

**The National Ribat University**  
**Faculty of Graduate Studies & Scientific Resea**



**Evaluation of Protocols used in The  
Management and Rehabilitation of drug addiction**

(A comparative study- public and private sector)  
Khartoum- Sudan

**Submitted in partial Fulfillment of the Degree of M.Sc in  
Forensic Science**

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# بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



# Dedication

*To the one who taught me patience and success,  
my Father.*

*To one who the words racing to express the innermost  
to her, to one who taught me and suffered difficulties to get  
what I am in now,*

*Juice of my life and beat of my heart  
my sweet princess..... my compassionate Mother.*

*To that fresh breezes..The unique beads of that jewel  
My sisters and brothers.*

*To my teachers, my colleagues, and burn candles to  
illuminates for others, I dedicate this work, pleading of lord  
almighty to find acceptance and success.*

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## Abbreviations:

Abbrev	Meaning
UNOD	United nation office on drugs and crimes.
PWID	People who inject Drugs.
HIV	Human immunodeficiency virus
BC	Before Christ( an epoch used in dating years prior to the estimated birth of Jesus )
AD	The term anno domini is used to label or number years in the Julian and Gregorian calendars.
CYT	Cannabis Youth Treatment
AA	Alcoholic Anonymous
EA	Emotions Anonymous.
SAA	Sex Addict Anonymous.
CA	Cocaine Anonymous.
CMA	Crystal Meth Anonymous.
MET	Motivational Enhancement Therapy.
CBT	Cognitive Behavioral Therapy.
FSN	Family Support Network.
ACRA	Adolescent Community Reinforcement Approach
MDFT	Multidimensional Family Therapy
ONDC	Office of National Drug Control.

GAIN	Global Appraisal of Individual Needs

## **ABSTRACT**

**Introduction:** One of the hidden and most dangerous phenomena is Addiction (is state characterized by compulsive engagement in rewarding stimuli, despite adverse consequences). Which must be face by good **Rehabilitation** (processes of medical or psychotherapeutic treatment, for dependency on psycho active substances).

**Methodology** This study is a comparative study which aim to evaluate protocols used in management and rehabilitation of drug addicts in the state of Khartoum centers represented in both private and government sectors: HAYA center for social and psychological rehabilitation, AL-TIGANI EL-MAHI hospital, NOUR AL-HUDA center and Abdel-Al AL-IDRISI hospital. By using of descriptive method and comparative approach.

**Result :** private centers for rehabilitation in Sudan, has protocols which derived from the middle east rehabilitation protocols, according to the patient social, psychological and health state enabling to cease substance abuse.

Private rehabilitation centers has an excellent services, but it cost a lot comparing with governmental hospitals.



Private centers has a limit numbers of admissions so patients with few symptoms shifted to daycare ( outpatient).

**Conclusion:** private rehabilitation centers has protocols, which derived from Middle East protocols.

There was increasing of awareness among families and youth initiatives for addiction treatment.

Private centers had a good progress in providing an excellent services comparing with governmental hospitals.

**Recommendations:**

1. Private centers has protocols, but must comply with the international standards.
2. Accommodation rooms in private centers (inpatient) is few, so it must be increase to an estimate capacity of patients.
3. Sudanese must put their own protocols for rehabilitation and treatment of addiction.
4. Governmental hospitals must highlight addiction awareness and try to face it by providing good services in some sections inside the hospital.
5. Private centers can respond to outside funds which can decrease the fees.
6. Free treatment and rehabilitation of criminal addicts and those which enter the governmental hospitals.
7. Improve governmental services in addiction rehabilitation processes.

## مستخلص الدراسة :

**مقدمة:** إن احدي الظواهر الشائعة والخطيرة جدا هي الإدمان ، وهي حالة تستعبد الشخص وتجعله عبدا ذليلا خاضعا لها معتمد عليها نفسيا وهي بذرة المرض النفسي والجسدي . لذلك يجب أن تواجه مثل هذه الظواهر بالسيطرة وإعادة التأهيل وتعرف الأخيرة بأنها عملية ديناميكية تتم من خلالها مساعدة الشخص الذي يعاني من إعاقة جسدية للوصول إلي قدرة كاملة علي القيام بالوظائف الجسدية والاجتماعية والنفسية والوظيفية.

**منهجية الدراسة:** هدفت الدراسة الي تقييم البروتوكول المستخدم في علاج حالات الإدمان داخل ولاية الخرطوم ممثلا في المراكز الحكومية (مستشفى التجاني الماحي ومستشفى عبد العال الإدريسي ) والخاصة (مركز حياة ، مركز نورالهددي ) وذلك باستخدام المنهج الوصفي والمنهج المقارن .

**نتائج الدراسة:**المراكز الخاصة لعلاج الادمان في السودان لها بروتوكول علاج مشتق من بروتوكولات علاجية في الشرق الاوسط ، تبا لحالة المريض الاجتماعية والنفسية لمساعدته لتخطي الحالة.

تقدم المراكز الخاصة لعلاج الادمان خدمات ممتازة ولكنها في المقابل تكلف الكثير من المال ، كما أن بها غرف محدودة لاستيعاب المرضى ولذلك يتم تحويلهم للعيادة الخارجية للمتابعة النهارية.

**الخلاصة:**المراكز الخاصة بها بروتوكول علاجي علي عكس الحكومية ، هنالك زيادة للوعي بين الاسر والمبادرات الشبابية لعلاج الادمان، نجاح المراكز الخاصة في تقديم خدمات ممتازة علي عكس القطاع الحكومي.

**التوصيات:**المراكز الخاصة لديها بروتوكولات ولكن يجب ان يتوافق مع المعايير الدولية، ويجب ايضا زيادة عدد غرف الإقامة لاستيعاب عدد اكبر من المرضى.

يجب وضع بروتوكول علاجي خاص للادمان ف دولة السودان ، والتركيز علي زيادة الوعي حول موضوع علاج الادمان وتقديم خدمات افضل.

ان يكون هنالك قسم خاص لعلاج المجرمين المدمنين داخل مستشفيات القطاع الحكومي .

# Chapter One

## **Chapter One: Introduction**

### **1.1: Scientific background:**

Humans have used drugs of one sort or another for thousands of years<sup>(1)</sup> Wine was used at least from the time of the early Egyptians; narcotics from 4000 B.C.; and medicinal use of marijuana has been dated to 2737 B.C. in China. But not until the 19th cent. A.D. were the active substances in drugs extracted. There followed a time when some of these newly discovered substances—morphine, laudanum, cocaine—were completely unregulated and prescribed freely by physicians for a wide variety of ailments. They were available in patent medicines and sold by traveling tinkers, in drugstores, or through the mail<sup>(2)</sup>. During the American Civil War, morphine was used freely, and wounded veterans returned home with their kits of morphine and hypodermic needles. Opium dens flourished. By the early 1900s there were an estimated 250,000 addicts in the United States<sup>(3)</sup>.

Drug use prevalence continues to be stable around the world, according to the 2015 World Drug Report of the United Nations Office on Drugs and Crime (UNODC)<sup>(4)</sup>. It is estimated that a total of 246 million people - slightly over 5 per cent of those aged 15 to 64 years worldwide - used an illicit drug in 2013<sup>(5)</sup>. Some 27 million people are problem drug users,

almost half of whom are people who inject drugs (PWID). An estimated 1.65 million of people who inject drugs were living with HIV in 2013. Men are three times more likely than women to use cannabis, cocaine and amphetamines, while women are more likely to misuse prescription opioids and tranquilizers.<sup>(6)</sup>

**Dependence** is An adaptive state associated with a withdrawal syndrome upon cessation of repeated exposure to a stimulus (e.g.drug intake) ,and it has two types:

(I) **Physical dependence**: dependence that involves persistent physical–somatic withdrawal symptoms (e.g., fatigue and delirium tremens)

(II) **Psychological dependence**: dependence that involves emotional–motivational withdrawal symptoms (e.g., Dysphoria and Anhedonia<sup>(7)</sup>)

**Addiction**: is a state characterized by compulsive engagement in rewarding stimuli, despite adverse consequences. It can be thought of as a disease or biological process leading to such behaviors. The two properties that characterize all addictive stimuli are that they are reinforcing (i.e., they increase the likelihood that a person will seek repeated exposure to them) and intrinsically rewarding (i.e., something perceived as being positive or desirable)<sup>(8)</sup>

**Drug Rehabilitation** (often drug rehab or just rehab) is a term for the processes of medical or psychotherapeutic treatment, for dependency on psychoactive substances such as alcohol, prescription drugs, and street drugs

such as cocaine, heroin or amphetamines. The general intent is to enable the patient to cease substance abuse, in order to avoid the psychological, legal, financial, social, and physical consequences that can be caused, especially by extreme abuse<sup>(9)</sup>. Treatment includes medication for depression or other disorders, counseling by experts and sharing of experience with other addicts. Some rehab centers include meditation and spiritual wisdom in the treatment process.<sup>(10)</sup>

## **1.2: Rationale & Objectives:**

### **1.2.1: Study Problem**

One of the most dangerous phenomena which increase day by day is **Addiction**<sup>(11)</sup> and its treatment need to be integrated into other established forms of addiction rehabilitation, such as cognitive behavioral therapy, individual and group psychotherapy, behavior-modification strategies, twelve-step programs, and residential treatment facilities<sup>(12)</sup>

With this spread off phenomena in Sudan, It must be faced by Rehabilitation Centers with good providing treatment and services.

### **1.2.2: Study Statement**

(a) Identifying Addiction , Dependence and Rehabilitation

(b) Rehabilitation centers & protocols which followed in Sudan (Khartoum state)

(c) The extent of applying protocols in both public and private sectors.

### **1.2.3 Justification of choosing the topic**

Addiction is one of the most dangerous problems in Sudan <sup>(13)</sup>Specially among the young, and it should be treated with a proper way.

### **1.2.4 Hypothesis of the Study:**

1. There is a vast increase & spread of addiction in Sudan.
2. There is numbers of rehabilitation centers facing this problem.
3. There is a protocol to treat addicts in rehabilitation centers.
4. The difference between Governmental and Private RehabilitationCenters.

### **1.2.5 Justifications**

#### **1.2.5.1 General objectives:**

-Overview and compare protocols used in management and rehabilitation of Addiction in Sudan.

#### **1.2.5.2 Specific objectives:**

- Compare between addiction rehabilitation centers in Sudan
- Comparison betweenprotocols used in Private and Public sectors.
- Comparison between local protocol and international standards.

### **1.2.6 Study limitation :( study area)**

Khartoum state (Sudan) Private and public centers. In duration 2015-2016 under the title of research: Evaluation of protocols used in management and rehabilitation of drug addiction(A comparative study- public and private sectors)( Khartoum state).

### **1.2.7 Research methodology:**

This study is a comparative study which aim to evaluate protocols used in management and rehabilitation of drug addicts in the state of Khartoum centers represented in both private and government sectors.by using a descriptive method with comparative approach.

### **1.2.8 Data collection tools:**

Standardsfor management of drug dependence.

The interview

Booksand articles

### **1.2.9 Search structure:**

Consists of six chapters, the first one is Introduction. Chapter two includes literature review. Chapter threeMethodology. Chapter four Results and Discussions. Chapter five conclusionand Recommendation References shown at chapter six



# Chapter Two

## Chapter Two; Literature Review

### 2.1 Historical Background:

Drug abuse persists as one of the most costly and contentious problems on the nation's agenda. Most of the modern problems, as well as the benefits, resulting from drug use are the outcome of scientific and technological progress. Excluding distilled spirits.<sup>(14)</sup>

The first addictive ingredient isolated from a natural product was morphine, which was extracted from crude opium by F.W.A. Serturmer, a German pharmacist, in 1806. Increasingly widespread use of morphine, which constitutes roughly 10 percent of crude opium, revolutionized pain control<sup>(15)</sup>

In the early 1920s, Pellini, the Assistant City Chemist of New York, actively examined the Gioffredi and Valenti claims and published a refutation of their hypotheses. The general conclusion drawn from this debate over antibodies and toxins was that there was no organic basis for addiction and withdrawal and that these phenomena were "functional" or "psychological." Thus, research into addiction and withdrawal became a controversial field after 1919 due to the fact such that research might find

evidence supporting a medical model and thereby possibly challenge established government policy.<sup>(16)</sup>

Humans have used drugs of one sort or another for thousands of years<sup>(17)</sup>. Wine was used at least from the time of the early Egyptians; narcotics from 4000 B.C.; and medicinal use of marijuana has been dated to 2737 B.C. in China. But not until the 19th cent. A.D. were the active substances in drugs extracted. There followed a time when some of these newly discovered substances—morphine, laudanum, cocaine—were completely unregulated and prescribed freely by physicians for a wide variety of ailments. They were available in patent medicines and sold by traveling tinkers, in drugstores, or through the mail. During the American Civil War, morphine was used freely, and wounded veterans returned home with their kits of morphine and hypodermic needles. Opium dens flourished. By the early 1900s there were an estimated 250,000 addicts in the United States.<sup>(18)</sup>

Drug use prevalence continues to be stable around the world, according to the 2015 World Drug Report of the United Nations Office on Drugs and Crime (UNODC)<sup>(19)</sup>. It is estimated that a total of 246 million people - slightly over 5 per cent of those aged 15 to 64 years worldwide used an illicit drug in 2013. Some 27 million people are problem drug users, almost half of whom are people who inject drugs (PWID). An estimated 1.65 million of people who inject drugs were living with HIV in 2013. Men are three times more likely than women to use cannabis, cocaine

and amphetamines, while women are more likely to misuse prescription opioids and tranquilizers<sup>(20)</sup>

**2.1.1 Dependence** is an adaptive state associated with a withdrawal syndrome upon cessation of repeated exposure to a stimulus (e.g. drug intake) and it has two types:

**2.1.1.1 Physical dependence**: dependence that involves persistent physical–somatic withdrawal symptoms (e.g., fatigue and delirium tremens)

**2.1.1.2 Psychological dependence**: dependence that involves emotional–motivational withdrawal symptoms (e.g., Dysphoria and Anhedonia)<sup>(21)</sup>

**2.1.2 Addiction**: is a state characterized by compulsive engagement in rewarding stimuli, despite adverse consequences. It can be thought of as a disease or biological process leading to such behaviors. The two properties that characterize all addictive stimuli are that they are reinforcing (i.e., they increase the likelihood that a person will seek repeated exposure to them) and intrinsically rewarding (i.e., something perceived as being positive or desirable)<sup>(22)</sup>

**2.1.3 Drug Rehabilitation** (often drug rehab or just rehab) is a term for the processes of medical or psychotherapeutic treatment, for dependency on psychoactive substances such as alcohol, prescription drugs, and street drugs such as cocaine, heroin or amphetamines. The general intent is to enable the patient to cease substance abuse, in order to avoid the

psychological, legal, financial, social, and physical consequences that can be caused, especially by extreme abuse. Treatment includes medication for depression or other disorders, counseling by experts and sharing of experience with other addicts. Some rehab centers include meditation and spiritual wisdom in the treatment process<sup>(23)</sup>.

## **2.2 Steps of the Addiction Rehabilitation Process**

The journey to a healthy, sober life is not a quick and easy one. It is a lifelong commitment of dedication and hard work that is well worth the effort. Like any journey, the road to sobriety begins with simple steps forward. The specific steps of one's addiction rehabilitation process will vary according to the addiction, the treatment plan used, and the individual; however, all recovery processes share certain similarities.<sup>(24)</sup>

### **2.2.1 Intake**

When it comes to addiction rehabilitation programs, there is no shortage of options out there but it's important to find a program that is a good match for person.<sup>(25)</sup>

According to the National Institute on Drug Abuse, there are several things to consider when **choosing a drug treatment program**<sup>(26)</sup>

These include:

- There is no one-size-fits-all solution to treatment. Different treatments work for different people.

-Patients must commit enough time to treatment in order to effectively overcome their addictions.

-Everyone should have easy access to treatment when they need it.

-Addiction affects the way the brain works.

-Effective treatment should address all areas of the addict's life, not just the abuse or addiction.

-Medicinal treatment is often necessary and should be used in conjunction with therapy.

-Treatment plans should continually be tailored to meet the individual's needs and circumstances.

-Mental disorders are often linked to drug addiction and should be addressed in treatment.

-An addict does not have to voluntarily go to treatment in order for it to be effective. Many addicts are compelled to go to rehab by the court system, family or friends, and still achieve recovery once they go through the program.

-If patients receive medications during treatment, they must be monitored closely by staff members to ensure the medications are not abused.

-Treatment should include warnings about the health risks of drug use, and include medical testing to ensure patients are free from infectious diseases.

**2.2.1.1 Inpatient treatment programs** remove addicts from their old ways of life and place them into a medically supervised treatment facility. This inpatient care helps to eliminate stress by removing the individual from temptation and the ability to relapse, both during the detox and rehabilitation processes. In most inpatient rehabilitation programs, 24-hour medical supervision during detox is provided<sup>(27)</sup>

Oftentimes, patients are restricted from contacting family and friends during the first portion of the rehabilitation process. This allows them to focus solely on their recovery without distractions from the outside world. Over time, family members and close friends may be invited to participate in visiting days or family therapy sessions. This helps to build the support system that is so crucial to recovering addicts once they leave the rehab facility<sup>(28)</sup>.

**2.2.1.2 Outpatient programs** are very similar to inpatient programs with the exception that the addict is allowed to return home each night. If a patient has familial obligations, such as caring for children or elderly parents, outpatient care allows them to maintain some of those responsibilities. In some cases, if a patient has work obligations, they can work part-time while in outpatient care. As a general rule, the less stress,

the better during treatment as it's important for the patient's focus to be on the recovery process. Outpatient care is best for those with short-lived addictions. It is not recommended for those with serious or long-term addictions or those with dual diagnosis conditions.<sup>(29)</sup>

Regardless of whether you choose inpatient addiction treatment or outpatient care, the intake process will be nearly the same and conducted by a counselor at the facility. This first step uses guided diagnostic tests to determine the severity of the addiction, personal drug use history, family history, and even financial arrangements for treatment<sup>(30)</sup>.

### **2.2.2 Detox**

Most drug and all alcohol addictions require a detox program before the start of the rehabilitation program. This process of detoxification removes all traces of drugs and alcohol from the body in some cases. In other cases, maintenance medication may be given to counteract the withdrawal symptoms associated with certain drugs, such as opiateprescription drugs and heroin<sup>(31)</sup>.

The severity of the Detox process varies from person to person, depending on the substance in question, how long they took the drug and at what dosage levels, and if there are any other addictions involved.

When a person takes a drug or consumes alcohol regularly, the body becomes accustomed to having certain levels of the substance in it. Once the substance is removed, the body can go into a type of shock, causing withdrawal symptoms to occur.<sup>(32)</sup>



According to the US National Library of Medicine, some withdrawal symptoms can occur immediately, but most usually occur within 24 hours after the last dose.<sup>(33)</sup>

**2.2.2.1 Withdrawal symptoms include<sup>(34)</sup>, but are not limited to:**

Extreme depression

Issues with concentration

Decreased appetite

Severe fatigue

Agitation

Runny nose

Inability to sleep

Sweating

Nausea

Cramping

Diarrhea

Trembling or shaking

Rapid heart rate

Troubled breathing

Headaches

Muscle tension and pain

Seizure

Stroke

Hallucinations

Heart attack

The type of treatment, including any medicinal assistance, received during detox will depend on the specific type of addiction being treated. Prior to detox, patients should be assessed by professional medical personnel to determine what degree of medicinal assistance they may need during the detoxification part of rehabilitation <sup>(35)</sup>. Certain addictions, such as those to cocaine and marijuana, may not require any medications during detox. In fact, certain addictions may not even require a detox process prior to the therapy portion of treatment. Other addictions, such as those to heroin, opiates and alcohol, often require medications to combat the severity of the withdrawal process. Medications sometimes employed during detox include:

**Methadone:** Often used during detox from heroin or opiate prescription medications, methadone helps to ease addicts off the drugs. Generally, the dose of methadone given to addicts is slowly reduced over time, in hopes that they will eventually be free of all drugs. However, some recovering addicts continue to take methadone for years, or even for the rest of their lives. It's important to note that methadone can also be addictive, causing some addicts to simply replace their former addiction for a new one<sup>(36)</sup>

Detoxification is generally a safe process when undergone in a supervised medical setting. Addicts should never attempt to detox on their own at home; the results could be deadly<sup>(37)</sup>.

### **2.2.3 Rehab**

Once an individual gets through the initial detox from drugs or alcohol, they will move on to the rehabilitation portion of the recovery process. This is where the patients get to the core reasons behind their addictions, addressing those issues so they can effectively move on with their lives without going back to drugs, alcohol or their addictive behavior<sup>(38)</sup>.

In individual behavioral therapy, the patient will do this work by identifying when they began using the substance and why they started abusing it. The patient will receive strategies on how they can direct their time to focus on getting involved in new hobbies or interests<sup>(39)</sup>. Time management skills will allow them to better use their time so they have less opportunity to think about relapse. Patients learn to identify triggers, and how to deal with these triggering situations when they come up. If patients have a plan for various tempting situations, they are more likely to put their plan into action and avoid relapse. This type of cognitive behavioral therapy also addresses thoughts that patients have in relation to substance abuse or life in general. It helps to reform their thinking patterns and make behavioral changes toward a healthy, sober life.<sup>(40)</sup>

The addiction rehabilitation process usually includes group therapy. These group sessions allow the recovering addict to interact with others who are in the same situation. It is often helpful for recovering addicts to know that they are not alone in their struggles. Likewise, it can be

beneficial for addicts to share their own stories of addiction and recovery, as others find solace in them. This sense of community support is integral to the recovery process.<sup>(41)</sup>

Most addiction rehabilitation facilities offer family therapy as part of their program<sup>(42)</sup>. Addiction is far-reaching, affecting many people rather than just the individual with the addiction. Family members are often those who are most deeply affected by their loved one's addiction, and they are an important component of the recovery process for that person. Initially, patients may be restricted from contacting loved ones but later in the recovery process, family members are often welcomed to participate in family therapy sessions. During these sessions, family members can discuss pain caused by their loved one's addiction and their desire to see that person live a healthy life. Family therapy can help to resolve issues so the family can serve as a pillar of support once their loved one leaves the rehabilitation facility.<sup>(43)</sup>

#### **2.2.4 Recovery**

After a patient has completed their rehabilitation program, they are not finished with recovery. In fact, recovery is a lifelong process that an addict must work at for the rest of their life. Sometimes, the path to lifelong recovery will be easy; other times, it will be difficult for individuals to withstand the temptation to relapse. Like anything in life, it's a journey that may feature varying terrain so lifelong support is essential.<sup>(44)</sup>

Prior to leaving an addiction treatment program, the patient will meet with counselors to discuss a plan for aftercare<sup>(45)</sup>. Many addiction rehab facilities offer follow-up programs to assist the patient as they return to normal life. These may include weekend stays back at the rehab center when the individual feels a touch-up stay is needed. Or a patient may live in a sober living facility for a while with other recovering addicts before returning home. While in a sober living facility, recovering addicts perform chores, work at an outside job and participate in group therapy sessions. This offers a supportive transitional time for recovering addicts before being thrown back into "normal" life.<sup>(47)</sup>

Many patients maintain regular therapy sessions post rehab, and some submit to scheduled drug testing as a way to keep them accountable to their sobriety. Group therapy is a wonderful method for building a support system in your local area. Alcoholics anonymous (AA) and Narcotics Anonymous (NA) are well-known 12-step groups that many recovering addicts attend on a very regular basis. Both AA and NA have meetings all across the country at easily accessible times.<sup>(49)</sup>

There are various offsprings of the AA model for a wide range of other addictions, such as Overeaters Anonymous (OA), Emotions Anonymous (EA), Gamblers Anonymous (GA) and Sex Addicts Anonymous (SAA). There are also subsets of NA for specific drugs, like Cocaine Anonymous (CA) and Crystal Meth Anonymous (CMA).

Some addicts find the type of support they can get in very specific 12-step groups is more beneficial whereas other addicts gain the help they need from more general groups.<sup>(4^)</sup>

In these aftercare support groups, it's often said that participants get what they give, so they are encouraged to interact with other group members and share their experiences with the group. Once recovering addicts are more established in their sobriety, they may choose to mentor newly recovered addicts.<sup>(4^)</sup>

## **2.3 Previous Studies:**

### ***2.3.1 The Cannabis Youth Treatment (CYT) experiment: rationale, study design and analysis plans***<sup>(5^)</sup>

*Keywords:*

Adolescents.Cannabis.

Manual-Guided Therapy.

Marijuana.Quality Assurance.

Substance AbuseTreatment.

*Abstract:* Aims This paper provides a description of the rationale, study design, treatments and assessment procedures used in the Cannabis Youth Treatment (CYT) experiment.

*Design :* CYT was designed to (a) test the relative effectiveness, cost and benefit–cost of five promising treatment interventions under field conditions and (b) provide evidence based manual-guided models of these interventions to the treatment field.

*Setting :* The study involved two community-based treatment programs and two major medical centers.

*Participants :* Participants were 600 adolescents recruited from the regular intake who were between the ages of 12 and 18, had used marijuana in the past 90 days, and met one or more criteria of dependence or abuse.

*Interventions:* Participants were randomly assigned to one of five interventions: Motivational Enhancement Therapy (MET), Cognitive Behavioral Therapy (CBT), Family Support Network (FSN), Adolescent Community Reinforcement Approach (ACRA), or Multidimensional Family Therapy (MDFT).

*Measurements* Self-report data were collected at intake, 3, 6, 9 and 12 months post discharge using the Global Appraisal of Individual Needs (GAIN), as well as several supplemental self-reports, collateral reports, urine testing, and service logs.

*Findings* This paper reports on the study's implementation including the psychometric properties of the measures (alphas over

0.8), validity of self-report (kappa over 0.6), high rates of treatment completion (81% completed two or more months), and high rates of follow-up (over 94% per wave).

*Conclusions* The feasibility of implementing the CYT manual-guided treatment and quality assurance model in community-based adolescent treatment programs is discussed.

## **2.3.2 Addiction Treatment and Continuing Care in Forensic Populations**

### **Drug Use in Correctional Populations<sup>(51)</sup>**

Abstract: Eighty percent (1.4 million) of the 1.7 million adult Americans in state or federal prisons or local jails are involved with alcohol or drugs.<sup>1</sup> Sixty-four percent of state inmates, 43% of federal inmates, and 59% of local jail inmates reported having used drugs regularly (ie, at least weekly for a period of at least 1 month). Forty-eight percent, 23%, and 55% of state, federal, and local jail inmates, respectively, were under the influence of alcohol, drugs, or both at the time they committed the crime for which they were currently serving time. Nineteen percent, 55%, and 21% of state, federal, and local jail inmates, respectively, had been convicted of a drug law violation. Twenty-nine percent, 14%, and 15% of state, federal, and local jail inmates, respectively, had been in treatment for alcohol dependence at some point.

Pre-arrest drug use was reported by 755 (43%) of 1,751 imprisoned men.<sup>2</sup> A retrospective survey of these inmates found that 34%



reported use of marijuana, 9% opiates, 9% amphetamines, and 5% cocaine. These inmates represented a crosssection of ages, security levels, types of offense, and sentence lengths.

Among inmates who had ever used drugs regularly, 76% of those in state prisons, 69% in federal prisons, and 70% in local jails had used drugs in the month prior to their arrest. In comparison, only 6% of the general adult population surveyed in 1996 had used illicit drugs in the month prior to being surveyed. Lifetime drug use is much higher among inmates than in the general population: 79%, 60%, and 78% of state, federal, and local jail inmates, respectively, had used illicit drugs, compared with 48% of the non-incarcerated adult population.

### ***2.3.3 Drug Offenders' Perceptions of Motivation***

#### **The Role of Motivation in Rehabilitation and Reintegration<sup>(52)</sup>**

**Abstract:** This article presents a qualitative analysis of participants' perceptions of the importance of motivation in the detoxification and rehabilitation process. As part of an outcome evaluation of recovering drug addicts who participated in a prison-based therapeutic community, 39 participants (a nonrandomized subsample) are interviewed regarding their rehabilitation and reintegration experiences. Although many studies show that participation in prison-based drug treatment programs reduces the likelihood of recidivism, clients in this study suggest that other factors might be equally important, and in particular clients' own motivation to change their lives. This study raises some questions

about the true ability of drug treatment programs to treat and rehabilitate drug-abusing offenders, diverting the emphasis from the treatment program itself to the participants' motivation to change. Findings are discussed in regard to prison-based drug treatment programs, after-release impediments encountered by inmates, and inmates' expectations of successful reintegration into the normative noncriminal society.

### **2.3.4 Treatment Protocol Effectiveness Study<sup>(53)</sup>**

Drug dependence is a chronic, relapsing disorder requiring specialized treatment. Breaking the cycle of dependence is difficult at best, and hardcore drug users often suffer extreme physical, psychological, emotional, economic, and social pain. In many ways, hardcore drug users are isolated from society. Their addiction affects not only them but also their families and friends as well as the larger community (Office of National Drug Control Policy [ONDCP], 1994)<sup>(54)</sup>

Drug abuse treatment is the process of breaking an individual's dependence on illicit drugs (e.g., heroin and cocaine) or licit drugs (e.g., alcohol and prescription medications). Although the term "drug abuse treatment" implies a single entity, in fact it is a complex and variable network of services tailored to meet the multiple needs of the individual. Drug abuse treatment can take place in hospitals; long-term residential treatment programs; walk-in clinics; and counseling centers, psychotherapists' offices, and church basements. The choice of setting and the type of treatment selected by or

mandated for the individual depends on such factors as the drug of addiction, history of drug use and previous drug treatment, social needs, criminal record, economic status, and personality characteristics.<sup>(55)</sup>

In both the drug treatment and in the treatment research communities, there is broad consensus that drug abuse treatment works. However, identifying the most effective type of treatment and for whom it is most effective continues to be a difficult task. In this climate of managed care, it is more important than ever to determine which treatment will work best for which patient. The surest way to make this determination is through rigorous evaluation of treatment modalities, treatment programs, and patient outcomes.<sup>(56)</sup>

### **2.3.°Evaluating The Effectiveness Of Drug Abuse Treatment**

Evaluating drug abuse treatment effectiveness begins with an understanding of a number of other factors related to the drug treatment modality or program itself. These include knowing the array of social, medical, and other services needed and available to the drug user; understanding the extent of drug use in a community; and understanding the nature and progression of drug addiction. The following sections discuss the considerations for treatment evaluation, definitions of effective drug abuse treatment, and recommendations for improving drug abuse treatment.<sup>(57)</sup>

### **2.3.1 Considerations for Treatment Evaluation**

For most drug users, treatment includes a variety of social and medical services necessary to aid recovery. For hardcore drug users (i.e., those suffering from continuing and increasing use, those suffering from significant social and health consequences, and those with a preoccupation with obtaining drugs), drug treatment occurs within a cluster of legal, social, and medical services functioning in the community. Knowledge of the ways in which these services are integrated and delivered is important to determine what can be expected from treatment and how to evaluate the treatment provided.  
(58)

Interventions required by the hardcore drug user typically involve the criminal justice system, the health care system, and the welfare and educational systems. These, together with the drug abuse treatment system, serve the drug user in the process of treatment and recovery. These services sometimes, but not always, are delivered in a coordinated, supportive, and integrated fashion. The greater the support given the drug user throughout the process of treatment and long-term recovery, the greater the likelihood of treatment success. In reality, few communities claim fully functional provision of services for all persons in need, especially drug users. It is the degree of function or dysfunction of the treatment and service environment that must be understood to formulate expectations and accurately evaluate drug treatment effectiveness.<sup>(59)</sup>

The extent and types of drug abuse in a community also must be gauged accurately to evaluate the array of required services. Ideally, the drug use patterns, medical and social consequences, and costs of drug abuse should be understood. In addition, understanding the nature of addiction is important to structuring and evaluating appropriate treatment services. <sup>(60)</sup>

## **2.4 Defining Effective Drug Abuse Treatment<sup>(61)</sup>**

Given what is known about the many social, medical, and legal consequences of drug abuse, effective drug abuse treatment should, at a minimum, be integrated with criminal justice, social, and medical services and lead to the following results or outcomes:

Reduced use of the primary drug. Definitions of treatment effectiveness include abstinence, reduced time to relapse, reduced frequency of drug use, and the reduced amount of the drug used in total and during each episode of use.

Improved functioning of drug users in terms of employment; this includes increased number of days worked and enrollment in training programs or school, if needed.

Improved educational status. This includes increased school attendance and improved grades and overall performance.

Improved interpersonal relationships. This includes relationships with family, friends, and employers.

Improved medical status and general improvement in health; this is indicated by fewer hospitalizations, doctor visits, and emergency room visits.

Improved legal status; this is indicated by improvements in current legal status (e.g., probation, parole, or incarceration); fewer arrests; fewer convictions; reductions in crimes committed against self or others; and reductions in property crimes committed.

Improved mental health status; this includes improved mood and cognition, reduced psychotic states, improved personality traits, and reduced need for mental health treatment.

Improved noncriminal public safety factors; this includes reduced incidence of drug-related fires, motor vehicle crashes, accidents, trauma to self and others, and emergency room visits.

Among the indicators of treatment effectiveness cited above, the following are frequently cited as particularly important when determining treatment effectiveness among hardcore drug users, regardless of treatment model or client type<sup>(62)</sup>

- Reduced crime;
- Reduced drug use;
- Reduced domestic violence;
- Reduced behavior at risk for HIV (human immunodeficiency virus) infection;
- Increased days of employment; and
- Positive changes in social values and networks.

# *Chapter Three*

## **Chapter Three: Methodology**

**This is a comparative study:**

### **3.1 location and time frame of the study:**

This study was conducted in Sudan( Khartoum state) rehabilitation centers covering period extending through the last years 2015-2016.

### **Study populations:**

Private and public rehabilitation and addiction management centers and hospital in Khartoum represent in:

Haya Center for Rehabilitation (private)

El-TiganiAlmahi Hospital (public)

AbdAlaal El-Idrisi Hospital (public)

Nour Al-Huda Center (private)

### **3.2 Tools of Study:**

#### **3.2.1 International standards:**

##### **Twelve Steps Program**

A twelve-step program is a set of guiding principles (sometimes accepted by members as being 'spiritual principles') outlining a course of action for tackling problems including alcoholism, drug addiction and compulsion.<sup>(63)</sup>

As summarized by the American Psychological Association, the initial steps were six as follows:<sup>(64)</sup>



1. admitting that one cannot control one's alcoholism, addiction or compulsion;
2. recognizing a higher power that can restore sanity;
3. examining past errors with the help of a sponsor (experienced member);
4. making amends for these errors;
5. learning to live a new life with a new code of behavior;
6. helping others who suffer from the same alcoholism, addictions or compulsions.

The following are the original twelve steps as published by Alcoholics Anonymous.

1. We admitted we were powerless over alcohol—that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God *as we understood Him*.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became willing to make amends to them all.

9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory, and when we were wrong, promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual awakening as the result of these steps, we tried to carry this message to other alcoholics, and to practice these principles in all our affairs.

### **3.2.2 data collection:**

Haya center: is a private center works by Addiction treatment protocols of Saudi Arabia, with some addition according to patients need. Step of improve the motivation may take 2-4 sessions depending on the patient's condition and sometimes need depression sessions.<sup>(65)</sup>

In the center addicts who less than 18 years of age they are not allowed to accommodate and also there is no place for addict girls. Period of residence in the center of about 45 Days<sup>(66)</sup>

Al-TIGANI EL-MAHI Hospital:The hospital does not have a specific protocols for addict's treatment because those who enter the hospital have other symptoms such as Psychosis or severe Agitation.

# Chapter Four

## **Chapter Four: Result and Discussion**

### **4.1 HAYA center for the treatment of psychological and social rehabilitation**

It works to provide treatment and rehabilitation service psychosocial and abusers, drug addicts and alcohol and works to provide preventive and awareness specialized training programs and capacity building for the professionals.

This center is a partnership between the Ministry of Social Development and the Khartoum state and the center of community studies offers free psychotherapy and social abusers, drug addicts and rehabilitation center aims to provide a localization of integrated Sudan, treatment and prevention services and outreach and reintegration in society and attention also built specialized capabilities and provide treatment and counseling services, advocacy and consulting specialized and through the unification of official and voluntary efforts and partnerships with stakeholders both internally and externally and the center includes a number of sections the most important treatment and psycho-social rehabilitation for addicts - public and consulting services (hotline) - awareness and community is the life of the center of the first specialized center of its kind in the Sudan<sup>(67)</sup>.

#### **4.1.1 Center sections:**

1. Department of consulting and public INQUIRIES (hotline).
2. Media and public relations department.
3. training department .
4. Community outreach department.
5. Department statistics, studies and research.
6. Information and technical support department.

#### **4.1.2 Center Protocol:**

The center works by Addiction treatment protocols of Saudi Arabia, with some addition according to patients need.

Step of improve the motivation may take 2-4 sessions depending on the patient's condition and sometimes need depression sessions.

In the center addicts who less than 18 years of age they are not allowed to accommodate and also there is no place for addict girls

period of residence in the center of about 45 Days

The evaluation of the patient's condition by a physician during the initial sessions<sup>(68)</sup>

TABLE 1: HAYA CENTER RESULTS.

	yes	No
Medical consultation to the patient	•	
Inpatient accommodation	•	
Presence of daycare	•	
Presence of separate place for addict girls		•
Outpatient follow up	•	
12 steps for addiction treatment	•	
Psycho-social rehabilitation for addicts	•	
Presence of department of counseling and public INQUIRIES (hotline).	•	
Step of improve motivation	•	
Free of treatment		•
Presence of training department	•	

**Result:** The center works by Addiction treatment protocols of Saudi Arabia, with some additio

## 4.2 Abdl-Al Idrisi Hospital:

Table 2: Abdl-Al Idisi hospital results:

	Yes	No
Medical consultation to the patient	•	
Inpatient accommodation	•	
Presence of daycare		•
Presence of separate place for addict girls		
Outpatient follow up		
12 steps for addiction treatment		
Psycho-social rehabilitation for addicts	•	
Presence of department of counseling and public INQUIRIES (hotline).		
Presence of training department		

There is no obvious information concern with the study needs.<sup>(69)</sup>



### 4.3 Al-TIGANI EL-MAHI Hospital:

The hospital does not have a specific system for the treatment of addicts because those who enter the hospital have other symptoms such as Psychosis or severe Agitation<sup>(70)</sup>

Table 3: AL-Tigani El-Mahi hospital results:

	Yes	No
Medical consultation to the patient	•	
Inpatient accommodation	•	
Presence of daycare		•
Presence of separate place for addict girls		•
Outpatient follow up		•
12 steps for addiction treatment	•	
Psycho-social rehabilitation for addicts	•	
Presence of department of counseling and public INQUIRIES (hotline).		•
Step of improve motivation		
Presence of training department		•
Free of treatment	•	

**Result** :The main aim is to treat patients from their symptoms

**4.4 NOUR AL-HUDA Center for Treatment and Rehabilitation** is Centre for Addiction Treatment and psychological counseling which deal with the problem of addiction and deal to provide individual counseling and assistance to the addict and those around him in complete secrecy until get to promote community participation in the face of what affects the mind , where is the rehabilitation part of the treatment program is done through curative and preventive activities and rehabilitative principles and scientific foundations proportional to the cumulative nature of the drug. Which contribute to the formation of international, local and regional variables , so the foundations of treatment depends on the increase in the cumulative effect of the components of the drug Everything victuals effect resorted to qualitative increase until we get to the removal of toxins from the body and work on the need to prevent relapse in order to address those aspects of life that have guided.<sup>(71)</sup>

#### **4.4.1 Center protocols:**

- The center gives free medical consultation to its patient.
- Inpatients take period of 2-3 weeks according to the case.
- Day care begins with daily for one week then once weekly.
- There is separate place for addict girls.
- Outpatient may be up to six months.<sup>(72)</sup>

Table 4: Nour Al- huda center results:

	Yes	No
Medical consultation to the patient	•	
Inpatient accommodation	•	
Presence of daycare	•	
Presence of separate place for addict girls	•	
Outpatient follow up	•	
12 steps for addiction treatment	•	
Psycho-social rehabilitation for addicts	•	
Presence of department of counseling and public INQUIRIES (hotline).		
Step of improve motivation	•	
Free treatment of addiction		•
Presence of training department	•	

**Result** : protocol of center is according to patients state .

## Result Presentation:

Table 5: results presentation:

Name Type	HAYA CENTER	ELTIGANI ALMAHI HOSPITAL	NOUR ALHUDA CENTER	ABDA-AL IDRISI HOSPITAL
Center type	Private	Governmental	Private	Governmental
Presence of protocol	Protocol of middle east centers	No protocols	Depends on patient case	_____
Period of inpatient	45 days	Till symptoms decreased	2—3 weeks	_____
Period of outpatient Follow up	2years	_____	6 months	_____
Presence of Place for girls	Not present	Yes	Yes	_____
Medical consultation	•	•	•	•
12 steps program	•	•	•	
Psycho-social rehabilitation	•	•	•	•
Free treatment		•		
<b>Department of counseling and public INQUIRIES</b>	•		•	
Training department	•		•	

Table shows that: no obvious protocol for treatment in governmental sectors , although private centers have some attempts to have a one.

#### **4.5 Discussion:**

From the result shown that :Addiction Rehabilitation Process is not simple. **Inpatient treatment programs** remove addicts from their old ways of life and place them into a medically supervised treatment facility. This inpatient care helps to eliminate stress by removing the individual from temptation and the ability to relapse, both during the detox and rehabilitation processes.

- In **HAYA** center inpatient rehabilitation programs, 72-hour medical supervision during detox is provided
- In **NOUR AL-HUDA** center inpatient take period of 2-3 weeks according to the case.
- In **GOVERNMENTAL HOSPITALS** inpatient period take long time because it depends on symptoms.

**Improve motivation** sessions depending on the addict's state. Oftentimes, patients are restricted from contacting family and friends during the first portion of the rehabilitation process. This allows them to focus solely on their recovery without distractions from the outside world. Over time, family members and close friends may be invited to participate in visiting days or family therapy sessions. This helps to build the support system that is so crucial to recovering addicts once they leave the rehab facility

**It takes 2-4 sessions depending on the addict's state.**

**Outpatient programs** are very similar to inpatient programs with the exception that the addict is allowed to return home each night. If a patient has familial obligations, such as caring for children or elderly parents, outpatient care allows them to maintain some of those responsibilities. In some cases, if a patient has work obligations, they can work part-time while in outpatient care. As a general rule, the less stress, the better during treatment as it's important for the patient's focus to be on the recovery process. Outpatient care is best for those with short-lived addictions. It is not recommended for those with serious or long-term addictions or those with dual diagnosis conditions.

- In **HAYA** center outpatient programs could continue until 2 years.
- In **NOUR AL-HUDA** center outpatient may be up to 6 months.

**Group Therapy:** These group sessions allow the recovering addict to interact with others who are in the same situation. It is often helpful for recovering addicts to know that they are not alone in their struggles. Likewise, it can be beneficial for addicts to share their own stories of addiction and recovery, as others find solace in them. This sense of community support is integral to the recovery process.

**In both private centers** sometimes group therapy can help specially with religious sessions

**Family Therapy:** Most addiction rehabilitation facilities offer family therapy as part of their program. Addiction is far-reaching, affecting many people rather than just the individual with the addiction. Family members are often those who are most deeply affected by their loved one's addiction, and they are an important component of the recovery process for that person. Initially, patients may be restricted from contacting loved ones but later in the recovery process, family members are often welcomed to participate in family therapy sessions. During these sessions, family members can discuss pain caused by their loved one's addiction and their desire to see that person live a healthy life. Family therapy can help to resolve issues so the family can serve as a pillar of support once their loved one leaves the rehabilitation facility

- In private centers ( HAYA& NOUR AL-HUDA ) present a special day for family visits.

# *Chapter Five*

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## **Chapter five: Conclusion and Recommendations**

### **5.1 Conclusion :**

From the results, It was concluded that governmental sectors do not have any obvious protocol because there is no separate section dealing with addicts firstly, secondly these governmental centers deal with the consequences( psychosis or sever agitation).

the government centers can admit the largest number of patients compared to private centers.

Private centers provide an excellent services but cost money because there is no institutions or organization supporting the free treatment program. It also managed a lot of successful cases with few relapses attributed to patient social or psychological state.

Private centers have a limit number of admissions, so patients with few symptoms shifted to daycare for outpatients, They also undergo tests every time they come to the center.

## **5.2 Recommendations:**

- 1.** Addiction fact, must be highlighted through awareness programs.
- 2.** Establishing of governmental centers for rehabilitation and treatment of addiction is very important because addicts represent a considerable segment of youth peoples.
- 3.** Creating a protocol for treating addicts in Sudan public centers is mandatory.
- 4.** Increasing the number of medical staff in these centers is important to provide the best service possible.
- 5.** Public and private institution must provide funds for treating addicts in private centers with minimum charges.
- 6.** Adoption of the international standards must be mentioned in compliance implementation followed by complain must be in place.

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