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Nursing diagnoses of the activity/rest domain in people living with AIDS: a transversal study

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ABSTRACT

Aim: To identify the nursing diagnoses of the activity/rest domain of NANDA-I Taxonomy II and to analyze the association between the most frequent diagnoses and their defining characteristics, related factors/risk in people living with AIDS. **Method**: This is a cross-sectional and descriptive study using a quantitative approach. It was performed with 113 patients from March to September 2014. Data were collected using two validated instruments for anamnesis and physical examination. For the elaboration of the diagnoses, the Risner model was followed. And, for purposes of statistical association, the Chi-Square and Fisher tests were used. **Results**: We identified 30 diagnoses, and only six had a statistically significant association with their components: impaired sleep pattern; fatigue; insomnia; risk of ineffective renal perfusion; impaired walking; deficit in self-care for the bath. **Conclusion:** The diagnoses with their associated components provide guidance for the elaboration of nursing interventions as a priority.

Descriptors: Nursing Process; Nursing Diagnosis; Acquired Immunodeficiency Syndrome.

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INTRODUCTION

The various systematic tools, such as care plans, protocols, standardization of procedures and the nursing process (NP), aim to organize the management of care so that certain decisions are adopted, based on scientific evidence and critical thinking of the nurse[1-2].

Thus, systematic care directed to people living with AIDS requires health professionals to have scientific skills and competencies, so that they can develop care within the model of health promotion. According to the United Nations Joint Program on HIV/AIDS (UNAIDS), currently it is estimated that in Latin America there are 1.6 million people living with HIV. Most cases (more than 75%) are concentrated in countries such as Brazil, Argentina, Colombia and Venezuela. In Brazil, between 1980 and June 2015, approximately 798,366 cases were reported, with an average of 39,700 cases[3].

Faced with this problem, the nurse, as a health professional, has a fundamental role in assisting people living with AIDS, both in promoting and preventing positive as well as care for health problems, aiming at improving the quality of life[4].

With this, it is necessary that the nurse's work be developed according to the scientific method, through systematized and interrelated actions, organized in the following phases: diagnosis, results and nursing interventions. These are essential elements of nurses' practice, which contribute to the therapeutic judgment of patients in terms of their real care needs[4-5].

In this sense, the elaboration of the nursing diagnosis becomes an essential step because it is considered the intellectual activity that nursing professionals develop in their daily life, in order to judge human responses that require nursing interventions. For its construction, nurses must use their knowledge, their cognitive and interpersonal skills and their professional attitudes that determine the content and quality of the results of the use of nursing diagnoses, drawing clinical reasoning[6].

Based on these assumptions and in order to justify the development of the study, a search was made in the electronic databases Latin American and Caribbean Literature (LILACS) and International Literature in Health and Biomedical Sciences (MEDLINE), from of the Virtual Health Library (VHL); and in the international bases SCOPUS and CINAHL, with the intention of analyzing the scientific productions on the subject.

Thus, the scientific productions that deal with the use of NANDA-I for the formulation of nursing diagnosis in several areas, such as for chronic renal patients on hemodialysis, women with chronic wounds and hospitalized children were verified[7-9]. However, there was a lack of scientific production on the activity/rest domain for people with AIDS.

In this way, the study will once again identify the priority needs of this clientele in the respective field, so that a friendly and humane assistance model is structured, not only considering the biological aspects, but also the relationship between the environmental, social and interpersonal factors, aiming, therefore, to the integral and interdisciplinary attention in the area of infectology.

From the gaps found, the following questions emerged: Which nursing diagnoses were identified in the NANDA - I activity/rest domain for people living with AIDS? Which are the most frequent? Is there an association between these nursing diagnoses and their respective defining characteristics, related and/or risk factors?

In this sense, the objective of the study was to identify the nursing diagnoses of the activity/rest domain of NANDA-I Taxonomy II

and to analyze the association between the most frequent diagnoses and their defining characteristics, related factors/risk in people living with AIDS.

METHOD

This is a cross-sectional and descriptive study that uses a quantitative approach, performed at a referral hospital in the treatment of infectious diseases in Northeast Brazil. The study population consisted of people living with AIDS who were hospitalized in the hospital unit. For the calculation of the sample, the average number of inpatients was used in the period from 2009 to 2013, reaching a quantitative of approximately 158 people living with AIDS. The sample size was calculated using the formula for finite populations, taking into account the 95% confidence level (Z_{∞}=1.96), the sample error of 5% and the population size[10].

The selection of the 113 patients was obtained through convenience sampling of the consecutive type. Therefore, the following inclusion criteria were adopted: having been clinically diagnosed with AIDS, presenting age above 18 years and being hospitalized at the time of data collection. The following exclusion criteria were used: ignoring the diagnosis of the disease and not being in psychic and emotional conditions.

In order to verify the psychic condition of patients with AIDS, the researchers previously checked the chart to analyze the history and evolution of the disease. They then went to the nursing team to obtain additional information about the patient's behavior and their orientation regarding space and time[11].

Data were collected from March to September 2014, through an anamnesis script and physical examination that contemplated sociodemographic, clinical and behavioral aspects. The instrument was submitted to the validation of content and appearance by ten teachers who developed studies in *Sistematização da Assistência de Enfermagem* (SAE - Nursing Assistance Systematization); later the proposed suggestions were contemplated in the instrument.

A theoretical and practical training was carried out to standardize the data collection with two students of scientific initiation (SI) and three post-graduate students at the master's level. The course had a workload of 12 hours per week, conducted through expository and dialogic classes and discussions of clinical cases, with an emphasis on approaching people living with AIDS.

After the theoretical stage of the course, a practical activity of simulation of physical examination in pairs was carried out, to train the researchers and standardize the data collection. Thus, after this stage, the instrument was applied as a pre-test with 10% of the sample, with no need for any type of modification.

The elaboration of the diagnoses was procedural, performed simultaneously with the data collection, seeking to identify the defining characteristics and related/risk factors according to NANDA-I, version 2012-2014. Nursing diagnoses were structured according to the two stages of Risner's clinical judgment[12], namely: a) phase of analysis and synthesis; b) establishing the diagnosis.

After the construction, the nursing diagnosis statements were submitted to a content validation process. Thus, an instrument was developed with nursing diagnosis statements for people with AIDS.

However, three nursing assistants and two nursing professors who worked in the clinic were asked to collaborate. These professionals were included in the validation, considering their experience and specialty in the clinic.

Their task was to assess whether the proposed statements were applicable to people living with AIDS. In case of disagreement of the affirmations, it was requested that suggestions be presented for their adequacy to the reality of nursing practice.

For the treatment of the data collected, the instruments were numbered, and the variables were coded and inserted into a database built in the Excel for Windows program. Thus, a spreadsheet with a descriptive analysis of the frequency distributions of the respective nursing diagnoses was organized. To analyze the degree of agreement between the researcher and the specialists, the Kappa index, analyzed by the Statistical Package for Social Science (SPSS), version 22.0 was chosen.

The Kappa index was defined as an association measure to describe and test the degree of agreement, that is, reliability and accuracy of an evaluation. Values of Kappa > 0.8 are considered a good level of agreement. For purposes of validation of nursing diagnoses, only those with substantial and excellent agreement were considered.

After the data treatment, inferential analysis was performed between the nursing diagnoses that presented SI ≥ 0.80 and the respective defining characteristics and related factors, using the Pearson Chi-Square and Fisher Exact statistical tests, considering p<0, 05.

The study complied with the ethical precepts of research involving human beings according to national and international standards, with the favorable opinion of the Research Ethics Committee of the Federal University of Rio Grande do Norte (UFRN), according to the Report: No. 508.445/2014, and with Certificate of Presentation for Ethical Assessment No. 23008113.8.0000.5537.

RESULTS

A total of 113 subjects, with a minimum age of 30 and maximum of 39 years participated in the study. Most of the participants were male (72.6%), single (66.4%), incomplete elementary school (55.7%) and family income up to a minimum wage (47.8%). 30 nursing diagnosis statements were identified for people living with AIDS (SI ≥ 0.80), as shown in Figure 01.

Figure 01. Distribution of nursing diagnoses identified in people living with AIDS, according to the activity/rest domain, Natal/RN, 2015

Nursing Diagnostics	IC > 0.80
Impaired sleep pattern	0.96
Fatigue	0.82
Insomnia	0.80
Impaired walking	0.80
Risk of ineffective renal perfusion	0.80
Deficit in self-care for the bath	0.80
Sleep deprivation	0.65
Willingness to improved sleep	0.65
Impaired transferability	0.60
Impaired mobility with wheelchair	0.59
Impaired physical mobility	0.48
Impaired mobility in bed	0.48
Risk of disuse syndrome	0.45
Disturbed energy field	0.44
Wandering	0.42
Decreased cardiac output	0.41
Activity Intolerance	0.41
Risk of activity intolerance	0.38
Ineffective respiratory pattern	0.36
Ineffective gastrointestinal perfusion risk	0.34
Risk of decreased cardiac tissue perfusion	0.33
Risk of ineffective cerebral tissue perfusion	0.31
Ineffective peripheral tissue perfusion	0.30
Ineffective Peripheral Tissue Perfusion Risk	0.29
Dysfunctional response to ventilatory weaning	0.28
Impaired Spontaneous Ventilation	0.25
Willingness to improve self-care	0.22
Self-care deficit for food	0.22
Self-care deficit for bath	0.20
Deficit in self-care for intimate hygiene	0.19

Considering the high number of diagnoses found, Figure 02 shows the statistical association of the diagnoses that obtained CI ≥ 0.80 with the respective related factors and the defining characteristics, considering p<0.05.

DISCUS SION

The present study was limited to the reality of a city in the Northeast of Brazil; however, it is believed that this work can encourage new research in the field of the respective domain. It is worth mentioning that some studies were developed using NANDA-I, on some specific domains, such as safety and protection, which identified the diagnoses risk of infection (100.0%), vascular trauma risk (83.3%), risk of suicide (10.0%), risk of impaired skin integrity (36.7%), risk of falling (23.3%) and risk of aspiration (10.0%)[5].

In the present study, the predominant diagnoses that presented SI> 0.80 and significant statistical correlation were: impaired sleep pattern; fatigue; insomnia; risk of ineffective renal perfusion; impaired walking; and deficit in self-care for the bath.

It is emphasized that people with AIDS experience several physiological changes, be it sensory-motor, cardiopulmonary, tegumental or neurological. The impaired sleep pattern was associated with impaired functional capacity and related to the change in the normal sleep pattern. The physiology of sleep is a transient and reversible state, which alternates with wakefulness (awake state). It is an active process involving multiple and complex physiological and behavioral mechanisms in various systems and regions of the central nervous system (CNS). Normal sleep consists of alternating REM stages (rapid eye movements) and NREM, characterized by deep sleep and rest[13-14].

It has been realized that in people living with AIDS the cause for the modifications of the sleep is not yet clear. At the University of South Carolina, it was verified that the factors associated with sleep disturbance in people with AIDS were psychological stress, low socioeconomic status, migraines and pharmacological side effects. Among the most incident medications is efavirenz, which leads the patient to insomnia, restlessness and irritability[15].

In a cohort, the high prevalence rates of insomnia in people living with AIDS were linked to psychological factors, anxiety, and depression. Regarding the association between the use of antiretroviral medications and insomnia, the studies point out that the medications interfere in the sleep wake process in people with HIV or AIDS[13-15]. In addition, disturbed sleep has been shown to reflect a negative effect on immunity, as there is a significant decrease in CD4+ T cells, due to the production of stimulators, such as neuropeptides, making the person more vulnerable to various diseases.

In this sense, it is imperative that nurses promote interventions that attenuate patients' condition, such as the gloomy room, administration of medications during daytime, and implementation of complementary therapies, including balneotherapy and supplementation with immunomodulating amino acids[16-17].

The diagnosis of insomnia was explained using antiretroviral and also by other factors, among them stress. This is inherent in people living with AIDS, because antiretroviral act on the hypothalamic-pituitary-adrenal axis, decreasing the production of catecholamine, such as serotonin, which is part of the sleep and wake process[18-17].

The incidence and severity of insomnia are also correlated with anxiety pictures that may be linked to an uncertain future.

In an analysis of posology, adverse reactions and side effects, developed in a study

Figure 02. Association between nursing diagnoses and respective defining characteristics and related factors/risk of activity/rest domain, Natal/RN, 2015

Nursing Diagnostics	Defining feature	Statistic p<0,05*	Related Factor	Statistic p<0,05*
Impaired sleep pattern	Decreased functional capacity	p<0,00*	Change in normal sleep pattern	p<0,01*
	Change in normal sleep pattern	p<0,15		
Fatigue	Lack of energy	p<0,0024*	Anemia	p<0,028*
	Increased complaints	p<0,18		
	Malnutrition	p<0,36		
Insomnia	Medicines	p<0,02*	Report of difficulty falling asleep	p<0,018*
			Anxiety	p<0,29
			Sleep Interrupted	p<0,08
Impaired walking	Insufficient muscle strength	p<0,025*	Impaired ability to climb and descend sidewalks	p<0,039*
	Impaired ability to walk on slopes	p<0,87		
Risk of ineffective renal perfusion			Systemic inflammatory response syndrome	p<0,00*
			Treatment-related side effects	p<1,25
Deficit in self-care for the bath	Inability to wash body	p<0,0047*	Weakness	p<0,0027*
			Ache	p<0,54
			Serious Anxiety	p<0,29

** Chi-Square and Fisher tests with significance level lower than 0.05 (p<0,05)*

by researchers from Mexico, it was shown that antiretroviral causes several effects, such as adynamia, diarrhea, nausea, vomiting and mainly iron deficiency anemia[16-18].

In the study, 26 patients had hematocrit level below 30% and hemoglobin 7%, thus explaining the diagnosis of fatigue related to lack of energy. Fatigue is an oppressive and sustained feeling of exhaustion and diminished ability to perform physical and mental work at the usual level, with multifactorial etiology[19]. It was observed that the anemia may be related to the use of antiretroviral, which can affect the maturation of the red blood cells, by reducing the production of erythropoietin, which inhibits the iron binding sites in the hemoglobin molecule[19]. With this, oxygen demand is reduced and the patient remains for a longer time restricted to the bed, subject to new complications, since the lack of energy directly affects patients' ambulation[19].

It is notorious that in people living with AIDS they do not have improved fatigue after rest. Thus, if not properly identified, fatigue can further weaken this clientele, interfere with treatment and impair quality of life. Therefore, the nurse should perform interventions such as energy control and folate nutritional supplementation associated with cyanocobalamin, so that it can stimulate the nephrogenic production of erythropoietin, improving the physical condition and functional capacity of the patients[18].

Impaired walking was identified by insufficient muscle strength related to the impaired ability to walk up and down sidewalks. This decreased muscle strength in people living with AIDS may be linked to a decrease in myofibrillar

proteins, with loss of severe muscle mass, which directly affects the relationship between muscle fibers[19].

Thus, nurses should use their intervention skills for people living with AIDS who have difficulty walking, such as the incentive to exercise, whether passively or actively, attention to movement in the bed, to suppress the risks of falling, as well as encouraging family participation in the therapeutic process[18-19].

In this sense, some diagnoses are interconnected, such as impaired walking and the deficit of self-care for the bath. People living with AIDS, with the progression of the disease, begin to lose energy metabolism, affecting their activities of daily living and self-care[20].

It is noted that nurses should intervene through nutritional assessment, including anthropometric measurements, dietary habits, energy and nutrient intake, and, finally, nasogastric probe[15-18].

Another relevant diagnosis of the study was the risk of ineffective renal perfusion, presenting as a risk factor the systemic inflammatory response syndrome (SIRS). It was verified that most people living with AIDS presented dysuria, polyuria and anuria (in few cases). Regarding urinary analysis, many presented 15 pyocytes per field, and density above 1,050. Thus, the cause may be related to SIRS, which attenuates the immunocompetence of the regional lymph nodes of the urinary system; in addition, the complex formed between antibody and antigen goes beyond the filtration process, increasing the density of the urine, which can lead to the development of the nephrotic syndrome later. In view of this, nurses must implement actions such as hydroelectrolytic balance, volume induction, control of laboratory findings and orientations as to the type of diet, whether sub-proteic, glucose or lipid[18-20].

CONCLUSION

After analyzing the data, the diagnoses that presented significant statistical associations were: impaired sleep pattern - CD decreased functional capacity and FR change in normal sleep pattern; fatigue - CD lack of energy and FR anemia; insomnia - CD medications and RF report of difficulty falling asleep; risk of ineffective renal perfusion - RF systemic inflammatory response syndrome; impaired immobility - CD insufficient muscle strength and impaired FR ability to walk up and down sidewalks; and deficit in self-care for the bath - CD inability to wash the body and FR weakness. It is noted that the elaboration of nursing diagnoses for people living with AIDS provides care directed to the real needs, providing means to propose the interventions and achieve the desired results, even if only partially.

In addition, it is hoped that the results found here contribute to the advances and incorporation of this universal language in the description of professional practice, in favor of improving the quality of nursing care in the national scenario, respecting the integrity of the human being, and contributing to the construct of nursing as science.

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