The analysis of activities not performed by the nursing team regarding the diagnosis of ineffective breathing pattern in the elderly*

ANÁLISE DE ATIVIDADES NÃO REALIZADAS PELA EQUIPE DE ENFERMAGEM PARA O DIAGNÓSTICO PADRÃO RESPIRATÓRIO INEFICAZ EM IDOSOS

ANÁLISIS DE ACTIVIDADES NO REALIZADAS POR EL EQUIPO DE ENFERMERÍA PARA EL DIAGNÓSTICO PATRÓN RESPIRATORIO INEFICAZ EN ANCIANOS

Agueda Maria Ruiz Zimmer Cavalcante¹, Adélia Yaeko Kyosen Nakatani², Maria Márcia Bachion³, Telma Ribeiro Garcia⁴, Daniella Pires Nunes⁵, Patrícia Silva Nunes⁶

 abstract

The objective of this cross-sectional, descriptive study was to identify the activities of the Nursing Intervention Classification considered as priorities for an Ineffective Breathing Pattern and not performed for elderly inpatients of a teaching hospital in the state of Goiás. The study participants were 43 nursing professionals, and data collection was performed in the period spanning October to December 2008, after receiving approval from the Ethics Committee. It was observed that among the 67 activities considered to be priorities for the referred diagnosis, only seven were performed by all of the participants; the other activities, with a varied frequency, were not performed, with the main reason cited being that a professional from a different area completed the activity. It is understood that the fact that the nursing staff does not perform these activities can cause lack of complete coverage in nursing care; therefore there is a need for a legal apparatus to describe the activities that comprise professional practice exclusive to nursing personnel and those activities that have an interdisciplinary nature.

DESCRIFTORS
Aged
Respiratory system
Nursing diagnosis
Nursing care
Classification

RESUMEN
Estudio transversal, descritivo, que objetivó identificar las actividades de Clasificación de Intervenciones de Enfermagem consideradas prioritarias para Padrão Respiratório Ineficaz y no realizadas para pacientes idosos, internados en un hospital escola do estado de Goiás. Participaram do estudio 43 profesionales de enfermeria y a coleta de dados foi realizada no período de outubro a dezembro de 2008, após aprovação pelo Comitê de Ética. Observou-se que, dentre as 67 atividades consideradas prioritárias para o referido diagnóstico, sete eram realizadas por todos os participantes; as demais, com frequência percentual variada, não eram realizadas, sendo o motivo principal para isto sua execução por profissional de outra área. Entende-se que a não realização destas atividades pela enfermagem pode resultar em alterações no campo de abrangência da assistência de enfermagem; que há necessidade de aparato legal na descrição das atividades que compõem a prática profissional exclusiva da enfermagem e a de natureza interdisciplinar.

DESCRITORES
Idoso
Sistema respiratório
Diagnóstico de enfermagem
Cuidados de enfermagem
Classificação

DESCRITORES
Anciano
Sistema respiratorio
Diagnóstico de enfermería
Atención de enfermería
Clasificación

*Taken from the thesis "Nursing interventions for “ineffective breathing pattern” in elderly patients", Graduate Nursing Program, Universidade Federal de Goiás, 2009. M.Sc. in Nursing, School of Nursing, Universidade Federal de Goiás. Ph.D. student, Graduate Nursing Program, Escola Paulista de Enfermagem, Universidade Federal de São Paulo. Nurse, Hospital das Clínicas, Universidade Federal de Goiás. Goiânia, GO, Brazil. enf_agueda@yahoo.com.br °RN, Ph.D. in Nursing, Associate Professor, School of Nursing, Universidade Federal de Goiás. Goiânia, GO, Brazil. adeliafen@gmail.com °RN, Ph.D. in Nursing, Full Professor, School of Nursing, Universidade Federal de Goiás. Goiânia, GO, Brazil. mbachion@fen.ufg.br °RN, Ph.D. in Nursing, Adjunct Professor IV, Public Health Nursing and Psychiatry Department, Graduate Nursing Program, Centro de Ciências da Saúde, Universidade Federal da Paraíba. João Pessoa, PB, Brazil. telmagarciapia@gmail.com °RN, Ph.D. student in Public Health, University of São Paulo. São Paulo, SP, Brazil. dpiresnunes@yahoo.com.br °Undergraduate Nursing Student, Universidade Federal de Goiás. Goiânia, GO, Brazil. patriciasn_gyn@hotmail.com

Received: 11/26/2010
Approved: 11/06/2011

Rev Esc Enferm USP 2012; 46(3):601-8
www.ee.usp.br/reeusp/
**INTRODUCTION**

In recent years, studies have been developed that use classification systems for Nursing practices, observing a trend towards the use of those systems that reflect clinical diagnoses, interventions and outcomes\(^{(1-4)}\).

In this context, the Nursing Intervention Classification – NIC stands out, because it comprises broad interventions of nursing practice, can be associated with the NANDA-I taxonomy and including different aspects of practice. It is applicable in hospital and outpatient practice, in home care, at primary health care units, in the individual, family and group context, permitting its use during the full range of nursing care\(^{(5)}\).

The nurses can start these interventions in response to a nursing diagnosis, or another professional can start them, after which the nurse and/or nursing team puts them in practice. Hence, they are defined as interventions that are independent, interdependent and dependent on other professionals\(^{(6)}\).

In the health work process, it is recommendable for professionals to work independently and complementarily, permitting activity adjustments that will improve the clinical conditions of the clients under their care. Thus, the activities the nurses prescribe should be significant for the established therapy and benefit who receives them\(^{(7)}\).

It is important for nurses to accurately identify the clinical signs that will guide the choice of NIC interventions in advance, which can be selected based on the specificity level criterion\(^{(8)}\). That is, in view of a nursing diagnosis, three different intervention groups can be selected: essential or priority interventions for the modification and/or minimization of the human response (interventions in line with the defining characteristics and related factors); suggested interventions (necessary, but less relevant for the identified diagnosis); and additional or optional (applied to specific patients only)\(^{(9)}\).

In a study that identified that interventions nurses practiced at a Pediatric Intensive Care Center (PICC) for the nursing diagnosis “Ineffective airway clearance related to the presence of an artificial airway”, it was considered that the activities performed for the interventions the NIC proposes are applicable and picture what the nursing team has practiced\(^{(10)}\).

In practice, however, it is observed that the nursing team does not practice many of these activities. A study developed at a hospitalization unit to identify the interventions nurses practiced revealed that direct care is sporadically performed and characterizes more complex procedures, as most actions these professionals develop are related to bureaucratic activities or necessary for other professionals’ performance\(^{(11)}\). In another study, the same authors observed that nurses remain unable to prioritize essential nursing activities, performing actions they can and should delegate to others\(^{(12)}\). This fact is concerning as, when people present conditions that demand nursing interventions and these are not performed, this puts the users’ health at risk.

The population groups nursing attends include elderly patients. Literature calls attention to the need for health professionals to prepare themselves to see to this segment’s health needs\(^{(13-15)}\).

Studies indicate that *Ineffective Breathing Pattern* is one of the most prevalent nursing diagnoses among elderly patients in the hospital context\(^{(16-18)}\).

Among the main activities nursing performs concerning elderly patients with breathing problems, the following stand out: assessment of breathing depth, pattern and sounds, skin color, cough and pulmonary secretion reflexes; pulmonary flow monitoring and measurement, assessing the quantity of air that is inspired and expired, and the effectiveness of bronchodilators and nebulizers used. It is highlighted that patient education and orientation represent important nursing care\(^{(19)}\).

One study\(^{(20)}\) observed that patients with breathing alterations always present *Ineffective Breathing Pattern* and considered that this diagnosis precedes the development of overlapping diagnoses due to clinical worsening. In elderly patients, the presence of this diagnosis becomes more concerning, as total organic functioning capacity in this population decreases. Nursing interventions for elderly patients with *Ineffective Breathing Pattern* are relevant for the problem-solving ability of nursing activities, so as to avoid the emergence of other diagnoses and minimize the number of hospitalizations, frequently observed in this age range.

Nursing interventions for elderly patients with *Ineffective Breathing Pattern* are relevant for the problem-solving ability of nursing activities, so as to avoid the emergence of other diagnoses and minimize the number of hospitalizations, frequently observed in this age range. It is believed that the identification of this diagnosis in this population, as well as the implementation of interventions that modify this response, can avoid the need to use health services that comprise greater complexity levels, which can solve problems even at the primary care level.

It is in this context that the interest in studying priority NIC activities for this nursing diagnosis emerged. In a study, those activities were identified which nursing professionals identified as NIC priorities for this diagnosis in the hospital context, which permitted knowledge about the reach and range of the actions and responsibilities Nursing develops in this context. It was perceived in that research that nursing indicates activities it finds important, but which are not performed\(^{(11)}\).

Thus, we justify this study, which focuses on the activities the nursing team does not perform for the nursing diagnosis *Ineffective Breathing Pattern* in care for the elderly population decreases.
elderly. Knowing what actions are absent from nursing practice in care delivery to this diagnosis in elderly patients can contribute to reflect on clinical nursing practice in elderly care, and on the quality and problem-solving ability of care delivery.

**OBJECTIVE**

To identify priority NIC activities for the nursing diagnosis *Ineffective Breathing Pattern* the nursing team does not perform in care delivery to elderly patients and to analyze the reasons for their non-accomplishment.

**METHOD**

A descriptive study was developed at the Medical Clinic of a large teaching hospital in the State of Goiás. The sample comprised nursing professionals who worked at the sector. Inclusion was based on having worked at the Medical Clinic for more than six months. This period was determined because it is considered the minimum period for professionals to experience care at the sector for elderly people with the diagnosis of interest to the study. After clarifications about the research, the professionals were invited to participate through the signing of the informed consent term. The study received approval (Protocol No. 007/09) from the Institutional Review Board of the Hospital das Clínicas at Universidade Federal de Goiás.

Data collection took place between October and December 2008 through the application of a checklist questionnaire. All activities that corresponded to priority interventions for *Ineffective Breathing Pattern* – Asthma Control, Breathing Monitoring and Airway Control – were listed. The participant answered whether the activity was accomplished or not in care delivery to elderly patients with the diagnosis under analysis and, when proper, justified the reason for its non-accomplishment, marking one of the alternatives: *activity performed by another professional, the service does not have means for its accomplishment and I don’t know what this is about*.

At the time, the nursing team at the Medical Clinic of the study hospital consisted of 55 professionals. One professional in this group had been working at the sector for less than six months, and ten were not contacted during three consecutive visits because they were on holiday, on leave or had repeatedly switched shifts. Thus, out of 44 invited professionals, 43 accepted (78.18% of the population), with seven nurses and 36 nursing technicians.

The collected data were inserted in Statistical Package for the Social Sciences for Windows®, version 16.0, and analyzed according to simple and percentage frequencies.

**RESULTS**

The female gender predominated, with the group between 31 and 40 years as the most frequent age range and finished secondary education as the main education level, which is a minimum requirement for nursing technicians. It is highlighted though, that part of them were taking a higher education program or had already obtained an undergraduate degree and were even taking a specialization program. All participants reported experience in adult and elderly care delivery, including respiratory problems. Most (58.2%) of these professionals had been working in the sector for more than one year and 25.6% for more than 10 years.

As for the 67 activities present in the NIC priority interventions for *Ineffective Breathing Pattern*, which the participants analyzed, all of them indicated that seven of these were performed. These correspond to activities that are commonly present in medical prescriptions, such as bronchodilating medication administration, aerosol treatment, oxygen therapy and positioning, i.e. dependent or basic activities, which both technicians and nurses perform.

The participants also agree that ten activities are not performed, as displayed in Table 1.

**Table 1 – Activities the nursing team does not perform, with 100% frequency, and distribution according to reason for non-performance - Goiânia, 2009**

<table>
<thead>
<tr>
<th>Activities not performed</th>
<th>Reasons for non-performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Obtain spirometry measures (FEV1*, FVC*, FEV1/FVC ratio) before and after the use of short-acting bronchodilators.</td>
<td>Reason 1</td>
</tr>
<tr>
<td>5. Monitor peak expiratory flow (PEF), if adequate.</td>
<td>9.3%</td>
</tr>
<tr>
<td>6. Educate patient about use of peak expiratory flow meter at home.</td>
<td>7.0%</td>
</tr>
<tr>
<td>30. Insert artificial airway into oro/nasopharynx, as adequate.</td>
<td>9.3%</td>
</tr>
<tr>
<td>31. Perform thorax physiotherapy, as adequate.</td>
<td>--</td>
</tr>
<tr>
<td>35. Help with incentive spirometer, as appropriate.</td>
<td>--</td>
</tr>
<tr>
<td>40. Administer treatment using an ultrasonic nebulizer.</td>
<td>39.5%</td>
</tr>
<tr>
<td>42. Remove foreign bodies with McGill Forceps when adequate.</td>
<td>14.0%</td>
</tr>
<tr>
<td>54. Monitor pulmonary function test results, particularly vital capacity, maximum inspiratory volume, forced expiratory volume in one second, forced expiratory volume/forced vital capacity, as available.</td>
<td>7.0%</td>
</tr>
<tr>
<td>67. Prescribe and/or renew asthma medication.</td>
<td>--</td>
</tr>
</tbody>
</table>

* FEV1 (forced expiratory volume in one second); * FVC (forced vital capacity). Reason 1 - The service does not have the resources needed for its accomplishment. Reason 2 – Activity performed by another professional. Reason 3 - I do not know what this activity is about.
It is observed that they considered the fact that another professional performed this activity as the main reason for non-performance of these activities, except for activity 40 “Administer treatment using a ultrasonic nebulizer”, justified by the non-availability of material for its accomplishment in the sector (39.5%) or by not knowing what this activity was about (39.5%).

Non-performance frequencies for the other fifty activities under analysis varied. Due to the large number of activities, only those scoring ≥ 60% were presented.

Activities were divided by professional category to identify professionals’ activities and the reasons for non-performance.

![Figure 1](image1.png)

**Figure 1** – Distribution of activities the nursing technicians did not perform, with frequencies ≥ 60%, according to the reason for non-accomplishment - Goiânia, 2009

The predominant reason for the nursing technician’s non-performance of these activities was their practice by another professional.

![Figure 2](image2.png)

**Figure 2** - Distribution of activities the nurses did not perform, with frequencies ≥ 60%, according to the reason for non-accomplishment - Goiânia, 2009

Among the activities the nurses did not perform, non-performance frequencies for six were ≥ 60%.
The predominant reasons for non-performance were performance by other professionals and non-availability of resources at the service/institution.

**DISCUSSION**

Professionals should thoroughly study and improve nursing interventions, working not only towards empowerment, but mainly to improve individual health.

In the elderly population, the situation is urgent, in view of high rehospitalization levels within a period of up to one year, which may be related with weak health conditions and with the problem-solving ability of the previously received care\(^{(9)}\).

The NIC considers the activities under analysis as priorities. They are necessary and fundamental for people with the diagnosis focused on. Thus, out of 67 NIC priority activities for Ineffective Breathing Pattern, the nursing technicians indicated that 16 were not performed, with frequency levels ≥ 60%, while the nurses indicated 06 with the same frequency levels. Both professional categories agreed that 10 activities were not performed in 100% of cases.

Most of these activities nursing did not perform were indicated as actions another professional category performs. Some of the NIC activities describe actions uncommon to nursing practice in the study context, as evidenced in participants' reports, who are unfamiliar with activities related to the use of spirometers and other equipment (activities 4, 5, 6, 35, 40, 42 and 54).

Some of these activities refer to the accomplishment of the respiratory function measure test. This activity is important as, in elderly people, most pulmonary functional capacity levels have dropped. This fact can also be observed in individuals who smoked or are smokers. Thus, it is observed that pulmonary volumes vary according to gender, age, accomplishment of physical exercise or not, posture and weight. Therefore, knowledge about and early identification of pulmonary volumes and capacities can prevent, diagnose and/or quantify pulmonary/ventilatory problems and disorders, contributing to change habits and select interventions to benefit these individuals\(^{(16)}\).

Activities 30 and 67 refer to orotracheal intubation and the prescription or renewal of asthma medication, respectively. In the Brazilian nursing context, legally, these are exclusive medical activities, except in cases established by law, like some public health problems or institutional protocols. Only the medical team performs these activities in the study scenario, as expected. On the other hand, orotracheal intubation is not common in elderly patients with the study diagnosis at the hospital sector under analysis.

The NIC activity Perform thorax physiotherapy, as appropriate does not refer to specific physiotherapy activities, as various activities that enhance adequate ventilation, through special techniques, can be considered as respiratory physiotherapy, including: position changes to mobilize secretion, airway clearance, aspiration and nebulization.

NIC includes a specific intervention called Respiratory physiotherapy, defined as: help to the patient to move secretions from the peripheral to the more central airways with a view to expectoration and/or aspiration\(^{(10)}\). This intervention refers to broader activities that, when described, are recognized in nursing practice. This fact is better perceived when analyzing activity 55 in Figures 1 and 2 start respiratory physiotherapy treatments (e.g. nebulization, if necessary). This reveals the need to adapt the names of some activities in this classification with a view to better use and understanding in Brazilian nursing.

In the work routine, the nursing team performs some of these activities, as these are acknowledged as part of nursing work and have been accomplished in the history of the profession, like in the case of percussion. A study emphasizes the need for nurses’ direct action in care delivery to patients with respiratory problems and who need physiotherapy, spirometry, among other types of care\(^{(11)}\). In elderly patients, this need is maximized as, during pathological processes, individuals present related factors and typical defining characteristics that compromise health more, deriving from the organism’s association in response to biological aging and senility\(^{(13)}\). Therefore, nursing should prescribe and perform the respiratory exercises the NIC describes as respiratory physiotherapy with elderly patients, constantly assessing the improvements produced.

It is important to take into account care comprehensiveness, observing individuals as holistic beings with multiple needs. Articulation with the patient’s singularity shows to be fundamental in nursing care practice though. Nurses increasingly need to put in practice and diversify direct actions oriented towards individuals’ observed needs and which act as human response modifiers\(^{(5,17)}\).

In Figure 1, it is observed that activities 18, 19, 21, 49, 50, 51, 53 and 62 are part of the physical examination. Each of these activities is useful to identify complications and/or new problems, permitting the implementation of new nursing activities or interventions. These activities demand professionals with comprehensive knowledge about inspection, palpation, percussion and auscultation techniques, which permit decision making when performed correctly and associated with clinical knowledge\(^{(18)}\).

Accompanied by the necessary skills, these activities will contribute not only to the identification of relevant clinical information, but also to the implementation of nursing interventions and the identification of probable causes, besides permitting stronger bonds between professionals and patients, enhancing credibility and trust between nurses and patients and also permitting comparisons among patients’ clinical repercussions in view of the disease\(^{(18)}\). In that sense, nursing technicians are not
expected to perform these activities, which need theoretical and practical knowledge, based on scientific foundation, specifically aiming to achieve safer activities in the elaboration of patient care plans.

Most nursing technicians answered that another professional category performs that activity. The non-performance percentages for these procedures are as expected, as these procedures are not part of these professionals’ competences and attributions.

The main physiological pulmonary function alterations aging entails are: impairment of gaseous exchange efficiency, decreased pulmonary compliance and reduced respiratory muscle strength, decreased oxygen transporation to tissues, accompanied by a reduced cardiac debit, body muscle mass, alveolar volume and ventilation/perfusion ratio. Therefore, nurses are responsible for recognizing these changes during the physical examination and selecting interventions to improve respiratory conditions within the limits expected for this age.

In Figure 2, it is observed that frequency levels for activities 50 and 62 were also ≥ 60%. According to the nurses, the predominant reason for this was the unavailability of resources needed for their performance. For those participants who indicated non-performance, the justification was lack of time, high levels of patient demands at the institution in comparison with the small number of available staff members, who limit themselves to fundamental activities to guarantee the service’s continuity.

A study developed at a teaching hospital to identify prevalent nursing diagnoses in elderly patients and compare them with hospitalization time evidenced the presence of Ineffective Breathing Pattern as the fourth most cited among sixty-two identified diagnoses. For this diagnosis, the predominant prescription was to watch over the breathing pattern.

Watching over means constant monitoring and observation of the patient’s health condition, and can happen on the occasion of the physical examination. The NIC prioritizes similar activities for this diagnosis. It is observed that activities number 63 (Monitor thorax x-ray reports) and 58 (Observe changes in SaO2 and SvO2) were associated with performance by another professional category in the nursing technicians’ answers. Both categories mentioned the first activity, while only the technicians mentioned the second.

Observations of changes in arterial gases can be accompanied by clinical alterations in the breathing patterns as well as systemic alterations, such as decreased consciousness level caused by excess CO2, frequently observed in this age group.

Nurses generally perform these activities, which are uncommon in nursing technicians’ education. In this study, it was noticed that the nurses monitor the results of the patients’ laboratory tests, observing improvements and worsening during the hospitalization process.

Authors emphasize the importance of recognizing interventions that reveal better results for a given problem, as well as interventions that are usually performed in this professional’s activity areas or specialties. The possibility of identifying these nursing interventions allows them to modify the human response when they are put in practice.

In that sense, activity 22, observed in Figures 1 and 2, is considered necessary for elderly patients with breathing problems. Aging reduces effectiveness in the removal of residues and in airway humidification, thus contributing to the accumulation of secretion and decreased efficient ventilatory capacity. Hydration enhances the fluidification of secretions, contributing towards mobilization and expectoration.

The professional categories manifested different reasons for not performing this activity. According to some professionals, a category directly involved in nutrition should perform this activity. At the study sector, the presence of professionals with nutritional assessment and prescription skills for hospitalized patients is uncommon.

Concerning activity number 15, most reported that, frequently, either the physician or Medical, Nursing, Nutrition and Psychology students performed this under the teacher’s supervision. This fact should arouse nurses’ concern, as this is an important activity to put in practice care in the development of the data collection, nursing diagnosis, care planning and implementation phases. This can reflect the absence of nursing care organization that is more directed at each patient’s singularities, based on the Nursing process and in accordance with the law that regulates professional practice. Based on the non-performance of these activities, it is inferred that other actions, also important to modify the patient’s health condition, are not performed either.

A study developed to identify the activities nurses developed at a hospital institution considered that many professionals have practiced actions based on the routine established at the sector, disclosing little effort to innovate and/or improve their work.

The health actions put in practice during hospitalization should consider comprehensive elderly care, including curative and health promotion actions. Besides, the reality the person lives in should be taken into account, thus providing for care planning in accordance with his/her needs, so that, after discharge, the elderly adopt healthy measures learned during the hospitalization process and avoid rehospitalizations.

It is considered that the important activities nurses perform include the assessment of the person’s health and the implementation of interventions needed to change the clinical situation. In general, many activities are developed in partnership with other professional
categories and reflect the complementariness and interdependence of different agents active in care delivery. (3)

Absence from the performance of certain activities distances the nursing team, including the nurse, from relevant and useful information to monitor and change nursing care planning, with a view to achieving results. (8)

Another negative aspect observed refers to this professional’s distancing from discussions and clinical decision making together with other professionals, which would contribute to gain visibility and noteworthiness in the interprofessional team.

CONCLUSION

As a part of NIC priority activities for the diagnosis Ineffective Breathing Pattern in elderly people, it is considered that nurses’ non-performance of certain activities can result in important gaps in the problem-solving ability of nursing care, as well as non-performance by other nursing team members, as it is the nurse who prescribes what care the individual needs.

In all activity groups that were not performed, the performance of these actions by other professionals was the predominant reason for not doing them. In the context, however, imprecisions are perceived among participants as to what activities other professionals legally can and should practice. Hence, the need for legal support is highlighted in the description of nursing practice activities, in view of the relevant need to describe them and better define nursing team members’ work, thus delimiting the actions they perform. Also, the need emerges to assess, among priority nursing interventions for Ineffective Breathing Pattern, which activities are truly fundamental for care delivery to elderly patients with this diagnosis.

Interdisciplinarity should be taken into account, as well as bonding with other professionals, which can contribute to the treatment patients receive and enhance nurses’ credibility among professionals and patients with regard to care prescription.

The activities nursing does not perform for elderly patients with Ineffective Breathing Pattern permit the emergence of other diagnoses that aggravate the patient’s clinical condition, extend hospitalization and minimize the patient’s health.

From another perspective, not using some actions permits the strengthening of other professionals’ clinical activities in areas Nursing has historically occupied, which can entail changes in the range of nursing care. In the future, this can lead to changes in the scope of the profession’s domain.

REFERENCES


