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Perceived Quality of Life and Personality Traits of People Living with AIDS

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Abstract

Introduction: The increased survival rate of AIDS patients due to the advancements in the diagnosis and antiretroviral therapy, raised the interest in investigating quality of life (QOL) and the factors promoting psychological development of the patients, such as the way the individual sees its diagnosis. Therefore, this study aimed to assess association between QOL perception and personality traits of people living with AIDS.

Methods: A cross-sectional study with 80 subjects was conducted. The World Health Organization QOL Instrument of people living with HIV (abbreviated version) was used to characterize QOL, and the Battery Factor Personality for personality traits.

Results: Poor or low QOL perception and personality traits showed associations with neuroticism domain (p = 0.001), emotional instability facets (p < 0.001), and depression (p < 0.001). The results showed associations between poor or low QOL perception and low education level (p = 0.022), no occupation (p = 0.042), low CD4+ T-cell count (p = 0.043) and detectable viral load (p = 0.016). Occupation (p = 0.028) and illicit drug use (p = 0.008) related to high neuroticism scores.

Conclusion: There was an association between poor or low QOL perception and personality traits expressing an emotional behavior model of the *self*-learned during early childhood. The prevalence of emotional instability and depression indicates the need for psychological care to treat the person as a whole, body and mind.

Keywords

AIDS, Quality of Life, Personality, Depression, Behavior

Introduction

After about 30 years of the first reports of the Acquired Immunodeficiency Syndrome (AIDS), epidemiological data reported that 38 million people were living with the Human Immunodeficiency Virus (HIV) in late 2019, and nearly 33 million have died of HIV-related causes [1]. Brazil has 920,000 AIDS cases reported in the last three decades. Santa Catarina is one of the Brazilian states with the highest prevalence, and Florianópolis ranks first among the Brazilian capitals, with a rate of 57 cases per 100,000 population [2].

Advancements in the diagnosis and antiretroviral therapy (ART) have brought important effects on patient survival [3,4]. In this sense, scientific studies have boosted interest in quality of life (QOL), such as the identification of factors promoting psychological development [5-7].

According to the World Health Organization (WHO), QOL is defined as "an individual's perception of their position in life in the context of the culture and value systems in which

they live and in relation to their goals, expectations, standards and concerns" [8]. QOL is based on parameters related to individual's perception of their position in life (culture and value systems), the intensity in which ambition focuses on personal experience and relationship with their goals (expectations and standards) [5,9]. Studies of people living with HIV/AIDS indicate that the impact with the diagnosis, coping and control of the disease affect individual, cultural and social dimensions, interfering with QOL [7,10-14].

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Calman [9] defines QOL as the gap between expectations and achievements, emphasizing the importance of personal development. Personality and culture in which the individual is embedded are important factors in the "decision" to increase the achievements or decrease the expectations [5].

In the personality development process, which is constructed by people throughout their lives in interaction with the environment, the *self* is the categorical determinant [15,16]. Starting from their first and key relationships with the environment, the individuals learn and assimilate emotional and behavioral models which can turn permanent over time [17,18]. The way the individual sees the diagnosis depends on previous psychological dynamics, and this is driven by an affective-emotional character developed during childhood [19].

This study was intended to assess the association between QOL and personality traits of people living with AIDS.

Methods

Design and setting of the study

This cross-sectional study was conducted between August and December 2012, at the Nereu Ramos Hospital, which provides recognized expertise in pulmonology and infectious disease in the State of Santa Catarina, Brazil. The study was approved by the Human Research Ethics Committee of the University of Southern Santa Catarina (approval number 12.156.4.01.III). All patients provided written informed consent prior to enrollment in the study.

Characteristics of participants

Out of the total of 350 individuals diagnosed with AIDS, 80 consenting subjects aged over 18 years participated in the study. Those who presented severe cognitive impairment and illiterates would be excluded, but it didn´t happen.

Data Collection

Data collection was conducted in a private room, preserving the privacy of the participants. The administration of data collection tools lasted about one hour.

The calibration of the two interviewers was performed by the researchers in a one-week period prior to the field investigation, consisting of theoretical review and adequacy of the tools and methods. A pilot study with 10 subjects was conducted, which was later included in the study sample.

The assessment of QOL was performed by using the World Health Organization Quality of Life-HIV Bref (WHOQOL-HIV Bref) validated in Brazil [5,20]. It includes six domain scores: Physical, psychological, level of independence, social relations, environment and spirituality/religiousness/personal beliefs [20]. The overall score of each domain, ranging between 4 and 20, it was calculated by using equations suggested by the WHO, which reflect the best and worst states of QOL [21]. The participants were categorized into three QOL domain score levels: Low, between 4 and 9.9; intermediate, between 10 and 14.9; and high, between 15 and 20 [22,23].

The Battery Factor Personality (BFP) is a psychometric instrument of personality assessment that identified the personality traits. It is based on the big five factors model of personality: Neuroticism, extraversion, agreeableness, consciousness and openness [14]. In order to interpret the results, the following score ranges by BFP were used: Very low (up to 14), low (15-29), medium (30-70), high (71-85) and very high (greater than 85). The low, very low and intermediate score ranges were named Group A, and the high and very high score ranges were named Group B [14].

The clinical, blood tests and demographic data were recorded on specific forms and were collected from medical records and participant information. The WHOQOL-HIV Bref and BFP were self-administered.

Data Analysis

The Excel® software was used to store the data, which was then exported to SPSS 21.0®. Quantitative variables were summarized as minimum, maximum, mean and standard deviation. Nominal variables were summarized as absolute numbers and percentages. The association between QOL and personality traits was evaluated by using the chi-square test or Fisher's exact test, where appropriate. The association between neuroticism, QOL and numeric variables was evaluated by using the Student's t-test. For all the analyses, p-value of less than 0.05 were considered statistically significant.

Results

Of the surveyed subjects, 65% were male. Mean age was 46 ± 8.8 years, ranging from 22 years to 61 years. Most participants (33.8%) had completed high school, and 57.5% were living without a steady partner. Out of the participants, 57.5% had no current occupation, being out of the labor market for 5.65 ± 4.74 years, in average, with a minimum of 1 year and a maximum of 16 years. Regarding the household income, 25% earned up to one minimum wage (BRL 678.00), and 75% earned more than a minimum wage.

The mean elapsed time since HIV diagnosis was 9.34 ± 6.77 years, ranging from one year minimum and 32 years maximum. The median HIV viral load was 10,204 ± 28,587 copies. Viral load was undetectable in 76.2% of cases. Out of the participants, 65% reported the presence of comorbidities and, of these, 41.2% had hepatitis. With regard to drug abuse, 16.2% reported the use of illicit drugs, 18.8% stated that they were former drug users, and 65% reported that they did not do drugs.

QOL scores revealed that 5% were in the low level position, 55% were in the intermediate level position, and 40% were in the high level position. BFP questionnaire results revealed that 63.8% had high and very high scores in the Neuroticism factor, and 55% had low and very low scores in the Openness factor. A comparison between the BFP and QOL scores showed a significant relationship between poor or low perception of QOL and personality traits in the Neuroticism factor (p = 0.001), and in the facets of emotional instability (p < 0.001), depression (p < 0.001), communication (p = 0.002), dynamism (p = 0.010), and social interaction (p = 0.043) (Table 1).

Table 1: Distribution of BFP scores according to dichotomized QOL.

Quality of Life			
Battery Factor Personality	**Low and Intermediate Level Position n(%)**	**High Level Position n(%)**	**p**
Neuroticism			
Group A*	10 (20.8)	19 (59.4)	**0.001**
Group B**	38 (79.2)	13 (40.6)	
Vulnerability			
Group A	18 (37.5)	18 (56.3)	0.099
Group B	30 (62.5)	14 (43.7)	
Emotional instability			
Group A	11 (22.9)	22 (68.7)	**< 0.001**
Group B	37 (77.1)	10 (31.3)	
Passivity/Lack of energy			
Group A	21 (43.8)	20 (62.5)	0.1
Group B	27 (56.2)	12 (37.5)	
Depression			
Group A	5 (10.4)	20 (62.5)	**< 0.001**
Group B	43 (89.6)	12 (37.5)	
Extraversion			
Group A	32 (66.7)	16 (50.0)	
Group B	16 (33.3)	16 (50.0)	0.136
Communication			
Group A	42 (87.5)	18 (56.3)	**0.002**
Group B	6 (12.5)	14 (43.7)	
Assertiveness			
Group A	28 (58.3)	23 (71.9)	0.217
Group B	20 (41.7)	9 (28.1)	
Dynamism			
Group A	32 (66.7)	12 (37.5)	**0.01**
Group B	16 (33.3)	20 (62.5)	
Social interactions			
Group A	33 (68.8)	15 (46.9)	**0.043**
Group B	15 (31.2)	17 (53.1)	
Socialization			
Group A	37 (77.1)	22 (68.8)	0.407
Group B	11 (22.9)	10 (31.2)	
Agreeableness			
Group A	18 (37.5)	13 (40.6)	0.779
Group B	30 (62.5)	19 (59.4)	
Tender-mindedness			
Group A	34 (70.8)	22 (68.8)	0.842
Group B	14 (29.2)	10 (31.2)	
Trust in People			
Group A	42 (87.5)	25 (78.1)	0.265
Group B	6 (12.5)	7 (21.9)	

Achievement					
Group A	34 (70.8)		18 (56.3)	0.18	
Group B	14 (29.2)		14 (43.7)		
Competence					
Group A	35 (72.9)		17 (53.1)	0.069	
Group B	13 (27.1)		15 (46.9)		
Deliberation					
Group A	37 (77.1)		23 (71.9)	0.598	
Group B	11 (22.9)		9 (28.1)		
Commitment					
Group A	31 (64.6)		20 (62.5)	0.849	
Group B	17 (35.4)		12 (37.5)		
Openess					
Group A	42 (87.5)		26 (81.3)	0.443	
Group B	6 (12.5)		6 (18.7)		
Openess to experience					
Group A	42 (87.5)		26 (81.3)	0.443	
Group B	6 (12.5)		6 (18.7)		
Liberalism					
Group A	33 (68.8)		23 (71.9)	0.765	
Group B	15 (31.2)		9 (28.1)		
Novelty-seeking					
Group A	42 (87.5)		27 (84.4)	0.747	
Group B	6 (12.5)		5 (15.6)		

*Group A (low, very low and intermediate).

**Group B (high and very high).

Table 2: Distribution of the clinical, blood tests and sociodemographic variables according to dichotomized QOL and the Neuroticism domain.

	Quality of Life			Neuroticism		
Variables	**Low and Intermediate Level Positions n (%)**	**High Level Position n (%)**	**p**	**Low, Very Low and Intermediate n (%)**	**High and Very High n (%)**	**p**
Gender						0.942
Female	19 (39.6)	9 (28.1)	0.293	10 (34.5)	18 (35.3)	
Male	29 (60.4)	23 (71.9)		19 (65.5)	33 (64.7)	
Relationship						
With a steady partner	18 (37.5)	16 (50.0)	0.268	13 (44.8)	21 (41.2)	0.751
Without a steady partner	30 (62.5)	16 (50.0)		16 (55.2)	30 (58.8)	
Education level						
Category 1*	29 (60.4)	11 (34.4)	**0.022**	11 (37.9)	29 (56.9)	0.104
Category 2**	19 (39.6)	21 (65.6)		18 (62.1)	22 (43.1)	
Occupation						
Yes	32 (66.7)	14 (43.8)	**0.042**	12 (41.4)	34 (66.7)	**0.028**
No	16 (33.3)	18 (56.2)		17 (58.6)	17 (33.3)	
Length of withdrawal from work#	4.8 ± 4.4	7.6 ± 5.2	0.069	5.1 ± 4.0	5.9 ± 5.0	0.634
Household income						
> 1 MW***	33 (68.8)	27 (84.4)		24 (82.8)	36 (70.6)	0.227
Up to 1 MW	15 (31.2)	5 (15.6)	0.114	5 (17.2)	15 (29.4)	

Time elapsed since HIV diagnosis[#]	8.1 ± 6.2	11.3 ± 7.3	**0.038**	9.6 ± 5.4	9.2 ± 7.5	0.806
Viral load						
Detectable	16 (33.3)	3 (9.4)	**0.016**	6 (20.6)	13 (25.4)	0.628
Undetectable	32 (66.7)	29 (90.6)		23 (79.3)	38 (74.5)	
CD4+ T-Cell Count						
< 200 cells/mm³	10 (20.8)	1 (3.1)	**0.043**	2 (6.9)	9 (17.6)	0.311
≥ 200 cells/mm³	38 (79.2)	31 (96.9)		27 (93.1)	42 (82.4)	
Illicit Drug Use						
Former User	11 (22.9)	4 (12.5)	0.302	5 (17.2)	10 (19.6)	**0.008**
No	28 (58.3)	24 (75.0)		24 (82.8)	28 (54.9)	
Yes	9 (18.8)	4 (12.5)		-	13 (25.5)	
Comorbidity						
No	15 (31.3)	13 (40.6)	0.389	11 (37.9)	17 (33.3)	0.679
Yes	33 (68.7)	19 (59.4)		18 (62.1)	34 (66.7)	
Hepatitis						
No	28 (58.3)	19 (59.4)	0.926	15 (51.7)	32 (62.7)	0.336
Yes	20 (41.7)	13 (40.6)		14 (48.3)	19 (37.3)	

[*]Category 1 (complete or incomplete Primary School and incomplete Secondary School)

[**]Category 2 (Secondary School and College Degree or incomplete Higher Education)

[#]Mean ± Standard Deviation

[***]Minimum Wage (BRL 678.00).

With regard to clinical, blood tests and sociodemographic variables according to the dichotomized QOL items and dichotomized Neuroticism dimensions, association was found between poor or low perceived QOL and low educational level (p = 0.022), no occupation (p = 0.042), low CD4+ T-cell count (p = 0.043), and detectable viral load (p = 0.016). In addition, it was found association between high scores in the Neuroticism factor and variables such as no occupation (p = 0.028) and drug abuse (p = 0.008) (Table 2).

Discussion

The findings of this study showed that the perceived QOL of people living with AIDS was prevalent in the intermediate level position. In analyzing the stages of HIV infection, Fleck [5] described that the WHOQOL-HIV scores decreased among HIV-infected people as the disease progressed, having even lower scores in the AIDS stage, associated with poorer QOL than their counterparts.

A significant association was found between QOL and education level. The data showed that less educated people tend to have poorer or lower perception of QOL than highly educated people, as reported by the literature [22-24]. Meneghetti [17] points out that people acquire a system of evaluation, of how to perceive themselves and the world in early learning stages. Consequently, subjects may develop the resources they need to cope with life and its obstacles throughout their life.

The variable "no occupation" was significantly associated with poor or low perception of QOL and had a high score in the Neuroticism factor. These findings corroborate those found by Gaspar, et al. [25] and Ferreira, Oliveira and Paniago

[22] who observed that subjects who worked had higher QOL scores than those who had no occupation. Studies [26,27] suggest that a seropositive status directly affects the QOL of people living with HIV when they are on a leave of absence due to their health condition, since work provides them with a sense of existential meaning within society. Work generates financial benefits, besides providing a person with assistance and collective support, and a sense of usefulness, thus allowing ease the stress caused by the disease and stimulating psychological health and good social relations [25,28].

With regard to personality traits, the surveyed subjects with no occupation had a high level of neuroticism. The Neuroticism factor is associated with chronic level adjustment and emotional instability of individuals, reflecting a cognitive and behavioral lifestyle that may present difficulty to use adaptive and coping strategies in conflict situations [14]. Having a labor activity is important to cope with HIV-seropositive status, since occupation provides the subjects with responsibility, sense of usefulness and extension of social relations, besides keeping their mind occupied and avoiding thinking about the disease. The side effects of HAART treatment often require adjustments at work. Consequently, withdrawal and leave of absence are quite common in these cases [29]. Work is a key element in shaping the social and psychological identity of individuals, making it possible to discover and develop their skills [29]. It could be said that work provides financial resources and autonomy, builds self-esteem, and is the principle of freedom of the human being [17].

In this study, findings revealed that low CD4+ T-cell count and detectable viral load were associated with poor or low perceived QOL. Other studies have also identified that CD4+

T-cell count and viral load were associated with QOL [30-32]. Ferreira, Oliveira and Paniago [22] found a significant relationship between them and the level of independence domain of QOL. Low CD4+ T-cell counts and high viral load compromise the immune system, and predispose to disease symptoms, opportunistic infections and related adverse reactions of drugs that negatively affect QOL and survival of these subjects [22,33,34]. Therefore, it is possible to verify that the physical health status may interfere with the way participants perceive QOL.

The findings showed a significant association with the use of illicit drugs and the Neuroticism factor. Similar data were found by Mohan and Bedi [35] who concluded that the Neuroticism factor is associated with drug abuse in people living with HIV/AIDS, and is related to risk behaviors. Individuals with high Neuroticism scores are more likely to experience feelings such as depression, anger, guilt and anxiety than the average for the general population. This combination of feelings can provide vulnerability to risk behaviors. Serafini and Bandeira [13] have also studied young people living with HIV and their relationship with Neuroticism. They stress that characteristics such as risk behavior, perceived by the high scores in the psychosocial disturbance factor, have acted as a factor of exposure to infection.

Analyzing the association between QOL and BFP, a significant relationship was found in the Neuroticism factor, expressing scores above average in this personality trait, leading to a poor or low perception of QOL. Neuroticism relates to individual differences and expresses how individuals experience negative emotions (grief, anguish, suffering, among others), and cognitive and behavioral lifestyles that emerge from these experiences. They present difficulty tolerating frustration caused by unfulfilled desires [12,14,36].

Penedo, et al. [37] studied the relationship between personality traits and QOL in people living with HIV, and identified that high scores on the Neuroticism factor were significantly associated with poor or low perception of QOL. With regard to the role of personality and QOL in people living with HIV, the results showed that Neuroticism was associated with poor or low perception of QOL among men who have sex with men and injecting drug users [38].

In a study conducted in Brazil with young people living with HIV, findings revealed high levels of Neuroticism, in particular regarding the depression facet, such as the feeling of loneliness, low expectations about the future and lack of goals in life [13]. In this study, the Neuroticism factor was shown to be significantly associated with the emotional instability and depression facets. The emotional instability facet reveals characteristics of mood swings and difficulty controlling negative emotions, tending to make hasty decisions quite often, besides having low tolerance to frustration [12,14]. The depression facet assesses the standards of interpretation that people have in relation to the events that occur in their lives. Individuals with high scores on this facet tend to report feelings of pessimism, monotonous and unexciting life, loneliness and lack of goals or negative expectations about the future, considering themselves unable to cope with everyday difficulties [14].

A search conducted by Serafini and Bandeira [13] found high levels of Neuroticism in the depression facet. According to Castanha, et al. [26] AIDS is anchored in psych affective diseases, depression being considered a key element associated with the disease, due to the high scores in this facet observed in people living with HIV. There is significant evidence in the literature that depression symptoms interfere with psychophysical functioning, affecting multiple domains of QOL assessment. The state of depression is considered one of the strongest predictors of poor QOL in people living with HIV [5].

This finding corroborates the understanding that depression is prior to infection in people living with HIV/AIDS, which is resulting from the personality structure of the individuals and the environment in which they live [39]. According to Meneghetti [17], depression has an important role because it precedes chronic diseases. According to this author, depression is the deprivation of an instinct that has not been identified, approved and lived in its legitimate value as a life instinct. Therefore, it is a vital basic impulse that was blocked. There is not the lack of energy, it is exactly the opposite. The person feels energy, but does not know how to express it formally, and therefore, this feeling consumes, afflicts and sickens the subject. In this sense, this instinct deprivation is due to an upbringing that did not consent to the development and exposure of primary instincts such as aggression, sexuality, individuality and pride. The loss of balance to give flow to the instincts may result in depressive states over the years.

The emotional, cognitive and behavioral aspects regarding the state of emotional instability and depression are dimensions that influence the perception of QOL. Despite not having used a specific instrument to identify symptoms of depression in this study, the data suggest that the participants tended to use passive coping strategies, rather than using more strategies that are active in adverse situations, which was also due to a more pessimistic perception.

On Extraversion domain, low scores on communication and social interactions tended towards an association with a poor or low perception level of QOL. Studies regarding the psychosocial aspects (prejudice, segregation and stigma) in people living with HIV/AIDS stress that they can influence and guide the conduct of these people [18,25,40]. Isolation is common, arising from the fear of social prejudice [17,26]. Furthermore, this self-exile can be interpreted as an attitude of escape from social living in order to forget their health condition [41,42]. In the face of social exclusion, the person may use defensive strategies, based on the fear of death [40], or rejection [17], thus resulting in social death [42].

The high scores in the Neuroticism domain indicate a tendency towards shyness, passivity, and social isolation, and are related to how people copy with social exclusion. These psychological attitudes are related to external situations (social prejudice), as well as endogenous situations (personality traits), which directly interfere with people's perception of QOL, in the way they perceive themselves and relate to the surrounding world. Social exclusion may result in the impoverishment of social relations, including distrust, hostility, as well as depressive, anxious and confused attitudes.

The high scores of the surveyed subjects in the Neuroticism domain reveal a dimension of personality that refers to a chronic condition of irritability, tending to interact improperly in the social relationships, in a rigid or constricted way [14,43]. This state represents a tensed self, which interferes with the willpower and action in response to internal and external stimuli.

According to França [40] and Souto [18] people living with HIV/AIDS often tend to build self-prejudice concept, expressing a victim mentality, blaming the group for social exclusion, which indicates a mental structure in an attempt to justify a person's relationship with himself, establishing behavioral and cognitive structures in order to adapt to the condition that the disease situation requires. The behavioral attitudes, according the authors can be expressed through irreverence, religiosity, challenge traditions, the right to pity, as well as feigned indifference. People living with chronic diseases, especially AIDS, alcohol and substance abuse, generally state that they are in this situation through no fault of their own, but rather of society, traders, institutions, and families [17,18,44].

With regard to HIV infection and personality traits, Ader, Cohen and Felten [45] raise some ticklish questions: Why can the social environment determine the individual response to infectious disease? Why do latent viruses give rise to disease manifested under stressful circumstances for the infected organism? Or why, when exposed to the same infectious agents, only some individuals get sick? Ulla and Remor [46] conclude that the relationship between psychological factors and immune changes that would lead to a condition more susceptible to pathogens are crucial for people living with HIV, because it would trigger a faster viral progression. AIDS is associated with lifestyle, according to Meneghetti [19].

Conclusions

Considering that QOL perception is expressed in terms of satisfaction, happiness and achievement striving, it can be inferred that to improve health-related QOL perception it is important to stimulate the need to reduce the gap between expectations and achievements. The internal aspects that relate to personality are fundamental factors to be evaluated and, consequently, the lifestyle of people living with AIDS as well.

The findings of this study demonstrated that there was a significant association between perceived QOL and personality traits of people living with AIDS. This association was evident in relation to the high scores in the Neuroticism domain, out of which the state of emotional instability and depression significantly interfere with poor or low QOL perception.

The prevalence of emotional instability and depression indicates the need for psychological care. Psychotherapeutic counseling could provide people with a re-assessment of personality structures that characterize their lifestyle. More humane and effective medical care is required to treat the person as a whole, body and mind.

Conflict of Interests

The author(s) declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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