although ginseng has been used for centuries, modern research supporting its efficacy is lacking, several test-tube and animal studies suggest that its unique compounds, called ginsenosides, boast neuroprotective, anticancer, antidiabetes, and immune-supporting properties. Nonetheless, human research is needed.

Short-term use is considered relatively safe, but ginseng's long-term safety remains unclear. Potential side effects include headaches, poor sleep, and digestive issues.Ginseng is available at most health food stores, as well as online. Ginseng is an herbal remedy frequently utilized in traditional Chinese medicine to boost immunity, brain function, and energy levels. However, human studies are lacking.

3. Ginkgo biloba

Ginkgo biloba, also known simply as ginkgo, is an herbal medicine derived from the maidenhair tree, Native to China, ginkgo has been used in traditional Chinese medicine for thousands of years and remains a top-selling herbal supplement today. It contains a variety of potent antioxidants that are thought to provide several benefits. The seeds and leaves are traditionally used to make teas and tinctures, but most modern applications use leaf extract.

Some people also enjoy eating the raw fruit and toasted seeds. However, the seeds are mildly toxic and should only be eaten in small quantities, if at all. Ginkgo is said to treat a wide range of ailments, including heart disease, dementia, mental difficulties, and sexual dysfunction. Yet, studies have not proven it effective for any of these conditions, Although it's well tolerated by most people, possible side effects include headache, heart palpitations, digestive issues, skin reactions, and an increased risk of bleeding, You can shop for ginkgo online or at supplement shops. Gingko is traditionally used to treat numerous illnesses, including heart disease, dementia, and sexual dysfunction, but modern research has yet to prove its efficacy for any of these purposes.

4. Elderberry

Elderberry is an ancient herbal medicine typically made from the cooked fruit of the Sambucus nigra plant. It has long been used to relieve headaches, nerve pain, toothaches, colds, viral infections, and constipation. Today, it's primarily marketed as a treatment for symptoms associated with the flu and common cold. Elderberry is available as a syrup or lozenge, although there's no standard dosage. Some people prefer to make their own syrup or tea by cooking elderberries with other ingredients, such as honey and ginger. Test-tube studies demonstrate that its plant compounds have antioxidant, antimicrobial, and antiviral properties, but human research is lacking.

While a few small human studies indicate that elderberry shortens the duration of flu infections, larger studies are needed to determine if it's anymore effective than conventional antiviral therapies. Short-term use is considered safe, but the unripe or raw fruit is toxic and may cause symptoms like nausea, vomiting, and diarrhea.Keep an eye out for this herbal remedy when you're next in a health shop, or buy it online. Elderberry is used to treat cold and flu symptoms, with some research suggesting that it may be at least mildly effective. While cooked elderberry is safe, it's toxic if eaten raw or unripe.

5. St. John's wort

St. John's wort (SJW) is an herbal medicine derived from the flowering plant Hypericum perforatum. Its small, yellow flowers are commonly used to make teas, capsules, or extracts. Its use can be traced back to ancient Greece, and SJW is still frequently prescribed by medical professionals in parts of Europe.

Historically, it was utilized to aid wound healing and alleviate insomnia, depression, and various kidney and lung diseases. Today, it's largely prescribed to treat mild to moderate depression.

Many studies note that short-term use of SJW is as effective as some conventional antidepressants. However, there's limited data on long-term safety or effectiveness for those with severe depression or suicidal thoughts. SJW has relatively few side effects but may cause allergic reactions, dizziness, confusion, dry mouth, and increased light sensitivity. It also interferes with numerous medications, including antidepressants, birth control, blood thinners, certain pain medications, and some types of cancer treatments. Particular drug interactions could be fatal, so if you take any prescription medications, consult your healthcare provider prior to using SJW. If you decide to try it out, SJW is available online and in numerous stores. St. John's wort may treat mild to moderate depression. Yet, you may need to practice caution or avoid it because it interferes with several conventional medicines.

6. Turmeric

Turmeric (Curcuma longa) is an herb that belongs to the ginger family, used for thousands of years in cooking and medicine alike, it has recently garnered attention for its potent anti-inflammatory properties.

Curcumin is the major active compound in turmeric. It may treat a host of conditions, including chronic inflammation, pain, metabolic syndrome, and anxiety. In particular, multiple studies reveal that supplemental doses of curcumin are as effective for alleviating arthritis pain as some common anti-

inflammatory medications, such as ibuprofen. Both turmeric and curcumin supplements are widely considered safe, but very high doses may lead to diarrhea, headache, or skin irritation. You can also use fresh or dried turmeric in dishes like curries, although the amount you typically eat in food isn't likely to have a significant medicinal its effect,Instead, consider purchasing supplements online.Turmeric is renowned for its anti-inflammatory benefits and may be especially effective for treating pain associated with arthritis.

7. Ginger

Ginger is a commonplace ingredient and herbal medicine. You can eat it fresh or dried, though its main medicinal forms are as a tea or capsule. Much like turmeric, ginger is a rhizome, or stem that grows underground. It contains a variety of beneficial compounds and has long been used in traditional and folk practices to treat colds, nausea, migraines, and high blood pressure.

Its best-established modern use is for relieving nausea associated with pregnancy, chemotherapy, and medical operations. Furthermore, test-tube and animal research reveals potential benefits for treating and preventing illnesses like heart disease and cancer, although the evidence is mixed.

Some small human studies propose that this root may reduce your risk of blood clot formation, although it hasn't been proven any more effective than conventional therapies. Ginger is very well tolerated. Negative side effects are rare, but large doses may cause a mild case of heartburn or diarrhea. You can find ginger supplements at your local supermarket and online. Ginger contains several active plant compounds and may treat a variety of conditions, although it's best known for relieving nausea.

8. Valerian

Sometimes referred to as "nature's Valium," valerian is a flowering plant whose roots are thought to induce tranquility and a sense of calm, Valerian root may be dried and consumed in capsule form or steeped to make tea. Its use can be traced back to ancient Greece and Rome, where it was taken to

relieve restlessness, tremors, headaches, and heart palpitations. Today, it's most often utilized to treat insomnia and anxiety. Still, evidence supporting these uses isn't particularly strong. One review found valerian to be somewhat effective for inducing sleep, but many of the study results were based on subjective reports from participants.

Valerian is relatively safe, though it may cause mild side effects like headaches and digestive issues. You shouldn't take it if you're on any other sedatives due to the risk of compounding effects, such as excessive malaise and drowsiness, Look for this herb online, as well as various health food stores.Valerian root is often used as a natural sleep and anti-anxiety aid, though evidence supporting its efficacy is weak.

9. Chamomile

Chamomile is a flowering plant that also happens to be one of the most, popular herbal medicines in the world. The flowers are most often used to make tea, but the leaves may also be dried and used for making tea, medicinal extracts, or topical compresses.

For thousands of years, chamomile has been used as a remedy for nausea, diarrhea, constipation, stomach pain, urinary tract infections, wounds, and upper respiratory infections,This herb packs over 100 active compounds, many of which are thought to contribute to its numerous benefits. Several test-tube and animal studies have demonstrated anti-inflammatory, antimicrobial, and antioxidant activity, though insufficient human research is available.Yet, a few small human studies suggest that chamomile treats diarrhea, emotional disturbances as well as cramping associated with premenstrual syndrome (PMS), and pain and inflammation linked to osteoarthritis.

Chamomile is safe for most people but may cause an allergic reaction especially if you're allergic to similar plants, such as daisies, ragweed, or marigolds. Despite limited scientific evidence, chamomile remains one of the

most popular herbal medicines in the world and is used to treat a broad range of ailments.

Conclusion

Many people around the world rely on herbal medicines to treat health conditions. Countless varieties exist, but some of the most popular include gingko, ginseng, ginger, turmeric, and chamomile. Though their applications tend to be very broad, many of their supposed benefits lack strong scientific evidence. Keep in mind that, like conventional drugs, herbal remedies may interact negatively with other medicines. Thus, it's recommended that you consult your healthcare provider before adding a new herb or supplement to your routine.

Side Effects Of Cannabis

Cannabis is commonly used as a **recreational drug**. People also commonly use cannabis for multiple sclerosis (MS) and nerve pain. It is also used for nausea, vomiting, migraine, and many other conditions, but there is no good scientific evidence to support these uses.

over 100 cannabinoids in cannabis, but THC and CBD are the most well-studied. Cannabinoids are found in the highest levels in the leaves and flowers of the plant. Cannabis is commonly used as a recreational drug. People also commonly use cannabis for multiple sclerosis (MS) and nerve pain. It is also used for nausea, vomiting, migraine, and many other conditions, but there is no good scientific evidence to support these uses. There is also no good evidence to support using cannabis for COVID-19.

Don't confuse cannabis with hemp. Hemp contains very low levels of THC, less than 0.3% according to legal standards. Both hemp and cannabis also contain cannabinoids such as CBD, cannabidivarin (CBDV), cannabigerol (CBG), and others. Unlike hemp, cannabis is illegal under federal law in the

US. It is classified as a Schedule I controlled substance. But some states have legalized or decriminalized recreational use.

- Multiple sclerosis (MS). Spraying a cannabis extract spray (Sativex) under the tongue seems to improve symptoms of MS such as muscle spasms and nerve pain. This product is not available in the US. In the UK and Canada, this product is a prescription drug.

- Nerve pain. Smoking cannabis seems to moderately reduce nerve pain caused by HIV and other conditions. The pain relief lasts for about 2 hours.

When taken by mouth: Cannabis is possibly unsafe when used in large amounts or long-term. Edible cannabis containing 50 mg or more of THC has been linked with serious side effects. Regularly taking large amounts of cannabis might cause cannabinoid hyperemesis syndrome (CHS). CHS leads to severe nausea and vomiting that doesn't respond to typical

anti-nausea drugs. Also, using cannabis for at least 1-2 weeks can cause dependence.

When sprayed into the mouth: A specific cannabis extract (Sativex) is possibly safe. This is a prescription-only product in the UK and Canada. It is not approved in the US.

When inhaled: Cannabis is possibly unsafe when used in large amounts or long-term. Smoking or vaping cannabis can cause breathing problems. Vaping products containing THC have been linked to serious lung injury. Regularly smoking cannabis may cause CHS and/or dependence.

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Breast-feeding: Using cannabis is likely unsafe while breast-feeding. The chemicals in cannabis pass into breastmilk and stay in breastmilk for longer than 6 weeks, even after cannabis use has been stopped. These chemicals might slow down the development of the baby. Avoid all cannabis use if planning to breastfeed.

Bipolar disorder: Using cannabis might make manic symptoms worse in people with bipolar disorder.

Heart disease: Cannabis might cause fast heartbeat and high blood pressure. It might also increase the risk of having heart attack.

Allergies to fruits and vegetables: Cannabis might increase the risk of an allergic reaction in people with allergies to foods like tomatoes, bananas, and citrus fruit.

Depression: Using cannabis might increase the risk for depression. It can also worsen symptoms of

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Depression: Using cannabis might increase the risk for depression. It can also worsen symptoms of depression and increase thoughts about suicide in those who already have depression.

Diabetes: Cannabis use might make it harder to control blood sugar levels. It might also increase the risk for long-term complications from diabetes. Until more is known, be cautious using cannabis.

Epilepsy: High doses of cannabis might cause seizures in people with epilepsy. There have been several reports where high doses of cannabis have caused seizures.

Liver disease: It is unclear if cannabis worsens chronic liver disease. Until more is known, be cautious using cannabis.

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Lung diseases: Cannabis can make lung problems worse. Regular use might increase the risk of lung cancer. Some people develop a type of lung disease called emphysema.

Schizophrenia: Using cannabis might make symptoms of schizophrenia worse.

Quitting smoking: Using cannabis might make it harder to quit smoking.

Stroke: Using cannabis after having a stroke might increase the risk of having a second stroke.

Surgery: Cannabis affects the central nervous system. It might slow the central nervous system too much when combined with anesthesia and other medications during and after surgery. Stopusing cannabis at least 2 weeks before a scheduled surgery.

- **Sedative medications (Barbiturates) interact with CANNABIS**

Cannabis might cause sleepiness and slowed breathing. Some medications, called sedatives, can also cause sleepiness and slowed breathing. Taking cannabis with sedative medications might cause breathing problems and/or too much sleepiness.

- **Sedative medications (CNS depressants) interact with CANNABIS**

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- **Theophylline interacts with CANNABIS**

Taking cannabis might decrease the effects of theophylline. But there isn't enough information to know if this is a big concern.

- **Warfarin (Coumadin) interacts with CANNABIS**

Using cannabis might increase the effects of warfarin. Smoking cannabis while taking warfarin might increase the chance of bruising and bleeding.

- **Medications that slow blood clotting (Anticoagulant / Antiplatelet drugs) interacts with CANNABIS**

Cannabis might slow blood clotting. Taking cannabis along with medications that also slow blood clotting might increase the risk of bruising and bleeding.

- **Medications changed by the liver (Cytochrome P450 2E1 (CYP2E1) substrates) interacts with CANNABIS**

Some medications are changed and broken down by the liver. Cannabis might change how quickly the liver breaks down these medications. This could change the effects and side effects of these medications.

- **Medications changed by the liver (Cytochrome**
- **P450 3A4 (CYP3A4) substrates) interacts with CANNABIS**

Some medications are changed and broken down by the liver. Cannabis might change how quickly the liver breaks down these medications. This could change the effects and side effects of these medications.

- **Medications moved by pumps in cells (P-glycoprotein Substrates) interacts with CANNABIS**

Some medications are moved in and out of cells by pumps. Cannabis might change how these pumps work and change how much medication stays in the body. In some cases, this might change the effects and side effects of a medication.

- **Anesthesia interacts with CANNABIS**

Using cannabis might increase how much anesthesia your doctor needs to give to you for surgery. Tell your doctor if you regularly use cannabis. If possible, stop using cannabis at least 2 weeks before surgery.

- **Medications for dissolving blood clots (Thrombolytic drugs) interacts with CANNABIS**

Cannabis might slow blood clotting. Taking cannabis with medications used for dissolving blood clots might increase the chance of bleeding and bruising.

- **Medications changed by the liver (Cytochrome P450 2C9 (CYP2C9) substrates) interacts with CANNABIS**

Some medications are changed and broken down by the liver. Cannabis might change how quickly the liver breaks down these medications. This could change the effects and side effects of these medications.

- **Medications that increase the breakdown of other medications by the liver (Cytochrome**

- **P450 2C9 (CYP2C9) inducers) interacts with CANNABIS**

Cannabis is changed and broken down by the liver. Some drugs increase how quickly the liver changes and breaks down cannabis. This could change the effects and side effects of cannabis.

- **Medications that increase breakdown of other medications by the liver (Cytochrome P450 3A4 (CYP3A4) inducers) interacts with CANNABIS**

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- **Medications that decrease the breakdown of other medications by the liver (Cytochrome P450 2C9 (CYP2C9) inhibitors) interacts with CANNABIS**

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- **Medications that decrease the breakdown of other medications in the liver (Cytochrome P450 3A4 (CYP3A4) inhibitors) interacts with CANNABIS**

Cannabis is changed and broken down by the liver. Some drugs decrease how quickly the liver changes and breaks down cannabis

- This could change the effects and side effects of cannabis.

- **Alcohol interacts with CANNABIS**

Using cannabis with alcohol might increase the effects of alcohol on the central nervous system. This might increase the risk for some side effects, such as drowsiness and mood changes.

The Pros and Cons Of Herbal Medications

You know that old saying, "Money doesn't grow on trees?" Well, what if it applied to medicine? According to your next-door-neighbour, the woman who sits in front of you in yoga class, and other "expert" sources, herbal medication works just as well as prescriptions from your doctor. (At least, that's what the Internet tells them.) But what are the real facts? Could natural cures be growing in our backyards?

It may be possible to have success with natural remedies, but that doesn't mean you should start chugging wheatgrass supplements without understanding what they do. "Before you take herbal medications, make sure you are educated about their pros and cons," said Dr. Christopher Roller, a pharmacist at Central Utah Clinic. As someone who works with medications on a daily basis, Dr. Roller stresses that you should always investigate the potential side effects of anything you put in your body. Here is some information to serve as a foundation for your personal research.

Pro: Natural medications are, well, natural

Dr. Roller shares that there are reasons to look into herbal alternatives. "There may be fewer differences between 'natural medicine' and 'pharmaceuticals' than you think," he says. Plants are rich in a variety of compounds that have been used in medications for thousands of years. From phenols to antibiotics to new emerging cancer treatments, naturally occurring compounds are an excellent source of healing for modern medicine. Nearly 25 percent of drugs prescribed worldwide are based on active ingredients derived from plants. In fact, of the 177 drugs approved for treating cancer, 70 percent are based on natural products.

Con: Herbal medicines

Just because a medication is made from natural ingredients does not guarantee that it is safe or effective. "Herbal supplements are not approved

by the Food and Drug Administration (FDA)," says Dr. Roller, "which means that they have not passed any safety, efficacy, or human clinical trials." Because these natural medications are not subjected to the same scrutiny as FDA-approved medications, it is even more important to research potential benefits or side effects, especially related to certain health issues.

Though the FDA does require that herbal supplements follow good manufacturing procedures that ensure some level of quality, this in no way ensures that they are safe for anyone's use. Any supplement could have potential side effects, and these negative consequences can increase when taken with other over-the-counter or prescription medications. Be sure you speak to your doctor or pharmacist about any medications you taking in addition to the herbal supplement you are considering. "It is against the law for manufacturers of herbal supplements to have specific claims to the efficacy of their marketed product, but that doesn't stop these companies from inferring certain benefits of their products," Dr. Roller says. "Be consumer savvy and do your homework on what really works and what is just smoke and mirrors." There are some easy ways to access information that can be helpful to make an educated decision. First, there are great resources available that show true scientific research and findings. Both the National Center for Complementary and Alternative Medicine (NCCAM) and the Office of Dietary Supplements have websites that can help you make informed decisions on the safety and efficacy of herbal products. Second, remember that your doctor and local pharmacist will be able to help you make good decisions regarding your health. Finally, you can always contact the manufacturer if you have specific questions about a product. "Herbal supplements can be a healthy alternative for treating certain disease states, but remember to do your homework and don't just trust your local Avon rep," Dr. Roller recommends. "Be smart about your heath and ask questions." Remember to be safe and follow the supplement instructions, keep track of what you take, and be careful with any other medications or supplements you might be taking.

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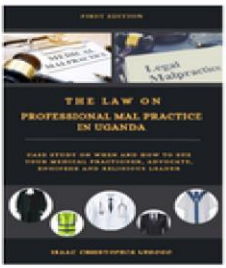

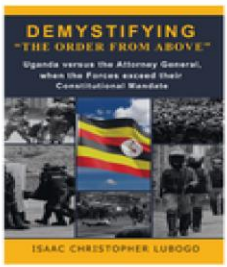

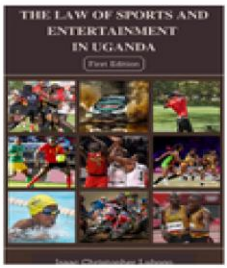

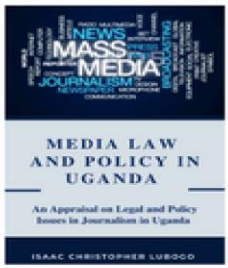

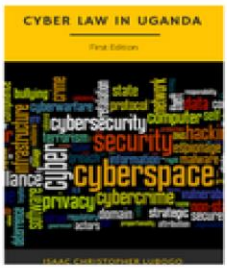

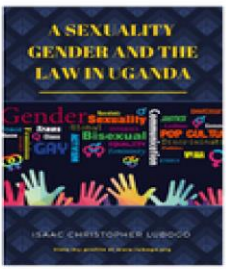

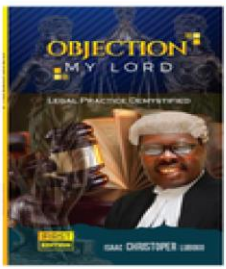

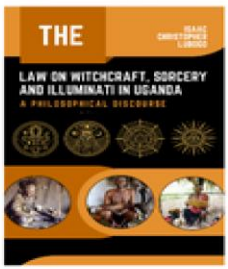

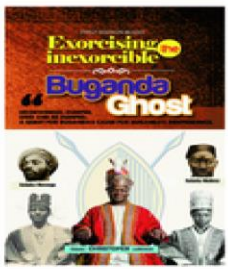

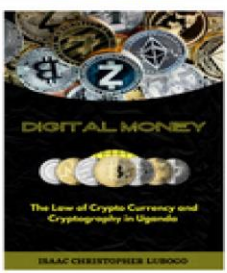

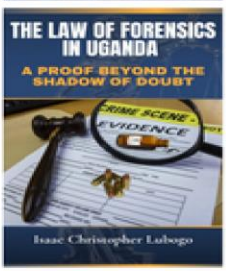

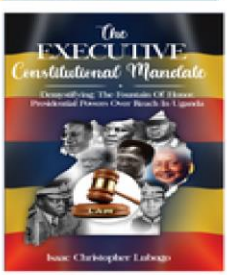

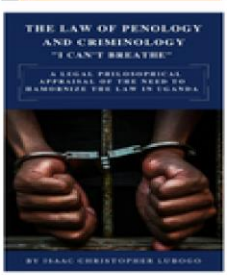

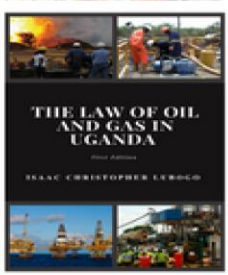

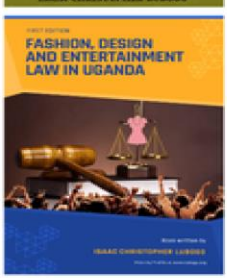

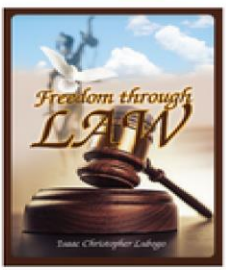

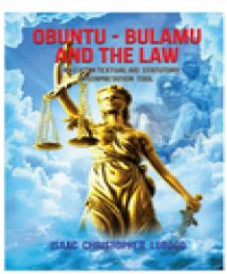

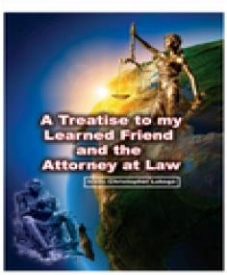

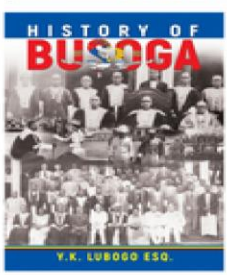

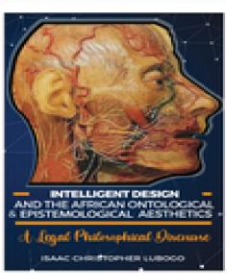

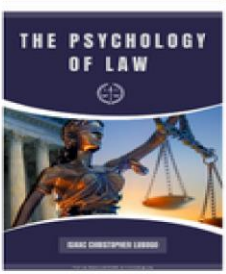

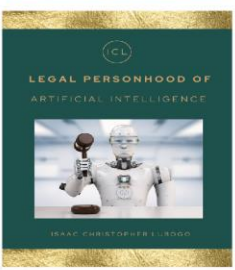

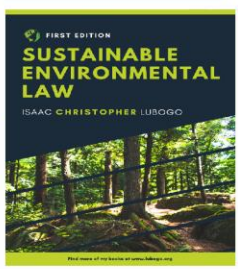

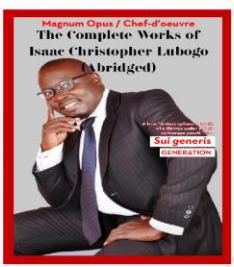

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ISAAC CHRISTOPHER LUBOGO

ABOUT THE BOOK

The legality of cannabis for medical and recreational use varies by country, in terms of its possession, distribution, and cultivation, and (in regards to medical) how it can be consumed and what medical conditions it can be used for. These policies in most countries are regulated by three United Nations treaties: the 1961 Single Convention on Narcotic Drugs, the 1971 Convention on Psychotropic Substances, and the 1988 Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances.[1][2] Cannabis is classified as a Schedule I drug under the Single Convention treaty, meaning that signatories can allow medical use but that it is considered to be an addictive drug with a serious risk of abuse.

The use of cannabis for recreational purposes is prohibited in most countries; however, many have adopted a policy of decriminalization to make simple possession a non-criminal offense (often similar to a minor traffic violation). Others have much more severe penalties such as some Asian and Middle Eastern countries where possession of even small amounts is punished by imprisonment for several years. Countries that have legalized recreational use of cannabis are Canada, Georgia, Malta, Mexico, South Africa, Thailand, and Uruguay, plus 19 states, 2 territories, and the District of Columbia in the United States and the Australian Capital Territory in Australia. Commercial sale of recreational cannabis is legalized nationwide in two countries (Canada and Uruguay) and in all subnational U.S. jurisdictions that have legalized possession except Washington, D.C. A policy of limited enforcement has also been adopted in many countries, in particular the Netherlands where the sale of cannabis is tolerated at licensed coffeeshops.

Countries that have legalized medical use of cannabis include Argentina, Australia, Barbados, Brazil, Canada, Chile, Colombia, CostaRica, Croatia, Cyprus, CzechRepublic, Denmark, Ecuador, Finland, Germany, Greece, Ireland, Israel, Italy, Jamaica, Lebanon, Lithuania, Luxembourg, Malawi, Malta, the Netherlands, New Zealand, North Macedonia, Norway, Panama, Peru, Poland, Portugal, Rwanda, Saint Vincent and the Grenadines, San Marino, Sri Lanka, Switzerland, Thailand, the United Kingdom, Uruguay, Vanuatu, Zambia, and Zimbabwe. Others have more restrictive laws that allow only the use of certain cannabis-derived pharmaceuticals, such as Sativex, Marinol, or Epidiolex. In the United States, 37 states, 4 territories, and the District of Columbia have legalized the medical use of cannabis, but at the federal level its use remains prohibited.

Interestingly Njaja (cannabis) and Mirra (khat), although designated as noncommercial herbs, there use both medically and economically cannot be underestimated, neighboring countries like Kenya and Ethiopia have actually delegalized their trade, and have adopted an open policy for khat as a very major source of economic production, by way of comparison khat as a source of income in Ethiopia and Kenya beats all our exports combined. It's also prudent to note that where tea grows khat will easily grow, in fact several planes ferry khat on daily basis to Mogadishu and Kenya on average earns about to there million dollars out of khat.
If we are to argue in terms of the level of intoxication it can be argued that one beer bottle is equivalent to several kilograms(which would be several sacks full) of Cannabis which is practically impossible for one to consume in a single day. This therefore poses the question is it not time to delegalize these herbal plants and advocate for an open policy for cannabis and other herb medicinal plants.