

ORIGINAL ARTICLE

EVALUATION OF NURSING CARE QUALITY STANDARDS USING PROCESS INDICATORS*

Natássia Carmo Lopes Queiroz Ferreira¹, Mayra Gonçalves Meneguetti², Cristiane Leite de Almeida³, Carmen Silvia Gabriel⁴, Ana Maria Laus⁵

ABSTRACT

Objective: To evaluate the quality of nursing care in a hospital using quality indicators.

Method: observational, prospective, cross-sectional study conducted at the Inpatient Medical and Surgical Units of a philanthropic hospital in Minas Gerais, Brazil for 14 consecutive days in 2017, using the Active Search Registration instrument, developed and validated by Vituri.

Result: 185 adult patients were evaluated, totaling 650 observations. The overview of the indicators of both units showed that, of the 14 indicators, seven (50%) were classified as "insufficient" in both places.

Conclusion: systematic evaluation processes make it possible to identify the technical and relational performance of the professionals as well as their knowledge and skills for the care practices. The adoption of care indicators can help the management process of the nursing service.

DESCRIPTORS: Quality of Health Care Assurance; Nursing Evaluation; Health Care Quality Indicators; Health Evaluation; Nursing.


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¹Registered Nurse. MSc in Sciences. Professor of Nursing of Libertas Faculdades Integradas. Sao Sebastiao do Paraíso, MG, Brazil. 

²Registered Nurse. PhD in Nursing. Professor of Nursing at the University of São Paulo. Ribeirão Preto, SP, Brazil. 

³Registered Nurse PhD in Nursing. Nursing Professor of the Centro Paula Souza. São Carlos, SP, Brazil. 

⁴Registered Nurse. PhD in Nursing. Professor of Nursing at the University of São Paulo. Ribeirão Preto, SP, Brazil. 

⁵Registered Nurse. PhD in Nursing. Professor of Nursing at the University of São Paulo. Ribeirão Preto, SP, Brazil. 

AVALIAÇÃO DOS PADRÕES DE QUALIDADE DA ASSISTÊNCIA DE ENFERMAGEM COM INDICADORES DE PROCESSO

RESUMO

Objetivo: avaliar a qualidade da assistência de enfermagem de uma instituição hospitalar por meio de indicadores de qualidade.

Método: estudo observacional, transversal, prospectivo, realizado nas Unidades de Clínica Médica e Cirúrgica de um hospital filantrópico em Minas Gerais, durante quatorze dias consecutivos em 2017, utilizando o instrumento de Registro de Busca Ativa, desenvolvido e validado por Vituri.

Resultado: foram avaliados 185 pacientes adultos, totalizando 650 observações. O panorama dos indicadores de ambas as clínicas demonstrou que, dos 14 indicadores, sete (50%) foram classificados como "insuficientes" em ambas as clínicas.

Conclusão: processos avaliativos sistemáticos possibilitam conhecer o desempenho técnico e relacional dos profissionais bem como os conhecimentos e habilidades para as práticas assistenciais. A adoção de indicadores assistenciais pode auxiliar o processo de gestão e gerenciamento do serviço de enfermagem.

DESCRITORES: Garantia da Qualidade dos Cuidados de Saúde; Avaliação em Enfermagem; Indicadores de Qualidade em Assistência à Saúde; Avaliação em Saúde; Enfermagem.

EVALUACIÓN DE LOS ESTÁNDARES DE CALIDAD DE ATENCIÓN DE ENFERMERÍA CON INDICADORES DE PROCESO

RESUMEN:

Objetivo: Evaluar la calidad de la atención de enfermería en una institución hospitalaria mediante indicadores de calidad.

Método: Estudio observacional, transversal, prospectivo, realizado en los Servicios de Clínica Médica y Quirúrgica de un hospital filantrópico de Minas Gerais, durante catorce días consecutivos en 2017, utilizando el instrumento de Registro de Búsqueda Activa, desarrollado y validado por Vituri.

Resultados: Fueron evaluados 185 pacientes adultos, totalizándose 650 observaciones. El panorama de los indicadores en ambos servicios demostró que, de los 14 indicadores, 7 (50%) fueron clasificados como "insuficientes" en los dos servicios observados.

Conclusión: Los procesos de evaluación sistemáticos permiten conocer el desempeño técnico y relacional de los profesionales, y los conocimientos y habilidades para las prácticas de atención. La adopción de indicadores de atención puede colaborar en el proceso de gestión y gerenciamento del servicio de enfermería.

DESCRIPTORES: Garantía de la Calidad de Atención de Salud; Evaluación en Enfermería; Indicadores de Calidad de la Atención de Salud; Evaluación en Salud; Enfermería.

INTRODUCTION

The quality of health care is a differentiating element in the process of fulfilling the expectations of different patients. Therefore, it is necessary to define care standards that should guide the providers for safe and effective care. It should be acknowledged that, in health, the results obtained are due to multidisciplinary work, although in this context emphasis has been given to the role of the nurse in the care package to increase the efficiency of the health services⁽¹⁾.

The use of care standards allows the establishment of indicators that will enable the assessment of the quality of the healthcare. A clinical indicator is defined as a continuous or periodic quantitative measure of the variables, characteristics or attributes of a given process or system, which allows the recognition of desirable or undesirable results⁽²⁾.

The use of clinical evaluation indicators can guide the establishment of best health practices, based on available theoretical-scientific basis and expert consensus, guiding the diagnosis of how the practices are occurring and their conformity with the expected quality⁽³⁾.

There is no consensus on which indicators measure nursing performance⁽⁴⁾, which implies the need to consider the adoption of a set of indicators for a more reliable analysis of the services provided⁽⁵⁾.

A study conducted in 11 Quebec hospitals, which evaluated 2699 patients regarding the occurrence of adverse events potentially attributed to the nursing care, found a percentage of events of 15.3%⁽⁵⁾. Inadequate work processes and the non-evaluation of nursing practices are contributing elements to the occurrence of these events⁽⁶⁾.

Incorporating evaluation as a systematic practice can provide relevant information for defining priorities, intervention strategies, and the reorientation of practices. Accordingly, this study aimed to evaluate the quality of the nursing care in a hospital using quality indicators.

METHOD

This observational, cross-sectional, prospective study was conducted at a philanthropic regional hospital in Minas Gerais, certified as a Hospital for Excellence (level III) in 2014 by the National Accreditation Organization (ONA).

The target population consisted of patients aged over 18 years, admitted to the Inpatient Medical Unit (IMU) and Inpatient Surgical Unit (ISU), that were in bed at the time of data collection. Those who were present in the ward and in bed at the time of application of the data collection instrument and agreed to participate in the study were included.

The IMU has 60 beds, the daily occupancy rate is 88%, with a nursing staff composed of 14 nurses, 46 nursing technicians and two nursing assistants. In turn, the ISU has 42 hospitalization beds, a daily occupancy rate of 84.55 and a staff composed of seven nurses and 28 nursing technicians. The nursing professional ratio per patient is one professional for every 3.4 patients in the IMU and one for 4 in the ISU. All nursing professionals are hired for a work period of 36 hours per week, divided into 8-hour shifts.

The Active Search Registration instrument, developed and validated by Vituri, was used, which presents excellent agreement/reproducibility and reliability, estimated according to the Kappa statistics and relevant interclass correlation coefficient demonstrated for clinical practice. It contains 15 quality indicators, evaluated as adequate or inadequate⁽⁷⁾.

The author recommends that, when replicating a methodology developed in a context where the structure and work process characteristics are different, it is necessary to make some adjustments in order to make it coherent and applicable to the reality in which it is intended to be implemented. The selected instrument was, therefore, submitted to the evaluation of the technical nurses responsible for the institution's nursing services with a view to analyzing the relevance of each of its items. The process resulted in an instrument containing 14 evaluation indicators presented below and their respective definition of compliance:

- Identification of the patient present on the identification bracelet, containing personal data, and on the bed, with information regarding the room number, patient name and date of birth.
- Identification of risk of falling from the bed, applicable to patients over 65 years and/or in the immediate postoperative period and/or those with mental and psychiatric disorders and/or patients with Morse score of 45 or greater. The patient in this condition should remain in bed with raised side rail unless in the presence of a companion.
- Identification of Peripheral Venous Access (PVA) containing date and time of puncture and name of the care provider responsible. The validity of the access should not exceed 72 to 96 hours of puncture from the time of performance.
- Absence of post-infiltrative skin lesions such as bruises, phlebitis, infiltration and/or areas of necrosis associated with the venipuncture for infusion of I.V. fluids and/or medications.
- Identification of venous infusion equipment containing date and time of change or installation and name of the person responsible. The validity of the equipment should not exceed 72 to 96 hours.
- Identification of I. V. fluid bottles containing patient's name, date of birth and ward, solution components, volume, expected start and end time, number of drops and/or milliliters per hour and signature of person responsible.
- Identification of gastric and enteric catheters containing date and time of installation and name of the person responsible.
- Long-term urinary catheter (LTUC) fixation: for the male patient it should be fixed in the suprapubic region and in the inner thigh for female patients.
- Positioning of the LTUC diuresis collection bag: below the bladder level.
- Positioning of distal drainage extension of the LTUC diuresis collection bag: protected from contact with surfaces and/or the floor.
- Checking of nursing prescription procedures: by means of a tick and the worker's name, with blue pen during the day period and black during the night period.
- Verification of prescribed vital sign controls: Temperature, Heart Rate, Blood Pressure, and Respiratory Rate records at least once per shift.
- Checking of the nursing procedures in the medical prescription by a tick and the worker's name, with blue pen during the day period and black during the night period. The ones not performed should be circled and justified in the nursing notes.
- Daily and complete preparation by the nurse of the nursing prescription applicable to patients classified as Intermediate, Semi-intensive or Intensive Care.

The review process of the instrument should also result in the exclusion of the identification of the control of infusion speed/graduated scale indicator. In addition, to measure pain as a vital sign was removed from the verification of the prescribed vital sign

controls indicator. In the indicator daily and complete preparation of the prescription by the nurse, the need for the prescription for patients classified as minimum care or self-care was excluded. All changes were made considering the existing routine of the hospital under study.

Accordingly, the adjusted active search registration was submitted to a pilot test for one week in order to evaluate the time of application of the instrument, the relevance of the items and complications such as absence of the patient in the unit and access to the medical record, proving to be feasible for the purpose of the study.

For each of the indicators, the compliance index was calculated according to the operating manual of the study by Vituri, with the numerator consisting of the number of adequate items and the denominator the number of items evaluated in the period, multiplied by 100. The determination of the Ideal Compliance Index (ICI) of each indicator, i.e. the adequacy percentage expected in relation to the determined standard followed the classification: Safe (100%); Desirable (90 to 99%); Adequate (80 to 89%); Borderline (70 to 79%) and Insufficient (less than 70%).

The researcher performed the data collection for 14 consecutive days in January 2017. It was started in the morning and continued until the evaluation of all patients was completed. This was started by asking the nurse in charge for the list of hospitalized patients at the time and then the care assessments were performed using the Active Search Registration instrument. The collection alternated between sectors.

The nursing teams of the sectors were aware of the presence of the researcher in the place, however the collection of the evolution over the previous 24 hours was made, thus avoiding changes in the work routine.

Regarding the ethical aspects, this study was approved by the Research Ethics Committee of the College of Nursing at Ribeirão Preto - EERP/USP, with authorization No. 1.727.009.

RESULTS

A total of 185 adult patients were evaluated, totaling 650 observations out of a possible total of 847. There were 197 (23%) losses registered, which occurred due to refusal to participate, patients absent from the bed at the time of collection and patients with cognitive impairments. The variation between the number of observations and the number of patients is due to the fact that the same patient was evaluated more than once.

There was a prevalence of males in both units, 49 (53%) in the ISU and 56 (60%) in the IMU. The median age of the ISU patients was 56 years and 67 years in the IMU. The choice of the median occurred because the standard deviation was high, showing that the mean did not adequately express the data.

Tables 1 and 2 show the percentage of adequacy of the indicators analyzed according to the unit investigated.

Table 1 - Percentage of Adequacy to the quality standard and classification of the nursing care in the Inpatient Surgical Unit. Passos, MG, Brazil, 2017 (continues)

INDICATOR	N	% ADEQUACY	ICI (*)	CARE CLASSIFICATION
1 Patient Identification	296	65	100	Insufficient

2	Identification of the Risk of Falling from the Bed	296	99	100	Desirable
3	Identification of Peripheral Venous Accesses	269	86	100	Adequate
4	Verification of Post-infiltrative Skin Lesions	273	96	80	Desirable
5	Venous Infusion Equipment Identification	135	16	100	Insufficient
6	I. V. Fluid Bottle Identification	135	17	100	Insufficient
7	Identification of Gastric and Enteric Catheters	15	60	100	Insufficient
8	Fixation of the Long-Term Urinary Catheter	30	7	100	Insufficient
9	Positioning of the Long-Term Urinary Catheter Diuresis Collection Bag	30	100	100	Safe
10	Positioning of Distal Drainage Extension of the Diuresis Bag	30	87	100	Adequate
11	Checking of the Nursing Prescription Procedures	33	0	100	Insufficient
12	Verification of Prescribed Vital Sign Controls	3428	99	100	Desirable
13	Checking of Nursing Procedures in Medical Prescriptions	2495	83	100	Adequate
14	Daily and Complete Preparation of the Nursing Prescription by the Nurse	52	2	100	Insufficient

*Ideal Coefficient Index

Table 2 - Percentage of Adequacy to the quality standard and classification of nursing care in the Inpatient Medical Unit. Passos, MG, Brazil, 2017 (continues)

INDICATOR	N	% ADEQUACY	ICI (*)	CARE CLASSIFICATION
1 Patient Identification	354	66	100	Insufficient
2 Identification of the Risk of Falling from the Bed	354	98	100	Desirable
3 Identification of Peripheral Venous Accesses	349	93	100	Desirable
4 Verification of Post-infiltrative Skin Lesions	344	88	80	Adequate
5 Venous Infusion Equipment Identification	114	8	100	Insufficient
6 I. V. Fluid Bottle Identification	114	20	100	Insufficient
7 Identification of Gastric and Enteric Catheters	90	26	100	Insufficient
8 Fixation of the Long-Term Urinary Catheter	55	0	100	Insufficient
9 Positioning of the Long-Term Urinary Catheter Diuresis Collection Bag	55	98	100	Desired
10 Positioning of Distal Drainage Extension of the Diuresis Bag	55	80	100	Adequate
11 Checking of the Nursing Prescription Procedures	288	1	100	Insufficient
12 Verification of Prescribed Vital Signs Controls	4134	99	100	Desirable
13 Checking of Nursing Procedures in Medical Prescriptions	4005	88	100	Adequate

14	Daily and Complete Preparation of the Nursing Prescription by the Nurse	149	8	100	Insufficient
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*Ideal Coefficient Index

The Identification of the Risk of Falling from the Bed, Identification of PVA, Verification of Post-Infiltrate Skin Lesions, Positioning of the LTUC Diuresis Collection Bag, Positioning of the Distal Drainage of the LTUC Diuresis Collection Bag, Verification of the Prescribed Vital Sign Controls and Checking of the Nursing Procedures in Medical Prescription indicators presented levels of care within the expected standard. In the ISU, only the Positioning of the Long-Term Urinary Catheter Diuresis Collector Bag indicator obtained 100% Adequacy and was classified as Safe. In the IMU no indicator presented this value.

The overview of the ISU and IMU indicators showed that of the 14 indicators, seven (50%) were classified as Insufficient. The worst values recorded in the ISU were in the items Checking of the Nursing Prescription Procedures, where of the 33 items that should be checked, none was adequate; Daily and Complete Preparation of the Nursing Prescription by the Nurse, in which of the 52 patients who should have the Prescription prepared by the nurse, only one (2%) presented the expected adequacy percentage; and Fixation of the Long-Term Urinary Catheter, where, of the 30 existing LTUCs, only two (7%) were fixed correctly.

This reality was similar in the IMU. The Fixation of the Long-Term Urinary Catheter indicator was rated as Insufficient, as none of the 55 existing LTUCs were fixed correctly; Checking of the Nursing Prescription Procedures also received the same assessment, in which of the 288 items that should be adequate, only four (1%) were within the expected percentage; Daily and Complete Preparation of the Nursing Prescription by the Nurse, in which out of 149 prescriptions that should be in the medical record, only 12 (8%) were found to be adequate; and, finally, the Identification of the Venous Infusion Equipment indicator was also considered Insufficient, since of the 114 existing pieces of equipment, only nine (8%) identifications were found to be adequate.

DISCUSSION

The performance of safe practices is the responsibility of the entire health team, while supervision of the care is the responsibility of the nurse⁽⁸⁾. Safe care should be viewed as the patient's right and the ethical commitment of the team of professionals throughout the healthcare network, so that, among the services, it can be observed that hospital care is the main target of patient safety actions⁽⁹⁾.

Care and management indicators are used by institutions to monitor the quality of the services provided. The good performance of these indicators depends on factors integrated into the work process, such as the planning of human resources and the nursing workload. These factors are fundamental for the development of safe and quality health care, and favor the provision of integrative, individualized and humanized care⁽⁸⁾.

The percentage of adequacy in the quality standard for some nursing indicators in both the ISU and IMU was below average. The patient identification indicator showed an inadequate positivity index, as sometimes there were missing data on the beds and sometimes they were without their identification bracelets, with there also being gaps in the data registered. This fact may indicate the lack of attention to this practice by the institution. The identification of the patient, when performed correctly, avoids failures related to the care provided by the team of healthcare providers, in the different levels of the care⁽¹⁰⁾.

Identification of I. V. fluid equipment and bottles was also considered insufficient. Daily observations during the collection showed that many of the pieces of equipment did not have the worker's name. Regarding the I. V. fluid label, failures were observed in completion regarding drip, time of installation and bed of the patient, corroborating other studies⁽¹¹⁻¹²⁾.

This scenario is worrying considering the responsibility of the nursing staff in relation to intravenous therapy, where attention and care must be paramount. The clinical practice requires professionals to be constantly updated, providing a professional practice guided by the best care evidence.

The Identification of gastric and enteral catheters indicator was considered insufficient according to the operating manual. The assessment of nonconformity was obtained as there was no installation date on the catheters.

The care related to the Long-Term Urinary Catheter regarding the fixation of the LTUC was considered, according to the percentage of positivity, as insufficient. Daily evaluations showed that the catheters were not fixed or, when this fixation was performed, they were outside the recommendations, for example, on the inner thigh in both male and female patients. For adequate LTUC fixation, the region should be considered according to the patient's gender, since in men the catheter should be fixed in the hypogastric or suprapubic region, and on the inner side of the thigh in women^(2,13-14).

Lack of knowledge about one stage of the bladder catheterization procedure such as adequate fixation of the catheter may explain the results, as it was identified as a routine practice in the units. Scientific and sustained knowledge about the procedure is important, minimizing the risks to patients related to trauma to the urethra and, consequently, urinary tract infection, as well as physical and emotional discomfort.

The assessment of care related to the Nursing Prescription contemplating the items checking of the procedure and preparation of the care plan by the nurse, found both to be insufficient. The nursing records in the medical records are necessary to manage and monitor the care provided to the patients, as well as being associated with the legal and ethical precepts of the profession. It should also be emphasized that the registration is the legal safety of the team, as it certifies the actions performed by the nurses, intensifying the practice beyond the technical effort, therefore contributing to the quality of the care⁽¹⁵⁾.

The planning of the nursing care, to be performed in an integrative way, requires the joint action of the entire nursing team, since the nursing prescription is developed by the nurse, however, the patient care is performed mainly by the technical level nursing staff. Failure to check the procedures constitutes a difficulty for compliance, with it being essential that not only the nurse goes through guidance and training, but the entire team, therefore enabling the comprehension of their importance and the need for effective collaboration for effective execution⁽¹⁶⁾.

The nurse is entrusted with leadership in the fulfillment and evaluation of the nursing process, in order to achieve the desired results. The nurse is exclusively responsible for the nursing diagnosis regarding the responses of the person, family or community at a given moment in the health and disease process, as well as the prescription of nursing actions to be performed, considering these responses⁽¹⁷⁾.

The lack of preparation of the diagnosis and care plan by the nurse does not prevent the care being performed by the team. However, the lack of verification of the procedures performed makes it impossible to guarantee their performance, since the registration of the care allows the provision of integrative care for the patient's health, as each individual must have specific care prescribed, since they have characteristics distinct from each other.

The need to sensitize nurses regarding the importance of Nursing Care Systematization (NCS) for both the patient and the team should be emphasized, as this allows the work to be valorized in that it gives visibility to the different actions performed by the nurse in the

care context. Certainly, training nursing professionals to properly fulfill and record the care plan becomes a challenge.

The presence of nurses in the institution should be linked to the presence of NCS, aiming to coordinate the actions related to the care as a cooperative process, to determine the pace and tasks for each team, through means of the nursing prescription, considering the registration as an important instrument for the care evaluation⁽¹⁵⁾.

Evaluating the nursing care received by patients allows the technical and relational performance of the providers to be identified as well as the knowledge and skills presented in the development of the care practices, identifying the potentialities and weaknesses in the processes. Therefore, the adoption of care indicators can help the management process of the nursing service.

The technique of observation based on an easily applicable checklist can be a valuable tool, however, it is important to note that many evaluation instruments that present only two response options do not allow a partial answer alternative, although it should be reflect that, when it comes to quality, there can be no middle ground. This will certainly influence the final assessment score for good care practices.

The main limitation of this study is that it was performed in a single center using a convenience sample. However, the importance of this study should be highlighted as it showed the feasibility of using a checklist-type instrument in the evaluation of the nursing care received by patients.

CONCLUSION

It was concluded that 50% of the indicators classified the nursing care as insufficient. For both units studied, it was found that nonconformities were present in the same items evaluated.

As contributions to nursing, this study highlights that the assessment of the care provided by this team enables the technical and relational performance of the professionals to be identified, as well as the knowledge and skills presented in the development of the care practices, identifying the potentialities and weaknesses in the processes.

It also denotes the importance of nursing managers investigating the adequacy of the number of professionals in their institutions, the existence of permanent training programs for the team, the updating of protocols and practice guides, and the difficulties of incorporating new practices.

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Corresponding author:

Ana Maria Laus

Universidade de São Paulo

Av. dos Bandeirantes, 3900 - 14040-902 - Ribeirão Preto, SP, Brasil

E-mail: analaus@eerp.usp.br

Role of Authors:

Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work - NCLQF, MGM, CLA, CSG, AML

Drafting the work or revising it critically for important intellectual content - NCLQF, MGM, AML

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Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved - NCLQF
