

Nursing diagnoses of patients admitted for Infectious Diseases*

Diagnósticos de enfermagem de pacientes internados em enfermaria de Moléstias Infecciosas

Diagnósticos de enfermería de pacientes ingresados con Enfermedades Infecciosas

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ABSTRACT

Objectives: To identify nursing diagnoses of admitted patients into a Unit of Infectious and Parasitic Diseases (ID) at a university hospital; and to analyze: the denomination, the related factors and the diagnoses' defining characteristics and its compatibility with the NANDA Taxonomy 2008. **Methods:** It was a descriptive, cross-sectional and retrospective study, covering 50 medical records of patients admitted in July 2008. The diagnoses were compared to those proposed by the NANDA Taxonomy 2008. **Results:** Were found 105 real diagnoses and 18 of risk; 12 diagnoses (10%) corresponded fully with the Nanda taxonomy. The more frequently denominations were "Risk of infection" (100%) and "Anxiety" (32%). In the real diagnosis the denominations, the related factors and the defining characteristics, were in accordance with Nanda taxonomy in 76%, 27% and 23% respectively; in the diagnosis of risk the denominations and risk factors were adequate in 83% and 72%. **Conclusions:** The main difficulty encountered during the construction of nursing diagnoses was the appropriate choice of related factors and defining characteristics. The authors suggest discussion of concepts and review the practice adopted in the unit. **Keywords:** Nursing diagnosis; Inpatients; Nursing assessment

RESUMO

Objetivos: Identificar os diagnósticos de enfermagem de pacientes internados na Unidade de Moléstias Infecciosas e Parasitárias (MI) de um hospital universitário; e analisar título, fator relacionado e características definidoras dos diagnósticos e sua adequação à Taxonomia NANDA 2008. Métodos: Estudo descritivo, transversal e retrospectivo abrangendo 50 prontuários de pacientes internados em julho de 2008. Os diagnósticos foram comparados aos propostos pela Taxonomia NANDA 2008. Resultados: Foram encontrados 105 diagnósticos reais e 18 de risco; 12 diagnósticos (10%) correspondiam totalmente à taxonomia. Os títulos atribuídos com mais frequência foram: "Risco de infecção" (100%) e "Ansiedade" (32%). Títulos, fatores relacionados e características definidoras estavam, de acordo com a taxonomia em, respectivamente, 76%, 27% e 23% dos diagnósticos reais; títulos e fatores de risco eram adequados em 83% e 72% dos diagnósticos de risco. Conclusão: A principal dificuldade observada na construção dos diagnósticos de enfermagem foi a escolha apropriada de fatores relacionados e características definidoras. Os autores sugerem discussão dos conceitos e revisão da prática adotada na unidade. Descritores: Diagnóstico de Enfermagem; Pacientes internados; Avaliação em Enfermagem

RESUMEN

Objetivos: Identificar los diagnósticos de enfermería de pacientes ingresados en la Unidad de Enfermedades Infecciosas y Parasitarias (EI) en un hospital universitario; y, examinar la denominación, los factores relacionados y las características que definen los diagnósticos, y su adecuación a la nomenclatura de la taxonomía NANDA 2008. Métodos: Se trata de un estudio descriptivo, transversal y retrospectivo que abarca 50 historias clínicas de pacientes ingresados en julio de 2008. Los diagnósticos se compararon con los propuestos por la taxonomía NANDA 2008. Resultados: Fueron encontrados 105 diagnósticos reales y 18 de riesgo; 12 diagnósticos(10%) correspondían totalmente a la taxonomía. Las denominaciones más frecuentes fueron: "Riesgo de infección" (100%) y "Ansiedad" (32%). En los diagnósticos reales: las denominaciones, los factores relacionados y las características definitorias, estaban de acuerdo con la taxonomía en 76%, 27% y 23% respectivamente; en los diagnósticos de riesgo las denominaciones y los factores de riesgo fueron adecuados en 83% y 72%. Conclusiones: La principal dificultad encontrada en la construcción de los diagnósticos de enfermería fue la elección adecuada de los factores relacionados y de las características definitorias. Los autores sugieren que se discutan los conceptos y se revise la práctica adoptada en la unidad.

Descriptores: Diagnóstico de Enfermería; Pacientes internos; Evaluación en Enfermería

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^{*} Study carried out in the conclusion of the subject Supervised Internship of the Nursing Undergraduate course at Faculdade de Ciências Médicas (FCM), Universidade Estadual de Campinas – Unicamp - Campinas (SP), Brazil.

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INTRODUCTION

The professional exercise determines the social space of professionals that are inserted in the multidimensionality of this complex space that is also demanding at times. Nurses should be inserted in the social network of care in an aware and competent way both technically and scientifically, to offer nursing care with quality in a humanized fashion⁽¹⁻²⁾.

Care methodologies, regardless of their names, currently represent one of the most important achievements in the field of nursing care. Nursing care systematization, as an organizational process can offer subsidies to develop interdisciplinary and humanized methods and methodologies of care, to provide greater autonomy to nurses and a safe support with the use of a record, which guarantees multi-professional continuity/ complementarity, making nurses -users, nurses - and multi-professional team closer^(1,3). This is a deliberative approach for problem solving, requiring cognitive, technical, and interpersonal skills directed at meeting the needs of customers and their families.

Currently, the implementation of the nursing process, more than an option for nursing work organization, is also a legal issue for nursing. The Brazilian professional nursing council (COFEN) resolution n.° 272/2002 emphasizes the need to apply systematization of the nursing routine care in their working settings: a private activity of nurses that uses the method and strategy of scientific work to identify health/diseases situations, subsidizing nursing care actions that can contribute to the promotion, protection, recovery and rehabilitation of individuals, family and community health⁽⁴⁾.

The nursing process is considered the supporting bases to systematize nursing care; it has steps or stages that involve the identification of clients' health problems, the preparation of nursing diagnoses, the introduction of a care plan, the implementation and assessment of planned actions⁽⁵⁾.

In this context, nursing diagnosis means the identification of the needs of human beings who require care and nurses' determination of the level of care dependence in its nature and extension⁽⁶⁾. It is an important work instrument for nurses with which judgment regarding the human responses to the worsening of their health is carried out. It is an expression of individuals' care needs, that is, it should enable proposing nursing interventions adequate to a certain situation. Therefore, the preparation of a nursing diagnosis should reflect the careful assessment of nurses on the physical and emotional health state of an individual⁽⁷⁾.

Currently, a normalized language is used to formulate nursing diagnosis based on this careful data collection. This language is structured in taxonomy, organized from a concept system developed by the North American Nursing Diagnoses Association (NANDA). Normalization used is known as Taxonomy II, whose structure was accepted in the biennial NANDA conference in 2000 and published in 2001⁽⁷⁾.

Although they have been widely used in several settings of the nursing practice worldwide, nursing diagnoses are not always very accurate. This quality should be the main objective of the process to prepare diagnoses since they are clinical judgment on the probabilities and, therefore, there is a high risk they are not accurate. Epidemiological description of the human response to care is incomplete if the diagnoses do not present this characteristic⁽⁸⁾.

Among other factors, the accuracy of a diagnosis can be compromised because of the complexity in the interpretation of signs and symptoms that can overlap in nursing diagnoses, confusing the process of clinical thinking, and the holistic, complex and unique characteristic of human responses. Thus, incorrect inferences can form the basses of a diagnosis having as consequences the formulation of an incorrect diagnosis, leading to inadequate interventions and undesirable outcomes⁽⁸⁾.

Record analysis of nursing diagnoses in the charts can contribute to identify permanent education needs, as well as to estimate the participation of nurses in the outcomes reached by patients⁽⁹⁾ and to generate useful data to the management and administration sectors⁽¹⁰⁾. It is also relevant to the identification of specific diagnoses of a certain unit and because of that it will enhance the process of preparing diagnoses, improving their accuracy and, above all, contributing to the planning of more accurate and adequate interventions to the profile of the clientele cared for⁽¹¹⁾.

In view of these considerations, the present study had the purpose of identifying nursing diagnoses of patients admitted to the Unit of Infectious and Parasitic Diseases (MI) of a university hospital during one month and assesses the title, related factors and defining characteristics of the diagnoses and their adjustment to the NANDA 2008 taxonomy.

METHODS

Type of study: Descriptive, cross-sectional, retrospective study with a quantitative approach.

Setting: Unit of Infectious and Parasitic Diseases (MI) of a public hospital in the country side of the State of São Paulo. This is a large university hospital of high complexity in which 100% of the care is connected with the Single Health System (SUS), in several specialties. MI is an admission unit with 18 beds, 15 to patients with infectious and parasitic diseases and three to patients with ophthalmologic disorders.

Subjects: Patients that were admitted to the MI in the period from the 1st to 31st of July 2008, whose charts could be retrieved for data collection. This period was defined because it matched school vacations and, therefore, the absence of scholars in the university. Thus, we could identify nursing diagnoses prepared exclusively by nurses that worked in the studied ward.

Data collection: The charts were selected, based on the list supplied by the IT service of the Institution. Among the 65 charts presented, 50 (77%) were located and consulted in the Medical File Service (SAM); 15 charts were in other sectors without a forecast to return to SAM, and were excluded from the study. The nursing diagnoses that were part of the charts were fully transcribed. Sociodemographic data and those referring to admission (gender, age, medical diagnoses, according to the International Code of Disease, stay in the hospital, admission outcome) were collected to characterize the population of the study.

Data analysis: The nursing diagnoses recorded in the charts were assessed one by one, comparing the title, related factor and defining characteristics of these diagnoses with the ones proposed by the NANDA 2008 Taxonomy. Data of patients' characterization were typed in the program *Microsoft® Office Excel* 2003 (*Microsoft Corporation*, 2003) and assessed with the program *Statistica* 6.0 (*StatSoft Inc.*, 2001). Descriptive statistics (measurement of position and dispersion, absolute numbers and proportions) were used.

Ethical aspects of the research: The study was approved by the Research Ethics Committee at Faculdade de Ciências Médicas da Universidade Estadual de Campinas on 04/28/2009, No 257/2009.

RESULTS

Patients' characterization

According to the data of the 50 charts assessed, 32

(64%) patients were males. The age ranged from 14 to 89 years, with mean of 41 (\pm 18) years and median of 37 years. Hospital stay ranged from 1 to 69 days, with mean of 12 (\pm 17) days and median of 5 days. As for the outcome of the admission, 40 patients (80%) were discharged, and 10 (20%) died.

Medical diagnosis of "Unspecified human immunodeficiency virus" and "Associated opportunistic diseases" were the most frequent, found in 15 patients (30%). Stay of these subjects in the unit ranged from 1 to 64 days, with average of 20 (±19) days.

Nursing diagnoses

We have recorded 146 diagnoses for the 50 patients studied, with average of 2.9 diagnoses and variation from one to six diagnoses for each patient. The titles of the most frequently given diagnoses were: "Infection risk" (100%); "Anxiety" (32%); "Self care deficit" (30%); "impaired skin integrity" (24%); "Acute pain" (22%); "Imbalanced nutrition" (20%) and "Risk for impaired skin integrity" (12%). Other titles were attributed to less than 10% of the patients whose charts were assessed. Among the 146 diagnoses, 123 had a different construction because of the differences in the related factors and defining characteristics, 105 were real diagnoses and 18 were risk ones.

Most common domains and classes were: Domain 11 – Safety and protection (Classes 2 and 5); Domain 4 – Activity and rest (Classes 2, 3 and 5); Domain 9 - Facing/tolerance to stress (Class 2); Domain 2 – Nutrition (Classes 1 and 4) and Domain 12 – Comfort (Class 1).

Twelve diagnoses (10%) corresponded totally to the NANDA Taxonomy. The others presented inadequate writing either of the title, or the related factors, or the defining characteristics. The findings regarding the real diagnoses were summed up on the data of Table 1, and those for risk diagnoses are on Table 2.

When data from Table 1 were assessed, it was observed that 61% of the titles, 27% of the related

Table 1 – Adequacy of the construction of actual nursing diagnoses identified in the Unit of Infectious and Parasitic Diseases of a University Hospital. Campinas, 2008.

Title	Different	Adequate			Inadequate		
	constructions	Title	RF*	DC	Title	RF*	DC
Anxiety	16				-	16	16
Impaired skin integrity	15	14	8	-	1	7	15
Self-care deficit for bathing/hygiene	13	2	5	3	11	14	12
Acute pain	10	10	2	8	-	8	2
Imbalanced nutrition less than body requirements	9	9	1	1	-	8	8
Other diagnoses	42	29	12	12	23	30	30
Total	105	64	28	24	35	83	83
(percentage on the total)	100%	61%	27%	23%	33%	79%	79%

RF: related factors - DC: defining characteristics

^{*}the sum of adequate and inadequate factors is higher than 100% because there is more than one factor related to a same diagnosis

Table 2 - Adequacy of the construction of risk nursing diagnoses identified in the Unit of Infectious and Parasitic Diseases of a University Hospital. Campinas, 2008.

Title	Different constructions	Adequate			Inadequate		
Title		Title	RF*	DC†	Title	RF*	DC†
Risk for Infection	8	8	7		-	7	-
Risk for impaired skin integrity	6	3	4		3	2	2
Risk for falls	3	3	1		-	2	-
Risk for unstable blood glucose	1	1	1		-	-	-
Total	18	15	13		3	11	2
(percentage on the total)	100%	83%	72%		17%	61%	11%

RF: related factors - DC: defining characteristics

factors and 23% of the defining characteristics were written according to NANDA Taxonomy. Six diagnoses were found totally adequate (6%). The greatest difficulty was in the selection of related factors, following closely the defining characteristics.

Among the 18 risk diagnoses (Table 2), six were totally adequate (33%), and one was "risk of infection", three "risk for impaired skin integrity", one was "risk for falls" and one was "risk for unstable blood glucose". The remaining diagnoses were classified as inadequate, because of the inadequate construction of the risk factors or the inclusion of the defining characteristics that should not form these diagnoses.

DISCUSSION

The use of nursing diagnoses in the unit assessed is a relatively new process, just as in the institution where the study was conducted. The first discussion on the construction of a new model of nursing process started in 2004 with studies guided by the several nursing theories. Nurses of the university hospital and professors of the Nursing Undergraduation formed study groups to discuss and define the theoretical framework that would be adopted to base the use of the nursing process; to prepare instruments for data collection (history and physical examination) and printed for the important records; to think about strategies to implement the new process. During 2005 and 2006, pilot studies were carried out in the Intensive Care and Orthopedic and Trauma Units, using the new model. In 2007, the use of a new proposal was started in the whole institution, including the nursing diagnoses prepared according to NANDA Taxonomy II⁽¹²⁾, and we have kept the evolvement, prescription, and nursing notes that have been performed since the beginning of the 90's. All changes require time and preparation to meet new demands, as well as investigations to assess how these occurrences are processed to direct interventions that can contribute to the improvement of the work.

According to the report of the Joint United Nations Program on HIV/AIDS (UNAIDS), it is estimated that there are currently 33.2 million people with HIV/AIDS in the world and that there were 2.5 million new infections in 2007. According to the document, from 1980 to June 2007, 474, 273 HIV/AIDS cases in Brazil were notified⁽¹³⁾. The information on AIDS in the country showed an epidemic of multiple dimensions that, over time, has presented deep changes in their evolvement and distribution. It has been demonstrated the importance of heterosexual transmission and characteristics such as the feminization and ageing and pauperization of sick people⁽¹⁴⁻¹⁵⁾.

Although patients with infectious diseases overall and those with HIV/AIDS present clear psychological, emotional and social needs, most of the diagnoses referred to the physical aspects at the expense of psychological and social aspects. The fact was also observed in a prospective study carried out in Iceland⁽¹⁶⁾ and another; retrospective study in a Gynecologic Oncology ward, in the same hospital complex where the present study was carried out⁽¹⁷⁾.

The nursing diagnosis "Risk for Infection", identified in 100% of the patients was found in this same frequency in another study carried out with patients with HIV/ AIDS in an admission Infectious and Parasitic Diseases Unit, in a public hospital in the city of São Paulo⁽¹⁸⁾, demonstrated by the following risk factors: invasive procedures, inadequate secondary defenses and immunosuppression (100%). The diagnosis was identified also in 100% of the patients admitted in the Gynecologic Oncology Ward⁽¹⁷⁾, and among the most frequent diagnosis in the study developed in Iceland⁽¹⁶⁾. In this study, the authors assessed the improvement in the preparation of the process and the nursing diagnoses through the analysis and comparison of records before and after an educational intervention. The most frequent diagnosis, in both times, was that of "pain" and the diagnosis "risk for infection", observed among the ten most frequently diagnosis, was no longer found after

^{*} the sum of adequate and inadequate factors is higher than 100% because there is more than one factor to a same diagnosis

t Defining characteristics are not necessary for risk diagnoses.

intervention.

In the study with HIV/AIDS patients (18), the diagnosis "Ineffective Protection" was identified in 100% of the patients, and the defining characteristics were: deficient immunity in 100%, dyspnea in 53.3%, disorientation in 45% and weakness and agitation in 31.6%, and the related factors were: altered blood profile, and immunological disorder (100%) and imbalanced nutrition (60%). This last finding draws attention because in the present study, 30% of the patients had medical diagnoses of HIV/AIDS or associated opportunistic diseases; whose main characteristic is immunological deficiency, however, the diagnosis "Ineffective Protection" was not made. We may suggest that the diagnosis was mistaken for "Risk for Infection".

The title was considered adequate in 61% of the actual nursing diagnoses and in 83% of the risk diagnoses assessed. There was discrepancy between the percentage of adequate title (61%) and the percentage of defining characteristics, and adequate related factors (about 20%), in the actual diagnoses. The main difficulty observed in the construction of nursing diagnoses referred to the appropriate choice or the identification of the related factors and defining characteristics. In some diagnoses, there was a confusion and a change between the defining characteristic and the related factor, leading to a constant concern. Corroborating with the results of the present study, a systematic review showed that there is a difficult in the process to prepare nursing diagnoses concerning the capacity to associate them with signs, symptoms and etiology that characterize and determine that diagnosis⁽⁹⁾.

The results and the choices of the nursing interventions depend on accurate and valid nursing diagnoses⁽¹⁹⁾. Its use starts by data collection and patients' history. When the information of people, families and communities is investigated and collected, professionals identify "signs and symptoms" or the defining characteristics of the nursing diagnoses concepts. According to NANDA⁽¹⁹⁾, "the defining characteristics are those that can be observed and verified in individuals, families and communities. They work as signs and inferences that are grouped as manifestations of a real disease or a real state of well-being or a nursing diagnosis".

The factors or variables that influence the diagnoses are integrated to the history, charts and other evidences. These variables form the context, the "related factors" that are combined with the defining characteristics to prepare nursing diagnoses that are identified as characteristics or history of individuals, families and communities⁽¹⁹⁾.

Therefore, to confirm the presence of a diagnosis, according to the nursing problems identified in a patient, the presence of defining characteristics of that diagnosis is necessary according to the taxonomy⁽¹⁹⁾. As for the

related factors, discussions have been observed on the possibility of the use of factors that were not listed by NANDA, as long as they are strictly based on scientific evidences to ensure their validity.

In turn, risk diagnoses were adequately built in 33% of the records assessed, 61% of inadequacy was found in the relate factors chosen. It is important to consider that the elements of the names of the (potential) risk diagnoses change if compared to the actual diagnoses. The defining characteristics are not necessary, because in risk diagnoses the signs and symptoms are not present and the data are incomplete(18). In an actual diagnosis, the identification of the defining characteristics require more accurate skills in the clinical evaluation, and the risk diagnosis can be made based on the characteristics of a situation or the context involving the patient. In the present study, it was observed that most diagnoses of "risk for infection" had as risk factors the "invasive procedures" and "hospital stay". These factors that put patients at risk make nurses suspect that diagnoses are possible(18), and therefore, if they are well prepared they are important to design preventive actions.

In a study carried out to assess factors that, according to a group of nurses of a university hospital in the south of Brazil, interfere in the adequate use of nursing diagnoses, the authors found arguments relatively "traditional" with a high frequency of agitated duties, number of patients per nurse and being involved with management tasks. Other parameters involved were the absence of a standardized model, shortcomings in the knowledge on the physical exam, and the terminology of the nursing diagnoses (20). Although we have not carried out a similar inquiry in the present study, some aspects should be highlighted. First the introduction of the use of the terminology was followed by the institution, as previously described, with all nurses discussing the model that was later standardized according to the construction of this collective. However, this follow-up did not seem enough to overcome the difficulties of the terminology.

Because of the difficulties suggested by the findings of the present study, the authors recommend the involvement of all the nurses in the preparation of a standard for the most frequent nursing diagnoses, which will imply the discussion of concepts of nursing diagnoses, and the revision of the adopted practices with the participation of doers. This will also enable the preparation of more adequate interventions to reach the planned goals.

CONCLUSION

We have identified 146 nursing diagnoses, 123 of which had a different construction, 105 were actual

diagnoses and 18 were risk diagnoses. Twelve diagnoses (10%) corresponded totally to the NANDA 2008 Taxonomy. The most frequent diagnoses were: "Risk for infection" (100%); "Anxiety" (32%); "Self-care deficit" (30%); "Impaired skin integrity" (24%). Among the actual diagnoses, 6% were considered totally adequate; 61% of the titles, 27% of the related factors and 23%

of the defining characteristics were written according to the Taxonomy of NANDA 2008. Among the risk diagnoses, 33% were considered totally adequate; 83% of the titles, and 72% of the risk factors had been written according to NANDA taxonomy; 11% presented defining characteristics, which is incorrect because they are not present in risk diagnoses.

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