

# Assessment of the Quality of Services Offered to Heroin Users Under Methadone by the Dakar Center for Integrated Addiction Care (CEPIAD)

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**Abstract:** Drug addiction is a major public health problem in Senegal. One of the responses has been the establishment of a Center for Integrated Addiction Care in Dakar (CEPIAD). The objective of this study is to evaluate the quality of services offered to heroin users under methadone substitution treatment. This is a descriptive cross-sectional study based on a systematic sampling of one hundred (100) heroin users under methadone substitution treatment who had given their consent. Individual interviews were conducted with patients regularly followed at the center from December 16, 2016 to February 17, 2017. Data were entered and analyzed using Epi-info and Excel software. There was a male predominance with 92 males and 8 females (sex ratio of 11.5). The average age was 48.8 years with a standard deviation of 9.7. The vast majority of respondents were Senegalese (99%), with 78% living in the city and 22% in the suburbs of Dakar. The vast majority were single, divorced or widowed (61%). The level of education was relatively high; 11% had a university level, 47% a high school level, 31% an elementary school level, and only 1 person had no schooling. Among the respondents, 39 were unemployed, 1 was a housewife, 5 were retired; the other 55 had an income-generating activity, including 42 in the informal sector. All of the respondents were satisfied and had access to risk reduction materials for sexually transmitted infections (RDR). The 80 respondents participate regularly in social activities such as talks, community meals, etc. The other 20 do not have the time to participate. Methadone is delivered from 9:00 a.m. to 1:00 p.m. on weekdays. Only 57 respondents were satisfied with the schedule. The 28% of heroin addicts said they were very satisfied with the methadone program and 70 were moderately satisfied and asked for the possibility of taking a week's supply. The single use of the cups reserved for the oral administration of methadone was requested by 2% of patients. Heroin addicts are generally satisfied, but it is necessary to insist on awareness raising, information and withdrawal. It is important to extend CEPIAD's activities to other regions and, above all, to help heroin addicts get a socioprofessional reintegration.

**Keywords:** Heroin, Methadone, Quality, Senegal

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## 1. Introduction

More than 30 million people worldwide, or 0.6% of the world's adult population, have symptoms of drug addiction and require treatment. Narcotic drugs caused 190,000 premature deaths worldwide in 2015, among which opioids,

with heroin at the top, bearing a heavy responsibility for being the leading cause [3].

Moreover, the International Narcotics Control Organization (INCO) showed in 2016 that the African

continent is one of the main transit regions and is gradually becoming a consumer market. The International Narcotics Control Organization says that hard drug of \$1.25 billion (772 billion CFA francs) value is moved through the continent every year by traffickers [4].

In its 2004-2005 Rapid Assessment of the Drug Situation in Senegal, the Inter-ministerial Committee for the Fight against Drugs (CILD) and the United Nations Office on Drugs and Crime (UNODC) reported on the use of cocaine/crack and heroin as well as the use of intravenous drugs in several regions of the country [1].

The health consequences of illicit drug use remain a global concern, as a large majority of drug users still do not have access to treatment [3].

In Senegal, many efforts have been made in the fight against drugs, but the problem is becoming more and more complex: "a global and social approach is needed". The National Network of Civil Society Actors on Drugs emphasizes that there is a political will in Senegal but it is not supported by an effective implementation policy in terms of prevention and care. The response is essentially repressive, marked by strong stigmatization and misunderstanding of the population. For a more appropriate approach, Senegal has implemented since 2011 a program of risk reduction (RDR) related to drug use. The Centre de Prise en Charge Intégrée des Addictions de Dakar (CEPIAD) has been set up and offers heroin users methadone as a substitution treatment. It could help to further understand and analyze the living conditions of the center's users [2]. The objective of this study is to assess the quality of services offered by CEPIAD to heroin users under methadone. More specifically, the aim is to determine the socio-demographic characteristics, to determine both the level of satisfaction with the risk reduction activities and that of satisfaction with the methadone program, to analyze the appreciation of the conviviality activities.

## 2. Methodology

### 2.1. Study Setting

The infrastructure is an initiative co-financed by the Global Fund, the ESTHER organization, the National Committee for the Fight against AIDS (CNLS), the Paris City Hall, and the United Nations Drug Control Agency (UNDC). CEPIAD is a unit of the psychiatric department at FANN National University Hospital Centre (CHNUF) dedicated to the fight against drugs and the improvement of mental health. It links the fight against AIDS, viral hepatitis and drug use. The centre is the first of its kind in West Africa with as objective is to facilitate access to care for drug users in order to reduce their dependency but also to reduce the risks of contamination with HIV/AIDS, Hepatitis B Virus, Hepatitis C Virus and tuberculosis. The CEPIAD staff is made up of a multidisciplinary team among them are psychiatrists, addictologists, general practitioners, nurses, social workers, pharmacy technicians, biologists and social

mediators [2].

### 2.2. The Type of Study

This is a descriptive cross-sectional study, based on a systematic sampling of one hundred (100) patients.

### 2.3. The Study Population

It is made up of heroin addicts patients of CEPIAD under opiate substitution treatment (OST) with methadone regardless of age or gender.

#### 2.3.1. Inclusion Criteria

Heroin addicted patients under methadone regularly followed at CEPIAD and who gave their consent to participate in the study.

#### 2.3.2. Non-inclusion Criteria

- 1) Non-heroin dependent patients
- 2) heroin addicts not included in the methadone program
- 3) lack of consent

### 2.4. Sample Size and Survey Method

The sample size is:  $n = 100$ .

About 100 individual interviews were conducted. The procedure for recruiting heroin addicts was based on systematic sampling. The first number was obtained by simple random sampling followed by the application of a sampling step.

### 2.5. The Data Collection Tool and Method

Data were collected after a one-on-one interview using a questionnaire.

### 2.6. Study Period

The study took place during the period from December 16, 2016 to February 17, 2017 at CEPIAD with regular heroin addicts followed at the center.

### 2.7. Data Entry and Analysis Plan

Data were entered and analyzed using Epi-info software.

### 2.8. Study Challenges

During the course of the survey, four (4) cases of refusal were noted related to the phobia of foreigners in general.

## 3. Results

### 3.1. Socio-demographic Characteristics of Heroin Addicts Under Methadone

#### 3.1.1. Gender of Heroin Users Under Methadone

The male sex is highly represented with 92 men against 8 women; the sex ratio is 11.5.

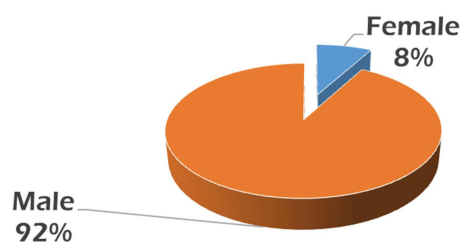


Figure 1. Distribution of intravenous drug users under methadone by sex.

### 3.1.2. Age of Heroin Addicts Under Methadone

The average age is 48.8 years with a standard deviation of 9.7. Almost all of the heroin addicts are middle-aged and are between 45 and 55 years old.

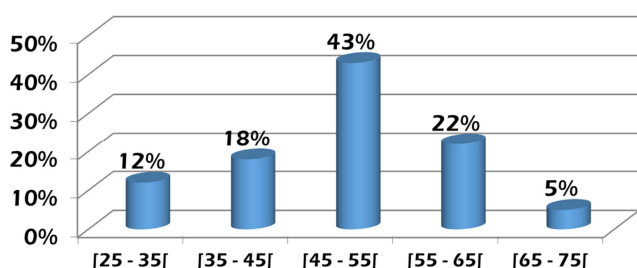


Figure 2. Distribution of intravenous drug users under methadone by age group.

### 3.1.3. Nationality and Origin of Heroin Addicts Under Methadone

Of the 100 heroin addicts surveyed, 99 were Senegalese and only one was French. Residents of the city of Dakar accounted for 78% of the respondents, while 22% came from the suburbs.

### 3.1.4. Marital Status of Heroin Addicts Under Methadone

The vast majority of heroin addicts lived alone (61%) and were divorced (44%), single (12%) or widowed (5%). Married people accounted for 37% and 2% were cohabiting.

### 3.1.5. Educational Level of Heroin Addicts Under Methadone

The level of education was relatively high, with 11% having a university level, 47% a high school level, 31% an elementary school level, 10% a Koranic education, and only one person had no schooling.

### 3.1.6. Income-generating Activity

Among the respondents, 39 were unemployed, 1 was a housewife, and 5 were retired; the other 55 had an income-generating activity, including 42 in the informal sector.

## 3.2. Risk Reduction Activities (RR)

In our study, we found that all the heroin addicts surveyed had 100% access to the harm reduction materials offered by CEPIAD. These materials are used to prevent diseases such as HIV/AIDS, STIs/STIs, viral hepatitis B and C and tuberculosis. In our study, we found that among the 100 heroin users surveyed, 66% said they had used condoms, 19% syringes, 07% steri-cubs, 03% lubricants, 02% distilled

water and 01% sterile cotton.

Harm reduction equipment was well adapted to the needs of 99 patients who were very satisfied. The only heroin addict who was not satisfied suggested that CEPIAD distribute crack pipe tips and snorting straws.

## 3.3. Social Activities Offered by the Center

Only 20 of the patients said that they did not have time to participate in these activities because of their work.

The preventive activities were of more interest to the patients. It is an opportunity for the health staff to sensitize the patients on all the risks inherent to drug use. They recorded a participation rate of 73.75% for the talks, 73.75% for the methadone clubs, 45% for the community meals and 42.50% for the snacks.

Occupational activities seemed to be less popular with 25% for art therapy, 13.75% for computers, 10% for gardening, 6.25% for discussion groups, 6.25% for French classes and the chicken breeding activity. Sewing and reading were of interest to only 3.75% of patients.

## 3.4. Heroin Addicts' Satisfaction with the Methadone Program

### 3.4.1. Side Effects in the First Three Months

Among the respondents, 85 heroin addicts said that they had once experienced side effects at the beginning of methadone treatment, including drowsiness, insomnia, vomiting, nausea, sedation, dizziness, dry mouth, euphoria, etc.

Table 1. Types of side effects at the beginning of the treatment (0-3 months).

Types of side effects	Number	Percentage %
Drowsiness	64	64%
Insomnia	27	27%
Vomiting	26	26%
Nausea	25	25%
Sedation	15	15%
Dizziness	15	15%
Dry mouth	11	11%
Euphoria	09	09%
Other (Diarrhea, Hiccup, Tearfulness)	03	03%

Source: Results of our survey (December 2017 - February 2018).

### 3.4.2. Side Effects After the First 3 Months

Our survey reveals that 92 heroin addicts once experienced side effects after the first 3 months of treatment such as constipation, hypersudation, tachycardia or bradycardia, decreased libido and dysuria. All these effects diminished with time.

Table 2. Types of side effects after the first 3 months.

Types of side effects	Number	Percentage %
Constipation	91	91%
Hypersudation	21	21%
Decreased libido	14	14%
Dysuria	05	05%
Rapid or slow heartbeat	18	18%

Source: Results of our survey (December 2017 - February 2018).

### 3.4.3. Methadone Dispensing Schedules

The methadone dispensing schedule is set by CEPIAD from 09:00 to 13:00. Of 100 heroin users surveyed, 57% felt the proposed schedule was correct.

### 3.4.4. Use of Other Legal Substances

Of the 100 heroin addicts surveyed, 98% said they use legal substances, including tobacco (97%), alcohol (20%) and one person uses injectable tramadol.

### 3.4.5. Use of Illicit Substances

Out of 100 heroin addicts surveyed, 52% claim to have used illicit substances such as: cannabis 86%, cocaine 36%, benzodiazepines 19%, heroin 4% and amphetamines 2%.

### 3.4.6. Appreciation of the Methadone Program

At the end of our study, only 28% of heroin addicts say they are very satisfied with the methadone program. The others (70%) were moderately satisfied and asked for the methadone to be taken away, for more attention to be paid to social and professional reintegration, and for flexibility in the times when methadone was distributed. The single use of cups reserved for the oral administration of methadone was requested by 2% of patients.

### 3.4.7. Referral to the Facility (CEPIAD)

Of the 100 heroin addicts surveyed, 97% would not hesitate to refer a friend or relative to CEPIAD if they expressed the need for treatment for their addiction.

## 4. Discussion

The study shows that the majority of heroin users on methadone are men (92%) compared to 8% of women, with a sex ratio of 11.5.

This predominance of men could be due to the fear of stigmatization which prevents women from coming to CEPIAD.

Simoni-Wastila et al in 2004 found contrary results and demonstrated that women engage in opiate use more often than men [7]. On the other hand, Beck et al found that this consumption would be similar in men and women [8]. Bryant J et al, showed that in the United States, the majority of them are still predominantly male, but the proportion of women is becoming increasingly important and represents about 20-30% of the population of heroin users [9].

This male predominance can be explained in particular by the patriarchal nature of the Senegalese society which places women in such a position of dependence that any attempt to individualize themselves is seen as evil.

This low percentage of women indicates that they are much more integrated into family and social structures. Consequently, they are less exposed to negative external phenomena such as drugs, prostitution and bad company [11].

The average age of the heroin addicts surveyed was 48.8 years. This shows a predominance of older subjects. On reading these data, one might be tempted to say that heroin addiction only concerns the population aged over 48.

However, this assertion should be tempered because more and more young people are also using heroin, particularly in schools, but also in difficult neighborhoods, due to precariousness, difficult living conditions and the gradual breakdown of the family unit.

At the "La Mosaïque" center in France, we were able to note statistical data that slightly confirm this same trend, with an average age of 40 years. The extreme ages are almost similar between our study and the "La Mosaïque" population. The youngest is 25 and 24 years old respectively. The oldest heroin addict was 72 years old at CEPIAD and 64 years old at "La Mosaïque" [5].

In our study, heroin addicts are almost exclusively of Senegalese nationality (99% of those surveyed) living in urban areas. We note that, despite the fact that services are free and accessible to foreigners living in Senegal, they rarely use CEPIAD (1% of those surveyed).

In our study, most of the heroin users on methadone surveyed were solitary (61%, including 44 divorced). This situation could be explained by the fact that drugs are a factor in the implosion of the family, linked to economic bankruptcy [4].

Heroin is ranked 2nd in terms of harmfulness because of the damage it can cause both to the users of this drug and to society; such as the psychic, psychological deterioration of the heroin addict and emotional instability leading ineluctably to the breakup of marital ties. [10]

In addition, there is the psychological deterioration of the heroin addict, leading to a progressive emotional instability which inevitably leads to the breakdown of marital ties. This is corroborated by the work of VOLKOW in 2004 who found similar results [6].

Our study shows that the level of education of heroin users on methadone is relatively high overall, as evidenced by the fact that 58% of them have a secondary or university education. One might think that there is a correlation between drug use and academic failure. In our study, the high level of education can be explained by the relatively late start of drug use, as shown by the average age of the heroin addicts.

## 5. Conclusion

Heroin is the most addictive drug in the world, ahead of cocaine, nicotine, barbiturates and alcohol. It is ranked 2nd in terms of harmfulness due to the damage caused to users and society [14]. Given that the population of Senegal will undoubtedly increase in the next few years, with a consequent increase in the number of heroin addicts, it will be necessary to take appropriate preventive measures, such as increasing the number of CEPIADs and popularizing the methadone program, in order to improve the quality of the services offered to heroin users and to provide them with better care.

## 6. Recommendations

- 1) Introduce take-home methadone for stabilized patients, allowing them to continue their treatment without having

to go to CEPIAD every day as it is case in Suisse [13].

- 2) Make methadone distribution schedules more flexible by involving heroin addicts under methadone.
- 3) Combat poly-drug use by conducting unannounced tests on heroin addicts under methadone in order to encourage those who comply with the treatment.
- 4) Involve the State in the management of heroin addicts under methadone by promoting their social and professional integration and reintegration [12].
- 5) To extend the CEPIAD structure to other regions in order to give all drug users in general and heroin addicts in particular the opportunity to benefit from quality care [15].

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