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Review Article

Proportion of Persons Living with HIV, Eligible with Viral Load Not Suppressed in Lubumbashi

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Abstract

Introduction: to determine the proportion of people living with HIV (PLHIV) on antiretroviral treatment, eligible with non-suppressed viral load in the two hospitals of Lubumbashi. **Method:** this is a descriptive, cross-sectional study with retrospective data collection over the period from January 2019 to January 2020 in the two hospitals in Lubumbashi, including the BUKAMA health center and the STI screening and treatment center /HIV (CDTI). The study variables were: sex, age, marital status, clinical stage of HIV infection, frequency of sexually transmitted infections, frequency of tuberculosis, treatment. **Results:** the proportion of eligible PLHIV on ART with unsuppressed VL was 5.5% with good patient outcome. The female sex was the most concerned with a frequency of 83.33%. The 25-49 age group was the most represented at 37.5%. The average weight of the patients was 48.08 kg, singles had a frequency of 64.58%. PLHIV having contracted sexually transmitted infections (STIs) had a frequency of 22.91%. Patients with tuberculosis represented 14.58% and 44.66% of patients were at clinical stage 1. The combinations: Tenofovir + lamividine + Efavirenz were administered in 60.41% of patients, on the other hand Tenofovir + lamividine + Dolutegravir as treatment current antiretroviral were administered in 93.75% of patients. **Conclusion:** In order to further reduce the rate of non-suppression of the viral load, the results of this study underline the importance of strengthening the capacity to care for PLHIV at all levels, in particular in the sufficient supply of ARV drugs. , anti-tuberculosis drugs and laboratory inputs on the one hand. On the other hand, it is necessary to promote the fight against stigmatization and discrimination, to reinforce the adhesion and the therapeutic observance as well as the psychosocial support of the PLHIV.

Keywords: Proportion; PVHIV; Antiretroviral; Viral load

Introduction

HIV infection is the presence of the human immunodeficiency virus in the body, it is transmitted by blood, sexually and from mother to child. AIDS being an acquired immunodeficiency syndrome, defined as the set of secondary pathologies (opportunistic infections) to a state of immune deficiency related to the immunodeficiency virus. In 2020 according to UNAIDS, there were around 45.1 million PLHIV in the world, South Africa is among the first most affected countries in the world. In the Democratic Republic of Congo more or less 500,000 PLHIV and the most affected province remains Upper Katanga [1,2]. So the viral load is the number of virus copies in the volume of a given fluid (blood, semen, vaginal secretions etc) per ml. It is one of ten global indicators in the 2015 WHO consolidated guidelines on strategic information on HIV infection in the health sector and is used to assess the third UNAIDS goal and other partners

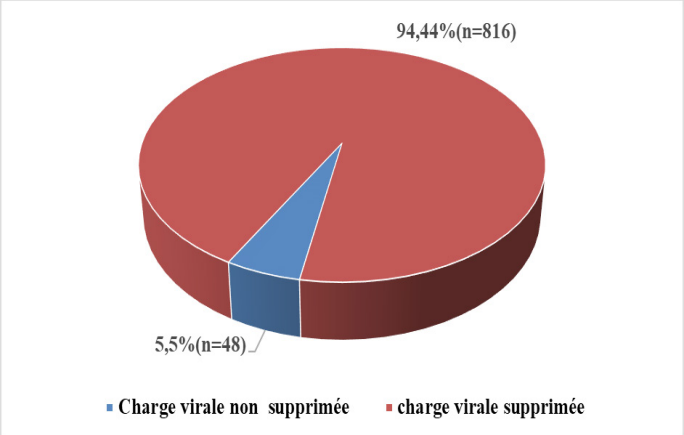
including PEPFAR, CDC, ICAP, etc [3,4]. When it is removed after rendering of the laboratory result, i.e. a figure lower than 1000 copies/ml, this shows that there is control of viral replication in the organism; good adherence and therapeutic success, which encourages both the patient and the provider as well as the support program and that the objective is achieved; and when it is not removed, figure greater than 1000 copies per ml; this means that there has been either poor adherence, observance, resistance and failure in treatment because the virus in this cases multiply in the body without adequate prevention, depressing immunity, with the help of opportunistic infections that can transfer HIV to the advanced AIDS stage and lead to death [5-9]. The three objectives in terms of three 90-95s set by the above-mentioned partners to control the HIV epidemic by 2030 want 90-95% of PLHIV to know their serological status through awareness-raising activities and voluntary screening with tools, 90-95% of PLHIV screened are put on ART ,90-95% of PLHIV on ART suppress their viral load after 6 months: This is the result of the treatment [10,11]. However, many associated factors include self-stigma and discrimination, non-adherence and therapeutic observance, malnutrition, opportunistic infections, socio-cultural factors, the resistance of certain strains of viruses to tarv in PLHIV on the one hand, as well as that stigma and discrimination, the lack of psychosocial support, negligence in patient follow-up, ignorance of therapeutic regimens adapted to patients, the excessive delay in reporting viral load results in the laboratory among providers, on the other hand, are involved somehow in not suppressing viral load [12-20]. In 2016 in the United States, studies by CDC showed that 11% of PLHIV treated but whose viral load was not suppressed were responsible for 20% of all cases of HIV transmission. And in DRC 2018, UNAIDS had demonstrated that out of 450,000 PLHIV, there had been 19,000 new contaminations and 17,000 deaths at the end of the unsuppressed viral load, the same UNAIDS had mentioned 19.4 million PLHIV in the world whose viral load was not suppressed [21,22]. The objective of this study was to determine the proportion of PLHIV on ART, eligible with unsuppressed VL in our setting while contributing to improving the quality of care for these patients.

Materials and Methods

Our study was carried out in the two hospitals including the BUKAMA health center and the CDTI KATUBA all in the HZ of KATUBA, city of Lubumbashi. This is a descriptive, cross-sectional study and the data was collected retrospectively for the period from January 2019 to January 2020. Our target population consisted of PLHIV on ART followed up during the study period in the two sites cited above including a cohort of 864 cases. Were included in this work, all PLHIV on ART, eligible with at least one of the viral loads not suppressed according to the control schedule of 6 months, 12 months; every 12 months and 3 months in pregnant and breastfeeding women and in the event of suspected treatment failure. We had used the unsuppressed viral load register, VL laboratory result slips; the follow-up register for patients with an undeleted CV, the follow-up and control agenda for all PLHIV during the period concerned, the file for each patient with an undeleted CV and the dashboard for the cohort. We had benefited from the authorization of the managers of these two sites to approach the work; and we had taken into account the standards of medical ethics to disregard the patients and the ethnic and tribal origin had not been the subject of this study.

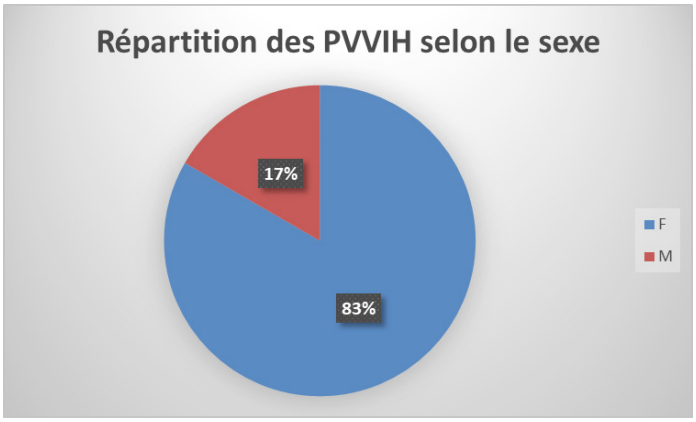
Results

Proportion of PLHIV on ART



From this diagram, it emerges that the proportion of PLHIV on ART, eligible with non-removed CV had represented 5.5% of cases.

Sociodemographic characteristics



It emerges from this diagram that the female sex had a frequency of 83.33% followed by the male sex with 16.66%.

Patient age groups

Age range	Frequency	Pourcent
0-2	1	2
>2-6	2	4,1
> 6 - 12	4	8, 3
> 12 - 17	6	12,5
> 17 - 25	8	16,6
> 25 - 49	18	37,5
≥ 50	9	18,7
Total	48	100

Table 1: distribution of PLHIV according to age groups.

This table indicates that the upper age group of 25-49 had a frequency of 37.5%

Marital status of patients

Civil state	Frequency	Pourcent
single	31	64,58
Married	9	18,75
Widower	8	16,66
Total	48	100

Table 2: Distribution of PLHIV according to marital status.

This table shows that singles had a frequency of 64.58%

Clinical features

Clinical stage of patients

Clinical Stage	Frequency	Pourcent
Stage1	20	41,66
Stage2	9	18,75
Stage3	17	35,41
Stage4	2	4,16
total	48	100

Table 3: distribution of PLHIV according to clinical stage.

From this table, it emerges that clinical stage 1 represented a frequency of 41.66% followed by stage 3 with 35.41%.

Association of other STIs in PLHIV

IST	frequency	Pourcent
Yes	11	22,91
No	37	77,08
Total	48	100

Table 4: distribution of PLHIV according to STI.

It emerges from this table that PLHIV who contracted STIs had a frequency of 22.91%.

Tuberculosis in PLHIV

TBC	Frequency	Pourcent
Yes	7	14,58
No	41	85,41
Total	48	100

Table 5: Distribution of PLHIV according to TBC.

This table indicates that the frequency of patients who had undergone TBC was 14.58%

Processing

Duration of treatment

Duration of treatment	Frequency	Pourcent
1-3 ans	22	45,83
4-6 ans	18	37,5
7-10 ans	8	16,66
Total	48	100

This table shows that PLHIV with a duration of 1-3 years of ARV treatment had a high frequency of 45.83% followed by those of 4-6 years of treatment with a frequency of 37.5%.

Table 6: Distribution of PLHIV according to duration of treatment.

Taking anti-tuberculosis treatment

Tuberculosis treatment	Fréquency	Pourcent
Yes	7	14,58
No	41	85,41
Total	48	100

This table indicates that the pvvih under anti-TBC treatment had represented a frequency of 14.58%

Table 7: Distribution of PLHIV according to anti-TBC treatment.

Old ART treatment

TARV old	Fréquency	pourcent
ABC+3TC+EFV	3	6,5
AZT+3TC+NVP	13	27,08
TDF+3TC+EFV	29	60,41
TDF+3TC+NVP	2	4,16
AZT +3TC+LPV/r	1	2,08
TOTAL	48	100

It emerges from this table that TLE which is the combination of TDF+3TC+EFV had a high frequency of 60.41%.

Table 8: Distribution of PLHIV according to old ART.

Current ART treatment

TARV current	Frequecy	Pourcent
ABC+3TC+DTG	2	4,16
AZT+3TC+LPV/r	1	2,08
TLD	45	93,75
TOTAL	48	100

From this table, it emerges that TLD which is the combination of TDF+3TC+DTG as current antiretroviral treatment was the most represented with a frequency of 93.75%.

Table 9: Distribution of PLHIV according to current ART.

Discussion

The proportion of PLHIV on ART, eligible with unsuppressed VL represented 5.5% of cases. figures lower than those of Roncier.C which were 11% and Billong.S which were 36% in Cameroon between 2014-2016. Currently there is a considerable improvement in viral load suppression compared to past years, thanks to the innovation of the TLD formula which is a very effective therapeutic combination, the rate of viral load non-suppression is decreasing [23,24]. The female sex was the most concerned with a frequency of 83.33%, as observed in most studies among PLHIV, this is explained by the fact that women were the most infected with HIV than men during intercourse. sexual due to biological factors, the more extensive areas of the vaginal and rectal mucous membranes are more exposed by micro tears. The highest virus content of the sexual fluids was transmitted by the man than the woman; this also because of their ignorance about sexuality and HIV as well as their vulnerability according to the WHO; and all this even resounded on this non-removal of the C.V [25]. The upper age group of 25-49 years was the most represented, the studies carried out in CHAD in 2014-2015 had found the age group of 15-49 years the most affected; this explains the fact that at this age sexual activity is also intense; and the average weight was 48.08 kg. This is explained by the normal weight of a PLHIV at clinical stage 1. According to Catie, two studies carried out in Cameroon and South Africa had highlighted a risk weight gain in PLHIV with a high VL with advanced age and a decrease in muscle mass in those aged 30 and 50 [26]. Single people had a frequency of 64.58% because most of them had ended up in the second site where the activities of key populations were carried out; and among them were homosexuals, transgender people, sex workers who generally lived in open relationships. PLHIV who had not contracted STIs had a frequency of 22.91%. This can be explained by the fact that most of them are found at the clinical stage1 where the presence of STIs is not noted at all according to the WHO [27].

The frequency of patients who had undergone TBC was 14.58%, Daye ka and his team in the Dakar had found 31%. This is explained by the fact that most of them were in clinical stage 1 which is asymptomatic, so no development of TB at all at this stage according to the WHO. Tuberculosis is among the opportunistic infections closest to HIV/AIDS. Clinical stage 1 had a frequency of 41.66%, figures lower than those of Daye ka, Noël Magloire which were 46% in stage 3. The first clinical stage is asymptomatic according to the WHO classification, if these patients observe well the treatment, they can be the most stable than the others. Because the more the clinical stage advances; the greater the development of opportunistic infections and related complications [28]. TLE, which is the combination of TDF+3TC+EFV, was the most represented with 60.41%, this is explained by the fact that it was the former first-line therapeutic regimen most recommended in adults by the intake programs. in charge in the DRC [29]. TLD which is the combination of TDF+3TC+DTG as the most represented current antiretroviral treatment; because this three-molecule combination therapy was proven to suppress viral load and was recommended by the WHO, even our PNMLS to be administered as a first-line regimen in young adolescents and adults with weight ≥ 30 kg [30-32].

Conclusion

In order to further reduce the rate of non-suppression of the viral load, the results of this study underline the importance of strengthening the capacities to care for PLHIV at all levels, in particular in the sufficient supply of ARV drugs, in anti-tuberculosis drugs and laboratory inputs on the one hand. On the other hand, it is necessary to promote the fight against stigmatization and discrimination, to reinforce the adhesion and the therapeutic observance as well as the psychosocial support of the PLHIV.

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