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Research Article

Profile of Drug Substances at the University Hospital Center of Point G, Bamako-Mali

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Abstract

Context: In Mali, as in many countries, addictive substances constitute a growing public health problem given the multiplicity of substances used and the complexity of its socio-health consequences.

Objective: Describe the profile of addictive substances in the psychiatry service of the Point G University Hospital Center.

Method: This is a retrospective study (2015-2017), by including all the files whose diagnostic hypothesis was in favor of drug addiction recorded at the Psychiatry Service of the Point G University Hospital, Bamako, Mali.

Results: Cannabis (30.8%), was the most consumed drug with a very significant p <0.01 binding compared to other products. It was followed by tobacco (25%), alcohol (17.4%), and tramadol hydrochloride (6.4%). Poly-drug addiction was confirmed by 80.7% of patients, with a minimum combination of two different addictive products (alcohol / promethazine / tobacco, tramadol hydrochloride / cannabis / clonazepam, etc.). Certain drugs in the class of analgesics, benzodiazepines, and neuroleptics were diverted from their therapeutic uses for addictive purposes. The most common disorders were those of the central nervous system.

Conclusion: Addictive substances generate new drug addictions plus multiple and variable addictive behaviors which lead to many unknowns.

INTRODUCTION

In Mali, as in many other countries, drug addiction constitutes a growing public health problem given the multiplicity of substances used and the complexity of its socio-health consequences. According to the United Nations Organization on Drugs and Crime (UNODC), deaths directly attributable to drug use increased by 60% from 2000 to 2015 [1]. For example, the West African Drugs Commission (2014), currently estimates that the drug trade amounts to hundreds of millions of dollars for the region. They describe this situation as "the rise of drug trafficking" [2]

In 2017, the central narcotic office of Mali (OCS), seized various types of drugs and pharmaceutical products: cannabis, cocaine, heroin, Tramadol, Diazepam, Rivotril. This phenomenon which makes Mali the hub of the drug trade is explained by the porosity of the borders and the vastness of the Malian desert which escapes the control of the State [3], although the use of drugs on the penal plan is known as an offense, and apart from the usage any act is considered as a crime in Mali [4].

This situation leads to the abuse of drugs with harmful socio-economic and health consequences on the population. There have been few statistics available on the profile of drugs as well as their health impact in Mali. In order to better equip health workers in drug identification, we undertook this study, with the objective of describing the epidemiological characteristics of drug addiction in patients treated in the psychiatry department of the University Hospital of Point G, 2015 to 2017.

METHODOLOGY

This was a retrospective study of drug addiction cases registered at the Point G University Hospital from January 1, 2015 to December 31, 2017, i.e. three years.

The study was carried out in the Psychiatry Service of the Point G University Hospital, the only referral structure in the

treatment of drug addiction and mental health in Mali.

The size of our sample was not predetermined due to the retrospective nature of the study. Thus, we proceeded to an exhaustive type sampling by including all the files whose diagnostic hypothesis was in favor of drug addiction.

Data was collected using medical records and consultation logs. To better clarify our results, the data collection concerned the following parameters:

- **The socio-demographic parameters of the patients:** age, sex, marital status, profession, level of education, origin, month, year;
- **The substances consumed:** presentation, nature of the substance, composition, duration of consumption, estimate of the quantity ingested, route of administration, number of products consumed;
- **The disorders observed:** physical dependence, psychological dependence,
- **Management resources:** biological examination, additional examination, symptomatic and antidotal treatment.

Given the retrospective nature of the study, it should be noted that the data collection suffered from some shortcomings with respect to the completeness, timeliness and analysis of the data.

The data were entered in Microsoft Excel 2010. After collection, the data were analyzed using the statistical software Epi-Info version 7.

For the data processing we determined the size, the mean, the ratio as well as the p-value with as specification, if $p > 0.05$ = non-significant link; if $0.01 < p \leq 0.05$: significant binding; if $0.001 < p \leq 0.01$: very significant association.

The information collected was treated with anonymity and confidentiality.

RESULTS AND DISCUSSION

During our study period (2015-2017), we collected 258 drug addiction cases with around 20 addictive substances. These figures are largely underestimated given the retrospective nature of the study (loss of data, incomplete information on patients, etc.), the patient's retention of the correct and all of the information as well as the discreet aspect all around the patient. use of these products. The patients had a mean age of 28 years, the age group 20-30 years was the most involved with 49.2%, with a significant link $p < 0.05$. The female sex was affected in 1.9% of patients. The district of Bamako and the region of Koulikoro were the most affected with 69.1% and 11.2% respectively (Table 1). The most incriminated socio-professional layer were pupils and students (26.7%), as well as artisans (17.2%), and traders (9.7%).

In Mali, as in many countries around the world, drug addiction products constitute a health risk for the population, given their multiplicity and their health consequences as well as their social repercussions.

Mali is increasingly becoming an area of drug trafficking and consumption. Each year, the central narcotic office of Mali (OCS) seizes in large quantities different types of drug addiction products: cannabis, cocaine, heroin, Tramadol, Diazepam, clonazepam. These seizures are made in several localities in Mali. In addition, the circumstances of the consumption of drug addiction products constitute 14% of consultations at the psychiatric department of the CHU du Point G in 2017, this consultation rate was 4% ten years ago. In addition, 7.8% of male prisoners in 2015 were for drug possession [5].

Table 1: Socio-demographic distribution of patients.

Characteristics n = 258	Designations	Numbers (%)
Age range	[15-19 year old]	39 (15,1)
	[20 - 30 year old]	127 (49,2)
	[31 - 40 year old]	66 (25,6)
	[41 - 50 year old]	14 (5,4)
	≥ 50 ans	12 (4,7)
Gender	Male	253 (98,1)
	Female	5 (1,9)
Marital status	Single	189 (73,3)
	Maried	51 (19,8)
	Divorced	12 (4,7)
	Undetermined	6 (2,3)

Cannabis (30.8%) was the most widely used drug with a very significant $p < 0.01$ binding compared to other products. It was followed by tobacco (25%), alcohol (17.4%) and tramadol hydrochloride (6.4%) see Table 2.

They are of natural origin, and synthetic with essentially depressive, psychodysleptic, psychostimulant, and sedative effects on the central nervous system. The following drugs were diverted from their therapeutic uses for addictive purposes: clonazepam, diazepam, promethazine, tramadol hydrochloride. These drugs are in the therapeutic class of analgesics, H1 antihistamines, benzodiazepines.

Cannabis was the most widely consumed product, a finding consistent with the national trend through OCS seizures and global drug use data [5,6].

According to the 2018 ONDC report, cannabis remains the most commonly used drug in the world. In 2016, cannabis was the most commonly used drug, with 192 million people using it at least once in the past year. Globally, the number of cannabis users is growing steadily and is estimated to have increased by around 16% between 2007 and 2016, going hand in hand with the increase in the world's population [5].

This is explained by its wide quantitative and qualitative availability. It is consumed more in the form of grass (or Marijuana in the form of joints) or resin (also called Hashish, more concentrated in active principle), are increasingly rich in tetrahydrocannabinol (active principle). Its consumption is trivialized by the juvenile layer, because of its effects: euphoric, appeasement and drowsiness. On the other hand, the health risks of cannabis consumption are numerous: cognitive disorders, physical health disorders (heart disease, pneumopathy, etc.), mental health disorders (psychotic and depressive symptoms), ...

Table 2: classification of products consumed in the retrospective study.

Products (n=545)	Nature of Product	Family/Chemical Class	Addictive Substances s	Toxicaminogic Effects
Cannabis (n=168)	Naturel	Cannabaceae	Delta9tetrahydrocannabinol	Psyschodysleptiques
Tobacco (n=136)	Semi-synthetic	Solanancee	Nicotine	Psychostimulants
Alcohol (n=95)	Semi-synthetic	Alcohol	Alcohol	Depressants
Tramadol (n=35)	Semi-synthetic	Opiacee	tramadol Chlorhydrate	Depressants
Cocaïne (n=20)	Natural	Tropanic alkaloid	Methylbenzolecgonin	Psychostimulants
Heroïne (n=8)	Natural	Opiacee	Diacethylmorphin	Depressants
Diazepam (n=5)	Synthetic	Benzodiazepine	Diazepam	Sedatifs
Amphetamine (n=3)	Semi-synthetic	Phenethylamines	Methylphenethylamine	Psychoanaleptics
Rivotril (n=2)	Synthetic	Benzodiazepine	Clonazepam	Sedatifs
Glue (n=2)	Synthetic	-	-	Psyschodysleptics
Undetermined (n=71)	Synthetic	-	-	-

[7]. Failure at school and problems at work are a first consequence of drug use, and relationship problems with those around them are also a major consequence of taking cannabis [8].

According to the WHO, one in two heavy smokers will die from tobacco. In developed countries, half of them will die before age 70, with a life expectancy more than 20 years lower than the average. More than four million people die from tobacco-related illnesses each year, which is one death every eight seconds. If the trend remains the same, the WHO estimates that there will be 10 million annual deaths in 2030, one death every three seconds. Tobacco is rapidly establishing itself as a more serious cause of death and disability than any disease.

Cigarette consumption increased 52% between 1980 and 2016 in sub-Saharan Africa, according to the American Cancer Society and Vital Strategies. Africa could even become in the coming decades one of the continents most affected by tobacco-related diseases.

Poly-drug addiction was confirmed by 80.7% of patients, with a minimum combination of two different addictive products (alcohol / promethazine / tobacco, tramadol hydrochloride / cannabis / clonazepam, etc.). Poly-drug addiction with heroin plus cannabis and / or tobacco is sold and consumed under the name "cocktail" which could have serious health consequences for the user in addition to school failures and criminal incarceration.

The oral route was the most frequent followed by the nasal route (inhalation, snorting). The consumption of addictive products was more frequent in grins (53.8%), at home (32%), and in schools (14.2%).

The circumstances were entirely voluntary and consumption occurred during recreational ceremonies and the search for performance. We have recorded new modes of consumption (water pipe or Chicha), of addictive products.

The most common disorders were the disorder of the central nervous system with the following clinical signs: hallucination, feeling of cheerfulness, anxiety, mental disorders, loss of memory, drowsiness.

Of the 258 patients, only 19% received a biological assessment: hematological, biochemical. No toxicological analysis was requested. The additional examinations carried out were mainly: electroencephalogram (EEG), and cerebral tomodensitometry. Management was only symptomatic. Neuroleptics (57%),

Table 3: monograph of the drug prescription during hospital management of patients.

Classes (543)	Families	Molecules	Numbers
	Butyrophenones (n=130)	Haloperidol	130
		Levomepromazin	106
Neuroleptics (n=310)	Phenothiazin (n=162)	Chlorpromazin	27
		Cyamemazin	25
		Fluphenazin	4
	Ketone (n=15)	Risperidone	15
	Benzamides (n=3)	Amsulpride	2
		Sulpiride	1
Antihistamines H1	Phenothiazin	Promethazin	87
(n=112)	Piperazin	Hydroxyzin	25
Antiparkinsonian drugs (n=97)	Tropane (n=96)	Tropatepin	96
	Alcohol (n=1)	Trihexyphenidyle	1
		Diazepam	5
Anxiolytics (n=10)	Benzodi-azepines (n=9)	Mexazolam	3
		Lorazepam	1
	Carbamates (n=1)	Meprobamate	1
		Amitriptylin	3
Antidepressants (n=7)	Amines (7)	Clopramine	1
		Fluoxetin	3
Antihypertensives (n=3)	Amines (7)	Clonidin	3
Antiepileptic s (n=2)	Azepine	Carbamazepin	2
Antispasmodics (n=1)	Triphenol	Phloroglucinol	1
Antalgics (n=1)	Cetamide	Paracetamol	1
Vitamines (n=1)	Vitamine B	B complexe	1
		Retinol/ Ergocalciferol	
Dietary supplement (n=1)		Tocopherol/ Thiamine	1
		Pyridoxine/ Nicotinamide	
Plant-based vasodilators		Tanankan	1
Ginkobiloba extract (n=1)			

followed by antihistamines (20.6%), and antiparkinson drugs (17.8%), were the most prescribed therapeutic classes (Table 3).

CONCLUSION AND OUTLOOK

The abuse of psychoactive substances is a growing reality in Mali.

Our study aimed to assess the health impact linked to drug consumption at the Point G University Hospital Center. Drug consumption affects all social strata and particularly young people. Male subjects and singles are the most affected. The characteristics of drug use reveal a very early age (15 years) and a predilection especially for the consumption of cannabis, alcohol and tobacco.

Our study highlighted the problem of multiple drug addiction. The medical problems encountered by patients are generally psychotic in nature.

The known consequences were family, financial and school. So the fight against drugs requires a coordination of efforts between the repressive services (the narcotics brigade, customs, prison officers), and the health services. Because without the concerted efforts, we will see the development of new drugs which are equal to new toxicities plus multiple and variable addictive behaviors which leads to numerous unknowns.

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