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Clinical exams and their implications for the effectiveness of the nursing process

Exame clínico e suas implicações para a efetividade do processo de enfermagem

Examen clínico y sus implicaciones para la efectividad del proceso de enfermería

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The objective was to examine the record of clinical examinations performed by nurses and describe their implications for the effectiveness of PE at a school hospital. It is a descriptive, cross-sectional and documental study. The following items of the form for the registration of clinical exams were verified: patient identification, basic human needs, scales and professional identification. It was observed that of the 371 medical records, three (0.8%) did not include information regarding the identification of the patient. The neurologic state had the greatest percentage of complete information, with 63.3% records filled out properly. Mobility, body care, sleep, and rest showed the highest amount of absent information, 20.8%. 25.3% of records did not identify the professional. The record of clinical examinations performed by nurses is still fallible, presenting a large number of incomplete information and compromising the effectiveness of the nursing process.

Descriptors: Physical examination; Nursing records; Nursing process.

Este trabalho teve por objetivo analisar o registro do exame clínico realizado pelo enfermeiro, e descrever suas implicações para a efetividade do PE em um hospital de ensino. Trata-se de um estudo descritivo, transversal e documental. Verificou-se no formulário os itens para registro do exame clínico: identificação do paciente, necessidades humanas básicas, escalas e identificação profissional. Analisou-se que dos 371 prontuários, três (0,8%) não constava informações quanto a identificação do paciente. A regulação neurológica apresentou maior percentual de informações completas, com 63,3% prontuários preenchidos adequadamente. Mobilidade, cuidado corporal e sono e repouso apresentaram o maior número de ausência de informações com 20,8% formulários em branco. Em 25,3% prontuários não constaram identificação profissional. Conclui-se que o registro do exame clínico realizado por enfermeiros ainda é falho, apresentando grande número de informações incompletas comprometendo a efetividade do Processo de Enfermagem.

Descritores: Exame físico; Registros de enfermagem; Processo de enfermagem.

El objetivo de este estudio fue examinar el registro del examen clínico realizado por enfermeras y describir sus implicaciones para la eficacia del Proceso de Enfermería (PE) en un hospital de enseñanza. Se trata de un estudio descriptivo, transversal y documental. Se verificaron en el formulario los ítems para el registro del examen clínico: identificación del paciente, necesidades humanas básicas, escalas e identificación profesional. Se analizó que, de las 371 historias clínicas, tres (0,8%) no incluyeron información sobre la identificación del paciente. La regulación neurológica presentó mayor porcentaje de informaciones completas, con 236 (63,3%) historias clínicas completadas correctamente. Movilidad, cuidado corporal y sueño y reposo presentaron el mayor número de ausencia de informaciones con 77 (20,8%) formularios en blanco. En 94 (25,3%) de las historias clínicas no hay identificación profesional. Se concluye que el registro del examen clínico realizado por enfermeros sigue presentando imperfecciones, existiendo un gran número de informaciones incompletas comprometiendo la eficacia del Proceso de Enfermería.

Descriptores: Examen físico; Registros de enfermería; Proceso de enfermería.

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INTRODUCTION

The nursing process (NP) is a working method used by nurses that guides their professional actions through methodical and systematic thinking, based on a scientific method for problem solving. It allows the nurse to monitor the evolution of the clients being cared for and to implement interventions based on the best scientific evidence[1].

The NP has five interrelated and interdependent steps: research; nursing diagnosis; planning; implementation and evaluation. The information collected in the first stage is fundamental to accomplish the others. The nursing professional must perform it thoroughly and record the information in a clear, precise and scientific language[2,3].

The research or clinical examination, as the first stage of the NP, should be incorporated into the routine of the professional, because it is an essential tool for the identification of nursing diagnoses and for the effectiveness of the other stages of the NP. For this, the nurses are expected to have technical and scientific competence, interpersonal skills and favorable working conditions, including sufficient materials and human resources[4].

In addition to performing the clinical examination, the nurse must register the management of work processes and the information related to all stages of the NP, which is necessary for the continuity and quality of care. Registration is one of the means by which one demonstrates the assistance provided and enables the evaluation of the quality of care, facilitating professional actions[5].

However, the quality of these records has been widely addressed in the literature. Failures to register information, such as incomplete data records and texts difficult to understand, have been found for years and are still present today, compromising the quality of health care[5-7].

The implementation of the NP, as well as its registration, is still one of the main challenges for health institutions and nursing professionals. Nurses' knowledge limitations, scientific obsolescence, the reduced number of nursing professionals, difficulty to accept changes on the part of the team, lack of credibility among the nursing team members and the interest of management characterize the current scenario[8,9].

In this context, this study aimed to analyze the record of the clinical examination performed by nurses and describe its implications for the effectiveness of the NP in a school hospital.

METHODS

This is a descriptive, cross-sectional and documentary study. The setting was a large School Hospital with 295 hospital beds of the Brazilian Unified Health System (SUS), located in the countryside of Minas Gerais.

The population of the study consisted of records of patients hospitalized in the following adult hospitalization units: Coronary Intensive Care Unit (ICU-C), Adult Intensive Care Unit (ICU-A), Infectious and Parasitic Diseases Unit (UDIP), Neurology, Medical Clinic, Surgical Clinic, Adult Emergency Room (ER-A) and Orthopedics. All units use the same instrument for the nurses to record the data.

Data collection was performed by the researchers and occurred between January and March 2016. The sample was probabilistic and stratified. The data and the statistics of each hospitalization unit were provided by the institution and the average patient/day was calculated, corresponding to a total sample of 371 medical records.

A data collection instrument was built by the researchers and validated by experts to evaluate the completion of the institutional form of registration, named "24-Hour Adult Research Form", the first stage of the Nursing Process. This form is divided in four categories: patient identification, Basic Human Needs (BHN), risk scales and identification of the professional.

In the category "Patient Identification", the following data are included: full name, date of birth, sex, medical record number, ward, bed, hospitalization unit, specialty, date of admission in the sector and medical diagnosis.

The category of BHNs is based on the conceptual model of Wanda Horta[10] and is subdivided into: psychobiological, psychosocial and psycho-spiritual needs. The psychobiological needs include: neurological regulation, oxygenation, cardiovascular regulation, nutrition and hydration, elimination, thermal regulation and cutaneomucous integrity, body care, sleep and rest and mobility. Psychosocial and psycho-spiritual needs assess social interaction, emotional state, level of collaboration, learning, presence of a partner and visits.

These subdivisions include the registration of physical examinations (inspection, auscultation, percussion and palpation), among other important data for the nurses' research.

As for the category of risk scales, the risk for developing a pressure lesion is assessed by filling the Braden scale[11] and the risk for falls using the Morse scale[12]. In the identification of the professional, there are fields for the signature and the stamp of the professional.

The analyzed variables of the form were categorized according to completeness (complete, incomplete or without information); spelling (adequate or inadequate) and readability (yes or no).

The data collected was coded, categorized and typed into a Microsoft Excel® spreadsheet, exported to and processed in the Statistical Package for Social Sciences (SPSS) version 16.0. Calculations included the descriptive analyses, of variability (standard deviation, minimum and maximum), and of central tendency (average and median). The results were organized in graphs and tables.

The research project was approved by the Research Ethics Committee of a public university under number 1,204,786.

RESULTS

371 medical records were evaluated in the eight hospitalization units. The number of charts analyzed in each unit was proportional to the number of beds in each sector, totaling 22 in the ICU-A, 20 in the ICU-C, 77 in the Medical Clinic and the Clinical Surgery, 31 in the Orthopedics, eight in neurology, 20 in the UDIP and 116 medical records in the PSA.

In three (0.8%) records there was no information regarding patient identification. Neurological regulation presented the highest percentage of complete information, with 236 (63.3%) adequately filled out records.

The information of the following BHN subdivisions mobility, body care, and sleep and rest had the highest number of absence of information, all presenting 77 (20.8%) blank forms. Table 1 shows how complete were patient identification, BHNs, risk scales and professional identification.

Table 1. Categories of research forms. Uberaba-MG, Brazil, 2016.

Categories	Information complete		Information incomplete		Without Information	
	n	%	n	%	n	%
Patient Identification	81	21.8	287	77.4	3	0.8
Basic Human Needs (BHN)						
Neurological Regulation	236	63.3	74	19.4	61	16.4
Oxygenation	73	19.7	240	64.7	58	15.6
Cardiovascular Regulation	110	29.6	194	52.3	67	18.1
Nutrition and Hydration	62	16.7	241	65.0	68	18.3
Elimination	71	19.1	234	63.1	66	17.8
Thermal Regulation	117	31.5	187	50.4	67	18.1
Skin and mucous membrane Integrity	117	31.5	187	50.4	67	18.1
Communication and Perception	180	48.5	121	32.6	70	18.9
Body Care, Sleep and Rest	220	59.3	74	19.9	77	20.8
Mobility	154	45.0	140	37.7	77	20.8
Psychosocial and psycho-spiritual	105	28.3	194	52.3	72	19.4
Scales						
Braden	76	20.5	-	-	295	79.5
Morse	72	19.7	-	-	299	80.5
Professional Identification	205	55.3	72	19.4	94	25.3

The form for registering the clinical exams of the nurses in this investigation presented open and closed questions. It was observed that categories composed only of closed questions, such as neurological regulation, body care and sleep and rest, presented more complete information.

As for textual aesthetics, there were no forms with inadequate spelling according to the Brazilian Portuguese grammar. The variables erasures and illegibility were evaluated only in completely filled forms, and none were identified in the professional identifications. Table 2 shows the frequency of erasure and illegibility in the filled forms.

Table 2. Frequency of erasure and illegibility in the registry of the clinical examination of the nurse. Uberaba-MG, Brazil, 2016.

Categories	Erasures		Illegibility	
	n	%	n	%
Patient Identification	28	7.5	10	2.7
Basic Human Needs (BHN)				
Neurological Regulation	10	2.7	00	00
Oxygenation	22	5.9	03	0.8
Cardiovascular Regulation	14	3.8	03	0.8
Nutrition and Hydration	14	3.8	01	0.3
Elimination	17	4.6	01	0.3
Thermal Regulation	19	5.1	03	0.8
Skin and mucous membrane Integrity	14	3.8	01	0.3
Communication and Perception	03	0.8	01	0.3
Body Care, Sleep and Rest	09	2.4	01	0.3
Mobility	10	2.7	00	0.0
Psychosocial and psycho-spiritual				
Scales	02	0.5	-	-
Braden	01	0.3	-	-
Morse	00	0.0	00	0.0

DISCUSSION

Nursing records should be legible, easy to understand, maintain a textual aesthetic, contain complete information on health conditions, procedures performed and patient needs, favoring the continuity of care, as well as being a document that provides legal support to the professional[13].

In this investigation, categories composed of closed questions presented more information. Thus, it can be inferred that forms with structures such as "checklists" or closed questions can optimize the time spent by nurses for registration and favor complete records, thus constituting a strategy for creating adequate nursing records regarding the clinical examinations.

The correct and complete identification of the patient in the record is a relevant action to avoid misunderstandings and possible errors. It is also desirable to record all necessary identification data and to check this information with the patient or caregiver prior to performing any procedure, including clinical examinations, thereby ensuring the patient's safety[14].

The registration of complete BHN information of the patients, in addition to ethically and legally supporting the nurse, provides relevant information to guide nursing interventions and promote professional excellence.

The registry of clinical examinations focused on the need for oxygenation in this study revealed that nurses record only partial information regarding this need. Failure in doing the respiratory exam or incomplete recording of the respiratory pattern, for example, may lead to adverse effects of the patient's clinical condition, also bringing negative impacts on the other stages of the NP, increased hospitalization time, and other complications[15].

A study[16] performed in three ICUs of a public hospital showed the nurses' lack of knowledge regarding ventilatory parameters, in addition to their poor performance in this regard, due to the participation of thephysical therapist. Perhaps this is the reason for incomplete or missing information on oxygenation. However, it is necessary to offer updates and constant training to increase the technical-scientific knowledge of nurses and to make them aware of their performance in this important vital need.

In this study it was possible to identify that nurses do not record complete information about the cardiovascular examination either. To identify the Nursing Diagnosis (ND) "decreased cardiac output," for example, the thorough physical examination is essential for the identification of defining characteristics with high predictive values, as the presence of the third heart sound that is a noninvasive clinical evidence to the aforementioned ED and is assessed by a careful cardiac auscultation[17]. Nurses, ideally, would have the propaedeutic skills to perform the complete physical examination, thus identifying accurate NDs and prescribing resolutive care.

Information related to the needs of nutrition, hydration and elimination were barely registered by the nurses, that is, these needs are not being systematically noted by the professionals. One study[18] has shown that the investigation and complete recording of these needs, besides other complementary parameters, is paramount to perform the calculations of water balance and avoid hydroelectrolytic disorders in critical patients. Therefore, the participation of the nurse is fundamental in the care of patients who present nutritional changes, and they must assess it, implement actions and register informations in a reliable way, guaranteeing the safety and improvement of the patient's condition.

In addition to the physical examination, the interview and interaction between the nurse and the patient is essential to promote an optimal nursing process. The act of communicating allows the patient to express needs that were not identified through physical examination, thus favoring the resolution of nursing care[19].

Communication is the process that involves talking and listening, and from this process there is a construction of therapeutic communication that allows a relationship between nurse and patient to be built, providing an understanding of their history

and their emotions, information that is essential to understand the patients' needs and humanized health care[20].

It is worth mentioning that the registration of the nurse clinical examinations should also consider the comfort of the patient, such as sleep quality and rest. Complaints about sleep are frequent, affect the quality of life and may be an indicator of some diseases, such as cardiovascular disorders[21].

Environmental factors such as noise; physiological ones, such as pain; and psychological ones, such as anxiety, also interfere in the quality of sleep, impairing the treatment process, making it essential to plan nursing interventions to improve comfort during the hospitalization process[22].

In addition to the psychobiological needs, the hospitalization process can alter the psychosocial and psycho-spiritual needs, and therefore, effective nursing actions regarding such needs contribute to ease negative feelings and promote wellbeing during this time. However, there was a lack of information on the theme and a need to increase the attention for these needs. Family support and specific care and attention to spirituality are also essential, as it favors coping with the disease[23].

The results of this study also show the low adherence of nurses in recording information using the Braden[9] and Morse[10] scales. The use of instruments for the evaluation and register of risks of pressure injuries and falls among hospitalized patients subsidizes interventions to prevent such risks and avoids health problems, promoting a better care and minimizing costs.

Among the patient safety goals established by the Brazilian Ministry of Health through the National Patient Safety Program, the evaluation of risks of falls and pressure injuries, among others, is a responsibility of the nurse professional. In diagnostic classifications, results and nursing interventions, such risks have already been described.

Regarding the professional identification, in legal documents[24], it is determined that after each registration, the nursing professional must identify themselves completely, that is, with their name, professional category and the registration number from the regional council.

The results of this study show flaws in the professional identification process, generating concerns and raising questions sa to the reasons for the non-compliance with the legislation. In addition, scientific literature shows that the absence of professional identification may compromise patient safety[25].

Clear and readable nursing records, as well as complete professional identifications, must be adopted by professionals in a way that enables the understanding by the multiprofessional team and the continuity of the care process. Correct registration can be used in legal defenses, in addition to helping avoid economic losses by the institution[25] and directly favoring a more effective NP.

The findings of this investigation regarding the registration of the clinical examinations can allude to the precarious working conditions of the professionals, emphasizing the reduction of personnel and the limitations of knowledge on the part of nurses for the adequate registration.

The clinical examination is an essential tool for the identification of accurate nursing diagnoses, a private function of the nurse. Clinical examinations as well as their adequate registration should be addressed in the context of the Nursing Process from graduation to the continuing education in nursing.

CONCLUSION

From this study it is possible to state that the registry of the clinical examinations performed by nurses is still deficient, with a large amount of incomplete information regarding patient identification, risk assessment and basic human needs of the patient, especially those in which propaedeutic techniques, such as auscultation, percussion and palpation, are necessary for the clinical examination. This shortcoming makes it impossible to accurately identify diagnoses and

compromises the planning of nursing interventions, interfering with the effectiveness of the NP.

As a limitation of this study, the retrospective analysis of the records stands out. The research also suggests other studies to be performed considering the registration of all stages of the Nursing Process, and that constant updates and training should be offered to increase the technical-scientific knowledge of nurses, raise awareness about their performance and the importance of complete records.

The study also emphasizes that clinical examinations should be addressed in the graduation, within the context of the NP and not in isolation. Further studies on the factors that interfere with the quality of the recording of NP stages are desirable.

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CONTRIBUTIONS
Patrícia Cristine Barbosa de Souza and **Michelle Morais Cardoso** participated in writing the article and organizing the data. **Aldenora Laísa Paiva de Carvalho** and **Thaís Santos Guerra Stacciarini** contributed to the design, data organization and critical review. **Daniela Galdino Costa** and **Fabíola Cardoso de Oliveira** participated in the critical review of the article.

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