Profile of nursing diagnoses in patients with respiratory disorders

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Objective. Identify the profile of nursing diagnoses in patients with respiratory disorders. **Methodology.** A descriptive and cross-sectional study involving 38 patients with respiratory problems, of referral hospitals, in a city in northeastern Brazil, in the period from August to October, 2012. Data collection was performed using a form and diagnostic inference was made according with the Taxonomy II of NANDA I. **Results.** The average age of the patients was 46 years and males predominated (60.5%). The most frequent nursing diagnoses were: Risk for infection (97.3%), Acute pain (68.4%), Poor knowledge (68.4%), Sedentary lifestyle (65.7%), Ineffective airway clearance (65.7%), Risk-prone health behavior (63.1%), Activity intolerance (52.6%) and Disturbed sleep pattern (33.3%). Evaluated patients exhibited an average of 8.6 nursing diagnoses (SD = 2.8). With respect to the defining characteristics and related factors the average per person was 7.2 and 9.3, respectively. **Conclusion.** In this group of patients the most frequent diagnoses were the domain activity/rest. Knowledge of nursing diagnoses profile presented by people with respiratory disorders is important, because it is part of the Nursing Process and nurses who take care of such patients should exercise them in their care practice.

Knowledge of the mains nursing diagnosis presented by patients with respiratory disorders are important for the practice of nurses who care for these patients, because it allows the choice of responses to problems of their clientele.

Key words: classification; nursing diagnosis; respiratory system.

Perfil de diagnósticos de enfermería en pacientes con disturbios respiratorios

Objetivo. Identificar el perfil de diagnósticos de enfermería en pacientes con disturbios respiratorios. **Metodología.** Estudio descriptivo y transversal realizado con 38 pacientes con problemas respiratorios de dos hospitales de referencia en una

ciudad del Nordeste brasileño, en el período de agosto a octubre de 2012. La recolección de los datos fue realizada utilizando un formulario y la inferencia diagnóstica fue hecha de acuerdo con la Taxonomía II de la NANDA-I. **Resultados.** El promedio de edad de los pacientes estudiados fue de 46 años, predominó el sexo masculino (60.5%)). Los diagnósticos de enfermería más frecuentes fueron: Riesgo de infección (97.3%), dolor agudo (68.4%), conocimiento deficiente (68.4%), estilo de vida sedentario (65.7%), Desobstrucción ineficaz de las vías aéreas (65.7%), comportamiento de salud propenso al riesgo (63.1%), intolerancia a la actividad (52.6%) y trastorno del patrón del sueño (33.3%). Los pacientes evaluados presentaron en promedio 8.6 diagnósticos de enfermería (DE=2.8). Con respecto a las características definitorias y a los factores relacionados el promedio por persona fue de 7.2 y 9.3, respectivamente. **Conclusión.** En este grupo de pacientes los diagnósticos más frecuentes fueron del dominio actividad/reposo. El conocimiento del perfil de diagnósticos de enfermería presentados en las personas con disturbios respiratorios es importante pues hace parte del Proceso de Enfermería y los enfermeros que cuidan este tipo de pacientes deben tenerlos en cuenta en su práctica asistencial.

Palabras clave: clasificación; diagnóstico de enfermería; sistema respitatorio.

Perfil de diagnósticos de enfermagem em pacientes com distúrbios respiratórios

Objetivo. Identificar o perfil de diagnósticos de enfermagem em pacientes com distúrbios respiratórios. **Metodologia.** Estudo descritivo e transversal realizado com 38 pacientes com problemas respiratórios dos hospitais de referência em uma cidade do Nordeste brasileiro, no período de agosto a outubro de 2012. A coleta dos dados foi realizada utilizando-se um formulário e a inferência diagnóstica foi feita de acordo com a Taxonomia II da NANDA-I. **Resultados.** A média de idade dos pacientes estudados foi de 46 anos e predominou o sexo masculino (60.5%). Os diagnósticos de enfermagem mais frequentes foram: Risco de infecção (97.3%), Dor agudo (68.4%), Conhecimento deficiente (68.4%), Estilo de vida sedentário (65.7%), Desobstrução ineficaz das vias aéreas (65.7%), Comportamento de saúde propenso a risco (63.1%), Intolerância a atividade (52.6%) e Transtorno do padrão de sono (33.3%). Os pacientes avaliados apresentaram em média 8,6 diagnósticos de enfermagem (DP=2.8). Com respeito às características definidoras e aos fatores relacionados a média por pessoa foi de 7.2 e 9.3, respectivamente. **Conclusão.** Neste grupo de pacientes os diagnósticos mais frequentes foram do domínio atividade/repouso. O conhecimento do perfil de diagnósticos de enfermagem apresentados pelas pessoas com distúrbios respiratórios é importante, pois faz parte do Processo de Enfermagem e os enfermeiros que cuidam deste tipo de pacientes devem exercê-los em sua prática assistencial. O conhecimento dos principais diagnósticos de enfermagem apresentados por pacientes com distúrbios respiratórios são importantes para a prática dos enfermeiros que cuidam destes pacientes, pois permite a escolha de ações direcionadas aos problemas de sua clientela.

Palavras chave: classificação; diagnóstico de enfermagem; sistema respiratório.

Introduction

Respiratory diseases have been one of the most important causes of morbidity and mortality in many countries. It is estimated that these diseases are responsible for about 8% of all deaths in developed countries and 5% in countries in development.[1] According to information obtained by the Department of Informatics of the Unified Health System-SUS (Brazilian health system), only in the year 2013, 1.315.343 people were hospitalized in Brazil affected by respiratory diseases.[2]

Respiratory diseases are those that affect the tract and upper or lower organs of the airways and in which can occurs an infectious or noninfectious inflammatory process, suffering the influence of

pathogens, allergens factors and trauma, also can be acute or chronic.[3] The presence of respiratory disorders affects not only the health of the subject, but can affect family dynamics, activities of daily living and, lastly, their quality of life.[4] Such conditions create problems or clinical conditions for which nurses are responsible to treat and monitor their progress. If not treated properly and if nursing care is not well implemented, subjects can develop several complications, whether acute or chronic, which that can lead to frequent hospitalization. To make a nursing care with quality nurses are provided with tools that helps them in the decision making process. Some of these tools include the Nursing Process that, when executed with the use of standardized language systems, including nursing diagnoses from NANDA-I[5], provide assistance in a systematic and dynamic way, promoting humanization and the targeting of the results guaranteeing the security of the subject.[6]

The NANDA-I[5] defines nursing diagnoses as "clinical judgment concerning a human response to health conditions/life processes, or a vulnerability for that response, by an individual, family, group or community. A nursing diagnosis provides the basis for selection of nursing interventions to achieve outcomes for which the nurse has accountability." The exactitude of nursing diagnoses is important because it forms the basis for the choice of interventions and outcomes of nursing in diverse environments of care. In the context of respiratory diseases there are few studies that include nursing diagnosis, and the identification of these is necessary for clinical practice of nurses, assisting them in the decision making process, turning it in a more scientific and less inductive way. Given this, this study aimed to identify the profile of nursing diagnoses in patients with respiratory disorders.

Methodology

This is a descriptive and cross-sectional study conducted in two hospitals located in Northeastern Brazil. The first is a general, philanthropic, of secondary level hospital, which was chosen because is reference in the treatment of respiratory diseases. The second hospital is a private general hospital, also of secondary level. These hospitals were chosen because they are references for the treatment of respiratory disorders. The population was consisted of 38 subjects, which were in the medical clinic of the mentioned hospitals. For the composition of the sample, subjects met the following inclusion criteria: a) be admitted to one of those hospitals with a medical diagnosis of any respiratory disorder; b) be aged at least 18 years. As exclusion criteria were considered: a) subjects that, during the data collection, presented emergency situations with risk of death. The sample was selected by convenience in a consecutive way.

Data collection was performed by one of the researchers in the months from August to October, 2012. The data were obtained by primary source directly with subjects, through interview and physical examination, and as secondary source, through hospital records. For clinical evaluation of patients and interviews were used a form drawn up based on two previous studies[7,8] on the validation of a questionnaire for subjects with chronic obstructive pulmonary disease in Brazil and the other on ineffective airway clearance in asthmatic children , which was adapted for adults.After the necessary adjustments, the form was used in order to identify the signs and symptoms that comprise the defining characteristics and etiologic factors that comprise the factors related nursing diagnoses, eg, "Ineffective breathing pattern" and "ineffective airway clearance" as well as diagnoses unrelated to the respiratory system as "sedentary lifestyle" possibly present in patients with respiratory disorders.

The referred form contains topics on admission and identification, complaint main/reason for admission, physical examination including the obtaining of data related to vital signs, the overall look, chest and respiratory evaluation, current and past health history, risk factors as smoking and alcohol use, self-care needs, as well additional information about exams and pharmacological and

non-pharmacological treatment. The elaboration and diagnostic inference was performed by one of the authors of the study following the steps of collecting data with the subject, interpretation, grouping of information and nomination of diagnostics categories.[9] For the nomination of nursing diagnoses, was used as reference Taxonomy II of NANDA-I.[5] The data were compiled in software Excel 2010® and statistical analysis was performed using the software Epi-Info 7.0®. Data were analyzed using measures of absolute and relative numerical frequency, measures of central tendency and dispersion.

All ethical and legal standards of Brazilian law were respected. Therefore, this project was submitted to the Ethics Committee with the approval number 134/2012 and all participants signed an informed consent form.

Results

Regarding demographic data, the subjects hospitalized with respiratory disorders were, mostly, male (60.5%) and living with a partner (55.2%). Regarding the profession, most were retired (36.8%) followed by autonomous (23.6%). Regarding the origin and religion the most was from the urban area (52.6%) and Catholic (97.3%). Regarding age, patients had on average 46.2±20.0 years, 5.7±5.3 years of education and an income averaged 520.00±225.00 dollars. Most nursing diagnoses found were the domain activity/rest (36.1%), followed by safety/protection (19.4%), nutrition (13.8%) and perception/cognition (8.3%). Were identified 36 different nursing diagnoses, 54 defining characteristics and 73 related factors. Evaluated patients exhibited an average of 8.6 nursing diagnoses (SD=2.8). Concerning the defining characteristics and related factors, the average per person was 7.2 (SD=2.3) and 9.3 (SD=2.9), respectively, as shown in Table 1.

Next, in Table 2, there are the distribution of nursing diagnoses, defining characteristics and related factors more common in patients with respiratory disorders who participated in this study.

Table 1. Distribution of nursing diagnoses as the domains of the Taxonomy II of NANDA I. Also, measures distribution of central tendency and dispersion of nursing diagnoses, defining characteristics and related factors

Domain	Nº	%	CI$_{95\%}$
Activity/rest	13	36.1	20.8%-53.7%
Safety/protection	7	19.4	8,1%-36.0%
Nutrition	5	13.8	4.6%-29.5%
Perception/cognition	3	8.3	1.7%-22.4%
Promotion	3	8.3	1.7%-22.4%
Elimination	2	5.5	0.6%-18.6%
Stress Confrontation/tolerance	2	5.5	0.6%-18.6%
Confort	1	2.7	0.07%-14.5%
Variables	**Average**	**Median**	**Standard Deviation**[†]
Nursing diagnoses	8,6	8,5	2,8
Defining characteristics	7,2	7,5	2,3
Related factors	9,3	9,0	2,9

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Table 2. Distribution of nursing diagnoses, defining characteristics
and related factors presented by patients with respiratory disorders

Nursing diagnoses	%	N°	CI 95%	Relative*
Risk for infection	97.3	37	86.1 – 99.9	-
Acute pain	68.4	26	51.3 – 82.5	-
Deficient Knowledge	68.4	26	51.3 – 82.5	-
Sedentary lifestyle	65.7	25	48.6 – 80.3	-
Ineffective airway clearance	65.7	25	48.6 – 80.3	-
Risk-prone health behavior	63.1	24	45.9 – 78.1	-
Activity intolerance	52.6	20	35.8 – 69.0	-
Disturbed sleep pattern	50.0	19	33.3 – 66.6	-
Defining characteristics				
Verbal report of pain	68.4	26	51.3 – 82.5	2
Verbalization of the problem	65.7	25	48.6 – 80.3	3
Fails to act to prevent health problems	63.1	24	45.9 – 78.1	6
Adventitious breath sounds	57.8	22	40.8 – 73.6	5
Dyspnea on exertion	47.3	18	30.9 – 64.1	7
Choose from a daily routine without exercise	39.4	15	24.0 – 56.6	4
Reports to stay awake	26.3	10	13.4 – 43.1	8
Related factors				
Increased environmental exposure to pathogens	97.3	37	86.1 – 99.9	1
Invasive procedures	97.3	37	86.1 – 99.9	1
Lack of exposure	65.7	25	48.6 – 80.3	3
Smoking	63.1	24	45.9 – 78.1	6
Harmful biological agents	55.2	21	38.3 – 71.3	2
Imbalance between supply and demand of oxygen	52.6	20	35.8 – 69.0	7
Retained secretions	42.1	16	26.3 – 59.1	5
Excessive mucus	42.1	16	26.3 – 59.1	5
Weird furniture for sleeping	23.6	9	11.4 – 40.2	8
Lack of motivation	21	8	9.55 – 37.3	4

(*) Regarding the nursing diagnosis

Discussion

In relation to gender, men were more present in the study, representing 60.5% of the subjects. Some studies[10,11] indicate that men are more affected by respiratory diseases than women. In Brazil, it is estimated that 52.7% of hospitalizations for respiratory diseases, in the last year, occurred in the male population.[2] Regarding age, the subjects were on average of 46.2 years old (SD=20.0),

however, 34.2% of the sample were comprised by elderly. Other studies indicate to the presence of respiratory disorders both among the elderly population[10,12] as among young population.[13] Regarding occupation, most patients were retired (36.8%) and autonomous (23.6%), which is justified by the amount of elderlies who participate in the study. Although diseases of the respiratory

tract may be associated with occupation (such as silicosis, exposure to burning of cane sugar and to biological hazards) in this study, was not investigated its relationship with the work of patients.

Regarding education, the average years of schooling was 5.7 (SD=5.3). Regarding family income, the average was 520.00 dollars (SD=225.00). In a population-based study conducted with 2,051 persons was identified that the majority of the subjects were under 12 years of education (77.8%) and had monthly per capita family income of up to 1.58 times the minimum wage (58.3%).[12] Hundreds of millions of people (from early childhood to old age) suffer from preventable respiratory diseases and respiratory allergies, in all countries of the world. Of these people, more than 500 million live in countries of low or middle income or belong to deprived populations.[1]

As discussed previously, patients with respiratory problems requiring care that is based on nursing diagnoses, in order to prevent complications that affect in a general way the quality of life of the individual. This study identified a total of 36 different nursing diagnoses. Were identified an average of 8.6 nursing diagnoses per patient, an average of 7.2 defining characteristics and an average of 9.3 related factors. The number and variety of nursing diagnosis found in this study indicates the amount of work that must be disengaged by the nursing team for the execution of assistance/intervention. Interventions are executed through prescriptions of nursing. The greater the number of nursing diagnoses, the greater the amount of prescriptions and, therefore, becomes necessary the performance of the nursing team.

In this study, of the eight most frequent nursing diagnoses realized was noted that the majority was configured as real nursing diagnosis and just one as diagnosis of risk. Also, was verified a greater number of factors when compared to the number of defining characteristics, justifying the need for the elaboration of an individualized

care plan. For nurses to execute individualized care, they should be based on scientific evidence during decision making. With regard to nursing diagnoses, research that involves diagnostic profile in specific clinical situations and, more recently, those that are related to the validation and diagnostic accuracy support in the process of diagnostic inference becoming the clinical practice most safe and effective.

In this study, the defining characteristic "verbalization of the problem" of nursing diagnosis "knowledge deficit" was the most observed in the sample. This defining characteristic has been taken as the principal to diagnostic inference, according a study on the content validation of this diagnostic.[14] Regarding diagnosis "acute pain", other studies[10,15] evidence the defining characteristic "verbal report of pain" as the principal cited by individuals with the diagnosis, as also observed in this study. In relation to diagnosis "Sedentary lifestyle" a recent study[16] on the review of the same and its components identified the defining characteristic "Choose a daily routine without exercise" as one of the major to this diagnosis.

Regarding the nursing diagnosis "Ineffective airway clearance", a study on the prevalence of the defining characteristics of this diagnosis in children with acute respiratory infection[17], verified that the defining characteristic "respiratory adventitious noise" was present in 77.5% of the sample. Similarly, in this study, it was verified that this characteristics was the most present among adults with respiratory disorders. According to the nursing diagnosis presented by patients with respiratory disorders, a similar study conducted in an pulmonology unit[10], found that the most common nursing diagnoses were: impaired gas exchange (79%), sleep deprivation (59%) Risk for falls (59%), imbalanced nutrition: less than body requirements (44%) and risk for infection (41%). A noteworthy point, in this study, the profile of stroke diagnoses also included those shown in pulmonology unit, but with lower prevalence, thus justifying their absence in Table 2.

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Knowledge of the mains nursing diagnoses presented by patients with respiratory disorders is important for the practice of nurses who care for these patients because it allows the choice of targeted actions to problems of their clientele. It is worth remembering that the development of studies of accuracy, validation and outcomes and interventions that involves the most common diagnosis found in this study are important to confirm the results of such research and cooperate with the choice of the defining characteristics and related factors that actually represent the conditions of the patient.

Before extrapolating the findings from this study is important to note some limitations that may be present in this study, such as: reduced size of the number of participants and diagnostic inference process performed by only one of the authors of the study.

References

1. Organização Mundial de Saúde –OMS-. Vigilância global, prevenção e controle das doenças respiratórias crônicas. Lisboa, Portugal :OMS; 2008.

2. DATASUS, Departamento de informática do SUS. Morbidade por doenças respiratórias. [Web site]; 2014 [cited: Sept 9, 2014]. Available from: http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sih/cnv/niuf.def

3. Kumar V, Perkins JA. Robbins e Cotran-Patologia: bases patológicas das doenças. 8th Ed. Rio de Janeiro: Elsevier; 2010.

4. Montefusco SAR, Bachion MM. Manutenção do lar prejudicada: diagnóstico de enfermagem em familiares de pacientes hospitalizados com doenças crônicas. Rev Eletr Enf. 2011; 13(2):182-9.

5. NANDA International. Diagnósticos de Enfermagem da NANDA. Definições e Classificações. Porto Alegre: Artmed; 2010.

6. Chianca TCM, Tannure MC, Salgado PO. Integração das classificações de enfermagem NANDA-I, NOC, e NIC em sistemas de informação hospitalar. In: NANDA International; Herdman TH, Carvalho EC. PRONANDA – Programa de Atualização em Diagnósticos de Enfermagem – Ciclo 1. Porto Alegre: Artmed Panamericana; 2013. P.81-100.

7. Souza T C, Jardim JR, Jones P. Validação do questionário do hospital em Saint George na doença respiratória (SGRQ) em pacientes portadores de doença pulmonar obstrutiva crônica no Brasil. Jornal de Pneumologia. 2000; 26(3).

8. Lima LHO, Lopes MVO, Falcão RTS, Freitas RMR, Oliveira TF, Costa MCC. Intervention for ineffective airway clearance in asthmatic children: A controlled and randomized clinical trial. Int J Nurs Pract. 2013; 19:88-94.

9. Gordon M. Nursing Diagnosis: process and application. 3rd Ed. St. Louis: Mosby; 1994.

10. Aquino RD, Fonseca SM, Lourenço EPL, Leite AL, Bettencourt ARC. Mapeamento dos diagnósticos de enfermagem em uma unidade de pneumologia. Acta Paul Enferm. 2011; 24(2): 192-8.

11. Agustí A, Barnes PJ. Update in Chronic Obstructive Pulmonary Disease 2011. Am J Respir Crit Care Med. 2012; 185(11):1171-6.

12. Gottlieb MGV, Schwanke CHA, Gomes I, Cruz IBM. Envelhecimento e longevidade no Rio Grande do Sul: um perfil histórico, étnico e de morbi-mortalidade em idosos. Rev Bras Geriatr Gerontol. 2011; 14(2):365-80.

13. Bernat AC, Oliveira MC, Rocha GC, Boing AF, Peres KG. Prevalência de sintomas respiratórios e fatores associados: estudo de base populacional em adultos de Lages, Santa Catarina Brasil. Cad Saúde Pública. 2009; 25(9):1907-16.

14. Galdeano LE, Rossi LA, Pelegrino FM. Validação de conteúdo do diagnóstico de enfermagem conhecimento deficiente. São Paulo, Acta Paul Enferm. 2008; 21(4):549-55.

15. Flores PVP, Sobrinho NP, Vernáglia TVC. Nurse´s action in the pain of the cardiac client: a study face the recognition of the nursing intervention. J. Rio de Janeiro. Res: Fundam Care. 2013; 5(4):716-26.

16. Guedes NG, Lopes MVO, Cavalcante TF, Moreira RP, Araujo TL. Revisão do diagnóstico de enfermagem Estilo de vida sedentário em pessoas com hipertensão arterial: análise conceitual. Rev Esc Enferm USP. 2013; 47(3):742-9.

17. Andrade LZC, Moura KKM, Chaves DBR, Silva VM, Lopes MVO. Desobstrução ineficaz das vias aéreas em crianças com infecção respiratória aguda. Rev Eletr Enf. 2014; 16(1):21-7.