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Psychosocial Determinants of Bad Quality of Life Among People Living with HIV/AIDS on Antiretroviral Drugs in Kinshasa /DR Congo

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ABSTRACT

Context and Objective: The search for psychosocial determinants of bad quality of life (QoL) in people living with the human immunodeficiency virus (PLWHA) under Highly active antiretroviral therapy (HAART) constitutes a real public health problem in Kinshasa. Determine the psychosocial factors of bad QoL among PLWHA on antiretrovirals in Kinshasa.

Methods: This was a case control study carried out in Kinshasa from January 15 to April 15, 2021, which included 1082 subjects divided into two groups including 541 PLWHA patients and 541 no-PLWHA. Sampling was non-probability based on matching patients from case to control. Recruitment was carried out first among PLWHA, then matching was done by age and sex considering the sample of PLWHA. The variables of interest were sociodemographic, condom use, psychoactive substance abuse, perceived stress, anxiety-depression, and bad QoL.

Results: The average age of PLWHA was 50.4±10.7 years with a sex ratio of 2.81. A third of PLWHA (32.9%) were married ($p<0,001$), 9.2% used condoms ($p<0,001$), 68% had a secondary education ($p=0,006$), 54.3% had an occupation ($p=0,005$), 54.2% attended independent churches ($p=0,033$), 52.1% had an average socioeconomic level ($p<0,001$), 12.2% consumed alcohol ($p<0,001$), 15.3% had a bad QoL. The main determinants of bad quality of life were stage 4 (ORa : 3,06 IC95% : 1,47-7,79), side effects due to HAART (ORa : 1,90 IC95% : 1,04-3,60), perceived stress (ORa : 4,14 IC95% : 1,32-12,94) and anxiety-depression (ORa : 6,88 IC95% : 1,60-9,43).

Conclusion: Bad quality of life is present among PLWHA in Kinshasa. It was linked to stage 4, side effects due to Highly active antiretroviral therapy, perceived stress, anxiety-depression in HIV-positive people.

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Introduction

Human immunodeficiency virus (HIV) infection constitutes a real public health problem worldwide [1]. According to the summary report of the Joint United Nations Program on AIDS (UNAIDS), the world had 39 million people living with HIV, 1.3 million new

infections and 630,000 AIDS-related deaths in 2022 [2]. In sub-Saharan Africa, adolescent girls and young women accounted for more than 77% of new HIV infections in 2022 [2]. Screening for serological status initiates care for patients affected by HIV [3]. However, the dramatic anxiety of the announcement of the diagnosis, the experience of the illness and the impact of its complications on psychological and social life make their medical and psychosocial care essential [4]. The stress of living with HIV,

the physical symptoms experienced and the level of perceived health, the coping strategies used, and the psychological support received determine the quality of life of patients [5]. The latter can also develop sleep disorders with more or less serious consequences on psychological and physical well-being [1,6]. Sleep disorders such as insomnia are more frequent and more marked among PLWHA compared to the general population; however, they can impair the ability to think and concentrate and impact treatment response and fidelity [1,6]. However, good patient preparation and psychosocial support over time guarantee treatment compliance, a guarantee of good QoL [6]. Since the advent of HAART in 1996, a reduction of almost 80% in HIV/AIDS-related mortality and the incidence of opportunistic infections has been observed [5,6]. It is currently considered that 94% of HIV-infected patients living in developed countries benefit from HAART [6]. The results of a study carried out in the Midi-Pyrénées region (France) revealed higher stress scores in non-adherent patients compared to adherent patients [5]. However, living with HIV is a daily challenge and can be considered a chronic stress that requires the person to adjust to a complex and evolving therapeutic regime, requiring support interventions commensurate with the needs experienced throughout. along the trajectory of this infection [5]. PLWHA, whatever the adherence behavior displayed, constitute a weakened and vulnerable population, faced with multiple problems and significant imperatives linked to the health problem and therefore to the therapeutic regime [5]. The psychosocial variables most studied in relation to quality of life are psychosocial support, coping strategies, perceived stress, and perception of health status by PLWHA [5,6]. A French study in 2003 revealed that after one year of HIV therapy, the proportion of people reporting good QoL had increased to 60% and as a result they generally adhered better to their treatment and were more likely to have a burden. undetectable viral [6]. In Togo, a project mainly improved the QoL of PLWHA through treatment education, home visits and positive prevention, the key to a good QoL [6]. In the DRC, the Mananga et al study in 2006 demonstrated the relationship between the bad QoL of HIV-positive patients and the importance of psychosocial stress manifested by anxiety and depression [6]. Another study carried out in 2015 in Kinshasa revealed that 75% of PLWHA under HAART had bad QoL, 64% had not disclosed their serological status and did not benefit from psychosocial support [6]. PLWHA need psychosocial support to cope with the multiple challenges of a chronic illness that can lead to social rejection and improve their quality of life as well as that of their family and the entire community [1,6]. It turns out that the most adherent patients have better levels of quality of life which are also maintained over time [5]. The objective of the present study was to determine psychosocial factors of bad quality of life among PLWHA on HAART in Kinshasa in the Democratic Republic of Congo.

Methods

This is a case control study which included 1082 subjects divided into two groups including 541 HIV-positive patients followed at the Kimbondo General Reference Hospital, at the ARV Distribution Post (PODI) Center and at PODI East, respectively in the communes of MONT NGAFULA, LIMETE and MASINA on the one hand and 541 HIV-negative patients from nine general medicine health centers, including six in the commune of KISENSO, notably the Reference Health Center (CSR) REVOLUTION, CS YMCA, BOMOYI Clinic, CSR REGIDESO, CS LA GRACE and CSR NSOLA as well as three other centers including the AKRAM Hospital Center, the Central Military Hospital of Kinshasa and the ELIKYA Medical Center respectively in the communes of NGALIEMA, BANDALUNGWA and MATETE. The study took

place from January 15 to April 15, 2021. We used non-probability sampling based on matching patients from a case to a control. Recruitment was carried out first among PLWHA, then matching was done by age and sex considering the sample of PLWHA. The HIV-positive or HIV-negative subject who consulted one of the above-mentioned structures during the study period, who was at least 18 years old and who consented to participate in the present study was included in this study; also, for PLWHA, have been on HAART for at least 6 months. Any HIV-positive or HIV-negative patient with a personal history of psychiatric disorders, who had not resided in Kinshasa for at least 6 months or who had interrupted HAART during the study for PLWHA was excluded from this study. The survey forms contained sociodemographic data including sex, marital status, condom use, level of education, employment or occupation, religion, socioeconomic level and alcohol consumption; clinical parameters on HIV/AIDS including psychosocial support, clinical stages of the disease upon discovery, compliance with HAART, side or adverse effects due to HAART as well as paraclinical parameters including viral load or rate CD4 count before and after treatment and Body Mass Index (BMI). The SF-12 assessed quality of life, the PSS assessed stress, the HADS assessed anxiety and depression, and the PSQI assessed sleep quality [7-10].

The Short form “SF-12” quality of life scale

The SF-12 is a scale that was constructed from the SF-36 scale, developed, and analyzed by John Ware et al [7]. It can be administered to patients or the general population [7]. The SF12 assesses 8 dimensions of health including Physical Functioning (PF), Role-Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), limitations due to Role-Emotional (RE) and Mental Health (MH) [7]. It allows two summary scores to be calculated: a mental quality of life summary score or Mental Component summary scale score (MCS) and a physical quality of life summary score or physical Component summary scale score (PCS) [7]. For its interpretation, if the score is 12 points: bad quality of life; if it is between 13 – 24.5 points: fair quality of life; if it is between 25 – 37 points: good quality of life; if it is between 38 – 49.5 points: very good quality of life; if the score is between 50 – 62 points: excellent quality of life. In short, if the score is < 25 points: bad quality of life and if it is ≥ 25 points: good quality of life [7].

The Perceived Stress Scale “PSS”

The PSS is a scale that assesses the frequency with which life (or work) situations are generally perceived as threatening, that is, unpredictable, uncontrollable, and distressing [8]. It contains 14 items. For each item, the subject estimates its frequency of appearance over the past month [8]. It is a 5-point frequency scale (from “never” to “very often”): very often: 4 points, quite often: 3 points, sometimes: 2 points, almost never: 1 point and never: 0 points [8]. For its interpretation, if the score is < 21: good stress management, good adaptation and the subject knows how to find solutions to their problems; if the score is between 21 – 26: copes in general, but there are a number of situations that he does not know how to manage and if the score is > 27: life constitutes a perpetual threat (perceived stress) [8].

The Hospital Anxiety and Depression Scale “HADS”

The HADS is a self-administered questionnaire used to screen for anxiety-depressive disorders [9]. It includes 14 items, each of which is rated from 0 to 3, thus allowing 2 scores to be obtained, the maximum score of which is = 21 [9]. The highest scores correspond to the most severe symptoms. For the 2 scores

(anxiety and depression), cut-off values were determined: a score ≤ 7 : absence of anxiety/depression; between 8 and 10: Anxiety/depression or questionable symptoms; and a score ≥ 11 : presence of anxiety/depression or definite symptoms [9].

The Pittsburgh Sleep Quality Index “PSQI”

The PSQI is a self-administered questionnaire that provides a subjective measure of sleep quality and habits [10]. It includes four open-ended questions and 14 questions to be answered using event frequency and semantic scales. For its scoring, the PSQI includes a scoring key to calculate a patient’s seven subscores. Each can range from 0 to 3. The subscores are counted, giving an “overall” score which can range from 0 to 21. An overall score of 0 indicates no difficulty, an overall score of 5 or more indicates poor sleep quality or sleep disturbances; the higher the score, the worse the quality. An overall score of 21 indicates major sleep difficulties [10].

Data processing and analysis

Statistical analyzes of the data were carried out using SPSS for Windows version 24 software. The descriptive analyzes carried out are the mean, the standard deviation for the quantitative data with Gaussian distribution, the median and the interquartile space for the data. quantitative data with non-Gaussian distribution. Relative (%) and absolute (n) proportions were calculated for categorical data. Pearson’s chi-square or Fisher’s exact test was used to compare proportions. The student’s t test or Man Withney’s U test was performed to compare two means or two medians. The determinants of poor quality of life were sought by the logistic regression test using the Back Ward method (step by step) with calculation of the Odds Ratio to estimate the degree of association.

Results

Table 1: Sociodemographic and clinical characteristics of PLWHA and no-PLWHA

Variables	All n = 1082	PLWHA n = 541	No-PLWHA n = 541	P
Gender				<0.001
Male	380 (35.1)	142 (26.2)	238 (44.0)	
Female	702 (64.9)	399 (73.8)	303 (56.0)	
Age (years)	46.1±14.6	50.4±10.7	41.8±16.6	<0.001
18-39	354 (32.7)	77 (14.2)	277 (51.2)	
40-59	528 (48.8)	355 (65.6)	173 (32.0)	
≥60	20 (18.5)	109 (20.1)	91 (16.8)	
Marital status				<0.001
Single	398 (36.8)	80 (14.8)	318 (58.8)	
Married	355 (32.8)	178 (32.9)	177 (32.7)	
Divorced	101 (9.3)	94 (17.4)	70 (1.3)	
Widower	228 (21.1)	189 (34.9)	39 (7.2)	
Condom use				<0.001
Yes	144 (13.3)	50 (9.2)	94 (17.4)	
No	938 (86.7)	491 (90.8)	447 (82.6)	
Education				0.006
None	180 (16.6)	113 (20.9)	67 (12.4)	
Primary/Secondary	780 (72.1)	368 (68.0)	412 (76.1)	
Higher/university	122 (11.3)	60 (11.1)	62 (11.5)	
Work/Job				0.005
No	451 (41.7)	247 (45.7)	204 (37.7)	
Yes	631 (58.3)	294 (54.3)	337 (62.3)	

For all tests used, the value of $p < 0.05$ was considered as the threshold for statistical significance.

Ethics and Informed Consent (Appendix 1)

Inclusion in this study was conditioned by reading and signing an informed consent form, which contained information on the advantages linked to participation in said study. Confidentiality was guaranteed to patients.

Operational Definitions

- Antiretroviral: this is the class of drugs used for the treatment of infections linked to retroviruses; HAART: Highly active antiretroviral therapy [6].
- Psychosocial determinants: factors linked to stress, anxiety, depression, sociodemographic characteristics, and clinical parameters of HIV/AIDS [6].
- No-PLHIV: any HIV-negative subject who has consulted one of the nine general medicine centers.
- Person living with the HIV/AIDS (PLWHA): is a person diagnosed with HIV [6].
- Person living alone: person not accompanied by a spouse [6].
- Quality of life: this is a concept defined by the normal functioning of an individual on a physical, psychological, and social level [6].
- Traditional religion: these are the Catholic, Protestant, Kimbanguist and Islam religious denominations [6,9].
- Independent religion: these are the so-called revival churches and others [6,9].
- Perceived stress: level of stress felt by an individual and which can be assessed [8,9].

Religion				0.033
Traditional	465 (43.0)	248 (45.8)	217 (40.1)	
Independent	617 (57.0)	293 (54.2)	324 (59.9)	
Socio-economic level (SEL)				<0.001
High	32 (3.0)	18 (3.3)	14 (2.6)	
Middle	496 (45.8)	282 (52.1)	214 (39.6)	
Low	554 (51.2)	241 (44.5)	313 (57.9)	
Alcohol consumption				
Alcohol	191 (17.7)	66 (12.2)	125 (23.1)	<0.001

Table 1 shows that the average age of the entire study population was 46.1±14.6 years with a sex ratio of 1.84 F/M. The age group of 40 to 59 years was the most represented, i.e. 48.8%, 36.8% were single (p<0.001), 13.3% used condoms during sexual intercourse (p<0.001), 72.1% had a primary or secondary education level (p=0.006), 58.3% had an occupation (p=0.005), 57% belonged to the independent religion (p=0.033), 51.2% had a low socioeconomic level (p<0.001) and 17.7% consumed alcohol (p<0.001).

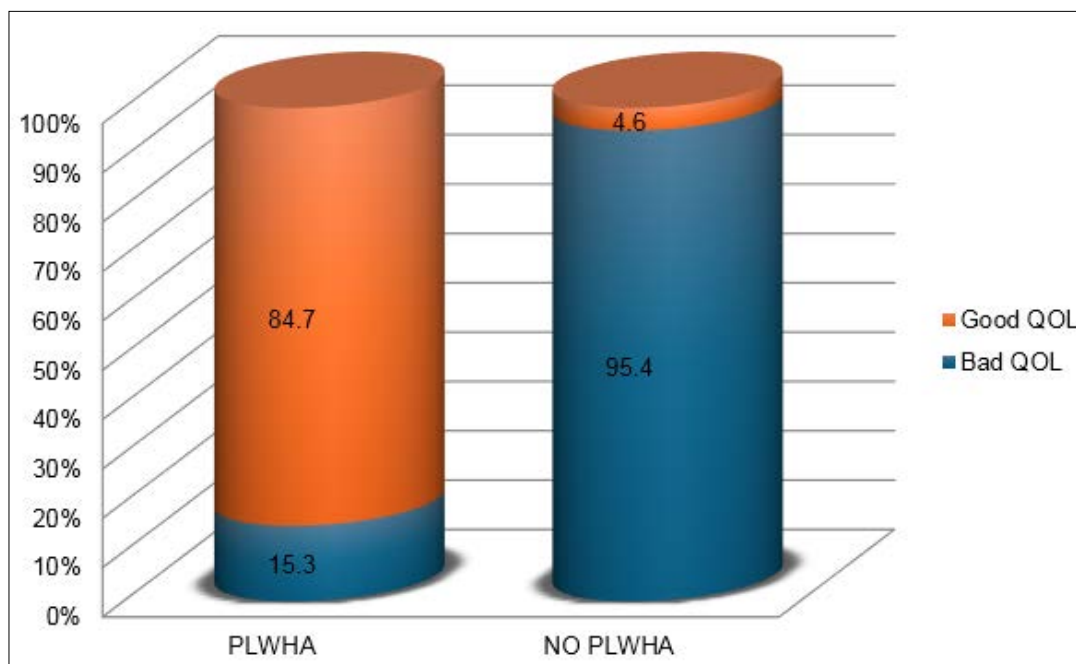


Figure 1: Level of Quality of Life

Figure 1 reveals that 84.7% of PLWHA and 4.6% of No-PLWHA had a good quality of life.

Table 2: Quality of life and Clinical Characteristic of PLWHA

Variables	Bad Qol n = 83	Good Qol n = 458	P
Alcohol consumption			
Alcohol	12 (14.5)	54 (11.8)	0.300
Psychosocial support	71 (85.5)	363 (79.3)	0.299
WHO clinical stages			0.006
Stage 1	40 (48.2)	151 (33.0)	
Stage 2	38 (45.8)	228 (49.8)	
Stage 3	4 (4.8)	74 (16.2)	
Stage 4	1 (1.2)	5 (1.1)	
HAART compliance	70 (84.3)	400 (87.3)	0.278
Side effects	59 (72.0)	372 (81.2)	0.041
Viral load after HAART			0.641
Undetectable	6 (7.2)	43 (9.4)	

<40 copies	75 (90.4)	396 (86.5)	
≥40 copies	2 (2.4)	19 (4.1)	
BMI			0.252
Undernutrition	9 (10.8)	66 (14.4)	
Normal weight	26 (31.3)	172 (37.6)	
Overweight – obesity	48 (57.8)	220 (48.0)	
Perceived Stress			<0.001
No	22 (26.5)	202 (44.1)	
Moderate	6 (7.2)	148 (32.3)	
High	55 (66.3)	108 (23.6)	
Anxiety-Depression			<0.001
No anxiety	4 (4.8)	5 (1.1)	
Doubtful anxiety	19 (22.9)	249 (54.4)	
Definite anxiety	60 (72.3)	204 (44.5)	
Sleep disorder			0.461
No	2 (2.4)	16 (3.5)	
Yes	81 (97.6)	442 (96.5)	

Table 2 indicates that bad quality of life among PLWHA was linked to stage 1 of the disease ($p = 0.006$), side effects of antiretrovirals ($p = 0.041$), perceived stress ($p < 0.001$) and anxiety-depression ($p < 0.001$).

Table 3: Quality of life and sociodemographic characteristics of No-PLWHA

Variables	Bad Qol n = 519	Good Qol n = 22	p
Gender			0.284
Male	264 (50.9)	13 (59.1)	
Female	165 (31.8)	8 (36.4)	
Age (years)	90 (17.3)	1 (4.5)	
18-39			0.472
40-59	229 (44.1)	9 (40.9)	
≥60	290 (55.9)	13 (59.1)	
Marital status			0.767
Single	304 (58.6)	14 (63.6)	
Married	171 (32.9)	6 (27.3)	
Divorced	7 (1.3)	0 (0.0)	
Widower	37 (7.1)	2 (9.1)	
Education			0.632
None	65 (12.5)	2 (9.1)	
Primary/Secondary	396 (76.3)	16 (72.7)	
Higher/university	58 (11.2)	4 (18.2)	
Work/Job			0.543
No	196 (37.8)	8 (36.4)	
Yes	323 (62.2)	14 (63.6)	
Religion			0.017
Traditional	212 (40.8)	5 (22.7)	
Independent	307 (59.2)	17 (77.3)	
Socio-economic level (SEL)			0.534
High	13 (2.5)	1 (4.5)	
Middle	205 (39.5)	9 (40.9)	
Low	301 (58.0)	12 (54.5)	

Alcohol consumption			
Alcohol	124 (23.9)	1 (4.5)	0.002
BMI			0.793
Undernutrition	23 (4.4)	0 (0.0)	
Normal weight	164 (31.6)	8 (36.4)	
Overweight – obesity	332 (64.0)	14 (63.6)	
Perceived Stress			<0.001
Yes	443 (85.4)	4 (18.2)	
No	76 (14.6)	18 (81.8)	
Anxiety-Depression			0.910
No anxiety	83 (16.0)	4 (18.2)	
Doubtful anxiety	413 (79.6)	17 (77.3)	
Definite anxiety	23 (4.4)	1 (4.5)	
Sleep disorder			0.031
No	98 (18.9)	8 (36.4)	
Yes	421 (81.1)	14 (63.6)	

Table 3 reveals that poor quality of life among No-PLWHA was linked to religion ($p = 0.017$), alcohol consumption ($p = 0.002$), perceived stress ($p < 0.001$) and sleep disorder ($p = 0.031$).

Table 4: Determinants of bad quality of life among PLWHA

Variables	Univariate analysis		Multivariate analysis	
	p	OR (IC95%)	P	ORa (IC95%)
WHO clinical stages				
Stage 1		1		1
Stage 2	0.800	0.76 (0.09-1.64)	0.813	1.33 (0.13-1.42)
Stage 3	0.869	1.20 (0.14-2.56)	0.749	1.47 (0.14-1.65)
Stage 4	0.018	3.70 (1.35-6.23)	0.016	3.06 (1.47-7.79)
Side effects				
No		1		1
Yes	0.016	2.68 (1.38-4.88)	0.048	1.90 (1.04-3.60)
Perceived Stress				
No		1		1
Yes	0.000	4.57 (3.35-6.24)	0.015	4.14 (1.32-12.94)
Anxiety-Depression				
No		1		1
Yes	0.000	5.95 (2.95-12.02)	0.009	6.88 (1.60-9.43)

Table 4 shows that in univariate analysis, stage 4 of the disease according to the WHO, side effects due to ARVs, perceived stress and anxiety-depression had emerged as the main determinants of the poor quality of life of the topics. In multivariate analysis, the strength of association observed previously persisted for the same variables. The risk was multiplied by 3 in subjects at stage 4 of the disease according to WHO (ORa: 3.06 95% CI: 1.47-7.79), by 1 in those with side effects due to ARVs (ORa : 1.90 95% CI: 1.04-3.60), by 4 in stressed subjects (ORa: 4.14 95% CI: 1.32-12.94) and by 6 in those with anxiety-depression (ORa : 6.88 95% CI: 1.60-9.43).

Table 5: Determinants of bad quality of life among no-PLWHA

Variables	Univariate analysis		Multivariate analysis	
	P	OR (IC95%)	P	ORa (IC95%)
Religion				
Traditional		1		1
Independent	0.010	2.35 (1.85-6.46)	0.111	2.50 (0.81-7.71)
Alcohol				
No		1		1
Yes	0.017	6.59 (1.88-9.51)	0.016	3.01 (1.62-4.46)
Perceived Stress				
No				
Yes	0.000	6.23 (3.64-9.62)	0.000	4.89 (2.87-9.41)
Sleep disorder				
No		1		1
Yes	0.019	2.46 (1.02-6.01)	0.016	2.53 (1.82-7.82)

Table 5 shows that in univariate analysis, religion, alcohol consumption, perceived stress and sleep disorder emerged as the main determinants of the subjects' poor quality of life. In multivariate analysis, the strength of association observed previously only persisted for alcohol consumption, perceived stress, and sleep disorder. The risk was multiplied by 3 in subjects consuming alcohol (ORa: 3.01 95% CI: 1.62-4.46), by 4 in stressed subjects (ORa: 4.89 95% CI: 2.87 -9.41) and by 2 in those with sleep disorders (ORa: 2.53 95% CI: 1.82-7.82).

Discussion

The objective of the present study was to determine the psychosocial factors of bad quality of life among PLWHA on HAART in Kinshasa in the Democratic Republic of Congo.

The average age of PLHIV was 50.4±10.7 years with a sex ratio of 2.81 F/M and that of No-PLWHA was 41.8±16.6 years with a sex ratio of 1.27 F/M.

These results are similar to those reported by the Muilu et al study in 2017 on the evaluation of the quality of life of PLWHA on HAART in Kinshasa [6]. The same applies to the Benilde Bepouka Izizag et al study carried out in 2020 on non-compliance with HAART among adults in Kinshasa, including 77.25% women and 22.75% men, with an age median age of 43 years, that of Wenceslas Yaba in Gabon in 2013 where the sex ratio was 0.71 in favor of women with an average age of 39 years and that of Ayekoe Adou Ignace in Côte d' Ivory in 2019 where the age of patients ranged from 20 to 60 years with an average of 40 years where women represented 71.6% of enrolled patients [11-13]. Contrary to the four previous results, the Ki-Zerbo G.A. et al study on the psychosocial care of PLHIV in the infectious diseases department of the Fann University Hospital in Dakar, Senegal in 2002 included 80% of men compared to 20% of women, the ASTRA study in the United Kingdom in 2013 included 81% men compared to 19% women, the Ojikuto B et al study in the USA in 2013 on HIV screening models, knowledge and experience of stigma between Massachusetts-born and non-American blacks was noted by 53.1% of non-American men, the Mahamoud Zongo study in Benin in 2009 on the psychosocial care of PLHIV included 58.8% of men and 41.2% of women and the Julio Alfonso study in Mexico in 2008 included 39.1% of women compared to 60.9% of men [14-18]. The similarity in the average age of 50.4±10.7 years among PLWHA could be justified by the chronicity of HIV infection and

that of 41.8±16.6 years among No-PLWHA could be justified by the type of study population. In fact, the No-PLWHA came from the general population of Kinshasa whose average age is around forty [9]. Indeed, Roland Pourtier evokes a young Congolese population whose upper extreme is around 49 years old [9].

Regarding gender, the first four studies included more women than men and another five studies included more men than women [6-18]. This difference could be justified by the fact that in the first studies, the samples had been drawn from entirely African populations resembling the Congolese population in general and the Kinshasa population in particular, made up essentially of women (6, 9) and for the five other studies, the choices for inclusion in the studies focused more on men, given that they were more consenting [11-18].

Quality of life

Level of quality of life

In the present study, 15.3% of PLWHA and 95.4% of No-PLWHA had bad quality of life. The M J Essi et al study on the Evaluation of the QoL of PLWHA in Edéa, in 2014, noted an overall QoL score of 74.23, with an average social interaction score estimated at 64, 98 [19]. The same is true for the Busi AN et al study where the average quality of life of respondents was "good" with an average score of 3.57 out of 5 and 71.4% agreed that they had a satisfactory quality of life [20]. However, health-related quality of life was lower among HIV-positive people in the ASTRA study [15]. This alteration in the quality of life among PLWHA and no-PLWHA could be justified by the low level of psychosocial support on the one hand or the absence of psychosocial support on the other. Indeed, No-PLWHA were seen in general medicine for other acute and chronic pathologies, without this aspect of psychosocial support.

Determinants of bad quality of life among PLWHA on HAART In univariate analysis, stage 4 of the disease according to the WHO, side effects due to HAART, perceived stress, anxiety-depression, and neurocognitive disorders had emerged as the main determinants of the poor quality of life of the subjects. On the other hand, in multivariate analysis, the strength of association observed previously only persisted for stage 4 of the disease according to the WHO, side effects due to HAART, perceived stress and anxiety-depression. The risk was multiplied by 3 in subjects with stage 4 of the disease according to the WHO, by 2 in those with

side effects due to HAART, by 4 in those under stress and by 7 for anxious and/or depressed subjects. Indeed, the appearance of opportunistic infections at stage 4 of the disease leads to the weakening of the immune system and influences the poor quality of life of PLWHA [13]. Side effects due to antiretroviral therapy, including lipodystrophy, can negatively impact the quality of life of PLWHA [6]. During the M. El Fane et al study in 2011, 65.6% of subjects reported having faithfully followed the prescribed treatment and that there was only one combination, an intermediate level of stress linked to tolerance for uncertainty and low levels of depression, which was significantly associated with treatment adherence [21]. The combination of stress levels with tolerance for uncertainty and depression could be used as a predictor of true compliance with prescribed treatment plans [21]. These results must be considered when designing intervention and treatment compliance campaigns among HIV-positive people, a guarantee of good quality of life [21]. In the ASTRA study, PLWHA were more likely to report feelings of anxiety and/or depression than HIV-negative people [15]. A reduction in QoL was more likely to occur in people whose HIV diagnosis was more than a decade old [15]. Depression and anxiety are problems that HIV-positive people face in many areas, even in modern times [6,9]. Undiagnosed, untreated, or poorly managed health conditions can compromise not only QoL, but also patients' ability to adhere to HAART and, in some cases, their survival [15].

Indeed, Gelabert mentions 25 to 40% of the general population suffering from an episode of anxiety during their life, so he believes that if one family member is affected by anxiety, the other members experience anxiety symptoms in 80% [9].

Determinants of bad quality of life among no-PLWHA

In univariate analysis, religion, alcohol consumption, perceived stress, neurocognitive and sleep disorders emerged as the main determinants of the subject's bad quality of life. On the other hand, in multivariate analysis, the strength of association observed previously only persisted for alcohol consumption, perceived stress and sleep disorders. The risk was multiplied by 3 among alcohol consumers, by 5 among those under stress and by 3 for those with sleep disorders.

Religion allows man to move forward by dictating good conduct, constituting one of the means that allows man to endure his misery [9]. Indeed, independent churches provide more regulatory space for sharing, belief, testimony, ideas of value and morality according to African American charisma [6].

Traditional churches, on the other hand, because of the dynamic of guilt, constitute a significant source of anxiety with the doctrine of divine punishment and sin [6]. Regarding alcohol, a Nigerian study in 2022 states that excessive consumption of alcohol as well as other psychoactive substances was associated with poor quality of life [22]. During the EQUIPIER study on substance use and risky sexual behavior among PLWHA in France in 2018, it emerged that 15% consumed alcohol [23]. During the Bilongo AM et al study on the determinants of cannabis consumption among psychotics in Kinshasa, Democratic Republic of Congo in 2021, it turns out that the joint consumption of tobacco and alcohol was retained as one main factors with 77% of subjects [24]. This coincidence could be justified by the fact that the subjects of this study came from the general population exposed to psychoactive substances [6,9,23,24]. This trend could also be justified by the lack of psychosocial support in the general population on the one hand and the lack of good stress management on the other hand [25].

Regarding stress, it appears from the present study that 85.4% of subjects had a high perceived stress score and poor quality of life. However, the Luxembourg study noted a stress rate at lower levels than those of the reference populations: 20.9% very high stress compared to 27.2% in the reference populations; 25.6% high stress versus 33.2% [9]. Indeed, this difference could be explained by the fact that the two study populations come from two different groups: one is taken from the African populations exposed to very high levels of psychosocial stress, which would negatively influence their quality of life compared to the Luxembourg population [9]. As for sleep disorders, these have been cited as one of the factors in poor quality of life among No-PLWHA. Indeed, the Ohayon MM study confirmed this hypothesis [10].

Strengths and Limitations of the study

This study has some weaknesses that should be noted. Indeed, its cross-sectional case-control nature could not demonstrate causality over time. Despite these limitations, it was able to determine the factors of bad quality of life among people living with HIV/AIDS under HAART in Kinshasa in comparison with HIV-negative people. This is a first in our circles, which opens interesting avenues for research related to the quality of life of PLWHA.

Conclusion

Bad quality of life is present among people living with human immunodeficiency virus on antiretroviral drugs in Kinshasa. It is linked to stage 4 of the disease according to the World Health Organization, side effects due to antiretrovirals, perceived stress and anxiety-depression. Thus, the determinants of bad quality of life among people living with human immunodeficiency virus under antiretroviral drugs in Kinshasa are stage 4 of the disease, side effects due to antiretroviral drugs, perceived stress as well as anxiety-depression.

Conflicts of Interest

The authors have declared that they have no conflicts of interest.

Author Contributions

Muilu JP, Situakibanza HN, Kiyombo GM, Mananga GL and Mampunza SMM designed the study, performed the analyzes and wrote the manuscript. Manzekele GBK, Nkodila AN, Matonda TMN, Duagani YM carried out data collection and proofreading of the manuscript.

All authors participated, read, and approved the final manuscript.

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