

## NURSING PROCESS: FROM LITERATURE TO PRACTICE. WHAT ARE WE ACTUALLY DOING?<sup>1</sup>

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Pokorski S, Moraes MA, Chiarelli R, Costanzi AP, Rabelo ER. Nursing process: from literature to practice. what are we actually doing?. Rev Latino-am Enfermagem 2009 maio-junho; 17(3):302-7.

*Objectives: To describe the steps of the nursing process as prescribed in the literature and to investigate the process as actually applied in the daily routine of a general hospital. Methods: Cross-sectional retrospective study (May/June 2005), performed in a hospital in Porto Alegre, RS. Medical records of adult patients admitted to a surgical, clinical or intensive care unit were reviewed to identify the nursing process steps accomplished during the first 48h after admission. The form for data collection was structured according to other reports. Results: 302 medical records were evaluated. Nursing records and physical examination were included in over 90% of them. Nursing diagnosis was not found in any of the records. Among the steps performed, prescription was the least frequent. Evolution of the case was described in over 95% of the records. Conclusions: All nursing steps recommended in the literature, except for diagnosis, are performed in the research institution.*

*DESCRIPTORS: nursing process; nursing care; nursing diagnosis*

## PROCESO DE ENFERMERÍA: DE LA LITERATURA A LA PRÁCTICA. ¿QUÉ ESTAMOS HACIENDO, DE HECHO?

*Objetivo: describir los pasos del proceso de la enfermería descrito en la literatura e investigar como este es realizado en la rutina diaria de un hospital general. Métodos: Estudio transversal retrospectivo (mayo/junio 2005) realizado en Porto Alegre, RS. Fueron revisadas fichas de pacientes adultos admitidos en unidades quirúrgicas, clínicas y unidades de terapia intensiva con la finalidad de identificar los pasos del proceso de enfermería realizados durante las primeras 48 horas de la admisión. El instrumento de recolección de datos fue elaborado de acuerdo con la literatura. Resultados: 302 fichas fueron evaluadas. Los registros de enfermería y examen físico estaban descritos en más de 90% de las fichas revisadas. El diagnóstico de enfermería no fue encontrado en ninguna de las fichas. Entre los pasos realizados en el proceso, la prescripción fue el menos frecuente. La evolución de los pacientes fue registrada en más de 95% de los fichas. Conclusión: Todos los pasos recomendados en la literatura, excepto el diagnóstico de enfermería son realizados en la institución investigada.*

*DESCRIPTORES: procesos de enfermería; atención de enfermería; diagnóstico de enfermería*

## PROCESSO DE ENFERMAGEM: DA LITERATURA À PRÁTICA. O QUÊ DE FATO NÓS ESTAMOS FAZENDO?

*Objetivo: descrever os passos do processo de enfermagem descrito na literatura e investigar como este é realizado na rotina diária de um hospital geral. Métodos: Estudo transversal retrospectivo (maio/junho 2005) realizado em Porto Alegre, RS. Foram revisados prontuários de pacientes adultos admitidos em unidades cirúrgicas, clínicas e unidade de terapia intensiva para identificar os passos do processo de enfermagem realizados durante as primeiras 48 horas da admissão. O instrumento de coleta de dados foi elaborado de acordo com a literatura. Resultados: 302 prontuários foram avaliados. Registros de enfermagem e exame físico estavam descritos em mais de 90% dos prontuários revisados. O diagnóstico de enfermagem não foi encontrado em nenhum dos prontuários. Entre os passos realizados do processo, a prescrição foi a menos frequente. A evolução dos pacientes foi registrada em mais de 95% dos prontuários. Conclusão: Todos os passos recomendados na literatura, exceto o diagnóstico de enfermagem são realizados na instituição pesquisada.*

*DESCRITORES: processos de enfermagem; cuidados de enfermagem; diagnóstico de enfermagem*

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## INTRODUCTION

The nursing process is a widely accepted method and has been suggested as a scientific method to guide procedures and qualify nursing care. More recently, the process has been defined as a systematic and dynamic way to deliver nursing care, operating through five interrelated steps: assessment, diagnosis, planning, implementation and evaluation<sup>(1-2)</sup>.

According to current American and Canadian practice standards, nursing practice demands the efficient use of the nursing process and professional participation in activities that contribute to the permanent development of knowledge about this methodology<sup>(2)</sup>.

There is a demand to establish the nursing process in practical care in every health institution, within hospitals as well as in the community as a whole. The nursing process should be established in care practice at all health care institutions, in hospitals as well as in the community as a whole<sup>(3)</sup>.

In practice, however, not all steps are systematically implemented. Studies have revealed difficulties in establishing and using the nursing process within institutions during the last years, in Brazil and in other countries<sup>(4-7)</sup>.

A study conducted in Europe to test the establishment of a validated model of nursing records aimed to promote individual care. The results showed limitations of the nursing process conducted according to the model, particularly in the identification of problems presented by the patients and, consequently, diagnosis and the possible intervention procedures. A study conducted in the United Kingdom to assess whether data obtained from nursing records could be reliably used to identify interventions for patients who had suffered acute myocardial infarction or a fracture of the head of the femur, showed that the analyzed nursing records did not provide an adequate picture of patients' needs for nursing interventions<sup>(8)</sup>. Similar results were reported by others authors<sup>(4)</sup>.

A recent investigation of the steps of the nursing process actually implemented in the routine of a university hospital showed that all phases were performed. However, problems were identified in the nursing diagnosis process, involving recording the history and implementing nursing prescriptions. The evolution of expected results, in particular, was not adequately recorded<sup>(9)</sup>.

Specifically seeking to investigate the phases of the nursing process performed in the care practice of a university hospital in Brazil, the authors identified the implementation of all stages. However, the existence of failures was shown among the nursing diagnoses in the patients' history, as well as the implementation of nursing prescriptions without recording the evolution of the expected results<sup>(9)</sup>. Similar results were also shown in a study published in 2006 during the implementation of the nursing diagnosis, in which the research subjects indicated difficulties in developing the nursing process at all stages, and the need for changes to speed up the work process and optimize the quality of actions in care and education<sup>(7)</sup>.

Effective implementation of the nursing process leads to improved quality of care and stimulates the construction of theoretical and scientific knowledge based on the best clinical practice. Aiming at collecting information to improve the nursing care currently provided, we performed a cross-sectional retrospective study to compare the steps of the nursing process, as actually implemented in the daily routine of a general hospital, with those recommended in the literature.

## METHODS

This cross-sectional retrospective study was based on data obtained from medical records of patients within the first 48 hours after admission to surgical, clinical or intensive care units. The study was conducted during May and June 2005, in a medium-sized general hospital in Porto Alegre, Rio Grande do Sul, Brazil and included data recorded during the second semester of 2004. Records of patients over 18 years old, admitted for clinical or surgical treatment, with at least 48 hours of hospitalization in surgical, clinical, or intensive care units, were included in the study. Data obtained for patients in the three different units were compared to evaluate the implementation of the nursing process by nurses allocated to those wards at the same hospital. The form used for data collection was based on reports in the literature<sup>(2)</sup> and includes data on the health history and complete physical examination. In this study, we defined that a systematic "head-to-toe" physical assessment<sup>(2)</sup> should be performed upon admittance and daily during the hospitalization period. Data were collected by the same professional (S.P.),

who is the nurse in charge of the continued education program at the institution.

This study was approved by the Research Ethics Committee of the institution, and due to the impossibility of obtaining informed consent from all the patients, a consent term for use of the data was obtained from medical records.

#### Statistical analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) 12.0. Categorical variables were described as relative frequency (%), and compared with the chi-square or Fisher exact

tests, followed by standardized adjusted residuals. Quantitative variables were presented as mean and standard deviation and, when crossed with polytomic categorical variables, were analyzed by ANOVA, followed by Tukey's test.

## RESULTS

A total of 302 records of patients admitted to surgical, clinical or intensive care units (ICU) were analyzed. ICU patients were older and were hospitalized for longer periods than patients from other units. These results are presented in Table 1.

Table 1 – Characteristics of the sample. Porto Alegre (RS), 2005

	Surgical unit	Clinical unit	Intensive care unit	P - value
Patients (n)	105	99	98	
Age (years)	57 ± 18 <sup>a</sup>	66 ± 19 <sup>b</sup>	72 ± 16 <sup>c</sup>	<0.001
Period of hospitalization (days)	6,33 ± 4.30 <sup>a</sup>	10.61 ± 8.50 <sup>b</sup>	26.06 ± 33.50 <sup>c</sup>	<0.001
Male gender n (%)	39 (37.0)	41 (41.4)	53 (54.1)	0.043

<sup>a, b, c</sup> difference between mean (Tukey's test). Quantitative variables expressed as mean ± standard deviation and categorical variables expressed as n (%)

#### Steps of the nursing process

Nursing records, although incomplete, were generally available. The results observed for each unit are described in Table 2. Investigation was performed in more than 90% of the cases in all units. Physical examination, although not as complete as recommended in the literature, was described in 98.7% of the records. Using the taxonomy language of the North American Nursing Diagnosis<sup>(10)</sup>, we defined the description of actual or potential health problems in the patient's medical records as DE.

Among the nursing process steps implemented, nursing prescription was the least frequently performed during the first 48 h of hospitalization in all groups (74.8%), particularly in surgical and clinical units; evolution was described in more than 97% of the records.

Table 2 - Steps of the nursing process registered in the records. Porto Alegre (RS), 2005

	Surgical unit n=105	Clinical unit n=99	ICU n=98	*P
History	97 (92.4)	94 (94.9)	97 (99.0)	0.049
Physical examination	103 (98.1)	98 (99.0)	97 (99.0)	0.000
Prescription	71 (67.6)	61 (61.6)	94 (95.9)	< 0.001
Evolution	104 (99.0)	97 (98.0)	95 (96.9)	0.545

Categorical variables expressed as n (%). \*Chi-Square Test.

#### Investigation

Table 3 details the items more frequently observed in the history of patients. Data related to skin colour, occupation, religion, main complaint, family and social history, habits of life- sleep and rest, physical activity and eating habits - were not different between the three units evaluated, and are not shown. Data for identification of the patient were not included in 21% of the records from patients in clinical units, differently from ICU records (2%) (P<0.001). Among the records containing this information, the name of the patient was missing in 50.5% of the records from the surgical unit. The main complaint was less registered in records of surgical patients. Only one record of family history was observed among the records analyzed. Only 19.4% of ICU patients' records included information about the drugs being administered to the patient, and life habits were described in only 20.4% of them.

#### Physical examination

We compared the physical examination performed upon admittance, as part of this step of investigation, with the daily physical examination that composes the evolution step. As shown in Figure 1,

the process was similarly conducted during both phases. In these procedures, relatively less

importance was given to the cardiovascular system and mucosas.

Table 3 - Investigation (history) and physical examination. Porto Alegre (RS), 2005

	Surgical unit n=105		Clinical unit n=99		ICU n=98		*P
	n	%	n	%	n	%	
Identification	90	85.7	78	78.8	96	98.0	< 0.001
Name	53	50.5	62	62.6	96	98.0	< 0.001
Age	21	20.0	59	59.6	93	94.9	< 0.001
Gender	9	8.6	31	31.3	2	2.0	< 0.001
Anthropometric data	65	61.9	19	19.2	11	11.2	< 0.001
Complete history of current disease	19	18.1	24	24.2	56	57.1	< 0.001
Incomplete history of current disease	20	19.0	42	42.4	40	40.8	< 0.001
Main complaint	75	71.4	87	87.9	75	76.5	0.014
Previous clinical history	68	64.8	85	85.9	86	87.8	< 0.001
Previous surgical history	72	68.6	62	62.6	53	54.1	< 0.103
Family history	0	0	0	0	1	1.0	0.352
Drugs	89	84.8	77	77.8	19	19.4	< 0.001
Allergies	96	91.4	89	89.9	25	25.5	< 0.001
Blood transfusion	75	71.4	57	57.6	16	16.3	< 0.001
Life habits	94	89.5	91	91.9	20	20.4	< 0.001
Stool habits	94	89.5	85	85.9	20	20.4	< 0.001
Tobacco	90	85.7	79	79.8	15	15.3	< 0.001
Alcohol	74	70.5	64	64.6	11	11.2	< 0.001
Drugs	64	61.9	58	58.6	10	10.2	< 0.001
Complete physical examination	3	2.9	3	3.0	3	3.1	< 0.001

Categorical variables expressed as n (%); \*Chi-Square Test

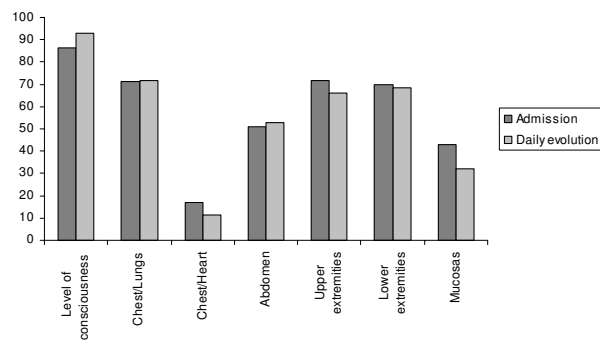


Figure 1 - Comparison of physical examination performed during nursing record upon admission and daily evolution

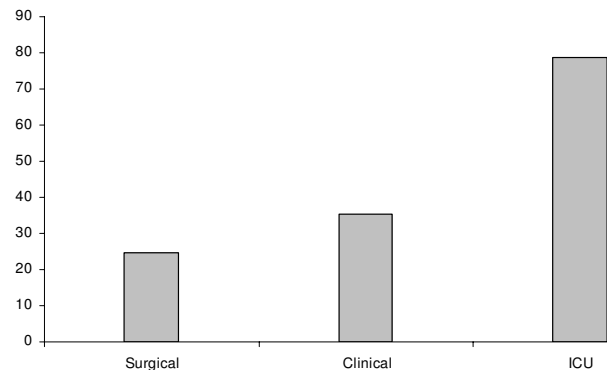


Figure 2 - Priorities established daily in the nursing prescription

### Prescription

Only 25% of the patients in surgical units had a care plan adjusted to their needs, a frequency that was higher in patients in clinical units and more complete in ICU patients. These and other significant results are presented in Figure 2.

### DISCUSSION

The results of the present study agree with previous findings about deficiencies in the practice involved in the implementation of the nursing process. At the institution where this study was conducted, except for the diagnostic step, all other phases of the

nursing process recommended in the literature were performed, although not as completely as expected.

A recent review investigated the relationship between published research results and the nursing process, identifying among published reports a concern with language standards and specific terminology related to methods of this process<sup>(11-12)</sup>. In England, a study about the apparent conflict between the expressions "nursing diagnosis" versus "nursing problem" in the literature showed that this step of the nursing process, which care plans are based on, is a critical phase that corresponds to the final product of data collection and organization<sup>(11)</sup>. A recent American review showed that nursing diagnosis reflects the clinical assessment of the nurse, based on constant surveillance of actions, recognizing risks and monitoring results<sup>(13)</sup>. In a Canadian retrospective study aimed at investigating factors associated with the implementation of nursing diagnoses, the results showed that nurses tend to register a diagnosis at institutions that have a formal program of continuous education and computer-generated care plans<sup>(14)</sup>. In Brazil, a study conducted to investigate the establishment and recording of steps in the nursing process identified the most frequent diagnoses in hospital wards, and showed that a smaller number of recordings were done in the steps relative to nursing diagnosis and evolution. The importance of previous organization of the data collected to allow accurate diagnoses and to qualify nursing care was stressed in this report<sup>(9)</sup>.

As mentioned before, the present study showed deficiencies in data collection for nursing records and absence of the diagnosis step. This deficiency may be due to lack of clinical assessment of the data concerning the history of the patient and physical examination registered by the nurse or, probably, to lack of knowledge on how to use this step during practice at the research institution.

Other deficiencies involving additional information on nursing records included incomplete recording of data, such as identification of the patient, current, previous and family diseases, and physical examination, which was incomplete particularly for the evaluation of mucosa and cardiovascular function. Recording of physical examinations was also deficient, and heart and lung auscultation was not recorded. Physical examination, combined with a record of health history, provides the basis for the implementation of systematization in nursing care. Those elements are critical for the quality of the

nursing process<sup>(15)</sup>. A recent study conducted in Brazil to support the systematization of care at a university hospital showed that the level of undergraduate studies has major consequences for the professional quality of nurses, resulting in a more scientific, organized and systematic approach to health care. These observations stress the importance lecturers responsible for the education of nurses should attribute to the improvement of aspects related to semiology<sup>(16)</sup>. Results obtained in the present study, showing that incomplete physical examination is usual, suggest poor preparation of the nursing team in basic semiology techniques, such as inspection, palpation, percussion and auscultation. Furthermore, we observed that the standard form used at the institution for data collection is deficient regarding nursing records, particularly for more specific information on family history and physical examination. This information is an important contribution to the future implementation of an effective nursing process.

The deficiencies observed concerning the recording of family history would be expected to affect the evaluation of cardiovascular and oncologic diseases among others, but that was not apparent in the present study. Some studies have suggested that difficulties in the complete registration of nursing records are related to the time spent on the task<sup>(9)</sup>. We observed that studies in which nursing records are evaluated for assessment of the steps performed do not investigate data contents<sup>(6,9)</sup>, so that the above results may be attributed to inadequate standardized data collection instruments, which do not contemplate all contents of these steps. In this context, an American study conducted for the evaluation of health care efficiency and its impact on costs and quality of the service showed that a common structure is emerging, representing the essential information concerning care - reference terminologies, information models and computerized standards<sup>(12)</sup>.

At present, it is consensual that the nursing process in Brazil, USA and Canada has developed tools, computerized or not, to implement this methodology in practice. Data reported at the beginning of the 1990's in Europe showed concerns with the validation of tools to establish customized nursing care<sup>(5)</sup>. Electronic records may provide a significant contribution to the successful implementation of the nursing process, particularly if all stages are connected<sup>(17-19)</sup>.

Several factors can interfere in the efficient implementation of the nursing process. Operational difficulties involved in the systematization of nursing care in practice, such as lack of knowledge of the steps involved in the process, excessive number of tasks assigned to the nursing team, poor quality of professional education and insufficient reports on physical examination related to the disease are among these factors. Nursing practice is also frequently linked to the performance of bureaucratic and technical activities, to the detriment of the nursing process<sup>(9)</sup>. When this methodology is not used, problems such as poor quality of care, absence of a systematic activity in service, little recognition of nursing activities within the hospital environment and time loss may result, according to a recent Brazilian study<sup>(1,6,20)</sup>. A recent review of the nursing process systematization indicates that knowledge of the institutional structure, its demands and facilities are basic requirements to begin this challenge<sup>(21)</sup>.

## FINAL CONSIDERATIONS

The present study showed that nursing records and physical examination were conducted in over 90% of the cases. Diagnosis was the only nursing step not registered in any of the records. We observed that physical examination is poorly described, particularly as to the cardiovascular and respiratory systems. These results show that systematization of nursing care at this institution is present in the daily activities of the nursing team. Comparison of the units allowed for the identification of differences in theoretical and practical information, whose lack impaired the implementation of the nursing process. The literature supports the idea that the development of actions based on a theoretical reference framework makes it easier to install and implement the nursing process in care practice at hospital units. Programs to train, improve and update the nurses can thus be implemented immediately. These data are very important for planning future actions in order to implement the nursing process effectively at our and other institutions.

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