STUDY GUIDE

HAFMUN'25

UNODC

Agenda Item: Preventing the Illegal Use of Pharmaceutical Raw Materials

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HAFMUN'25

STUDY GUIDE OF UNITED NATIONS

OFFICE ON DRUGS AND CRIME

Agenda Item: Preventing the Illegal

Use of Pharmaceutical Raw Materials

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Distinguished Participants,

As the Under Secretary General of the United Nations Office on Drugs and Crime committee, it is my utmost honor to serve and a pleasure to welcome you all to HAFMUN'25. I have been attending Model United Nations conferences for 4 years and the thought of ruling this committee someday has always been my biggest motivation to perspire to make this dream come true. I aspire this conference to be such a remarkable experience for everyone and I would like to thank the Secretary General Doğu Söylemez for this opportunity.

For the continuity of the committee to be sufficient throughout the three days we will be sharing, I inspire you to do your research properly, so I specifically request you to come to the committee by reading the study guide which will give the information you need. You can come up with more solutions to other problems that are not specifically mentioned in the study guide as long as the topic is related to the agenda item, which is preventing the illegal use of pharmaceutical raw materials, but again, I would like to draw the attention to the fact that the matters on the "Questions to be Addressed" part are our first and highest priority.

I am eager to witness the commitment and excellence you will demonstrate in ensuring the successful adjournment of the committee. I wish all participants the best of luck and I would like to sincerely remind all delegates to be open and confident. If you have any questions or concerns, feel free to contact me.

Best Regards,

Devrim Deniz Sağcan, Under Secretary General of UNODC

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III. Letter from the Academic Assistant

Distinguished Delegates,

As the Academic Assistant of the United Nations Office on Drugs and Crime committee of HAFMUN'25 it is my utmost pleasure to welcome you all to the committee. I would like to start my letter by thanking our committee's Under Secretary General Devrim Deniz Sağcan for inviting me to this committee.

As the delegates of this conference you have to find new ideas for addressing a complex issue related to pharmaceutical raw materials and crimes related to drugs. I would like to use this opportunity to congratulate you for your dedication for your preparations for this conference and for your commitment for representing your assigned countries to the best of your abilities. Your participation in this committee will not only enhance your knowledge of global issues but will also develop your critical thinking and diplomatic skills. As you engage in constructive debate and negotiations you have to keep in mind that having multilateral cooperation while addressing these complex matters is the key. By working together you will have the opportunity to explore innovative and effective solutions that will improve the world for the better.

I wish you all the best luck in your preparations. I am looking forward to seeing your contributions to the committee. If you have any questions about the committee or the conference please do not hesitate to contact me via email.

Best Regards,

Aslı Ela Kemaloğlu, Academic Assistant of UNODC

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IV. Introduction to the Committee

The United Nations Office on Drugs and Crime (UNODC) is a global leader in addressing the problem of illicit drug use and transnational crime, and is mandated to assist Member States in their struggle against illicit drugs, crime and terrorism. UNODC has an important role in assisting States Parties to the international conventions in the implementation of their obligations under the international drug control treaties.

The Convention on Psychotropic Substances of 197, and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, the UN Convention against Transnational Organized Crime and its Protocols and the UN Convention Against Corruption, as well as international anti-terrorism instruments.

Acting as the custodian of United Nations standards and norms in crime prevention and criminal justice systems to ensure the practical application of these standards. Under the Regional Programme for South Eastern Europe (2016-2019), UNODC will continue to provide support to the region in the implementation of these treaties and instruments, inter alia, by means of supporting the development of national drug and crime policies and strategies and their implementation plans, in line with EU requirements under chapters 23, 24 and 28 of the EU *acquis communautaires*. This will support the countries in meeting the EU accession requirements, as well as fulfilling their obligations within the United Nations.

V. Introduction to the Agenda Item

A. Definition of Pharmaceutical Raw Materials

Pharmaceutical raw materials are substances or ingredients used in the production of medications and health products. These materials are essential in creating effective, safe, and high-quality drugs. They include Active Pharmaceutical Ingredients (APIs), excipients, solvents, biological materials, packaging components, and more.

Although medications have a vital role in human life, they are not toys to be played with. Many people use unethical ways to provide themselves medications, especially red prescription ones, to acquire drugs either to sell or use. These ways include using fake prescriptions, or getting a real prescription from a doctor they know when they don't need the medicine at all and more. Despite some drugs being legal in some regions of some countries, these are considered as illegal ways of providing. This is not only causing overuse of drugs but also a decrease in medication supplies.

B. Definition of Drug Trafficking

Trafficking simply means the activity of buying or selling something illegally. So drug trafficking means the illegal production, distribution, sale or transportation of controlled substances, such as narcotics or prescription drugs, with the intent to profit. Drug trafficking constitutes a serious global crime and represents a significant challenge to societies worldwide.

According to the latest verified data of the United Nations Office on Drugs and Crime (UNODC), the number of people using drugs reached 292 million in 2022, marking a significant increase over the past decade. Furthermore, this surge has led to a rise in drug-related deaths, with opioids accounting for %80 of these fatalities. The economic impact is equally alarming, as the global illicit drug trade is estimated to be worth $321 billion annually. Furthermore, the environmental consequences are severe, with drug trafficking activities contributing to deforestation, pollution, and human rights abuses, particularly in regions like the Amazon Basin . These statistics underscore the urgent need for comprehensive international efforts to combat drug trafficking and its far-reaching effects.

For further information (The link may not work, copy paste it to a browser.):
chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.unodc.org/documents/data-and-analysis/WDR_2025/WDR25_B1_Key_findings.pdf?utm_source

C. Legal and Regulatory Framework of Drugs

C.1 United Nations Conventions

Single Convention on Narcotic Drugs (1961)

The Single Convention on Narcotic Drugs is an international treaty that controls activities such as cultivation, production, supply, trade, transport, involving specific narcotic drugs and lays down a system of regulations with licenses, measures for treatment, research for their medical and scientific uses, concluded under the auspices of the United Nations. The Convention has also established the International Narcotics Control Board.

The Convention on Psychotropic Substances (1971)

The Convention on Psychotropic Substances 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 did not ban the many newly discovered psychotropics so this caused the new conventions creation, since its scope was limited to drugs with cannabis, cocaine and opium-like effects.

United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)

The United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances is one of three major drug control treaties currently in force. The United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 is one of three major drug control treaties currently in force.

C.2 World Health Organization Standards

Good Manufacturing Practices (GMP)

Good Manufacturing Practices, also known as GMP, is the quality assurance aspect which ensures medicinal products are produced and controlled according to the quality standards appropriate for their intended use methods. GMP defines general measures to ensure processes necessary for production and testing are validated, clearly defined, documented and reviewed while also ensuring the personnel, premises and the materials are suitable for production of pharmaceuticals and biologicals.

Good Trade and Distribution Practices (GTDP)

Good Trade and Distribution Practices are the requirements established for proper transport, storage and distribution of the pharmaceutical raw materials to maintain the quality level and to prevent falsified products infiltration to the market. The GTDP is not a standard in itself but a line of standards under the Good Manufacturing Practices.

Member State Mechanism

The Member State Mechanism was established in 2012 to address the issue of tackling substandard and falsified medical products in a transparent and inclusive way, from a public health perspective and expressly excluding considerations of intellectual property rights. The general role of the mechanism is to promote access to the affordable, safe, efficient and high quality medical products while preventing and controlling the Substandard and Falsified Medical products and all of the associated activities.

C.3 International Narcotics Control Board (INCB) Mechanisms

Precursors Incident Communication System (PICS)

The Precursors Incident Communication Systems is an online tool for enhanced communication and information sharing between national authorities on precursor incidents such as seizures, stopped shipments, diversions and diversion attempts, illicit laboratories and associated equipment worldwide. This system provides different security levels for access to varying levels of detail related to an incident, contact details of the information owner to facilitate direct contact and many other benefits.

Pre-Export Notification Online System (PEN Online)

The PEN Online System is INCB's platform for the real-time exchange of pre-export notifications of precursor chemicals, as mandated in article 12 of the United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988. This system assists exporting and importing governments to monitor and verify the legitimacy of individual shipments in international trade in such precursors to identify suspicious transactions and to prevent diversion into illicit channels.

D. Illegal Methods to Obtain Raw Materials

The raw materials of medications and drugs are almost identical and this is why overdose of both can result in death. If we think of every medication as a potential drug material, we can unfortunately say that there are many easy ways to get raw materials to use in illegal drug production, even red prescription medications. These ways include:

- Obtaining prescriptions from a family member or a friend who works in the healthcare field,
- Taking multiple prescriptions through one doctor,
- Forging prescriptions,
- Illegal online pharmacies,
- Theft and burglary,
- Over prescribing by physicians,
- Malfeasants selling drugs etc.

What makes these methods difficult to spot is not being able to know if the need is for actual human health or just sophistry. Also, the family members of doctors can be seen on the system while friends or personal caregivers who don't have insurance can not.

E. Drug Trafficking at Country Borders

Country borders are one of the most crowded areas in the world for various reasons such as tourism, trading, war and refugees and to not lose track of people entering and exiting countries, these borders ought to be kept secure. Drugs traffickers also use these mentioned borders to go from one country to another. There are various methods invented by the criminals that are used and separated into four categories: highways, waterways, airways, railways.

E.1 Highways

At the border checkpoints, not every vehicle gets pulled over so there is no guarantee of people using the roads on the ground trafficking drugs getting caught. Cars get pulled over if they cause suspicion. The higher chance of getting checked up belongs to commercial vehicles.

Regular vehicles also get pulled over but their baggage mostly don't get checked unless the police officers on duty decide otherwise which can be on account of the driver acting suspicious, or the vehicle having a criminal record.

Law enforcement relies on profiling, intelligence, and random checks, so any unusual behavior, inconsistencies in documents, or signs of nervousness can trigger a thorough inspection.

As drug traffickers already know these, experienced ones often study these patterns and train themselves to remain calm and act naturally, minimizing the chances of detection. Despite these precautions, the risk of getting exposed is never zero, as authorities continually adapt their methods and increase vigilance at high-risk points.

Officers search the inside and baggage of the vehicle. When it is a commercial vehicle or a vehicle that has a container linked to it, they often use different types of scanners.

E.2 Waterways

At seaport checkpoints, like vehicles, not all the vessels get inspected, so there is no guarantee of drug traffickers being caught. Ships or ferries, ships that carry loads, get checked more than vessels if they cause suspicion. The higher chance of being inspected belongs to commercial cargo vessels. Passenger ferries and cruise ships also get checked; the personal luggages go through an X-ray machine and passengers go through a metal detector. Despite these security measures, maritime routes still get exploited by traffickers as they continue concealing drugs within cargo, hidden compartments, and even passenger belongings, making seaports a critical battleground.

E.3 Airways

At airports, passengers go through many checkpoints including luggage, documents, and themselves if they cause suspicion, until they board the plane. Traffickers can get through these security checks somehow with forgery of documents, using double bottom suitcases or hiding smaller quantities of drugs inside regular materials and carry-ons such as electronics, food, cosmetics, books. Sometimes they don't even need to do all these due to corruption of the airports. They also use aircraft's interiors such as fuel tanks, and compartments are modified to conceal drugs. People even use their own bodies to transport drugs which is called "body concealment" and has many reported cases. For medium or larger, bigger, quantities; traffickers use private and charter jets and land at remote airstrips or rural runways with minimum customs control. This way they get away with the checking part, and even if they get caught later on, as the jets are not theirs, they remove their trace. Drones are also in use for short-range transport.

E.4 Railways

Railways are also one of the ways that get exploited by traffickers. On passenger trains, traffickers hide small amounts of drugs in luggage and clothing. They also use body-concealing and blend in with regular travelers to avoid suspicion. In freight trains, traffickers mostly conceal larger quantities of drugs within shipping containers, crates, or bulk goods such as grain, coal, or textiles, sometimes using false compartments or layering techniques to disguise the cargo.

Because trains pass through customs checkpoints at borders, law enforcement employs random inspections, sniffer dogs, and scanning technologies to detect irregularities, but not every carriage or passenger is checked. To minimise the risk, traffickers study inspection patterns, use fake documents for cargo, or choose less-monitored routes -similar to the airways.

In any situation of a drug trafficker getting exposed, they try to get away with it either by running or bribing the authorised people, which is another crime for both the offering and the accepting party, if they do.

The phrase “We did not know this kind of drug was illegal in this country we are entering,” is also a common excuse that unfortunately works to go unpunished as countries have different policies that legalises and illegalises different types of drugs to be on the market. This is mostly caused by the unawareness of people and police officers being understanding and showing their humanity and trying to help the people by transferring them elsewhere to tickle the issue and the dealers taking advantage of it. Not that being kind should be forbidden but that it would be easier for officers to do their job if every single person on the planet Earth had taken a course before and a handbook of countries and what materials are banned in them as they buy the vehicle -not only for drugs but also for gum in Singapore, for instance.

The reason that traffickers get away with drugs depends on the lack of the service human eye and machine censors can provide. In this case, there happens to be the need for a third checker group.

A group of creatures that can see the world and everything differently but can sense better than humans, of course dogs. Dogs can be trained for medical and security services. When these dogs are trained to help officers with drug trafficking, they are called “Narcotic Detection Dogs” and are a big assist. Despite their big impact on criminal cases, the amount of narcotic detection dogs is not enough.

F. Drug Dealing Amongst Teenagers

Drug dealing is a serious problem affecting people of all ages, whether through usage or trafficking. Teenagers are a group worth paying particular attention to in this matter as they are just figuring out life and freshly starting to experience the real world. At this stage, basically, everything new -good or bad- can be exciting for them. During this term, teenagers realise that they have free will and choices, which can lead them down harmful paths or even death without even them realising. This is often a result of peer influence, which stimulates their nervous system and triggers hormonal responses.

In this case of teenagers influencing each other, how does the first teenager get intrigued into drugs? Through their parents, neighbours, or television shows. Kids don’t do what they are told, they do what they see their parents do because they are their first pacemakers, just like how birds assume the first creature they see when they hatch is their mother. Television programs entertain teenagers by opening new windows and showing multiple perspectives which can be beneficial but they also can normalise or glamorise drug usage by portraying it as trendy, rebellious, or a part of growing up which might arouse interest in impressionable teenagers.

In addition to the examples set at home by parents or in the neighborhood by peers and older youth, these influences cause drugs to be seen less of a danger and more of a symbol of belonging and maturity. Thus, teenagers are not only informed about drugs but also shown drugs through the people and media they look up to which enhances the chance of wanting to try them out, mostly "just once," which leads to addiction.

G. Individual Impacts of Drugs

Drugs can cause partial consciousness throughout the day; passing out, going into a coma. All of these result in daily life duties being sloppy or undone and the worst part for an individual is that they often can't realise what's missing. Often as they can't even recognize themselves, they don't recognize the people they know such as family members, friends or pets. When individuals get intoxicated, they start to have intrusive thoughts, and a leaning to abuse or kill people, animals and themselves.

There are many cases where people kill their loved ones and ask for them when they are finally out of that altered state of consciousness. Finding out what they did to their loved ones and by being taken to prison, their mental health goes even worse. Not only do they have mental health issues but they also suffer from serious physical health issues which damage vital organs (brain, heart, lungs, kidneys, liver) and end up having visible signs such as bruises, redness in the eyes and dark circles under the eye.

If they choose to quit, this can be risky as drugs are addictive and even if they can control their willpower, their body will still want more, and if not given it can collapse which is why assistance from a specialist is usually essential. To heal from all the illnesses mentioned above, people need to receive proper treatment which they financially can't due to not having jobs or getting fired from them due to their lack of capability.

If they get treated and quit being an addict, they often again end up in an economical crisis because employers tend to have prejudice against them on account of their backstory and history of drugs. There is also a slight chance of death by overdose which can be caused by taking multiple drugs at once or injecting them directly into a vein which leads the drugs straight into the bloodstream which is why it can be fatal.

H. Social Impacts of Drugs

Social life requires people communicating with one another openly and understandingly but unfortunately these terms are not proper for most drug addicts. The social impacts of drugs depends on the effectiveness of the individual users mentioned in the previous subtopic; the effect can be destructive and extensive for others, or just on themselves. A drug dealer in a neighbourhood is a bad influence for teenagers, and a frightening being for little kids as they are not aware of what a drug is and can not understand the whole range. As a solution, parents teach their children and toddlers not to take candy from strangers or not to get close to particular people, which they portray as the monster in their closet or under their bed. Growing up in a not safe and secured atmosphere and being scared of this person getting close to them, as they are taught to stay away from them, these kids grow up to have mental health issues. Other than these, if the drug user has a family, with parents or with a spouse,

and kids; the situation can go worse. Drug addicts could abuse the family members in various ways, for example: financially by wasting their family's last money on drugs, psychologically by simply being rude or nonchalant to the, sexual by molesting or raping -which is a common excuse used by rapist in court- or physically by hitting or even killing them. There are also outside threats such as being prone to robbery which would affect the shop owner and their family and staff members as they provide for themselves under the same roof. To redraw the attention, the effects do not need to be visible to be accepted, mental marks are often more persistent. There are also situations such as people losing their limbs due to the damage caused by drug dealers.

I. Governmental Impacts of Drugs

Illicit drug dealing among citizens affects the security and economy of governments. Economically, illicit drug markets divert resources away from productive activities, reduce tax revenues, and increase public spending on law enforcement, healthcare, and rehabilitation programs, lowering the prosperity level. In terms of security, trafficking fuels organized crime, violence, and corruption, straining law enforcement agencies and destabilizing governance structures. Politically, drug trafficking networks can significantly weaken public confidence in government institutions. They may compromise the effectiveness of the legal system and make it more difficult to implement policies successfully. Taken together, these challenges threaten the stability of the nation, slow economic growth, and limit the government's ability to ensure the welfare and prosperity of its citizens.

J. Threats by Drug Traffickers on Pharmacies

Pharmacies or drugstores are one of the places people ought to go by knowing that they will be safe and helped, as they are public healthcare centers. But with the increasing rate of drug usage and trafficking, pharmacies started to be a target for drug dealers. Some of them use prescriptions they get from family members or friends, some forge new ones (prescriptions), some take multiple ones from a doctor and still pay the pharmacies in exchange for the medication they bought. Some traffickers do not even intend to spend money on raw materials and rob the pharmacies and take every medication they see as useful alongside people's health. This is an illegal way to get red prescription pills. Some even apply to work in pharmacies so the drugs are more reachable to them and easier to take. This is a result of lack of inspection, even though there can be security cameras in pharmacies, there are often blind spots, too and traffickers spot them and wait for the right time to take action and this way they are not caught on camera but maybe by their colleagues.

K. Medicinal Importance of Raw Materials

K.1 Active Pharmaceutical Ingredients (APIs)

The active pharmaceutical ingredients are medicines that are pharmaceutically active and produce a desired pharmacological effect. Usually the APIs are mixed with excipients, which are pharmacologically inactive, when they are used for drugs. Some subgroups of APIs are analgesics and antipyretics, antibiotics, antivirals, anti-cancer drugs, cardiovascular drugs, metabolic drugs and most importantly psychiatric drugs.

Analgesics and Antipyretics

Analgesics are medications used in the management and treatment of pain. They include several classes of medications such as acetaminophen, nonsteroidal anti-inflammatory drugs, antiepileptics, local anesthetics, and opioids. On the other hand antipyretics are the drugs which are used to reduce body temperature when somebody has fever. Some of the antipyretics main ingredients are acetaminophen, NSAIDs and aspirin.

The most important class of medication in this category is the opioids as they have a high addiction rate compared to the others. With the addiction rate being high they also have a high probability of trafficking and illicit usage.

Opioids are a class of New Psychoactive Substances (NPS) that primarily act on the nervous system to relieve pain. They are derived from opium, which is a substance extracted from the opium poppy plant. Opioids are known for their strong pain-relieving properties and are commonly used in medical settings to manage moderate to severe pain. Opioids work by binding to specific receptors in the brain and other parts of the body, such as the spinal cord and gastrointestinal tract. This binding reduces the perception of pain and can produce a sense of euphoria, relaxation, and sedation. Opioids can also affect other functions in the body, including respiratory rate and mood. There are three main categories of opioids which are natural opioids, semi-synthetic opioids and synthetic opioids.

Natural opioids are directly derived from the opium poppy plant. Some examples of natural opioids include morphine and codeine. Semi-synthetic opioids are created by chemically modifying the compounds found in natural opioids.

Examples include oxycodone, hydrocodone and heroin. Synthetic opioids on the other hand are the opioids that are entirely synthesized in a laboratory and do not have any natural origins. Examples include fentanyl, tramadol and methadone.

Antibiotics

Antibiotics are medications that fight bacterial infections. They do not work against viral infections. Bacteria are microscopic germs that live inside your body, skin and all around you in daily life. Most bacteria are considered harmless and even beneficial for your body because they help to keep your body healthy. But certain kinds of bacteria can make you sick as the effects can range from mild to severe, which can land you in hospital and even kill you. There are several kinds of antibiotics such as penicillins, cephalosporins, aminoglycosides, tetracyclines, macrolides and fluorquinolones.

Antivirals

Antivirals are medications that help your body fight off certain viruses that can cause disease. Antiviral drugs are also preventive. This means they can protect you from getting viral infections or spreading a virus to others. Viruses are small germs that can infect humans, plants, animals, fungi and even bacteria. Each virus is special for the host itself so while it passes from host to host it can have new variants and have mutations. Also viruses can’t reproduce without a host. Because of the nature of viruses every antiviral has to be prescribed according to the virus itself. Some of the types of antivirals include antiherpesvirus drugs, anti-influenza drugs, anti-human papillomavirus drugs, anti-respiratory syncytial virus drugs and interferons.

Psychiatric Drugs

Psychiatric drugs, also known as psychotropic medications, are used to treat mental health disorders. There are 5 main types of psychotropic medications, antidepressants, anti-anxiety medications, stimulants, antipsychotics and mood stabilizers.

Antidepressants are used to treat depression and anxiety. They work by increasing the activity of neurotransmitters like serotonin and noradrenaline, which are chemicals in the brain which can improve moods and emotions. Some common types of antidepressants are selective serotonin reuptake inhibitors (SSRIs), selective norepinephrine reuptake inhibitors (SNRIs), tricyclic antidepressants (TCAs), benzodiazepines, beta-blockers and bupropion. Most of the antidepressants are also used to treat anxiety.

Stimulants are a class of drugs that speed up the messengers travelling between the brain and body. They usually help manage unorganized behaviours so they are often prescribed to people with attention deficit hyperactivity disorder (ADHD). Some of the most known stimulants are caffeine, nicotine, dexamphetamines, methylphenidate, dextroamphetamines and amphetamines.

Antipsychotics are used to help manage psychosis. Psychosis describes multiple conditions that affect the mind, often indicated by the person becoming separated from their reality and experiencing delusions and hallucinations. Antipsychotics are mostly used to treat schizophrenia, bipolar disorder and autism spectrum disorder. Antipsychotics are usually divided into two categories, typical and atypical antipsychotics. The main difference between

the types of antipsychotics is that the first generation drugs block dopamine and the second generation drugs block dopamine and also affect serotonin levels.

Mood stabilizers help to regulate extreme emotions and they are primarily used to treat bipolar disorder and their extreme mood swings. Most common mood stabilizers are lithium, anticonvulsants such as valproate and lamotrigine, carbamazepine and excarbazepine.

K.2 Excipients

The word excipient describes any component of a medicine that isn't the active ingredient. Most active ingredients cannot be administered alone because they have unsuitable physical and chemical properties.

Excipients range from inert and simple substances to active and complex substances that can be difficult to characterize. Traditionally, excipients were generally structurally simple, biologically inert, and of natural origin, such as corn, wheat, sugar, and minerals. As new drug formulation delivery systems emerge and develop, many new and increasingly complex excipients have been developed. Aside from enhancing the patient experience or improving bioavailability, excipients are also used to enhance the products shelf life or to help the manufacturing process of the medicines. Many excipients are safe to use for humans at therapeutic doses, including commonly used excipients such as cyclodextrins, dextran and polyethylene glycol.

K.3 Solvents

Solvents are liquid substances used in the manufacturing process of drugs, usually to purify, dissolve, extract or deliver active pharmaceutical ingredients and excipients. There are 4 types of solvents, aqueous solvents, organic solvents, oils and fatty solvents and supercritical fluids. As the name suggests, aqueous solvents are water-based solvents. Most common types of aqueous solvents are purified water and buffered solutions such as phosphate buffer and citrate buffer. Organic solvents are hydrocarbon-based solvents which are used in synthesis, extraction and formulation. Subgroups of organic solvents can be classified as alcohols such as ethanol and isopropanol, ketones such as acetone and methyl ethyl ketone, ethers such as diethyl ether, esters such as ethyl acetate and butyl acetate. The other types can be classified under class 1 (unacceptable) and class 2 (restricted) according to the ICH Q3C (Guidelines for Residual Solvents). Oils and fatty solvents contain natural or synthetic oils and lipids used in medicinal formulations. Commonly used oil solvents are vegetable oils such as peanut oil, sesame oil and soybean oil and some triglycerides. Supercritical fluids are the fluids who are at the temperature and pressure above their critical point, often combining properties of both liquids and gasses.

K.4 Biological Raw Materials

Biological raw materials include cells, tissues, blood, and plasma that are used in the production of biological products like vaccines, blood products, and gene therapies. They are important nowadays because of the world's growing health problems related to global warming, CBRN (Chemical, Biological, Radiological and Nuclear) threats, wars and etc.

These raw materials are nearly impossible to obtain as a civilian and mostly can be acquired through legal ways for hospitals and specialized medical clinics.

K.5 Herbal and Natural Raw Materials

Natural raw materials, including plant and animal products, are still widely used in the pharmaceutical industry. Plants are a rich source of raw materials for herbal medicines, while animal-derived products like heparin, insulin, and vaccines are also essential.

Some herbal raw materials such as medical cannabis can be potentially used for a wide range of medical conditions such as chronic pain, nausea and vomiting from chemotherapy, spasticity and muscle spasms from multiple sclerosis, and epilepsy. Some studies have also suggested that it may be beneficial for treating anxiety, depression, and post-traumatic stress disorder (PTSD) and even patients with dementia and tremors. Cannabis contains hundreds of compounds, but the most well-known are delta-9- tetrahydrocannabinol (THC) and cannabidiol (CBD). THC is the compound responsible for the psychoactive effects of cannabis, while CBD is non-psychoactive and has been studied for its potential therapeutic benefits. Medical cannabis is typically available in several different forms, including dried cannabis flower, oils, capsules, and sprays. The type and form of cannabis used depends on the medical condition being treated and the preferences of the patient. Some patients prefer to smoke or vaporize dried cannabis flower, while others prefer to use oils or capsules for more consistent dosing. Although it can be used for medical treatments the percentage of medical usage is very low when we look at the total amount of cannabis products consumed. While the recreational consumption of cannabis is generally illegal or restricted in many nations

there are still many nations who have a banning system for medical cannabis and medical cannabis products.

As mentioned above in K.1 section under the Analgesics part the opioids are also derived from a plant called an opium poppy or papaver somniferum. So it is safe to say many forms of drugs and medicines can be made from herbal and natural raw materials.

A significant number of people are in need of these drugs for medical treatment everyday and just because a few impertinent people want to use them for their own profit or satisfaction, does not mean they ought to sit in a corner and wait for their turn to come. The essential important thing about drugs is the dosage. For instance, while a little amount of arsenic does not show much effect, the right amount is enough to heal diseases, and more than “enough” is overdose which leads to death. So if the stocks of drugs are not where they are accessible for the needy in the right amount, patients may suffer unnecessarily, treatment outcomes can worsen, and public health crises may escalate which would lead the world to a huge, indispensable medication crisis.

VI. Questions to be Addressed

1. How can illegal drug trafficking be prevented?

2. How can illegal drug use be prevented?

3. How can drug dealers be spotted?

4. How can borders and transport routes be assured and secured from illegal drug dealing?

5. How can people's awareness be raised on this matter?

6. How can the mental health of drug addicts be treated?

7. How can the physical health of drug addicts be treated?

8. What ways can we follow to get teenagers distracted from drugs?

9. Which resettlement pathways can be used for drug addicts?

10. Are narcotic detection dogs actually effective? If so, what can be done to benefit more of their service?

11. How can the need for pharmaceutical raw materials be met despite the trafficking? <3

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