Journal of african clinical cases and reviews / Journal africain des cas cliniques et revues

www.jaccrafrica.com ISSN 1859-5138 Open access

Original article

Erectile dysfunction in HIV patients under treatment at the USAC of the CIV District Hospital of Bamako, Mali

Dysfonction érectile chez les patients séropositifs sous traitement à l'USAC de l'Hôpital du District CIV de Bamako, Mali

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Résumé

Introduction : La santé sexuelle des personnes vivant avec le VIH (PVVIH) recevant des médicaments antirétroviraux (ARV) est un domaine quasi inexploré en Afrique. [5] Ce déficit de connaissance est lié au très faible investissement dans la recherche en santé sexuelle sur ce continent. [5] Les troubles sexuels peuvent être engendrés par l'impact psychologique du caractère sexuellement transmissible du VIH (culpabilité, peur de contaminer), par la baisse du taux de certaines hormones, par une dépression, par les traitements. [6] La prévalence de la D.E. augmente avec l'âge, psychologie, le diabète, le tabac, les maladies cardiovasculaires et neurologiques. La D.E. de par sa fréquence et l'impact négatif sur la qualité de vie devient un problème de santé publique. En France l'étude la plus importante date de 2004 et trouve un taux de 67% de D.E. toute gravité confondue. [7] À notre connaissance, aucune étude Malienne ne s'est encore intéressée à ce sujet bien que l'épidémie même si elle est actuellement considérée comme une pandémie. Notre étude a pour but d'analyser les facteurs associés de la D.E. chez les PVVIH/SIDA sous traitement.

Méthodologie : Etude rétrospective, descriptive, observationnelle.

Elle portait sur les dossiers 367 patients VIH sous traitement, agés 18 ans et plus des cinq dernières années (janvier 2019 - décembre 2023). Les données ont été recueillies par appel téléphonique chez les patients qui ont accepte de répondre aux questions tout en gardant leurs anonymats. La DE a été évaluée par le score IIEF5 avec 17 cas de modéré, 14 cas de léger et 5 cas sévère.

Résultats : Notre étude nous a permis de trouve chez 367 patients, 36 cas de D.E, 4 cas de refus, 17 cas de décès. Tous les patients étaient sous TLD (Tenofovir + Lamuvidine + Dolutegravr) avec une moyenne d'âge de 47,5 ans. Les monogames représentait 58,3%, les ouvriers 66,6% et les 99% des patients avaient le type VIH1.

Mots-clefs : Dysfonction Erectile, PVVIH, ARV.

Abstract

Introduction: The sexual health of people living with HIV (PLHIV) receiving antiretroviral (ARV) drugs is an almost unexplored area in Africa. [5] This knowledge gap is linked to the very low investment in sexual health research on this continent. [5] Sexual disorders can be caused by the psychological impact of the sexually transmitted nature of HIV (guilt, fear of contaminating), by the drop in the level of certain hormones, by depression, by treatment. [6] The prevalence of E.D. increases with age, psychology, diabetes, tobacco, cardiovascular and neurological diseases. Due to its frequency and negative impact on quality of life, ED is becoming a public health problem. In France, the largest study dates from 2004 and found a rate of 67% of E.D. all severity combined. [7] To our knowledge, no Malian study has yet looked at this subject, although the epidemic is currently considered a pandemic. The purpose of this study is to analyze the factors associated with E.D. in PLHIV/ AIDS on treatment.

Methodology: Retrospective, descriptive, observational study.

It included 367 HIV patients on treatment, aged 18 years and older from the previous five years (January 2019 - December 2023). Data were collected via phone call from patients who agreed to answer questions while maintaining anonymity. ED was assessed by the IIEF5 score with 17 cases of moderate, 14 cases of mild, and 5 cases of severe.

Results: Our study allowed us to find in 367 patients, 36 cases of E.D., 4 cases of refusal, 17 cases of death. All patients were on TLD (Tenofovir + Lamuvidine + Dolutegravr) with a mean age of 47.5 years. Monogamists accounted for 58.3%, manual workers for 66.6% and 99% of patients had HIV1 type.

Keywords: Erectile dysfunction, PLHIV, ARV.

Introduction

The earliest known description of erectile impotence is Egyptian. It is found in the Kahun Papyri around 2000 BC.

After the publication of Afred Kinsey's reports in 1948 and 1970, describing the sexual behaviors of men and then women; Masters and Johnson, in the 1960s and 1970s, brought sexual dysfunctions out of the shadows and gave a nosological, cognitive-behavioral description of them. [1]

The first proposed treatments (rituals, plants) 35000 years ago. [1]

At the beginning of the 21st century, endothelial dysfunction and the role of nitric oxide (NO) are at the center of pathophysiological concerns. [1]

The assessment of a condition requires that it be precisely defined beforehand. For example, during the Second International Consultation on Sexual Dysfunction in 2004, erectile dysfunction (E.D.) was defined as "The persistent or recurrent inability of a man to obtain or maintain an erection of the penis sufficient to permit satisfactory sexual activity." [2]

It is necessary to add to this definition the notion of the evolution of the disease over time and the degree of severity of the disorder. A minimum of 3 months is accepted to establish the diagnosis. In some conditions, after trauma or surgery (radical prostatectomy) the diagnosis can be made before 3 months. [2]

The literature review carried out by the committee of the Second International Consultation on Sexual Dysfunction concluded in 2004 that the prevalence of E.D. was generally less than 10% before the age of 40, 10 to 30% between the ages of 40 and 59, and 20 to 40% between the ages of 60 and 69. from 50 to 75% after the age of 70. [2]

Worldwide, approximately 322 million men will suffer from ED by 2025. The majority of cases will be recorded in developing countries. [3]

Human immunodeficiency virus (HIV) infection remains a major global health priority. It is a source of physical and psychological suffering as well as relationship difficulties and deterioration of sexual health. [4]

Sexual dysfunction has been widely reported in people living with HIV infection (PLHIV). [4] Indeed, between 13% and 74% of men living with HIV treated

with antiretroviral therapy had sexual dysfunction (Guaraldi et al. 2007). [4] HIV itself as well as antiretroviral agents can induce this dysfunction (Amini Lari et al. 2013). [4] To our knowledge, no Malian study has yet looked at this subject, although the epidemic is currently considered a pandemic.

The sexual health of people living with HIV (PLHIV) receiving antiretroviral (ARV) drugs is an almost unexplored area in Africa. [5]

This knowledge gap is linked to the very low investment in sexual health research on this continent. [5]

Sexual problems can be caused by the psychological impact of the sexually transmitted nature of HIV (guilt, fear of contaminating), by the drop in the level of certain hormones, by depression, by treatment. [6]

The prevalence of E.D. increases with age, psychology, diabetes, smoking, cardiovascular and neurological diseases.

Due to its frequency and negative impact on quality of life, ED is becoming a public health problem. In France, the largest study dates from 2004 and found a rate of 67% of E.D. all severity combined. [7]

The purpose of this study is to analyze the factors associated with E.D. in PLHIV/AIDS on treatment.

Objectives

- To determine the frequency of E.D. in PHAs.
- To analyze the factors associated with E.D. in PLHIV.

Methodology

Study framework: the Care, Support and Counselling Unit of the district hospital of the CIV commune of Bamako.

-Type and Period of Study: Descriptive, observational study.

It covered files from the last five years (January 2019 - December 2023) by phone call over a three-month period.

-Study population: HIV patients on treatment, followed at the USAC of the CIV District Hospital.

-Sampling: was exhaustive on the records of HIV patients followed at the USAC from January 2019 to December 2023 by phone call.

-Inclusion criteria: patients at least 18 years of age or younger, male; who have agreed to participate in the study.

-Non-inclusion criteria: female gender; patient refusal; Age less than 18 years.

- variables studied: age, occupation, divided into 4 groups: group I (farmer, breeder, fisherman), group II (student, student), group III (civil servants and assimilated), group IV (unemployed), matrimonial regime, type of HIV, type of ARV, marital status, existence of other associated pathologies, result of the IIEF5 score, compliance with ARV treatment, mode of treatment of dysfunction.

Ethics: At the beginning of each interview, we were able to obtain verbal consent from all of our patients. Thus, it was explained to them that this study has a scientific purpose and that the information obtained will not be used for profit, but aims to analyze the factors associated with D E in PLHIV.

-Data analysis: Data entry and analysis were done on the EPI infos software and the Excel 2007 software. The creation of the tables and figures was carried out in Microsoft Word.

Results

Our study allowed us to find 36 cases of ED in PLHIV, aged 18 years and older, 17 cases of death, 4 patients refused to be part of the study. We found a mean age of 47.5 years with a standard deviation of 10.2 [Table I]. Monogamists were much more represented, at 58.3% [Table II], while occupations such as farmers, fishermen, herders and skilled workers were 66.6% [Figure 1]. Among the 36 patients, only one was HIV1 (1%) [Table III] and they were all on a single treatment regimen, namely TLD (Tenofovir + Lamuvidine + Dolutegravr) according to the standards and protocol for the management of HIV patients on ARVs in Mali. We found 24 patients who had ED after HIV discovery compared to 12 who had ED before [Figure

3]. Depending on the support of these EDs; 2 patients did not undergo treatment; 5 patient treat medically; 29 self-medications [Figure 4]. The most represented risk factors in our study were 7 cases, 6 cases of alcoholic-smoking, 2 cases of alcoholism and 1 case of smoking respectively [Table IV]. According to the IIEF5 score, the ED was decreasing with 17 patients of moderate type, 14 patients of mild type and 5 patients of severe type [Figure 2].

Table I: Distribution of patients by age:

Age range	Staff	Percentages
[18-38[	6	16,7
[39-59[	22	**61,1**
[63-plus	8	22,2
Total	36	100

The mean age of patients was 47.5 years with a standard deviation: 10.2.

Table II : Distribution of patients according to matrimonial regime:

Matrimonial property regime	Staff	Percentage
Monogamous	**21**	58,3
Polygamist	15	41,7
Total	36	100

Monogamy was the most represented, at 58.3%.

Table III: Distribution of patients by type of HIV:

Type of HIV	Staff	Percentages
HIV1	35	**99**
HIV2	1	1
Total	36	100

HIV1 accounted for 99% of registered patients.

Table IV: Distribution of Patients by Risk Factors and ED

	Risk Factors						
Score IIEF5	Alcohol	HTA	Tobacco	Tobacco and alcohol	Hypertension and tobacco	Absence of a factor	Total
Light	1	0	2	1	0	10	14
Moderate	1	1	5	5	0	5	**17**
Severe	0	0	2	0	1	2	5
Total	2	1	7	6	1	17	36

Moderate ED was present in 17 of our patients without risk factors

Table V: Distribution of patients by type of HIV and E&D:

	TYPE OF HIV		
Score IIEF5	**Type 1**	Type 2	Total
Light	14	0	14
Moderate	16	1	**17**
Severe	5	0	5
Total	35	1	36

ED was present in HIV1 with 16 moderate, 14 mild and 5 severe, respectively.

Table VI: Distribution of patients by inclusion period and E D:

	HIV DISCOVERY PERIOD					
Score IIEF5	1 year	2 years	3 years	4 years	5 years	Total
Light	2	5	4	1	2	14
Moderate	5	6	4	1	1	17
Severe	2	1	1	1	0	5
Total	9	12	9	3	3	36

The ED was moderate in 17 patients and mild in 14 patients enrolled on ARVs over the five years, respectively.

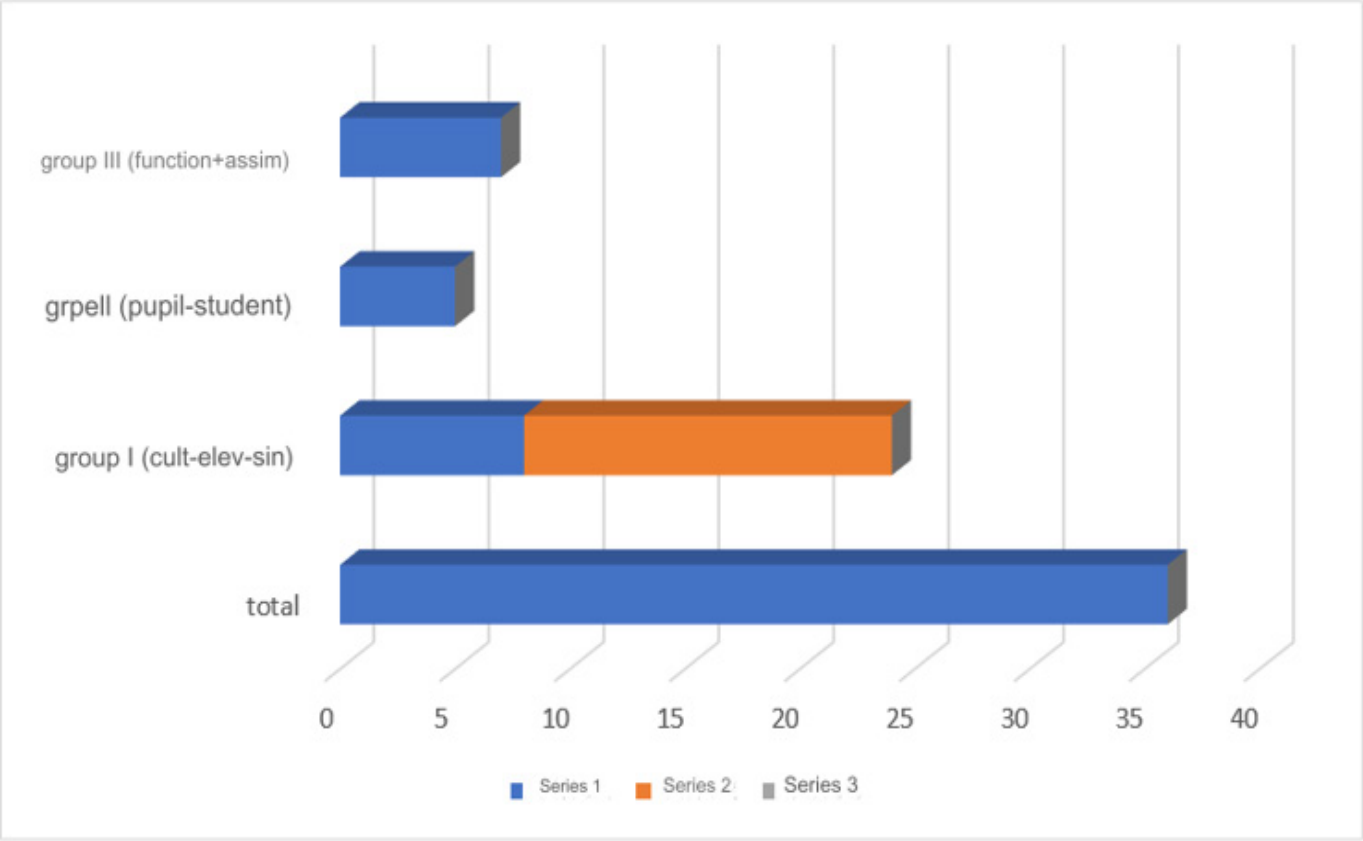

Figure 1 : Distribution of patients by profession:
Farmers, herders, fishermen 66.6% of patients.

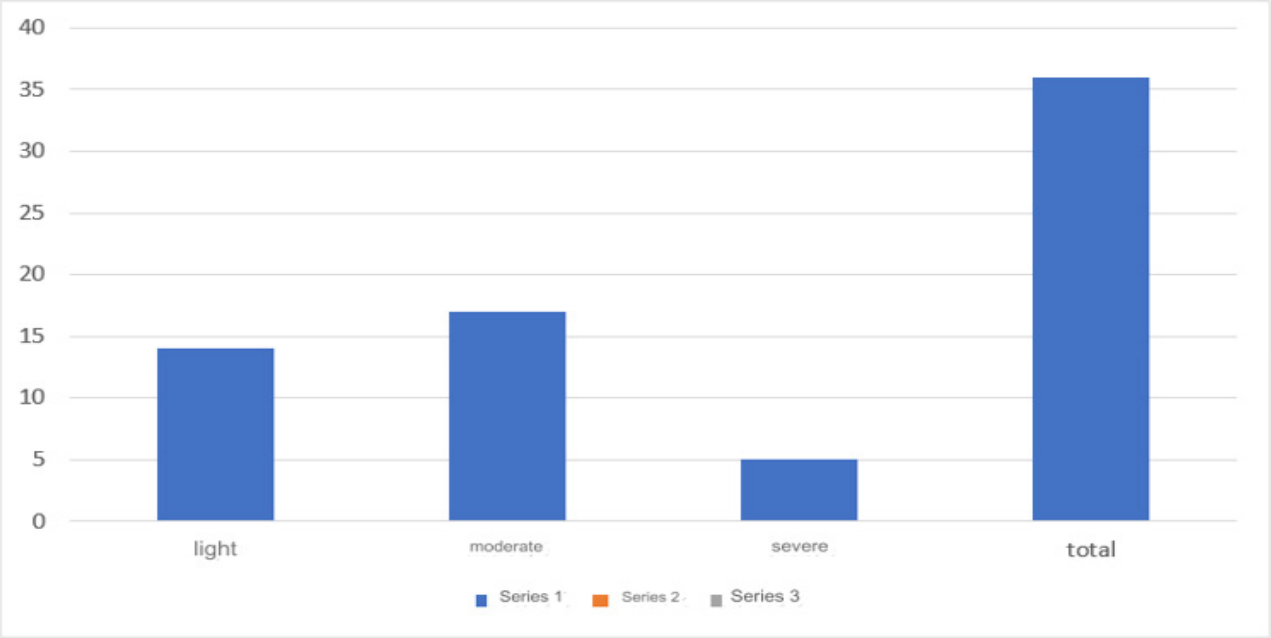

Figure 2: Distribution of patients according to IIEF5 score:
In our series, 5 patients had severe erectile function; 14 cases of mild DE; 17 cases of moderate ED.

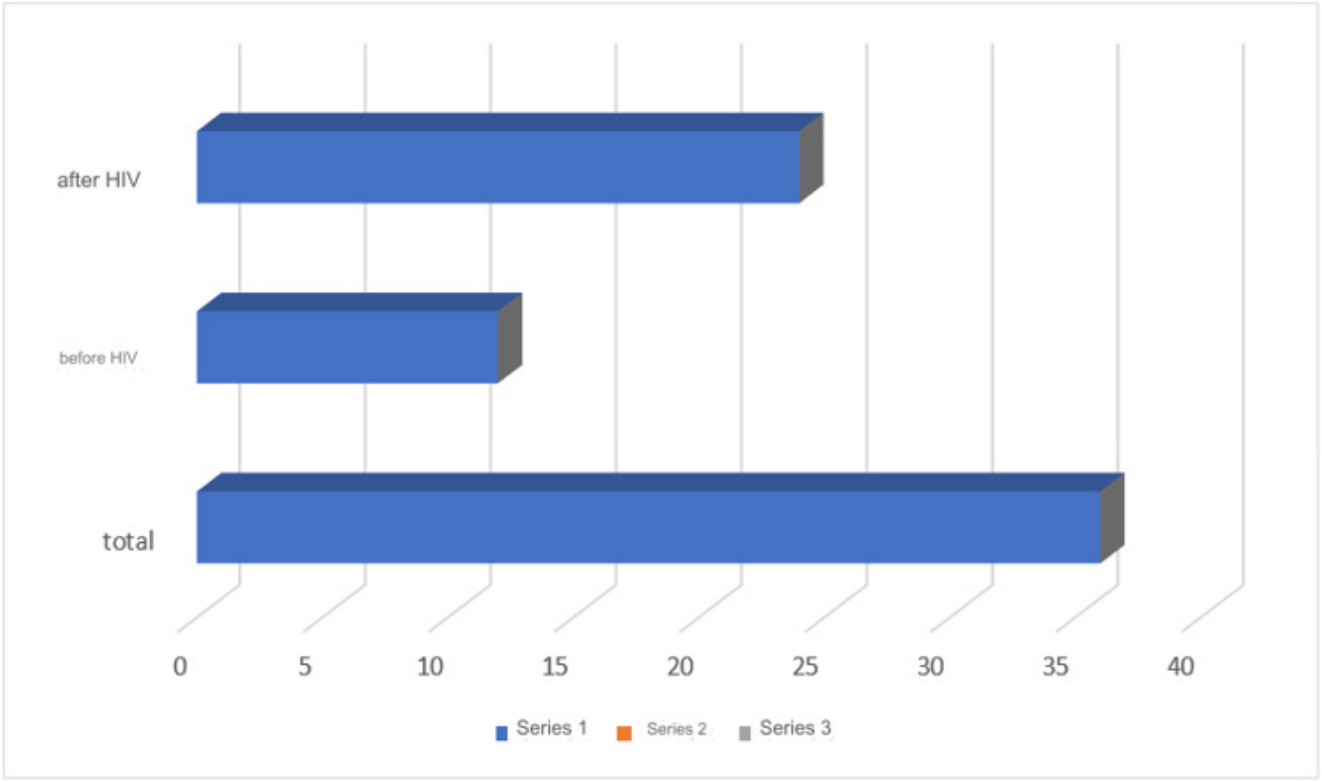

Figure 3: Distribution of Patients by Period of ED Discovery
In our study, 24 patients had ED after HIV was discovered compared to 12 who had ED before

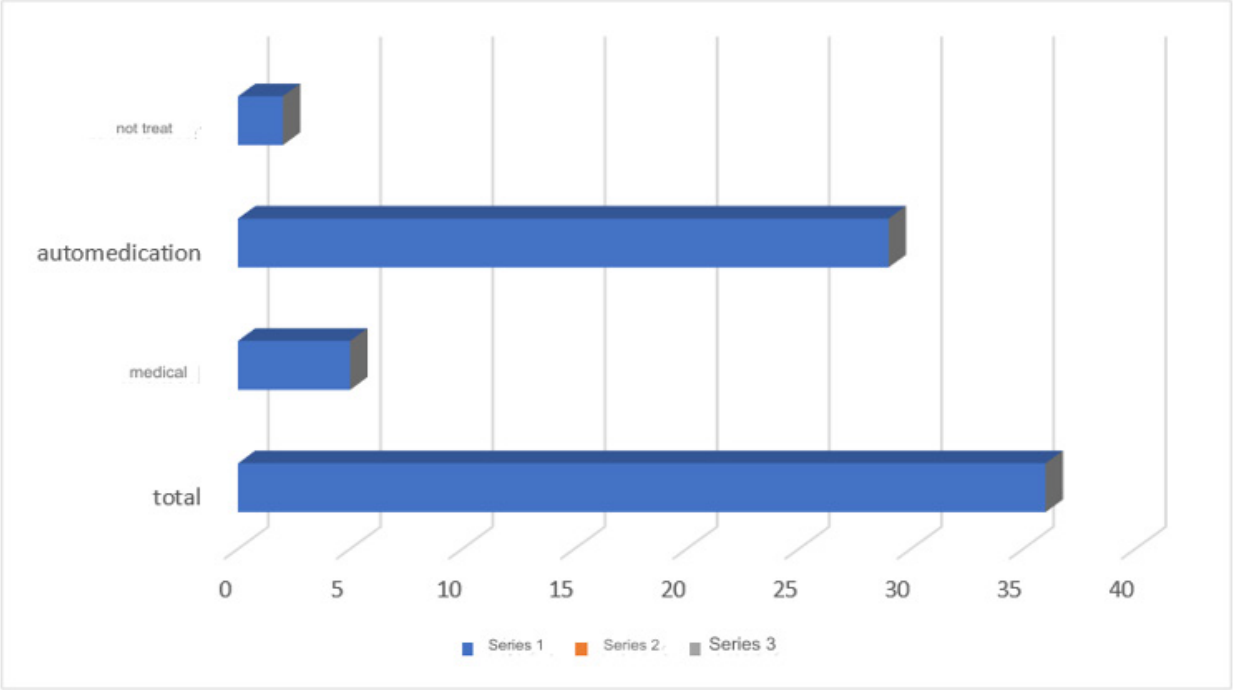

Figure 4: Distribution of patients by treatment received for ED
In our series, 2 patients did not do treatment; 5 patient treat medically; 29 self-medications.

Discussion

HIV infection is a chronic disease affecting all areas of individual and social life, whether through the physical and psychological impact of the disease, emotional and sexual life, or the difficulties of social and professional integration. [8] Especially in our context where a certain attitude of modesty, characteristic of our society, does not allow us to talk about this problem.

Our study is comparable to a Dutch study involving 366 patients, including 43 cases of E.D. [9].

E.D. was present in 33.3% of our patients before compared to 66.7% after their inclusion on ARVs. In the management of ED, 80.5% resorted to self-medication, 13.8% to treatment medically and 5.7% to non-treatment.

Relationship between patient age and E.D.:

Levels of sex hormones and DHEA decrease with age, while levels of luteinizing hormone (LH), follicle-stimulating hormone (FSH) and sex hormone binding globulin (SHBG) increase. [7]

In our study, the average age was 47.5 years with a standard deviation: 10.2.

As noted by other authors:

S Bouhlel et al [4] reported a mean age of 40.3 years among PHAs.

M.E. Fane et al [8] found an average age of 38 years in group D E.

Relationship between matrimonial property and D E :

In our study, monogamists accounted for 58.3%, followed by polygamists 41.7%. This result is different from that of M. El Fane et al [8], who reported a rate of 47% for monogamists and 17% for polygamists, and M. Kanté's study on ED in diabetic patients [8], which reported 61% of monogamous followed by polygamists 37%. However, we cannot deduce here that polygamy is a factor of exposure to D E as suspected by some authors such as Diao et al [11] and Diakité M L et al [12].

Relationship of risk factors to iief5 score:

Smoking, diabetes, high blood pressure, alcoholism

and obesity are factors that increase the risk of cardiovascular disease. A more general cause concerns lifestyle habits [7]. Smokers are four times more likely to become "impotent" than non-smokers [7]. Carbon monoxide (CO) has a significant vasoconstrictor effect. This gas spasms the arteries, narrowing their size, thus decreasing blood flow to the penis. E.D. has a particular aspect in diabetics, as it appears rather and often more severe compared to the general population [7]. High blood pressure is significantly associated with the occurrence of E.D. [9]. Alcohol leads to a deficiency of B vitamins, which are necessary for sexuality, and it lowers testosterone levels, one of the drivers of libido [7]. Lack of physical exercise and a poor diet, too sweet, too fatty, too meaty (meat contains adrenaline, secreted by animals before they die). In our study we reported in mild ED type (1 smoking and alcoholic patient), moderate type (1 hypertension patient, 1 alcoholic patient, 5 smoking patients and 5 smoking and alcoholic patients).

- **Relationship of hiv type to iief5 score:**

Studies suggest that HIV infection may increase the risk of sexual problems in men, including difficulty getting and maintaining an erection and decreased libido in some cases. [9]

In our study, HIV1 was the most represented at 99% compared to 1% of HIV2. This increase was similar in the IIEF5 score with: respectively: 14 cases of mild, 16 cases of moderate and 5 cases of severe all HIV1 and only 1 case of moderate HIV2. This predominance among HIV1 may be due to the higher incidence of HIV1 on the national rate. We were unable to find a relationship between IIEF5 score and HIV type.

- **The ratio between the ARV inclion period and the iiefs score:**

An ARCAD/AIDS study of 65 patients (median age 39 years) showed that 26% had ED, The analysis found a correlation between ED and age, length of infection, history of protease inhibitor treatment, and duration of treatment.[7]

In our study, mild, moderate and severe forms accounted for 38.8%, 47.2% and 14% respectively during the five.

Unlike HIV, in diabetic patients, ED is said to be of significant severity compared to the general population. [22] Mild, moderate and severe forms accounted for 24%, 23% and 16% respectively. [9]

Conclusion

The sexuality of Malians living with HIV is undervalued. The care of these people must be comprehensive, including, in addition to the control of viremia and opportunistic infections, an attentive look and a benevolent listening to patients' complaints about their emotional and sexual life. Consideration of possible sexual disorders, whether or not they are related to HIV, must be systematic in order to reduce their negative impact both on patients' quality of life and on prevention of transmission of the virus.

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Available online : April 30; 2024

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Conflict of interest : None

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To cite this article :

AB Cissoko, B Dembélé, ALK Diarra, M Kanté, C Badiaga, I Diarra et al. Erectile dysfunction in HIV patients under treatment at the USAC of the CIV District Hospital of Bamako, Mali Jaccr Africa 2024; 8(2): 200-208