



## Management and Its Role in the Prevention of Nanodrugs

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### ABSTRACT

Nano drugs are one of the biggest challenges facing societies; thus, management plays an important role in preventing this scourge. The role is evident through the strategies and therapeutic programs adopted by management entities, due to management's responsibility and importance in fortifying and forming follow-up committees to curb this dangerous phenomenon. Although the role of management in our research is confined to education and knowledge, the study addressed the role of management in preventing Nano drugs in educational institutions in universities and schools. The study reached several findings, including that the methods employed by universities and schools are traditional and limited to awareness programs and religious lectures. The recommendations made by the study include tightening measures against drug users and monitoring suspicious individuals, developing comprehensive awareness programs for all segments of society, including family and children, and not limited to school and university students. An example of Nano drugs is the manufacturing of the Nano drug carrier, which is considered a psychoactive substance that affects the human body.

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## INTRODUCTION

Nanodrugs play a significant role in the major challenges facing modern societies today. They are a primary driver of criminal behavior due to their direct impact on the nervous and sensory systems. These substances negatively affect individuals, families, and society as a whole. Among these, chemical nanodrugs are considered some of the most serious threats facing societies globally and, in particular, our local community. Management plays a vital role in addressing this phenomenon by developing effective strategies for prevention and awareness. This includes strengthening community awareness efforts, providing therapeutic and educational programs, and building partnerships with governmental and non-governmental institutions to enhance the effectiveness of preventive campaigns. Organized management of these efforts can significantly contribute to reducing the spread of drug use and minimizing its negative impact on society.

Significance of the Study

The significance of this study arises from the noticeable increase in the number of individuals using chemically synthesized nanodrugs. This trend has driven us to select this topic in order to explore methods of prevention for this serious scourge, which threatens all segments of society and affects all educational and pedagogical institutions. The aim is to contain this phenomenon and reduce its risks.

## THEORETICAL REVIEW

### *First Section: The Concept and Types of Nanodrugs*

The problem of drug abuse represents one of the most pressing issues confronting nations worldwide due to the grave dangers it poses to both individuals and society. Its seriousness lies in its destructive impact on human potential within communities, particularly among youth. As a result, it leads to the squandering of both natural and human resources. Today, there is hardly any country that can claim to be immune from the threat of drug abuse. For clarity, this section is divided into two parts:

- Part 1: Definition of nanodrugs
- Part 2: Types of nanodrugs

### **Part 1: Definition of Nanodrugs**

To arrive at a precise definition of *narcotics*, it is essential to examine their meaning linguistically, terminologically, and legally:

#### **First -Linguistically:**

The term *narcotics* (Arabic: *mukhaddarāt*) is the plural of *mukhaddar*, derived from the verb *khaddara*, which means to cause numbness. It refers to a toxic substance that induces a state of physical and mental lethargy, leading to temporary loss of consciousness and reduced mobility of both body and mind, rendering a person in a state of semi-unawareness. For example, He was injected with an anesthetic before the surgical operation. The verb *khadara* is also used to describe a woman remaining in her private quarters (*khidhr*), or to refer to physical numbness such as in My hand or leg became numb, meaning that it was overtaken by relaxation and loss of sensation due to the effect of a narcotic

substance. Hence, *khadar* denotes a condition of bodily or mental sluggishness that deprives a person of sensory strength (Tehran et al.,2006,367).

Linguistically, therefore, the term *narcotic* signifies weakness, lethargy, and a person's reluctance to perform tasks due to the dulling of the mind and the loss of perception of the true nature of things (Ahmed,2003,11). The word *mukhaddarāt* is derived from the root *khadar*, which literally means concealment or covering, as in something hidden from sight. It also conveys meanings such as the bones became sluggish or the day became still with no breeze or movement. ( Al-Zamakhshari,1958,218)

### **Second- Terminologically:**

In terminology, *narcotics* are defined as: Any substance whose consumption results in the exhaustion of the body and an effect upon the mind to the extent that it nearly abolishes it; such substances are criminalized under positive law, and their use leads to addiction(Al-Basha,2001,22)

Another definition states: A substance possessing specific properties whose use or addiction produces harmful physical, mental, and psychological effects(Awad,1996,25).

Narcotics have also been defined as: Any raw material or preparation containing stimulating or sedative properties which, if used for purposes other than medical ones, may lead to habituation and addiction, thereby causing physical, psychological, and social harm to both the individual and the community(Al-Ghriri,2019,16).

Article (1), paragraph (8) of the Iraqi Narcotics Law No. (68) of 1965 defines a narcotic as:

Any medical or synthetic substance included in Schedules I and II annexed to this Law.

From this definition, the following observations can be made:

- The Iraqi legislative framework adopted a broad concept of narcotics prevention by including both synthetic and natural substances capable of producing narcotic effects within the scope of criminalization.
- The Iraqi draft law, however, defines only chemical and natural substances as narcotics subject to criminalization. This definition contradicts the provision stating that synthetic and natural substances listed in the annexed schedules cannot be considered narcotics even if they produce narcotic effects(Article 1 (Paragraph 8), Iraqi Drug Law No. 68 of 1965).

In light of the foregoing, *narcotics* may be defined as a group of natural or synthetic chemical substances that affect the human nervous system, causing apparent negative changes in behavior and psychological state.

### **Third - Legally:**

From a legal standpoint, narcotics are considered substances derived from nature or compounds prepared and manufactured from chemical materials that cause addiction and harm to human beings. Legislators have accordingly specified the prohibited substances in special schedules annexed to the law(Baydoun,2007,11).

Legally, a narcotic is defined as :Any substance that produces a false sense of euphoria, pleasure, and escape from the real world into an imaginary one. Such a substance may exist in solid, liquid, powder, or crystalline form, or in the form of tablets or capsules, depending on the nature of the drug(Hussein,2022,39).

It is also defined as:A group of substances that lead to addiction and cause poisoning of the nervous system. Their cultivation, manufacture, trade, or circulation is prohibited except for purposes specified by law and handled only by duly licensed authorities. The court, when determining the nature of the seized substance, relies on expert opinion, and in Iraq, this role is performed by the Institute of Forensic Medicine(Muhammad,1988,19).

It is noteworthy that most narcotics laws avoid providing an all-encompassing definition of narcotics. Instead, they define them by listing the names of the narcotic substances according to their prevalence and chemical properties.

The Iraqi Narcotics Law No. (68) of 1965 defines, in Article (1), paragraph (8), a *narcotic* as:Any natural or synthetic substance included in Schedules I and II annexed to this Law(Al-Ghri,2019,39)

The legislator in the Kurdistan Region of Iraq, under the Law on Combating Narcotic Drugs and Psychotropic Substances No. (1) of 2020, adopted a different approach based on two main principles: first, providing a general definition of narcotic drugs and psychotropic substances; and second, restricting them to specific schedules annexed to the governing law.

According to Article (1), paragraph (Sixth) of *Chapter One*, titled *Definitions and Objectives*, narcotic drugs or narcotic substances are defined as: Every natural or synthetic substance listed in Schedules (I, II, III, and IV) annexed to this Law(Kurdistan Region of Iraq, Law on Narcotic Drugs and Psychotropic Substances No. 1 of 2020.)

## ***Part 2: Types of Nanodrugs***

Narcotic substances vary according to their nature. Some are derived directly from agricultural sources and are therefore known as natural narcotics; others are produced by humans and are referred to as synthetic or man-made narcotics; while a third category results from chemical reactions and is known as compound or semi-synthetic narcotics. All these types have adverse effects on human health There are numerous kinds of narcotic substances, yet no unified international classification has been adopted. Some classifications are based on the method of production, while others are based on the manner in which they affect the human body and nervous system Certain countries have adopted a dual classification, combining both production method and effect(Hussein,2022,40)

Accordingly, this study will address the types of narcotics according to their source, as this classification is, in our view, the most accurate and comprehensive. They are as follows:

1. Natural narcotics
2. Synthetic or man-made narcotics
3. Compound (semi-synthetic) narcotics



by its shorter stalks and dense branching. This plant is cultivated in India, parts of the Arabian Peninsula, Africa, and some Mediterranean countries. The most suitable environments for cultivating this plant and obtaining strong narcotic effects are those characterized by high temperatures and relatively dry climates. (Hussein,2022,42).

### 3 - Coca:

Article (1) of the Iraqi Narcotics Law No. (68) of 1965 explicitly classifies coca as a narcotic substance(Iraqi Drug Law No. 68 of 1965.). Furthermore, the International Convention signed in Geneva on 19 February 1925, Chapter One, states :The term 'coca leaves' refers to the leaves of the coca plant, of all its varieties and species belonging to the family *Erythroxylaceae*, as well as the leaves of other species of the same genus from which cocaine can be directly extracted or obtained through chemical transformation(Hussein,2022,49)The coca plant is a tree with reddish wood, thriving in highly humid tropical regions. Its leaves are oval-shaped, its flowers are white tinged with yellow, and its short branches bear clusters of bright red fruits(Baydoun,2007,34)Colombia is regarded as the primary center for coca cultivation and cocaine production. Cocaine is derived from the coca plant and produces a temporary feeling of comfort and euphoria lasting from ten to thirty minutes per dose. It also generates an illusory sense of physical and mental power, often accompanied by delusions, auditory, visual, and tactile hallucinations, rendering the user a danger to both himself and others. Cocaine use further leads to loss of appetite, weight loss, nausea, and insomnia. Users often intensify the stimulant effects of cocaine by mixing it with other substances. When cocaine is mixed with heroin, no physical dependency typically develops from cocaine itself. However, upon cessation or withdrawal, the physical symptoms tend to be mild, whereas the psychological effects may be severe enough to necessitate hospitalization(Baydoun,2007,34)

### 4 - Opium:

*Opium* is extracted from the latex sap of the poppy plant, which is often cultivated among fields of wheat and barley. It is considered one of the most dangerous types of narcotics, as it contains more than thirty-five chemical compounds, the most significant of which are morphine and codeine. Even small doses of opium produce symptoms such as drooping eyelids, reduced motor activity, drowsiness, itching, facial pallor, increased sweating, nausea, and in women, menstrual irregularities. It has a strong physiological effect on body tissues, leading to intense physical addiction. Upon cessation, the addict experiences severe withdrawal symptoms approximately 12 to 16 hours after the last dose—known as the withdrawal syndrome. The main symptoms include muscle cramps, hypertension, loss of balance, elevated blood sugar, excessive nasal and ocular secretions, as well as involuntary urination and ejaculation (Muwafaq,2013,23).

Opium serves as the base substance for many derivatives, including morphine, heroin, and cocaine, and contains more than twenty-five chemical compounds, the most important being: morphine (4-8%), narcotine (2-8.5%), and thebaine

(0.1%)( Samir,2009,77). Its effects are generally summarized under three main properties: intoxication, sedation, and anesthesia.

### **Second – Synthetic or Man-Made Narcotics:**

These are substances that are chemically produced and formulated in laboratories, rather than being extracted from natural narcotic sources. Nevertheless, they produce effects similar to those of natural narcotics, including neurological and physical impacts as well as addictive potential(Hussein,2022,52).

They are commonly referred to as psychotropic substances. Under the Law on Combating Narcotic Drugs and Psychotropic Substances in the Kurdistan Region of Iraq, Article (1), paragraph (Seventh) defines them Every natural or synthetic substance listed in Schedules V, VI, VII, and VIII annexed to this Law.

Psychotropic substances are further classified into three main categories:(Central nervous system stimulants, Central nervous system depressants, Hallucinogenic drugs)( Ahmed,2022,58)

### **Third – Semi-Synthetic Narcotics:**

These are substances produced through simple chemical reactions involving materials extracted from natural narcotic plants. The resulting compound typically has a stronger effect than the original natural substance. Examples include heroin, which is produced by reacting morphine, extracted from the opium plant, with a chemical agent (acetyl chloride). Common semi-synthetic narcotics include morphine, heroin, cocaine, and codeine(Hussein,2022,59)

1. **Morphine:** Morphine is the most widely used and potent derivative of opium. It reaches consumers in two forms: as a fine powder or round tablets.
2. **Heroin:** Heroin is derived from opium and is approximately thirty times more potent than morphine. It is available in three forms: brown heroin, dry heroin, and granular heroin.
3. **Cocaine:** Cocaine is extracted from the leaves of the coca plant and is approximately fifty times stronger than the natural leaves.
4. **High-Potency Narcotics in Medicine:** Some of these high-potency substances are also used in pharmaceutical preparations, particularly for the treatment of coughs, as they act as pain relievers and sedatives((Hussein,2022,64)

## ***Second Section: Prevention Methods for Nanodrugs***

### ***Methods of Drug Prevention***

The problem of drug abuse represents one of the major challenges facing contemporary societies, as it negatively affects individuals, families, and society at large. Methods of prevention are essential for protecting youth and communities from the detrimental effects of this phenomenon. Preventive measures include education and awareness programs regarding the health and social risks associated with drugs, as well as the promotion of positive values and life skills.

Moreover, effective administration plays a crucial role in establishing a supportive environment, complemented by psychological and social support

programs. Through joint efforts between governmental institutions and civil society, effective prevention strategies can be developed, contributing to a reduction in drug abuse and ensuring a better future for coming generations.

This study focuses on the role of educational institutions in drug prevention, divided into two points: the first addresses the role of universities, while the second considers the role of schools in preventing drug abuse.

### ***Role of Educational Institutions in Drug Prevention***

Educational institutions exert a vital, effective, and influential impact on students by shaping their behavior and thinking, while fulfilling their educational needs. The importance of educational institutions is evident in several aspects:

- They enlighten students' minds and cultivate a desire to acquire new knowledge, thereby achieving the highest levels of scientific and technological advancement.
- They enhance social skills, encourage reading and research, and provide students with the foundational tools needed to adapt to and thrive in diverse environments.
- They support mental health, enabling students to confront psychological challenges that may lead to drug abuse.
- They assist students in setting plans and goals, taking responsibility, and preparing for higher education, which in turn strengthens knowledge in specific fields of study.
- Overall, educational institutions contribute to the building of a society capable of facing life challenges, including the threat of drugs (Muhammad,2007,88)

### ***First - Role of Universities in Drug Prevention***

The role of universities in combating the scourge of drug abuse among students on campus is determined through the implementation of policies and laws, including the Iraqi Law on Narcotic Drugs and Psychotropic Substances No. (50) of 2017. Articles 27, 28, and 29 stipulate the capital punishment for drug dealers and traffickers((Muhammad,2007,88), reflecting the serious legal measures adopted to curb the spread of narcotics within educational environments.

The enforcement of strict legal measures against drug users and traffickers serves as a deterrent for misguided individuals. United Nations strategies emphasize this approach, including enhanced monitoring and supervision of students suspected of drug use or trafficking. Universities play a critical role in preventing the entry of narcotics into campuses by employing security personnel and monitoring systems to oversee student activities.

Additionally, universities are instrumental in raising awareness by organizing seminars and workshops conducted by specialists to illustrate the harmful effects of drug use and trafficking, as well as the legal penalties imposed on individuals found guilty of consumption, distribution, or transport (Ibrahim,et al.,2021,467)

Universities effectively contribute to reducing the prevalence of drugs, protecting students from the associated risks, and curbing dangerous behaviors that may lead to consumption or trafficking. Globally, universities adopt comprehensive policies to safeguard students from drug abuse, including support and treatment programs for students involved in drug use. These institutions also ensure the implementation of policies established by relevant authorities to combat drug-related issues within campus premises (Iraqi Law on Narcotic Drugs and Psychotropic Substances No. 50 of 2017.)

Universities undertake the following measures:

- Raising awareness and educating students, faculty, and administrative staff about the dangers of narcotic and psychotropic substances.
- Identifying and addressing factors that may lead students toward drug use.
- Prohibiting the use of cigarettes and alcohol within university premises.
- Organizing seminars, workshops, and awareness campaigns to educate students on the health and legal consequences of drug abuse. (Hussein,2022,105)

#### *Second – Role of Schools in Drug Prevention*

Schools are among the most important educational institutions relied upon by society to raise awareness of the risks and harms of drugs. Among these harms, drug abuse poses significant threats to students' well-being, which is why many societies place great emphasis on schools' ability to prevent such risks. As institutions that are both educational and formative, schools play a vital and highly effective role (Hussein,2022,105). While the responsibility for confronting the problem of drug abuse rests with all societal systems without exception, the educational system, led by schools, occupies a primary position in implementing effective measures to address drug-related issues. Schools are uniquely positioned to educate, guide, and monitor students, thereby preventing engagement in drug use and fostering healthy behavioral patterns.

Schools adopt measures that help protect students from the risks of drug use and addiction. In this context, schools are capable of playing an effective role in preventive education through key school elements, including teachers, curricula, school activities, administrative staff, and student counselors.

The following are responsibilities and roles that schools can undertake:

1. Encouraging physical activities that contribute to character building and strengthen students' willpower (Hani,2015)
2. Promoting cultural and educational activities related to drug prevention, such as animated programs, bulletin boards, and morning announcements via school radio.
3. Raising awareness through school curricula as well as organizing educational seminars to inform students about the dangers of drug abuse.
4. Organizing workshops and study sessions for psychologists, social workers, and teachers on how to detect early signs of addiction and provide guidance toward treatment. (Hani,2015)
5. Establishing school-based anti-addiction groups, which receive appropriate training to identify early cases of drug use. These groups may include

students who previously struggled with addiction but have recovered, as they can connect with peers, understand their circumstances, and encourage them to start treatment, serving as practical, positive role models.

6. Monitoring cases of truancy and school absenteeism, investigating the underlying causes, and notifying parents to ensure their active participation in observing and guiding their children. (Nasreen,2018,85)

## **CONCLUSION**

1. Law No. 50 of 2017 imposes severe penalties, including the death penalty, on traffickers.
2. Fighting drug abuse requires integrated strategies involving education, awareness, and early intervention.
3. The current approaches in universities and schools are traditional, relying on awareness campaigns and religious lectures.
4. Success in combating drugs requires collaboration between the government, civil society, private sector, and public institutions.

## **RECOMMENDATION**

1. Intensify monitoring and tighten control over suspected users.
2. Expand awareness programs for all social groups, including families and children.
3. Promote scientific research on the effects of nanodrugs and prevention methods.
4. Foster cooperation between government bodies and NGOs.
5. Provide psychological and social support for at-risk individuals.
6. Enforce strict and clear national policies to prevent and criminalize drug abuse and trafficking

## **ADVANCED RESEARCH**

Future research should employ an interdisciplinary framework that integrates criminology, behavioral psychology, public health, and digital forensics to examine the evolving dynamics of drug abuse and trafficking, particularly the emergence of nanodrugs and technology-assisted distribution networks. Advanced analytical models such as predictive risk profiling, machine-learning-based surveillance, and socio-behavioral mapping can be utilized to identify high-risk groups and intervention points with greater accuracy. Longitudinal studies are also needed to evaluate the effectiveness of current national policies and institutional responses – especially educational and community-based prevention programs – while assessing the roles of families, universities, and civil-society organizations in sustaining long-term resilience. Such research will enable the development of evidence-based and adaptive strategies that support stronger interagency collaboration and enhance national capabilities in preventing, detecting, and combating drug abuse and trafficking.

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