ÁRVORE DE DECISÃO PARA O DIAGNÓSTICO DE ENFERMAGEM: FALTA DE ADESÃO EM PESSOAS VIVENDO COM AIDS

DECISION TREE FOR THE NURSING DIAGNOSIS: LACK OF ADHERENCE IN PEOPLE LIVING WITH AIDS

ÁRBOL DE DECISIÓN PARA EL DIAGNÓSTICO DE ENFERMERÍA: FALTA DE ADHERENCIA EN LAS PERSONAS QUE VIVEN CON SIDA

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RESUMO
Objetivo: elaborar uma árvore de decisão para formular o diagnóstico de enfermagem “falta de adesão e ansiedade em pessoas vivendo com AIDS”. Método: estudo transversal, com abordagem quantitativa, realizado em hospital referência no tratamento de doenças infectocontagiosas no Nordeste do Brasil. A população estudada consistiu em pacientes com AIDS, hospitalizados na unidade hospitalar. A elaboração dos diagnósticos foi processual, realizada simultaneamente com a coleta de dados, buscando identificar as características definidoras e fatores relacionados/de risco de acordo com NANDA-I. Para o tratamento dos dados coletados, os instrumentos foram numerados e as variáveis codificadas e inseridas num banco de dados. Para análise do grau de concordância, o índice Kappa foi escolhido. Resultados: identificaram-se os principais diagnósticos de enfermagem, como a falta de adesão, que estava presente em 100% dos participantes, com índice de concordância superior a 80%. O estudo identificou as principais características definidoras e fatores relacionados/associados ao diagnóstico. Das respectivas características definidoras e fatores relacionados, a árvore de decisão foi elaborada. Conclusão: o modelo de decisão do diagnóstico falta de adesão apresentou as características determinantes, falta de comportamento de adesão e fatores relacionados, conhecimento insuficiente sobre o regime terapêutico e esquema de tratamento complexo.
Descritores: Terapia antirretroviral de alta atividade; Síndrome da imunodeficiência adquirida; Aderência à Medicamentação.

ABSTRACT
Objective: to elaborate a decision tree to formulate the nursing diagnosis “lack of adherence and anxiety in people living with AIDS”. Method: cross-sectional study, with quantitative approach, carried out in a referral hospital in the treatment of infectious-contagious diseases in Northeast Brazil. The study population consisted of AIDS patients, hospitalized in the hospital unit. The diagnoses elaboration was procedural, performed simultaneously with the data collection, seeking to identify the defining characteristics and related/risk factors according to NANDA-I. For the treatment of the data collected, the instruments were numbered and the variables were coded and inserted into a database. For analysis of agreement degree, the Kappa index was chosen. Results: the main nursing diagnoses were identified, such as a lack of adherence, which was present in 100% of the participants, with a concordance index higher than 80%. The study identified the main defining characteristics and related factors associated with this diagnosis. From the defining characteristics and related factors, the decision tree was elaborated. Conclusion: the decision model of the lack of adherence diagnosis presented the determinant characteristics, lack of adherence behavior and related factors, insufficient knowledge about the therapeutic regimen and complex treatment scheme.
Descriptors: High-Activity antiretroviral therapy; Acquired Acquired immunodeficiency syndrome, Adhesion to Medication.

RESUMEN
Objetivo: elaborar un árbol de decisión para formular el diagnóstico de enfermería “falta de adhesión y ansiedad en personas que viven con SIDA”. M étodo: estudio transversal, con abordaje cuantitativo, realizado en un hospital referente en tratamiento de enfermedades infectocontagiosas en el Nordeste de Brasil. La población estudiada consistió en pacientes con SIDA hospitalizados en la unidad hospitalaria. La elaboración de los diagnósticos fue procesal, realizada simultáneamente con la recolección de datos, buscando identificar las características definidoras y factores relacionados/de riesgo de acuerdo con NANDA-I. Para el tratamiento de los datos recolectados, los instrumentos fueron numerados y las variables fueron codificadas e insertadas en una base de datos. Para el análisis de grado de concordancia, el índice Kappa fue elegido. Resultados: se identificaron los principales diagnósticos de enfermería, como la falta de adhesión, que estaba presente en el 100% de los participantes con índice de concordancia superior al 80%. El estudio identificó las principales características definidoras y factores relacionados asociados a este diagnóstico. De las correspondientes características definidoras y factores relacionados, el árbol de decisión fue elaborado. Conclusión: el modelo de decisión del diagnóstico falta de adhesión presentó las características determinantes, falta de comportamiento de adhesión y factores relacionados, conocimiento insuficiente sobre el régimen terapéutico y esquema de tratamiento complejo.
Descripciones: Terapia antirretroviral de alta actividad; Síndrome de inmunodeficiencia adquirida; Aderencia a la medicación.


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INTRODUCTION

According to the Joint United Nations Program on HIV/AIDS (AIDS), about 36.9 million people are living with HIV worldwide. Every year, two million people are infected and 1.2 million people die of AIDS worldwide. Currently, 15.8 million people have access to antiretroviral treatment. In Latin America, especially in Argentina, Brazil, Colombia, Mexico, and Venezuela, about 1.6 million people live with AIDS.

In Brazil, about 734,000 people live with AIDS. The mortality rate dropped significantly due to the increased level of antiretroviral adherence. Adherence is understood as the establishment of a joint activity in which the patient is not a mere follower of medical guidance, but understands and agrees with the recommended prescription, which aims to suppress viral load and improve the patient’s quality of life.

Therefore, the relationship between patients and health professionals should be positive, since several factors influence the treatment of chronic diseases such as AIDS, such as the use of alcoholic beverages, drugs, and non-acceptance of health status. The nurse is responsible for providing comprehensive care focused on priority needs, which interferes with adherence to treatment. Therefore, systematic practices corroborate care assistance, since it is a tool focused on reducing treatment abandonment, facilitating the adaptation and recovery of people living with AIDS.

The technologies involved in nursing actions and systematic interventions depend on the skill and competence of the nursing professional since there are decision models that seek to represent the complexity of nursing problems in a more understandable way, among the various methods of Nursing Care Systematization (SAE), without changing its essential attributes. However, it will always be a simpler representation and can never be taken as an unquestionable truth for having come from a method.

The tree is one of the simplest and most usual forms among the various decision models, conceptualized as a static model visual tool, which presents the simplest decision-making technique routinely used. In this sense, this tool has the meaning of certain findings, such as the precision of the Nursing Diagnosis, the Nursing Process (PE) phase, which relates the defining characteristics, which are the signs and symptoms, to the related factors, contributing to favor the occurrence of the diagnosis, and supporting the nurse with information requested for decision making.

In this sense, this new technology involved in the care of people living with AIDS contributes to the optimization of nursing care, reducing hospitalization time and improving quality of life. From this context, the following question emerged: Is it possible to elaborate a decision tree that assists in the inference of the diagnosis lack of adherence from Defining Characteristics (DCs) and Related Factors (RFs)? Thus, to answer the questions, the study sought to elaborate a decision tree to formulate the nursing diagnosis lack of adherence to treatment.

METHOD

This is a methodological study with a quantitative approach carried out in a reference hospital in the treatment of infectious diseases in Northeast Brazil. The study population consisted of AIDS patients hospitalized in the hospital unit. The calculation of the sample used the arithmetic mean of hospitalized patients in the period from 2009 to 2013, reaching a quantitative of approximately 303 patients with AIDS. From this number, the sample was calculated for finite populations, assigned with a sampling error of 5%.

The selection of 113 patients was of the consecutive type, adopting the following inclusion criteria: being an individual with AIDS, being over 18 years old and being hospitalized at the time of data collection. The exclusion criteria were unknown diagnosis of the disease and not being in psychic and emotional conditions.

To verify the psychic condition of the person with AIDS, the researchers previously analyzed the medical history with the history of the disease and its evolution. Also, they received additional information about the patient’s behavior, the orientation of their space and time from the nursing team.

Data were collected from March to September 2014, through an anamnesis script and physical examination that contemplated sociodemographic aspects such as gender, age, education level, family income, medication adherence, time of medication use, type of therapeutic regimen. This instrument was
submitted to the validation of content and appearance by ten professors who carry out studies in the SAE area, and the proposed suggestions were contemplated in the instrument.

Then, a theoretical-practical training was carried out to standardize the data collection with two students of Scientific Initiation and three postgraduate students of masters level with a workload of 12 hours per week, developed through lectures and dialogues, as well as discussions on clinical cases with an emphasis on approaching people 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 to standardize the data collection.

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. The structuring of nursing diagnoses followed the stages of Risner’s clinical judgment.

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

Then, three nurses and two nursing professors who worked were requested in the hospital sector where data collection was performed. These professionals acted as judges and were included in the validation, considering their experience for more than 10 years and specialization in Infectological Nursing. Its task was to assess whether the proposed statements were applicable to people living with AIDS. In case of disagreement of the affirmations, suggestions should be presented for their adequacy. They agreed to participate in the study by signing the Informed Consent Form (ICF), respecting the ethical precepts of the research.

For the treatment of the collected data, the instruments were numbered and the variables were codified and inserted in a database incorporated in the program Excel for Windows. For the analysis of the degree of agreement between the researchers and the specialists, the Kappa index was chosen, with values> 0.80, analyzed by the Statistical Package for Social Sciences, version 20.0.

After the data treatment, the inferential analysis was performed between the nursing diagnoses that presented CI ≥ 0.80 and the respective defining characteristics and related factors. Pearson’s Chi-square test and Fisher's exact test (expected frequencies less than five) were used for this purpose (p <0.05). Subsequently, the Waikato environment for knowledge analysis (WEKA) software version 3.7.8 was used to construct the decision tree.

This study obeyed ethical research standards involving human beings of national scope with approval in the research ethics committee of the Federal University of Rio Grande do Norte - UFRN, opinion nº 508.445.

RESULTS AND DISCUSSION

The study had the participation of 113 people living with AIDS. Most of them had a minimum age of 30 and a maximum of 39 years old, men (72.6%), unmarried (66.4%), incomplete elementary school (55.7%), family income up to a minimum wage (47.8%). Table 1 shows the main nursing diagnoses found in people living with AIDS.

<table>
<thead>
<tr>
<th>Nursing Diagnosis</th>
<th>CI &gt; 0.80</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of adhesion</td>
<td>1.0</td>
<td>100</td>
</tr>
<tr>
<td>Poor knowledge</td>
<td>0.75</td>
<td>80.5</td>
</tr>
<tr>
<td>Ineffective protection</td>
<td>0.72</td>
<td>69</td>
</tr>
<tr>
<td>Sexual dysfunction</td>
<td>0.69</td>
<td>54</td>
</tr>
<tr>
<td>Risk of hepatic impairment</td>
<td>0.64</td>
<td>43.3</td>
</tr>
<tr>
<td>Ineffective health self-management</td>
<td>0.62</td>
<td>36.3</td>
</tr>
<tr>
<td>Body Image Disorder</td>
<td>0.62</td>
<td>34.5</td>
</tr>
<tr>
<td>Impaired sleep pattern</td>
<td>0.50</td>
<td>31.9</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0.49</td>
<td>31.0</td>
</tr>
<tr>
<td>Acute pain</td>
<td>0.48</td>
<td>27.4</td>
</tr>
<tr>
<td>Risk-prone health behavior</td>
<td>0.45</td>
<td>25.7</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.41</td>
<td>23.0</td>
</tr>
<tr>
<td>Unbalanced nutrition: less than the bodily needs</td>
<td>0.40</td>
<td>22.1</td>
</tr>
<tr>
<td>Change Stress Syndrome</td>
<td>0.35</td>
<td>18.6</td>
</tr>
</tbody>
</table>
In this sense, the lack of adherence diagnosis was present in 100% of the participants, with a CI> 0.80 among the specialist nurses. Therefore, it was decided to demonstrate the main defining characteristics and related factors that presented statistical association in the construction of the lack of adherence diagnosis, as revealed in Table 2.

Table 2 - Defining characteristics and related factors of Nursing diagnosis Lack of adherence. Natal, RN, Brazil, 2016.

<table>
<thead>
<tr>
<th>Defining characteristics</th>
<th>Present</th>
<th>Absent</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of adherence behavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gift</td>
<td>70</td>
<td>05</td>
<td>0.002²</td>
</tr>
<tr>
<td>Absent</td>
<td>08</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Missed scheduled appointments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gift</td>
<td>45</td>
<td>13</td>
<td>0.04¹</td>
</tr>
<tr>
<td>Absent</td>
<td>33</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Failure to get results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gift</td>
<td>48</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>30</td>
<td>18</td>
<td>0.03³</td>
</tr>
</tbody>
</table>

Related Factors

- Insufficient knowledge about the therapeutic regimen

<table>
<thead>
<tr>
<th></th>
<th>Present</th>
<th>Absent</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gift</td>
<td>69</td>
<td>04</td>
<td>0.003¹</td>
</tr>
<tr>
<td>Absent</td>
<td>09</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Complex treatment regime</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gift</td>
<td>73</td>
<td>00</td>
<td>0.002¹</td>
</tr>
<tr>
<td>Absent</td>
<td>05</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

¹Chi-square test; ²Fisher's exact test.

From the results presented above, the lack of adherence behavior lacked scheduled appointments and failure to obtain the inferred results to the diagnosis lack of adherence are associated with insufficient knowledge about the regimen and complex treatment scheme. From the respective defining characteristics and related factors, the decision tree was elaborated, as shown in Figure 1.

The decision tree above shows the way to elaborate the Nursing Diagnosis lack of adherence. As observed, the tool consists of its respective nodes, called critical points that reached the range +4 and -3, considered standards.
Thus, the results show that one of the defining characteristics that presented the value of the node in the patterns was the lack of adherence behavior. Thus, the factors related within the interval, confirmed by the node, with +1 value, offer indications of complementarity to the diagnosis such as insufficient knowledge about the therapeutic regimen and complex treatment scheme, to confirm the diagnosis lack of adherence.

Decision models are systematic tools that nursing professionals use in the process of implementing care for any patient, regardless of the disease. This practice improves nursing interventions, focused on priority needs, providing the professional with critical thinking and therapeutic therapeutics.

The lack of adherence diagnosis is understood as the behavior of a person or caregiver that does not coincide with an agreed health plan or therapeutic promotion. Thus, it is evident that for a better quality of life for AIDS patients, nurses need to promote explanatory strategies about the importance of adherence to treatment and care provided, a factor that contributes to the change of reality found in this context.

The primary means of reducing viral load as well as stabilizing and improving immune function is directly related to pharmacological adherence and inherent care. However, the implications of non-adherence to treatment are directly related to the lack of educational strategies. However, the most obvious reason for the lack of medicalization correlates with HIV stigma, linked to lack of privacy at specific times.

Otherwise, the predictors that also contribute to non-adherence are linked to AIDS manifestations, diagnostic time, drug side effects, illicit drug use, age, and education level. Thus, the importance of a strategy capable of ensuring the initial therapeutic regime, such as the development of a mechanism that promotes the maintenance of the initial regimen is an important reference in favor of adherence to treatment.

For this reason, it is evident the importance of immediate interventions for patients diagnosed with HIV to dialogue on the problems faced, as well as the organization of meetings between patients to exchange experiences and in
the team to discuss and develop methods to improve the quality of patient care and favor the change of the current reality\(^8\).

Therefore, the decision tree is one of the simplest and most common methodological forms, capable of associating clinical problems with short-term results and it can be used to increase diagnostic accuracy, being a clearer and more precise tool for making alternative decisions, facilitating the process, since it decreases the degree of uncertainty of the diagnostic inferences\(^9\).

Therefore, the defining characteristics of nursing diagnosis lack of adherence are understood as a negative effect of adherence to antiretroviral therapy due to barriers faced by patients. These challenges include the difficulty of maintaining privacy, constant stigma, poverty, and marital problems that act as stressors that trigger and nourish the symptoms of common mental disorders such as depression, interference in motivational factor, memory, and problem-solving ability\(^10\). Also, other symptoms of common mental disorders, such as Kufungisia, characterized as over-thought, are considered as a common central component and are already included in the diagnostic and statistical manual of mental disorders\(^11\), which contributes considerably to reducing adherence, since negative thoughts influence the difficulty of concentration and daily activities, being the common cause of skipping the doses of treatment and, consequently, the low adherence to the treatment\(^10\).

Alcoholism is another reason for the significant incidence rate for non-adherence and discontinuation of antiretroviral therapy\(^11\). However, other factors also influence non-adherence, such as adverse drug effects, recovery from medication after illness for fear of death, lack of support/acceptance of family and friends, feeling well and healed, unwillingness to living and fear of not surviving\(^12\).

However, intervention measures that influence the degradation of the negative depressive cycle and the coping with barriers to adherence are fundamental. As a result, nurses should work to educate patients about common barriers and the impact of adherence to treatment, as well as to promote mental health care and support related to family participation in care provision\(^13\).

The defining characteristic is lacking in scheduled appointments, comprising a daily reality in health institutions, since patients do not have the recognition of the need for professional accompaniment and their condition as a person with HIV to continue living and have a better quality of life. Thus, the defining characteristic “failure to obtain results” is closely linked to the above-mentioned characteristic, since it becomes deficient due to the inefficient process of information and knowledge about the disease, treatment, and main care.

The related factor “insufficient knowledge of the therapeutic regimen” includes one of the main problems of treatment, since the lack of knowledge, the difficulties presented in the daily use of medications, side effects and perceptions regarding antiretroviral therapy reveal well-known representations of the drug therapy in seropositive patients and indicates the need to promote the provision of care that favors the improvement of the quality of life of these clients, besides obtaining greater responsibility and commitment with the actions of adherence to the medications\(^14\).

On the other hand, the complex treatment regimen includes the different challenges faced by patients in relation to daily medication, which occur due to the numerous daily changes caused by the use of antiretroviral therapy and changes in diet due to the use of medications\(^14\).

Antiretroviral therapy can cause gastrointestinal symptoms that compromise adherence to treatment, which is one of the most threatening dangers to treatment effectiveness. Otherwise, the appearance of endocrine-metabolic alterations, such as lipodystrophy, elevated systemic arterial pressure, and dyslipidemia also contributes to its non-adherence. This fact may imply more complex and associated treatments, with possibilities for other adverse events and interactions, requiring new adaptations in the routine and lifestyle, with probable negative implications in the adherence process\(^14\).

**CONCLUSION**

The data of the study allowed demonstrating that the model of decision of the diagnosis lack of adherence presented as main determining factor the lack of adherence behavior and as related factors, insufficient knowledge about the therapeutic regimen and complex treatment regimen.

The study contributes to nursing care, stimulating the practice of clinical reasoning and
diagnosis. The contribution of this study to the strengthening of the systematic practices involved in people living with AIDS stands out, a fact that contributes to the communication among nurses. Thus, it leads to a reflection on practices in the scope of assistance, teaching, research, extension, and management.

The limitations of the study include the elaboration and implementation of decision models linked to a clinical evaluation that governs a subjective process, generating uncertainties regarding nursing care.

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