

# Clinical-Immunological and Psychopathological Manifestations in HIV/AIDS Patients

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**Keywords:** AIDS; Clinical-Immunological Manifestation; Psychopathology

## SUMMARY

**Introduction:** HIV/AIDS is a pandemic characterized by a deep immune depression that leads to the development of opportunistic infections, secondary neoplasia, and neurological manifestations besides serious psychological alterations with social repercussion.

**Method:** A descriptive and transversal, correlative with a quantitative approach that complements with a data qualitative analysis (paradigm convergence) was carried out in 45 patients diagnosed with HIV/AIDS in Santiago de Cuba Municipality, assisted at "Dr. Juan Bruno Zayas Alfonso" General University Hospital from January 2017 to January 2019.

**Objective:** To characterize clinical-immunological and psychopathological aspects in HIV/AIDS patients.

**Results:** There is a marked relationship among opportunistic diseases such as oropharyngeal candidiasis (25 patients) 73,5% and anxiety as a state. The evolution case AIDS is accelerated between 1 and 4 years representing a period in which the patients make their debut as an AIDS case and depression constitute a significant process in the deterioration of AIDS patients with media and high percentage levels.

**Conclusion:** AIDS is still a health problem in our territory, being demonstrated the relationship between organic physio pathologic and psychological alterations and this health-disease process.

## Introduction

One of the most important health problems in the humanity's history has been the confrontation to the process health-disease related with HIV/AIDS. The combined Program of the United Nations on Human Immune Deficiency Syndrome (HIV/AIDS) well-known as UNAIDS when presenting the situation of the disease in the closing of 2016 outlines that 36,7 million people were living with AIDS in the entire world; 2 million in Latin America and the Caribbean; also, about 100 000 new infections were registered

and 50 000 dead were related with the disease [1]. More recent statistics referred to the closing of 2017, informed that 36,9 million (31,1 – 43,9 million) people were living with AIDS in the entire world, near 1,8 million (1,4 million – 2,4 million) people got infected with HIV and that 940.000 (670 000 – 1,3 million) people died in the entire world by diseases related with AIDS compared with 1,9 million (1,4 million – 2,7 million) in 2004 and 1,4 million (1 million – 2 million 9 in 2010 [2,3]. The incidence in Cuba is the lowest of Latin America (0,07%) and one of the lowest from all

over the world. Until November 2011 there were a total of 4689 seropositive alive and 6238 people living with HIV/AIDS. There is a prevalence of male sex with a total of 6238, followed by men that have sex with other men (HSH) which add up 5376 [4]. AIDS has never been known before in the history of humanity. It has been affecting us since the second half of last century, acquiring a new pandemic dimension [4].

Not few patients affected with this serious flagellum behave aggressively and occasionally have inappropriate human behavior to society. Multiple researches carried out in the last decade from the health psychology perspective have contributed to the management of this phenomenon of great social and human repercussion, since they have made approximation to study the role of emotional states in the course of this disease. At present there are scientific evidence that allow to suppose that positive emotions potentiate health, while negative tend to diminish it. It has been discovered that negative emotions such as anger, anxiety or depression weaken the effectiveness of certain immunological cells, making that the contaminated patients with the virus become more susceptible of contracting opportunist diseases [5-7]. In this province (Santiago de Cuba) AIDS has been perceived as a serious health problem in the sanitary order, where the illness has had diverse clinical presentations and one of them has been directly related with dysfunctions in the psychological sphere that greatly threatens this group of patients. According to experts in this thematic the study of this phenomenon is reduced in Santiago de Cuba. Some research related with this problem report that there is a tendency to increment after Havana city [1,5-8]. In this sense, it becomes necessary to carry out a research that values the main repercussions in the clinical and psychological affections in patients with HIV/AIDS. For this reason, a research was carried out with the objective of characterizing the physio-pathological and psychological aspects in this group of patients. Based on the abovementioned it was planned to give an answer to the following question: Do the percentage magnitude of the clinical and psychological evolution of AIDS patients overcome 90% of that reflected in the national and international literature?

## Method

A descriptive and transversal, correlative with a quantitative approach that is supplemented with a qualitative analysis of the data (paradigm convergence) was carried out. Clinical and psychological variables were selected according to the national strategic program for the prevention and control of STD and HIV/AIDS [9], the stock list anxiety state-feature of Spielberger [10] and Beck depression stock list to respectively measure depression.

Various variables recorded in the national STI / HIV / AIDS program were used, such as: pathophysiological variables (opportunistic diseases), psychological variables (anxiety, depression) and humoral variables (Viral load and CD4). The investigated population was defined by all AIDS patients from which a simple probabilistic random sample of 45 patients was used, all permanent residents of Santiago Municipality diagnosed as AIDS cases according to confirmed criteria at IPK Institute and recorded in the data base of our institution and who were hospitalized at "Dr. Juan Bruno Zayas Alfonso" General University Hospital during the period of the investigation. An analysis was carried out by techniques and later on a comprehensive analysis of the group. To make the associations between the psychological and clinical variables a Spearman coefficient of correlations was used.

A level of significance of  $\alpha=0,01$  was used to prove the hypothesis and a reliability of 99% was achieved in the results. Anonymity was guarantee with a view of protecting the participants' privacy.

$H_0$ : There is populational independence among the different selected criteria.

$H_1$ : There is no populational independence among the criteria of interest.

Test Stadigraph:

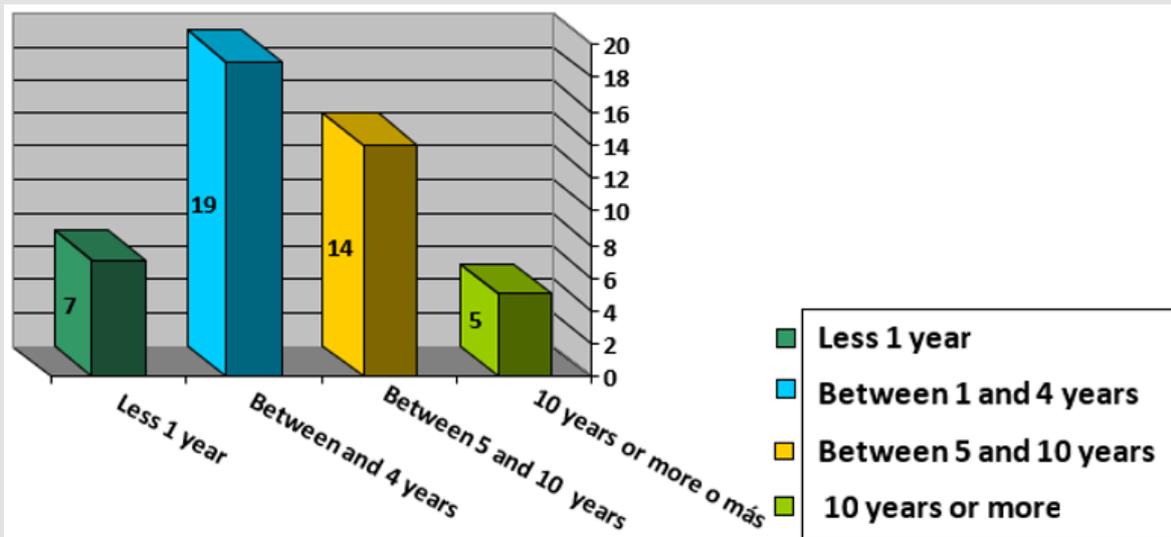
$$\chi^2 = \sum_{i=1}^I \sum_{j=1}^J (O_{ij} - E_{ij})^2 / E_{ij} \rightarrow \chi^2 \text{ with } (lines -1) * (columns -1) \text{ degrees of freedom.}$$

$H_0$  was rejected, when the probability of obtaining results so extreme or more extreme than those obtained with the data of the sample, of being certain  $H_0$ , it was smaller than the significance level ( $\alpha$ ) prefixed.

Anonymity of the sick persons was guaranteed, with a view of protecting the privacy of the participants.

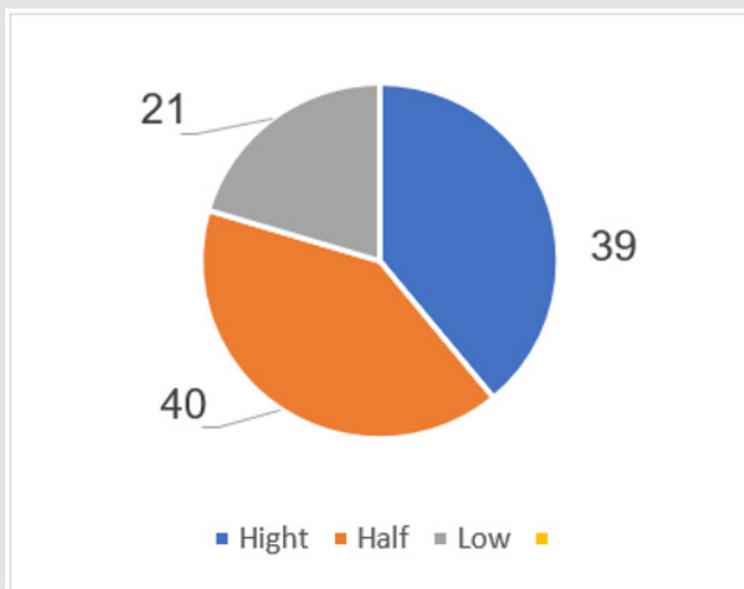
## Results

(Table 1) Shows that a great number of patients presented oropharyngeal candidiasis mainly associated to anxiety as a state with 25 patients 73,5%. Percentages calculated of the total psychological variables. (Graphic 1) shows a greater quantity of patients [11] who clinically progressed to AIDS cases between 1 to 4 years. (Table 2) Humorously shows that CD4 and viral load specify significant differences related with the evolutionary psychological variables; there were no marked differences for the CD4 counting (anxiety feature). (Graphic 2) Shows that there was a significant proportion of cases with average and high level of punctuation in relation with depression.



Note: Clinical Histories.

Graphic 1: Evolution time elapsed since the diagnostic to an AIDS case.



Graphic 2: Patient's distribution according to the levels of depression.

Table 1: Associations between physio pathologic alterations and anxiety as a state feature.

Physiopathological variables opportunist illnesses	Psychological Variables					
	anxiety (feature)	%*	anxiety (state)	%*	Total	%*
Pneumonia by pneumocystis Jeroveci	2	18,2	2	5,9	4	8,9
Pneurotoxoplasmosis	3	27,3	4	11,8	7	15,5
Oropharyngeal Candidiasis	1	9,0	25	73,5	26	57,8
Lymphoma no Hodking	3	27,3	1	2,9	4	8,9
Cerebral Criptococosis	2	18,2	2	5,9	4	8,9
Total	11	100,0	34	100,0	45	100,0

Note: Clinical History and Medical Records

**Table 2:** Patients’ distribution according with psychological variables and its relation with the selected parameters (CD4 and viral load).

Psychological Variables	Selected Parameters						Signif. (prob.)
	1 <sup>st</sup> Quarter		2 <sup>nd</sup> Quarter		3 <sup>rd</sup> Quarter		
	CD4		CD4		CD4		
	Media	Desv.st.	Media	Desv.st.	Media	Desv.st.	
Anxiety (feature)	200	24.5	213	13.2	292.3	48.2	0.074
Anxiety (state)	235,6	64,3	269,2	57,6	297,5	61,2	0,004
Psychological Variables	Viral load		Viral load		Viral load		Signif. (prob.)
	Media	Desv.st.	Media	Desv.st.	Media	Desv.st.	
	Anxiety (feature)	41014.4	74022.6	4501.5	7070.1	139.8	
Anxiety (state)	55390.5	238725.1	3422.6	5383.4	811.7	1840.3	0
Depression	23444	0	24	0	0	0	0

**Note:** Clinical History and control card of specialized appointment.

### Discussion

AIDS is a sanitary problem of great magnitude which affects the world. People with this morbid condition not only the physiological function is affected but also the emotional and mental state; they are faced to a series of sociocultural, economic and psychological stressors with which they should fight [6-8]. This research coincides with this aspect because it showed the association among the physiological alterations that lead to illnesses such as neurotoxoplasmosis and anxiety, a psychological factor broadly studied. Several paper works, according with the above mention, point out that the life expectancy of infected fellows has increased considerably and that the infection has turned to be a chronic treatable disease, whose attention transcend the biological dominium, taking a greater importance for the comprehensive patients management and the improvement of their life quality and that of their relatives, aspects such as stigmatization, discrimination, inequality between sexes, social relationship, mental health, economic independence, environmental security among other which constitute great needs in some contexts and barriers in other, [1,6,9] which contribute to the development of psychological aspects such as anxiety, depression, anger and of course to the development of opportunist infections [6,8]. Life quality, a deeper aspect, intervene in these complex qualitative phenomena that these patients have to face once diagnosed [12-15].

It seems to be that in the last years between 1 and 4 years has been dominating the outcome moment of opportunistic diseases, and also the moment in which there is most immunological debacle in these patients, [10] phenomenon not very well studied in relation to the psychological factor’s association. This is the predominant period of the variable time, reflected in what was found in our series of studies, factors such as nutrition and the psychological

state which could be precipitant factors in the unfavorable and fast evolution of the illness, more over it was observed in this phenomenon the coincidence in the greater percentage number of affected patients; related with experts criteria, it is mentioned that virus stump are more pathogenic, imposing the anxiety and personal stress, family mistreatment, society rejection, also a biological phenomenon related with co-infection and deficient immunologic states genetically present. So to say, the patients who present health chronic affections can experience crisis at the moment of getting the diagnosis and go through a psychological adapting process, hoping it let them accept their new condition and make durable life changes. Beside, these patients, especially the ones who have HIV/AIDS, experience sharp stress when facing the communication of the diagnosis and this could influence in the immunologic function, adding the facing of particular social stressors (stigmatization, economic, physical, psychological) that can affect their health.

There then appear reactions such as confusion, anxiety and depressing symptoms which could be related with the perception of control over their health, life expectancy, they experienced symptoms including physical, psychological and social implications of the treatment [16] According with Ballester [17], the psychological profile of the people that experienced the infection-illness HIV/AIDS is characterized to experience greater anxiety and depression and less self-esteem than other patients. Different investigations have identified the presence of anger, irritability, concern, negativity, fear, somatic reactions, trouble sleeping and negative emotional states which could be interpreted as acute stress [18-20]. Other studies carried out [11,14] refer that stress accompanied by a bad life quality obstruct the immunologic system regulation, with the consequence decrease of the organism defense of these patients

and so a greater acceleration from the initial diagnosis until the outcome of the diagnosis as AIDS patients, a Physio pathological factor that forces the setting up of anti-retroviral medications. Other serious researches highlight the psychologists work who tried to minimize the risk factors and to improve the patient's life quality, related with anxiety, anger as psychological components [18-20]. Symptoms of anxiety and depression have been more frequently reported [17,18]. This last one has been described as one of the main problems comorbid to infection for HIV (between 2 and 4 times more than in the general population) with a prevalence between 29 and 79% [17].

It has been identified that in Colombia, high levels of anxiety and depression in these patients, which negatively correlate with the control perception [19]. Also, their association has been reported with the type of confrontation strategies that the fellows use [17]. For this research the indicators of viral load and the counting of CD4 cells were taken into consideration as basic aspect to evaluate the clinical progression of the illness and it was related with psychological variables such as anxiety feature and state. Depression was also taken into consideration, there are few studies in the country related with this theme, but there is agreement between clinical elements given by opportunistic illnesses, CD4 values and viral load, the first ones diminish with dysfunction of anxiety alterations and depression, coinciding with our investigation [18]. However, it was not significant in relation with the viral load, where there were not important modifications for the variable associated with depression, it could be a bias for the quick performance of those in charge of the program, that once signal anxiety in some of these patients, they establish a treatment to avoid depression, this last one more dangerous for these patients' life, because after this appear suicide, rejection and total aggressive behaviours able to damage the physical and psychological integrity of them as well as of other people.

Psychoneuroimmunology suggests that anxiety, depression and anger can have an important role in the progression of the infection for HIV and also in people with a recent seropositive diagnosis, they can exacerbate the immunosuppression induced by the virus, causing a fast deterioration of immunologic parameters such as CD4 [1,14,17] A study revealed that patients with attitude of perception on the feelings of forgiveness and guilty, future worries and with dead, progressively diminished CD4 quantitative values carrying them to the final stage of the illnesses [18]. Nevertheless, as for the temporal analysis of this chart, it is thought that the discoveries of the study were relevant, since the value of the level of significance of the statistical test was shown "borderline" to point of adopted court, it is attributed, by the authors, in some cases to interceded aspects such as the size of the samples taken. It is then thought, that it deserves, therefore, considering the opposing

results that new scrutiny should be carried out, having in view the prior study on this variable [16,17]. With regard to the depression, the results showed a prevalence of high punctuations of depression (moderate and severe) of great clinical interest; the same thing has been observed in other investigations [16,17,19]. The depression alterations that have a greater significance, cannot be assessed in this study, because the test that was used, has cuali-quantitative disadvantages to carry out this test, coinciding in this aspect with what has been notified in other investigations [18,19].

This dysfunction in the emotional acting is a sign of alert for the repercussion on the illness evolution proper, mediated by the effect in the immunological system, this is an aspect according to experts' criteria from Santiago province, frequently undervalued by the physician who does the patients follow up. It was found, in a Colombian study [18], a high prevalence of people with the diagnosis of HIV who presented depression as comorbidity without being detected by their family physician and this had an impact in the development and illness care with less adherence in the treatment or medical recommendations. Researchers affirm that an adequate psychological and social support manifest lower levels of depression which helps to improve the somatic people's health [19,20]. Our investigation possesses similar approaches to those previously mentioned and at most of the work that doctors and nurses should carry out, a colloquial importance should be given to this symptomatology. Depression and anxiety produce changes in the clinical parameters, and they directly rebound mainly in the individual health in men that suffer HIV/AIDS, but not necessarily for the diagnosis in itself, but for the social and individual problems that often surround this group of patients [20]. The patient, logically sick, is a scientific problem for our modern professionals; if we want to be exact or the nearest to this individualized opinion, it constitutes an inevitable necessity to solidify the theoretical and physio pathological bases of the illnesses that allow them to undertake the roads, not simple, but, with zeal, passable, for the construction of knowledge [20].

AIDS will continue as a devastating illness and just with qualified personnel we will be able to approach the mere form of its confrontation. It is concluded then that, AIDS continues being a problem of health in our territory, where there is a correlation in a high magnitude between opportunists' illnesses with the psychological problems as anxiety as a state, finding that the evolution to case AIDS has narrow relationship with the phenomena of stress and depression, clinically evidenced by the values of CD4 and less marked with the viral load. The estimate in relation to depression suggests that it is marked in this sick studied population, leading to clinical complications that can be lethal if not treated with opportunity.

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