



ORIGINAL

## Characterization of patients with HIV/AIDS by nursing staff according to the Virginia Henderson model

### Caracterización de pacientes con VIH/SIDA por personal de enfermería según el modelo de Virginia Henderson

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#### ABSTRACT

**Introduction:** the human immunodeficiency virus is one of the main causes of death each year in Latin America and the world. The number of accumulated cases and new cases each year places it among the main current health problems. Nursing staff plays a fundamental role in the care and monitoring of these patients. The objective was to characterize the health status of HIV/AIDS patients.

**Method:** a descriptive, cross-sectional study was conducted with 7 patients admitted to the OrphAids Foundation, Santo Domingo, Ecuador. A survey was applied, structured in two parts, the first one for sociodemographic data and the second structured by 102 questions with polytomous responses based on Virginia Henderson's 14 needs.

**Results:** patients were predominantly male, non-working and single. 85,7 % were sexually inactive, 71,4 % had been diagnosed in the last five years, 57,1 % reported problems concentrating, only 14,3 % reported respiratory symptoms, 28,6 % had abdominal pain and weight fluctuations, and only one patient reported constipation, sleep problems, anxiety and communication problems.

**Conclusions:** the patients admitted to the foundation have an adequate state of health according to the clinical and psychological characteristics investigated. The eight needs identified as affected, presented a slight degree of alteration.

**Keywords:** Virginia Henderson Needs; Nursing Care Model; Nursing Diagnosis; Nursing Process; HIV/AIDS.

#### RESUMEN

**Introducción:** el virus de la inmunodeficiencia humana, constituye una de las principales causas de muerte anual en América Latina y el mundo, la cifra de casos acumulados y nuevos casos cada año lo coloca entre los principales problemas de salud actuales. El personal de enfermería juega un papel fundamental en el cuidado y seguimiento de estos pacientes. El objetivo fue caracterizar el estado de salud de pacientes VIH/SIDA.

**Método:** se realizó una investigación descriptiva, de corte transversal, con 7 pacientes ingresados en la Fundación OrphAids, Santo Domingo, Ecuador. Se aplicó una encuesta, estructurada en dos partes, la primera hacia datos sociodemográficos y la segunda estructurada por 102 preguntas de respuestas politémicas basada en las 14 necesidades de Virginia Henderson.

**Resultados:** predominaron pacientes del sexo masculino, no trabajadores y solteros. El 85,7 % eran sexualmente inactivos, 71,4 % tuvo diagnóstico en los últimos cinco años, 57,1 % refirió problemas para concentrarse, solo 14,3 % refirió algún síntoma respiratorio, 28,6 % tuvo dolor abdominal y fluctuación del peso, solo un paciente refirió constipación, problemas para conciliar el sueño, ansiedad y problemas para comunicarse.

**Conclusiones:** los pacientes ingresados en la fundación poseen un estado de salud adecuado atendiendo a las características clínicas y psíquicas investigadas. Las ocho necesidades identificadas como afectadas, presentaron un grado ligero de alteración.

**Palabras clave:** Necesidades de Virginia Henderson; Modelo de Atención de Enfermería; Diagnóstico de Enfermería; Proceso de Enfermería; VIH/SIDA.

## INTRODUCTION

Nursing care is the deployment of various actions that the nurse must dedicate to these people from the theories that support knowledge. The characteristics of this care depend on the state and severity of the subject. However, at a general level, they are oriented toward monitoring health and assisting the patient in a sanitary manner.<sup>(1)</sup>

Nursing care involves the development of planned and specific actions, which allow one to appreciate the multiplicity of problems and needs of patients from an integral vision, which promotes their well-being, development, and mutual transformation.<sup>(2)</sup> The nursing discipline has as its tools various models of care, supported by theories and philosophy that allow an adequate approach to the patient, in order to assess and prescribe the ideal nursing care.<sup>(3)</sup>

Virginia Henderson's theory considers the person as a biopsychosocial being whose mind and body are inseparable and where the person and his or her family are considered as an indissoluble unit.<sup>(1,4)</sup> The model was created in 1978 and is widely used in care planning worldwide.<sup>(5)</sup> It postulated 14 basic, interrelated needs common to all persons and ages. Each of them contains social, physiological, cultural, and affective aspects. What is altered is not the need but the satisfaction; the degree of satisfaction differs for each person.<sup>(1,4)</sup>

This theory provides an organicist vision by promoting a reflection of the person as a total being that cannot be reduced to the sum of its parts.<sup>(1)</sup> Virginia Henderson's model is located in the human needs models, in the category of humanistic nursing, where the role of the nurse is to perform (supply or help) the actions that the person cannot perform at a certain time in his or her life cycle, illness, childhood or old age. The 14 basic needs are indispensable to maintain the harmony and integrity of the person. Each need is influenced by biological, psychological, sociocultural, and spiritual components. The needs interact, so they cannot be understood in isolation.<sup>(6)</sup>

Virginia Henderson's proposal made it possible to develop and apply an assessment instrument to collect clinical and holistic data, achieving the detection of physical, psychological, social, and spiritual problems.<sup>(7)</sup>

The human immunodeficiency virus (HIV) was first recognized in the United States in 1981, quickly became the largest epidemic of the 20th century, and has claimed more than 40 million lives.<sup>(8,9)</sup> The number of new HIV infections in Latin America is estimated to have increased by 9 % from 2010 to 2023, with nearly 120 000 new infections in 2023. In the same year, 4 million people were living with HIV in Latin America and the Caribbean, and it is estimated that about 12 % of people living with HIV are unaware of their infection.<sup>(10)</sup> According to the World Health Organization (WHO), in 2020, 37,7 million people were living with HIV/AIDS worldwide. HIV-positive people, by the mere fact of having a chronic disease, are affected in their biological, psychosocial, and spiritual constitution and face the stigma of discrimination, suffering, guilt, fear, and death.<sup>(2,11)</sup>

In a May 2024 update by the World Health Organization, HIV, along with viral hepatitis and sexually transmitted infections (STIs), cause 2,5 million deaths per year, with a progressive increase in STIs in the Americas region.<sup>(12,13)</sup> People affected by HIV/AIDS, their families, and friends need continuous care, information, education, and support at all stages of the disease. In this regard, nurses provide comprehensive care with a holistic vision that considers the person as a unique being.<sup>(14)</sup>

The nursing professional has two tools that allow him/her to provide care with quality, warmth, and respect for people's dignity; these tools are the standardized language and the nursing process, in which the diagnosis is the central axis because the problems it identifies are the basis of the care plan and the determinants for defining the most effective interventions and the achievement of results, for which the nursing professional is responsible.<sup>(14)</sup>

Given the above, the present research was carried out to characterize the health status of HIV/AIDS patients using the Virginia Henderson model.

## METHOD

A descriptive, observational, cross-sectional research was conducted on patients admitted to the OrphAids Foundation, Santo Domingo, Ecuador. The patients constituted the universe admitted to the center, and the sample consisted of 7 admitted to the institution. The 7 participants were patients with a diagnosis of HIV/AIDS, admitted to the foundation, and who agreed to participate in the research.

An instrument was applied to the participants as a data collection technique adapted by the authors based

on the surveys validated and applied by Medina & Sandoval and Argüello Kerly.<sup>(15,16)</sup> The first is to collect subjective data, specifically general and sociodemographic data. The second is structured by 102 polytomous response questions based on the 14 needs of Virginia Henderson,<sup>(17)</sup> to guide the physical examination, listed below.

Need to breathe normally, eat and drink adequately, need gastrointestinal and genitourinary elimination, move and maintain proper postures, sleep and rest, dress and undress, maintain body temperature within normal limits, maintain body hygiene and skin integrity, avoid environmental hazards and avoid injuring another person, need to communicate with others by expressing emotions, needs, fears and opinions, need to live according to one's beliefs and values, need to work, need to participate in recreational activities, need to learn, discover, or satisfy curiosity leading to normal development and to use available resources.<sup>(17)</sup>

The survey was applied to the participants after requesting informed consent, with an approximate duration of 15 minutes, a brief explanation of the characteristics and objectives of the study, and the way to correctly answer the questionnaire and the same was applied anonymously; it is not possible to identify any of the participants. The data collected were stored in a Microsoft Excel spreadsheet, facilitating their processing and grouping through frequency tables.

Permission was requested from the institution to carry out the research; the participants were included according to their will after signing the informed consent; the respondents' will and right not to continue as participants were respected at all times.

## RESULTS

Table 1 shows that the total sample was under 29 years of age, with a predominance of patients between 14 and 17 years of age (71,4 %). The 71,4 % were female, with high school as the highest educational level (85,7 %), only 28,6 % worked, and only one indicated being in a consensual union as marital status.

Variable	No.	%
Age	14-17	5 71,4
	18-29	2 28,6
Genre	Male	2 28,6
	Female	5 71,4
Source	Coast	6 85,7
	Highlands	1 14,3
Schooling	Secondary	6 85,7
	High	1 14,3
Employment status	Working	2 28,6
	Not working	5 71,4
Marital status	Single	6 85,7
	Consensual union	1 14,3

Table 2 shows that only one patient indicated being sexually active in the last year, all indicated that they use condoms during sexual intercourse, 28,6 % indicated having been diagnosed more than 10 years ago, 57,1 % have low levels of virus circulation, and only one patient was on retroviral treatment with more than one drug.

Sexual relations in the last year	No.	%
Sexually inactive	6	85,7
Sexually active	1	14,5
Condom use		
Always	7	100
Occasionally	0	0
Do not use	0	0
Diagnostic time		
5-10 years	5	71,4
More than 10 years	2	28,6
Viral load		
Do not have the virus	4	57,1
Presence of the virus	3	42,9

Treatment with antiretroviral drugs		
Monotherapy	6	85,7
Polytherapy	1	14,5

100 % of the respondents expressed loss of interest in their usual activities, and feeling less energetic, 28,6 % indicated being sad most of the day (table 3).

**Table 3.** Distribution of the sample according to the mood referred to

Mood	No.	%
Loss of interest in usual activities	7	100
Less energy	7	100
Trouble concentrating	4	57,1
Sad most of the day	2	28,6
Feeling sluggish	0	0
Feeling that your life is worthless	0	0
Have felt that life is not worth living	0	0

Regarding the need to breathe adequately, only 14,3 % expressed experiencing coughing, secretions, respiratory allergy and being smokers (Table 4).

**Table 4.** Distribution of respondents according to the need to breathe adequately

Variables	No.	%
Pulse (Regular)	7	100
Respiration (Normal)	7	100
Cough	1	14,3
Secretions	1	14,3
Smoking	1	14,3
Respiratory allergy	1	14,3
Pain on breathing	0	0
Added noises	0	0
Consumption of other drugs	0	0

28,6 % reported abdominal pain, 71,4 % were of normal weight, all patients reported eating at least 3 meals a day and having adequate tolerance to food, 14,3 % (n=1) reported having a special diet (table 5).

**Table 5.** Distribution of the sample according to the need to eat and drink adequately

Variables	No.	%	
Digestive symptoms	Lack of appetite	1	14,3
	Sensation of premature fullness	1	14,3
	Abdominal pain	2	28,6
	None of the above	3	42,9
Nutritional status	Underweight	0	0
	Normal weight	5	71,4
	Overweight	1	14,3
	Obesity	1	14,3
Number of meals	Weight fluctuation	2	28,6
	Increased appetite	1	14,3
	Breakfast	7	100
	Lunch	7	100
	Dinner	7	100
Tolerance	Special diet	1	14,3
	Food intolerance	0	0
	Chewing problems	0	0
	Adequate swallowing	7	100

Only one patient reported having constipation, and none of the patients presented urine alterations. However, 28,6 (n=2) reported having urinary infections. Of the female patients, one of them (20 %) reported irregular menstrual cycles, and two patients (40 %) also reported vaginal discharge (table 6).

**Table 6.** Distribution of the sample according to the need for gastrointestinal and urinary elimination

Need for elimination Variables		No.	%
Characteristics of excreta	Frequency 1 to 2 times daily.	6	85,7
	Frequency every 2 days	1	14,3
	Frequency once a week	0	0
	Frequency more than 1 week	0	0
	Constipation	1	14,3
	Diarrhea	0	0
	Hemorrhoids	0	0
	Use of laxatives	0	0
Urine Characteristics	Color: light yellow	7	100
	Color: dark yellow	0	0
	Color: orange	0	0
	Color: red	0	0
Genito-urinary characteristics	Has presented urinary disease	2	28,6
	Irregular menstruation	1	20
	Menstruación regular	4	80
	Heavy menstruation	0	0
	Painful menstruation	2	40
	Vaginal discharge	2	40
	Discharge from the penis	0	0
Discomfort outside of menstruation	1	14,3	

Of the sleep habits, one patient (14,3 %) indicated having problems falling asleep, 57,1 % (n=4) sleep 6 to 8 hours a day, all reported a feeling of rest after sleeping. (table 7).

**Table 7.** Distribution of the population according to the need for sleep and rest

Variable	No.	%
Sleeps 6 to 8 hours	4	57,1
Sleep more than 8 hours	3	42,9
Naps	6	85,7
Sleep onset: 8:00 to 9:00 pm	5	71,4
Trouble falling asleep	1	14,3
Feeling of rest after sleep	7	100

Table 8 shows how 100 % reported adequate personal hygiene, hair and skin care habits.

**Table 8.** Distribution of the sample according to the need for personal hygiene and skin care

Variable	No.	%
Daily body wash	7	100
Proper care of hair, teeth, nails	7	100
Proper skin hygiene	7	100
Hair: dry	6	85,7
Hair: oily	1	14,3
Recent hair loss	0	0

Table 9 shows how 85,7 % of the patients expressed that they relate adequately with other people, only one indicated difficulties in communicating.

**Table 9.** Distribution of the population according to the need to communicate with others by expressing emotions, needs, fears or opinions

Variable	No.	%
Forms of expression: clear	7	100
Experiences euphoria at times	6	85,7
Relates well with other people	6	85,7
Experiences anxiety at times	1	14,3
Uses appropriate language	7	100
Tone and modulation: calm	7	100
Has difficulty communicating	1	14,3

Table 10 shows that 57,1 % of the participants were always satisfied with their work; only one indicated that it is always difficult to make decisions, and 71,4 % indicated that they can almost always adapt to new situations and solve conflicts.

**Table 10.** Distribution of the sample according to labor needs, satisfaction with their work

Variable	Always		Almost always		Never	
	No.	%	No.	%	No.	%
Satisfied with their work	4	57,1	2	28,6	1	14,3
Difficult to make decisions	1	14,3	5	71,4	1	14,3
Ability to adapt to new situations	1	14,3	5	71,4	1	14,3
Ability to resolve conflicts	1	14,3	5	71,4	1	14,3
Ability to take on new challenges	3	42,9	2	28,6	2	28,6

Other needs were explored, the results of which were not grouped in tables, but the significant findings for the present investigation are listed below.

In the need to move and maintain appropriate behaviors, no patient reported alterations in motility, posture, gait, or the need to use accessories to facilitate ambulation. No abnormalities were found in the need to dress and undress, as well as the need to regulate body temperature.

In the need to avoid environmental hazards and avoid injuring other people, the patients did not report alterations in the sensory organs that affected their normal alertness and wakefulness, nor did they report any social risk behaviors.

Regarding the need to live with their beliefs and values, 85,7 % indicated that the most important thing for them was the family; all indicated having the evangelical religion as a belief, and only one patient indicated making all life decisions independently. At the same time, the rest said the family or mentor supported them. Regarding the need for play and recreational activities, 57,1 % of the sample indicated dedicating much time to this, and the same number reported practicing sports as a recreational activity. Need to learn, discover, or satisfy curiosity; no references to memory or learning disorders were found.

## DISCUSSION

According to Virginia Henderson, the role of the nurse is to meet the needs of the healthy or sick individual to improve health, promote recovery, or allow a dignified death; in this context, Virginia describes three roles that can be assumed by the nursing professional: as a substitute, as a helper or as a companion.<sup>(18)</sup>

Humanized care in nursing is the result of respect for the patient's life itself since it treats the person rather than the disease; the health-disease process is complex, and it implies an arduous task of communication, empathy, solidarity and a notable value of service, its application will determine the physical and psychological well-being of the person who requires care.<sup>(19)</sup>

The initial assessment of a patient is fundamental to identifying the patient's specific needs, which may vary widely depending on the stage of infection, general health status, and available social support. Based on data collected during the assessment, a nursing diagnosis allows specific health problems requiring intervention to be established.<sup>(11)</sup> Aurora Suárez,<sup>(20)</sup> indicates that Henderson's 14 needs allow the exhaustive analysis of patient health data, showing clear findings for intervention.

Conga Medina,<sup>(21)</sup> found in her sample a predominance of single marital status; high school education was the second most frequent (31,4 %), and 60,1 % did not work. In addition, 60,8 % had been diagnosed more than 6 years ago, and only 30,4 % indicated adherence to treatment. Data in the literature on nursing assessment in this type of patient are scarce, and the small sample size of the present study makes the possibilities of contrast difficult.

The nursing diagnosis identifies and describes the problem in specific and measurable terms. Once the

patient's health problems have been identified and described, specific and measurable objectives can be established for each. These objectives guide the planning of nursing interventions, ensuring that each action taken is aimed at resolving or managing the identified problems.<sup>(11)</sup>

The nursing staff plays a crucial role in treating and following up patients with chronic diseases. In this sense, their role is often neglected, and the diagnostic responsibility falls entirely on the physician when nursing interacts daily and directly with patients, which facilitates the identification of gaps in diagnosis or therapy.

Assuming the care of people with HIV/AIDS is to opt for the care of an incurable and life-limiting condition, which generates little social support due to the whole process of care that must pass until death, This requires nursing to consider the singularities and specificities of the way of living of these people, to take care of the situations and to understand their chronic condition, since many of them will grow old with the virus, vulnerable to the progression and advance of the disease in its different phases, which does not generate a lack of their dignity, since like any other person they have inalienable rights. Therefore, they should not be discriminated against.<sup>(2)</sup>

The nursing professional should support the person being cared for, in this case, the person with HIV/AIDS, through attitudes and actions that show interest in their well-being and their acceptance as a person who thinks, feels, and suffers. Avoid considering him/her as a reified being responding only to a biological imbalance manifested by signs and symptoms.<sup>(22)</sup>

Achucarro,<sup>(23)</sup> reflects that the main symptoms found in his sample were 44 % experiencing nausea and vomiting, 22 % difficulty eating and swallowing, 16 % general decay, and 10 % difficulty in eating and swallowing. The above differs from what was found in the present study, in which the age groups could justify the disease's evolution stage, among others.

Bravo Cabrera,<sup>(11)</sup> states that, in the case of patients with HIV, it is common to identify diagnoses such as self-care deficits, risk of fluid volume deficit, insomnia, risk of deterioration of skin integrity, ineffective coping, and deficient knowledge about their condition.

Conga Medina also reports having found that 22,2 % experienced anxiety and 32,7 % reported insomnia, contrary to the findings of the present study, where only one patient had problems falling asleep.<sup>(21)</sup>

It is of great importance the contribution of the family group in the care and support provided to the member who has AIDS; the perception of this health alteration considered "shameful" affects both the person who suffers from it and his family, and its evidence usually destabilizes them in multiple aspects, subjecting them to a state of crisis that favors that the decisions and most of the care actions begin and are developed within the framework of the so-called "family secret."<sup>(24)</sup>

For Achucarro,<sup>(23)</sup> 100% of the respondents were workers, and the predominant religious belief was Catholic. Contrary to the results of the present study, where the predominant religion was evangelical.

In particular, people living with HIV often experience multiple forms of stigma that are intertwined due to the convergence of identities, such as race, sexual orientation, and carrier status, which together can affect access to health systems and medical care.<sup>(25)</sup>

UNAIDS committed in 2016 to achieving, by 2030, "zero new HIV infections, zero AIDS-related deaths, and zero discrimination." To this end, it established the 90-90-90 target by 2020 that 90 % of people with HIV infection would know their HIV status, 90 % of people diagnosed with HIV would receive antiretroviral treatment, and 90 % of people with HIV on treatment would be in viral suppression.<sup>(26)</sup> To achieve control of this pandemic, the contribution of all health personnel who influence the entity, from workers to administrators, is needed through coordinated efforts in health promotion to people with an active sexual life, as well as the control and adherence to treatment of those diagnosed with the disease.

Tolentino Pérez and Escobar Silvia,<sup>(7)</sup> assessed the Henderson model so that the initial assessment allowed the application of interventions to solve the altered needs of a patient with complications secondary to intraparenchymal hemorrhage.

Rodríguez Hernández,<sup>(3)</sup> in her research on the nursing process based on the Virginia Henderson model, performed a diagnosis of the affected needs in a patient with a hip fracture, which contributed to developing an intervention that improved the affected needs.

Care planning focuses on setting realistic and achievable goals to improve patient health. Once the health status assessment has been conducted, these guidelines are used to direct treatment and nursing support to correct patient care in those areas of need.<sup>(11)</sup>

Among the main limitations of the present study are the observational nature, the fact that laboratory variables were not explored, the small sample size, the small size of the study, and the fact that the study was not conducted in the laboratory.

## CONCLUSIONS

The patients admitted to the OrphAids Foundation, Santo Domingo, have adequate health according to the clinical and psychological characteristics investigated. The needs identified as affected presented a slight

degree of alteration, among them: the need to breathe normally, the need to eat and drink adequately, the need for gastrointestinal and genitourinary elimination, the need to sleep and rest, the need to maintain body hygiene and skin integrity; the need to communicate with others expressing emotions, needs, fears and opinions; the need to participate in recreational activities; the need to participate in recreational activities; the need to have a healthy and healthy lifestyle; the need to have a good quality of life; and the need to have a good quality of life.

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#### **CONFLICT OF INTEREST**

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